

Program in Chronological Order

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Thursday, 4 July 2013

ThA01: 08:00-09:30 Conference Hall (12F)
1.1.1 Nonstationary Processing of Biomedical Signals I (Oral Session)
Chair: Yoshida, Hisashi (*Kinki Univ.*)

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Chair: Yana, Kazuo (*Hosei Univ.*)
Co-Chair: de Chazal, Philip (*Univ. of Western Sydney*)

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<i>Caune, Vairis CRAN UMR 7039, Université de Lorraine/ CNRS; LE CAM, Steven Université de Lorraine; Ranta, Radu CRAN UMR 7039, Université de Lorraine/ CNRS; Maillard, Louis Centre de Recherche en Automatique de Nancy (CRAN), Nancy-Univer; Louis-Dorr, Valerie Nancy-University</i>	
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Chair: Kameneva, Tatiana (<i>The Univ. of Melbourne; NICTA</i>)	
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Chair: Homma, Kazuhiro (*National Inst. of Advanced Industrial Science and Tech. (AIST)*)

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ThA05: 08:00-09:30 1002 (10F)

2.2.1 Ultrasound Imaging I (Oral Session)

Chair: Saijo, Yoshifumi (*Tohoku Univ.*)

Co-Chair: Nenadic, Ivan (*Mayo Clinic Coll. of Medicine*)

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Qiu, Weibao Shenzhen Institutes of Advanced Technology, Chinese Academy of S; zheng, Hairong Shenzhen Inst of Advanced Tech; Sun, Lei Hong Kong Polytechnic University

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2.3.1 Image-based Cytometry: Technology and Applications (Invited Session)		
Chair: Rohde, Gustavo (<i>Carnegie Mellon Univ.</i>)		
Co-Chair: Goda, Keisuke (<i>Univ. of Tokyo</i>)		
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<i>Rohde, Gustavo Carnegie Mellon University</i>		
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<i>Kamioka, Yuji Kyoto University; Sumiyama, Kenta National Institute of Genetics; Mizuno, Rei Kyoto university; Matsuda, Michiyuki Kyoto university</i>		
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Chair: Konishi, Satoshi (*Ritsumeikan Univ.*)

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<i>North, Kylee University of Utah; Kubiak, Erik University of Utah; Hitchcock, Robert University of Utah; Petelenz, Tomasz University of Utah</i>	
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<i>Paul Chaudhuri, Buddhadev IMEC / KU Leuven, Belgium; Ceysens, Frederik ESAT, Catholic University, Leuven, Belgium; Van Hoof, Chris IMEC; Puers, Robert Catholic University of Leuven</i>	
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Chair: Nam, Yoonkey (*KAIST*)
Co-Chair: Etemadi, Mozziyar (*Univ. of California, San Francisco*)

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<i>Chen, Chihnsuan University of California, Santa Barbara; Yemenicioglu, Sukru University of California, Santa Barbara; Uddin, Ashfaque University of California, Santa Barbara; Corgliano, Ellie University of California, Santa Barbara; Theogarajan, Luke University of California</i>	
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<i>Yang, Shih-I Chang Gung University; Lei, Kin Fong Chang Gung University; Tsai, Shiao-Wen Chang Gung University; Hsu, Hsiao-Ting Chang Gung University</i>	
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<i>Nguyen, Quang Vinh Université de Bordeaux 1; CARO, Anton Juan-Jorge University of Bordeaux 1; Raoux, Matthieu University Bordeaux 1, UMR CNRS 5248; quotb, adam IMS; Floderer, Jean-Baptiste IMS Lab - Université Bordeaux 1; Bornat, Yannick IMS Laboratory; Renaud, Sylvie University of Bordeaux1, IMS, Enseirb; Lang, Jochen Université de Bordeaux, UMR CNRS 5248</i>	

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Chair: Mohd Rijal, Omar (*Univ. of Malaya*)

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Kim, Sung Kean Yonsei University; Yoo, Tae Keun College of Medicine, Yonsei Univ; Oh, Ein College of Medicine, Yonsei Univ; Kim, Deok Won Yonsei University College of Medicine

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5.1.1 Use of Reduced and Distributed Models for Assessment of Cardiovascular Function (Invited Session)	
Chair: Avolio, Alberto P (<i>Macquarie Univ.</i>)	
Co-Chair: Hughes, Alun D. (<i>Imperial Coll. London</i>)	

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08:45-09:00	ThA11.4
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09:00-09:15 ThA11.5
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09:15-09:30 ThA11.6
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Chair: Nam, Chang S. (*North Carolina State Univ.*)
Co-Chair: Ushiba, Junichi (*Keio Univ.*)

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Tung, Sau Wai Institute for Infocomm Research; Guan, Cuntai Institute for Infocomm Research; Ang, Kai Keng Institute for Infocomm Research; Phua, Koksoon Institute for Infocomm Research; Wang, Chuanchu Institute for Infocomm Research; Zhao, Ling National University Hospital; Teo, Wei Peng National University Hospital; Chew, Effie National University Health System

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Takemi, Mitsuaki Keio Univ.; Masakado, Yoshihisa Tokai Univ.; Liu, Meigen Keio Univ.; Ushiba, Junichi Keio Univ.

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6.3.1 Motor Neuroprosthetics: Spikes and LFP (Invited Session)
Chair: Carmena, Jose M. (*Univ. of California, Berkeley*)
Co-Chair: Wong, Yan Tat (*New York Univ.*)

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Dangi, Siddharth University of California, Berkeley; So, Kelvin University of California, Berkeley; Orsborn, Amy University of California Berkeley; Gastpar, Michael University of California, Berkeley; Carmena, Jose M. University of California, Berkeley

08:15-08:30		ThA13.2
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<i>Wong, Yan Tat New York University; Putrino, David New York University; Weiss, Adam Joseph New York University; Pesaran, Bijan New York University</i>		
08:30-08:45		ThA13.3
Investigating the Role of Firing-Rate Normalization and Dimensionality Reduction in Brain-Machine Interface Robustness		293-298
<i>Kao, Jonathan Stanford University; Nuyujukian, Paul Stanford University; Stavisky, Sergey Stanford University; Ryu, Stephen Stanford University; Ganguli, Surya Stanford University; Shenoy, Krishna V. Stanford University</i>		
08:45-09:00		ThA13.4
Direction and Speed Tuning of Motor-Cortex Multi-Unit Activity and Local Field Potentials During Reaching Movements		299-302
<i>Perel, Sagi Carnegie Mellon University; Sadtler, Patrick University of Pittsburgh; Godlove, Jason University of Pittsburgh; Ryu, Stephen Stanford University; Wang, Wei University of Pittsburgh; Batista, Aaron University of Pittsburgh; Chase, Steven M. Carnegie Mellon University</i>		
09:00-09:15		ThA13.5
Operant Conditioning of a Multiple Degree-of-Freedom Brain-Machine Interface in a Primate Model of Amputation		303-306
<i>Balasubramanian, Karthikeyan University of Chicago; Southerland, Joshua University of Oklahoma; Vaidya, Mukta University of Chicago; Qian, Kai Illinois Institute of Technology; Eleryan, Ahmed Electrical and Computer Engineering Department, Michigan State U; Fagg, Andrew University of Oklahoma; Slutzky, Marc Northwestern University; Oweiss, Karim Michigan State University; Hatsopoulos, Nicholas University of Chicago</i>		
09:15-09:30		ThA13.6
Long-Term, Stable Behavior of Local Field Potentials During Brain Machine Interface Use		307-310
<i>Scheid, Michael Northwestern University; Flint, Robert Northwestern University; Wright, Zachary Northwestern University; Slutzky, Marc Northwestern University</i>		
ThA14: 08:00-09:30		804 (8F)
7.4.2 Biological Sensors and Systems for Diagnostics (Invited Session)		
Chair: Gurkan, Umut A. (Case western Res. Univ.)		
08:00-08:15		ThA14.1
Self-Assembled Rosette Nanotubes for Tissue Engineering Applications		311-313
<i>Webster, Thomas Northeastern University</i>		
08:15-08:30		ThA14.2
3D Fabrication of Biological Machines		314-317
<i>Bashir, Rashid Univ of Illinois at Urbana-Champaign; Chan, Vincent University of Illinois at Urbana-Champaign; Kong, Hyunjoon University of Illinois</i>		
08:30-08:45		ThA14.3
Self-Oscillating Polymer Gels As Novel Biomimetic Materials		318-321
<i>Yoshida, Ryo The University of Tokyo</i>		
08:45-09:00		ThA14.4
Enhanced differentiation of rat MSCs into cardiomyocytes with 5-azacytidine/collagen I nano-molecules		322-325
<i>Wu, Yi-jhen I-Shou University; Chen, shu-ying I-Shou University; Chang, Shwu Jen I-Shou University; Kuo, Shyh Ming I-Shou University</i>		
09:00-09:15		ThA14.5
Engineered Muscle Systems Having Individually Addressable Distributed Muscle Actuators Controlled by Optical Stimuli		326-329
<i>Neal, Devin MIT; Asada, Harry MIT</i>		

ThA15: 08:00-09:30	1102 (11F)
8.1.1 Intelligent Orthosis and Wearable Robots for Healthcare I (Invited Session)	
Chair: Koyanagi, Ken'ichi (<i>Toyama Prefectural Univ.</i>)	
Co-Chair: Vitiello, Nicola (<i>Scuola Superiore Sant'Anna</i>)	

08:00-08:15 ThA15.1
Development of Control Model for Intelligently Controllable Ankle-Foot Orthosis 330-333
Kikuchi, Takehito Yamagata University; Tanida, Sousuke Bukkyo University; Yasuda, Takashi Shiga School of Medical Technology; Fujikawa, Takamitsu Bukkyo University

08:15-08:30 ThA15.2
Control of Wearable Motion Assist Robot for Upper Limb Based on the Equilibrium Position Estimation 334-337
Mizutani, Naoto Mie University; Yamane, Michi Gifu University; Kato, Norihiko Mie University; Yano, Kenichi Mie University; Aoki, Takaaki Gifu University; Nishimoto, Yutaka Gifu University School of Medicine; Kobayashi, Yasuyuki Luminous Japan Co., Ltd.

08:30-08:45 ThA15.3
Control of an Optimal Finger Exoskeleton Based on Continuous Joint Angle Estimation from EMG Signals 338-341
Ngeo, Jimson Nara Inst. of Science and Technology; Tamei, Tomoya Nara Inst. of Science and Technology; Shibata, Tomohiro Nara Inst. of Science and Technology; M., Felix Orlando IIT Kanpur; Behera, Laxmidhar Indian Inst. of Technology Kanpur; Saxena, Anupam IIT Kanpur; Dutta, Ashish Indian Inst. of Technology Kanpur

08:45-09:00 ThA15.4
NEUROExos: A Powered Elbow Orthosis for Post-Stroke Early Neurorehabilitation 342-345
Cempini, Marco Scuola Superiore Sant'Anna; Giovacchini, Francesco Scuola Superiore Sant'Anna; Vitiello, Nicola Scuola Superiore Sant'Anna; Cortese, Mario Scuola Superiore Sant'Anna; Moisé, Matteo Scuola Superiore Sant'Anna; Posteraro, Federico Auxilium Vitae Hospital; Carrozza, Maria Chiara Scuola Superiore Sant'Anna

ThA16: 08:00-09:30	Small Hall (5F)
9.1.1 Clinical Engineering I (Oral Session)	
Chair: Matsumura, Masafumi (<i>Osaka Electro-Communication Univ.</i>)	
Co-Chair: Dellimore, Kiran (<i>Philips Res.</i>)	

08:00-08:15 ThA16.1
Development of a smart backboard system for real-time feedback during CPR chest compression on a soft back support surface 346-349
Gohier, Francis Stellenbosch Univ.; Dellimore, Kiran Philips Research; Scheffer, Cornie Stellenbosch Univ.

08:15-08:30 ThA16.2
Development of a diagnostic glove for unobtrusive measurement of chest compression force and depth during neonatal CPR 350-353
Dellimore, Kiran Philips Research; Stephan, Heunis Stellenbosch Univ.; Gohier, Francis Stellenbosch Univ.; Archer, Elize Faculty of Medicine, Stellenbosch Univ.; De Villiers, Adèle Faculty of Medicine, Stellenbosch Univ.; Smith, Johan Faculty of Medicine, Stellenbosch Univ.; Scheffer, Cornie Stellenbosch Univ.

08:30-08:45 ThA16.3
Health Technology Assessment to Improve the Medical Equipment Life Cycle Management 354-357
Margotti, Ana Emilia IEB-UFSC; Ferreira, Filipa Universidade Nova de Lisboa; Assis Santos, Francisco Universidade Federal de Santa Catarina; Garcia, Renato Universidade Federal de Santa Catarina

08:45-09:00 ThA16.4
Development of Automated 3-Dimensional Tissue Fabrication System ~ Tissue Factory - Automated Cell Isolation from Tissue for Regenerative Medicine~ 358-361
Kubo, Hirotsugu Nihon Kohden Corporation; Shioyama, Takahiro Nihon Kohden Corporation; Oura, Mitsuhiro Nihon Kohden Corporation; Suzuki, Akane Nihon Kohden corporation; Ogawa, Tetsuya Nihon Kohden Corporation; Makino, Hotaka Nihon Kohden Corporation; Takeda, Sunao Tokyo University of Technology; Kinooka, Masahiro Osaka University; Shimizu, Tatsuya Tokyo Women's Medical University; Okano, Teruo Tokyo Women's Medical University; Yamamori, Shinji Nihon Kohden Corporation

09:00-09:15		ThA16.5
Lower Limb Examinations for Muscular Tension Estimation Methods for Each Muscle Group Based on Functionally Different Effective Muscle Theory		362-365
<i>Nishii, Taiki Mie Univ.; Komada, Satoshi Mie Univ.; Yashiro, Daisuke Mie Univ.; Hirai, Junji Mie Univ.</i>		
09:15-09:30		ThA16.6
Anthropometric Body Measurements Based on Multi-View Stereo Image Reconstruction		366-369
<i>Li, Zhaoxin Harbin Institute of Technology; Jia, Wenyan Univ. of Pittsburgh; Mao, Zhi-Hong Univ. of Pittsburgh; Li, Jie Wuhan Univ.; Chen, Hsin-Chen National Cheng Kung Univ.; Zuo, Wangmeng Harbin Institute of Technology; Wang, Kuanquan Harbin Institute of Technology; Sun, Mingui Univ. of Pittsburgh</i>		
ThA17: 08:00-09:30		801+802 (8F)
9.5.1 Thermal Ablation (Oral Session)		
Chair: Betrouni, Nacim (<i>INSERM</i>)		
Co-Chair: Kobayashi, Yo (<i>Waseda Univ.</i>)		
08:00-08:15		ThA17.1
An Image Guided Treatment Platform for Prostate Cancer Photodynamic Therapy		370-373
<i>Betrouni, Nacim INSERM; Colin, Pierre INSERM U703; PUECH, Philippe INSERM U703; VILLERS, Arnaud University hospital of Lille; Mordon, Serge INSERM U703, Univ Lille Nord de France, Lille University Hospita</i>		
08:15-08:30		ThA17.2
Optical Diagnostic and Therapy Applications of Femtosecond Laser Radiation Using Lens-Axicon Focusing		374-377
<i>Parigger, Christian The University of Tennessee Space Institute; Johnson, Jacqueline A. The University of Tennessee Space Institute; Splinter, Robert Valencell, Inc</i>		
08:30-08:45		ThA17.3
Monitoring of Temperature Increase and Tissue Vaporization During Laser Interstitial Thermotherapy of Ex Vivo Swine Liver by Computed Tomography		378-381
<i>Schena, Emiliano University of Rome Campus Bio-Medico; Saccomandi, Paola University Campus Bio-Medico of Rome; Giurazza, Francesco Università Campus Bio-Medico di Roma; del vescovo, Riccardo Università Campus Bio-Medico di Roma; Mortato, Luca Università Campus Bio-Medico di Roma; Martino, Margareth University Campus Bio-Medico of Rome; Panzera, Francesco University Campus Bio-Medico of Rome; Di Matteo, Francesco Maria University Campus Bio-Medico of Rome; Beomonte Zobel, Bruno University CAMPUS Bio-Medico; Silvestri, Sergio Università Campus Bio-Medico di Roma</i>		
08:45-09:00		ThA17.4
Derivation of the Relationship between the Rate of Temperature Rise and Viscoelasticity for Constructing a Coagulation Model for Liver Radio Frequency Ablation		382-385
<i>Lu, Xiaowei Waseda University; Watanabe, Hiroki Waseda University; Isobe, Yosuke Waseda University; Yamazaki, Nozomu Waseda University; Kobayashi, Yo Waseda University; Miyashita, Tomoyuki Waseda University; Fujie, Masakatsu G. Waseda University</i>		
09:00-09:15		ThA17.5
The Relation between Temperature Distribution for Lung RFA and Electromagnetic Wave Frequency Dependence of Electrical Conductivity with Changing a Lung's Internal Air Volumes		386-391
<i>Yamazaki, Nozomu Waseda University; Watanabe, Hiroki Waseda University; Isobe, Yosuke Waseda University; Lu, Xiaowei Waseda University; Kobayashi, Yo Waseda University; Miyashita, Tomoyuki Waseda University; Fujie, Masakatsu G. Waseda University</i>		
09:15-09:30		ThA17.6
Real-Time Temperature Control System Based on the Finite Element Method for Liver Radiofrequency Ablation: Effect of the Time Interval on Control		392-396
<i>Isobe, Yosuke Waseda University; Watanabe, Hiroki Waseda University; Yamazaki, Nozomu Waseda University; Lu, Xiaowei Waseda University; Kobayashi, Yo Waseda University; Miyashita, Tomoyuki Waseda University; Hashizume, Makoto Kyushu University; Fujie, Masakatsu G. Waseda University</i>		

ThA22: 08:00-09:45	1201 (12F)
7.1.5 Engineered Biomaterials: Biomimetic Approaches and Tissue Engineering (Minisymposium)	
Chair: Kidoaki, Satoru (<i>Inst. for Materials Chemistry and Engineering, Kyusyu Univ.</i>)	

08:45-09:00	ThA22.4
Synthetic Octacalcium Phosphate: A Possible Carrier for Mesenchymal Stem Cells in Bone Regeneration	397-400
<i>Suzuki, Osamu Tohoku University Graduate School of Dentistry; Anada, Takahisa Division of Craniofacial Function Engineering, Tohoku University</i>	

09:00-09:15	ThA22.5
Frictional Properties of Articular Cartilage-Like Tissues Repaired with a Mesenchymal Stem Cell-Based Tissue Engineered Construct	401-404
<i>Fujie, Hiromichi Tokyo Metropolitan University; Nakamura, Norimasa Osaka University Medical School</i>	

09:15-09:30	ThA22.6
How Do Chondrocytes Aggregate on Fibroin Substrate	405-408
<i>Otaka, Akihisa Kyoto Univ. Graduate School of Engineering; Takahashi, Kazuya Kyoto Univ. Graduate School of Engineering; Isshiki, Kenji Kyoto Univ. Graduate School of Engineering; Kambe, Yusuke Kyoto Univ. Graduate School of Engineering; Kojima, Katsura National Institutes of Agrobiological Sciences; Tamada, Yasushi National Institutes of Agrobiological Sciences; Tomita, Naohide Kyoto Univ. Graduate School of Engineering</i>	

09:30-09:45	ThA22.7
In Vitro Bone Formation by Mesenchymal Stem Cells with 3D Collagen/β-TCP Composite Scaffold	409-412
<i>Todo, Mitsugu Kyushu University; Arahira, Takaaki Kyushu University</i>	

ThB01: 09:30-11:00	Event Hall-Area B (3F)
1.1.2 Nonstationary Processing of Biomedical Signals II (Poster Session)	

09:30-11:00	ThB01.1
An Approach to Absence Epileptic Seizures Detection Using Approximate Entropy	413-416
<i>Giannakakis, Giorgos Institute of Computer Science (ICS), Computational Medicine Labo; Sakkalis, Vangelis ICS-FORTH; Padiaditis, Matthew ICS-FORTH; Farmaki, Christina Institute of Computer Science (ICS), FORTH; Vorgia, Pelagia University of Crete, Faculty of Medicine; Tsiknakis, Manolis ICS-FORTH</i>	

09:30-11:00	ThB01.2
Tracking Non-Stationary Spectral Peak Structure in EEG Data	417-420
<i>Prerau, Michael Massachusetts General Hospital; Purdon, Patrick L Massachusetts General Hospital; Eden, Uri Boston University</i>	

09:30-11:00	ThB01.3
The Effect of Applying Orthogonal Projection Technique in Short Window Segments to Obtain Fetal Magnetocardiogram	421-424
<i>Sriram, Bhargavi University of Arkansas at Little Rock; Wilson, James University of Arkansas at Little Rock; Govindan, Rathinaswamy UAMS; Lowery, Curtis University of Arkansas for Medical Sciences; Preissl, Hubert University of Tübingen; Eswaran, Hari Univ of Arkansas for Medical Sci</i>	

09:30-11:00	ThB01.4
Motion Artifact Suppression in the ECG Signal by Successive Modifications in Frequency and Time	425-428
<i>Subramaniam, Suba King's College London; Ling, Wing-Kuen University of Lincoln; Georgakis, Apostolos King's College London</i>	

09:30-11:00	ThB01.5
Feature Consistency-Based Model Adaptation in Session-To-Session Classification: A Study Using Motor Imagery of Swallow EEG Signals	429-432
<i>Yang, Huijuan Institute for Infocomm Research, Agency for Science, Technology and Innovation; Guan, Cuntai Institute for Infocomm Research; Ang, Kai Keng Institute for Infocomm Research; Wang, Chuanchu Institute for Infocomm Research; Phua, Koksoon Institute for Infocomm Research; Tang, Ka Yin, Christina Institute for Infocomm Research, Agency for Science, Technology and Innovation; Zhou, Longjiang Institute for Infocomm Research, Agency for Science, Technology and Innovation</i>	

09:30-11:00 ThB01.6
Design of an Online EEG Based Neurofeedback Game for Enhancing Attention and Memory 433-436
P Thomas, Kavitha Nanyang Technological University; Achutavarrier Prasad, Vinod Nanyang Technological University; Guan, Cuntai Institute for Infocomm Research

09:30-11:00 ThB01.7
Normalized Power Variance Change between Pre-Ictal and Ictal Phase of an Epilepsy Patient Using NAT Analysis: A Case Study 437-440
Aoki, Yasunori Osaka University; Ishii, Ryouhei Osaka University; Iwase, Masao Osaka University; Ikeda, Syunichiro Osaka University; Hata, Masahiro Osaka University; Canuet, Leonides Madrid Complutense University; Imajo, Kaoru Engineering Department 3 Biomedical Instrument Technology Center; Tanaka, Mieko Brain Functions Lab., Inc.; Matsuzaki, Haruyasu Brain Functions Lab., Inc.; Musha, Toshimitsu Brain Functions Lab., Inc.; Takeda, Masatoshi Osaka University

09:30-11:00 ThB01.8
Classification of IRBD and Parkinson's Disease Patients Based on Eye Movements During Sleep 441-444
Christensen, Julie Anja Engelhard Technical University of Denmark; Koch, Henriette Technical University of Denmark; Frandsen, Rune Danish Center for Sleep Medicine, Glostrup Hospital; Kempfner, Jacob Technical University of Denmark; Arvastson, Lars H. Lundbeck A/S; Christensen, Soren Rahn Lundbeck; Sorensen, Helge B D Technical University of Denmark; Jennum, Poul Danish Centre for Sleep Medicing

09:30-11:00 ThB01.9
Feature Selection for Computerized Fetal Heart Rate Analysis Using Genetic Algorithms 445-448
Xu, Liang University of Oxford; Georgieva, Antoniya University of Oxford; Payne, Stephen John University of Oxford; Redman, Christopher WG University of Oxford

ThB02: 09:30-11:00	Event Hall-Area B (3F)
5.5.3 Respiratory Modeling and Engineering (Poster Session)	

09:30-11:00 ThB02.1
Estimation of the Site of Wheezes in Pulmonary Emphysema: Airflow Simulation Study by the Use of a 4D Lung Model 449-452
Kitaoka, Hiroko JSOL Corporation; Koc, Salim JSOL Corporation

09:30-11:00 ThB02.2
4D Model Generator of the Human Lung, "Lung4Cer" 453-456
Kitaoka, Hiroko JSOL Corporation; Koc, Salim JSOL Corporation; Tetsumoto, Satoshi Department of Respiratory Medicine, Allergy and Rheumatic Diseases; Kohmo, Satoshi Osaka University Graduate School of Medicine; Hirata, Haruhiko Osaka University Graduate School of Medicine; Kijima, Takashi Osaka University Graduate School of Medicine

09:30-11:00 ThB02.3
Analysis of a Dielectric EAP As Smart Component for a Neonatal Respiratory Simulator 457-460
Tognarelli, Selene Scuola Superiore Sant'Anna; Deri, Linda Scuola Superiore Sant'Anna; Cecchi, Francesca Scuola Superiore Sant'Anna; Scaramuzzo, Rosa Azienda Ospedaliera Universitaria Pisana; Cuttano, Armando Azienda Ospedaliera Universitaria Pisana; Laschi, Cecilia Scuola Superiore Sant'Anna; Menciassi, Arianna Scuola Superiore Sant'Anna; Dario, Paolo Scuola Superiore Sant'Anna

09:30-11:00 ThB02.4
Effects of the Air Sac Thickness on Ventilation by a 1D Model of an Avian Respiratory System 461-464
Urushikubo, Akira Saitama Univ.; Nakamura, Masanori Saitama Univ.; Hirahara, Hiroyuki Saitama Univ.

09:30-11:00 ThB02.5
A Simple Gas Exchange Model Predicting Arterial Oxygen Content for Various FiO2 Levels 465-468
Kretschmer, Joern Furtwangen University; Becher, Tobias University Medical Center Schleswig-Holstein; Riedlinger, Axel Furtwangen University; Schädler, Dirk University Medical Center Schleswig-Holstein; Weiler, Norbert University Medical Center Schleswig-Holstein; Moeller, Knut Furtwangen University

09:30-11:00 ThB02.6
A New Method to Increase the Quality of Cardiopulmonary Resuscitation in Hospital 469-472
Song, Yeongtak University of Ulsan; Oh, Jaehoon Hanyang University, College of Medicine; Lim, Taeho Hanyang University, College of Medicine; Chee, Youngjoon University of Ulsan

09:30-11:00	ThB02.7
Lumped Parameter Model of Cardiovascular-Respiratory Interaction	473-476
<i>Gaudenzi, Fabrizio IUSS (Institute for Advanced Study), PAVIA; Avolio, Alberto P Macquarie University</i>	
09:30-11:00	ThB02.8
Self Biofeedback Control of Oxygen Consumption (Vo2) During Cycling Exercise: Based on Its Real Time Estimate	477-480
<i>Baig, Dur-e-Zehra University of New South Wales; Savkin, Andrey University of New South Wales; Celler, Branko George University of New South Wales</i>	
09:30-11:00	ThB02.9
Using of Porous Portion to Simulate Pulmonary Resistance in the Computational Fluid Dynamic Models of Fontan Connection	481-484
<i>Sun, Qi Shanghai Children's Medical Center, Shanghai Jiao Tong Universit; Liu, Jinlong Shanghai Children's Medical Center, Shanghai Jiao Tong Universit; Qian, Yi Macquarie Univ.; Hong, Haifa Shanghai Children's Medical Center, Shanghai Jiaotong Univ.; Liu, Jinfen Shanghai Children's Medical Center, Shanghai Jiao Tong Univ.</i>	

ThB03: 09:30-11:00	Event Hall-Area A (3F)
3.1.6 Optical and Photonic Sensors III (Poster Session)	

09:30-11:00	ThB03.1
Feasibility Study on Development of Cerenkov Fiber-Optic Dosimeter for Radiotherapy Application	485-487
<i>Yoo, Wook Jae Konkuk Univ.; Shin, Sang Hun Konkuk Univ.; Han, Ki-Tek School of Biomedical Engineering, Konkuk Univ.; Jeon, Dayeong School of Biomedical Engineering, Konkuk Univ.; hong, Seunghan School of Biomedical Engineering, Konkuk Univ.; kim, Seon Geun School of Biomedical Engineering, Konkuk Univ.; Sim, Hyeok In School of Biomedical Engineering, Konkuk Univ.; Jang, Kyoung Won Konkuk Univ.; Cho, Seunghyun Soongsil Univ.; Park, Byung Gi SoonchunhYang Univ.; Lee, Bongsoo Konkuk Univ.</i>	
09:30-11:00	ThB03.2
Metallic Tip Enhanced Fluorescence for DNA Replication Monitoring	488-491
<i>Wei, Shih-Chung National Taiwan Univ.; Chuang, Tsung-Liang National Taiwan Univ.; Sung, Kung-Bin National Taiwan Univ.; Lu, Hui-Hsin National Taiwan Univ.; Lin, Chii-Wann National Taiwan Univ.</i>	
09:30-11:00	ThB03.3
Nanodots Array Rapidly Fabricated by Dip-Pen Nanolithography with Temperature and Humidity Control	492-494
<i>Lu, Yin-Lin Natinal Taiwan University; Wei, Shih-Chung National Taiwan University; Wu, Tzu-Heng National Taiwan University; Lu, Hui-Hsin National Taiwan University; Lin, Chii-Wann National Taiwan University</i>	
09:30-11:00	ThB03.4
Lock-In Amplification for Implantable Multiwavelength Pulse Oximeters	495-498
<i>Theodor, Michael Univ. Freiburg; Karakas, Utku Univ. Freiburg; Ruh, Dominic Univ. of Freiburg; Zappe, Hans Univ. of Freiburg, Department of Microsystems Engineering;; Seifert, Andreas Univ. of Freiburg</i>	

ThB04: 09:30-11:00	Event Hall-Area C (3F)
2.1.2 Diffusion-tensor and Diffusion-spectrum Imaging II (Poster Session)	

09:30-11:00	ThB04.1
Automated Temperature Calculation Method for DWI-Thermometry: The Usefulness of LV Probability Map on Healthy Subjects	499-502
<i>Sakai, Koji Kyoto Univ.; Yamada, Kei Kyoto Prefectural Univ. of Medicine; Sugimoto, Naozo Kyoto Univ.</i>	
09:30-11:00	ThB04.2
Atlas-Based Segmentation of White Matter Structures from DTI Using Tensor Invariants and Orientation	503-506
<i>de Luis-García, Rodrigo University of Valladolid; Vegas-Sanchez-Ferrero, Gonzalo Universidad de Valladolid; Aja-Fernandez, Santiago Universidad de Valladolid; Alberola-López, Carlos Universidad de Valladolid</i>	
09:30-11:00	ThB04.3
Merging Squared-Magnitude Approaches to DWI Denoising: An Adaptive Wiener Filter Tuned to the Anatomical Contents of the Image	507-510
<i>Tristan-Vega, Antonio Universidad de Valladolid; Brion, Véronique NeuroSpin; Vegas-Sanchez-Ferrero, Gonzalo Universidad de Valladolid; Aja-Fernandez, Santiago Universidad de Valladolid</i>	

09:30-11:00	ThB04.4
Cramér-Rao Bound for Intravoxel Incoherent Motion Diffusion Weighted Imaging Fitting	511-514
<i>Zhang, Qinwei The Chinese University of Hong Kong; Wang, Yi-Xiang The Chinese University of Hong Kong; Ma, Heather Ting Harbin Institute of Technology Shenzhen Graduate School; Yuan, Jing The Chinese University of Hong Kong</i>	
09:30-11:00	ThB04.5
Correlation between Diffusion Tensor Tractography and Proton MR Spectroscopy in Normal Controls	515-518
<i>Sato, Tetsuo Nara Inst of Science & Tech; maruyama, nobuyuki National Hospital Organization Nara Medical Center; Hoshida, Tohru National Hospital Organization, Nara Medical Center; Minato, Kotaro Nara Institute of Science and Technology</i>	
09:30-11:00	ThB04.6
Estimation of Fiber Orientation by Filtered Q-Ball Imaging	519-522
<i>Cho, Kuan-Hung National Health Research Institutes; Yeh, Chun-Hung National Yang-Ming University; Kuo, Li-Wei National Health Research Institutes; Chao, Yi-Ping Chang Gung University; Lin, Ching-Po National Yang-Ming University; Jan, Hengtai National Health Research Institutes</i>	
09:30-11:00	ThB04.7
Investigating the Effects of Streamline-Based Fiber Tractography on Matrix Scaling in Brain Connective Network	523-526
<i>Jan, Hengtai National Health Research Institutes; Chao, Yi-Ping Chang Gung University; Cho, Kuan-Hung National Health Research Institutes; Kuo, Li-Wei National Health Research Institutes</i>	
09:30-11:00	ThB04.8
A Prediction Model for Cognitive Performance in Health Ageing Using Diffusion Tensor Imaging with Graph Theory	527-530
<i>Yun, Ruijuan Beijing University of Technology; Lin, Chung-Chih Chang Gung University; Wu, Shuicai Beijing University of Technology; Huang, Chu-Chung National Yang-Ming University; Lin, Ching-Po National Yang-Ming University; Chao, Yi-Ping Chang Gung University</i>	

ThB05: 09:30-11:00	Event Hall-Area A (3F)
3.2.3 Bioelectric Sensors (Poster Session)	

09:30-11:00	ThB05.1
The Accuracy and Precision of Signal Source Localization with Tetrodes	531-534
<i>Lee, Chang Won Samsung R&D Institute America - Dallas; Szymanska, Agnieszka University of California, Irvine; Ikegaya, Yuji University of Tokyo; Nenadic, Zoran University of California Irvine</i>	
09:30-11:00	ThB05.2
Characterization of Laplacian Surface Electromyographic Signals During Isometric Contraction in Biceps Brachii	535-538
<i>Estrada, Luis Universitat Politècnica de Catalunya; Torres, Abel Universitat Politècnica de Catalunya; Garcia-Casado, Javier Universitat Politècnica de València; Prats-Boluda, Gema Universitat Politècnica de València; Jané, Raimon Institut de Bioenginyeria de Catalunya (IBEC)</i>	
09:30-11:00	ThB05.3
Impedance Spectra of Polypyrrole Coated Platinum Electrodes	539-542
<i>Onnela, Niina Maritta Tampere University of Technology; Savolainen, Virpi Tampere University of Technology; Hiltunen, Maiju Tampere University of Technology; Kellomäki, Minna Tampere University of Technology; hyttinen, jari Tampere University of Technology</i>	
09:30-11:00	ThB05.5
Ear-EEG from Generic Earpieces: A Feasibility Study	543-546
<i>Kidmose, Preben Aarhus University, Denmark; Looney, David Imperial College London; Jochumsen, Lars Aarhus School of Engineering, Aarhus University; Mandic, Danilo Imperial College</i>	

09:30-11:00	ThB05.6
Novel Flexible Dry Multipin Electrodes for EEG: Signal Quality and Interfacial Impedance of Ti and TiN Coatings	547-550
<i>Fiedler, Patrique Ilmenau University of Technology; Fonseca, Carlos Instituto de Engenharia Biomédica and Universidade do Porto, Fac; Pedrosa, Paulo SEG-CEMUC – Department of Mechanical Engineering, University of; Martins, Ana Cristina Oliveira Universidade de Coimbra, SEG-CEMUC, Department of Mechanical Eng; Vaz, Filipe Universidade do Minho, Centro de Física; Griebel, Stefan Ilmenau University of Technology, Department of Mechanism Techno; Hauelsen, Jens Technical University Ilmenau</i>	
09:30-11:00	ThB05.7
Comb-Shaped Polymer-Based Dry Electrodes for EEG/ECG Measurements with High User Comfort	551-554
<i>Chen, Yun-Hsuan imec; Op de Beeck, Maaik IMEC; Vanderheyden, Luc Datwyler Sealing Solutions; Mihajlovic, Vojkan Holst Centre / imec; Grundlehner, Bernard Holst Centre; Van Hoof, Chris IMEC</i>	
09:30-11:00	ThB05.8
Multi-layered Fabric Electrode for Movement Artifact Reduction in Capacitive ECG Measurement	555-558
<i>Fukuyama, Yasuhiro Nissan Motor Co., Ltd.; Suzuki, Ryutaro Tokyo Denki University; Takayama, Shunsuke Tokyo Denki University; Ueno, Akinori Tokyo Denki University</i>	
09:30-11:00	ThB05.9
Portable Bioimpedance Monitor Evaluation for Continuous Impedance Measurements. towards Wearable Plethysmography Applications	559-562
<i>Ferreira, Javier Royal Institute of Technology (KTH); Seoane, Fernando University of Borås; Lindecrantz, Kaj Royal Institute of Technology</i>	
09:30-11:00	ThB05.10
Using Transmission Properties to Determine Blood Glucose Levels	563-566
<i>Smilkstein, Tina California State University, San Luis Obispo; Siu, Kasey Mills College, Oakland, Postbaccalaureate Premedical Training Pr; Meng, Fanfu Electrical Engineering California State University at San Luis O; schneider, Sophie Electrical Engineering California State University at San Luis O</i>	
09:30-11:00	ThB05.11
Smart Textile Device Using Ion Polymer Metal Compound	567-570
<i>Nakamura, Taro Suzuka University of Medical Science; IHARA, TADASHI Suzuka University of Medical Science; Asaka, Kinji National Institute of Advanced Science and Technology</i>	
09:30-11:00	ThB05.12
A New Virtual Instrument for Estimating Punch Velocity in Combat Sports	571-574
<i>Urbinati, Keith Sato PUCPR; Scheeren, Eduardo Mendonça Federal Technological University of Paraná; Nohama, Percy Universidade Tecnológica Federal do Parana</i>	

ThB06: 09:30-11:00	Event Hall-Area A (3F)
4.1.2 Modeling of Gene/Epigene Regulatory Networks and Analysis of Microarray Data (Poster Session)	

09:30-11:00	ThB06.1
Identification of Altered MET Network in Oral Cancer Progression Based on Nonparametric Network Design	575-578
<i>Kalantzaki, Kalliopi Technical Univ. of Crete; Bei, Ekaterini Technical Univ. of Crete; Exarchos, Konstantinos Univ. of Ioannina; Zervakis, Michalis Technical Univ. of Crete, Greece; Fotiadis, Dimitrios I. Univ. of Ioannina; Garofalakis, M. Department of Electronic and Computer Engineering, Technical Uni</i>	
09:30-11:00	ThB06.2
G-Network for Gene Regulatory Network Analysis	579-583
<i>Kim, Haseong Korea Research Institute of Bioscience and BioTechnology; Gelenbe, Erol Imperial College</i>	
09:30-11:00	ThB06.3
Hierarchical Clustering Combining Numerical and Biological Similarities for Gene Expression Data Classification	584-587
<i>Bosio, Mattia Technical University of Catalonia, Barcelona; Salembier, Philippe Universitat Politècnica de Catalunya; Bellot, Pau UPC BarcelonaTech; Oliveras-Vergés, Albert UPC Barcelona Tech</i>	

09:30-11:00		ThB06.4
Nucleotide Sequence Alignment Using Sparse Coding and Belief Propagation		588-591
<i>roozgard, Aminmohammad University of Oklahoma; Barzigar, Nafise University of Oklahoma; Wang, Shuang University of California, San Diego; Jiang, Xiaoqian University of California, San Diego; Ohno-Machado, Lucila UCSD; Cheng, Samuel University of Oklahoma</i>		
09:30-11:00		ThB06.5
Optimisation Algorithms for Microarray Biclustering		592-595
<i>Perrin, Dimitri RIKEN; Duhamel, Christophe University of Clermont-Ferrand II</i>		
09:30-11:00		ThB06.6
Role for Gene Sequence, Codon Bias and Mrna Folding Energy in Modulating Structural Symmetry of Proteins		596-599
<i>Shen, Xiaojuan Shenzhen Institute of Advanced Technology, Chinese Academy of Scienc; Chen, Shixiong Shenzhen Institutes of Advanced Technology; Li, Guanglin Shenzhen Institutes of Advanced Technology</i>		
09:30-11:00		ThB06.7
Systemes Analysis of Interactions between Micrnas and Genes in Hepatocellular Carcinoma		600-603
<i>Fukuoka, Yutaka Kogakuin Univ.; Tashiro, Motoki Kogakuin Univ.; Uchiyama, Takanori Keio Univ.</i>		
09:30-11:00		ThB06.8
Dictionary Learning Improves Subtyping of Breast Cancer Acgh Data		604-607
<i>Masecchia, Salvatore University of Genova; Barla, Annalisa University of Genoa; Salzo, Saverio Università degli Studi di Genova; Verri, Alessandro University of Genoa</i>		
09:30-11:00		ThB06.9
Combination of Gene Expression and Genome Copy Number Alteration Has a Prognostic Value for Breast Cancer		608-611
<i>Cava, Claudia Institute of Molecular Bioimaging and Physiology of the National; Zoppis, Italo Department of Informatics, Systems and Communications, University; Mauri, Giancarlo University of Milano-Bicocca; Ripamonti, Marilena Institute of Molecular Bioimaging and Physiology of the National; Gallivanone, Francesca Institute of Molecular Bioimaging and Physiology of the National; Salvatore, Christian University of Milan-Bicocca, Milan, Italy; Gilardi, Maria Carla Institute of Molecular Bioimaging and Physiology of the National; Castiglioni, Isabella National Research Council (CNR)</i>		
ThB07: 09:30-11:00		Event Hall-Area A (3F)
3.1.3 New Sensing Techniques II (Poster Session)		
09:30-11:00		ThB07.1
Measurement of Swallowing Using Flexible Polymer Sensor		612-615
<i>Sakaue, Yusuke Ritsumeikan University; Shimizu, Takahiro, Takahiro Ritsumeikan University; Matsushima, Motomi Kuraray Co., Ltd; Matsuura, Mikiya Kuraray Co., Ltd.; Takahashi, Katsuei Kuraray Co., Ltd.; Asahara, Kazuhiko Kuraray Co., Ltd; Okada, Shima Faculty of Science and Engineering, Kinki University; Makikawa, Masaaki Ritsumeikan University</i>		
09:30-11:00		ThB07.2
Measurement of Tongue-Artificial Nipple Contact Force in Infants with Sucking Difficulties		616-619
<i>Nishi, Eri Osaka Electro-Communication University; Wakamatsu, Yuki Osaka Electro-Communication University; Nagamatsu, Yuiko Osaka Koseinenkin Hospital; Kuroyanagi, Yuichi Osaka Koseinenkin Hospital; NIIKAWA, Takuya Osaka Electro-Communication University</i>		
09:30-11:00		ThB07.3
Intracranial Temperature and Pressure Measurement: In Vitro Temperature Sensing Characteristics of the Dual Sensing Element *		620-623
<i>Clark, Therese University of Auckland; Malpas, Simon University of Auckland; Heppner, Peter Starship Children's Hospital; McCormick, Daniel University of Auckland; Budgett, David Auckland University</i>		
09:30-11:00		ThB07.4
Developing a Thermoacoustic Sensor Adaptive to Ambient Temperatures		624-627
<i>Xing, Jida University of Alberta; Chen, Jle University of Alberta</i>		

09:30-11:00 ThB07.5
Smart Sensing of Tool/Tissue Interaction by Resistive Coupling 628-631
Yoshimoto, Shunsuke Osaka University; Kuroda, Yoshihiro Osaka University; Imura, Masataka Osaka University; Oshiro, Osamu Osaka University; Sato, Kosuke Osaka University

09:30-11:00 ThB07.6
Improving the Function of Dopamine Electrodes with Novel Carbon Materials 632-634
Kaivosoja, Emilia Aalto University; Berg, Emilia Aalto University; Rautiainen, Antti Aalto University; Palomäki, Tommi Aalto University; Koskinen, Jari Aalto University; Paulasto, Mervi Department of electronics, School of Science and Technology, Aal; Laurila, Tomi Aalto University

ThB08: 09:30-11:00 Event Hall-Area A (3F)
4.1.1 Next Generation Sequencing (Poster Session)

09:30-11:00 ThB08.1
In-Depth Analysis of Interrelation between Quality Scores and Real Errors in Illumina Reads 635-638
Kwon, Sunyoung Seoul National University; Park, Seunghyun Korea University; Lee, Byunghan Seoul National University; Yoon, Sungho Seoul National University

09:30-11:00 ThB08.2
Efficient Markov Clustering Algorithm for Protein Sequence Grouping 639-642
Szilagyi, Laszlo Budapest Univ of Tech & Economics; Szilagyi, Sandor Miklos Petru Maior University

09:30-11:00 ThB08.3
Contact Potentials Via Wavelet Transform for Prediction of Subcellular Localizations in Gram Negative Bacterial Proteins 643-646
Arango, Gustavo Universidad Nacional de Colombia; Jaramillo Garzón, Jorge Alberto Instituto Tecnológico Metropolitano; Castellanos-Dominguez, Germán Universidad Nacional de Colombia

09:30-11:00 ThB08.4
Benchmarking RNA-Seq Quantification Tools 647-650
Chandramohan, Raghu Georgia Institute of Technology; Wu, Po-Yen Georgia Institute of Technology; Phan, John H. Georgia Institute of Technology; Wang, May D. Georgia Tech and Emory University

09:30-11:00 ThB08.5
Implementation of a Custom Hardware-Accelerator for Short-Read Mapping Using Burrows-Wheeler Alignment 651-654
Waidyasooriya, Hasitha Muthumala Tohoku University; Hariyama, Masanori Tohoku University; Kameyama, Michitaka Tohoku University

09:30-11:00 ThB08.6
EpiDiff: Entropy-Based Quantitative Identification of Differential Epigenetic Modification Regions from Epigenomes 655-658
Zhang, Yan Harbin Medical University, College of Bioinformatics Science and; Su, Jianzhong Harbin Medical University; Yu, Di Heilongjiang University; Wu, Qiong School of Life Science and BioTechnology, Harbin Institute of Te; Yan, Haidan Harbin medical university

ThB09: 09:30-11:00 Event Hall-Area B (3F)
5.1.4 Mechanical Cardiac Support II (Poster Session)

09:30-11:00 ThB09.1
Genetic Algorithm Optimization of Transcutaneous Energy Transmission Systems for Implantable Ventricular Assist Devices 659-662
Byron, Kelly Stanford University; Bluvshstein, Vlad Minnetronix, Inc.; Lucke, Lori Minnetronix Inc

09:30-11:00 ThB09.2
A Magnetic Fluid Seal for Rotary Blood Pumps: Image and Computational Analyses of Behaviors of Magnetic Fluids 663-666
Mitamura, Yoshinori Hokkaido Univ.; Yano, Tetsuya Akita Prefectural Univ.; Okamoto, Eiji Tokai Univ.

09:30-11:00		ThB09.3
Evaluation of Titanium Mesh Electrode Using for Transcutaneous Intrabody Communication by Tissue-Electrode Impedance		667-670
<i>Okamoto, Eiji Tokai Univ.; Kikuchi, Sakiko Graduate School of Tokai Univ.; Mitamura, Yoshinori Hokkaido Univ.</i>		
09:30-11:00		ThB09.4
Relation between Left Atrial Pressure and the Corresponding Pulse Pressure in the Helical Flow Total Artificial Heart		671-674
<i>Wu, Sheng Yuan The University of Tokyo; Saito, Itsuro The University of Tokyo; Isoyama, Takashi The University of Tokyo; Inoue, Yusuke The University of Tokyo; Abe, Yusuke The University of Tokyo; Ono, Toshiya The University of Tokyo; Nakagawa, Hidemoto The University of Tokyo; Sato, Masami The University of Tokyo; hara, shintaro Graduate School of Medicine The University of Tokyo; ariyoshi, koki kitasato; Hosoda, Kyohei Kitasato University; Li, XinYang The University of Tokyo; Ishii, Kohei The University of Tokyo</i>		
09:30-11:00		ThB09.5
Physiological Control of Implantable Rotary Blood Pumps for Heart Failure Patients		675-678
<i>Bakouri, Mohsen A. University of New South Wales; Salamonsen, Robert F Alfred Hospital; Savkin, Andrey University of New South Wales; Alomari, Abdul-Hakeem H University of Dammam; Lim, Einly University of Malaya; Lovell, Nigel H. University of New South Wales</i>		
09:30-11:00		ThB09.6
Modeling Aortic Valve Closure under the Action of a Ventricular Assist Device		679-682
<i>Alonazi, Khalid UNSW; Savkin, Andrey University of New South Wales; Lovell, Nigel H. University of New South Wales; Dokos, Socrates University of New South Wales</i>		
09:30-11:00		ThB09.7
Peristaltic Hemodynamics of a New Pediatric Circulatory Assist System for Fontan Circulation Using Shape Memory Alloy Fibers		683-686
<i>Yamada, Akihiro Tohoku University; Shiraishi, Yasuyuki Tohoku University; Hashem, Mohamed Tohoku university, Graduate school of medicine; Tsuboko, Yusuke Tohoku University</i>		
ThB10: 09:30-11:00		Event Hall-Area B (3F)
5.1.5 Cardiac Mechanics (Poster Session)		
09:30-11:00		ThB10.1
Noninvasive Assessment of Left Ventricular Force-Frequency Relationships by Measuring Carotid Arterial Wave Intensity During Exercise Stress		687-690
<i>Tanaka, Midori Himeji Dokkyo Univ.; Sugawara, Motoaki Himeji Dokkyo Univ.; Ogasawara, Yasuo Kawasaki Medical School; Suminoe, Isao Japanese Red Cross Society Himeji Hospital; Izumi, Tadafumi Himeji Dokkyo Univ.; Hiramatsu, Osamu Kawasaki Univ. of Medical Welfare; kajija, fumihiko kawasaki Univ. of medical welfare</i>		
09:30-11:00		ThB10.2
Effective Arterial Elastance and Arterial Compliance in Heart Failure Patients with Preserved Ejection Fraction		691-694
<i>Kerkhof, Peter VU University Medical Center; Li, John K-J. Rutgers University; Heyndrickx, Guy R. Cardiovascular Center, OLV Clinic, Aalst</i>		
09:30-11:00		ThB10.3
Myocardial Performance Index Is Sensitive to Changes in Cardiac Contractility, but Is Also Affected by Vascular Load Condition		695-698
<i>Uemura, Kazunori National Cerebral and Cardiovascular Center Research Institute; Kawada, Toru Nat. Cerebral and Cardiovascular Center Res Inst; Zheng, Can National Cardio. Center Research Inst; Li, Meihua Nat. Cardiovascular Center Res Inst; Shishido, Toshiaki National Cardiovascular Center Research Institute; Sugimachi, Masaru Natl Cardio Center Research Inst</i>		
09:30-11:00		ThB10.4
DT-MRI Measurement of Myolaminar Structure: Accuracy and Sensitivity to Time Post-Fixation, B-Value and Number of Directions		699-702
<i>Gilbert, Stephen Henry Centre Hospitalier Universitaire de Bordeaux; Smaill, Bruce Univ. of Auckland; Walton, Richard David Université Bordeaux Segalen; Trew, Mark L. Univ. of Auckland; Bernus, Olivier Univ. of Leeds</i>		

09:30-11:00	ThB10.5
FSI Simulation of Intra-Ventricular Flow in Patient-Specific Ventricular Model with Both Mitral and Aortic Valves	703-706
<i>Zhong, Liang National Heart Centre Singapore; Su, BoYang Department of Bioengineering, National University of Singapore; Zhang, Jun-Mei National Heart Center; Leo, Hwa liang Department of bioengineering; tan, ru san National heart center</i>	
09:30-11:00	ThB10.6
Numerical Simulation and Hemodynamic Analysis of the Modified Blalock-Taussig Shunt	707-710
<i>Liu, Jinlong Shanghai Children's Medical Center, Shanghai Jiao Tong Univ.; Sun, Qi Shanghai Children's Medical Center, Shanghai Jiao Tong Univ.; Qian, Yi Macquarie Univ.; Hong, Haifa Shanghai Children's Medical Center, Shanghai Jiaotong Univ.; Liu, Jinfen Shanghai Children's Medical Center, Shanghai Jiao Tong Univ.</i>	
09:30-11:00	ThB10.7
Simulation of Transcatheter Aortic Valve Implantation under Consideration of Leaflet Calcification	711-714
<i>Russ, Christoph ETH Zurich; Hopf, Raoul ETH Zurich; Hirsch, Sven ETH Zurich; Sündermann, Simon University Hospital Zürich; Falk, Volkmar Universitätsspital Zürich, Klinik für Herz- und Gefässchirurgie; Szekeley, Gabor ETH Zurich; Gessat, Michael University Hospital Zürich</i>	
09:30-11:00	ThB10.8
A Novel Dynamic Cardiac Simulator Utilizing Artificial Pneumatic Muscle	715-718
<i>Liu, Hao ShenYang Institute of Automation, Chinese Academy of Sciences; Yan, Jie ShenYang Ligong University & Laboratory of Robotics, SIA Chinese A; Zhou, Yuanyuan State Key Laboratory of Robotic, Instidude of Automation, Chinese; Li, Yanmin ShenYang Institute of Automation, Chinese Academy of Sciences; Li, Hongyi State Key Laboratory of Robotic, ShenYang Institute of Automatio; Li, Changji Yingkou Jucheng Techonology Development of Teaching Co., Ltd</i>	
09:30-11:00	ThB10.9
Detection of Growth-Restricted Fetuses Using a Patient-Specific Model	719-722
<i>Barnea, Ofer Tel Aviv University; Luria, Oded Tel-Aviv University; Bar, Jacob Tel Aviv University</i>	

ThB11: 09:30-11:00	Event Hall-Area B (3F)
5.2.2 Vascular Mechanics (Poster Session)	

09:30-11:00	ThB11.1
Relationships between Local Geometrical Features and Hemodynamic Flow Properties	723-726
<i>Chiu, Bernard City University of Hong Kong; Chen, Yimin City University of Hong Kong; Canton, Gador University of Washington; Kerwin, William S. University of Washington</i>	
09:30-11:00	ThB11.2
A Novel Coupling Algorithm for Computing Blood Flow in Viscoelastic Arterial Models	727-730
<i>Itu, Lucian Transilvania University of Brasov; Sharma, Puneet Siemens Corporation, Corporate Research and Technology; Kamen, Ali Siemens Corporation, Corporate Research and Technology; Suci, Constantin Siemens Corporate Technology; Comaniciu, Dorin Siemens Corporate Research</i>	
09:30-11:00	ThB11.3
Estimation of Aortic Pressure Waveforms from 4D Phase-Contrast MRI	731-734
<i>Delles, Michael Karlsruhe Institute of Technology (KIT); Rengier, Fabian Department of Diagnostic and Interventional Radiology, Universit; Jeong, Yoo-Jin Karlsruhe Institute of Technology (KIT); von Tengg-Kobligh, Hendrik Department of Diagnostic and Interventional Radiology, Universit; Ley, Sebastian Department of Diagnostic and Interventional Radiology, Universit; Kauczor, Hans-Ulrich Department of Diagnostic and Interventional Radiology, Universit; Dillmann, Rüdiger Karlsruhe Institute of Technology (KIT); Unterhinninghofen, Roland Karlsruhe Institute of Technology (KIT)</i>	
09:30-11:00	ThB11.4
An Hemodynamic Work Bench for In-Vitro Measurements in Arterial Bifurcations: Experimental Results and Comparison with the Output of a Simplified CFD Model	735-738
<i>Suarez-Bagnasco, Diego Facultad de Ciencias (FCIEN) - UdelaR; Armentano, Ricardo Luis Favaloro University; Balay, Guillermo Universidad dela República; Negreira, Carlos Universidad de la República Uruguay</i>	

09:30-11:00 ThB11.5
Characterization of Pressure Reduction in Coil-Filled Aneurysm under Flow of Human Blood with and without Anti-Coagulant 739-742
Lam, Alexander K.N. Hong Kong Univ. of Science and Technology; Ko, Wai Lun Hong Kong Univ. of Science and Technology; Leung, Leo K.K. Hong Kong Univ. of Science and Technology; Kwok, John C.K. Hong Kong Univ. of Science and Technology; Yuen, Matthew M.F. Hong Kong Univ. of Science and Technology; Lam, David C.C. Hong Kong Univ. of Science and Technology

ThB12: 09:30-11:00 Event Hall-Area B (3F)
5.2.3 Hemodynamics (Poster Session)

09:30-11:00 ThB12.1
A Research Based on Hemodynamic Model for Heart Mural Coronary Artery -Myocardial Bridge 743-746
Ding, Hao University of Shanghai for Science and Technology; Shang, Kun University of Shanghai for Science and Technology; Lan, Hailian University of Shanghai for Science and Technology

ThB13: 09:30-11:00 Event Hall-Area D (3F)
6.1.5 Neural Engineering II (Poster Session)

09:30-11:00 ThB13.1
Neural Recording Front-End IC Using Action Potential Detection and Analog Buffer with Digital Delay for Data Compression 747-750
liu, lei Nanyang Technological University, Singapore.; Yao, Lei Institute of Microelectronics, Singapore; zou, xiaodan Institute of Microelectronics, Singapore; goh, wang ling Nanyang Technological University; Je, Minkyu Institute of Microelectronics, Agency of Science, Technology and

09:30-11:00 ThB13.2
Multicoil Resonance-Based Parallel Array for Smart Wireless Power Delivery 751-754
Gosselin, Benoit Laval Univ.; Mirbozorgi, Seyedabdollah Laval Univ.; Sawan, Mohamad Ecole Polytechnique

09:30-11:00 ThB13.3
BaroLoop: Using a Multichannel Cuff Electrode and Selective Stimulation to Reduce Blood Pressure 755-758
Plachta, Dennis T.T. University of Freiburg - IMTEK; Gierthmuehlen, Mortimer Department of Neurosurgery University Freiburg; Cota, Oscar Laboratory for Biomedical MicroTechnology Department of Microsys; Boeser, Fabian University of Freiburg - IMTEK; Stieglitz, Thomas University of Freiburg

09:30-11:00 ThB13.4
Materials Design Considerations Involved in the Fabrication of Implantable Bionics by Metallization of Ceramic Substrates 759-762
Sunil, Patel UNSW; Guenther, Thomas The University of New South Wales; Dodds, Christopher William Douglas University of New South Wales; Kolke, Sergej UNSW; Privat, Karen L. UNSW; Matteucci, Paul Brendan University of New South Wales; Suaning, Gregg The University of New South Wales

09:30-11:00 ThB13.5
Low-Cost Hybrid Interface with EEG and Eye Movement for Multi-Directional Target Selection 763-766
Kim, Minho Korea Advanced Institute of Science and Technology; Chae, Yongwook Korea Advanced Institute of Science & Technology (KAIST); Jo, SungHo Korea Advanced Institute of Science & Technology (KAIST)

09:30-11:00 ThB13.6
Droplet Backside Exposure for Making Slanted SU-8 Micro Needles 767-770
Kwon, Ki Yong Michigan State University; Li, Wen California Institute of Technology; Bi, Xiaopeng Michigan State University

09:30-11:00 ThB13.7
Spiral Peripheral Nerve Interface; Updated Fabrication Process of the Regenerative Implant 771-774
Barrett, Richard University of Birmingham; Tarte, Edward University of Birmingham; Benmerah, Samia University of Birmingham; Frommhold, Andreas University of Birmingham

09:30-11:00		ThB13.8
Misalignment Tolerable Coil Structure for Biomedical Applications with Wireless Power Transfer	775-778	
<i>Chow, Jeff PW City University of Hong Kong; Chen, Nan ABB Corporate Research Sweden; Chung, Henry City University of Hong Kong; Chan, Lai-Hang Leanne City University of Hong Kong</i>		
09:30-11:00		ThB13.9
A Multichannel Integrated Circuit for Neural Spike Detection Based on EC-PC Threshold Estimation	779-782	
<i>Wu, Tong National University of Singapore; Yang, Zhi National University of Singapore</i>		
09:30-11:00		ThB13.10
Current Amplitude-Dependent Modulation of Rotational Behavior with GPi Stimulation in the Rodent Model of Parkinson's Disease	783-786	
<i>Summerson, Samantha Rice University; Kemere, Caleb Rice University; Aazhang, Behnaam Rice University</i>		
09:30-11:00		ThB13.11
A Programmable Analog Subthreshold Biomimetic Model for Bi-Directional Communication with the Brain	787-790	
<i>Ghaderi, Viviane University of Southern California; Song, Dong University of Southern California; Bouteiller, Jean-Marie Charles University of Southern California; Choma, John, Jr. University of Southern California; Berger, Theodore University of Southern California</i>		
09:30-11:00		ThB13.12
Analysis of Fractal Electrodes for Efficient Neural Stimulation	791-794	
<i>Golestani, Laleh University of Toronto; Pollo, Claudio Centre Hospitalier Universitaire Vaudois (CHUV); Graham, Simon University of Toronto, Medical Biophysicis</i>		
09:30-11:00		ThB13.13
Calculating the Induced Electromagnetic Fields in Real Human Head by Deep Transcranial Magnetic Stimulation	795-798	
<i>Lu, Mai Lanzhou Jiaotong University; Ueno, Shoogo Kyushu University</i>		
09:30-11:00		ThB13.14
An in Vitro Demonstration of CMOS-Based Optoelectronic Neural Interface Device for Optogenetics	799-802	
<i>Tokuda, Takashi Nara Institute of Science and Technology; Nakajima, Shun Nara Institute of Science and Technology; Maezawa, Yasuyo Nara Institute of Science and Technology; Noda, Toshihiko Nara Institute of Science and Technology; Sasagawa, Kiyotaka Nara Institute of Science and Technology; Ishikawa, Yasuyuki Nara Institute of Science and Technology; Shiosaka, Sadao Nara Institute of Science and Technology; Ohta, Jun Nara Institute of Science and Technology</i>		
09:30-11:00		ThB13.15
Habituation of Steady-State Visual Evoked Potentials in response to High-Frequency Polychromatic Foveal Visual Stimulation	803-806	
<i>Kuo, Heng-Yuan National Chiao Tung University; Cheng-Chi, Chiu, George NCTU; Zao, John Kar-Kin National Chiao Tung University; Lai, Kuan-Lin Taipei Municipal Gandau Hospital; Gruber, Allen Brain Holding Ventures, LLC; Chien, Yu-Yi National Chiao Tung University; Chou, Ching-Chi National Chiao Tung University; Lu, Chih-Kai National Chiao Tung University;; Liu, Wen-Hao National Chiao Tung University; Huang, Yu-Shan National Chiao Tung University; Yang, Albert Department of Psychiatry, Taipei Veterans General Hospital; Wang, Yijun University of California, San Diego; Lin, Fang-Cheng National Chiao Tung University; Huang, Yi-Pai National Chiao-Tung University; Wang, Shuu-Jiun Department of Neurology, Taipei Veterans General Hospital and Fa; Jung, Tzyy-Ping University of California San Diego</i>		
09:30-11:00		ThB13.16
Photodynamic Cell Membrane Perforation for Intracellular Electrodes	807-810	
<i>Shibata, Masashi Akita Prefectural University; Kashiwazaki, Shuhei Akita Prefectural University; Saito, Takashi K. Akita Prefectural University</i>		
09:30-11:00		ThB13.17
Fundamental Short-Term Memory of Semi-Artificial Neuronal Network	811-814	
<i>Kudoh, Suguru Kwansei Gakuin University; Ito, Hidekatsu Kwansei Gakuin University</i>		

09:30-11:00	ThB13.18
Anatomical Variability Predicts Individual Differences in Transcranial Electric Stimulation Motor Threshold	815-818
<i>Lee, Won Hee Columbia University; Lisanby, Sarah Duke University; Laine, Andrew Columbia University; Peterchev, Angel V Duke University</i>	
09:30-11:00	ThB13.19
Comparison of Three Right-Unilateral Electroconvulsive Therapy Montages	819-822
<i>Bai, Siwei University of New South Wales; Loo, Colleen School of Psychiatry, University of New South Wales; Lovell, Nigel H. University of New South Wales; Dokos, Socrates University of New South Wales</i>	
09:30-11:00	ThB13.20
Inconsistent Outcomes of Transcranial Direct Current Stimulation (tDCS) May Be Originated from the Anatomical Differences among Individuals: A Simulation Study Using Individual MRI Data	823-825
<i>Kim, Jung-Hoon Hanyang University; Kim, Do-Won Hanyang University; Chang, Won-Hyuk Samsung Medical Center; Kim, Yun-Hee Samsung Medical Center; Im, Chang-Hwan Hanyang University</i>	
09:30-11:00	ThB13.21
A Low Emission, Low Power Non-Linear Frequency Modulation Based Transmitter for Implanted Devices	826-829
<i>Saraswat, Ruchir Imperial College; Rodriguez-Villegas, Esther Imperial College London</i>	
09:30-11:00	ThB13.22
A Synchronization Method for Wireless Acquisition Systems, Application to Brain Computer Interfaces	830-833
<i>Foerster, Michael CEA/LETI, MINATEC Campus; Bonnet, Stéphane CEA Léti MINATEC; Van Langenhove, Aurélien CEA; porcherot, jean CEA/LETI, MINATEC Campus; Charvet, Guillaume CEA/LETI, MINATEC campus</i>	
09:30-11:00	ThB13.23
Design of a High Voltage Stimulator Chip for a Stroke Rehabilitation System	834-837
<i>Zeng, Lei School of Microelectronics, Shanghai Jiao Tong University, Shang; Yi, Xin Shanghai Jiao Tong University; Lu, Sheng Shanghai Jiao Tong University; Lou, Yuan Shanghai Jiao Tong University; Jiang, Jianfei Shanghai Jiao Tong University; Qu, Hongen Shanghai Jiao Tong University; Lan, Ning Shanghai Jiao Tong University; Wang, Guoxing Shanghai Jiao Tong University</i>	
09:30-11:00	ThB13.24
Source Localization Techniques for Direction Decoding from Local Field Potentials	838-841
<i>Tadipatri, Vijay Aditya University of Texas, Austin; Tewfik, Ahmed University of Texas Austin; Ashe, James University of Minnesota; Pellizzer, Giuseppe VA Medical Center</i>	

ThB14: 09:30-11:00	Event Hall-Area C (3F)
7.4.5 Cell and Tissue Mechanics (Poster Session)	

09:30-11:00	ThB14.1
Microfluidic Device with Dual Mechanical Cues for Cell Migration Investigation	842-845
<i>Tsai, Chin-Hsiung National Taiwan University; Kuo, Po-Ling National Taiwan University</i>	
09:30-11:00	ThB14.2
Ultrasound Stimulus to Enhance the Bone Regeneration Capability of Gelatin Cryogels	846-849
<i>Fassina, Lorenzo University of Pavia; Visai, Livia University of Pavia; Magenes, Giovanni University of Pavia; Schelfhout, Jorg University of Ghent; Bloise, Nora University of Pavia; Riva, Federica University of Pavia; Omes, Claudia Fondazione IRCCS Policlinico San Matteo; Avanzini, Maria Antonietta Oncoematologia Pediatrica, IRCCS San Matteo di Pavia, Italy; Cusella De Angelis, Maria Gabriella University of Pavia; Benazzo, Francesco University of Pavia; Dierick, Manuel UGCT, Ghent University; Van Hoorebeke, Luc UGCT - Department of Physics and Astronomy, Ghent University; Dubruel, Peter Polymer Chemistry and Biomaterials Research Group, University of; Van Vlierberghe, Sandra University of Ghent, Belgium</i>	
09:30-11:00	ThB14.3
Biological Effects of Ultrasound Stimulus on Cells Derived from Human Ovarian Follicular Liquid	850-853
<i>Omes, Claudia Fondazione IRCCS Policlinico San Matteo; Fassina, Lorenzo University of Pavia; Magenes, Giovanni University of Pavia; Ogliari, Daniela University of Pavia, Dipartimento di Ingegneria Industriale e de; Tinelli, Carmine Fondazione IRCCS Policlinico San Matteo, Pavia; Riva, Federica University of Pavia</i>	

09:30-11:00 ThB14.4
Effects of the Hydrostatic Pressure in In Vitro Beating Cardiac Syncytia in Terms of Kinematics (Kinetic Energy and Beat Frequency) and Syncytia Geometrical-Functional Classification 854-857
Fassina, Lorenzo Univ. of Pavia; Di Grazia, Antonio Univ. of Rome "Sapienza"; Naro, Fabio Univ. of Rome "Sapienza"; Aguanno, Salvatore Univ. of Rome "Sapienza"; Cornacchione, Marisa Univ. of Molise; Cusella De Angelis, Maria Gabriella Univ. of Pavia; Sardi, Francesca Univ. of Pavia; Magenes, Giovanni Univ. of Pavia

09:30-11:00 ThB14.5
Evaluation of Strontium Introduced Apatite Cement As the Injectable Bone Substitute Developments 858-861
Sekine, Kazumitsu The University of Tokushima Graduate School; Hamada, Kenichi University of Tokushima; Sakama, Minoru The University of Tokushima

09:30-11:00 ThB14.6
Low Cost, Patterning of Human Hnt Brain Cells on Parylene-C with UV & IR Laser Machining 862-865
Raos, Brad J Univ. of Auckland; Unsworth, Charles Peter Univ. of Auckland; Costa, Jessica L Univ. of Auckland; rohde, Charles A Univ. of Auckland; Doyle, Colin S Univ. of Auckland; Delivopoulos, Evangelos Univ. of Nottingham; Murray, Alan Fraser The Univ. of Edinburgh; Dickinson, Michelle E Univ. of Auckland; simpson, Miriam C Univ. of Auckland; Graham, Euan S Univ. of Auckland; Bunting, Andrew S Univ. of Edinburgh

ThB15: 09:30-11:00 Event Hall-Area C (3F)
8.3.1 Rehabilitation Robotics and Applications (Poster Session)

09:30-11:00 ThB15.1
Experimental Evaluation of a Model-Based Assistance-As-Needed Paradigm Using an Assistive Robot 866-869
Carmichael, Marc Garry University of Technology, Sydney; Liu, Dikai University of Technology, Sydney

09:30-11:00 ThB15.2
Admittance Control Scheme for Implementing Model-Based Assistance-As-Needed on a Robot 870-873
Carmichael, Marc Garry University of Technology, Sydney; Liu, Dikai University of Technology, Sydney

09:30-11:00 ThB15.3
Low-Cost Implementation of a Self-Paced Treadmill by Using a Commercial Depth Sensor 874-877
Kim, Jonghyun Daegu Gyeongbuk Inst. of Science and Technology (DGIST); Gravunder, Andrew Natl. Institutes of Health; Stanley, Christopher Natl. Institutes of Health; Park, Hyung-Soon Natl. Inst. of Health

09:30-11:00 ThB15.4
Yaw Rate and Linear Velocity Stabilized Manual Wheelchair 878-881
Seifert, Sara Minnesota HealthSolutions Corp; Dahlstrom, Robert Advanced Medical Electronics; Condon, John P Advanced Medical Electronics; Hedin, Daniel Advanced Medical Electronics

09:30-11:00 ThB15.5
Proposal of Bioinstrumentation Using Shape Deformation of Amputated Upper Limb 882-885
Mori, Takahiko Gifu National College of Technology; Tanaka, Yuya Department of Electronic Control Engineering; Yoshikawa, Kenichi Ibaraki Prefectural University of Health Sciences Hospital; Katane, Tamotsu Chiba University; Torishima, Hiroyuki OMIYA Co., Ltd; Shimizu, Yukiyo Ibaraki Prefectural University of Health Sciences Hospital; Hara, Yuki University of Tsukuba

09:30-11:00 ThB15.6
Robot-Assisted Upper Limb Rehabilitation in Chronic Stroke Patients 886-889
Mazzoleni, Stefano Scuola Superiore Sant'Anna; Crecchi, Rossella Auxilium Vitae Hospital; Posteraro, Federico Auxilium Vitae Hospital; Carrozza, Maria Chiara Scuola Superiore Sant'Anna

ThB16: 09:30-11:00 Event Hall-Area A (3F)
9.1.2 Clinical Engineering II (Poster Session)

09:30-11:00 ThB16.1
Adapting the Design of Anesthesia Information Management Systems to Innovations Depicted in Industrial Property Documents 890-893
Spyropoulos, Basile Technological Education Institute of Athens; Tzavaras, Aris Tech Educational Inst of Athens; Zogogianni, Dionysia Technological Education Institute (TEI) of Athens; Botsivaly, Maria Tech Educational Inst of Athens

09:30-11:00		ThB16.2
An Efficient Capacitive Sensing Scheme for an Ophthalmic Regional Anesthesia Training System		894-897
<i>Mukherjee, Biswarup Indian Institute of Technology Madras; George, Bobby Indian Institute of Technology Madras; Sivaprakasam, Mohanasankar Indian Institute of Technology Madras</i>		
09:30-11:00		ThB16.3
Supporting Management of Medical Equipment for Inpatient Service in Public Hospitals: A Case Study		898-901
<i>Figuroa, Rosa Universidad de Concepcion; Vallejos, Guido Universidad Concepcion</i>		
09:30-11:00		ThB16.4
Quantitative Evaluation of Cerebellar Ataxia Based on Pathological Patterns of the Muscle Activities		902-905
<i>Lee, Jongho Tokyo Metropolitan Institute of Medical Science; Kagamihara, Yasuhiro Tokyo Metropolitan Tama Medical Center; Kakei, Shinji Tokyo Metropolitan Institute of Medical Science</i>		
09:30-11:00		ThB16.5
Fully Automatic Rapid DNA Ploidy Analyzer for Intraoperative Rapid Diagnosis Support		906-909
<i>Shioyama, Takahiro Nihon Kohden Corporation; Suzuki, Akane Nihon Kohden corporation; Nomura, Kenichi Nihon Kohden; Shigaki, Naoki Nihon Kohden; Kubo, Hirotsugu Nihon Kohden Corporation; Takeda, Sunao Tokyo Univ. of Technolgy; Yamamori, Shinji Nihon Kohden Corporation; Maruyama, Takashi Tokyo Women's Medical Univ.; Iseki, Hiroshi Tokyo Women's Medical Univ.; Komori, Takashi Tokyo Metropolitan Neurological Hospital; Masayuki, Nitta Tokyo Women's Medical Univ.; Sakayori, Takashi Tokyo Women's Medical Univ.; Muragaki, Yoshihiro Tokyo Women's Medical Univ.</i>		
09:30-11:00		ThB16.6
Path Tracking Control of an Omni-Directional Walker Considering Pressures from a User		910-913
<i>Tan, Renpeng Kochi Univ. of Technology; Wang, Shuoyu Kochi Univ. of Technology; Jiang, Yinlai Kochi Univ. of Technology; Ishida, Kenji Kochi Medical School Hospital; Fujie, Masakatsu G. Waseda Univ.</i>		
09:30-11:00		ThB16.7
Detectability and Appraisal Thresholds of Split Pulse Signals for the MemoPatch™ Device, an Electronic Skin Patch Intended to Deliver Tactile Medication Reminder Signals (Study TS-104)		914-917
<i>Abraham, Ivo Matrix45; De Geest, Wim TheraSolve; De Geest, Jan TheraSolve; De Troy, Elke Jessa Ziekenhuis; MacDonald, Karen Matrix45</i>		
09:30-11:00		ThB16.8
Analysis of Liquid Reservoir Effect Induced by Pulsed Laser Liquid Jet		918-921
<i>Arafune, Tatsuhiko Tokyo Denki University; Kato, Takashi The University of Tokyo; Kobayashi, Etsuko The University of Tokyo; Washio, Toshikatsu National Institute of Advanced Industrial Science and Technology; Nakagawa, Atsuhiko Tohoku University; Ogawa, Yoshikazu Kohnan Hospital; Tominaga, Teiji Department of Neurosurgery, Tohoku University</i>		
09:30-11:00		ThB16.9
A Queueing Theory Based Model for Business Continuity in Hospitals		922-925
<i>Miniati, Roberto Università di Firenze; Cecconi, Giulio Università degli Studi di Firenze; Dori, Fabrizio Università di Firenze; Iadanza, Ernesto Università degli Studi di Firenze; Frosini, Francesco University of Florence; Biffi Gentili, Guido Department of Information Engineering; niccolini, Fabrizio AOU Careggi - University Florence Hospital; Gusinu, Roberto Florence Teaching Hospital AOU Careggi</i>		
09:30-11:00		ThB16.10
Validation of Cleaning Evaluation of Surgical Instruments with RFID Tags Attached Based on Cleaning Appraisal Judgment Guidelines		926-929
<i>Yamashita, Kazuhiko Tokyo Healthcare University; kusuda, kaori Ochanomizu University; Tokuda, yoko Kyoto Second Red Cross Hospital; Onishi, Akiko Kyoto Second Red Cross Hospital; Tanaka, Kiyohito Kyoto Second Red Cross Hospital; Shimizu, Masataka Inui Medics Corporation; Kanda, Ryohei Inui Medics Corporation; Honda, Hiroshi Saiseikai Kurihashi Hospital; Komino, Masaru Saiseikai Kurihashi Hospital; Iwakami, Yumi University of Electro-Communications; Ohta, Yuji Graduate School of Humanities and Sciences, Ochanomizu Universit; Okubo, Takashi Tokyo Healthcare University</i>		

09:30-11:00		ThB16.11
Accuracy Evaluation of Dynamic Volume Measurements Performed by Opto-Electronic Plethysmograph, by Using a Pulmonary Simulator		930-933
<i>Bastianini, Flavia University Campus Bio-Medico of Rome; Schena, Emiliano University of Rome Campus Bio-Medico; Saccomandi, Paola University Campus Bio-Medico of Rome; Silvestri, Sergio Università Campus Bio-Medico di Roma</i>		
09:30-11:00		ThB16.12
Performances of Heated Humidifiers in Mechanical Ventilation: A Preliminary Intra-Breath Analysis		934-937
<i>Schena, Emiliano University of Rome Campus Bio-Medico; Quaranta, Alessio Università Campus Bio-Medico di Roma; Saccomandi, Paola University Campus Bio-Medico of Rome; Silvestri, Sergio Università Campus Bio-Medico di Roma</i>		
09:30-11:00		ThB16.13
Development and Evaluation of Hardware for Point-Of-Care Assessment of Upper-Limb Motor Performance		938-940
<i>Subbian, Vignesh Univ. of Cincinnati; Wilsey, Philip Univ. of Cincinnati; Beyette, Fred R Univ. of Cincinnati</i>		
09:30-11:00		ThB16.14
Preliminary Results of ON/OFF Detection Using an Integrated System for Parkinson's Disease Monitoring		941-944
<i>Pastorino, Matteo Universidad Politecnica de Madrid; Cancela, Jorge Universidad Politécnica de Madrid; Arredondo, María Teresa Technical University of Madrid; Pastor, Laura Universidad Politécnica de Madrid; Contardi, Sara Neurophysiological Unit, NOCSAE Hospital, Modena 41100 Italy; Valzania, Franco Neurophysiological Unit, NOCSAE Hospital, Modena 41100 Italy</i>		
09:30-11:00		ThB16.15
Computerized Lenke Classification of Scoliotic Spine		945-948
<i>Zhang, Junhua Yunnan University; Shi, Xinling Yunnan University; Lv, Liang the First People's Hospital of Yunnan Province; Wang, Xiao Yunnan University; Zhang, Yufeng Yunnan University; Guo, Fei the First People's Hospital of Yunnan Province</i>		

ThB17: 09:30-11:00	Event Hall-Area A (3F)
9.3.2 Ambulatory Technologies II (Poster Session)	

09:30-11:00		ThB17.1
In-Home Measurement of the Effect of Strategically Weighted Vests on Ambulation		949-952
<i>Wallace, Robert University of Missouri; Abbott, Carmen University of Missouri; Cynthia Gibson-Horn, Cindy Samuel Merritt University, Motion Therapeutics; Skubic, Marjorie University of Missouri</i>		
09:30-11:00		ThB17.2
Unsupervised Segmentation of Heel-Strike IMU Data Using Rapid Cluster Estimation of Wavelet Features		953-956
<i>Yuwono, Mitchell University of Technology Sydney; Su, Steven Weidong University of Technology, Sydney; moulton, Bruce University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney</i>		
09:30-11:00		ThB17.3
A Pilot Study on the Use of Accelerometer Sensors for Monitoring Post Acute Stroke Patients		957-960
<i>Kumar, Dheeraj The University of Melbourne; Gubbi, Jayavardhana The University of Melbourne; Rao, Aravinda The University of Melbourne; Yan, Bernard The Royal Melbourne Hospital; Palaniswami, Marimuthu The University of Melbourne</i>		
09:30-11:00		ThB17.4
Monitoring Technology for Wheelchair Users with Advanced Multiple Sclerosis		961-964
<i>Pino, Esteban J Universidad de Concepcion; Arias, Diego E University of Concepcion; Aqueveque, Pablo University of Concepcion; Vilugrón, Luis Universidad de Concepción; Hermosilla, Daniela Universidad de Concepción; Curtis, Dorothy Massachusetts Institute of Technology</i>		

1.1.7 Time-Frequency and Time-Scale Analysis of Biosignals V (Poster Session)

09:30-11:00	ThB18.1
Application of a Variation of Empirical Mode Decomposition and Teager Energy Operator to EEG Signals for Mental Task Classification	965-968
<i>Kaleem, Muhammad Farhat Ryerson Univ.; Guergachi, Aziz Ryerson Univ.; Krishnan, Sridhar Ryerson Univ.</i>	
09:30-11:00	ThB18.2
Adaptive Neuro-Fuzzy Inference System for Acoustic Analysis of 4-Channel Phonocardiograms Using Empirical Mode Decomposition	969-972
<i>Becerra Botero, Miguel Alberto Institución Universitaria Salazar y Herrera; Orrego Metaute, Diana Alexandra Instituto Tecnológico Metropolitano; Delgado-Trejos, Edilson Instituto Tecnológico Metropolitano</i>	
09:30-11:00	ThB18.3
Detection of Phase Synchronization in EEG with Bivariate Empirical Mode Decomposition	973-976
<i>Tanaka, Kenji Tokyo University of Agriculture and Technology; Mizuno, Yuji Tokyo University of Agriculture and Technology; Tanaka, Toshihisa Tokyo University of Agriculture and Technology; Kitajo, Keiichi Tokyo University of Agriculture and Technology</i>	
09:30-11:00	ThB18.4
Employing Ensemble Empirical Mode Decomposition for Artifact Removal: Extracting Accurate Respiration Rates from ECG Data During Ambulatory Activity	977-980
<i>Sweeney, Kevin Thomas NUI Maynooth; Kearney, John Damien National University of Ireland, Maynooth; Ward, Tomas NUI Maynooth; Coyle, Shirley DCU; Diamond, Dermot Dublin City University</i>	
09:30-11:00	ThB18.5
Estimation of Instantaneous Frequency from Empirical Mode Decomposition on Respiratory Sounds Analysis	981-984
<i>Lozano, Manuel Institut de Bioenginyeria de Catalunya; Fiz Fernandez, José Antonio Navarra Hospital; Jané, Raimon Institut de Bioenginyeria de Catalunya (IBEC)</i>	
09:30-11:00	ThB18.6
Low Frequency-Modulated High Frequency Oscillations in Seizure-Like Events Recorded from In-Vivo MeCP2-Deficient Mice	985-988
<i>Colic, Sinisa Univ. of Toronto; Lang, Min Univ. of Toronto; Wither, Rob Univ. of Toronto; Eubanks, James Univ. of Toronto; Zhang, Liang Univ. of Toronto; Bardakjian, Berj Luther Univ. of Toronto</i>	
09:30-11:00	ThB18.7
Classification of Wheelchair Commands Using Brain Computer Interface: Comparison between Able-Bodied Persons and Patients with Tetraplegia	989-992
<i>Chai, Rifai University of Technology, Sydney; Ling, Steve University of Technology Sydney; Hunter, Gregory Peter University of Technology, Sydney; Tran, Yvonne University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney</i>	
09:30-11:00	ThB18.8
Optimal Sampling Frequency in Wavelet-Based Signal Feature Extraction Using Particle Swarm Optimization	993-996
<i>Guarnizo, Cristian Universidad Tecnológica de Pereira; Orozco, Alvaro Universidad Tecnológica de Pereira; Álvarez, Mauricio A. Universidad Tecnológica de Pereira</i>	
09:30-11:00	ThB18.9
Analysis and Modeling of Noise in Biomedical Systems	997-1000
<i>Ranjbaran, Mina McGill University; Jaleddini, Kian McGill University; Guarin, Diego Luis McGill University; Kearney, Robert Edward McGill University; Galiana, Henrietta L. McGill University</i>	
09:30-11:00	ThB18.10
Exercise Muscle Fatigue Detection System Implementation Via Wireless Surface Electromyography and Empirical Mode Decomposition	1001-1004
<i>Chang, Kang-Ming Asia university, Taiwan; Liu, Shing-Hong ChaoYang University of Technology, Taichung, Taiwan, ROC; Wang, Jia-Jung I-Shou University; Cheng, Da-Chuan China Medical University</i>	

09:30-11:00		ThB18.11
Seizure Detection Methods Using a Cascade Architecture for Real-Time Implantable Devices		1005-1008
<i>Kim, Taehoon Polytechnic Institute of New York University; Artan, Nabi Sertac Polytechnic Institute of New York University; Selesnick, Ivan Polytechnic Institute of New York University; Chao, Jonathan Polytechnic Institute of New York University</i>		
09:30-11:00		ThB18.12
Compression-Ratio-Based Seizure Detection		1009-1012
<i>Sha, Chung-Lin Polytechnic Institute of New York University; Kim, Taehoon Polytechnic Institute of New York University; Artan, Nabi Sertac Polytechnic Institute of New York University; Chao, Jonathan Polytechnic Institute of New York University</i>		
09:30-11:00		ThB18.13
A Novel Through-Wall Respiration Detection Algorithm Using UWB Radar		1013-1016
<i>Li, Xin Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Qiao, Dengyu Shenzhen Institute of Advanced Technology, Chinese Academy of Sc; Li, Ye Chinese Academy of Sciences; Dai, huhe The Key Lab for Health Informatics, Shenzhen Institutes of Advan</i>		
09:30-11:00		ThB18.14
Analysis and Evaluation of Vascular Sounds in Hemodialysis		1017-1020
<i>Kawai, Masako Suzuka University of Medical Science; Suzuki, Akifumi Suzuka University of Medical Science</i>		
09:30-11:00		ThB18.15
Evaluating epicardial mapping electrogram by the method of dominant frequency and Lorenz plot		1021-1024
<i>Sun, Liqian Fudan Univ.; Wang, Yanlei Fudan Univ.; Yang, Cuiwei Fudan Univ.; Chen, Ying Nanjing Univ.; Wu, Zhong Nanjing Drum Tower Hospital, The Affiliated Hospital of Nanjing; Yu, Jianguo Fudan Univ.</i>		
09:30-11:00		ThB18.16
Statistical Significance of Task Related Deep Brain EEG Dynamic Changes in the Time-Frequency Domain		1025-1028
<i>Chladek, Jan Institute of Scientific Instruments, ASCR, v.v.i.; Brazdil, Milan Masaryk University Brno; Halamek, Josef Institute of Scientific Instruments; Plesinger, Filip Institute of Scientific Instruments of the ASCR, v.v.i.; Jurak, Pavel Inst of Scientific Instruments Academy</i>		
09:30-11:00		ThB18.17
Automated Signal Pattern Detection in ECG During Human Ventricular Arrhythmias		1029-1032
<i>Balasundaram, Krishnanand Ryerson University; Masse, Stephane THCFM Lab, Toronto General Hospital; Nair, Krishnakumar THCFM Laboratory, Toronto General Hosp.; Umapathy, Karthikeyan Ryerson University</i>		
09:30-11:00		ThB18.18
Electrooculogram Filtering Using Wavelet and Wavelet Packet Transforms		1033-1036
<i>Galiana-Merino, Juan Jose University of Alicante; Ruiz Fernandez, Daniel University of Alicante; Jarones González, Agustin University of Alicante</i>		

ThB19: 09:30-11:00	Event Hall-Area A (3F)
4.1.3 Neuronal Networks and Synapses (Poster Session)	

09:30-11:00		ThB19.1
Influence of Ionotropic Receptors Localization on Glutamatergic Synaptic Response to Paired-Pulse Stimulation Protocol		1037-1040
<i>Bouteiller, Jean-Marie Charles University of Southern California; Allam, Sushmita University of Southern California; Ambert, Nicolas Rhenovia Pharma; Greget, Renaud Rhenovia Pharma; Hu, Eric University of Southern California; Bischoff, Serge Rhenovia Pharma; Baudry, Michel Dean, Graduate College of Biomedical Sciences, Western University; Berger, Theodore University of Southern California</i>		
09:30-11:00		ThB19.2
Insights on Synaptic Paired-Pulse Response Using Parametric and Non-Parametric Models		1041-1044
<i>Bouteiller, Jean-Marie Charles University of Southern California; Hu, Eric University of Southern California; Allam, Sushmita University of Southern California; Ghaderi, Viviane University of Southern California; Song, Dong University of Southern California; Berger, Theodore University of Southern California</i>		

09:30-11:00 ThB19.3
Analysis of Neuronal Cells by Dissociated Primary Culture on High-Density CMOS Electrode Array 1045-1048
Matsuda, Eiko The Univ. of Tokyo; Mita, Takeshi the Univ. of Tokyo; Hubert, Julien Univ. of Tokyo; Bakkum, Douglas Georgia Institute of Technology; Frey, Urs RIKEN; Hierlemann, Andreas ETH Zurich; Takahashi, Hirokazu Univ. of Tokyo; Ikegami, Takashi Department of Arts and Sciences, the Univ. of Tokyo

ThB20: 09:30-11:00 Event Hall-Area C (3F)
2.1.4 MR Neuroimaging II (Poster Session)

09:30-11:00 ThB20.1
Effective Digitized Spatial Size of Unit Dipole Field in Quantitative Susceptibility Mapping 1049-1052
Murashima, Mai Kyoto University; Ueno, Tomohiro Kyoto University; Sugimoto, Naozo Kyoto University

09:30-11:00 ThB20.2
Unsupervised Segmentation of Brain Regions with Similar Microstructural Properties: Application to Alcoholism 1053-1056
Cosa, Alejandro Instituto de Neurociencias, Consejo Superior de Investigaciones; Canals, Santiago Instituto de Neurociencias, Consejo Superior de Investigaciones; Vallés-Lluch, Ana Universitat Politècnica de València; Moratal, David Universitat Politècnica de València

09:30-11:00 ThB20.3
Classification of Bipolar Disorder Using Basal-Ganglia-Related Functional Connectivity in the Resting State 1057-1060
Teng, Shin National Yang-Ming University; Lu, Chia-Feng National Yang-Ming University; Wang, Po-Shan Taipei Municipal Gan-Dau Hospital; Hung, CHih-I National Yang-Ming University; Li, Cheng-Ta Taipei Veterans General Hospital; Tu, Pei-Chi Taipei Veterans General Hospital; Su, Tung-Pin Taipei Veterans General Hospital; Wu, Yu-Te National Yang-Ming University

09:30-11:00 ThB20.4
Bloch Simulations towards Direct Detection of Oscillating Magnetic Fields Using MRI with Spin-Lock Sequence* 1061-1064
Nagahara, Shizue Kyoto University; Kobayashi, Tetsuo Kyoto University

09:30-11:00 ThB20.5
A Phantom and in Vivo Study of Mice Following an Ischemic Stroke Using Sodium MRI 1065-1068
Lee, Kun-Che Chang Gung University; Lee, yi-shin CGU; Huang, Guo-Jen CGU; Chan, Hsiao-Lung Chang Gung University; Yu, Jen-Fang Chang Gung University

09:30-11:00 ThB20.6
Neurophysiological Correlates of Different Moods and Feelings Induced by Chords and Harmonized Scales Revealed by fMRI 1069-1072
Numao, Ryosuke Tokyo Denki Univ.; Nemoto, Iku Tokyo Denki Univ.; Fujimaki, Takuya Tokyo Denki Univ.

09:30-11:00 ThB20.7
Theoretical Study of Evaluation Method for MRI Metal Artifact 1073-1076
Sasaki, Yohei The University of Tokushima; Akutagawa, Masatake The University of Tokushima; Emoto, Takahiro The University of Tokushima; Tegawa, Yoshinori The University of Tokushima; Kinouchi, Yohsuke The University of Tokushima

09:30-11:00 ThB20.8
Superpixels in Brain MR Image Analysis 1077-1080
Verma, Nishant The University of Texas at Austin; Cowperthwaite, Matthew NeuroTexas Institute, St. David's Healthcare; Markey, Mia The University of Texas at Austin

ThB21: 09:30-11:00 Event Hall-Area C (3F)
2.1.7 MR Imaging Methods III (Poster Session)

09:30-11:00 ThB21.1
On High-Resolution Image Estimation Using Low-Resolution Brain MRI 1081-1084
Rousseau, François ICube, Université de Strasbourg, CNRS; Gounot, Daniel Université de Strasbourg; Studholme, Colin University of Washington

09:30-11:00	ThB21.2
Mitigate B1+ Inhomogeneity by Nonlinear Gradients and RF Shimming	1085-1088
<i>Hsu, Yi-Cheng National Taiwan University; Chu, Ying-Hua National Taiwan University; Chern, I-Liang National Taiwan University; Lattanzi, Riccardo New York University Medical Center; Huang, Teng-Yi National Taiwan University of Science and Technology; Lin, Fa-Hsuan National Taiwan University</i>	
09:30-11:00	ThB21.3
A Fast Pulse Design for Parallel Excitation with Gridding and Conjugate Gradient	1089-1092
<i>Feng, Shuo Texas A&M University; Ji, Jim Xiuquan Texas A&M University</i>	
09:30-11:00	ThB21.4
Synthesis and Proton NMR Spectroscopy of Intra-Vesicular Gamma-Aminobutyric Acid (GABA)	1093-1095
<i>Wang, Luke Boston Children's Hospital; Tong, Rong MIT; Kohane, Daniel Harvard Medical School</i>	
09:30-11:00	ThB21.5
Nonlinear Coil Sensitivity Estimation for Parallel Magnetic Resonance Imaging Using Data-Adaptive Steering Kernel Regression Method	1096-1099
<i>Fang, Sheng Tsinghua University; Guo, Hua Tsinghua University</i>	
09:30-11:00	ThB21.6
Assessment of Flow and Hemodynamics in the Carotid Artery Using a Reduced TE 4D Flow Spiral Phase-Contrast MRI	1100-1103
<i>Kadbi, Mo university of louisville; Negahdar, MJ University of Louisville; Traughber, Melanie Philips healthcare; martin, peter Philips healthcare; Amini, Amir University of Louisville</i>	
09:30-11:00	ThB21.7
Noise Estimation in Magnetic Resonance SENSE Reconstructed Data	1104-1107
<i>Aja-Fernandez, Santiago Universidad de Valladolid; Vegas-Sanchez-Ferrero, Gonzalo Universidad de Valladolid; de Luis-García, Rodrigo University of Valladolid; Tristan-Vega, Antonio Universidad de Valladolid</i>	

ThB22: 09:30-11:00	Event Hall-Area C (3F)
2.2.3 Ultrasound Imaging III (Poster Session)	

09:30-11:00	ThB22.1
Preliminary Study of Non-Invasive Shock Wave Treatment of Capsular Contracture after Breast Implant: Animal Model	1108-1111
<i>Wu, Yu-Chiuan Department of Electrical Engineering, I-Shou University; Jao, Jo-Chi Kaohsiung Medical University; Yang, Yu-Ting Department of Biomedical Engineering, I-Shou University; Wang, Hsiang-Sheng Department of Biomedical Engineering, I-Shou University; Wu, chun-hsien Center for General Education, I-Shou University; Chen, Po-Chou I-Shou University</i>	
09:30-11:00	ThB22.2
Relation between Morphology of Sebaceous Glands Inside Human Skin and Viscoelastic Properties	1112-1115
<i>Nagaoka, Ryo Tohoku Univ.; Kobayashi, Kazuto Honda Electronics Co., Ltd.; Saijo, Yoshifumi Tohoku Univ.</i>	
09:30-11:00	ThB22.3
Ultrasonic and Photoacoustic Imaging of Knee Joints in Normal and Osteoarthritis Rats	1116-1119
<i>Izumi, Takuya Tohoku University; Sato, Mika Tohoku University; Yabe, Yutaka Tohoku University; Hagiwara, Yoshihiro Tohoku University Graduate School of Medicine; Saijo, Yoshifumi Tohoku University</i>	
09:30-11:00	ThB22.4
Preliminary Study on the Effect of Stiffness on Lamb Wave Propagation in Bovine Corneas	1120-1123
<i>Zhang, Xin-Yu Shenzhen University; Yin, Yin Shenzhen University; Guo, Yanrong Shenzhen University; Diao, Xianfen Zhejiang University; Chen, Xin Shenzhen University</i>	
09:30-11:00	ThB22.5
Evaluation of a 3D Technique for Quantifying Neovascularization within Plaques Imaged by Contrast Enhanced Ultrasound	1124-1127
<i>Hoogi, Assaf Technion - Israel Institute of Technology; Zurakhov, Grigoriy Technion - Israel Institute of Technology; Adam, Dan Technion - Israel Institute of Technology</i>	

09:30-11:00		ThB22.6
Quantitative Analysis of Peri-Tumor Tissue Elasticity Based on Shear-Wave Elastography for Breast Tumor Classification	1128-1131	
<i>Xiao, Yang the Paul C. Lauterbur Research Center for Biomedical imaging, the Insti; Zeng, Jie Dept. of Medical Ultrasonics, Third Affiliated Hospital of; Qian, Ming Chinese Academy of Sciences; Zheng, Rongqin Dept. of Medical Ultrasonics, Third Affiliated Hospital of; zheng, Hairong Shenzhen Inst of Advanced Tech</i>		
09:30-11:00		ThB22.7
A Regularization-Free Young's Modulus Reconstruction Algorithm for Ultrasound Elasticity Imaging ...	1132-1135	
<i>Pan, Xiaochang Tsinghua University; Gao, Jing Tsinghua University; Shao, Jinhua Tsinghua University; Luo, JianWen Tsinghua University; Bai, Jing Tsinghua University</i>		
09:30-11:00		ThB22.8
Quantitative Elastography and Its Application to Blood Pressure Estimation: Theoretical and Experimental Results	1136-1139	
<i>Zakrzewski, Aaron M. Massachusetts Inst. of Tech.; Anthony, Brian W. Massachusetts Inst. of Tech.</i>		
09:30-11:00		ThB22.9
Rotatable Flexible Neck-Model for the Evaluation of Minimally Invasive Operation Procedures with the Help of an Ultrasound-Based Navigation System	1140-1143	
<i>Jansen, Nils Duesseldorf University Hospital; Brennecke, Thorsten Karlsruhe Institute of Technology; Hirschfeld, Julia Duesseldorf University Hospital; Colter, Lena Duesseldorf University Hospital; Raczkowsky, Joerg Karlsruhe Institute of Technology; Woern, Heinz Karlsruhe Institute of Technology; Schipper, Joerg Duesseldorf University Hospital</i>		
09:30-11:00		ThB22.10
A Multiresolution Framework for Ultrasound Image Segmentation by Combinative Active Contours	1144-1147	
<i>Wang, Weiming The Chinese University of Hong Kong; Qin, Jing Chinese Academy of Sciences; Chui, Yim Pan The Chinese University of Hong ong; Heng, Pheng Ann The Chinese University of Hong Kong</i>		
09:30-11:00		ThB22.11
Evaluation of Various Speckle Reduction Filters on Medical Ultrasound Images	1148-1151	
<i>Wu, Shibin Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Zhu, Qingsong Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Xie, Yaoqin Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i>		
09:30-11:00		ThB22.12
Dynamic Perfusion Assessment by Contrast-Enhanced Ultrasound in Blood-Brain Barrier Disruption ...	1152-1155	
<i>Lin, Wun-Hao National Tsing Hua University; Fan, Ching-Hsiang National Tsing Hua University, Biomedical Engineering and Enviro; Ting, Chien-Yu National Tsing Hua University, Biomedical Engineering and Enviro; Liu, Hao-Li Chang Gung University; Yeh, Chih-Kuang National Tsing Hua University</i>		
09:30-11:00		ThB22.13
Automatic Correction of Rotating Ultrasound Bio Microscopy Acquisitions for the Segmentation of the Eye Anterior Segment	1156-1159	
<i>Maindron, Charly LaTIM - Université de Bretagne Occidentale, Brest - Quantel Medi; Le Loir, Matthieu CHRU Morvan Brest; Cochener, Béatrice CHU Morvan; Lamard, Mathieu Université de Bretagne Occidentale</i>		
ThB23: 09:30-11:00		Event Hall-Area D (3F)
10.1.1 mHealth, Consumer Health (Poster Session)		
09:30-11:00		ThB23.1
GPS-Based Outdoor Activity Pattern Recording and Analysis System	1160-1163	
<i>Chen, Yan-Ming National Cheng Kung University; Cheng, Kuo-Sheng National Cheng Kung University</i>		
09:30-11:00		ThB23.2
Evaluation of the Android-Based Fall Detection System with Physiological Data Monitoring	1164-1168	
<i>Koshmak, Gregory Malardalen University; Lindén, Maria Malardalen University; Loutfi, Amy Örebro University</i>		
09:30-11:00		ThB23.3
Interactive Mobile System for Smoking Cessation	1169-1172	
<i>Finkelstein, Joseph Johns Hopkins University School of Medicine; Wood, Jeffrey Johns Hopkins University</i>		

09:30-11:00		ThB23.4
A Mobile Phone Enabled Health Promotion Program for Middle-Aged Males	1173-1176	
<i>Ding, Hang CSIRO; Karunanithi, Mohanraj CSIRO ICT Centre; Duncan, Mitchell the Institute for Health and Social Science Research (IHSSR), Ce; Ireland, Derek CSIRO ICT Centre; Noakes, Manny CSIRO Animal, Food and Health Sciences – Adelaide; Hooker, Cindy Health and Social Science Research (IHSSR), Central Queensland U</i>		
09:30-11:00		ThB23.5
An Effective Low-Complexity Multi-Vital-Signs Compression Technique for Embedded-Link E-Home Healthcare	1177-1181	
<i>MA, Jia Li University of Macau; Cui, YuanLian Macau University; Dong, Ming Chui University of Macau</i>		
09:30-11:00		ThB23.6
Somnography Using Unobtrusive Motion Sensors and Android-Based Mobile Phones	1182-1185	
<i>Gradl, Stefan Univ. of Erlangen-Nuremberg; Leutheuser, Heike Digital Sports Group, Pattern Recognition Lab, Department of Com; Kugler, Patrick Univ. of Erlangen-Nuremberg; Biermann, Teresa Department of Psychiatry and Psychotherapy, Nueremberg Hospital; Kreil, Sebastian Department of Psychiatry and Psychotherapy, Univ. of Erlang; Kornhuber, Johannes Department of Psychiatry and Psychotherapy, Univ. of Erlang; Bergner, Matthias Univ. Hospital Erlangen; Eskofier, Bjoern M Univ. of Erlangen-Nuremberg</i>		
09:30-11:00		ThB23.7
Wearable Diet Monitoring through Breathing Signal Analysis	1186-1189	
<i>Dong, Bo Michigan State University; Biswas, Subir, Kumar Michigan State University</i>		
09:30-11:00		ThB23.8
Feasibility for the Enhancement of an Online Support System for Persons with Metabolic Syndrome, Aimed at Applications for Ischemic Heart Disease and Heart Failure	1190-1193	
<i>Tani, Shoko National Cerebral and Cardiovascular Center Research Institute; Narazaki, Hiroshi University of Hyogo; Iwata, Michiaki National Cerebral and Cardiovascular Center Research Institute; Haraguchi, Ryo National Cerebral and Cardiovascular Center; Kuwata, Shigeki National Cerebral and Cardiovascular Center; Inada, Hiroshi Graduate School of Applied Informatics University of Hyogo; Nakazawa, Kazuo National Cerebral and Cardiovascular Center Research Institute</i>		
09:30-11:00		ThB23.9
Wegoto: A Smartphone-Based Approach to Assess and Improve Accessibility for Wheelchair Users	1194-1197	
<i>Mourcou, Quentin AGIM; Fleury, Anthony Ecole des Mines de Douai; Dupuy, Pascal Ivès Interactivity Video and Systems; Diot, Bruno IDS SA; Franco, Céline TIMC-IMAG; Vuillerme, Nicolas FRE 3405, AGIM (Aging Imaging Modeling), CNRS-UJF-EPHE, Grenobl</i>		
09:30-11:00		ThB23.10
Evaluation of a Smartphone-Based Audio-Biofeedback System for Improving Balance in Older Adults - a Pilot Study	1198-1201	
<i>Fleury, Anthony Ecole des Mines de Douai; Mourcou, Quentin AGIM; Franco, Céline TIMC-IMAG; Diot, Bruno IDS SA; Demongeot, Jacques Laboratoire TIMC-IMAG; Vuillerme, Nicolas FRE 3405, AGIM (Aging Imaging Modeling), CNRS-UJF-EPHE, Grenobl</i>		
09:30-11:00		ThB23.11
Improvement of the Dual-Heat-Flux Method for Deep Body Temperature Measurement Based on a Finite Element Model	1202-1205	
<i>Huang, Ming QRS Co., Ltd.; Chen, Wenxi University of Aizu; Kitamura, Kei-ichiro University of Kanazawa; Nemoto, Tetsu University of Kanazawa; Tamura, Toshiyo Osaka Electro-Communication University</i>		

ThB24: 09:30-11:00

Event Hall-Area D (3F)

10.2.2 Body Sensor Networks (Poster Session)

09:30-11:00		ThB24.1
Statistical Characterization of the Dynamic Human Body Communication Channel at 45MHz	1206-1209	
<i>Nie, Zedong Shenzhen Institute of Advanced Technology; ma, jingjing Shenzhen Entry-Exit Inspection and quarantine Bureau; Wang, Lei Shenzhen Institutes of Advanced Technology</i>		

09:30-11:00	ThB24.2
Towards a Smart Holter System with High-Performance Analogue Front-End and Enhanced Digital Processing	1210-1213
<i>Du, Leilei Shenzhen Institutes of Advanced Technology; Yan, Yan Shenzhen Institutes of Advanced Technology; Wu, Wenson Shenzhen Institutes of Advanced Technology.Chinese Academy of Sc; Mei, Qiu Jun Guangdong Univ. of Technology; Luo, Yu Shenzhen Institutes of Advanced Technology; li, Yang Shenzhen Institutes of Advanced Technology Chinese Academy of Sc; Wang, Lei Shenzhen Institutes of Advanced Technology</i>	
09:30-11:00	ThB24.3
Attempt for Noninvasive Evaluation of in Vivo Triglyceride in Blood	1214-1217
<i>Iinaga, Kazuya Hokkaido University; Namita, Takeshi Hokkaido University; Sakurai, Toshihiro Hokkaido University; Chiba, Hitoshi Hokkaido University; Shimizu, Koichi Hokkaido University</i>	
09:30-11:00	ThB24.4
Body Area Networks Interference Performance Analysis Using UWB	1218-1221
<i>Fatehy, Mohammed Yokohama National University; kohno, Ryuji NICT</i>	
09:30-11:00	ThB24.5
Comparative Evaluation of an Ambulatory EEG Platform vs. Clinical Gold Standard	1222-1225
<i>Jackson, Gregory University of Toronto; Radhu, Natasha University of Toronto; Sun, Yinming Centre for Addiction and Mental Health; Tallevi, Kevin University Health Network; Ritvo, Paul York University; Daskalakis, Jeff Schizophrenia Program, Department of Psychiatry, Centre for Addi; Grundlehner, Bernard Holst Centre; Penders, Julien imec; Cafazzo, Joseph University Health Network</i>	
09:30-11:00	ThB24.6
Applying NISHIJIN Historical Textile Technique for E-Textile	1226-1229
<i>Kuroda, Tomohiro Kyoto University; Hirano, Kikuo Nishijin Tsumekaki Hon-Tsuzure Technique Preservation Society; Sugimura, Kazushige Sugimura Ltd.; Adachi, Satoshi Nishijin Adachi Inc.; Igarashi, Hidetsugu Teiken Limited; Ueshima, Kazuo Teiken Limited; Nakamura, Hideo Osaka Electro-Communication Univ; Nambu, Masayuki Osaka Electro-Communication Univ; Doi, Takahiro Kyoto University</i>	
09:30-11:00	ThB24.7
Forward Kinematics Using IMU On-Body Sensor Network for Mobile Analysis of Human Kinematics	1230-1233
<i>Taylor, Thomas University of Utah; Ko, Seungoh University of Utah; Mastrangelo, Carlos University of Utah; Bamberg, Stacy J Morris University of Utah</i>	
09:30-11:00	ThB24.8
System Development and Performance Evaluation on Detection Schemes for UWB-IR Implant Communications	1234-1237
<i>Katsu, Kenta Nagoya Institute of Technology; Anzai, Daisuke Nagoya Institute of Technology; Wang, Jianqing Nagoya Institute of Technology</i>	
09:30-11:00	ThB24.9
A Study on Reception Electrodes for the Vital-Sign Monitor Using Near-Field Intra-Body Communication Enhanced by Spread Spectrum Technique	1238-1241
<i>Kobayashi, Takumi Yokohama National University; Shimatani, Yuichi Tokyo City University; Kyoso, Masaki Tokyo City University</i>	
09:30-11:00	ThB24.10
Effect of the Antenna-Body Distance on the On-Ext and On-On Channel Link Path Gain in UWB WBAN Applications	1242-1245
<i>Tuovinen, Tommi Hermanni University of Oulu, Centre for Wireless Communications; Kumpuniemi, Timo Sakari University of Oulu, Department of Communications Engineering; Hämäläinen, Matti University of Oulu; Yekeh Yazdandoost, Kamyra University of Oulu; Iinatti, Jari University of Oulu</i>	
09:30-11:00	ThB24.11
M-BRIDGE: Wireless Portable OnBody Aggregator and Visualizer System for Wireless Body Sensor Network	1246-1249
<i>Phyo Wai, Aung Aung Institute for Infocomm Research; Ge, Yu Institute for Infocomm Research</i>	

09:30-11:00 ThB24.12
A Compensation Method to Improve the Performance of IPI-Based Entity Recognition System in Body Sensor Networks 1250-1253
Bao, Shu-Di Ningbo University of Technology; He, Zhong-Kun Ningbo University of Technology; Jin, Rong Ningbo University of Technology; An, Peng Ningbo University of Technology

09:30-11:00 ThB24.13
Estimate of the Fetal Temperature Increase Due to UHF RFID Exposure 1254-1257
Fiocchi, Serena Consiglio Nazionale delle Ricerche CNR; Markakis, Ioannis Aristotle University of Thessaloniki; Liorni, Ilaria Politecnico di Milano, Milano and Istituto di Ingegneria Biomedica; Parazzini, Marta Consiglio Nazionale delle Ricerche; Samaras, Theodoros Aristotle University of Thessaloniki; Ravazzani, Paolo CNR

ThB25: 09:30-11:00	Event Hall-Area D (3F)
10.3.2 Low Cost Health Care Delivery, Public and Environmental Health (Poster Session)	

09:30-11:00 ThB25.1
Road Information Collection and Sharing System 1258-1261
suenaga, takatoshi Sendai National College of Technology

09:30-11:00 ThB25.2
The Discriminant Analysis of the Voice Expression of Emotion - Focus on the Nursing Experience - 1262-1265
Gao, Yahan Shanghai Medical Instrumentation College; OHNO, Yuko Osaka University Graduate School of Medicine; Qian, Feng University of Shanghai for Science and Technology; Hu, ZhaoYan University of Shanghai for Science and Technology; Wang, Zhixiong University of Shanghai for Science and Technology

09:30-11:00 ThB25.3
Applications of Software-Defined Radio (SDR) Technology in Hospital Environments 1266-1269
Chavez-Santiago, Raul Oslo University Hospital; Mateska, Aleksandra Ss. Cyril and Methodius University; Chomu, Konstantin Ss. Cyril and Methodius University; Gavrilovska, Liljana Ss. Cyril and Methodius University; Balasingham, Ilango Intervention Center, Oslo University Hospital

09:30-11:00 ThB25.4
Finite Element Analysis of the Contact Interface between Trans-Femoral Stump and Prosthetic Socket 1270-1273
linlin, zhang Shanhai medical instrumentation college; Zhu, Ming Shanghai medical instrumentation college

ThB26: 09:30-11:00	Event Hall-Area D (3F)
10.3.3 Computer Aided Decision Support, Data Mining (Poster Session)	

09:30-11:00 ThB26.1
Estimating Personalized Risk Ranking using Laboratory Test and Medical Knowledge (UMLS) 1274-1277
Patil, Meru Samsung Research India (SRI) - Bangalore; Bhaumik, Sandip Samsung Research India (SRI) - Bangalore; Paul, Soubhik Samsung India Software Operations Pvt. Ltd.; Bissoyi, Swarupananda Samsung Research India (SRI) - Bangalore; Roy, Raj Samsung Research India, Bangalore, India; Ryu, Seungwoo Samsung Advanced Institute of Technology

09:30-11:00 ThB26.2
Authoring Tool: Acquiring Sharable Knowledge for Smart CDSS 1278-1281
Ali, Taqdir Kyung Hee University, South Korea

09:30-11:00 ThB26.3
TCIA: An Information Resource to Enable Open Science 1282-1285
Prior, Fred Washington University School of Medicine; Clark, Ken Washington University School of Medicine; Commean, Paul Mallinckrodt Institute of Radiology, Washington University School; Freymann, John SAIC-Frederick, Inc.; Jaffe, Carl Department of Radiology, Boston University School of Medicine; Kirby, Justin SAIC-Frederick, Inc.; Moore, Steve Washington University School of Medicine; Smith, Kirk Washington University in St. Louis; Tarbox, Lawrence Washington University in St. Louis, School of Medicine; Vendt, Bruce Mallinckrodt Institute of Radiology, Washington University School; Marquez, Guillermo National Cancer Institute

09:30-11:00		ThB26.4
Planning of Hepatectomy for Tumor Resection: Resection Surface Construction and Optimization	1286-1289	
<i>Chen, Wenyu Institute for Infocomm Research, Agency for Science, Technology; Zhou, Jiayin Institute for Infocomm Research; Xiong, Wei Institute for Infocomm Research, A-STAR; Huang, Weimin Institute for Infocomm Research, Agency for Science Technology and; Oo, Thiha Institute for Infocomm Research, Agency for Science, Technology; Venkatesh, Sudhakar Kundapur Mayo Clinic, Rochester, Minnesota</i>		
09:30-11:00		ThB26.5
Predicting Post-Treatment Survivability of Patients with Breast Cancer Using Artificial Neural Network Methods	1290-1293	
<i>Chiu, Hung-Wen Taipei Medical University</i>		
09:30-11:00		ThB26.6
Machine Learning Approach to an Otoneurological Classification Problem	1294-1297	
<i>Joutsijoki, Henry University of Tampere; Varpa, Kirsi University of Tampere; Iltanen, Kati University of Tampere; Juhola, Martti University of Tampere</i>		
09:30-11:00		ThB26.7
Preference Based Load Balancing As An Outpatient Appointment Scheduling Aid	1298-1301	
<i>Premarathne, Uthpala Subodhani RMIT University; Han, Fengling RMIT University; Khalil, Ibrahim RMIT University; Tari, Zahir RMIT University</i>		
09:30-11:00		ThB26.8
Steganography-Based Access Control to Medical Data Hidden in Electrocardiogram	1302-1305	
<i>Mai, Vu RMIT University; Khalil, Ibrahim RMIT University; Ibaida, Ayman RMIT university</i>		
09:30-11:00		ThB26.9
RespDoc: A New Clinical Decision Support System for Childhood Asthma Management Based on Fraction of Exhaled Nitric Oxide (FeNO) Measurements	1306-1309	
<i>Rigopoulou, Aikaterini University of Patras; Lymberopoulos, Dimitrios University of Patras</i>		
09:30-11:00		ThB26.10
Fuzzy Logic Applied to a Patient Classification System	1310-1313	
<i>Rosati, Samanta Politecnico di Torino; Montanaro, Aldo Clinica Cellini, Gruppo Humanitas; Tralli, Augusta Clinica Cellini, Gruppo Humanitas; Balestra, Gabriella Politecnico di Torino</i>		
09:30-11:00		ThB26.11
Adverse Event Prediction in Patients with Left Ventricular Assist Devices	1314-1317	
<i>Tsipouras, Markos G. University of Ioannina; Karvounis, Evaggelos University of Ioannina; Tzallas, Alexandros University of Ioannina; Katertsidis, Nikolaos FORTH-BRI; Goletsis, Yorgos University of Ioannina; Frigerio, Maria Cardiology 2 - Heart Failure and Transplantation Division, "A. D; Verde, Alessandro Cardiology 2 - Heart Failure and Transplantation Division, "A. D; Trivella, Maria G. Istituto di Fisiologia Clinica-CNR, Pisa; Fotiadis, Dimitrios I. University of Ioannina</i>		

ThC01: 13:30-15:00	Conference Hall (12F)
1.1.3 Time-Frequency and Time-Scale Analysis of Biosignals I (Oral Session)	
Chair: Reilly, Richard (<i>Trinity Coll. Dublin</i>)	
Co-Chair: Iramina, Keiji (<i>Kyushu Univ. Japan</i>)	

13:30-13:45		ThC01.1
Variations of Snoring Properties with Macro Sleep Stages in a Population of Obstructive Sleep Apnea Patients	1318-1321	
<i>Abeyratne, Udantha R University of Queensland; Swarnkar, Vinayak University of Queensland</i>		
13:45-14:00		ThC01.2
An Acoustic Method of Automatically Evaluating Patient Inhaler Technique	1322-1325	
<i>Holmes, Martin S. Trinity College Dublin; D'Arcy, Shona Trinity College Dublin; Costello, Richard Royal College of Surgeons in Ireland (RCSI); Reilly, Richard Trinity College Dublin</i>		

14:00-14:15	ThC01.3
A Study on EGG Affected by Viscosity and Shear Rate Dependence of Fluid and Semi-Solid Diets	1326-1329
<i>Ishikawa, Tatsuya Akita University; Yoshida, Ryo Akita University; Inoue, Hiroshi Akita University; Takahashi, KEITA Akita University; Kobayashi, Akira The Health Care Facility for the Elderly / Honobono-en, Seiwa-ka</i>	
14:15-14:30	ThC01.4
3D Characterization and Trend Analysis of Scents from EEG Recordings of Repeated Scent Exposure	1330-1333
<i>Sieow, Brendan Fu-Long Nanyang Technological University; Ser, Wee Nanyang Technological University; Ho, Melvin Weiyuan Nanyang Technological University; Lwin, May Oo Nanyang Technological University; Kwok, Kenneth NUS Temasek Lab</i>	
14:30-14:45	ThC01.5
Can an Algorithm Predict a Voiding Contraction in Unconscious Rats?	1334-1337
<i>Clavica, Francesco Erasmus MC; Choudhary, Mahipal Singh Erasmus Medical Center; van Asselt, Els Erasmus Medical Center; van Mastrigt, Ron Erasmus Medical Center</i>	
14:45-15:00	ThC01.6
A Robust EC-PC Spike Detection Method for Extracellular Neural Recording	1338-1341
<i>Zhou, Yin National University of Singapore; Yang, Zhi National University of Singapore</i>	
ThC02: 13:30-15:00	1202 (12F)
1.2.3 Principal Component and Independent Component Analyses (Oral Session)	
Chair: Lin, Yuan-Pin (<i>Univ. of California, San Diego</i>)	
Co-Chair: Ohsuga, Mieko (<i>Osaka Inst. of Tech.</i>)	
13:30-13:45	ThC02.1
Detection of Sleep-Disordered Breathing with Pressure Bed Sensor	1342-1345
<i>Guerrero-Mora, Guillermina Univ. Autonoma de San Luis Potosi; Kortelainen, Juha Matti VTT; Palacios, Elvia Univ. Autonoma de San Luis Potosi; Bianchi, Anna Maria Politecnico di Milano; Tacchino, Giulia Politecnico di Milano; Tenhunen, Mirja Dept. of Clinical Neurophysiology, Pirkanmaa Hospital Distr; Mendez, Martin Oswaldo Univ. Autonoma de San Luis Potosi; van Gils, Mark VTT Tech Research Centre of Finland</i>	
13:45-14:00	ThC02.2
Applicability of the "Emotiv EEG Neuroheadset" As a User-Friendly Input Interface	1346-1349
<i>Boutani, Hidenori Osaka Institute of Technology; Ohsuga, Mieko Osaka Institute Of Technology</i>	
14:00-14:15	ThC02.3
A Mobile SSVEP-Based Brain-Computer Interface for Freely Moving Humans: The Robustness of Canonical Correlation Analysis to Motion Artifacts	1350-1353
<i>Lin, Yuan-Pin University of California, San Diego; Wang, Yijun University of California, San Diego; Jung, Tzyy-Ping University of California San Diego</i>	
14:15-14:30	ThC02.4
Adventitious Lung Sounds Imaging by ICA-TVAR Scheme	1354-1357
<i>Charleston-Villalobos, Sonia Univ. Autonoma Metropolitana; Castaneda-Villa, Norma Univ. Autónoma Metropolitana-Izt; Gonzalez-Camarena, Ramon Univ. Autonoma Metropolitana; Mejía Ávila, Mayra Instituto Nacional de Enfermedades Respiratorias; Aljama-Corrales, Tomas Univ. Autonoma Metropolitana</i>	
14:30-14:45	ThC02.5
De-Noising the Abdominal Phonogram for Foetal Heart Rate Extraction: Blind Source Separation versus Empirical Filtering	1358-1361
<i>Jimenez-Gonzalez, Aida Univ. Autonoma Metropolitana-Iztapalapa; James, Christopher Univ. of Warwick</i>	
14:45-15:00	ThC02.6
Dipole Source Analysis for Readiness Potential and Field Using Simultaneously Measured EEG and MEG Signals	1362-1365
<i>Mideksa, Kidist Gebremariam University of Kiel; Helge, Hellriegel Department of Neurology; Hogenboom, Nienke University of Duesseldorf; Krause, Holger University of Duesseldorf; Schnitzler, Alfons University of Duesseldorf; Gunther, Deuschl Department of Neurology; Jan, Raethjen Department of Neurology; Heute, Ulrich University of Kiel; Muthuraman, Muthuraman Christian Albrechts University</i>	

ThC04: 13:30-15:00	1001 (10F)
2.1.3 MR Neuroimaging I (Oral Session)	
Chair: Karmonik, Christof (<i>The Methodist Hospital Neurological Inst.</i>)	
Co-Chair: Sekino, Masaki (<i>The Univ. of Tokyo</i>)	

13:30-13:45	ThC04.1
Comparison of Functional Network Integrity in TBI and Orthopedic Control Patients Using Graph-Theoretical Analysis 1366-1369	
<i>Karmonik, Christof The Methodist Hospital Neurological Inst; Clark, Jessica National Rehabilitation Hospital; Fung, Steve The Methodist Hospital; Grossman, Robert The Methodist Hospital; High, Walter University of Kentucky; Jiang, Yang University of Kentucky</i>	
13:45-14:00	ThC04.2
Sensitivity of MRI for Directly Detecting Neuronal Electrical Activities in Rat Brain Slices 1370-1373	
<i>Kim, Dongmin The Univ. of Tokyo; Someya, Takao the Univ. of Tokyo; Sekino, Masaki The Univ. of Tokyo</i>	
14:00-14:15	ThC04.3
A Graph-Theoretical Analysis Algorithm for Quantifying the Transition from Sensory Input to Motor Output by an Emotional Stimulus 1374-1377	
<i>Karmonik, Christof The Methodist Hospital Neurological Inst; Fung, Steve The Methodist Hospital; dulay, Mario The Methodist Hospital; Verma, Amit The Methodist Hospital; Grossman, Robert The Methodist Hospital</i>	
14:15-14:30	ThC04.4
Coupling of fMRI and NIRS Measurements in the Study of Negative BOLD Response to Intermittent Photic Stimulation 1378-1381	
<i>Maggioni, Eleonora Scientific Institute IRCCS E.Medea; Molteni, Erika Scientific Institute, IRCCS E. Medea; Arrigoni, Filippo IRCCS "E.Medea"; Zucca, Claudio IRCCS "E. Medea"; Reni, Gianluigi IRCCS; Triulzi, Fabio Maria Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico; Bianchi, Anna Maria Politecnico di Milano</i>	
14:30-14:45	ThC04.5
An Algorithm for Determination of Rank and Degree of Contribution of sMRI Volumetric Features in Depression Detection 1382-1385	
<i>Kipli, Kuryati Deakin University; Kouzani, Abbas Z. Deakin University</i>	
14:45-15:00	ThC04.6
Structural Connectivity Analysis Reveals Topological Aberrations in Patients with Schizophrenia 1386-1389	
<i>SUN, Yu National University of Singapore; Lee, Renick Singapore Institute for NeuroTechnology, National University of; Shen, Kaiquan NUS; Thakor, Nitish Johns Hopkins University; Bezerianos, Anastasios University of Patras; Sim, Kang Institute of Mental Health</i>	

ThC05: 13:30-15:00	1002 (10F)
2.2.2 Ultrasound Imaging II (Oral Session)	
Chair: Taki, Hirofumi (<i>Kyoto Univ.</i>)	
Co-Chair: Forzoni, Leonardo (<i>Esaote S.p.A., Genova, Italy</i>)	

13:30-13:45	ThC05.1
Fundamental Study on Micro Calcification Detection Using Twinkling Sign (TS): The Effect of Stiffness of Surrounding Tissue on the Appearance of TS 1390-1393	
<i>Liu, Lei GE Healthcare Japan Corporation; Funamoto, Kenichi Tohoku University; Tanabe, Masayuki Kumamoto University; Hayase, Toshiyuki Tohoku University</i>	
13:45-14:00	ThC05.2
Virtual Navigator 3D Panoramic for Breast Examination 1394-1397	
<i>Forzoni, Leonardo Esaote S.p.A., Genova, Italy; De Beni, Stefano Esaote S.p.A., Genova, Italy; D'Onofrio, Sara Esaote S.p.A. - Genova; Lagana, Maria Marcella IRCCS S.Maria Nascente; Nori, Jacopo U.O di Diagnostica Senologica, AOUC Careggi - Firenze</i>	

14:00-14:15	ThC05.3
Real-Time High-Resolution Vascular Ultrasound Using Frequency Domain Interferometry with the ROI-Division Process	1398-1401
<i>Taki, Hirofumi Kyoto University; Sakamoto, Takuya Department of Communications and Computer Engineering, Kyoto Uni; Taki, Kousuke Department of Anatomy, Shiga University of Medical Science; Yamakawa, Makoto Advanced Biomedical Engineering Research Unit, Kyoto University; Shiina, Tsuyoshi Kyoto University; Kudo, Motoi Shiga University of Medical Science; Sato, Toru Kyoto University</i>	
14:15-14:30	ThC05.4
Aortic Valve Segmentation from Ultrasound Images Based on Shape Constraint CV Model	1402-1405
<i>Dong, Bin Hebei University Affiliated Hospital; Guo, Yiting Hebei University; Wang, Bing Hebei University; Gu, Lixu Shanghai Jiaotong University</i>	
14:30-14:45	ThC05.5
Virtual Navigator Real-Time Ultrasound Fusion Imaging with Positron Emission Tomography for Liver Interventions	1406-1409
<i>Di Mauro, Enzo Struttura Complessa di Medicina Nucleare "Ospedale di Circolo" B; Solbiati, Marco Facoltà di Ingegneria Biomedica, Politecnico di Milano - Milano; De Beni, Stefano Esaote S.p.A., Genova, Italy; Forzoni, Leonardo Esaote S.p.A., Genova, Italy; D'Onofrio, Sara Esaote S.p.A. - Genova; Solbiati, Luigi Diagnostic Imaging Dept., Ospedale di Circolo Busto Arsizio - Va</i>	
14:45-15:00	ThC05.6
Ultrasound Image-based Endoscope Localization for Minimally Invasive Fetoscopic Surgery	1410-1413
<i>Yang, Liangjing The Univ. of Tokyo; Wang, Junchen The Univ. of Tokyo; Kobayashi, Etsuko The Univ. of Tokyo; Liao, Hongen The Univ. of Tokyo; Sakuma, Ichiro The Univ. of Tokyo; Yamashita, Hiromasa National Center for Child Health and Development; Chiba, Toshio National Center for Child Health and Development</i>	
ThC06: 13:30-15:00	1003 (10F)
2.3.2 Optical Imaging I (Oral Session)	
Chair: Olivo-Marin, Jean-Christophe (<i>Inst. Pasteur</i>)	
Co-Chair: Fotiadis, Dimitrios I. (<i>Univ. of Ioannina</i>)	
13:30-13:45	ThC06.1
Dual-Band Multi-Aperture Enhanced Redox Imaging of Colonic Adenomas for Endoscopes with a High-Performance CMOS Imager	1414-1417
<i>Kagawa, Keiichiro Shizuoka University; Zhang, Bo Shizuoka University; Seo, Min-Woong Shizuoka University; Kawahito, Shoji Shizuoka University; Kominami, Yoko Hiroshima University; Yamada, Kenji Osaka university; Yoshida, Shigeto Hiroshima University; Tanaka, Shinji Hiroshima University Hospital</i>	
13:45-14:00	ThC06.2
Development of Dual-Color Simultaneous Single Molecule Imaging System for Analyzing Multiple Intracellular Trafficking Activities	1418-1421
<i>Hatakeyama, Hiroyasu Tohoku University; Kanzaki, Makoto Tohoku University</i>	
14:00-14:15	ThC06.3
A Real-Time Spectral Mapper As an Emerging Diagnostic Technology in Biomedical Sciences	1422-1425
<i>Epitropou, George Technical Univ. of Crete; Kavvadias, Vasileios Technical Univ. of Crete; Iliou, Dimitrios Technical Univ. of Crete; Stathopoulos, Eustathios Univ. of Crete; Balas, Costas Technical Univ. of Crete</i>	
14:15-14:30	ThC06.4
Automated Localization of Cysts in Diabetic Macular Edema Using Optical Coherence Tomography Images	1426-1429
<i>Roychowdhury, Sohini University of Minnesota; Koozekanani, Dara University of Minnesota; Radwan, Salma University of Minnesota; Parhi, Keshab University of Minnesota</i>	
14:30-14:45	ThC06.5
Fully Automated Calcium Detection Using Optical Coherence Tomography	1430-1433
<i>Athanasiou, Lambros Univ. of Ioannina; Bourantas, Christos Dept. of Academic Cardiology, Castle Hill Hospital, Cottingham, HU; Rigas, Georgios Univ. of Ioannina; Exarchos, Themis P. Unit of Medical Tech & Intelligent Info; Sakellarios, Antonis Univ. of Ioannina; Siogkas, Panagiotis FORTH-IMBB; Papafaklis, Michail Brigham and Women's Hospital, Harvard Medical School; Naka, Katerina Univ. of Ioannina; Michalis, Lampros Univ. of Ioannina; Prati, Francesco San Giovanni Hospital; Fotiadis, Dimitrios I. Univ. of Ioannina</i>	

14:45-15:00 ThC06.6
A Novel Edge Tracking Approach for Cornea in Optical Coherence Tomography Anterior Chamber Images 1434-1437
Du, Wenliang Macau University of Science and Technology

ThC07: 13:30-15:15 1004 (10F)
3.1.2 New Sensing Techniques I (Oral Session)
Chair: Aceros, Juan (*Brown Univ.*)

13:30-13:45 ThC07.1
Raman Molecular Fingerprint of Non-Structural Protein 1 in Phosphate Buffer Saline with Gold Substrate 1438-1441
Mohd Radzol, Afaf Rozan University Teknologi MARA; Lee, Khuan Y. University Teknologi MARA; Mansor, Wahidah University Teknologi MARA

13:45-14:00 ThC07.2
Magnetic Field Effects on Mitochondrion-Activity-Related Optical Properties in Slime Mold and Bone Forming Cells 1442-1445
Mizukawa, Yuri Chiba University; Iwasaka, Masakazu Chiba University

14:00-14:15 ThC07.3
A Novel Single Compartment in Vitro Model: Perfluorocarbons for Electrophysiological Studies of the Rat Urinary Bladder 1446-1449
Choudhary, Mahipal Singh Erasmus Medical Center; van Asselt, Els Erasmus Medical Center; van Mastrigt, Ron Erasmus Medical Center; Clavica, Francesco Erasmus MC

14:15-14:30 ThC07.4
A Necklace Sonar with Adjustable Scope Range for Assisting the Visually Impaired 1450-1453
Aceros, Juan Brown University; Rizzo-Sierra, Carlos V. St. Thomas Aquinas University; Gualdron, Mauricio University of Santander; González, Fabio Unidades Tecnológicas de Santander; Villamizar, Luz Colciencias

14:30-14:45 ThC07.5
Sub-Threshold Standard Cell Library Design for Ultra-Low Power Biomedical Applications 1454-1457
Li, Ming-Zhong University of Macau; leong, Chio IN University of Macau; Law, Man Kay University of Macau; Mak, Pui-In University of Macau; Vai, Mang I. University of Macau; Martins, Rui Paulo University of Macau

14:45-15:00 ThC07.6
A Wireless Energy Transfer Platform, Integrated at the Bedside 1458-1461
De Clercq, Hans Katholieke Universiteit Leuven; Puers, Robert Catholic University of Leuven

15:00-15:15 ThC07.7
Glucose Detection in Human Sweat Using an Electronic Nose 1462-1465
Olarte, Oscar Vrije Universiteit Brussel; Chilo, José University of Gavle; Pelegri-Sebastia, José Universidad Politécnica de Valencia; Barbé, Kurt Vrije Universiteit Brussel; Van Moer, Wendy Vrije Universiteit Brussel

ThC08: 13:30-15:00 1005 (10F)
3.2.2 Bioelectric Sensors and Systems II (Oral Session)
Chair: Poon, Carmen CY (*The Chinese Univ. of Hong Kong*)

13:30-13:45 ThC08.1
Investigating the Impact of Force and Movements on Impedance Magnitude and EEG 1466-1469
Mihajlovic, Vojkan Holst Centre / imec; Li, Haoxuan Delft University of Technology; Grundlehner, Bernard Holst Centre; Penders, Julien imec; Schouten, Alfred Delft University of Technology

13:45-14:00 ThC08.2
Kinect-Based System for Automated Control of Terrestrial Insect Biobots 1470-1473
Whitmire, Eric North Carolina State University; Latif, Tahmid North Carolina State University; Bozkurt, Alper North Carolina State University

14:00-14:15 ThC08.3
An Ultra-Low Power (ULP) Bandage-Type ECG Sensor for Efficient Cardiac Disease Management 1474-1477
Shin, Kunsoo Future IT Research center; Park, Gunguk Future IT Research Center, Samsung Advanced Institute of Technol; Kim, Jong Pal Samsung Advanced Institute of Technology; Lee, Tak Hyung Future IT Research Center, Samsung Advanced Institute of Technology; Ko, Byung-Hoon Samsung Advanced Institute of Technology; Kim, Youn Ho Samsung Advanced Institute of Technology

14:15-14:30 ThC08.4
Characterization of Novel Dry Biopotential Electrodes 1478-1481
Xie, Li Royal Institute of Technology (KTH); Yang, Geng Royal Institute of Technology(KTH) Sweden; Xu, Linlin Royal Institute of Technology; Seoane, Fernando University of Borås; Chen, Qiang Royal Institute of Technology; Zheng, Li-Rong KTH

14:30-14:45 ThC08.5
Preamplifiers for Non-Contact Capacitive Biopotential Measurements 1482-1485
Peng, Guochen Univ. of Rochester; Ignjatovic, Zeljko Univ. of Rochester; Bocko, Mark Univ. of Rochester

14:45-15:00 ThC08.6
Toward Improving the Laplacian Estimation with Novel Multipolar Concentric Ring Electrodes 1486-1489
Makeyev, Oleksandr University of Rhode Island; Ding, Quan University of Rhode Island; Kay, Steven University of Rhode Island; Besio, W. G. University of Rhode Island

ThC09: 13:30-15:00 1006 (10F)
4.5.1 Algorithms and Techniques for Systems Modeling (Oral Session)
Chair: Zhu, Fansan (*Renal Res. Inst.*)
Co-Chair: Gao, Jean (*Univ. of Texas*)

13:30-13:45 ThC09.1
Sparse Generalized Canonical Correlation Analysis for Biological Model Integration: A Genetic Study of Psychiatric Disorders 1490-1493
Gao, Jean Univ. of Texas; Kang, Mingon Univ. of Texas at Arlington; Li, Shuo Univ. of Texas, at Arlington

13:45-14:00 ThC09.2
Code Generator for Distributed Parameter Biological Model Simulation with PDE Numerical Schemes .. 1494-1497
Punzalan, Florencio Rusty Ritsumeikan Univ.; Yamashita, Yoshiharu Ritsumeikan Univ.; Kawabata, Masanari Ritsumeikan Univ.; Shimayoshi, Takao ASTEM Research Institute of Kyoto; Kuwabara, Hiroaki Ritsumeikan Univ.; Kunieda, Yoshitoshi Ritsumeikan Univ., Department of Informatics; Amano, Akira Ritsumeikan Univ.

14:00-14:15 ThC09.3
Analysis of Selective Constraints on Mitochondrial DNA, Flight Ability and Physiological Index on Avian .. 1498-1501
Zhang, Shanxin Xi'an Jiaotong University; Han, Jiuqiang Xi'an Jiaotong University; Zhong, Dexing Xi'an Jiaotong University; Wang, Tuo Xi'an Jiaotong University

14:15-14:30 ThC09.4
GOseek: A Gene Ontology Search Engine Using Enhanced Keywords 1502-1505
Taha, Kamal Khalifa University

14:30-14:45 ThC09.5
Modeling of Change in Blood Volume and Extracellular Fluid Volume During Hemodialysis 1506-1509
Zhu, Fansan Renal Research Institute; Leonard, Edward F. Columbia University; Kotanko, Peter Renal Research Institute; Ievin, Nathan W. Renal Research Institute; Kappel, Franz University of Graz

14:45-15:00 ThC09.6
A High Performance Cloud Computing Platform for Mrna Analysis 1510-1513
Lin, Feng-Sheng Academia Sinica of Taiwan; Shen, Chia-Ping National Taiwan University; Sung, Hsiao-Ya National Taiwan University; Lam, Yan-Yu Andy National Taiwan University; Lin, Jeng-Wei Tunghai University; Lai, Feipei National Taiwan University

ThC10: 13:30-15:00	1007 (10F)
5.1.2 Electrophysiology Modeling of the Atria and Ventricles (Invited Session)	
Chair: Trayanova, Natalia (<i>Johns Hopkins Univ.</i>)	
Co-Chair: Shim, Eun Bo (<i>Kangwon National Univ.</i>)	

13:30-13:45 ThC10.1
Stochastic Pacing Effect on Cardiac Alternans – Simulation Study of a 2D Human Ventricular Tissue ... 1514-1517
Dvir, Hila Tel-Aviv University; Zlochiver, Sharon Tel-Aviv University

13:45-14:00 ThC10.2
Modeling Atrial Pacing 1518-1521
Virag, Nathalie Medtronic Europe; Rusu, Alexandru Applied Signal Processing Group, Swiss Federal Institute of Tech; Vesin, Jean-Marc EPFL; Kappenberger, Lukas University Hospital CHUV

14:00-14:15 ThC10.3
A Patient-Specific Model of Virtual Ablation for Atrial Fibrillation 1522-1525
Kwon, Soon-Sung Kangwon National Univ.; Yun, Yonghyeon Daelim Univ. College; Hong, seung bae Kangwon national Univ.; Pak, Hui-Nam Yonsei Univ. Health System; Shim, Eun Bo Kangwon National Univ.

14:15-14:30 ThC10.4
Models of Ventricular Arrhythmia Mechanisms 1526-1529
Clayton, Richard University of Sheffield

14:30-14:45 ThC10.5
A Bilayer Representation of the Human Atria 1530-1533
Vigmond, Edward Université Bordeaux 1; Labarthe, Simon University Bordeaux / INRIA Bordeaux Sud-Ouest; Cochet, Hubert CHU / Université de Bordeaux; Coudiere, Yves INRIA Bordeaux Sud-Ouest; Henry, Jacques Inria Bordeaux Sud Ouest / Université Bordeaux 1; Jais, Pierre Hopital Haut Leveque

14:45-15:00 ThC10.6
Parametrization Strategies for Matching Activation Sequences in Models of Ventricular Electrophysiology . 1534-1537
Mendonça Costa, Caroline Federal University of Juiz de Fora; Prassl, Anton J. Medical University of Graz; Plank, Gernot Medical University of Graz

ThC11: 13:30-15:00	1008 (10F)
6.1.2 Neural Engineering: Microelectrode Technology (Oral Session)	
Chair: Takahashi, Hirokazu (<i>Univ. of Tokyo</i>)	

13:30-13:45 ThC11.1
Population Activity in Auditory Cortex of the Awake Rat Revealed by Recording with Dense Microelectrode Array 1538-1541
Noda, Takahiro Univ. of Tokyo; Kanzaki, Ryohei The Univ. of Tokyo; Takahashi, Hirokazu Univ. of Tokyo

13:45-14:00 ThC11.2
Identification and Quantification of Electrical Leakage Pathways in Floating Microelectrode Arrays 1542-1545
Bredeson, Samuel Illinois Institute of Technology; Troyk, Philip Illinois Institute of Technology; Suh, Sungjae Illinois Institute of Technology; Bak, M Microprobe

14:00-14:15 ThC11.3
Improved Chronic Neural Stimulation Using High Surface Area Platinum Electrodes 1546-1549
Shah, Kedar Lawrence Livermore National Laboratory; Tolosa, Vanessa Lawrence Livermore National Laboratory; Tooker, Angela Lawrence Livermore National Lab; Felix, Sarah Lawrence Livermore National Laboratory; Pannu, Satinderpall Lawrence Livermore National Laboratory

14:15-14:30 ThC11.4
Ultra-Compliant Neural Probes Are Subject to Fluid Forces During Dissolution of Polymer Delivery Vehicles 1550-1553
Gilgunn, Peter Carnegie Mellon Univ.; Habeeb Rakuman, Wassim Ferose Carnegie Mellon Univ.; ong, xiao chuan Carnegie Mellon Univ.; khilwani, rakesh Carnegie Mellon Univ.; Fedder, Gary K. Carnegie Mellon Univ.; ozdoganlar, burak Carnegie Mellon Univ.; Cui, Xinyan Tracy Univ. of Pittsburgh

14:30-14:45 ThC11.5
Time-Domain Finite Element Models of Electrochemistry in Intracochlear Electrodes 1554-1557
Sue, Andrian University of Sydney; Tran, Phillip The University of Sydney; Wong, Paul University of Sydney; Li, Qing The University of Sydney; Carter, Paul Michael University of Sydney

14:45-15:00 ThC11.6
A Laboratory Instrument for Characterizing Multiple Microelectrodes 1558-1561
Hu, Zhe Illinois Institute of Technology; Troyk, Philip Illinois Institute of Technology; DeMichele, Glenn Sigenics Inc.; Kerns, Douglas Sigenics Inc.; Bak, M Microprobe

ThC12: 13:30-15:00 1009 (10F)
6.2.2 Brain-computer Interface: Clinical (Invited Session)
Chair: Sanchez, Justin C. (*Univ. of Miami*)
Co-Chair: Leeb, Robert (*Ec. Pol. Fédérale de Lausanne*)

13:30-13:45 ThC12.1
Brain-Machine Interfaces: Progress in Large Clinical Validation *
Millán, José del R. Ecole Polytechnique Federale de Lausanne; Carlson, Tom EPFL (Ecole Polytechnique Fédérale de Lausanne); Tonin, Luca Swiss Federal Institute of Technology, Lausanne; Perdakis, Serafeim EPFL (École Polytechnique Fédérale de Lausanne); Biasiucci, Andrea École Polytechnique Fédérale de Lausanne; Leeb, Robert Ecole Polytechnique Fédérale de Lausanne

13:45-14:00 ThC12.2
Development of an EEG Based Reinforcement Learning Brain-Computer Interface System for Rehabilitation 1563-1566
Roset, Scott University of Miami; Gonzalez, Hernan University of Miami; Sanchez, Justin C. University of Miami

14:00-14:15 ThC12.3
Investigation of the Trade-Off between Time Window Length, Classifier Update Rate and Classification Accuracy for Restorative Brain-Computer Interfaces 1567-1570
Darvishi, Sam The University of Adelaide; Ridding, Michael Charles University of Adelaide; Abbott, Derek The University of Adelaide; Baumert, Mathias The University of Adelaide

14:15-14:30 ThC12.4
Improving the Performance of a Neural-Machine Interface for Prosthetic Legs Using Adaptive Pattern Classifiers 1571-1574
Du, Lin University of Rhode Island; Zhang, Fan University of Rhode Island; He, Haibo University of Rhode Island; Huang, He University of Rhode Island

14:30-14:45 ThC12.5
A Brain-Machine Interface for Control of Burst Suppression in Medical Coma 1575-1578
Shanechi, Maryam University of California, Berkeley; Chemali, Jessica Jean Carnegie Mellon University; Liberman, Max Brown University; Solt, Ken Massachusetts General Hospital; Brown, Emery MIT

14:45-15:00 ThC12.6
NeuroRex: A Clinical Neural Interface Roadmap for EEG-Based Brain Machine Interfaces to a Lower Body Robotic Exoskeleton 1579-1582
Contreras-Vidal, José University of Houston; Grossman, Robert The Methodist Hospital

ThC13: 13:30-15:00 1010 (10F)
6.3.2 Motor Neuroprostheses I (Oral Session)
Chair: Hargrove, Levi (*Rehabilitation Inst. of Chicago*)

13:30-13:45 ThC13.1
Online Adaptive Decoding of Intended Movements with a Hybrid Kinetic and Kinematic Brain Machine Interface 1583-1586
Suminski, Aaron University of Chicago; Fagg, Andrew University of Oklahoma; Willett, Francis University of Chicago; Bodenhamer, Matthew University of Oklahoma; Hatsopoulos, Nicholas University of Chicago

13:45-14:00	ThC13.2
An Intent Recognition Strategy for Transfemoral Amputee Ambulation across Different Locomotion Modes	1587-1590
<i>Young, Aaron Northwestern University; Simon, Ann Rehabilitation Institute of Chicago; Hargrove, Levi Rehabilitation Institute of Chicago</i>	
14:00-14:15	ThC13.3
Effects of Inertial Properties of Transfemoral Prosthesis on Leg Swing Motion During Stair Ascent	1591-1594
<i>Inoue, Koh Kagawa University; Hobara, Hiroaki Japan Society for the Promotion of Science; Wada, Takahiro Ritsumeikan University</i>	
14:15-14:30	ThC13.4
Artificial Proprioception for Myoelectric Control	1595-1598
<i>Pistohl, Tobias Newcastle University; Jackson, Andrew Newcastle University; Ganesh, Gowrishankar NICT, ATR_CNS; Joshi, Deepak Sant Longowal Institute of Engineering and Technology, Longowal 1; Nazarpour, Kianoush Newcastle University</i>	
14:30-14:45	ThC13.5
Pattern Recognition Control Outperforms Conventional Myoelectric Control in Upper Limb Patients with Targeted Muscle Reinnervation	1599-1602
<i>Hargrove, Levi Rehabilitation Institute of Chicago; Lock, Blair Rehabilitation Institute of Chicago; Simon, Ann Rehabilitation Institute of Chicago</i>	
14:45-15:00	ThC13.6
Motion Recognition for Simultaneous Control of Multifunctional Transradial Prostheses	1603-1606
<i>Jiang, Naifu Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Tian, Lan Shenzhen Institutes of Advanced Technology, Chinese Academy of; Fang, Peng Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Dai, Yaping Beijing Institute of Technology; Li, Guanglin Shenzhen Institutes of Advanced Technology</i>	
ThC14: 13:30-15:00 804 (8F)	
7.4.1 Auto-Bio-Lab (ABL) Technologies (Invited Session)	
Chair: Ghafar-Zadeh, Ebrahim (York Univ.)	
13:30-13:45	ThC14.1
Label-Free Monitoring of Whole Cell Vitality	1607-1610
<i>Weiss, Daniel cellasys GmbH; Brischwein, Martin Technische Univ. München; Grothe, Helmut Technische Univ. München; Wolf, Bernhard Technische Univ. München; Wiest, Joachim cellasys GmbH</i>	
13:45-14:00	ThC14.2
Low-Voltage DEP Microsystem for Submicron Particle Manipulation in Artificial Cerebrospinal Fluid	1611-1614
<i>Miled, Amine Ecole Polytechnique; Sawan, Mohamad Ecole Polytechnique</i>	
14:00-14:15	ThC14.3
Increased Performance in Genetic Manipulation by Modeling the Dielectric Properties of the Rodent Brain ..	1615-1618
<i>Szczurkowska, Joanna Neuroscience and Brain technologies dept. Italian Institute of T; dal Maschio, Marco Neuroscience and Brain technologies dept. Italian Institute of T; Cwetsch, Andrzej W Department of Neuroscience and Brain Technologies, Istituto Ital; Ghezzi, Diego Istituto Italiano di Tecnologia; Bony, Guillaume Neuroscience and Brain technologies dept. Italian Institute of T; Alabastri, Alessandro Nanostructures dept, Istituto Italiano di Tecnologia; Proietti Zaccaria, Remo Nanostructures dept, Istituto Italiano di Tecnologia; di Fabrizio, Enzo Nanostructures dept, Istituto Italiano di Tecnologia; Ratto, Gian Michele Center for NanoTechnology Innovation (NEST), Institute Nanoscien; Cancedda, Laura Neuroscience and Brain technologies dept. Italian Institute of T</i>	
14:15-14:30	ThC14.4
Optogenetic LED Array for Perturbing Cardiac Electrophysiology	1619-1622
<i>Abilez, Oscar Stanford University</i>	
14:30-14:45	ThC14.5
Optical Mapping of Optically Paced Embryonic Hearts	1623-1626
<i>Wang, Yves T Case Western Reserve University; Gu, Shi Case Western Reserve University; Rollins, Andrew M. Case Western Reserve University; Jenkins, Michael W. Case Western Reserve University</i>	

14:45-15:00 ThC14.6
Electrical Stimulation Via a Biocompatible Conductive Polymer Directs Retinal Progenitor Cell Differentiation 1627-1631
Saigal, Rajiv Harvard-MIT Division of Health Sciences and Technology, Massachu; Cimetta, Elisa Columbia Univ., Dept. of Biomedical Engineering; Tandon, Nina Columbia Univ.; Zhou, Jing Harvard Univ.; Langer, Robert MIT; young, michael Schepens Eye Research Institute, Dept. of Ophthalmology, Ha; Vunjak-Novakovic, Gordana Columbia Univ.; Redenti, Stephen Lehman College, Molecular Cell and Developmental Biology

ThC16: 13:30-15:00 Small Hall (5F)
9.1.3 Computer Aided Diagnosis (Oral Session)
Chair: de Chazal, Philip (*Univ. of Western Sydney*)

13:30-13:45 ThC16.1
Sex Determination from Scapular Length Measurements by CT Scans Images in a Caucasian Population .. 1632-1635
Giurazza, Francesco Università Campus Bio-Medico di Roma; Schena, Emiliano University of Rome Campus Bio-Medico; del vescovo, Riccardo Università Campus Bio-Medico di Roma; cazzato, Roberto Luigi Università Campus Bio-Medico di Roma; Mortato, Luca Università Campus Bio-Medico di Roma; Saccomandi, Paola University Campus Bio-Medico of Rome; Paternostro, Ferdinando Università degli Studi di Firenze; Onofri, Leonardo Università Campus Bio-Medico di Roma; Beomonte Zobel, Bruno University CAMPUS Bio-Medico

13:45-14:00 ThC16.2
Correcting LCD luminance non-uniformity for threshold Saccadic Vector Optokinetic Perimetry (SVOP) 1636-1639
Perperidis, Antonios Univ. of Edinburgh; Murray, Ian Univ. of Edinburgh; Brash, Harry Melrose Univ. of Edinburgh; McTrutsy, Alice Univ. of Edinburgh, Glasgow Caledonian Univ.; Cameron, Lorraine Univ. of Edinburgh; Fleck, Brian William Univ. of Edinburgh; Minns, Robert Univ. of Edinburgh

14:00-14:15 ThC16.3
Comparison between Transmission and Scattering Spectrum Reconstruction Methods Based on EPID Images 1640-1643
Juste, Belen Polytechnic Univ. of Valencia; Miró, Rafael Polytechnic Univ. of Valencia; Jambrina, Ana Polytechnic Univ. of Valencia; Díez, Sergio Hospital Clínic de València; Campayo, Juan Manuel Hospital Clínic de València; Santos, Agustín Hospital Provincial de Castelló; Verdú, Gumersindo Polytechnic Univ. of Valencia

14:15-14:30 ThC16.4
Epilepsy Analytic System with Cloud Computing 1644-1647
Shen, Chia-Ping National Taiwan Univ.; Zhou, Weizhi National Taiwan Univ.; Lin, Feng-Sheng Academia Sinica of Taiwan; Sung, Hsiao-Ya National Taiwan Univ.; Lam, Yan-Yu Andy National Taiwan Univ.; Chen, Wei National Taiwan Univ.; Lin, Jeng-Wei Tunghai Univ.; Pan, Ming-Kai National Taiwan Univ. Hospital; Chiu, Ming-Jang Department of Nerology, National Taiwan Univ. Hospital, No.; Lai, Feipei National Taiwan Univ.

14:30-14:45 ThC16.5
Artificial Neural Networks As an Alternative to Traditional Fall Detection Methods 1648-1651
Isaza, Claudia Universidad de Antioquia; Vallejo, Marcela Universidad de Antioquia; Lopez, Jose David Universidad de Antioquia

14:45-15:00 ThC16.6
Automated Detection of Sleep Apnea in Infants Using Minimally Invasive Sensors 1652-1655
Cohen, Gregory University of Western Sydney; de Chazal, Philip University of Western Sydney

ThC17: 13:30-15:00 801+802 (8F)
10.2.1 Emerging BAN Technology and Healthcare M2M Services toward International Standardization (Invited Session)
Chair: Hara, Shinsuke (*Osaka City Univ.*)
Co-Chair: Ahmed, Ashir (*Associate Professor, Department of Advanced Information Tech.*)

13:30-13:45 ThC17.1
IEEE802.15.6 -based Multi-Accelerometer WBAN System for Monitoring Parkinson's Disease 1656-1659
Keränen, Niina Univ. of Oulu; Särestöniemi, Mariella Univ. of Oulu, Centre for Wireless Communications; Partala, Juha Univ. of Oulu; Hämäläinen, Matti Univ. of Oulu; Reponen, Jarmo Univ. of Oulu; Seppänen, Tapio Univ. of Oulu; Iinatti, Jari Univ. of Oulu; Jämsä, Timo Univ. of Oulu

13:45-14:00	ThC17.2
IEEE802.15.6 NB Portable BAN Clinic and M2M International Standardization	1660-1663
<i>Kuroda, Masahiro National Inst of Information & Comm; nohara, yasunobu Kyushu University Hospital</i>	
14:00-14:15	ThC17.3
Self-Powered Wireless Disposable Sensor for Welfare Application	1664-1667
<i>Douseki, Takakuni Ritsumeikan University</i>	
14:15-14:30	ThC17.4
GramHealth: A Bottom-Up Approach to Provide Preventive Healthcare Services for Unreached Community	1668-1671
<i>Ahmed, Ashir Associate Professor, Department of Advanced Information Technolo</i>	
14:30-14:45	ThC17.5
Evaluation of "Portable Health Clinic" with BAN Standard for 10K Subjects in Bangladesh	1672-1675
<i>Nakashima, Naoki Kyushu University Hospital; Hiramatsu, Tatsuo Kyushu University; Ghosh, Partha Pratim Grameen Communications; Islam, Rafiqul Grameen Communications; Kobayashi, Kuniyoshi Fukuoka University Chikushi Hospital; Inoguchi, Toyoshi Kyushu University</i>	
14:45-15:00	ThC17.6
On IEEE 802.15.6 IR-UWB Receivers - Simulations for DBPSK Modulation	1676-1679
<i>Niemela, Ville Johannes Centre for Wireless Communications, University of Oulu; Hämäläinen, Matti University of Oulu; Iinatti, Jari University of Oulu</i>	

ThD01: 15:00-16:30	Event Hall-Area B (3F)
1.2.4 Multivariate Biosignal Processing (Poster Session)	

15:00-16:30	ThD01.1
Comparison of Averaging and Regression Techniques for Estimating Event Related Potentials	1680-1683
<i>Burns, Matthew University of California, San Diego; Bigdely-Shamlo, Nima INC, UCSD; Smith, Nathaniel University of Edinburgh; Kreuz-Delgado, Kenneth University of California, San Diego; Makeig, Scott University of California San Diego</i>	
15:00-16:30	ThD01.2
Dynamic Modeling of Respiratory Sinus Arrhythmia Component from HRV with Multivariate Kalman Smoother	1684-1687
<i>Kuoppa, Pekka University of Eastern Finland; Lipponen, Jukka University of Eastern Finland; Tarvainen, Mika University of Eastern Finland</i>	
15:00-16:30	ThD01.3
Distinction between Added-Energy and Phase-Resetting Mechanisms in Non-Invasively Detected Somatosensory Evoked Responses	1688-1691
<i>Fedele, Tommaso Charite; Hans-Juergen, Scheer PTB; Martin, Burghoff Charite; gunnar, waterstraat charite; vadim, nikulin charite; Curio, Gabriel Charité - University Medicine Berlin</i>	
15:00-16:30	ThD01.4
Discriminating between best performing features for seizure detection and data selection	1692-1695
<i>Logesparan, Lojini Imperial College London; Casson, Alexander James Imperial College London; Imtiaz, Syed Anas Imperial College London; Rodriguez-Villegas, Esther Imperial College London</i>	
15:00-16:30	ThD01.5
Cardiac Arrhythmia Detection Using Combination of Heart Rate Variability Analyses and PUCK Analysis	1696-1699
<i>Mahananto, Faizal Kumamoto Univ.; Igasaki, Tomohiko Kumamoto Univ.; Murayama, Nobuki Kumamoto Univ.</i>	

3.3.1 Biological Sensors (Poster Session)

- 15:00-16:30 ThD02.1
Polycarbazole-Based Organic Photodiodes for Highly Sensitive Chemiluminescent Immunoassays 1700-1703
Pires, Nuno M.M. Norwegian Centre of Expertise on Micro and NanoTechnology, IMST;; Dong, Tao Norwegian Centre of Expertise on Micro and NanoTechnology, Vestf
- 15:00-16:30 ThD02.2
Effects of LED-Backlit Computer Screen and Emotional Self-Regulation on Human Melatonin Production 1704-1707
Sroykham, Watchara Mahidol University; Wongsawat, Yodchanan Mahidol University
- 15:00-16:30 ThD02.3
A Household LOC Device for Online Monitoring Bacterial Pathogens in Drinking Water with Green Design Concept 1708-1711
Zhao, Xinyan Vestfold Univ. College; Dong, Tao 1.Vestfold Univ. College 2. Nanjing Univ. of Science and
- 15:00-16:30 ThD02.4
Concept for E.coli Detection Using Interdigitated Microelectrode Impedance Sensor 1712-1715
Settu, Kalpana National Central Univ.; Liu, Jen-Tsai Univ. of Chinese Academy of Sciences; Chen, Ching-Jung Univ. of Chinese Academy of Sciences; Tsai, Jang-Zern National Central Univ.; Chang, Shwu Jen I-Shou Univ.
- 15:00-16:30 ThD02.5
Fabrication of Polydimethylsiloxane (PDMS) - Based Multielectrode Array for Neural Interface 1716-1719
Kim, Jun-Min Seoul Univ.; Oh, Darong Seoul National Univ.; Sanchez, Joaquin Seoul National Univ.; Kim, Shang Hyub Seoul National Univ.; Seo, Jong Mo Seoul National Univ., School of Engineering
- 15:00-16:30 ThD02.6
Electromagnetic Levitation Platform for Wireless Study of Insect Flight Neurophysiology 1720-1723
Verderber, Alexander North Carolina State University; McKnight, Michael North Carolina State University; Bozkurt, Alper North Carolina State University

3.4.2 Physiological Monitoring II (Poster Session)

- 15:00-16:30 ThD03.1
Comparison Between Red, Green and Blue Light Reflection Photoplethysmography for Heart Rate Monitoring During Motion 1724-1727
Lee, jihyoung Kanazawa Univ.; Matsumura, Kenta Kanazawa Univ.; Yamakoshi, Ken-ichi Kanazawa Univ.; Rolfe, Peter Oxford BioHorizons Ltd; Tanaka, Shinobu Kanazawa Univ.; Yamakoshi, Takehiro Kanazawa Univ.
- 15:00-16:30 ThD03.2
Evaluation of a Combined Reflectance Photoplethysmography and Laser Doppler Flowmetry Surface Probe 1728-1731
Abdollahi, Zahra City Univ. London; Phillips, Justin City Univ. London; Kyriacou, Panayiotis City Univ. London
- 15:00-16:30 ThD03.3
Esophageal SpO2 Measurements from a Pediatric Burns-Patient: A Case Study 1732-1735
Kyriacou, Panayiotis City University London; May, James City University London
- 15:00-16:30 ThD03.4
Development of an Optical Probe to Investigate the Suitability of Measuring Photoplethysmographs and Blood Oxygen Saturation from the Human Auditory Canal 1736-1739
Budidha, Karthik City University; Kyriacou, Panayiotis City University London
- 15:00-16:30 ThD03.5
Low Cost MATLAB-Based Pulse Oximeter for Deployment in Research and Development Applications 1740-1743
Shokouhian, Mohsen University of Westminster; Kale, Izzet University of Westminster; Morling, Richard University of Westminster

15:00-16:30 ThD03.6
Using an Ambulatory Stress Monitoring Device to Identify Relaxation Due to Untrained Deep Breathing ... 1744-1747
Khan, Hira Mujeeb Texas A&M University at Qatar; Ahmed, Beena Texas A&M University at Qatar; Choi, Jongyoon Intel Corporation; Gutierrez-Osuna, Ricardo Texas A&M University

15:00-16:30 ThD03.7
Integration of User Centered Design in the Development of Health Monitoring System for Elderly 1748-1751
Jia, Guifeng Zhejiang Univ.; Zhou, Jie Zhejiang Univ.; Yang, Pan Zhejiang Univ.; Lin, Chengyu Zhejiang Univ.; Cao, Xia Hangzhou Dianzi Univ.; Hu, Hua Hangzhou Dianzi Univ.; ning, gangmin Zhejiang Univ.

15:00-16:30 ThD03.8
Optimal Frequency Range for Medical Radar Measurements of Human Heartbeats Using Body-Contact Radar 1752-1755
Brovoll, Sverre Forsvarets forskningsinstitutt (FFI); Aardal, Øyvind Forsvarets forskningsinstitutt (FFI); Paichard, Yoann Forsvarets forskningsinstitutt (FFI); Berger, Tor Forsvarets forskningsinstitutt (FFI); Lande, Tor Sverre University of Oslo; Hamran, Svein-Erik Forsvarets forskningsinstitutt (FFI), University of Oslo

15:00-16:30 ThD03.9
Noncontact Measurement of Cardiac Beat by Using Active Stereo with Waved-Grid Pattern Projection . 1756-1759
Aoki, Hirooki Hiroshima City Univ.; Furukawa, Ryo Hiroshima City Univ.; Aoyama, Masahito Hiroshima City Univ.; Hiura, Shinsaku Hiroshima City Univ.; Asada, Naoki Hiroshima City Univ.; Sagawa, Ryusuke National Institute of Advanced Industrial Science and Technology; Kawasaki, Hiroshi Kagoshima Univ.; Shiga, Tsuyoshi Tokyo Women's Medical Univ.; Suzuki, Atsushi Tokyo Women's Medical Univ.

15:00-16:30 ThD03.10
Packet Radar Spectrum Recovery for Physiological Signals 1760-1763
Yavari, Ehsan University of Hawaii Manoa; Padasdao, Bryson University of Hawaii at Manoa; Lubecke, Victor University of Hawaii Manoa; Boric-Lubecke, Olga University of Hawaii Manoa

15:00-16:30 ThD03.11
Neural Network Based Algorithm for Automatic Identification of Cough Sounds 1764-1767
Swarnkar, Vinayak University of Queensland; Abeyratne, Udantha R University of Queensland; Amrulloh, Yusuf The University of Queensland

15:00-16:30 ThD03.12
Local Effect of Compression Stockings on Skin Microcirculatory Activity through the Measurement of Skin Effective Thermal Conductivity 1768-1771
Grenier, Etienne INSA Lyon; Gehin, Claudine INSA Lyon; LUN, Bertrand Sigvaris company; McAdams, Eric INSA Lyon

ThD04: 15:00-16:30	Event Hall-Area C (3F)
2.3.5 Optical Imaging IV (Poster Session)	

15:00-16:30 ThD04.1
A Novel Approach for Deriving Global Activation Maps from Non-Averaged Cardiac Optical Signals 1772-1775
Walton, Richard David Université Bordeaux Segalen; Bernus, Olivier University of Leeds; Dubois, Rémi Université Bordeaux 2

15:00-16:30 ThD04.2
Image-Based Analysis of Droplets in Microfluidics 1776-1779
Zantow, Miné University of Cape Town; Dendere, Ronald University of Cape Town; Douglas, Tania S University of Cape Town

15:00-16:30 ThD04.3
Functional Near-Infrared Spectroscopy Based Discrimination of Mental Counting and No-Control State for Development of a Brain-Computer Interface 1780-1783
Naseer, Noman Pusan National University; Hong, Keum-Shik Pusan National University

15:00-16:30 ThD04.4
Asymmetry Brain Function in Auditory Cortex: A Functional Near-Infrared Spectroscopy Study 1784-1786
Santosa, Hendrik Pusan National University; Hong, Keum-Shik Pusan National University

15:00-16:30	ThD04.5
GLM Analysis of Time Resolved NIRS Data of Motor Activation During Different Motor Tasks	1787-1790
<i>Molteni, Erika Scientific Institute, IRCCS E. Medea; Wabnitz, Heidrun PTB, Berlin; Bianchi, Anna Maria Politecnico di Milano; Steinkellner, Oliver PTB, Berlin; Sander-Thömmes, Tilmann H. Physikalisch-Technische Bundesanstalt; Geisler, Frederik Charité Hospital, Berlin; Mackert, Bruno-Marcel Charité Hospital, Berlin; Leistner, Stefanie Charité Hospital, Berlin; Cerutti, Sergio Politecnico di Milano</i>	
15:00-16:30	ThD04.6
Exploration of Cerebral Activation Using Hemodynamic Modality Separation Method in High-Density Multichannel fNIRS	1791-1794
<i>Yamada, Toru National Institute of Advanced Industrial Science and Technology; Umeyama, Shinji National Institute of Advanced Industrial Science and Technology; Matsuda, Keiji National Institute of Advanced Industrial Science and Technology</i>	
15:00-16:30	ThD04.7
New Reconstruction Technique for 3 Dimensional Structure in Shallow Layer of Turbid Medium Using Optical Transillumination Images - Attempt for Reconstruction with Limited View Angle -	1795-1798
<i>Matsuura, Taiki Hokkaido University; Namita, Takeshi Hokkaido University; Kato, Yuji Hokkaido University; Shimizu, Koichi Hokkaido University</i>	
15:00-16:30	ThD04.8
Study of Neurovascular Coupling Functions for Transient Focal Cerebral Ischemia in Rats Using Electrocorticography Functional Photoacoustic Microscopy (ECoG-Fpam)	1799-1802
<i>Liao, Lun-De SINAPSE; Li, Meng-Lin National Tsing Hua University; Lai, Hsin-Yi National Chiao Tung University; Chen, You-Yin National Chiao-Tung University; Thakor, Nitish Johns Hopkins University</i>	
15:00-16:30	ThD04.9
Dynamics of Hemoglobin States in the Sensorimotor Cortex During Motor Tasks: A Functional Near Infrared Spectroscopy Study	1803-1806
<i>Lu, Chia-Feng National Yang-Ming University; Teng, Shin National Yang-Ming University; Wu, Yu-Te National Yang-Ming University</i>	
15:00-16:30	ThD04.10
Cerebral Blood Flow Changes During Rat Cardiopulmonary Bypass and Deep Hypothermic Circulatory Arrest Model: A Preliminary Study	1807-1810
<i>Yuan, Lu Shanghai Jiao Tong University; Su, Diansan Shanghai Jiao Tong University; Liu, Xiaohua Shanghai Jiao Tong University; Lu, HongYang Shanghai Jiao Tong University; Li, Yao Shanghai Jiao Tong University; Tong, Shanbao Shanghai Jiao Tong University</i>	
15:00-16:30	ThD04.11
In Vivo Time-Resolved DOT Measurement and Image Reconstruction of Human Forearm under Exercises	1811-1814
<i>Tanikawa, Yukari National Institute of Advanced Industrial Science and Technology (A; Gao, Feng Tianjin Univ.; Miyakawa, Michio Niiagta Univ.; Kiryu, Tohru Niigata Univ.; Kizuka, Tomohiro Univ. of Tsukuba; Okawa, Shinpei National Defense Medical College; Yamada, Yukio Univ. of Electro-Communications</i>	

ThD05: 15:00-16:30	Event Hall-Area A (3F)
9.3.3 Cardiovascular Devices (Poster Session)	

15:00-16:30	ThD05.1
Hemodynamic Effects of Pressure-Volume Relation in the Atrial Contraction Model on the Total Artificial Heart Using Centrifugal Blood Pumps	1815-1818
<i>Shiga, Takuya Tohoku University; Kuroda, Takehito Tohoku University; Tsuboko, Yusuke Tohoku University; Miura, Hidekazu Tohoku University; Shiraishi, Yasuyuki Tohoku University; Yambe, Tomoyuki Tohoku Univ</i>	
15:00-16:30	ThD05.2
Effects of Hyperglycemia on Variability of RR, QT and Corrected QT Intervals in Type 1 Diabetic Patients	1819-1822
<i>Nguyen, Linh Lan University of Technology, Sydney; Su, Steven Weidong University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney</i>	

15:00-16:30		ThD05.3
An Algorithm to Improve the Estimation Accuracy of a Non-Invasive Method for Cardiac Output Measurement Based on Prolonged		1823-1826
<i>Schena, Emiliano University of Rome Campus Bio-Medico; Cecchini, Stefano University Campus Bio-Medico of Rome; Saccomandi, Paola University Campus Bio-Medico of Rome; Leuzzi, Marco Università Campus Bio-Medico di Roma; Silvestri, Sergio Università Campus Bio-Medico di Roma</i>		
15:00-16:30		ThD05.4
Simultaneous Analysis System for Blood Pressure and Flow Using Photoplethysmography and Ultrasonic-Measurement-Integrated Simulation		1827-1830
<i>Sone, Shusaku Tohoku University; Hayase, Toshiyuki Tohoku University; Funamoto, Kenichi Tohoku University; Shirai, Atsushi Tohoku University</i>		
15:00-16:30		ThD05.5
Design, Manufacture and In-Vitro Evaluation of a New Microvascular Anastomotic Device		1831-1834
<i>Huang, Shao-Fu Department of Biomedical Engineering, National Yang-Ming Univ.; Wang, Tien-Hsiang Division of Plastic and Reconstruction Surgery, Taipei Veterans; Wang, Hsuan-Wen Department of Biomedical Engineering, National Yang-Ming Univ.; Huang, Shu-Wei Department of Biomedical Engineering, Yang-Ming Univ.; Lin, Chun-Li National Yang-Ming Univ.; Kuo, Hsien-Nan Medical Devices Development Section, Metal Industries Research &; Yu, Tsung-Chih Medical Devices Development Section, Metal Industries Research &</i>		
15:00-16:30		ThD05.6
Blood pressure monitor with a position sensor for wrist placement to eliminate hydrostatic pressure effect on blood pressure measurement		1835-1838
<i>Sato, Hironori Omron Healthcare Co., Ltd.; Koshimizu, Hiroshi Omron Healthcare Co., Ltd; Yamashita, Shingo Omron Healthcare Co., Ltd; Ogura, Toshihiko Omron Healthcare Co., Ltd</i>		
15:00-16:30		ThD05.7
New Pulse Rate Monitoring in Ear-Using a Piezoelectric Sensor		1839-1842
<i>Kim, Young Sung GERI; Park, Jang Ho Kyunghee University; Park, Jung Wook LG Electronics</i>		
15:00-16:30		ThD05.8
Noninvasive Diagnosis of Coronary Artery Disease Using Two Parameters Extracted in an Extrema Circle of Magnetocardiogram		1843-1846
<i>Wu, Yanhua Tongji University; Gu, Jiangqi Tongji University; Chen, Tuo Tongji University; Wang, Weiyuan Tongji University, Shanghai, China; Jiang, Shiqin Tongji University; Quan, weiwei Department of Cardiology, Rui Jin Hospital afflied to Shanghai</i>		
ThD06: 15:00-16:30		Event Hall-Area A (3F)
3.6.2 Body Sensor Networks II (Poster Session)		
15:00-16:30		ThD06.1
Wearable and Superhydrophobic Hardware for Ambulatory Biopotential Acquisition		1847-1850
<i>Martinez-Tabares, Francisco Javier Univ. Nacional de Colombia sede Manizales; Delgado-Trejos, Edilson Instituto Tecnológico Metropolitano; Castellanos-Dominguez, Germán Univ. Nacional de Colombia</i>		
15:00-16:30		ThD06.2
ActimedARM – Design of a Wearable System to Monitor Daily Actimetry		1851-1854
<i>Noury, Norbert University Lyon 1</i>		
15:00-16:30		ThD06.3
A Reliable Medium Access Mechanism Based on Priorities for Wireless Body Sensor Networks		1855-1858
<i>Zhou, Jing University of Technology, Sydney; Guo, Aihuang Tongji University; Xu, Juan Tongji University; Celler, Branko George University of New South Wales; Su, Steven Weidong University of Technology, Sydney</i>		

3.5.2 Implantable Sensors and Systems (Poster Session)

- 15:00-16:30 ThD07.1
Columnar Transmitter Based Wireless Power Delivery System for Implantable Device in Freely Moving Animals 1859-1862
Eom, Kyungsik Seoul National University; Jeong, Joonsoo Seoul National University; Lee, Tae Hyung Seoul National University; Lee, Sungeun Seoul National Univ.; Jun, Sang Beom Ewha Womans University; Kim, Sung June Seoul National University
- 15:00-16:30 ThD07.2
Implantable Image Sensor Based on Intra-Brain Image Transmission 1863-1866
Sasagawa, Kiyotaka Nara Institute of Science and Technology; Ishii, Yoshiaki Nara Institute of Science and Technology; Yokota, Shogo Nara Institute of Science and Technology; Matsuda, Takashi National Institute of Information and Communications Technology; Davis, Peter Telecognix corpotation; Zhang, Bing National Institute of Information and Communications Technology; Li, Keren National Institute of Information and Communications Technology; Noda, Toshihiko Nara Institute of Science and Technology; Tokuda, Takashi Nara Institute of Science and Technology; Ohta, Jun Nara Institute of Science and Technology
- 15:00-16:30 ThD07.3
Development of an Implantable Wireless ECoG 128ch Recording Device for Clinical Brain Machine Interface 1867-1870
Matsushita, Kojiro Osaka University; Hirata, Masayuki Department of Neurosurgery, Osaka University Medical School; Suzuki, Takafumi National Institute of Information and Communications Technology; Ando, Hiroshi NICT; Ota, Yuki Tohoku University; Sato, Fumihiko Tohoku University; Yoshida, Takeshi Hiroshima University; Moriss, Shayne Osaka University Medical School; Yoshimine, Toshiki Osaka University
- 15:00-16:30 ThD07.4
Downsizing of Coreless Coils for Transcutaneous Energy Transmission in Implantable Devices -Improvement of Coupling Factor and Efficiency between Coils 1871-1874
Seshimo, Takahito Tokyo University of Science Graduate school; Yamamoto, Takahiko Tokyo University of Science; Koshiji, Kohji Tokyo University of Science
- 15:00-16:30 ThD07.5
A Novel Wireless Power and Data Transmission AC to DC Converter for an Implantable Device 1875-1878
LIU, Jhao-Yan National Tsing Hua University; Tang, Kea Tiong National Tsing Hua University

4.4.2 Models of Medical Devices and Medical Decision Making (Poster Session)

- 15:00-16:30 ThD08.1
Development of Distance-Selective Nerve Recruitment for Subcortical Brain Mapping by Controlling Stimulation Waveforms 1879-1882
Ueno, Ayako Tohoku University; Karashima, Akihiro Tohoku University; Nakao, Mitsuyuki Tohoku University; Katayama, Norihiro Tohoku univ
- 15:00-16:30 ThD08.2
A Study on Transmission Characteristics and Specific Absorption Rate Using Impedance-Matched Electrodes for Various Human Body Communication 1883-1886
Machida, Yuta Tokyo university of science graduate school; Yamamoto, Takahiko Tokyo University of Science; Koshiji, Kohji Tokyo University of Science
- 15:00-16:30 ThD08.3
Development of Electromagnetic Phantom at Low-Frequency Band 1887-1890
takahiko, yamamoto Tokyo University of Science; Koki, Sano Tokyo University of Science; Koshiji, Kohji Tokyo University of Science; Xiuqin, Chen Tokyo University of Science; Shaoming, Yang Tokyo University of Science; Abe, Masahiko Tokyo University of Science; Fukuda, Akiko Tokyo University of Science

15:00-16:30 ThD08.4
3D Simulation of Platelet Aggregation in Cryosurgery 1891-1894
Yagi, Asuka Osaka University; Kuroda, Yoshihiro Osaka University; Uranishi, Yuki Osaka University; Imura, Masataka Osaka University; Oshiro, Osamu Osaka University

15:00-16:30 ThD08.5
Hemodynamics at the Ostium of Cerebral Aneurysms with Relation to Post-Treatment Changes by a Virtual Flow Diverter: A Computational Fluid Dynamics Study 1895-1898
Karmonik, Christof The Methodist Hospital Neurological Inst; Chintalapani, Gouthami Siemens AX; Redel, Thomas Siemens AG; Zhang, Jonathon The Methodist Hospital; Diaz, Orlando The Methodist Hospital; Klucznik, Richard The Methodist Hospital; Grossman, Robert The Methodist Hospital

15:00-16:30 ThD08.6
Study of Thermal Effect on Breast Tumor Metabolism and Growth Using Metabonomics 1899-1902
Xu, Lisa Xuemin Shanghai Jiaotong University; Jia, Wei Shanghai Jiao Tong University; Hu, Xiaofang Shanghai Jiaotong University; Dai, Guangchen Shanghai Jiaotong University

ThD09: 15:00-16:30 Event Hall-Area B (3F)
1.2.2 Biomedical Simulation involving Signal Processing II (Poster Session)

15:00-16:30 ThD09.1
A Simulator for Mixed Doppler Ultrasound Signals from Pulsatile Blood Flow and Vessel Wall with Mild Stenosis 1903-1906
Zhang, Yufeng Yunnan University; Gao, Lian Yunnan University; Shen, Kai Yunnan University; Zhang, Kexin Cardiovascular Department, the Second Affiliated Hospital of Kun; Yan, Jine Yunnan University; Shi, Xinling Yunnan University; Zhang, Junhua Yunnan University

15:00-16:30 ThD09.2
Fetal Electrocardiogram Enhancement in Abdominal Measurements: Recording Setup Analysis 1907-1910
Taralunga, Dragos-Daniel Politehnica Univ. of Bucharest; Ungureanu, G. Mihaela Politehnica Univ. of Bucharest; Hurezeanu, Bogdan Univ. Politehnica of Bucharest; Gussi, Ilinca Univ. of Medicine and Pharmacy Carol Davila; Strungaru, Rodica Politehnica Univ. of Bucharest; Wolf, Werner Univ. AF Munich

15:00-16:30 ThD09.3
Feature Extraction and Classification of Seng Signals Applied to a Virtual Hand Prosthesis 1911-1914
Godinez Tello, Richard Universidade Federal do Espirito Santo; Bastos, Teodiano Universidade Federal do Espirito Santo; Frizzera Neto, Anselmo Universidade Federal do Espirito Santo; Poosapadi Arjunan, Sridhar RMIT University; Kant Kumar, Dinesh RMIT university

15:00-16:30 ThD09.4
In-Vitro Quantification of Rat Liver Viscoelasticity with Shear Wave Dispersion Ultrasound Vibrometry . 1915-1918
Guo, Yanrong Shenzhen University; Chen, Xin Shenzhen University; Lin, Haoming Shenzhen University; Zhang, Xin-Yu Shenzhen University

15:00-16:30 ThD09.5
An Algorithm for Assessment of Inflow and Washout of Optical Contrast Agent in the Brain by Analysis of Time-Resolved Diffuse Reflectance and Fluorescence Signals 1919-1922
Milej, Daniel Nalecz Institute of Biocybernetics and Biomedical Engineering PA; Kruczkowski, Michal Nalecz Institute of Biocybernetics and Biomedical Engineering; Gerega, Anna Nalecz Institute of Biocybernetics and Biomedical Engineering Po; Sawosz, Piotr Institute of Biocybernetics and Biomedical Engineering; Maniewski, Roman Inst of Biocybernetics & Biomed Engr; Liebert, Adam Inst of Biocybernetics & Biomed Eng

15:00-16:30 ThD09.6
Modelling Muscle Spindle Dynamics for a Proprioceptive Prosthesis 1923-1926
Williams, Ian Centre for Bio-Inspired Technology, Department of Electrical and E; Constandinou, Timothy Imperial College of Science, Technology and Medicine

15:00-16:30 ThD09.7
A new approach to improve the quality of Biosensor signals using Fast Independent Component Analysis: Feasibility study using EMG recordings 1927-1929
Naik, Ganesh R University of Technology Sydney; Guo, Yina Taiyuan University of Science and Technology; Nguyen, Hung T. University of Technology, Sydney

15:00-16:30	ThD09.8
Ultrasonic Guided Waves Dispersion Reversal for Long Bone Thickness Evaluation: A Simulation Study	1930-1933
<i>Xu, Kailiang Fudan University; Liu, ChengCheng Fudan University; Ta, Dean Fudan University</i>	
15:00-16:30	ThD09.9
Temporal and Steady State Acoustic Field in a Cell Culture Well: Simulation	1934-1935
<i>Choi, Min Joo Jeju National University; Kang, Gwan Suk Jeju National University; Kodama, Tetsuya Tohoku University; Coleman, Andrew J Guy's & St Thomas' Hospital NHS Foundation Trust</i>	
15:00-16:30	ThD09.10
Measuring Chest Circumference Change During Respiration with an Electromagnetic Biosensor	1936-1939
<i>Padasdao, Bryson University of Hawaii at Manoa; Shahhaidar, Ehsaneh University of Hawaii at Manoa; Boric-Lubecke, Olga University of Hawaii Manoa</i>	
15:00-16:30	ThD09.11
Respiratory-Cycle Related Analysis of the EEG-Spectrum During Sleep: A Healthy Population Study	1940-1943
<i>Garcia-Molina, Gary Nelson Philips Research North America; Bialas, Piotr Rafal Samsung Poland R&D Center</i>	
15:00-16:30	ThD09.12
A Pipeline VLSI Design of Fast Singular Value Decomposition Processor for Real-Time EEG System Based on On-Line Recursive Independent Component Analysis	1944-1947
<i>Huang, Kuan Ju National Chiao Tung University; Shih, Wei-Yeh National Chiao Tung University; Chang, Jui-Chung National Chiao Tung University; Feng, Chih-Wei National Chiao Tung University; Fang, Wai-Chi National Chiao Tung University</i>	
15:00-16:30	ThD09.13
Microwave Technology for Localization of Traumatic Intracranial Bleedings- A Numerical Simulation Study	1948-1951
<i>Candefjord, Stefan Chalmers University of Technology; Wings, Johan Chalmers University of Technology; Yu, Yinan Chalmers University of Technology; Rylander, Thomas Chalmers University of Technology; McKelvey, Tomas Chalmers University of Technology</i>	

ThD10: 15:00-16:30	Event Hall-Area B (3F)
1.2.8 Signal Processing in Physiological Systems IV (Poster Session)	

15:00-16:30	ThD10.1
Automated Analgesic Drugs Delivery Guided by Vagal Tone Evaluation: Interest of the Analgesia Nociception Index (ANI)	1952-1955
<i>De Jonckheere, Julien CHRU de Lille; Jeanne, Mathieu CHRU de Lille; Logier, Regis CHRU de Lille</i>	
15:00-16:30	ThD10.2
BioSigPlot: An opensource tool for the visualization of multi-channel biomedical signals with Matlab ...	1956-1959
<i>BouDET, Samuel Faculté Libre de Médecine; Peyrodie, Laurent HEI; Gallois, Philippe Université Catholique de Lille; Houzé de l'Aulnoit, Denis GHICL; Cao, Hua Hautes Etudes d'Ingénieur; FORZY, Gerard Faculté Libre de Medecine</i>	
15:00-16:30	ThD10.3
Arterial Pressure Fractality Is Highly Dependent on Wave Reflection	1960-1963
<i>Armentano, Ricardo Luis Favaloro University; Cymberknop, Leandro Javier Universidad Tecnológica Nacional; Legnani, Walter Universidad Tecnológica Nacional; Pessana, Franco FICEN, Favaloro University; Craiem, Damian Favaloro University; Graf, Sebastián Favaloro University; Barra, Juan Favaloro University</i>	
15:00-16:30	ThD10.4
A New Mechanical Index for Gauging the Human Bio-Effects of Low Frequency Ultrasound	1964-1967
<i>Ahmadi, Farzaneh The Univ. of Sydney; McLoughlin, Ian Vince The Univ. of Science and Technology of China</i>	
15:00-16:30	ThD10.5
Effect of Using ECG Derived Respiration (EDR) Signal in Linear Parametric QT-RR Modeling	1968-1971
<i>Imam, Hasan Univ. of Melbourne; Karmakar, Chandan K. The Univ. of Melbourne; Khandoker, Ahsan Habib Khalifa Univ. of Science, Technology and Research; Palaniswami, Marimuthu The Univ. of Melbourne</i>	

15:00-16:30		ThD10.6
Spatial Correlation Based Artifact Detection for Automatic Seizure Detection in EEG		1972-1975
<i>Skupch, Ana AIT Austrian Institute of Technology GmbH; Dollfuß, Peter Austrian Institute of Technology (AIT); Gritsch, Gerhard AIT Austrian Institute of Technology GmbH; Fürbaß, Franz AIT Austrian Institute of Technology GmbH; Hartmann, Manfred AIT Austrian Institute of Technology GmbH; Perko, Hannes Austrian Institute of Technology; Patarala, Ekaterina Medical University of Vienna; Lindinger, Gerald Medical University of Vienna; Kluge, Tilmann Austrian Institute of Technology</i>		
15:00-16:30		ThD10.7
Automatic Optimization of Parameters for Seizure Detection Systems		1976-1979
<i>Dollfuß, Peter Austrian Institute of Technology (AIT); Hartmann, Manfred AIT Austrian Institute of Technology GmbH; Skupch, Ana AIT Austrian Institute of Technology GmbH; Fürbaß, Franz AIT Austrian Institute of Technology GmbH; Kluge, Tilmann Austrian Institute of Technology</i>		
15:00-16:30		ThD10.8
Analyzing EEG Signals under Insulin-Induced Hypoglycemia in Type 1 Diabetes Patients		1980-1983
<i>Nguyen, Lien B. University of Technology, Sydney; Nguyen, Anh V. University of Technology, Sydney; Ling, Steve University of Technology Sydney; Nguyen, Hung T. University of Technology, Sydney</i>		
15:00-16:30		ThD10.9
Corticospinal Signals Recorded with MEAs Can Predict the Volitional Forearm Forces in Rats		1984-1987
<i>Guo, Yi New Jersey Institute of Technology; Sahin, Mesut New Jersey Institute of Technology; Foulds, Richard New Jersey Institute of Technology; Adamovich, Sergei New Jersey Institute of Technology</i>		
15:00-16:30		ThD10.10
The Impact of Rtms Over the Dorsolateral Prefrontal Cortex on Cognitive Processing		1988-1991
<i>Sato, Aya Junshin Gakuen Univ.; Torii, Tetsuya Junshin Gakuen Univ.; Nakahara, Yukiko Junshin Gakuen Univ.; Iwahashi, Masakuni Tokai Univ.; Itoh, Yuji Junshin Gakuen Univ.; Iramina, Keiji Kyushu Univ., Japan</i>		
15:00-16:30		ThD10.11
Estimation of Templates and Timings of Spikes in Extracellular Voltage Signals		
Containing Overlaps of the Arbitrary Number of Spikes		1992-1995
<i>Haga, Tatsuya the Univ. of Tokyo; Takayama, Yuzo Univ. of Tokyo; Mabuchi, Kunihiko The Univ. of Tokyo</i>		
15:00-16:30		ThD10.12
Effects of Daytime Exposures to Short and Middle-wavelength Lights on Cortical		
Activity during a Cognitive Task		1996-1999
<i>Okamoto, Yosuke National Institute of Advanced Industrial Science and Technology; Nakagawa, Seiji National Institute of Advanced Industrial Science and Technology</i>		
15:00-16:30		ThD10.13
Transient Acceleration Response of a Bone-Conducted Ultrasonic Pulse in Living Human Head		2000-2003
<i>Hotehama, Takuya National Institute of Advanced Industrial Science and Technology; Nakagawa, Seiji National Institute of Advanced Industrial Science and Technology</i>		
15:00-16:30		ThD10.14
QRS Classification and Spatial Combination for Robust Heart Rate Detection in		
Low-Quality Fetal ECG Recordings		2004-2007
<i>Warmerdam, Guy Eindhoven University of Technology; Vullings, Rik Eindhoven University of Technology; van Pul, Carola Maxima Medical Center; Andriessen, Peter Maxima Medical Center; Oei, S. Guid Maxima Medisch Centrum, Veldhoven; Wijn, Pieter Máxima Medical Center</i>		
15:00-16:30		ThD10.15
A 1V Low Power Second-Order Delta-Sigma Modulator for Biomedical Signal Application		2008-2011
<i>Hsu, Chih-Han National Tsing-Hua University; Tang, Kea Tiong National Tsing Hua University</i>		
15:00-16:30		ThD10.16
An ADC-Free Adaptive Interface Circuit of Resistive Sensor for Electronic Nose System		2012-2015
<i>Chang, Chia-Lin National Tsing Hua University; Chiu, Shih-Wen Department of Electrical Engineering, National Tsing-Hua Univers; Tang, Kea Tiong National Tsing Hua University</i>		

15:00-16:30		ThD10.17
Extraction of Intended Palpation Times from Facial EMGs in a Mouse Model of Active Sensing		2016-2019
<i>Schroeder, Joseph Boston University; Ritt, Jason Boston University</i>		
15:00-16:30		ThD10.18
Statistical Machine Learning for Removing Drift from Biosensor Signals		2020-2023
<i>Chen, Xu Sharp Labs of America; Messing, Dean Sharp Laboratories of America; van Beek, Peter Sharp Laboratories of America</i>		
15:00-16:30		ThD10.19
Increased Variability in Respiratory Parameters Heralds Obstructive Events in Children with Sleep Disordered Breathing		2024-2027
<i>Immanuel, Sarah Anita University of Adelaide; Kohler, Mark University of South Australia; Pamula, Yvonne Adelaide Women's and Children's Hospital; Kabir, Muammar Muhammad The University of Adelaide; Saint, David University of Adelaide; Baumert, Mathias The University of Adelaide</i>		
15:00-16:30		ThD10.20
Removing Cardiac Interference from the Electroencephalogram Using a Modified Pan-Tompkins Algorithm and Linear Regression		2028-2031
<i>Waser, Markus AIT Austrian Inst. of Technology GmbH; Garn, Heinrich AIT Austrian Inst. of Technology GmbH</i>		
15:00-16:30		ThD10.21
Preprocessing by Means of Subspace Projections for Continuous Cerebral Autoregulation Assessment Using NIRS		2032-2035
<i>Caicedo Dorado, Alexander Katholieke Universiteit Leuven; Naulaers, Gunnar University Hospitals Leuven; Van Huffel, Sabine Katholieke Universiteit Leuven</i>		
15:00-16:30		ThD10.22
A Speech Enhancement Method for Cochlear Implant Listeners		2036-2039
<i>Yuan, Meng Shanghai Acoustics Laboratory, Institute of Acoustics, Chinese A; Sun, Yang Shanghai Acoustics laboratory, Chinese Academy of Sciences; Feng, Haihong Shanghai Acoustics Laboratory, Institute of Acoustics, Chinese Ac; Lee, Tan The Chinese University of Hong Kong</i>		
15:00-16:30		ThD10.23
Wireless Neural Acquisition System Design		2040-2043
<i>Qu, Ruoyuan Beijing Institute of Technology; Li, Tong Beijing Institute of Technology; Li, Xiao Beijing Institute of Technology; Xu, Minglu Beijing Institute of Technology; Chen, YueYang Beijing Institute of Technology; Wang, Xinghua Beijing Institute of Technology</i>		
15:00-16:30		ThD10.24
OSA Severity Assessment Based on Sleep Breathing Analysis Using Ambient Microphone		2044-2047
<i>Dafna, Eliran Ben-Gurion University of the Negev; Tarasiuk, Ariel Ben-Gurion University; Zigel, Yaniv Ben-Gurion University of the Negev</i>		
15:00-16:30		ThD10.25
Noninvasive Cellular Quantity Measurement in Bone Marrow Stromal Cells/ β -Tricalcium Phosphate ...		2048-2051
<i>Yagi, Naomi University of Hyogo; Tomomoto, Ishikawa Ishikawa Hospital; kuramoto, Kei University of Hyogo; Kobashi, Syoji University of Hyogo; Hata, Yutaka University of Hyogo</i>		
15:00-16:30		ThD10.26
Noncontact Screening System with Two Microwave Radars for the Diagnosis of Sleep Apnea-Hypopnea Syndrome		2052-2055
<i>Kagawa, Masayuki Tokyo Metropolitan University; Ueki, Katsuhiko Graduate school of System Design, Tokyo Metropolitan University; Tojima, Hirokazu Tokyo Rosai Hospital; Matsui, Takemi Tokyo Metropolitan University</i>		
15:00-16:30		ThD10.27
Novel Algorithm for Real-Time Onset Detection of Surface Electromyography in Step-Tracking Wrist Movements		2056-2059
<i>Kuroda, Yoshihiro Osaka University; Nisky, Ilana Stanford University; Uranishi, Yuki Osaka University; Imura, Masataka Osaka University; Okamura, Allison Stanford University; Oshiro, Osamu Osaka University</i>		

15:00-16:30	ThD10.28
Quantification of Physiological Disparities and Task Performance in Stress and Control Conditions	2060-2063
<i>Subhani, Ahmad Rauf University Teknologi PETRONAS; Xia, Likun University Teknologi PETRONAS; Malik, Aamir Saeed University Teknologi PETRONAS; Othman, Zahiruddin University Sains Malaysia</i>	
15:00-16:30	ThD10.29
Analysis of EEG Signals Regularity in Adults During Video Game Play in 2D and 3D	2064-2067
<i>Raja Khairuddin, Hamizah Centre for Intelligent Signal and Imaging Research, University T; Malik, Aamir Saeed University Teknologi PETRONAS; Wajid, Mumtaz University Teknologi PETRONAS; Kamel, Nidal Technical University of PETRONAS; Xia, Likun University Teknologi PETRONAS</i>	
15:00-16:30	ThD10.30
The Factors Influence Compatibility of Pulse-Pulse Intervals with R-R Intervals	2068-2071
<i>Liu, An-Bang Buddhist Tzu Chi General Hospital; Wu, Hsien-Tsai National Dong Hwa University; Liu, Cyuan-Cin National Dong Hwa University.; Hsu, Chun-Hsiang National Dong Hwa University.; Chen, Ding-Yuan Department of Urology, Hualien Hospital</i>	
15:00-16:30	ThD10.31
Assessing Spontaneous Baroreflex in Aged with Pulse-Pulse Intervals and Pulse Amplitudes	2072-2075
<i>Liu, An-Bang Buddhist Tzu Chi General Hospital; Wu, Hsien-Tsai National Dong Hwa University; Liu, Cyuan-Cin National Dong Hwa University.; Huang, Yan-Cheng National Dong Hwa University.; Chen, Hong-Ruei National Dong Hwa University.; Hsu, Chun-Hsiang National Dong Hwa University.; Tang, Chieh-Ju Department of Internal Medicine, Hualien Hospital, Health Execut</i>	
15:00-16:30	ThD10.32
T-Wave Alternans Search Over 24 Hour Holter ECG Recordings Based on Singular Value Decomposition .	2076-2079
<i>Nishibe, Toshihiro Hosei University; Yamashiro, Koichiro HOSEI University; Yana, Kazuo Hosei University; Ono, Takuya Nippon Medical School</i>	
15:00-16:30	ThD10.33
Classification of Vibratory Patterns of the Upper Airway During Sleep	2080-2083
<i>Alshaer, Hisham Toronto Rehabilitation Inst, UHN; Rudzicz, Frank Toronto Rehabilitation Institute; University of Toronto; Falk, Tiago Institut National de la Recherche Scientifique; Tseng, Wen-Hou Toronto Rehabilitation Institute; Bradley, T. Douglas University of Toronto</i>	
15:00-16:30	ThD10.34
Open Architecture Software Platform for Biomedical Signal Analysis	2084-2087
<i>Duque, Juliano Jinzenji University of São Paulo; Silva, Luiz Eduardo Virgilio University of São Paulo; Murta Jr., Luiz Otavio University of Sao Paulo</i>	
15:00-16:30	ThD10.35
Feasibility Study on a Perceived Fatigue Prediction Dependent Power Control for an Electrically Assisted Bicycle	2088-2091
<i>Kiryu, Tohru Niigata University; Minagawa, Hiromu Niigata University</i>	
15:00-16:30	ThD10.36
Reduction of EEG Artefacts Induced by Vibration in the MR-Environment	2092-2095
<i>Rothlübbers, Sven Institute for Systems and Robotics / Instituto Superior Técnico.; Relvas, Vânia Instituto Superior Técnico Universidade Tecnica de Lisboa; Leal, Alberto AL; Figueiredo, Patricia Institute for Systems and Robotics</i>	
15:00-16:30	ThD10.37
Automatic Ictal HFO Detection for Determination of Initial Seizure Spread	2096-2099
<i>Graef, Andreas Vienna University of Technology; Flamm, Christoph Vienna University of Technology; Pirker, Susanne Neurological Department Rosenhügel at General Hospital Hietzing; Baumgartner, Christoph Neurological Department Rosenhügel at General Hospital Hietzing.; Deistler, Manfred Vienna University of Technology; Matz, Gerald Vienna University of Technology, Institute of Telecommunications</i>	
15:00-16:30	ThD10.38
Seizure Prediction Using Adaptive Neuro-Fuzzy Inference System	2100-2103
<i>Rabbi, Ahmed Fazle University of North Dakota; Leila, Azinfar University of North Dakota; Fazel-Rezai, Reza University of North Dakota</i>	

15:00-16:30		ThD10.39
Stochastic Relevance Analysis of Epileptic EEG Signals for Channel Selection and Classification		2104-2107
<i>Duque-Muñoz, Leonardo Instituto Tecnológico Metropolitano ITM; Guerrero-Mosquera, Carlos Universidad Carlos III de Madrid; Castellanos-Dominguez, Germán Universidad Nacional de Colombia</i>		
15:00-16:30		ThD10.40
Quantitative Evaluation of Arousal Level Based on the Analyses of Microsaccade Rates and Pupil Fluctuations		2108-2111
<i>Honda, Shougo, Shougo Kinki Univ.; Kohama, Takeshi Faculty of Biology-Oriented Science and Technology, Kinki Univer; Tanaka, Tatsuro Toyota Technical Development Corporation; Yoshida, Hisashi Kinki Univ.</i>		
15:00-16:30		ThD10.41
Evaluation of the Effectiveness of Muscle Assistive Device Using Muscle Fatigue Analysis		2112-2115
<i>Lee, Youngjin University of Ulsan; Chee, Youngjoon University of Ulsan</i>		
15:00-16:30		ThD10.42
Towards a Time-Feature Independent Phonocardiogram Segmentation		2116-2119
<i>Ramos, João Pedro University of Coimbra; de Carvalho, Paulo University of Coimbra - NIF: 501617582; Coimbra, Miguel Instituto de Telecomunicações / Universidade do Porto</i>		
15:00-16:30		ThD10.43
Considerations for Integration of a Physiological Radar Monitoring System with Gold Standard Clinical Sleep Monitoring Systems		2120-2123
<i>Singh, Aditya University of Hawaii at Manoa; Baboli, Mehran University of Hawaii at Manoa; Gao, Xiaomeng University of Hawaii at Manoa; Yavari, Ehsan University of Hawaii Manoa; Padasdao, Bryson University of Hawaii at Manoa; Soll, Bruce Queen's Medical Center; Boric-Lubecke, Olga University of Hawaii Manoa; Lubecke, Victor University of Hawaii Manoa</i>		
15:00-16:30		ThD10.44
Detection of Sleep Apnea on a Per-Second Basis Using Respiratory Signals		2124-2127
<i>Selvaraj, Nandakumar Vital Connect Inc; Narasimhan, Ravi Vital Connect, Inc.</i>		
15:00-16:30		ThD10.45
Computation and Study of the Low-Frequency Oscillation of Surface Electromyogram Recorded in Biceps During Isometric Upper Limb Contraction		2128-2131
<i>Tan, Audrey RMIT University; Kant Kumar, Dinesh RMIT university; Poosapadi Arjunan, Sridhar RMIT University; Jayadeva, Jayadeva IIT New Delhi</i>		
15:00-16:30		ThD10.46
Cuffless Blood Pressure Estimation Using Only Photoplethysmography Based on Cardiovascular Parameters		2132-2135
<i>Fukushima, Hayato Aichi Prefectural University; Kawanaka, Haruki Aichi Prefectural University; Bhuiyan, Shoaib Suzuka University of Medical Science; Oguri, Koji Aichi Prefectural University</i>		
15:00-16:30		ThD10.47
Automated Estimation of Relative Fundamental Frequency		2136-2139
<i>Lien, Yu-An Boston University; Stepp, Cara Boston University</i>		
15:00-16:30		ThD10.48
Detection of EMG-Based Muscle Fatigue During Cyclic Dynamic Contraction Using a Monopolar Configuration		2140-2143
<i>Hotta, Yu Niigata Institute of Technology; Ito, Kenichi Niigata Institute of Technology</i>		
15:00-16:30		ThD10.49
Improvements on EMG-Based Handwriting Recognition with DTW Algorithm		2144-2147
<i>Zhang, Dingguo Shanghai Jiao Tong University; Yao, Lin Shanghai Jiao Tong University</i>		
15:00-16:30		ThD10.50
Microsaccades Generated During Car Driving		2148-2151
<i>Miki, Shuntaro Chubu University; Hirata, Yutaka Chubu University, College of Eng</i>		

15:00-16:30 ThD10.51
Chaotic Phase Space Differential Algorithm for Real-Time Detection of Ventricular Arrhythmias: Application in Animal Model 2152-2155
Lee, Fu-Jung National Taiwan University; Lin, Wei-Tso National Taiwan University; Liu, Chien-Sheng National Taiwan University; Lin, Chii-Wann National Taiwan University

ThD11: 15:00-16:30 Event Hall-Area D (3F)
6.2.7 Brain-computer Interface V (Poster Session)

15:00-16:30 ThD11.1
Low-Power Hardware for Neural Spike Compression in BMIs 2156-2159
Cardoso Lapolli, Ângelo UFRGS; COPPA, Bertrand CEA-LETI; Héliot, Rodolphe CEA - LETI MINATEC

15:00-16:30 ThD11.2
Classification of Mental Tasks in the Prefrontal Cortex Using Fnirs 2160-2163
Herff, Christian Karlsruhe Institute of Technology; Heger, Dominic Karlsruhe Institute of Technology, Cognitive Systems Lab; Putze, Felix Karlsruhe Institute of Technology; Hennrich, Johannes Karlsruhe Institute of Technology; Fortmann, Ole Karlsruhe Institute of Technology; Schultz, Tanja Karlsruhe Institute of Technology, Cognitive Systems Lab

15:00-16:30 ThD11.3
A Brain-Computer Interface Controlled Mail Client 2164-2167
Yu, Tianyou South China Univ. of Technology, Chinese; Li, Yuanqing South China Univ. of Technology; Long, Jinyi South China Univ. of Technology, Chinese; Wang, Cong South China Univ. of Technology

15:00-16:30 ThD11.4
A Remote Constant Current Stimulator Designed for Rat-Robot Navigation 2168-2171
Chen, Xi Zhejiang university; Xu, Kedi Qiushi Academy for Advanced Studies, Zhejiang University, Hangzhou; ye, shuming zhejiang university; Zheng, Xiaoxiang Zhejiang University; Guo, Songchao Qiushi Academy for Advanced Studies, Zhejiang University, Hangzhou

15:00-16:30 ThD11.5
Encode the "STOP" Command by Photo-Stimulation for Precise Control of Rat-Robot 2172-2175
Chen, Sicong College of Biomedical Engineering and Instrumental Science, Zhej; Qu, Yi College of Biomedical Engineering and Instrumental Science, Zhej; Guo, Songchao Qiushi Academy for Advanced Studies, Zhejiang Univ., Hangzhou; Shi, Zhaoyue College of Biomedical Engineering and Instrumental Science, Zhej; Xu, Kedi Qiushi Academy for Advanced Studies, Zhejiang Univ., Hangzhou; Zheng, Xiaoxiang Zhejiang Univ.

15:00-16:30 ThD11.6
An Approximation Approach for Rendering Visual Flickers in SSVEP-Based BCI Using Monitor Refresh Rate 2176-2179
Nakanishi, Masaki Keio University; Wang, Yijun University of California, San Diego; Wang, Yu-Te University of California San Diego; Mitsukura, Yasue Keio University; Jung, Tzzy-Ping University of California San Diego

15:00-16:30 ThD11.7
Automatic Design for Independent Component Analysis Based Brain-Computer Interfacing 2180-2183
Chuang, Chun-Hsiang National Chiao-Tung University; Lin, Yuan-Pin University of California, San Diego; Ko, Li-Wei National Chiao-Tung University; Jung, Tzzy-Ping University of California San Diego; Lin, Chin-Teng National Chiao-Tung University

15:00-16:30 ThD11.8
Real-Time Modeling and 3D Visualization of Source Dynamics and Connectivity Using Wearable EEG .. 2184-2187
Mullen, Tim University of California, San Diego, Swartz Center for Computational; Kothe, Christian Andreas Edgar University of California San Diego; Chi, Yu Cognionics, Inc.; Ojeda, Alejandro Swartz Center for Computational Neuroscience, Institute for Neur; Kerth, Trevor Cognionics Inc; Makeig, Scott University of California San Diego; Cauwenberghs, Gert University of California San Diego; Jung, Tzzy-Ping University of California San Diego

15:00-16:30		ThD11.9
Improving Session-To-Session Transfer Performance of Motor Imagery-Based BCI Using Adaptive Extreme Learning Machine		2188-2191
<i>Bamdadian, Atieh Inst. for Infocomm Research, Agency for Science, Technology and; Guan, Cuntai Inst. for Infocomm Research; Ang, Kai Keng Inst. for Infocomm Research; Xu, Jian-Xin National Univ. of Singapore</i>		
15:00-16:30		ThD11.10
Linear Time Variant Model of Synapse/Neuron and Its Adaptation Method; Application on Predicting Hippocampus CA1 Neuron's PSP		2192-2195
<i>Dibazar, Alireza University of Southern California; Yousefi, Ali University of Southern California; Berger, Theodore University of Southern California</i>		
15:00-16:30		ThD11.11
Inferring Driver's Turning Direction through Detection of Error Related Brain Activity		2196-2199
<i>Zhang, Huaijian ÉCOLE Polytechnique Fédérale de Lausanne; Chavarriaga, Ricardo Ecole Polytechnique Federale de Lausanne; Gheorghe, Lucian EPFL; Millán, José del R. Swiss Federal Institute of Technology, Lausanne</i>		
15:00-16:30		ThD11.12
A Competitive Brain Computer Interface: Multi-Person Car Racing System		2200-2203
<i>Li, Junhua Shanghai Jiao Tong University; Liu, Ye Shanghai Jiao Tong University; Lu, Zhen Shanghai Jiao Tong University; Zhang, Liqing Shanghai Jiao Tong University</i>		
15:00-16:30		ThD11.13
Single-Trial Discrimination of EEG Signals for Stroke Patients: A General Multi-Way Analysis		2204-2207
<i>Liu, Ye Shanghai Jiao Tong University; Li, Mingfen Fudan University; Zhang, Hao Shanghai Jiao Tong University; Li, Junhua Shanghai Jiao Tong University; Jia, Jie Fudan University; Wu, Yi Fudan University; Cao, Jianting Saitama Institute of Technology; Zhang, Liqing Shanghai Jiao Tong University</i>		
15:00-16:30		ThD11.14
Gaussian Mixture Modeling in Stroke Patients' Rehabilitation EEG Data Analysis		2208-2211
<i>Zhang, Hao Shanghai Jiao Tong University; Liu, Ye Shanghai Jiao Tong University; Liang, Jianyi Shanghai Jiao Tong University; Cao, Jianting Saitama Institute of Technology; Zhang, Liqing Shanghai Jiao Tong University</i>		
15:00-16:30		ThD11.15
DTU BCI Speller: An SSVEP-Based Spelling System with Dictionary Support		2212-2215
<i>Vilic, Adnan Technical University of Denmark; Sorensen, Helge B D Technical University of Denmark; Puthusserypady, Sadasivan National University of Singapore; Kjaer, Troels Wesenberg Rigshospitalet; Thomsen, Carsten Eckhart University of Copenhagen</i>		
15:00-16:30		ThD11.16
Movement Related Cortical Potentials in Severe Chronic Stroke		2216-2219
<i>Yilmaz, Ozge University of Tuebingen, Institute of Medical Psychology and Beh; Cho, Woosang University of Tubingen; Braun, Christoph University of Tübingen; Birbaumer, Niels Eberhard-Karls-University; Ramos-Murguialday, Ander Eberhard Karls University of Tubingen/TECNALIA</i>		
15:00-16:30		ThD11.17
Frequency Recognition Methods for Dual-Frequency SSVEP Based Brain-Computer Interface		2220-2223
<i>Chang, Min Hye Seoul National University; Park, Kwang S. Seoul National University</i>		
15:00-16:30		ThD11.18
Classification of Brain Signals Associated with Imagination of Hand Grasping, Opening and Reaching by Means of Wavelet-Based Common Spatial Pattern and Mutual Information		2224-2227
<i>Amanpour, Behzad Iran Univ. of Science & Technology; Erfanian, Abbas Iran Univ. of Science & Technology</i>		
15:00-16:30		ThD11.19
The Potential of Multilateral Analyses of Neuronal Activities in Future Brain-Machine Interface Research		2228-2231
<i>Sakamoto, Kazuhiro Tohoku University</i>		

15:00-16:30		ThD11.20
Toward Binary Brain Computer Interface Using Steady-State Visually Evoked Potential under Eyes Closed Condition		2232-2235
<i>Nishifuji, Seiji Yamaguchi University</i>		
15:00-16:30		ThD11.21
Development of an "Eyes-Closed" Brain-Computer Interface System for Communication of Patients with Oculomotor Impairment		2236-2239
<i>Han, Chang-Hee Hanyang University; Hwang, Han-Jeong Hanyang University; Lim, Jeong-Hwan Hanyang University; Im, Chang-Hwan Hanyang University</i>		
15:00-16:30		ThD11.22
Development of a Hybrid Mental Speller Combining EEG-Based Brain-Computer Interface and Webcam-Based Eye-Tracking		2240-2242
<i>Lee, Jun-Hak Hanyang University; Lim, Jeong-Hwan Hanyang University; Hwang, Han-Jeong Hanyang University; Im, Chang-Hwan Hanyang University</i>		
15:00-16:30		ThD11.23
Character Identification by Maximizing the Difference between Target and Non-Target Responses in EEG without Sophisticated Classifiers		2243-2246
<i>Toma, Junya Yamagata Univ.; Fukami, Tadanori Yamagata Univ.; Shimada, Takamasa Tokyo Denki Univ.</i>		
15:00-16:30		ThD11.24
High-Frequency Spectral Changes in Dorsolateral Prefrontal Cortex for Potential Neuroprosthetics		2247-2250
<i>Anderson, Nicholas Washington University; Blakely, Timothy University of Washington; Brunner, Peter Wadsworth Center; Krusienski, Dean Old Dominion University; Moran, Daniel Washington University in St. Louis; Leuthardt, Eric Washington University in St. Louis</i>		
15:00-16:30		ThD11.25
An Efficient Words Typing P300-BCI System Using a Modified T9 Interface and Random Forest Classifier		2251-2254
<i>Akram, Faraz Kyung Hee University; Han, Hee Sok Kyung Hee University; Jeon, Hyun Jae Kyunghee University; Kim, Tae-Seong Kyung Hee University; Park, Seung-Hun Kyung Hee University</i>		
15:00-16:30		ThD11.26
Common Spatial Patterns for Steady-State Somatosensory Evoked Potentials		2255-2258
<i>Nam, Yunjun POSTECH; Cichocki, Andrzej BSI RIKEN; Choi, Seungjin Pohang Univ. of Science and Tech.</i>		
15:00-16:30		ThD11.27
Performance of a Tactile P300 Speller for Healthy People and Severely Disabled Patients		2259-2262
<i>Ortner, Rupert g.tec - Guger Technologies OG; Lugo, Zulay Coma Science Group, Cyclotron Research Centre and CHU Neurology; Prueckl, Robert g.tec medical engineering GmbH; Hintermueller, Christoph g.tec medical engineering GmbH; Noirhomme, Quentin Coma Science Group, Cyclotron Research Centre and CHU Neurology; Guger, Christoph g.tec medical engineering GmbH</i>		

ThD12: 15:00-16:30	Event Hall-Area D (3F)
10.4.3 mHealth II (Poster Session)	

15:00-16:30		ThD12.1
Detection of the Optimal Region of Interest for Camera Oximetry		2263-2266
<i>Karlen, Walter UBC; Ansermino, J. Mark British Columbia's Children's Hospital; Dumont, Guy University of British Columbia; Scheffer, Cornie Stellenbosch University</i>		
15:00-16:30		ThD12.2
Design and Tests of a Smartphones-Based Multi-Lead ECG Monitoring System		2267-2270
<i>Gao, Hongqiao Peking University; Duan, Xiaohui Peking University; Guo, Xiaoqiang Peking University; Huang, Anpeng Peking University; Jiao, Bingli Peking University</i>		
15:00-16:30		ThD12.3
Improving Quality of Experience in M-Health Monitoring System		2271-2274
<i>Xu, Da Key Laboratory for Health Informatics of Chinese Academy of Scie; He, Chenguang Shenzhen Institutes of Advanced Technology, Chinese Academy of Sc; Li, Ye Chinese Academy of Sciences</i>		

15:00-16:30	ThD12.4
Improving Chronic Disease Management with Mobile Health Platform	2275-2278
<i>Lee, Do-Youn Kyungpook National University; Kim, Il Kon Kyungpook National University</i>	
15:00-16:30	ThD12.5
lact – an Interactive Mhealth Monitoring System to Enhance Psychotherapy for Adolescents with Sickle Cell Disease	2279-2282
<i>Cheng, Chihwen Georgia Institute of Technology; Venugopalan, Janani Georgia Institute of Technology; Stokes, Todd Georgia Institute of Technology; Wang, May D. Georgia Tech and Emory University</i>	
15:00-16:30	ThD12.6
Design of Real-Time Encryption Module for Secure Data Protection of Wearable Healthcare Devices	2283-2286
<i>Kim, Jungchae Yonsei Univ.; LEE, Byuck jin Yonsei Univ.; Yoo, Sun K. Yonsei Univ. Health System</i>	

ThD13: 15:00-16:30	Event Hall-Area B (3F)
5.7.3 Pulse Transit Time (Poster Session)	

15:00-16:30	ThD13.1
Local Pulse Wave Velocity Estimation Using Magnetic Plethysmograph	2287-2290
<i>Chandrasekhar, Anand Indian Institute of Technology Madras; Joseph, Jayaraj HTIC, Indian Institute of Technology; Sivaprakasam, Mohanasankar Indian Institute of Technology Madras</i>	
15:00-16:30	ThD13.2
Detection of Hemodynamic Adaptations During Impending Syncope: Implementation of a Robust Algorithm Based on Pulse Arrival Time Measurements Only	2291-2294
<i>Muehlsteff, Jens Philips; Correia, Tobias University of Coimbra; Couceiro, Ricardo University of Coimbra; de Carvalho, Paulo University of Coimbra - NIF: 501617582; Kelm, Malte University Hospital Duesseldorf; Ritz, Anita Heinrich-Heine-University Dusseldorf; Meyer, Christian Heinrich-Heine-University Hospital; Eickholt, Christian University Hospital Duesseldorf</i>	
15:00-16:30	ThD13.3
A New Movement Artifact Detector for Photoplethysmographic Signals	2295-2299
<i>Robles-Rubio, Carlos Alejandro McGill Univ.; Brown, Karen McGill Univ.; Kearney, Robert Edward McGill Univ.</i>	
15:00-16:30	ThD13.4
The Effect of Local Cold and Warm Exposure on Index Finger Photoplethysmographic Signal Waveform	2300-2303
<i>Pilt, Kristjan Technical University of Tallinn; Meigas, Kalju Tallinn University of Technology; Temitski, Kristina Tallinn University of Technology; Viigimaa, Margus Technomedicum of the Tallinn Institutre of Technology</i>	
15:00-16:30	ThD13.5
Potential Value of Electrocardiogram and Photoplethysmogram for Non-Invasive Blood Pressure Estimation During Exercise	2304-2307
<i>Jeong, In cheol Johns Hopkins University; Finkelstein, Joseph Johns Hopkins University School of Medicine</i>	
15:00-16:30	ThD13.6
Estimation of Cardiac Output and Total Peripheral Resistance in Preterm Infants by Arterial Waveform Analysis	2308-2311
<i>Zhang, Ying University of New South Wales; Chan, Gregory S H The University of New South Wales; Tracy, Mark Westmead Hospital; Hinder, Murray Nepean Hospital; Savkin, Andrey University of New South Wales; Lovell, Nigel H. University of New South Wales</i>	

ThD14: 15:00-16:30	Event Hall-Area C (3F)
2.4.3 X-Ray Imaging III (Poster Session)	

15:00-16:30	ThD14.1
Robust Separation of Visceral and Subcutaneous Adipose Tissues in Micro-CT of Mice	2312-2315
<i>Shi, Bibo Ohio University; Xie, Shuisheng Ohio University; Liu, Jundong Ohio University; Berryman, Darlene Ohio University; List, Edward Owen Ohio University</i>	

15:00-16:30	ThD14.2
Virtual Colon Flattening Based on Colonic Outer Surface	2316-2319
<i>Lu, Lin Shanghai Jiao Tong Univ.; Chen, Kemin Shanghai Jiaotong; Zhao, Jun Shanghai Jiao Tong Univ.</i>	
15:00-16:30	ThD14.3
Fast Grating-Based X-Ray Phase-Contrast Tomosynthesis	2320-2323
<i>Xi, Yan Shanghai Jiao Tong University; Zhao, Jun Shanghai Jiao Tong University</i>	
15:00-16:30	ThD14.4
Attenuation Correction Effects on Spect/ct Procedures Using Phantoms	2324-2327
<i>Lisboa de Oliveira, Marília Universidade Estadual de Campinas-UNICAMP; Gibin Seren, Maria Emilia Universidade Estadual de Campinas; Rocha, Frantcheska Carolina UNICAMP; Quirino Brunetto, Sérgio Universidade Estadual de Campinas-UNICAMP; Dario Ramos, Celso Universidade Estadual de Campinas-UNICAMP; Button, Vera Lúcia da Silveira Nantes State University of Campinas</i>	
15:00-16:30	ThD14.5
A New Method for the Integration of Digital Dental Models and Cone-Beam Computed Tomography Images	2328-2331
<i>Lin, Hsiu-Hsia Craniofacial Research Center, Chang Gung Memorial Hospital, Taoy; Chiang, Wen-Chung department of Information Networking Technology, Hsiuping Univer; Lo, Lun-Jou Craniofacial Research Center, Chang Gung Memorial Hospital, Taoy; Wang, Chien-Hsuan Craniofacial Research Center, Chang Gung Memorial Hospital</i>	
15:00-16:30	ThD14.6
Effect of Aluminium Filtration on Dose and Image Quality in Paediatric Slot-Scanning Radiography	2332-2335
<i>Perks, Tim University of Cape Town; Trauernicht, Christoph University of Cape Town; Hartley, Tharbit University of Cape Town; Hobson, Charl University of Cape Town; Lawson, Andrew University of Cape Town; Scholtz, Paul University of Cape Town; Dendere, Ronald University of Cape Town; Steiner, Stef University of Cape Town; Douglas, Tania S University of Cape Town</i>	
15:00-16:30	ThD14.7
Multifractal Analysis of Microvasculature in Health and Disease	2336-2339
<i>Ward, Wil O C University of Nottingham; Bai, Li University of Nottingham</i>	
15:00-16:30	ThD14.8
Computed Microtomography and X-Ray Fluorescence Analysis for Comprehensive Analysis of Structural Changes in Bone	2340-2343
<i>Buzmakov, Alexey A.V. Shubnikov Institute of Crystallography, RAS; Chukalina, Marina Institute of Microelectronics Technology, RAS; Nikolaev, Dmitry Institute for Information Transmission Problems, RAS; Schaefer, Gerald Loughborough University; Gulimova, Victoria Research Institute of Human Morphology RAMS; Saveliev, Sergey Research Institute of Human Morphology RAMS; Tereschenko, Elena Shubnikov Institute of Crystallography RAS; Seregin, Alexey Shubnikov Institute of Crystallography RAS; Senin, Roman Kurchatov Center for Synchrotron Radiation and NanoTechnology; Prun, Victor Moscow Institute of Physics and Technology; Zolotov, Denis Shubnikov Institute of Crystallography RAS; Asadchikov, Victor Shubnikov Institute of Crystallography RAS</i>	
15:00-16:30	ThD14.9
Pleura Detection in Chest Computed Tomography with Application for Nodule Detection	2344-2347
<i>Chen, Shuo-Chueh China Medical University Hospital, China Medical University; Yang, Su-Tso Department of Radiology, China Medical University Hospital and S; Yu, Yang-Hao China Medical University Hospital; Chen, Chih-Yi Taiwan, China Medical University and Hospital; Shen, Wei-Chih Asia University</i>	
15:00-16:30	ThD14.10
The Feasibility Study on 3-Dimensional Fluorescent X-Ray Computed Tomography Using the Pinhole Effect for Biomedical Applications	2348-2351
<i>Sunaguchi, Naoki Gunma University; Yuasa, Tetsuya Yamagata Univ.; Hyodo, Kazuyuki Photon Factory, Institute of Materials Structure Science; Zeniya, Tsutomu National Cerebral and Cardiovascular Center Research Institute</i>	

15:00-16:30 ThD14.11
Threshold Choices of Huber Regularization Using Global and Local Edge-Detecting Operators for X-Ray Computed Tomographic Reconstruction 2352-2355
Zhang, Hua School of Biomedical Engineering, Southern Medical Univ.; Zhang, Shanli Southern Medical Univ.; Hu, Debin Southern Medical Univ.; Zeng, Dong School of Biomedical Engineering, Southern Medical Univ.; Bian, Zhaoying Southern Medical Univ.; Lu, Lijun Southern Medical Univ.; Ma, Jianhua School of Biomedical Engineering, Southern Medical Univ.; Huang, Jing Southern Medical Univ.

15:00-16:30 ThD14.12
Radiation Dose and Accuracy Analysis of Newly Developed Cone-Beam CT for Dental and Maxillofacial Imaging 2356-2359
Thongvigittanee, Saowapak National Electronics & Comp Tech Ctr; Pongnapang, Napapong Faculty of Medical Technology, Mahidol University; Aootaphao, Sorapong National Electronics and Computer Technology Center; Yampri, Pinyo National Electronics and Computer Technology Center; Wongsrisa, Tanapong National Electronics and Computer Technology Center; Sirisalee, Pasue National Metal and Materials Technology Center; Rajruangrabin, Jartuwat National Science and Technology Development Agency; Thajchayapong, Pairash National Science and Technology Development Agency

15:00-16:30 ThD14.13
Computer-Aided Liver Surgical Planning System Using CT Volumes 2360-2363
Chen, Yen-Wei Ritsumeikan University; Kaibori, Masaki Kansai Medical University; Miyawaki, Kousuke Ritsumeikan University; Shindo, Tsukasa Ritsumeikan University; Foruzan, Amir Hossein Shahed University; Tateyama, Tomoko Ritsumeikan university; Han, Xian-Hua Ritsumeikan University; Matsui, Kosuke Kansai Medical University; Tsuda, Takumi Kansai Medical University; Kwon, A-Hon Kansai Medical University

15:00-16:30 ThD14.14
A New Tool for Quantifying and Characterizing Asymmetry in Bilaterally Paired Structures 2364-2367
Rolfe, Sara University of Washington; Camci, Esra University of Washington; Mercan, Ezgi University of Washington; Shapiro, Linda G. University of Washington; Cox, Timothy University of Washington, Seattle Children's Research Institute

15:00-16:30 ThD14.15
Method for Location of Puncture Point Guided by Digital Mammography Image 2368-2371
Wu, Jian Tsinghua University; Gao, Peng Graduate School at Shenzhen, Tsinghua University; Li, Xiu-wang Anke High-tech Co. Ltd.; Huang, Yi-bin Shenzhen TCM Hospital

15:00-16:30 ThD14.16
Curvature Analysis of Femoral Shaft in Total Knee Arthroplasty Patient and Control Group 2372-2375
Lim, Ki Seon Chungbuk National Univ.; Oh, Wang Kyun Chungbuk National Univ.; Shin, Ji Yun Chungbuk National Univ.; Cho, Byung Ki Chungbuk National Univ. Hospital; Lee, Tae Soo Chungbuk National Univ.

15:00-16:30 ThD14.17
3D CT Spine Data Segmentation and Analysis of Vertebrae Bone Lesions 2376-2379
Peter, Roman Brno University of Technology; Malinsky, Milos Brno University of Technology; ourednicek, petr philips nederland; Jan, Jiri Brno University of Technology

ThD15: 15:00-16:30	Event Hall-Area A (3F)
9.3.4 Imaging and Spectroscopy (Poster Session)	

15:00-16:30 ThD15.1
A Quantitative Technique for Assessing the Change in Severity Over Time in Psoriatic Lesions Using Computer Aided Image Analysis 2380-2383
Juan, Lu The University of Melbourne; Kazmierczak, Ed The University of Melbourne; Manton, Jonathan The University of Melbourne; Sinclair, Rodney The University of Melbourne

15:00-16:30 ThD15.2
Unfolding X-Ray Spectra Using a Flat Panel Detector 2384-2387
Gallardo, Sergio Universidad Politecnica de Valencia; Juste, Belen Polytechnic University of Valencia; Pozuelo, Fausto Universitat Politècnica València; Rodenas Diago, Jose Polytechnic University of Valencia; Querol, Andrea Polytechnic University of Valencia; Verdú, Gumersindo Polytechnic University of Valencia

15:00-16:30		ThD15.3
Feasibility Study on the Potential of Using Polarization As a Means for Filtering to Increase the Dynamic Range of Optical Sensing on the Ear for the Analysis of Physiological Phenomena	2388-2391	
<i>Finley, Allison Duke University; Hayes, Shanna North Carolina State University; Splinter, Robert Valencell, Inc</i>		
15:00-16:30		ThD15.4
In Vivo Optical Investigation of Short Term Skin Water Contact and Moisturizer Application Using NIR Spectroscopy	2392-2395	
<i>Qassem, Meha City University London; Kyriacou, Panayiotis City University London</i>		
15:00-16:30		ThD15.5
Nonstructural Protein 1 Characteristic Peak from NS1-Saliva Mixture with Surface-Enhanced Raman Spectroscopy	2396-2399	
<i>Mohd Radzol, Afaf Rozan University Teknologi MARA; Lee, Khuan Y. University Teknologi MARA; Mansor, Wahidah University Teknologi MARA</i>		
15:00-16:30		ThD15.6
An Optically Coupled System for Quantitative Monitoring of MRI Gradient Currents Induced into Endocardial Leads	2400-2403	
<i>Mattei, Eugenio Italian National Institute of Health; Calcagnini, Giovanni Italian National Institute of Health; Triventi, Michele Italian National Institute of Health; Delogu, Antonello Italian National Institute of Health; Delguercio, Maurizio Italian National Institute of Health; Angeloni, Angelo Italian National Institute of Health; Bartolini, Pietro Italian National Institute of Health</i>		
15:00-16:30		ThD15.7
Finite Element Modeling of Scattered Electromagnetic Waves for Stroke Analysis	2404-2407	
<i>Natarajan, Priyadarshini VIT University; Elagiri Ramalingam, Rajkumar VIT University</i>		
15:00-16:30		ThD15.8
Comparison of Geometric Torsion in Scoliosis under Lenke Classification	2408-2411	
<i>Zhang, Junhua Yunnan University; Lv, Liang the First People's Hospital of Yunnan Province</i>		
15:00-16:30		ThD15.9
Near-Infrared Spectroscopy System for Determining Brain Hemoglobin Level	2412-2414	
<i>Wu, Pei-Jung National Chiao Tung Univ.; Chang, Ming-Hsien National Chiao Tung Univ.; Huang, Cheng-Yang National Chiao Tung Univ.; Wang, Yu-Cheng National Chiao Tung Univ.; Kuo, Jinn-Rung Chimei Medical Center; Lin, Bor-Shyh National Chiao Tung Univ.; Huang, Yan-Jun National Chiao Tung Univ.</i>		
15:00-16:30		ThD15.10
Optically-Induced Dielectrophoretic Technology for Cancer Cells Identification and Concentration	2415-2418	
<i>Chen, Hsiu-Hsiang Industrial Technology Research Institute; Lo, Hsin-Hsiang Industrial Technology Research Institute; Lin, Chun-Chuan Industrial Technology Research Institute; Weng, Kuo-Yao Industrial Technology Research Institute; Chen, Jyh-Chern Industrial Technology Research Institute</i>		

ThD16: 15:00-16:30	Event Hall-Area A (3F)
9.3.5 Monitoring (Poster Session)	

15:00-16:30		ThD16.1
Capturing and Analyzing Wheelchair Maneuvering Patterns with Mobile Cloud Computing	2419-2422	
<i>Fu, Jicheng Univ. of Central Oklahoma; Hao, Wei Northern Kentucky Univ.; White, Travis Univ. of Central Oklahoma; Yan, Yuqing Guangdong Univ. of Foreign Studies/Cisco School of Informat; Jones, Maria Univ. of Oklahoma Health Sciences Center; Jan, Yih-Kuen Univ. of Illinois at Urbana-Champaign</i>		
15:00-16:30		ThD16.2
A Novel Method to Monitor Urinary Bladder Internal Pressure: Feasibility Test	2423-2424	
<i>Kang, Gwan Suk Jeju National Univ.; Cho, Sung Chan KORUST Ltd; Choi, Min Joo Jeju National Univ.</i>		
15:00-16:30		ThD16.3
Noninvasive Monitoring of Blood Pressure Using Optical Ballistocardiography and Photoplethysmograph Approaches	2425-2428	
<i>Chen, Zhihao Institute for Infocomm Research; Yang, Xiufeng Institute for Infocomm Research; Teo, Ju Teng Institute for Infocomm Research; Ng, Soon Huat Institute for Infocomm Research</i>		

15:00-16:30		ThD16.4
Wireless Remote Patient Monitoring in Older Adults		2429-2432
<i>Baig, Mirza Mansoor Auckland Univ. of Technology; GholamHosseini, Hamid Auckland Univ. of Technology</i>		
15:00-16:30		ThD16.5
Measurement and Analysis of Vibrio Fischeri Cell-Based Microfluidic Device for Personal Health Monitoring		2433-2436
<i>Zhao, Xinyan Vestfold University College; Dong, Tao 1. Vestfold University College 2. Nanjing University of Science and</i>		
15:00-16:30		ThD16.6
Tidal Breathing Flow-Volume Curves with Impedance Pneumography During Expiratory Loading		2437-2440
<i>Seppä, Ville-Pekka Tampere University of Technology; Uitto, Marko Tampere University of Technology; Viik, Jari Tampere University of Technology</i>		
15:00-16:30		ThD16.7
Model-Based Measurement of Gas Exchange in Healthy Subjects Using ALPE Essential - Influence of Age, Posture and Gender		2441-2444
<i>Karbing, Dan Stieper Aalborg University; Thomsen, Lars Pilegaard Aalborg University; Larsen, Jacob Moesgaard Aalborg University Hospital; Andreassen, Steen Aalborg University; Toft, Egon Aalborg University, Faculty of Medicine; Thorgaard, Per Aalborg University Hospital; Rees, Stephen Aalborg University</i>		
15:00-16:30		ThD16.8
A New Device for the Care of Congenital Central Hypoventilation Syndrome Patients During Sleep		2445-2448
<i>Cavalleri, Matteo IRCCS E.MEDEA; Carcano, Alessandro AISICC, Italian Association for Congenital Central Hypoventilati; Morandi, Francesco Pediatric Unit, Sacra Famiglia Hospital, Erba (CO); Piazza, Caterina IRCCS Eugenio Medea Bosisio Parini (LC) and Polytechnic of Milan; Maggioni, Eleonora Scientific Institute IRCCS E.Medea; Reni, Gianluigi IRCCS</i>		

ThD19: 15:00-16:30	Event Hall-Area C (3F)
2.4.4 PET Imaging (Poster Session)	

15:00-16:30		ThD19.1
An Artificial Neural Network Corrected Blurring Matrix for PET Image Restoration		2449-2452
<i>Lee, Jhih-Shian National Yang-Ming University; Chen, Jyh-Cheng National Yang-Ming University</i>		
15:00-16:30		ThD19.2
Measurement of Radioactivity Concentration in Blood by Using Newly Developed ToT LuAG-APD Based Small Animal PET Tomograph		2453-2456
<i>Malik, Azhar Hussain The University of Tokyo; Shimazoe, Kenji School of Engineering, The University of Tokyo; Takahashi, Hiroyuki School of Engineering, The University of Tokyo</i>		
15:00-16:30		ThD19.3
Parametric Imaging Via Kinetics-Induced Filter for Dynamic Positron Emission Tomography		2457-2460
<i>Bian, Zhaoying Southern Medical University; Huang, Jing Southern Medical University; Lu, Lijun Southern Medical University; Ma, Jianhua School of Biomedical Engineering, Southern Medical University; Zeng, Dong School of Biomedical Engineering, Southern Medical University; Feng, Qianjin Southern Medical University; Chen, Wufan Southern Medical University</i>		
15:00-16:30		ThD19.4
A High-Resolution and One-Cycle Conversion Time-To-Digital Converter Architecture for PET Image Applications		2461-2464
<i>Sheng, Duo Fu Jen Catholic Univ.; Chung, Ching-Che National Chung Cheng Univ.; Huang, Chih-Chung Department of Electrical Engineering, Fu Jen Catholic Univ.; Jian, Jia-Wei Fu Jen Catholic Univ.</i>		
15:00-16:30		ThD19.5
A Study on the Artifacts Generated by Dental Materials in PET/CT Image		2465-2468
<i>Hoon-Hee, Park 377 Gwangmyeong-ro, Seongnam, Shingu College; Shin, Ji Yun Chungbuk Natl. Univ.; Juyoung, Lee Itaewon-dong Yongsan-gu, Seoul, Pilips Healthcare; Jin, Gye Hwan Nambu Univ.; Hyun Soo, Kim Gwangmyeong-ro, Seongnam, Shingu College; Kwnag-Yeul, Lyu Gwangmyeong-ro, Seongnam, Shingu College; Byung Sam, Kang Gwangmyeong-ro, Seongnam, Shingu College; Lee, Tae Soo Chungbuk Natl. Univ.</i>		

15:00-16:30 ThD19.6
Discussion on the Alteration of 18F-FDG Uptake by the Breast According to the Menstrual Cycle in PET Imaging 2469-2472
Hoon-Hee, Park 377 Gwangmyeong-ro, Seongnam, Shingu College; Shin, Ji Yun Chungbuk Natl. University; Juyoung, Lee Itaewon-dong Yongsan-gu, Seoul, Pilips Healthcare; Jin, Gye Hwan Nambu University; Hyun Soo, Kim Gwangmyeong-ro, Seongnam, Shingu College; Kwnag-Yeul, Lyu Gwangmyeong-ro, Seongnam, Shingu College; Lee, Tae Soo Chungbuk Natl. University

15:00-16:30 ThD19.7
Defining Gross Tumor Volume Using Positron Emission Tomography/Computed Tomography Phantom Studies 2473-2476
Jin, Gye Hwan Nambu University; Gyu Rack, Choi Nambu University; Hoon-Hee, Park 377 Gwangmyeong-ro, Seongnam, Shingu College; Lee, Tae Soo Chungbuk National University; Lee, Sang-Bock NamBu University

15:00-16:30 ThD19.8
Classification of Alzheimer's Disease from FDG-PET Images Using Favourite Class Ensembles 2477-2480
Cabral, Carlos Instituto Superior Técnico, Technical University of Lisbon; Silveira, Margarida Instituto Superior Técnico (NIF: 509830072)

15:00-16:30 ThD19.9
Cardiac PET Imaging of 18F-FDG Metabolism: Study of Healthy and Infarcted Hearts of Rats 2481-2484
Mabrouk, Rostom Univ. de Sherbrooke; Dubeau, François Univ. de Sherbrooke; Bentabet, Layachi Bishop's Univ.

ThD20: 15:00-16:30	Event Hall-Area C (3F)
8.4.1 Assistive and Cognitive Robotics in Aided Living (Poster Session)	

15:00-16:30 ThD20.1
Algorithm for Selecting Appropriate Transfer Support Equipment and a Robot Based on User Physical Ability 2485-2490
Matsushita, Shiho Waseda University; Fujie, Masakatsu G. Waseda University

15:00-16:30 ThD20.2
Development of an Assistive Patient Mobile System for Hospital Environments 2491-2494
Nguyen, Huy Hoang University of Technology Sydney; Nguyen, Tuan Nghia University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney

15:00-16:30 ThD20.3
Robot-Aided Motion Planning for Knee Joint Rehabilitation with Two Robot-Manipulators 2495-2498
Pei, Yanling Nagoya University; Obinata, Goro Nagoya University; Kim, Youngwoo Nagoya University; Genda, Eiichi Rosai Rehabilitation Engineering Center; Stefanov, Dimitar Coventry University

15:00-16:30 ThD20.4
Estimation of Wheelchair States During Movement Using WELL-SphERE for Evaluation of Power Wheelchair Safety 2499-2502
Komoto, Kengo Research Institute of National Rehabilitation Center for Person; Suzurikawa, Jun Research Institute of National Rehabilitation Center for Persons

15:00-16:30 ThD20.5
The Use of an Exoskeleton to Investigate the Self Advantage Phenomenon 2503-2506
Moreau, Richard INSA-Lyon; Moubarak, Salam INSA Lyon, Universite de Lyon; Pham, Minh Tu Institut National des Sciences Appliquées (INSA de Lyon); Frassinetti, Francesca Dept of Psychology, University of Bologna; Farne, Alessandro ImpAct Team, Neuroscience Research Centre of Lyon, U1028, INSERM

15:00-16:30 ThD20.6
The Rotational Axis Approach for Resolving the Kinematic Redundancy of the Human Arm in Reaching Movements 2507-2510
Li, Zhi University of California, Santa Cruz; Roldan, Jay Ryan University of California, Santa Cruz; Milutinovic, Dejan UC Santa Cruz; Rosen, Jacob University of California - Santa Cruz

ThD21: 15:00-16:30

Event Hall-Area C (3F)

11.1.1 Biomedical Engineering Education and Curricula (Poster Session)

- 15:00-16:30 ThD21.1
UltraPulse – Simulating a Human Arterial Pulse with Focussed Airborne Ultrasound 2511-2514
Hung, Gary Man Yeung Bangor University; John, Nigel William Bangor University; Hancock, Christopher Bangor University; Gould, Derek Royal Liverpool Hospital; Hosh, T Nagoya Institute of Technology
- 15:00-16:30 ThD21.2
A Pilot Biomedical Engineering Course in Rapid Prototyping for Mobile Health 2515-2518
Stokes, Todd Georgia Institute of Technology; Venugopalan, Janani Georgia Institute of Technology; Hubbard, Elena Georgia Institute of Technology; Wang, May D. Georgia Tech and Emory University
- 15:00-16:30 ThD21.3
Evaluation of FCS Self and Peer-Assessment Approach Based on Cooperative and Engineering Design Learning 2519-2522
Cvetkovic, Dean RMIT University
- 15:00-16:30 ThD21.4
Low Noise and High CMRR Front-End Amplifier Dedicated to Portable EEG Acquisition System 2523-2526
Chebli, Robert Ecole Polytechnique, Montreal University; Sawan, Mohamad Ecole Polytechnique
- 15:00-16:30 ThD21.5
Historical Development of Heat Stroke Prevention Devices in the Military 2527-2530
Countryman, Jordan D. Cedarville University; Dow, Douglas E Wentworth Institute of Technology

ThE01: 16:30-18:00

Conference Hall (12F)

1.1.4 Time-Frequency and Time-Scale Analysis of Biosignals II (Oral Session)

Chair: Garcia, Maria (*Univ. of Valladolid, CIF: Q4718001C*)

Co-Chair: Garde, Ainara (*Univ. Pol. de Catalunya*)

- 16:30-16:45 ThE01.1
Oxygen Saturation in Children with and without Obstructive Sleep Apnea Using the Phone-Oximeter ... 2531-2534
Garde, Ainara Universitat Politècnica de Catalunya; Karlen, Walter UBC; Kheirkhah Dehkordi, Parastoo Simon Fraser University; Wensley, David BC Children's Hospital; Ansermino, J. Mark British Columbia's Children's Hospital; Dumont, Guy University of British Columbia
- 16:45-17:00 ThE01.2
An Unsupervised Method for On-Chip Neural Spike Detection in Multi-Electrode Recording Systems 2535-2538
Dragas, Jelena ETH Zurich; Jäckel, David ETH Zürich; Franke, Felix Technische Universität Berlin; Hierlemann, Andreas ETH Zurich
- 17:00-17:15 ThE01.3
Existence of Millisecond-Order Stable States in Time-Varying Phase Synchronization Measure in EEG Signals 2539-2542
Jamal, Wasifa University of Southampton; Das, Saptarshi University of Southampton; Maharatna, Koushik University of Southampton
- 17:15-17:30 ThE01.4
Analysis of Intracranial Pressure Signals Recorded During Infusion Studies Using the Spectral Entropy 2543-2546
Garcia, Maria Univ. of Valladolid, CIF: Q4718001C; Poza, Jesus Univ. of Valladolid; Abasolo, Daniel Univ. of Surrey; Santamarta, David Hospital Universitario de León, León; Hornero, Roberto Univ. Of Valladolid
- 17:30-17:45 ThE01.5
Prediction of Nociceptive Responses During Sedation by Time-Frequency Representation 2547-2550
Melia, Umberto Sergio Pio Universitat Politècnica de Catalunya; Vallverdu, Montserrat Universitat Politècnica de Catalunya; Jospin, Mathieu Technical University of Catalonia (UPC); Jensen, Erik Weber Technical University of Catalonia; Valencia, José Dept. ESAll, Centre for Biomedical Engineering Research, Unvers; Claria, Francesc Lleida University; Gambus, Pedro L Hospital CLINIC, Universidad de Barcelona.; Caminal, Pere Technical University of Catalonia (UPC)

17:45-18:00 ThE01.6
Characterization of Noise Contaminations in Lung Sound Recordings 2551-2554
Emmanouilidou, Dimitra Department of Electrical and Computer Engineering, Johns Hopkins U; Elhilali, Mounya Johns Hopkins University

ThE02: 16:30-18:00 1202 (12F)
1.2.5 Signal Processing in Physiological Systems I (Oral Session)
Chair: Porta, Alberto (*Univ. degli Studi di Milano*)

16:30-16:45 ThE02.1
Automatic Heart Sounds Detection and Systolic Murmur Characterization Using Wavelet Transform and AR Modeling 2555-2558
Ning, Taikang Trinity College; Hsieh, Kai-Sheng Dep. of Pediatrics, Veterans General Hospital, Kaohsiung

16:45-17:00 ThE02.2
Effect of Premature Activation in Analyzing QT Dynamics Instability Using QT-RR Model for Ventricular Fibrillation and Healthy Subjects 2559-2562
Imam, Hasan Univ. of Melbourne; Karmakar, Chandan K. The Univ. of Melbourne; Khandoker, Ahsan Habib Khalifa Univ. of Science, Technology and Research; Palaniswami, Marimuthu The Univ. of Melbourne

17:00-17:15 ThE02.3
Improved ECG Pre-Processing for Beat-To-Beat QT Interval Variability Measurement 2563-2566
Hasan, Muhammad Asrafu The Univ. of Adelaide; Starc, Vito The Univ. of Ljubljana; Porta, Alberto Universita' degli Studi di Milano; Abbott, Derek The Univ. of Adelaide; Baumert, Mathias The Univ. of Adelaide

17:15-17:30 ThE02.4
Statistical Modeling of the Atrioventricular Node During Atrial Fibrillation: Data Length and Estimator Performance 2567-2570
Corino, Valentina Politecnico di Milano; Sandberg, Frida Lund University; Mainardi, Luca Politecnico di Milano; Sornmo, Leif Lund University

17:30-17:45 ThE02.5
Are Standard Heart Rate Variability Measures Associated with the Self-Perception of Stress of Firefighters in Action? 2571-2574
Gomes, Pedro Tiago Faculdade de Ciências da Universidade do Porto, Portugal; Kaiseler, Mariana Instituto de Telecomunicações / Universidade do Porto; Lopes, Bruno Instituto de Telecomunicações / Universidade do Porto; Faria, Sérgio Faculdade de Ciências da Universidade do Porto; Queirós, Cristina Laboratório de Reabilitação Psicossocial from FPCEUP/ESTSIPP; Coimbra, Miguel Instituto de Telecomunicações / Universidade do Porto

17:45-18:00 ThE02.6
Higher Order Spectral Analysis of Heart Rate Variability in Pregnancy and Postpartum 2575-2578
ST, Veerabhadrapa Indian Institute of Technology Delhi; Vyas, Anoop Lal Indian Institute of Technology Delhi; Anand, Sneha Indian Institute of Technology Delhi

ThE03: 16:30-18:00 1203 (12F)
1.3.2 Nonlinear Dynamics in Biomedical Signals I (Oral Session)
Chair: Valenza, Gaetano (*Univ. of Pisa*)

16:30-16:45 ThE03.1
A Nonlinear Heartbeat Dynamics Model Approach for Personalized Emotion Recognition 2579-2582
Valenza, Gaetano University of Pisa; Citi, Luca MGH / Harvard Medical School; Lanata', Antonio University of Pisa; Scilingo, Enzo Pasquale University of Pisa; Barbieri, Riccardo MGH-Harvard Medical School-MIT

16:45-17:00 ThE03.2
Retinal Ganglion Cells Electrophysiology: The Effect of Cell Morphology on Impulse Waveform 2583-2586
Maturana, Matias University of Melbourne; Wong, Raymond C. S. Australian National University; Cloherty, Shaun L. National Vision Research Institute; Ibbotson, Michael R Australian National University; Hadjinicolaou, Alex E. Australian College of Optometry; Burkitt, Anthony Neville The University of Melbourne; Meffin, Hamish National ICT Australia; Grayden, David B. The University of Melbourne; O'Brien, Brendan J. National Vision Research Institute; Kameneva, Tatiana The University of Melbourne; NICTA

17:00-17:15	ThE03.3
Monitoring of Peripheral Vascular Condition Using a Log-Linearized Arterial Viscoelastic Index During Endoscopic Thoracic Sympathectomy	2587-2590
<i>Hirano, Hiroki Hiroshima University; Horiuchi, Tetsuya Hiroshima University; Hirano, Harutoyo Hiroshima University; Kurita, Yuichi Hiroshima University; Ukawa, Teiji Nihon Kohden; Nakamura, Ryuji Hiroshima University; Saeki, Noboru Hiroshima University; Yoshizumi, Masao Hiroshima University; Kawamoto, Masashi Hiroshima University; Tsuji, Toshio Hiroshima University</i>	
17:15-17:30	ThE03.4
A Log-Linearized Arterial Viscoelastic Model for Evaluation of the Carotid Artery	2591-2594
<i>Hirano, Harutoyo Hiroshima University; Horiuchi, Tetsuya Hiroshima University; Kutluk, Abdugheni Xinjiang Medical University; Kurita, Yuichi Hiroshima University; Ukawa, Teiji Nihon Kohden; Nakamura, Ryuji Hiroshima University; Saeki, Noboru Hiroshima University; Higashi, Yukihito Hiroshima University; Kawamoto, Masashi Hiroshima University; Yoshizumi, Masao Hiroshima University; Tsuji, Toshio Hiroshima University</i>	
17:30-17:45	ThE03.5
Wavelet Packet Analysis of Disease-Altered Recurrence Dynamics in the Long-Term Spatiotemporal Vectorcardiogram (VCG) Signals	2595-2598
<i>Chen, Yun University of South Florida; Yang, Hui University of South Florida</i>	
17:45-18:00	ThE03.6
A Comparative Analysis of Alternative Approaches for Quantifying Nonlinear Dynamics in the Cardiovascular System	2599-2602
<i>Chen, Yun University of South Florida; Yang, Hui University of South Florida</i>	
<hr/>	
ThE04: 16:30-18:00	1001 (10F)
2.1.5 MR Imaging Methods I (Oral Session)	
Chair: Sugimoto, Naozo (<i>Kyoto Univ.</i>)	
Co-Chair: Liang, Dong (<i>Shenzhen Inst. of Advanced Tech.</i>)	
<hr/>	
16:30-16:45	ThE04.1
Prostate Cancer Localization by Novel Magnetic Resonance Dispersion Imaging	2603-2606
<i>Mischi, Massimo Eindhoven Univ. of Technology; Saidov, Tamerlan Eindhoven Univ. of Tech.; Kompatsiari, Kyveli Eindhoven Univ. of Tech.; Engelbrecht, Marc Academic Medical Center, Univ. of Amsterdam; Breeuwer, Marcel Philips Healthcare; Wijkstra, Hessel Academic Medical Center, Univ. of Amsterdam</i>	
16:45-17:00	ThE04.2
Bone Marrow Perfusion of Proximal Femur Varied with BMD—a Longitudinal Study by DCE-MRI	2607-2610
<i>Ma, Heather Ting Harbin Institute of Technology Shenzhen Graduate School; Griffith, James F The Chinese University of Hong Kong; Yuan, Jing The Chinese University of Hong Kong; Lv, Haiyan Harbin Institute of Technology Shenzhen Graduate School; Leung, Ping-chung the Chinese University of Hong Kong</i>	
17:00-17:15	ThE04.3
Registration of Abdominal Tumor DCE-MRI Data Based on Deconvolution of Joint Statistics	2611-2614
<i>Pilutti, David University Medical Center Freiburg; Büchert, Martin University Medical Center Freiburg; Hadjidemetriou, Stathis University Medical Center Freiburg</i>	
17:15-17:30	ThE04.4
Free Induction Decay MR Signal Measurements Toward Ultra-Low Field MRI with an Optically Pumped Atomic Magnetometer	2615-2618
<i>Oida, Takenori Graduate School of Engineering, Kyoto University; Kobayashi, Tetsuo Kyoto University</i>	
17:30-17:45	ThE04.5
Accelerating K-T Sparse Using K-Space Aliasing for Dynamic MRI Imaging	2619-2623
<i>Pawar, Kamlesh Monash Univ.; Zhang, Jingxin Swinburne Univ. of Technology; Egan, Gary Monash Univ.</i>	
17:45-18:00	ThE04.6
Under-Sampling Trajectory Design for Compressed Sensing Based DCE-MRI	2624-2627
<i>Liu, Duanduan The Chinese Univ. of Hong Kong; Liang, Dong Shenzhen Institutes of Advanced Technology; Zhang, Na Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Liu, Xin Shenzhen Institutes of Advanced Technology, Chinese Academy of Sc; Zhang, Yuan-Ting The Chinese Univ. of Hong Kong</i>	

ThE06: 16:30-18:00	1003 (10F)
2.3.3 Optical Imaging II (Oral Session)	
Chair: Tresadern, Phil (<i>Univ. of Manchester</i>)	
Co-Chair: Kato, Yuji (<i>Hokkaido Univ.</i>)	

16:30-16:45 ThE06.1
Comparison of Causality Analysis on Simultaneously Measured Fmri and NIRS Signals During Motor Tasks 2628-2631

Anwar, Abdul Rauf University of Kiel; Heute, Ulrich University of Kiel; Granert, Oliver University of Kiel; Galka, Andreas Christian-Albrechts-University of Kiel; Muthalib, Mark Queensland University of Technology; Perrey, Stéphane University of Montpellier 1; Wolff, Stephan University of Kiel; Muthuraman, Muthuraman Christian Albrechts University; Jan, Raethjen Department of Neurology; Gunther, Deuschl Department of Neurology

16:45-17:00 ThE06.2
Influences of Blood Flow Changes in Cerebrospinal Fluid and Skin Layers on Optical Mapping 2632-2635

WANG, SHUPING Electro-communication university; Hoshi, Yoko Tokyo Metropolitan Institute of Medical Science, Integrated Neur; Yamada, Yukio University of Electro-Communications

17:00-17:15 ThE06.3
Simulating Naifold Capillaroscopy Sequences to Evaluate Algorithms for Blood Flow Estimation 2636-2639

Tresadern, Phil University of Manchester; Berks, Michael University of Manchester; Murray, Andrea University of Manchester; Dinsdale, Graham University of Manchester; Taylor, Chris University of Manchester; Herrick, Ariane University of Manchester

17:15-17:30 ThE06.4
Global Optimization of Optimal Angiographic Viewing Angles for Coronary Arteries with Multiple Segments 2640-2643

Wang, Xuehu Beijing Institute of Technology; Yang, Jian Beijing Institute of Technology; Yang, Tao Beijing Institute of Technology; Wang, Yongtian Beijing Institute of Technology

17:30-17:45 ThE06.5
Application of Fluorescent PSF for 3D Reconstruction of Absorbing Structure Using Slab Transillumination Images 2644-2647

Tran, Trung Nghia Hokkaido University; Namita, Takeshi Hokkaido University; Kato, Yuji Hokkaido University; Shimizu, Koichi Hokkaido University

17:45-18:00 ThE06.6
Depth Estimation and Image Improvement of Fluorescent Objects in Scattering Medium with Unknown Optical Parameters 2648-2651

Xia, Jiao Hokkaido University; Namita, Takeshi Hokkaido University; Kato, Yuji Hokkaido University; Shimizu, Koichi Hokkaido University

ThE07: 16:30-18:00	1004 (10F)
3.1.4 Optical and Photonic Sensors I (Oral Session)	
Chair: Kyriacou, Panayiotis (<i>City Univ. London</i>)	
Co-Chair: Shimizu, Koichi (<i>Hokkaido Univ.</i>)	

16:30-16:45 ThE07.1
Theory of Dynamic Pulsatile Spectroscopy for Photoplethysmographic Signals Analysis 2652-2655

Rybynok, Victor City University, London; Kyriacou, Panayiotis City University London

16:45-17:00 ThE07.2
Pilot Investigation of Anterior Fontanelle Photoplethysmographic Signals and Their Suitability in Estimating Arterial Oxygen Saturation 2656-2659

May, James City University London; Kyriacou, Panayiotis City University London

17:00-17:15 ThE07.3
A New Method for Respiratory-Volume Monitoring Based on Long-Period Fibre Gratings 2660-2663
Petrovic, Marija Vinca Institute of Nuclear Sciences; Petrovic, Jovana Vinca Institute of Nuclear Sciences; Simic, Goran NewCardio, Inc; Ilic, Igor Vinca Institute of Nuclear Science; Danicic, Aleksandar Vinca Institute of Nuclear Sciences; Vukcevic, Miodrag Bezanijska Kosa Hospital; Bojovic, Bosko NewCardio, Inc; Ljupco, Hadzievski NewCardio, Inc; Allsop, Thomas Aston Institute of Photonic Technologies; Webb, David Aston Institute of Photonic Technologies

17:15-17:30 ThE07.4
Pulse Oximetry of Body Cavities and Organs 2664-2667
Kyriacou, Panayiotis City Univ. London; Hickey, Michelle City Univ.; Phillips, Justin City Univ. London

17:30-17:45 ThE07.5
Towards On-Chip Integration of Brain Imaging Photodetectors Using Standard CMOS Process 2668-2671
Kamrani, Ehsan Polytechnique Montreal; Lesage, Frederic Polytechnique Montreal; Sawan, Mohamad Ecole Polytechnique

17:45-18:00 ThE07.6
Camera-based System for Contactless Monitoring of Respiration 2672-2675
Bartula, Marek Philips Research; Tigges, Timo RWTH Aachen University; Muehlsteff, Jens Philips

ThE08: 16:30-18:00 1005 (10F)
4.6.2 Algorithms and Computational Tools for Proteomics (Oral Session)
Chair: Fotiadis, Dimitrios I. (*Univ. of Ioannina*)
Co-Chair: Zervakis, Michalis (*Tech. Univ. of Crete, Greece*)

16:30-16:45 ThE08.1
A Meshless Local Boundary Integral Equation (LBIE) Method for Cell Proliferation Predictions in Bone Healing 2676-2679
Grivas, Konstantinos Department of Mechanical Engineering and Aeronautics, University; Vavva, Maria University of Ioannina; Sellountos, Euripides Instituto Superior Tecnico CEMAT, Lisbon, Portugal; Polyzos, Demosthenes University of Patras; Fotiadis, Dimitrios I. University of Ioannina

16:45-17:00 ThE08.2
Identification of Signaling Pathways Related to Drug Efficacy in HCC Via Integration of Phosphoproteomic, Genomic and Clinical Data 2680-2683
Melas, Ioannis National Technical University of Athens; Lauffenburger, Douglas Massachusetts Institute of Technology; Alexopoulos, Leonidas National Technical University of Athens

17:00-17:15 ThE08.3
GPU Technology As a Platform for Accelerating Local Complexity Analysis of Protein Sequences 2684-2687
Papadopoulos, Agathoklis University of Cyprus; Kirmitzoglou, Ioannis University of Cyprus; Promponas, Vasilis J. University of Cyprus; Theocharides, Theocharis University of Cyprus

17:15-17:30 ThE08.4
A Comparison of Multi-Label Techniques Based on Problem Transformation for Protein Functional Prediction 2688-2691
Giraldo Forero, Andres Felipe Universidad Nacional de Colombia; Jaramillo Garzón, Jorge Alberto Instituto Tecnológico Metropolitano; Castellanos-Dominguez, Germán Universidad Nacional de Colombia

17:30-17:45 ThE08.5
Fast and Robust Extraction of Reliable Protein Signal Profiles from Mass Spectrometry Data by Introducing the Concept of Single Channel ICA with Statistical Offset Correction 2692-2695
Neehar, Mavuduru Indian Inst. of Tech., Hyderabad; Acharyya, Amit Indian Inst. of Tech. Hyderabad

17:45-18:00 ThE08.6
An Optimized and Low-Cost FPGA-Based DNA Sequence Alignment – a Step towards Personal Genomics 2696-2699
shah, Hurmat Ali University of Engineering and Technology, Peshawar; Hasan, Laiq UET Peshawar; Ahmad, Nasir University of Engineering and Technology, Peshawar

ThE09: 16:30-18:00 1006 (10F)
4.5.3 Quantitative Biology (Invited Session)
Chair: Funahashi, Akira (*Keio Univ.*)

16:30-16:45 ThE09.1
Differential Network Biology Reveals a Positive Correlation between a Novel Protein-Protein Interaction and Cancer Cells Migration 2700-2703
Liu, Chia-Hung National Taiwan Univ.; Chen, Tzu-Chi National Yang-Ming Univ.; Chen, Chun-Houh Academia Sinica; Kao, Cheng-Yan National Taiwan Univ.; Huang, Chi-Ying F. National Yang-Ming Univ.

16:45-17:00 ThE09.2
Information Decoding in Microscopic Biological Processes 2704-2707
Kobayashi, Tetsuya J. The University of Tokyo

17:00-17:15 ThE09.3
The Dynamics of Cellular Energetics During Continuous Yeast Culture 2708-2711
Amariei, Cornelia Institute for Advanced Biosciences, Keio University; Machné, Rainer Institute for Theoretical Biochemistry, Vienna University; Sasidharan, Karesh Biosciences, Exeter University; Gottstein, Willi Institute for Theoretical Biology, Humboldt University; Tomita, Masaru Institute for Advanced Biosciences, Keio University; Soga, Tomoyoshi Institute for Advanced Biosciences, Keio University; Lloyd, David Institute for Theoretical Biochemistry, Vienna University; Murray, Douglas B Keio University

17:15-17:30 ThE09.4
Robustness of Force and Stress Inference in an Epithelial Tissue 2712-2715
Sugimura, Kaoru Kyoto University; Bellaiche, Yohanns Institut CURIE Paris; Graner, François University Paris VII; Marcq, Philippe Institut Curie; Ishihara, Shuji The University of Tokyo

17:30-17:45 ThE09.5
In Vivo Oriented Modeling with Consideration of Intracellular Crowding 2716-2719
Hiroi, Noriko Keio Univ.; Iba, Keisuke Keio Univ., Department of Biosciences and Informatics; Tabira, Akito Keio Univ., Department of Biosciences and Informatics; Okuhara, Takahiro Keio Univ., Department of Biosciences and Informatics; Kubojima, Takeshi Keio Univ., Department of Biosciences and Informatics; Hiraiwa, Takumi Keio Univ., Department of Biosciences and Informatics; Kobayashi, Tetsuya J. The Univ. of Tokyo; Oka, Kotaro Keio Univ., Department of Biosciences and Informatics; Funahashi, Akira Keio Univ

ThE10: 16:30-18:00 1007 (10F)
5.1.3 Mechanical Cardiac Support I (Oral Session)
Chair: Abe, Yusuke (*The Univ. of Tokyo*)
Co-Chair: Yamane, Takashi (*Kobe Univ.*)

16:30-16:45 ThE10.1
The Helical Flow Total Artificial Heart: Implantation in Goats 2720-2723
Abe, Yusuke The Univ. of Tokyo; Ishii, Kohei The Univ. of Tokyo; Isoyama, Takashi The Univ. of Tokyo; Saito, Itsuro The Univ. of Tokyo; Inoue, Yusuke The Univ. of Tokyo; Sato, Masami The Univ. of Tokyo; hara, shintaro Graduate School of Medicine The Univ. of Tokyo; Hosoda, Kyohei Kitasato Univ.; ariyoshi, koki kitasato; Wu, Sheng Yuan The Univ. of Tokyo; Li, XinYang The Univ. of Tokyo; Nakagawa, Hidemoto The Univ. of Tokyo; Ono, Toshiya The Univ. of Tokyo; Fukazawa, Kyoko The Univ. of Tokyo; Ishihara, Kazuhiko The Univ. of Tokyo; Imachi, Kou The Univ. of Tokyo

16:45-17:00 ThE10.2
Pulsatile Driving of the Helical Flow Pump 2724-2727
Ishii, Kohei The Univ. of Tokyo; Hosoda, Kyohei Kitasato Univ.; Isoyama, Takashi The Univ. of Tokyo; Saito, Itsuro The Univ. of Tokyo; ariyoshi, koki kitasato; Inoue, Yusuke The Univ. of Tokyo; Sato, Masami The Univ. of Tokyo; hara, shintaro Graduate School of Medicine The Univ. of Tokyo; Li, XinYang The Univ. of Tokyo; Wu, Sheng Yuan The Univ. of Tokyo; Ono, Toshiya The Univ. of Tokyo; Nakagawa, Hidemoto The Univ. of Tokyo; Imachi, Kou The Univ. of Tokyo; Abe, Yusuke The Univ. of Tokyo

17:00-17:15 ThE10.3
Development of a Portable Bridge-To-Decision Blood Pump 2728-2731
Yamane, Takashi Kobe University; Kitamura, Keisuke Kobe University

17:15-17:30		ThE10.4
Fluid Dynamic Design for Low Hemolysis in a Hydrodynamically Levitated Centrifugal Blood Pump	2732-2735	
<i>Murashige, Tomotaka Tokyo University of Science; Kosaka, Ryo AIST; Nishida, Masahiro National Institute of Advanced Industrial Science and Technology; Maruyama, Osamu National Institute of Advanced Industrial Science and Technology; Yamane, Takashi Kobe University; kuwana, katsuyuki Senko Medical Instrument Mfg.Co., Ltd.; Kawaguchi, Yasuo Tokyo University of Science</i>		
17:30-17:45		ThE10.5
Effect of Impeller Flow Path on Pump Performance and Impeller Stability of the Monopivot Circulatory Pump	2736-2739	
<i>Nishida, Masahiro National Institute of Advanced Industrial Science and Technology; Nakayama, Kento Tokyo University of Science; Kosaka, Ryo AIST; Maruyama, Osamu National Institute of Advanced Industrial Science and Technology; Kawaguchi, Yasuo Tokyo University of Science; kuwana, katsuyuki Senko Medical Instrument Mfg.Co., Ltd.; Yamane, Takashi Kobe University</i>		
17:45-18:00		ThE10.6
Controlling Methods of a Newly Developed Extra Aortic Counter-Pulsation Device Using Shape Memory Alloy Fibers	2740-2743	
<i>Hashem, Mohamed Tohoku university, Graduate school of medicine</i>		
ThE11: 16:30-18:00		1008 (10F)
6.1.3 Neural Engineering: Implantable Systems (Oral Session)		
Chair: Suzuki, Takafumi (<i>National Inst. of Information and Communications Technology</i>)		
16:30-16:45		ThE11.1
A New Architecture for Neural Signal Amplification in Implantable Brain Machine Interfaces	2744-2747	
<i>Rehman, Sami National University of Sciences and Technology; Kamboh, Awais Mehmood School of Electrical Engineering and Computer Science, National</i>		
16:45-17:00		ThE11.2
Development of a Very Large Array for Retinal Stimulation	2748-2751	
<i>Waschkowski, Florian RWTH Aachen; Brockmann, Claudia University Clinics Uni Duisburg-Essen; Laube, Thomas University Clinics Uni Duisburg-Essen; Mokwa, Wilfried RWTH Aachen University; Rössler, Gernot University Clinics RWTH Aachen University; Walter, Peter University Clinics Rwth Aachen University</i>		
17:00-17:15		ThE11.3
A Multi-Electrode Array Coupled with Fiberoptic for Deep-Brain Optical Neuromodulation and Electrical Recording	2752-2755	
<i>Guo, Songchao Qiushi Academy for Advanced Studies, Zhejiang University, Hangzhou; Zhou, Hong Qiushi Academy for Advanced Studies, Zhejiang University, Hangzhou; Zhang, Jiacheng Qiushi Academy for Advanced Studies, Zhejiang University, Hangzhou; Xu, Kedi Qiushi Academy for Advanced Studies, Zhejiang University, Hangzhou; Zheng, Xiaoxiang Zhejiang University</i>		
17:15-17:30		ThE11.4
WIMAGINE®: 64-Channel ECoG Recording Implant for Human Applications	2756-2759	
<i>Charvet, Guillaume CEA/LETI, MINATEC campus; Sauter-Starace, Fabien CEA; foerster, Michael CEA/LETI, MINATEC Campus; Ratel, David CEA/LETI, Minatec Campus; Chabrol, Claude CEA/LETI, Minatec Campus; porcherot, jean CEA/LETI, MINATEC Campus; Robinet, Stéphanie CEA/LETI, MINATEC Campus; Reverdy, Jacques CEA-LETI, Minatec Campus; D'Errico, Raffaele CEA-LETI, Minatec Campus; MESTAIS, Corinne CEA-LETI MINATEC; Benabid, Alim-Louis CEA / Clinattec</i>		
17:30-17:45		ThE11.5
Current Steering for High Resolution Retinal Implants	2760-2763	
<i>Opie, Nicholas The University of Melbourne; Lovell, Nigel H. University of New South Wales; Suaning, Gregg The University of New South Wales; Dokos, Socrates University of New South Wales</i>		
17:45-18:00		ThE11.6
A 13uW 87dB Dynamic Range Implantable Delta-Sigma Modulator for Full-Spectrum Neural Recording	2764-2767	
<i>Xu, Jian National University of Singapore; Islam, Md Kafiul National University of Singapore; Yang, Zhi National University of Singapore</i>		

ThE12: 16:30-18:00 1009 (10F)
6.2.3 Brain-computer Interface I (Oral Session)
Chair: Kanoh, Shin'ichiro (*Tohoku Inst. of Tech.*)

16:30-16:45 ThE12.1
Likelihood Gradient Ascent (LGA): A Closed-Loop Decoder Adaptation Algorithm for Brain-Machine Interfaces 2768-2771
Dangi, Siddharth University of California, Berkeley; Gowda, Suraj University of California, Berkeley; Carmena, Jose M. University of California, Berkeley

16:45-17:00 ThE12.2
Mechanical Vibrotactile Stimulation Effect in Motor Imagery Based Brain-Computer Interface 2772-2775
Yao, Lin Shanghai Jiao Tong Univ.; Sheng, Xinjun Shanghai Jiao Tong Univ.; Meng, Jianjun Shanghai Jiao Tong Univ.; Zhang, Dingguo Shanghai Jiao Tong Univ.; Zhu, XiangYang Shanghai Jiao Tong Univ.

17:00-17:15 ThE12.3
Hierarchical Codebook Visually Evoked Potentials for Fast and Flexible BCIs 2776-2779
Riechmann, Hannes Bielefeld University; Finke, Andrea Bielefeld University, Bielefeld, Germany; Ritter, Helge CITEC, CoR-Lab, Bielefeld University, Bielefeld, Germany

17:15-17:30 ThE12.4
Optimizing Low-Frequency Common Spatial Pattern Features for Multi-Class Classification of Hand Movement Directions 2780-2783
Ng, Andrew Keong Inst. for Infocomm Research (I2R), Agency for Science, Technol; Ang, Kai Keng Inst. for Infocomm Research; Tee, Keng Peng Inst. for Infocomm Research; Guan, Cuntai Inst. for Infocomm Research

17:30-17:45 ThE12.5
Phase Synchrony in Subject-Specific Reactive Band of EEG for Classification of Motor Imagery Tasks . 2784-2787
Gonuguntla, Venkateswarlu Kyungpook National University; Wang, Yubo Kyungpook National University; Veluvolu, Kalyana C. Kyungpook National University

17:45-18:00 ThE12.6
Semantic-Based Sound Retrieval by ERP in Rapid Serial Auditory Presentation Paradigm 2788-2791
Jiang, Lei Zhejiang University; Cai, Bangyu Zhejiang University; Xiao, Siyuan Zhejiang University; Wang, YiWen Zhejiang University; Chen, Weidong zhejiang university; Zheng, Xiaoxiang Zhejiang University

ThE13: 16:30-18:00 1010 (10F)
6.4.1 Neural Engineering in Speech and Hearing (Invited Session)
Chair: Stepp, Cara (*Boston Univ.*)

16:30-16:45 ThE13.1
Bayesian Inference in Auditory Scenes 2792-2795
Elhilali, Mounya Johns Hopkins University

16:45-17:00 ThE13.2
Multipolar current focusing increases spectral resolution in cochlear implants 2796-2799
Smith, Zachary M. Cochlear Limited; Parkinson, Wendy Sue Research & Technology Labs, Cochlear Limited; Long, Christopher Joseph Research & Technology Labs, Cochlear Limited

17:00-17:15 ThE13.3
The Effects of Attention and Visual Inputs on the Representation of Natural Speech in EEG 2800-2803
O'Sullivan, James Trinity College Dublin; Crosse, Michael Trinity College Dublin; Power, Alan Trinity Centre for Bioengineering; Lalor, Edmund Trinity College Dublin

17:15-17:30 ThE13.4
The Role of Augmentative Visual Training in Auditory Human-Machine-Interface Performance 2804-2807
Hands, Gabrielle L. Boston University; Larson, Eric University of Washington; Stepp, Cara Boston University

17:30-17:45 ThE13.5
Towards a Next-Generation Hearing Aid through Brain State Classification and Modeling 2808-2811
Wronkiewicz, Mark University of Washington; Larson, Eric University of Washington; Lee, Adrian KC University of Washington, Institute for Learning & Brain Sciences

17:45-18:00 ThE13.6
Improving Hearing Aid Fitting Using the Speech-evoked Auditory Brainstem Response 2812-2815
Dajani, Hilmi Univ. of Ottawa; Heffernan, Brian Patrick Univ. of Ottawa; Giguere, Christian Univ. of Ottawa

ThE14: 16:30-18:00 804 (8F)
7.2.1 Electrical Fields in Tissue Engineering (Invited Session)
Chair: Fukuda, Junji (*Yokohama National Univ.*)
Co-Chair: Park, Hyun Sung (*Johns Hopkins Univ.*)

16:30-16:45 ThE14.1
Insect-Machine Hybrid System 2816-2819
Sato, Hirota Nanyang Technological University

16:45-17:00 ThE14.2
Nanophotonic and Electrochemical Biosensor Devices for Medical Diagnosis and Cellular Analyses *
Tamiya, Eiichi osaka university

17:00-17:15 ThE14.3
Hydrogel-Based Contractile Electrodes for Stimulation of Cells and Tissues 2821-2824
Nishizawa, Matsuhiko Tohoku University

17:15-17:30 ThE14.4
On-Chip Cellomics: Single-Cell-Based Constructive Cell-Network Assay for Quasi-In Vivo Screening of Cardiotoxicity 2825-2828
Yasuda, Kenji Institute of Biomaterials and Bioengineering, Tokyo Medical and

17:30-17:45 ThE14.5
Electroporation and Electrofusion in Field-Tailored Microstructures 2829-2832
Washizu, Masao The University of Tokyo

17:45-18:00 ThE14.6
Neuromuscular Junction in a Microfluidic Device 2833-2835
Park, Hyun Sung Johns Hopkins Univ.; Liu, Su Kennedy Krieger Institute; John, McDonald Johns Hopkins Univ., Kennedy Krieger Institute; Thakor, Nitish Johns Hopkins Univ.; Yang, In Hong Johns Hopkins Univ

ThE15: 16:30-18:00 1102 (11F)
8.1.2 Intelligent Orthosis and Wearable Robots for Healthcare II (Invited Session)
Chair: Koyanagi, Ken'ichi (*Toyama Prefectural Univ.*)
Co-Chair: Ohnishi, Kengo (*Tokyo Denki Univ.*)

16:30-16:45 ThE15.1
Postural Stabilization by Trunk Tightening Force Generated by Passive Power-Assist Device 2836-2839
Imamura, Yumeko Hokkaido University; Tanaka, Takayuki Hokkaido University; Nara, Hiroyuki Hokkaido University; Suzuki, Yoshihito University; Takizawa, Kazuki Hokkaido University; Yamanaka, Masanori University

16:45-17:00 ThE15.2
Development on Smart Suit for Dairy Work Assistance 2840-2843
Nara, Hiroyuki Hokkaido University; kusaka, takashi Hokkaido University; Tanaka, Takayuki Hokkaido University; yamagishi, takayuki Mitsubishi Electric Engineering Company Limited; Ogura, Shohtaroh Mitsubishi Electric Engineering Company Limited

17:00-17:15 ThE15.3
Improvement and Quantitative Performance Estimation of the Back Support Muscle Suit 2844-2849
Muramatsu, Yoshiki Tokyo University of Science; Umehara, Hideyuki Tokyo University of Science; Kobayashi, Hiroshi Tokyo University of Science

17:15-17:30 ThE15.4
Powered Orthosis and Attachable Power-Assist Device with Hydraulic Bilateral Servo System 2850-2853
Ohnishi, Kengo Tokyo Denki University; Saito, Yukio Shibaura Institute of Technology; Oshima, Toru Toyama Prefectural University; Higashihara, Takanori Takamatsu Prosthetic & Orthotic MFG. Ltd.

17:30-17:45 ThE15.5
Novel Compliant Actuator for Wearable Robotics Applications 2854-2857
Claros, Mario Tecnologico de Monterrey; Soto, Rogelio Tecnologico de Monterrey; Rodriguez, Jose de Jesus Tecnologico de Monterrey; Cantú, César Tecnológico de Monterrey; Contreras-Vidal, José University of Houston

ThE17: 16:30-18:00 801+802 (8F)
10.2.3 Personal Health Technologies (Oral Session)
Chair: Eskofier, Bjoern M (*Univ. of Erlangen-Nuremberg*)
Co-Chair: Wang, Lei (*Shenzhen Inst. of Advanced Tech.*)

16:30-16:45 ThE17.1
Daily Life Event Segmentation for Lifestyle Evaluation Based on Multi-Sensor Data Recorded by a Wearable Device 2858-2861
Li, Zhen Ocean University of China; Wei, Zhiqiang Ocean University of China; Jia, Wenyan University of Pittsburgh; Sun, Mingui University of Pittsburgh

16:45-17:00 ThE17.2
Accurate and Continuous Non-Contact Vital Signs Monitoring Using Phased Array Antennas in a Clutter-Free Anechoic Chamber 2862-2865
Lie, Donald Yu-Chun Texas Tech University

17:00-17:15 ThE17.3
Comparing Metabolic Energy Expenditure Estimation Using Wearable Multi-Sensor Network and Single Accelerometer 2866-2869
Dong, Bo Michigan State Univ.; Biswas, Subir, Kumar Michigan State Univ.; Montoye, Alexander Department of Kinesiology Michigan State Univ.; Pfeiffer, Karin Department of Kinesiology Michigan State Univ.

17:15-17:30 ThE17.4
The Effect of Emotion on Keystroke: An Experimental Study Using Facial Feedback Hypothesis 2870-2873
Tsui, Wei-Hsuan National Chiao Tung University; Lee, Po Ming National Chiao Tung University; Hsiao, Tzu-Chien National Chiao Tung University

17:30-17:45 ThE17.5
Ultra-Low-Cost Clinical Pulse Oximetry 2874-2877
Petersen, Christian British Columbia Children's Hospital; Gan, Heng University of British Columbia; MacInnis, Martin University of British Columbia; Dumont, Guy University of British Columbia; Ansermino, J. Mark British Columbia's Children's Hospital

17:45-18:00 ThE17.6
Exercise Amount Calculation Using a Wearable Half-Cell Potential Sensor for Aerobic Exercise Management 2878-2881
Choi, Changmok Samsung Advanced Inst. of Technology; Ko, Byung-Hoon Samsung Advanced Inst. of Technology; Lee, Tak Hyung Future IT Research Center, Samsung Advanced Inst. of Technol; Park, Gunguk Future IT Research Center, Samsung Advanced Inst. of Technol; Shin, Kunsoo Future IT Research center

FrA01: 08:00-09:30 Conference Hall (12F)
1.1.5 Time-Frequency and Time-Scale Analysis of Biosignals III (Oral Session)
Chair: Stamoulis, Catherine (*Harvard Medical School*)

08:00-08:15 FrA01.1
Single-Trial Detection of Visual Evoked Potentials by Common Spatial Patterns and Wavelet Filtering for Brain-Computer Interface 2882-2885
Tu, Yiheng The Univ. of Hong Kong; Huang, Gan The Univ. of Hong Kong; Hung, Y.S. The Univ. of Hong Kong; Hu, Li The Univ. of Hong Kong; Hu, Yong The Univ. of Hong Kong; Zhang, Zhiguo The Univ. of Hong Kong

08:15-08:30 FrA01.2
Uniform Approximation of the Gaussian Wavelet for Implementation in Analog Domain 2886-2889
Makkena, Goutham Birla Institute of Technology and Science - Pilani, Hyderabad Ca; BVVSN, Prabhakara Rao Birla Institute of Technology and Science - Pilani, Hyderabad Ca; M.B, Srinivas Birla Institute of Technology and Science - Pilani, Hyderabad Ca

08:30-08:45 FrA01.3
Wavelet Packet Analysis of EEG Signals from Dyslexic Children with Writing Disability 2890-2893
Al-Fuat, Norazah University Teknologi Mara; Mansor, Wahidah University Teknologi MARA; Lee, Khuan Y. University Teknologi MARA

08:45-09:00 FrA01.4
Estimation of Temporal Scales of Variation in Long-Term Scalp Electroencephalograms from Epilepsy Patients 2894-2897
Stamoulis, Catherine Harvard Medical School; Chang, Bernard Harvard Medical School/Beth Israel Deaconess Medical Center

09:00-09:15 FrA01.5
Scattering Transform for Intrapartum Fetal Heart Rate Characterization and Acidosis Detection 2898-2901
Chudacek, Vaclav Czech Technical University in Prague; Andén, Joakim Centre de Mathématiques Appliquées, École Polytechnique, Paris; Mallat, Stephane Centre de Mathématiques Appliquées, École Polytechnique, Paris; Abry, Patrice ENS Lyon, CNRS; Doret, Muriel Hospices Civils de Lyon Université Lyon I

FrA02: 08:00-09:30 1202 (12F)
1.2.6 Signal Processing in Physiological Systems II (Oral Session)
Chair: Yadollahi, Azadeh (*Univ. of Toronto*)

08:00-08:15 FrA02.1
Probabilistic Estimation of Respiratory Rate Using Gaussian Processes 2902-2905
Clifton, David University of Oxford; Clifton, Lei University of Oxford; Pimentel, Marco A.F. University of Oxford; Tarassenko, Lionel University of Oxford

08:15-08:30 FrA02.2
Robust Spectral Analysis of Thoraco-Abdominal Motion and Oxymetry in Obstructive Sleep Apnea 2906-2910
Nino, Cesar L. Xaverian University; Rodriguez-Martinez, Carlos E. Department of Pediatrics, School of Medicine, Universidad Nacion; Gutierrez, Maria Jimena Pennsylvania State University - Hershey Medical Center; Singareddy, Ravi Penn State University College of Medicine; Nino, Gustavo Children's National Medical Center/George Washington University

08:30-08:45 FrA02.3
Driver-Response Relationships between Frontal EEG and Respiration During Affective Audiovisual Stimuli 2911-2914
Kroupi, Eleni EPFL; Vesin, Jean-Marc EPFL; Ebrahimi, Touradj EPFL

08:45-09:00 FrA02.4
Vectorcardiographic Loop Alignment for Fetal Movement Detection Using the Expectation-Maximization Algorithm and Support Vector Machines 2915-2918
Vullings, Rik Eindhoven University of Technology; Mischi, Massimo Eindhoven University of Technology

09:00-09:15 FrA02.5
Estimation of Glance from EEG for Cursor Control 2919-2923
Tan, Tele Curtin University; Hakenberg, Jan Philipp Curtin University;
Guan, Cuntai Institute for Infocomm Research

09:15-09:30 FrA02.6
Variations in Respiratory Sounds in Relation to Fluid Accumulation in the Upper Airways 2924-2927
Yadollahi, Azadeh University of Toronto; Rudzicz, Frank Toronto Rehabilitation Institute; University of Toronto;
Montazeripouragha, Amanallah University of Manitoba; Bradley, T. Douglas University of Toronto

FrA03: 08:00-09:30 1203 (12F)
1.5.1 Connectivity Analysis (Oral Session)
Chair: Astolfi, Laura (*Univ. of Rome Sapienza*)
Co-Chair: Principe, Jose (*Univ. of Florida*)

08:00-08:15 FrA03.1
Identification of Recurring Wavefront Propagation Patterns in Atrial Fibrillation Using Basis Pursuit 2928-2931
Zeemering, Stef Maastricht University; Peeters, Ralf Maastricht University; van Hunnik, Arne Maastricht
University; Verheule, Sander Maastricht University; Schotten, Ulrich Maastricht University

08:15-08:30 FrA03.2
A New Statistical Approach for the Extraction of Adjacency Matrix from Effective Connectivity Networks 2932-2935
Toppi, Jlenia University of Rome "Sapienza"; De Vico Fallani, Fabrizio Universita' Sapienza; Petti, Manuela
Neuroelectrical Imaging and BCI Lab IRCCS Fondazione Santa Lucia; Vecchiato, Giovanni University of Rome
Sapienza; Maglione, Anton Giulio University of Rome Sapienza; Cincotti, Febo Fondazione Santa Lucia IRCCS;
Salinari, Serenella La Sapienza University of Rome; Mattia, Donatella Fondazione Santa Lucia IRCCS;
Babiloni, Fabio University of Rome; Astolfi, Laura University of Rome Sapienza

08:30-08:45 FrA03.3
Advanced Methods for Time-Varying Effective Connectivity Estimation in Memory Processes 2936-2939
Astolfi, Laura Univ. of Rome Sapienza; Toppi, Jlenia Univ. of Rome "Sapienza"; Salinari, Serenella La Sapienza
Univ. of Rome; Babiloni, Fabio Univ. of Rome; Mattia, Donatella Fondazione Santa Lucia IRCCS

08:45-09:00 FrA03.4
A Tensorial Approach to Access Cognitive Workload Related to Mental Arithmetic from EEG Functional Connectivity Estimates 2940-2943
Dimitriadis, Stavros Aristotle University; Sun, Yu National University of Singapore; Laskaris, Nikos Aristotle
University of Thessaloniki; Kwok, Kenneth NUS Temasek Lab; Bezerianos, Anastasios University of Patras

09:00-09:15 FrA03.5
Time-Varying Correlation Coefficients Estimation and Its Application to Dynamic Connectivity Analysis of Fmri 2944-2947
Fu, Zening University of Hongkong; Di, Xin New Jersey Institute of Technology, Newark, NJ; Chan, Shing-Chow
The University of Hongkong; Biswal, Bharat University of Medicine and Dentistry of New Jersey; Zhang, Zhiguo
The University of Hong Kong; Hung, Y.S. The University of Hong Kong

09:15-09:30 FrA03.6
Functional Dependence in the Human Brain: A Graph Theoretical Analysis 2948-2951
Fadlallah, Bilal University of Florida; Keil, Andreas University of Florida; Principe, Jose University of Florida

FrA04: 08:00-09:30 1001 (10F)
2.1.6 MR Imaging Methods II (Oral Session)
Chair: Ji, Jim Xiuquan (*Texas A&M Univ.*)

08:00-08:15 FrA04.1
Magnetic Resonance Tracking of Catheters and Mechatronic Devices Operating in the Vascular Network with an Embedded Photovoltaic-Based Microelectronic Circuit 2952-2955
Sharafi, Azadeh Ecole Polytechnique de Montreal; Martel, Sylvain Ecole Polytechnique de Montreal

08:15-08:30	FrA04.2
Anisotropic Diffusion Filtering for Correlated Multiple-Coil MRI	2956-2959
<i>Vegas-Sanchez-Ferrero, Gonzalo Universidad de Valladolid; Ramos Llordén, Gabriel Universidad de Valladolid; de Luis-García, Rodrigo University of Valladolid; Tristan-Vega, Antonio Universidad de Valladolid; Aja-Fernandez, Santiago Universidad de Valladolid</i>	
08:30-08:45	FrA04.3
Localization of Brachytherapy Seeds in MRI by Deconvolution	2960-2963
<i>Dong, Ying Texas A&M University; Chang, Zheng Duke University; Whitehead, Gregory Texas A&M University; Ji, Jim Xiuquan Texas A&M University</i>	
08:45-09:00	FrA04.4
Towards a Hall Effect Magnetic Tracking Device for MRI	2964-2967
<i>Schell, Jean-Baptiste University of Strasbourg; Jean-Baptiste, Kammerer University of Strasbourg; Hebrard, Luc University of Strasbourg; Breton, Elodie University of Strasbourg; Gounot, Daniel Université de Strasbourg; cuvillon, Ioic University of Strasbourg; de Mathelin, Michel University of Strasbourg</i>	
09:00-09:15	FrA04.5
Evaluation of an Image-Based Tracking Workflow with Kalman Filtering for Automatic Image Plane Alignment in Interventional MRI	2968-2971
<i>Neumann, Markus University of Strasbourg; cuvillon, Ioic University of Strasbourg; Breton, Elodie University of Strasbourg; de Mathelin, Michel University of Strasbourg</i>	
09:15-09:30	FrA04.6
Hyperpolarized ¹²⁹Xe spectra from C6 glioma cells implanted in rat brains	2972-2975
<i>Nakamura, Kazuhiro Akita Reserch Institute for Brain & Blood Vessels; Kondoh, Yasushi Akita Research Institute for Brain and Blood Vessels; Kinoshita, Toshiyumi Akita Research Institute for Brain and Blood Vessels</i>	

FrA05: 08:00-09:30	1002 (10F)
2.7.1 Computational Anatomy for Computer-aided Diagnosis and Therapy (Invited Session)	
Chair: Arimura, Hidetaka (<i>Kyushu Univ.</i>)	
Co-Chair: Suzuki, Kenji (<i>Univ. of Chicago</i>)	

08:00-08:15	FrA05.1
Reconstructing Patient-Specific Cardiac Models from Contours Via Delaunay Triangulation and Graph-Cuts	2976-2979
<i>WAN, MIN National Heart Centre Singapore; Lim, Calvin Institute of High Performance Computing; Zhang, Jun-Mei National Heart Center; Su, Yi Institute of High Performance Computing; Yeo, Si Yong Inst of High Performance Computing; Desheng, Wang Nanyang Technological University; tan, ru san National heart center; Zhong, Liang National Heart Centre Singapore</i>	
08:15-08:30	FrA05.2
Optimization of Surgical Planning of Total Hip Arthroplasty Based on Computational Anatomy	2980-2983
<i>Kagiyama, Yoshiyuki University of Yamanashi; Takao, Masaki Osaka University; Sugano, Nobuhiko Osaka University; Tada, Yukio Kobe University; Tomiyama, Noriyuki Osaka University Graduate School of Medicine; Sato, Yoshinobu Osaka University Graduate School of Medicine</i>	
08:30-08:45	FrA05.3
Computerized Segmentation of Liver in Hepatic CT and MRI by Means of Level-Set Geodesic Active Contouring	2984-2987
<i>Suzuki, Kenji University of Chicago; Huynh, Hieu Trung Industrial University of Ho Chi Minh City; Liu, Yipeng Harbin Institute of Technology; Calabrese, Dominic University of Michigan; Zhou, Karen Washington University in St. Louis; Oto, Aytekin University of Chicago; Hori, Masatoshi Osaka University Graduate School of Medicine</i>	
08:45-09:00	FrA05.4
Automated Method for Extraction of Lung Tumors Using a Machine Learning Classifier with Knowledge from Radiation Oncologists on Data Sets of Planning CT and FDG-PET/CT Images	2988-2991
<i>Arimura, Hidetaka Kyushu Univ.; Jin, Ze Kyushu Univ.; Shioyama, Yoshiyuki Kyushu Univ.; Nakamura, Katsumasa Kyushu Univ.; Magome, Taiki Kyushu Univ.; Sasaki, Masayuki Kyushu Univ.</i>	

09:00-09:15 FrA05.5
Development of a Numerical Simulator of Human Swallowing Using a Particle Method (Part 2. Evaluation of the Accuracy of a Swallowing Simulation Using the 3D MPS Method) 2992-2995
Kamiya, Tetsu Meiji Co., Ltd.; Toyama, Yoshio Meiji Co., Ltd.; Michiwaki, Yukihiko Musashino Red Cross Hospital; Kikuchi, Takahiro Musashino Red Cross Hospital

09:15-09:30 FrA05.6
Navigation System with Real-Time Finite Element Analysis for Minimally Invasive Surgery 2996-2999
Morooka, Ken'ichi Kyushu University; Nakasuka, Yosuke Kyushu University; Kurazume, Ryo Kyushu University; Chen, Xian Kyushu University; Hasegawa, Tsutomu Kyushu University; Hashizume, Makoto Kyushu University

FrA06: 08:00-09:30	1003 (10F)
2.3.4 Optical Imaging III (Oral Session)	
Chair: Araki, Tsutomu (Osaka Univ.)	

08:00-08:15 FrA06.1
Reconstruction of Missing Cells by a Killing Energy Minimizing Nonrigid Image Registration 3000-3003
Chan, Yin Kwan Ken University of Waterloo; Wan, Justin University of Waterloo

08:15-08:30 FrA06.2
Automated Analysis of Zebrafish Images for Screening Toxicants 3004-3007
Hans, Charu University of Houston; McCollum, Catherine University of Houston; Bondesson, Maria University of Houston; Gustafsson, Jan-Åke Department of Biology and Biochemistry, University of Houston; Shah, Shishir University of Houston; Merchant, Fatima University of Houston

08:30-08:45 FrA06.3
Analysis of the Rotational Center Location Method in Optical Projection Tomography 3008-3011
Dong, Di Chinese Academy of Sciences; Guo, Jin Harbin University of Science and Technology; Yang, Yujie Chinese Academy of Sciences; Shi, Liangliang Chinese Academy of Sciences; Peng, Dong Xidian University; Liu, Zhenyu Institute of Automation, Chinese Academy of Sciences; ripoll, jorge FORTH; Tian, Jie Chinese Academy of Sciences

08:45-09:00 FrA06.4
Unmixing of Spectrally Similar Quantum Dots Using Filter Selection 3012-3015
Hubbard, Elena Georgia Institute of Technology; Stokes, Todd Georgia Institute of Technology; Kairdolf, Brad Emory Univ.; Tran, Jonathan Georgia Institute of Technology; Wang, May D. Georgia Tech and Emory Univ.

09:00-09:15 FrA06.5
Automated Annotation Removal in Agar Plates 3016-3019
Vera, Sergio Alma IT Systems / Computer Vision Center, Universitat Autònoma d; Perez, Frederic Alma IT Systems; Lara Rodriguez, Laura LAP GmbH Laser Applikationen; Ceresa, Mario Alma IT System; Carranza, Noemí Alma IT Systems; Herrero, Javier Alma IT Systems; Gonzalez Ballester, Miguel Angel Alma IT Systems

09:15-09:30 FrA06.6
Dynamic Illumination Based System to Remove the Glare and Improve the Quality of Medical Optical Images 3020-3023
Gupta, Vipin Philips; Vajinapalli, Pallavi Philips Research Asia - Bangalore; Venkatesan, Shankar Philips Electronics India Ltd; Seth, Subhendu Philips Electronics India Ltd; Keswarpu, Payal Philips; Nalam, Dev Asish Philips Electronics India Ltd; Satapathy, Akash Cognizant Technology Solutions

FrA07: 08:00-09:30	1004 (10F)
3.1.5 Optical and Photonic Sensors II (Oral Session)	
Chair: Liebert, Adam (Inst. of Biocybernetics & Biomed Eng)	

08:00-08:15 FrA07.1
Variable Incidence Angle Subwavelegth Grating SPR Graphene Biosensor 3024-3027
Islam, Md. Saiful Deakin University; Kouzani, Abbas Z. Deakin University

08:15-08:30		FrA07.2
Electrode Placement in Bioimpedance Spectroscopy		3028-3031
<i>Birkemose, Marie Faculty of Science and Technology, Aarhus University, Denmark; Møller, Asger Juul Department of Engineering, Faculty of Science and Technology, Aa; Madsen, Mads Lænsø Aarhus University, Denmark; Brantlov, Steven Department of Clinical Engineering, Aarhus University Hospital; Sørensen, Henrik Aarhus University; Overgaard, Kristian Department of Public Health - Section of Sport Science, Aarhus U; Johansen, Peter University of Aarhus, Faculty of Science and Technology</i>		
08:30-08:45		FrA07.3
Investigation of the Photoelectrochemical Effect in Optoelectrodes and Potential Uses for Implantable Electrode Characterization		3032-3035
<i>Khurram, Abeer NeuroNexus; Seymour, John P. NeuroNexus</i>		
08:45-09:00		FrA07.4
Advanced fluorescence lifetime imaging algorithms for CMOS single-photon sensor based multi-focal multi-photon microscopy		3036-3039
<i>Li, David School of Engineering and Informatics, University of Sussex; Poland, Simon King's college London; Coelho, Simao King's College London; Tyndall, David Dialog Semiconductor, Edinburgh; Zhang, Weida University of Sussex; Richardson, Justin Dialog Semiconductor; Henderson, Robert Kerr University of Edinburgh; Ameer-Beg, Simon Morris King's College London</i>		
09:00-09:15		FrA07.5
Fluorescence-Based Method for Assessment of Blood–Brain Barrier Disruption		3040-3042
<i>Liebert, Adam Inst of Biocybernetics & Biomed Eng; Milej, Daniel Nalecz Institute of Biocybernetics and Biomedical Engineering PA; Weigl, Wojciech Department of Anesthesiology and Intensive Care, Medical Univ.; Gerega, Anna Nalecz Institute of Biocybernetics and Biomedical Engineering Po; Kacprzak, Michal Institute of Biocybernetics and Biomedical Engineering; Maniewski, Roman Inst of Biocybernetics & Biomed Engr</i>		
09:15-09:30		FrA07.6
Design of Organic Scintillators for Non-Standard Radiation Field Dosimetry: Experimental Setup		3043-3045
<i>Machado Ramirez, Norman Harold Hospital Universitario San Vicente Fundación - Universidad de An; Trujillo, Maximiliano San Vicente Fundación Hospital Universitario; Garcia, Javier Esteban Escuela de Ingeniería de Antioquia; Narvaez, Diana Carolina Escuela de Ingeniería de Antioquia- Instituto de Ciencias de la; Marín Muñoz, Paula Andrea Escuela de Ingeniería de Antioquia EIA-CES; Torres, Róbinson Antioquia School of Engineering, CES University</i>		
FrA09: 08:00-09:30		1006 (10F)
4.6.3 Bringing Big Data to its Knees; Advances in Computational Discovery of Life-Saving Knowledge from Big Biomedical Data I (Invited Session)		
Chair: Seker, Huseyin (<i>Bio-Health Informatics Res. Group</i>)		
Co-Chair: Sugimoto, Masahiro (<i>Keio Univ.</i>)		
08:00-08:15		FrA09.1
Directional Dual-Tree Complex Wavelet Packet Transform		3046-3049
<i>Serbes, Gorkem Bahcesehir Univ.; Aydin, Nizamettin Yildiz Technical Univ.; Gulcur, Halil Ozcan Bogazici Univ.</i>		
08:15-08:30		FrA09.2
Embolc Doppler Ultrasound Signal Detection Via Fractional Fourier Transform		3050-3053
<i>Gencer, Merve Yildiz Technical University; Bilgin, Gokhan Yildiz Technical University; Aydin, Nizamettin Yildiz Technical University</i>		
08:30-08:45		FrA09.3
Comparison of Robustness against Missing Values of Alternative Decision Tree and Multiple Logistic Regression for Predicting Clinical Data in Primary Breast Cancer		3054-3057
<i>Sugimoto, Masahiro Keio University; Masahiro, Takada Kyoto University; Toi, Masakazu Kyoto University</i>		
08:45-09:00		FrA09.4
Reconfiguration-Based Implementation of SVM Classifier on FPGA for Classifying Microarray Data		3058-3061
<i>Hussain, Hanaa The Public Authority of Applied Education and Training; Benkrid, Khaled University of Edinburgh; Seker, Huseyin Bio-Health Informatics Research Group</i>		

09:00-09:15 FrA09.5
Comparison of Aggregators for Multi-Objective SNP Selection 3062-3065
*Gormez, Zeliha TUBITAK; Gumus, Ergun Istanbul University; Sertbas, Ahmet Istanbul University;
Kursun, Olcay Istanbul University*

09:15-09:30 FrA09.6
**Signal-Processing Based Bioinformatics Approach for the Identification of Influenza a
Virus Subtypes in Neuraminidase Genes** 3066-3069
Chrysostomou, Charalambos Leicester University; Seker, Huseyin Bio-Health Informatics Research Group

FrA11: 08:00-09:30 1008 (10F)
6.1.4 Neural Engineering I (Oral Session)
Chair: Jones, Richard D. (*New Zealand Brain Res. Inst.*)
Co-Chair: Sahin, Mesut (*New Jersey Inst. of Tech.*)

08:00-08:15 FrA11.1
Effect of Vibrotactile Feedback on an EMG-Based Proportional Cursor Control System 3070-3073
*Li, Shunchong Shanghai Jiao Tong Univ.; Chen, Xingyu Shanghai Jiao Tong Univ.; Zhang, Dingguo Shanghai
Jiao Tong Univ.; Sheng, Xinjun Shanghai Jiao Tong Univ.; Zhu, XiangYang Shanghai Jiao Tong Univ.*

08:15-08:30 FrA11.2
**Neuromechanical Sensor Fusion Yields Highest Accuracies in Predicting Ambulation
Mode Transitions for Trans-Tibial Amputees** 3074-3077
Tkach, Dennis Rehabilitation Institute of Chicago; Hargrove, Levi Rehabilitation Institute of Chicago

08:30-08:45 FrA11.3
Design and Analysis of an Antenna for Wireless Energy Harvesting in a Head-mountable DBS Device .. 3078-3081
*Hosain, Md. Kamal Deakin University; Kouzani, Abbas Z. Deakin University; Tye, Susannah Mayo Clinic;
Abulseoud, Osama A Abulseoud.Osama@mayo.edu; Berk, M Deakin University*

08:45-09:00 FrA11.4
**Electric Field Characteristics of Electroconvulsive Therapy with Individualized
Current Amplitude: A Preclinical Study** 3082-3085
*Lee, Won Hee Columbia University; Lisanby, Sarah Duke University; Laine, Andrew Columbia University;
Peterchev, Angel V Duke University*

09:00-09:15 FrA11.5
An Electroacoustic Recording Device for Wireless Sensing of Neural Signals 3086-3088
Sahin, Mesut New Jersey Institute of Technology

FrA12: 08:00-09:30 1009 (10F)
6.2.4 Brain-computer Interface II (Oral Session)
Chair: Millán, José del R. (*Ec. Pol. Federale de Lausanne*)
Co-Chair: Yin, Ming (*Brown Univ.*)

08:00-08:15 FrA12.1
ERP Component Analysis for Rapid Image Searching in Finer Categories 3089-3092
*Xiao, Siyuan Zhejiang University; Cai, Bangyu Zhejiang University; Jiang, Lei Zhejiang University; Wang,
YiWen Zhejiang University; Chen, Weidong zhejiang university; Zheng, Xiaoxiang Zhejiang University*

08:15-08:30 FrA12.2
Freeing the Visual Channel by Exploiting Vibrotactile BCI Feedback 3093-3096
*Leeb, Robert Ecole Polytechnique Fédérale de Lausanne; Gwak, Kiuk Korea Advanced Institute of Science and
Technology; Kim, Dae-Shik Korea Advanced Institute of Science and Technology; Millán, José del R. Ecole
Polytechnique Federale de Lausanne*

08:30-08:45 FrA12.3
A Hybrid BCI for Enhanced Control of a Telepresence Robot 3097-3100
*Carlson, Tom EPFL (Ecole Polytechnique Fédérale de Lausanne); Tonin, Luca Swiss Federal Inst. of
Technology, Lausanne; Perdakis, Serafeim EPFL (École Polytechnique Fédérale de Lausanne); Leeb, Robert
Ecole Polytechnique Fédérale de Lausanne; Millán, José del R. Swiss Federal Inst. of Technology, Lausanne*

08:45-09:00	FrA12.4
A Mental Switch-Based Asynchronous Brain-Computer Interface for 2D Cursor Control	3101-3104
<i>Xia, Bin Shanghai Maritime Univ.; an, dehua Shanghai Maritime Univ.; Xie, Hong Shanghai Maritime Univ.; Li, Jie Tongji Univ.; Chen, Conghui Department of Electrical Engineering Department, Shanghai Maritim</i>	
09:00-09:15	FrA12.5
Effect of Posterized Naturalistic Stimuli on SSVEP-Based BCI	3105-3108
<i>Ng, Kian University of Queensland, Queensland Brain Institute; Bradley, Andrew Peter University of Queensland; Cunningham, Ross University of Queensland</i>	
09:15-09:30	FrA12.6
An Externally Head-Mounted Wireless Neural Recording Device for Laboratory Animal Research and Possible Human Clinical Use	3109-3114
<i>Yin, Ming Brown University; Li, Hao Broadcom Corporation; Bull, Christopher Brown University; Borton, David Ecole Polytechnique Federale de Lausanne; Aceros, Juan Brown University; Larson, Lawrence Brown University; Nurmikko, Arto Brown University</i>	
FrA13: 08:00-09:30	1010 (10F)
6.4.2 Neural Prostheses for Exciting and Inhibiting Sensory Systems (Invited Session)	
Chair: Weber, Douglas (<i>Univ. of Pittsburgh</i>)	
Co-Chair: Mabuchi, Kunihiko (<i>The Univ. of Tokyo</i>)	
08:00-08:15	FrA13.1
Constant RMS versus Constant Peak Modulation for the Perceptual Equivalence of Sinusoidal Amplitude Modulated Signals	3115-3118
<i>Regele, Oliver Purdue University; Koivuniemi, Andrew Purdue University; Otto, Kevin Purdue University</i>	
08:15-08:30	FrA13.2
Feasibility of 2nd Generation STS Retinal Prosthesis in Dogs	3119-3121
<i>Fujikado, Takashi Osaka University; Kamei, Motohiro Osaka University; Sakaguchi, Hirokazu Osaka University; Kanda, Hiroyuki Osaka University; Morimoto, Takeshi Osaka University; Nishida, Kentaro Osaka University; Kishima, Haruhiko Osaka University; Maruo, Tomoyuki Osaka University; Oosawa, Kouji NIDEK CO., Ltd.; Ozawa, Motoki NIDEK CO., Ltd.; Nishida, Kohji Osaka University</i>	
08:30-08:45	FrA13.3
A New Concept for Noninvasive Tinnitus Treatment Utilizing Multimodal Pathways	3122-3125
<i>Gloeckner, Cory University of Minnesota; Smith, Benjamin University of Minnesota; Markovitz, Craig University of Minnesota; Lim, Hubert University of Minnesota</i>	
08:45-09:00	FrA13.4
Safe Direct Current Stimulator 2: Concept and Design	3126-3129
<i>Fridman, Gene Johns Hopkins University; Della Santina, Charles C. Johns Hopkins School of Medicine</i>	
09:00-09:15	FrA13.5
An Artificial Arm/Hand System with a Haptic Sensory Function Using Electric Stimulation of Peripheral Sensory Nerve Fibers	3130-3133
<i>Mabuchi, Kunihiko The University of Tokyo</i>	
09:15-09:30	FrA13.6
Development of a Chemical Retinal Prosthesis: Stimulation of Rat Retina with Glutamate	3134-3137
<i>Rountree, Corey Northwestern University; Inayat, Samsoon Northwestern University; University of Illinois Chicago; Troy, John Northwestern University; Saggere, Laxman University of Illinois at Chicago</i>	

FrA14: 08:00-09:30 804 (8F)
11.1.2 Building Human Resources for Research, Innovation and Development of Medical Devices in Academia
(Invited Session)
Chair: Zequera Diaz, Martha Lucia (*Pontificia Univ. Javeriana - Ergosalud Ltda.*)
Co-Chair: Sakuma, Ichiro (*The Univ. of Tokyo*)

08:00-08:15 FrA14.1
Manpower Development for the Biomedical Industry Space 3138-3141
Goh, James Cho Hong National University of Singapore

08:15-08:30 FrA14.2
Promoting Interdisciplinary Project-Based Learning to Build the Skill Sets for Research and Development of Medical Devices in Academia 3142-3145
Krishnan, Shankar Muthu Wentworth Institute of Technology

08:30-08:45 FrA14.3
Managing New Directions in a 38 Year Old Undergraduate BME Program 3146-3150
Martinez-Licon, Fabiola Universidad Autonoma Metropolitana; Azpiroz-leeahan, Joaquin Universidad Autonoma Metropolitana; Urbina-Medal, E. Gerardo Universidad Autonoma Metropolitana; Cadena, Miguel Universidad Autonoma Metropolitana

08:45-09:00 FrA14.4
A Hands-On Course Teaching Bioinstrumentation through the Design and Construction of a Benchtop Cardiac Pacemaker 3151-3154
Bouchard, Matthew Columbia University; Downs, Matthew Columbia University; Jangraw, David Columbia University; Kyle, Aaron Columbia University

09:00-09:15 FrA14.5
Education and Training in Regulatory Science for Medical Device Development 3155-3158
Sakuma, Ichiro The University of Tokyo

09:15-09:30 FrA14.6
Model for Assessing to Aesthetic Devices Based on Interdisciplinary Work among the Government, Academy and Industry 3159-3162
Zequera Diaz, Martha Lucia Pontificia Universidad Javeriana - Ergosalud Ltda.; Toloza, Daissy Pontificia Universidad Javeriana; Jorge Edgar, Arévalo Vela Pontificia Universidad Javeriana; Balcazar, Juan P. Pontificia Universidad Javeriana; Acosta Hernandez, Lorena Pontificia Universidad Javeriana; González, Sergio Ramiro Pontificia Universidad Javeriana; Carrascal, Ana Karina Pontificia Universidad Javeriana; Magjaveric, Ratko Zagreb University; Cubides, Mauricio Pontificia Universidad Javeriana

FrA15: 08:00-09:30 1102 (11F)
8.1.3 Modeling and Simulation in Biomechanics: Prosthetics (Oral Session)
Chair: Yu, Wenwei (*Univ. of Chiba*)
Co-Chair: Dermitzakis, Konstantinos (*Univ. of Zurich*)

08:00-08:15 FrA15.1
Robotic Thumb Grasp-Based Range of Motion Optimisation 3163-3166
Dermitzakis, Konstantinos University of Zurich; Ioannides, Andreas ETH Zurich; Lin, Hwai-Ting Kaohsiung Medical University

08:15-08:30 FrA15.2
Biomechanical Effects of Screw Fixation in Second Mandibular Reconstruction Plate 3167-3170
Chang, Ya-Wen I-Shou University; Liu, Pao-Hsin I-Shou University

08:30-08:45 FrA15.3
Investigation of Repeatability in Hip Fracture Risk Predicted by DXA-Based Finite Element Model 3171-3174
Luo, Yunhua University of Manitoba; Leslie, William University of Manitoba

08:45-09:00 FrA15.4
Biomechanical Comparison of Cannulated Locking Screws and Non-Cannulated Cortical Locking Screws in Periarticular Locking Plate Porcine Proximal Tibial Fracture Model 3175-3178
Wu, Kun-Lieh I-Shou University; Kuo, Shyh Ming I-Shou University; Lin, Ting-Sheng I-Shou University; Yang, Shan Wei Kaohsiung Veterans General Hospital; Wang, Hung yi I-Shou University; Cheng, hsia ying I-Shou University; Cheng, Chen ying I-Shou University

09:00-09:15 FrA15.5
The Effect of Foot Compliance Encoded in the Windlass Mechanism on the Energetics of Human Walking .. 3179-3182
Song, Seungmoon Carnegie Mellon; LaMontagna, Christopher Carnegie Mellon University; Collins, Steven Carnegie Mellon University; Geyer, Hartmut Carnegie Mellon University

09:15-09:30 FrA15.6
Biomechanical Evaluation of an Orthodontic Mini-Implant with Plastic Removal Cap: An In-Vitro Experimental Testing 3183-3185
Lin, Yang-Sung Chang Gung Univ.; Lin, Chun-Li National Yang-Ming Univ.; Chang, Wen-Jen Dept. of Information Management, Chang Gung Univ.; Chang, Yen-Hsiang Operative Dentistry, Chang Gung Memorial Hospital, Tao-Yuan, Tai; Yu, Jian-Hong School of dentistry, China Medical Univ.; Chang, Yau-Zen Chang Gung Univ.

FrA16: 08:00-09:30	Small Hall (5F)
9.2.1 Vision and Eye Sensing (Oral Session)	
Chair: Yagi, Tetsuya (Osaka Univ. Gard. Eng)	

08:00-08:15 FrA16.1
Saccadic Vector Optokinetic Perimetry (SVOP): A Novel Technique for Automated Static Perimetry in Children Using Eye Tracking 3186-3189
Murray, Ian Univ. of Edinburgh; Perperidis, Antonios Univ. of Edinburgh; Brash, Harry Melrose Univ. of Edinburgh; Cameron, Lorraine Univ. of Edinburgh; McTrutsy, Alice Univ. of Edinburgh, Glasgow Caledonian Univ.; Fleck, Brian William Univ. of Edinburgh; Minns, Robert Univ. of Edinburgh

08:15-08:30 FrA16.2
Intraocular Electro-Optic Lens with Ciliary Muscle Controlled Accommodation 3190-3193
Doornaert, Dries KU Leuven - Kulak, Wave Propagation and Signal Processing Resear; Glorieux, Christ ATF KU Leuven; De Gerssem, Herbert KU Leuven Kulak, Wave Propagation and Signal Processing Research; Puers, Robert Catholic University of Leuven; Spileers, Werner Dept of Ophthalmology University Hospitals Leuven; Blanckaert, JOHAN Kath University Leuven

08:30-08:45 FrA16.3
3D Gaze Tracking System for NVidia 3D Vision® 3194-3197
Wibirama, Sunu Tokai University; Hamamoto, Kazuhiko Tokai University

08:45-09:00 FrA16.4
Rollable and Implantable Intraocular Pressure Sensor for the Continuous Adaptive Management of Glaucoma 3198-3201
Piffaretti, Filippo University of Applied Sciences of Southern Switzerland (SUPSI); Barrettino, Diego Ruben University of Applied Sciences of Southern Switzerland (SUPSI); Orsatti, Paolo Oculox Technology Sagl; Leoni, Lorenzo Oculox Technology Sagl; Stegmaier, Peter Oculox Technology Sagl

09:00-09:15 FrA16.5
An Investigation of Pupil-Based Cognitive Load Measurement with Low Cost Infrared Webcam under Light Reflex Interference 3202-3205
Chen, Siyuan the University of New South Wales; Epps, Julien The University of New South Wales; Chen, Fang National ICT Australia (NICTA)

09:15-09:30 FrA16.6
A Tactile Vision Substitution System for the Study of Active Sensing 3206-3209
Hsu, Brian National Chung Cheng University; Hsieh, Cheng-Han National Chung Cheng University; Yu, Sung-Nien National Chung Cheng University; Ahissar, Ehud Weizmann Institute of Science; Arieli, Amos Weizmann Institute of Science; Zilbershtain-Kra, Yael Weizmann Institute of Science

FrA17: 08:00-09:30

801-802 (8F)

10.3.1 Computer Aided Decision Support and Data Mining (Oral Session)

Chair: Takemura, Tadamasa (*Univ. of Hyogo*)

08:00-08:15

FrA17.1

Prediction of 4-Year Risk for Coronary Artery Calcification Using Ensemble-Based Classification 3210-3213

Lee, Jihyun Samsung Advanced Institute of Technology (SAIT), Samsung Electron; Kam, Hye Jin SAIT, Samsung Electronics; Kim, Ha-Young Samsung Advanced Institute of Technology (SAIT); Yoo, Sanghyun Samsung Advanced Institute of Technology (SAIT), Samsung Electro; Woo, Kyoung-Gu Samsung Advanced Institute of Technology (SAIT), Samsung Electron; Choi, Yoon-Ho Center for Health Promotion, Samsung Medical Center, Sungkyunkwa; Park, Jeong Euy Division of Cardiology, Samsung Medical Center, Sungkyunkwan Uni; Cho, Soo Jin Center for Health Promotion, Samsung Medical Center, Sungkyunkwa

08:15-08:30

FrA17.2

Improving the Implementation of Clinical Decision Support Systems 3214-3217

Rüping, Stefan Fraunhofer IAIS; Anguita, Alberto Universidad Politécnica de Madrid; Bucur, Anca Philips Research Europe; Cirstea, Traian Cristian Philips; Jacobs, Björn Fraunhofer Institute for Intelligent Analysis and Information Sy; Torge, Antje UKSH

08:30-08:45

FrA17.3

A Temporal Model for Clinical Data Analytics Language 3218-3221

Safari, Leila University of sydney; Patrick, Jon University of sydney

08:45-09:00

FrA17.4

Multivariate Temporal Symptomatic Characterization of Cardiac Arrest 3222-3225

Park, Yubin The University of Texas at Austin; Ho, Joyce C. University of Texas at Austin; Ghosh, Joydeep Univ. of Texas at Austin

09:00-09:15

FrA17.5

Comparative study of probability distribution distances to define a metric for the stability of multi-source biomedical research data 3226-3229

Sáez, Carlos Universitat Politècnica de València; Robles, Montserrat Technical University of Valencia; Garcia-Gomez, Juan Miguel ITACA-IBIME, Universidad Politécnica de Valencia

09:15-09:30

FrA17.6

Random Forest for Automatic Assessment of Heart Failure Severity in a Telemonitoring Scenario 3230-3233

Guidi, Gabriele Department of Electronics and Telecommunications; Pettenati, Maria Chiara ICON Foundation; Miniati, Roberto Università di Firenze; Iadanza, Ernesto Università degli Studi di Firenze

FrB01: 09:30-11:00

Event Hall-Area A (3F)

3.7.2 Integrated Sensor Systems II (Poster Session)

09:30-11:00

FrB01.1

A Full Custom Analog Front-End for Long-Time ECG Monitoring 3234-3237

Wen, Meiyang Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Cheng, Yayu Shenzhen Institute of Advanced Techonology, Chinese Academy of S; Li, Ye Chinese Academy of Sciences

09:30-11:00

FrB01.2

The Non-Contact Heart Rate Measurement System for Monitoring HRV 3238-3241

Huang, Ji-Jer Southern Taiwan University of Science and Technology; Yu, Sheng-I Southern Taiwan University of Science and Technology; Syu, Hao-Yi Southern Taiwan University of Science and Technology; See, Aaron Raymond Southern Taiwan University of Science and Technology

09:30-11:00

FrB01.3

A 24 Vpp Compliant Biphasic Stimulator for Inductively Powered Animal Behavior Studies 3242-3245

Nag, Sudip National University of Singapore; Sharma, Dinesh Indian Institute of Technology Bombay; Thakor, Nitish Johns Hopkins University

09:30-11:00		FrB01.4
A Fully Integrated 200 μW, 40pJ/b Wireless Transmitter for Implanted Medical Devices and Neural Prostheses		3246-3249
<i>Goodarzy, Farhad University of Melbourne; Skafidas, Stan NICTA Victoria Research Lab</i>		
09:30-11:00		FrB01.5
Coupling Invariant Inductive Link for Wireless Power Delivery to a Retinal Prosthesis		3250-3253
<i>Ng, David, C NICTA; Skafidas, Stan NICTA Victoria Research Lab</i>		
09:30-11:00		FrB01.6
Rate-Equation Approach to Optimal Density Ratio of K-Rb Hybrid Cells for Optically Pumped Atomic Magnetometers		3254-3257
<i>Ito, Yosuke Kyoto University; Ohnishi, Hiroyuki Kyoto University; Kamada, Keigo Kyoto University; Kobayashi, Tetsuo Kyoto University</i>		
09:30-11:00		FrB01.7
Magnetic Nanoparticle Imaging by Random and Maximum Length Sequences of Inhomogeneous Activation Fields		3258-3260
<i>Baumgarten, Daniel Ilmenau Univ. of Technology; Eichardt, Roland Ilmenau Univ. of Technology; Crevecoeur, Guillaume Ghent Univ.; Supriyanto, Eko Univ. Teknologi Malaysia; Haueisen, Jens Technical Univ. Ilmenau</i>		
09:30-11:00		FrB01.8
Magnetic Rotations of Uric Acid Crystals and Uratic Crystals by Static Magnetic Fields of up to 500 mT		3261-3264
<i>Takeuchi, Yuka Chiba university; Mizukawa, Yuri Chiba University; Iwasaka, Masakazu Chiba University</i>		
09:30-11:00		FrB01.9
Design of a Dual-Mode Electrochemical Measurement and Analysis System		3265-3268
<i>Yang, Jr-Fu National Cheng Kung University; Wei, Chia-Ling National Cheng Kung University; Wu, Jian-Fu National Cheng Kung University; Liu, Bin-Da National Cheng Kung University</i>		
09:30-11:00		FrB01.10
A New Radio Propagation Model at 2.4 GHz for Wireless Medical Body Sensors in Outdoor Environment		3269-3273
<i>Yang, Daniel Woodbridge High School</i>		
FrB02: 09:30-11:00		Event Hall-Area B (3F)
1.3.3 Nonlinear Dynamics in Biomedical Signals II (Poster Session)		
09:30-11:00		FrB02.1
Phase Space Reconstruction of an Experimental Model of Cardiac Field Potential in Normal and Arrhythmic Conditions		3274-3277
<i>XU, Binbin INRIA Bordeaux Sud-Ouest; Jacquir, Sabir Laboratoire LE2I UMR CNRS 6306, Université de Bourgogne; Laurent, Gabriel LE2I UMR CNRS 5158, Université de Bourgogne, France; Bilbault, Jean-Marie LE2I UMR CNRS 5158, Université de Bourgogne, France; Binczak, Stéphane Université de Bourgogne</i>		
09:30-11:00		FrB02.2
A Sliding Window Approach to Detrended Fluctuation Analysis of Heart Rate Variability		3278-3281
<i>Almeida, Daniel Lucas F. University of Brasília; Soares, Fabiano University of Brasilia - UnB; Carvalho, Joao Luiz Azevedo de University of Brasília</i>		
09:30-11:00		FrB02.3
Automated Detection of Cross-Frequency Coupling in the Electrocardiogram for Clinical Inspection ...		3282-3285
<i>Miyakoshi, Makoto Japan Society for the Promotion of Science; Swartz Center for Co; Delorme, Arnaud UCSD; Mullen, Tim University of California, San Diego, Swartz Center for Computational; Kojima, Katsuaki Department of Pediatrics, Wayne State University; Makeig, Scott University of California San Diego; Asano, Eishi Departments of Pediatrics and Neurology, Wayne State University</i>		

- 09:30-11:00 FrB03.1
A Study on Validity of Cortical Alpha Connectivity for Schizophrenia 3286-3290
Peng, Hong Lanzhou University; Hu, Bin Lanzhou University; Li, Lanlan Lanzhou University; Ratcliffe, Martyn Birmingham City University; Zhai, Jingwei Lanzhou University; Zhao, Qinglin Lanzhou University; Shi, Qiuxia Lanzhou University; Li, Yunpeng Lanzhou University; Liu, Quanying Lanzhou University
- 09:30-11:00 FrB03.2
EEG Source Localization in Full-Term Newborns with Hypoxic-Ischemia 3291-3294
Jennekens, Ward Maasstad Hospital; Dankers, Frank Universitair Medisch Centrum St. Radboud; Blijham, Paul Maxima Medical Center; Cluitmans, Pierre J.M. Eindhoven University of Technology; van Pul, Carola Maxima Medical Center; Andriessen, Peter Maxima Medical Center
- 09:30-11:00 FrB03.3
Influence of Isotropic Skull Models on EEG Source Localization 3295-3298
Montes-Restrepo, Victoria Ghent University; van Mierlo, Pieter Ghent University - IBBT; Lopez, Jose David Universidad de Antioquia; Hallez, Hans J. Ghent University; Vandenberghe, Stefaan Ghent University
- 09:30-11:00 FrB03.4
Imaging and Estimation of Human Abdominal Fat by Electrical Impedance Tomography Using Multiple Voltage Measurement Patterns 3299-3302
Yamaguchi, Tohru Kao Corporation; katashima, mitsuhiro Kao Corporation; Wang, Li-qun Tokyo Denki University; Kuriki, Shinya Tokyo Denki University
- 09:30-11:00 FrB03.5
A Realistic Volume Conductor Model of the Neonatal Head: Methods, Challenges and Applications 3303-3306
Despotovic, Ivana Ghent University; Vansteenkiste, Ewout Ghent University; Philips, Wilfried Gent University
- 09:30-11:00 FrB03.6
Cortical Source Localization of Mouse Extracranial Electroencephalogram Using the Fieldtrip Toolbox 3307-3310
Lee, chungki KIST; Oostenveld, Robert University Nijmegen; Lee, Soo Hyun Korea Institute of Science and Technology; Kim, Laehyun Korea Institute of Science and Technology; Sung, Hokun Korea Advanced Nano Fab Center; Choi, Jee Hyun Korea Institute of Science and Technology

- 09:30-11:00 FrB04.1
A Novel Aortic Valve Segmentation from Ultrasound Image Using Continuous Max-Flow Approach 3311-3314
Nie, Yuanyuan Shanghai Jiao Tong University; Luo, Zhe Shanghai Jiao Tong University; Cai, Junfeng Ruijin Hospital, Schoole of Medicine ,Shanghai Jiaotong Universi; Gu, Lixu Shanghai Jiaotong University
- 09:30-11:00 FrB04.2
A Robust Hair Segmentation and Removal Approach for Clinical Images of Skin Lesions 3315-3318
Huang, Adam National Central University; Kwan, Shun-Yuen National Central University; Chang, Wen-Yu I-Shou University; Liu, Min-Yin National Central University; Chi, Min-Hsiu National Central University; Chen, Gwo-Shing Kaohsiung Medical University Hospital
- 09:30-11:00 FrB04.3
Tubule Detection in Testis Images Using Boundary Weighting and Circular Shortest Path 3319-3322
Zhang, Chao University of New South Wales; Sun, Changming CSIRO; Davey, Rhonda CSIRO Animal, Food and Health Sciences, Locked Bag 1, Armidale,; Su, Ran The University of New South Wales and CSIRO Mathematics, Informati; Bischof, Leanne CSIRO Mathematics, Informatics and Statistics, Locked Bag 17, No; valлотton, pascal CSIRO; Lovell, David CSIRO Mathematics, Informatics and Statistics, GPO Box 664, Acto; Hope, Shelly CSIRO Animal, Food and Health Sciences, 306 Carmody Road, St. Lu; Lehnert, Sigrid CSIRO Animal, Food and Health Sciences, 306 Carmody Road, St. Lu; Pham, Tuan D. University of Aizu

09:30-11:00	FrB04.4
Orientation Based Segmentation for Phase-Contrast Microscopic Image of Confluent Cell	3323-3326
<i>Sasaki, Kei Yamagata University; Yuasa, Tetsuya Yamagata Univ.; Sasaki, Hiroto Nagoya University, Graduate School of Engineering; Kato, Ryuji Nagoya University</i>	
09:30-11:00	FrB04.5
Multi-Stage Intra-Patient Template Matching for Prostate Detection in MR Volumes	3327-3330
<i>Jahed, Zeinab University of California Berkeley; Shaban, Khaled Qatar University; Tizhoosh, Hamid Reza University of Waterloo</i>	
09:30-11:00	FrB04.6
On the Fully Automatic Construction of a Realistic Head Model for EEG Source Localization	3331-3334
<i>Mahmood, Qaiser Chalmers University of Technology; Shirvany, Yazdan Chalmers University of Technology; Mehnert, Andrew James Heinrich Chalmers University of Technology; Chodorowski, Artur Chalmers University of Technology; Gellermann, Johanna Chalmers University of Technology; Edelvik, Fredrik Fraunhofer-Chalmers Research Center, Chalmers University; Hedström, Anders MedTech West, Sahlgrenska University Hospital; Persson, Mikael Chalmers University of Technology</i>	
09:30-11:00	FrB04.7
Molecular Biological Characteristics Based Hierarchical Mumford-Shah Vector-Model for the Delineation of Biological Target Volumes Corresponding to Head and Neck Tumors	3335-3338
<i>Liu, Guocai Hunan Univ.; Yang, Weili Hunan Univ.; Zhu, Suyu Department of Radiation Oncology, Tumor hospital, Xiangya school; Huang, Qiu Shanghai Jiao Tong Univ.; Wu, Haiyan Hunan Univ.; Liu, Min Hunan Univ.; Huang, Wenli Hun Univ.; Liu, Bin Hunan Univ.; Liu, Jinguang Hunan Univ.; Hu, Bingqiang Department of Radiation Oncology, Tumor hospital, Xiangya school; Mo, Yi Department of PET /CT Center, Tumor hospital, Xiangya school of; Zhang, Jiutang Department of Radiation Oncology, Tumor hospital, Xiangya school; Huang, Zaijie Department of Radiation Oncology, Tumor hospital, Xiangya school; Zeng, Biao Department of Radiation Oncology, Tumor hospital, Xiangya school; Yuan, Yuan Department of Radiation Oncology, Tumor hospital, Xiangya school; Peng, Xiang Department of PET/ CT center, Tumor hospital, Xiangya school of; Liu, Ke Department of Radiation Oncology, Tumor Hospital, Xiangya School; Zhou, Jumei Radiation Oncology, Medical Physics and PET/CT Center of the Can; Zhou, Meili Hunan Univ.; Liu, Xuan Hunan Univ.</i>	
09:30-11:00	FrB04.8
An Automatic Brain Tumor Segmenter Tool	3339-3342
<i>Diaz, Idanis University of Alberta; Boulanger, Pierre University of Alberta; Greiner, Russell University of Alberta; Bret, Hoehn University of Alberta; Rowe, Lindsay University of Alberta, Department of Radiation Oncology; Murtha, Albert Cross Cancer Institute at University of Alberta</i>	
09:30-11:00	FrB04.9
Automated IMT estimation and BMI correlation using a low-quality carotid ultrasound image database from India	3343-3346
<i>Molinari, Filippo Politecnico di Torino; Gupta, Vipin Public Health Foundation of India; Prabhakaran, Poornima University of Bristol; Meiburger, Kristen Mariko Politecnico di Torino; saba, luca Policlinico Universitario; Acharya, Rajendra NgeeAnn Polytechnic; Ledda, Giuseppe AOU; RadhaKrishna, K.V. Division of National Institute of Nutrition; Walia, Gagandeep Kaur Public Health Foundation of India; Kinra, Sanjay London School of Hygiene and Tropical Medicine; Nicolaides, Andrew Imperial College; Ebrahim, Shah University of Bristol; Suri, Jasjit Biomedical Technologies</i>	
09:30-11:00	FrB04.10
Segmentation of Hepatic Tumor from Abdominal CT Data Using an Improved Support Vector Machine Framework	3347-3350
<i>Zhou, Jiayin Inst. for Infocomm Research; Huang, Weimin Inst. for Infocomm Research, Agency for Science Technology and; Xiong, Wei Inst. for Infocomm Research, A-STAR; Chen, Wenyu Inst. for Infocomm Research, Agency for Science, Technology; Venkatesh, Sudhakar Kundapur Mayo Clinic, Rochester, Minnesota</i>	
09:30-11:00	FrB04.11
3-D Segmentation of Human Sternum in Lung MDCT Images	3351-3354
<i>Pazokifard, Banafsheh University of New South Wales; Sowmya, Arcot University of New South Wales</i>	

09:30-11:00 FrB04.12
An Automated Algorithm for Blood Vessel Count and Area Measurement in 2-D Choroidal Scan Images .. 3355-3358
Channappayya, Sumohana Indian Institute of Technology Hyderabad; Vanjari, Sivaramakrishna IIT Hyderabad; Mahajan, Nagaraj IIT Hyderabad; Donapati, Ravi Chandra Reddy IIT Hyderabad; Richhariya, Ashutosh L.V. Prasad Eye Institute Hyderabad; Chhablani, Jay L.V. Prasad Eye Institute Hyderabad

09:30-11:00 FrB04.13
Cerebrospinal Fluid Image Segmentation Using Spatial Fuzzy Clustering Method with Improved Evolutionary Expectation Maximization 3359-3362
Abdullah, Afnizanfaizal University Teknologi Malaysia; Hirayama, Akihiro Department of Neurosurgery, School of Medicine, Tokai University; Yatsushiro, Satoshi School of Information Science and Technology, Tokai University; Matsumae, Mitsunori School of Medicine, Tokai University; Kuroda, Kagayaki School of Information Science and Technology, Tokai University

FrB05: 09:30-11:00 Event Hall-Area C (3F)
2.7.8 Image Processing II (Poster Session)

09:30-11:00 FrB05.1
Learning Metrics for Content-Based Medical Image Retrieval 3363-3366
Collins, John San Francisco State University; Okada, Kazunori San Francisco State University

09:30-11:00 FrB05.2
Volumetric Surgical Planning System for Fibular Transfer in Mandibular Reconstruction 3367-3370
Nakao, Megumi Kyoto Univ.; Hosokawa, Mamoru Kyoto Univ.; Imai, Yuichiro Nara Medical Univ.; Ueda, Nobuhiro Nara Medical Univ.; Hatanaka, Toshihide Nara Medical Univ.; Minato, Kotaro Nara Institute of Science and Technology; Kirita, Tadaaki Nara Medical Univ.; Matsuda, Tetsuya Kyoto Univ.

09:30-11:00 FrB05.3
Image Fusion Improvements Applied at the Generation of 3D Thermal Models 3371-3374
Abreu de Souza, Mauren Federal Univ. of Technology (UTFPR); Jose Sanches, Ionildo UTFPR; Gamba, Humberto Federal Univ of Technology UTFPR- C.N.P.J.; Nohama, Percy Univ. Tecnologica Federal do Parana

09:30-11:00 FrB05.4
Compressibility Variations of JPEG2000 Compressed Computed Tomography 3375-3378
Pambrun, Jean-Francois École de tech. supérieure (ÉTS); Noumeir, Rita Ecole de tech. superieure

09:30-11:00 FrB05.5
Fast and Robust 3D Vertebra Segmentation Using Statistical Shape Models 3379-3382
Mirzaalian, Hengameh sfu; Wels, Michael Siemens AG; Tobias, Heimann Siemens AG; Kelm, B. Michael Siemens AG; Suehling, Michael Siemens AG

09:30-11:00 FrB05.6
Combination of Intra-Operative Freehand SPECT Imaging with MR Images for Guidance and Navigation 3383-3386
Matthies, Philipp Technische Universität München; Okur, Asli Technische Universität München; Wendler, Thomas SurgicEye GmbH; Navab, Nassir TU Munich; Friebe, Michael TUM

09:30-11:00 FrB05.7
Composite Imaging Method for Histological Image Analysis 3387-3390
Imai, Mizuho Shibaura Institute of Technology; Takei, Akane Shibaura Institute of Technology; Miyamoto, Keita Shibaura Institute of Technology; Takahashi, Masanobu Shibaura Institute of Technology; Nakano, Masayuki Tokyo Women's Medical University

FrB06: 09:30-11:00 Event Hall-Area C (3F)
2.7.9 Image Registration, Reconstruction and Enhancement (Poster Session)

09:30-11:00 FrB06.1
Removal of Stimulus-Induced Artifacts in Functional Spinal Cord Imaging 3391-3394
Watanabe, Taishi Tokyo Metropolitan University; Kawabata, Yuya Tokyo Metropolitan University; Ukegawa, Dai Tokyo Medical and Dental University; Kawabata, Shigenori Tokyo Medical and Dental University; Adachi, Yoshiaki Kanazawa Institute of Technology; Sekihara, Kensuke Tokyo Metropolitan University

09:30-11:00	FrB06.2
An Improved Method for IR Image Filtering from Living Beings	3395-3398
<i>Gavriloaia, Bogdan-Mihai Politechnical University of Bucharest; Vizireanu, Radu Politechnical University of Bucharest; Neamtu, Catalin University of Pitesti; Grigore, Corina Medical and Pharmacy University of Bucharest; Gavriloaia, Gheorghe University of Pitesti; POPESCU, Horia University of Pitesti</i>	
09:30-11:00	FrB06.3
Automatic Removal of Manually Induced Artefacts in Ultrasound Images of Thyroid Gland	3399-3402
<i>Subbarao, Nikhil Narayan Nanyang Technological University; Marziliano, Pina Nanyang Technological University; Hobbs, Christopher Geoffrey Laurence Tan Tock Seng Hospital, Lee Kong Chian School of Medicine and Im</i>	
09:30-11:00	FrB06.4
Comparison of a Discrete Wavelet Transform Method and a Modified Undecimated Discrete Wavelet Transform Method for Denoising of Mammograms	3403-3406
<i>Matsuyama, Eri Nishi Sapporo Hospital; Tsai, Du-Yih Niigata University; Lee, Yongbum Niigata University, Japan; Takahashi, Noriyuki Sendai City Hospital</i>	
09:30-11:00	FrB06.5
Application of the Real-Time Retinex Image Enhancement for Endoscopic Images	3407-3410
<i>Okuhata, Hiroyuki Synthesis Corporation; Nakamura, Hajime Osaka City Univ., Graduate School of Medicine; Hara, Shinsuke Osaka City Univ.; Tsutsui, Hiroshi Kyoto Univ.; Onoye, Takao Osaka Univ.</i>	
09:30-11:00	FrB06.6
Projection onto Convex Sets (POCS) Method for Photoacoustic Tomography with a Non Negative Constraint	3411-3414
<i>Salehin, S M Akramus Australian National University; Huang, Shaochun Australian National University; Abhayapala, Thushara Dheemantha Australian National University</i>	
09:30-11:00	FrB06.7
A Two-Stage Reconstruction of Fluorescence Molecular Tomography Based on Sparse Regularization ...	3415-3418
<i>Cheng, Jingxing Northwest University; Hou, Yuqing Northwest University; Yu, Jingjing Shaanxi Normal University; He, Xiaowei Northwest University</i>	
09:30-11:00	FrB06.8
Fusion of Lung MR/CT Images through Lung Vessel Registration	3419-3422
<i>Iwao, Yuma Yokohama National Univ.; Wei, Yingying Yokohama National Univ.; Kagei, Seiichiro Yokohama National Univ.; Gotoh, Toshiyuki Yokohama National Univ.; Iwasawa, Tae Kannagawa Cardiovascular and Respiratory Centre; TSuzuki, Marcos de Sales Guerra Escola Politecnica da Universidade de Sao Paulo</i>	

FrB07: 09:30-11:00	Event Hall-Area A (3F)
3.7.4 Wearable Systems II (Poster Session)	

09:30-11:00	FrB07.1
A Basic Study on Variable-Gain Kalman Filter Based on Angle Error Calculated from Acceleration Signals for Lower Limb Angle Measurement with Inertial Sensors	3423-3426
<i>Teruyama, Yuta Tohoku University; Watanabe, Takashi Tohoku University</i>	
09:30-11:00	FrB07.2
A Trial of Making Reference Gait Data for Simple Gait Evaluation System with Wireless Inertial Sensors	3427-3430
<i>Karasawa, Yuta Tohoku University; Teruyama, Yuta Tohoku University; Watanabe, Takashi Tohoku University</i>	
09:30-11:00	FrB07.3
An Approach to Analyze the Movements of the Arms While Walking Using Wearable Wireless Devices .	3431-3434
<i>Chandra, Rohit Lund University; Johansson, Anders Lund University</i>	
09:30-11:00	FrB07.4
Mobile Motion Capture - MiMiC	3435-3438
<i>Harbert, Simeon Ga Tech Research Institute; Jaiswal, Tushar Georgia Tech Research Institute; Harley, Linda Rosemary Georgia Tech Research Institute; Vaughn, Tyler Ga Tech Research Institute; Baranak, Andrew Ga Tech Research Institute</i>	

09:30-11:00	FrB07.5
Piezoelectric and Electromagnetic Respiratory Effort Energy Harvesters	3439-3442
<i>Shahhaidar, Ehsaneh University of Hawaii at Manoa; Padasdao, Bryson University of Hawaii at Manoa; Romine, Rebecca University of Hawaii at Manoa; Stickle, Cris University of Hawaii at Manoa; Boric-Lubecke, Olga University of Hawaii Manoa</i>	
09:30-11:00	FrB07.6
Touch Interface for Sensing Fingertip Force in Mobile Device Using Electromyogram	3443-3446
<i>Odagaki, Masato Maebashi Institute of Techonlogy; Taura, Toshiyuki Maebashi Institute of Techonlogy; Harakawa, Tetsumi Maebashi Institute of Techonlogy</i>	
09:30-11:00	FrB07.7
The Rectenna Design on Contact Lens for Wireless Powering of the Active Intraocular Pressure Monitoring System	3447-3450
<i>Cheng, Hui-Wen National Cheng-kung University</i>	
09:30-11:00	FrB07.8
1.2V Constant-Gm Rail-To-Rail CMOS Op-Amp Input Stage with New Overlapped Transition Regions Technique for ECG Amplifier	3451-3454
<i>Lee, Boram University of Minnesota; Higman, Ted University of Minnesota</i>	
FrB08: 09:30-11:00	Event Hall-Area A (3F)
4.6.1 Biomedical Data-driven Modeling (Poster Session)	
09:30-11:00	FrB08.1
A Bayesian Framework for Identifying Cell Migration Dynamics	3455-3458
<i>Holmes, Geoffrey Robert Univ. of Sheffield; Anderson, Sean R Univ. of Sheffield; Dixon, Giles Univ. of Sheffield; Renshaw, Stephen A Univ. of Sheffield; Kadiramanathan, Visakan Univ. of Sheffield</i>	
09:30-11:00	FrB08.2
Identifying Candidate Disease Genes Using a Trace Norm Constrained Bipartite Raking Model	3459-3462
<i>Lee, Cheng The University of Texas at Austin; Koyejo, Oluwasanmi University of Texas at Austin; Ghosh, Joydeep Univ. of Texas at Austin</i>	
09:30-11:00	FrB08.3
A Novel Framework for Exploratory Analysis of Highly Variable Morphology of Migrating Epithelial Cells	3463-3466
<i>Jefferyes, Samuel University of Warwick; Epstein, David University of Warwick; Straube, Anne Centre for Mechanochemical Cell Biology, Warwick Medical School,; Rajpoot, Nasir University of Warwick</i>	
09:30-11:00	FrB08.4
A Software Tool for the Selection of Tandem Repeats for MLVA Analysis	3467-3470
<i>D'Avenio, Giuseppe Istituto Superiore di Sanità; Grigioni, Mauro Istituto Superiore di Sanità; Creti, Roberta Istituto Superiore di Sanità</i>	
09:30-11:00	FrB08.5
Muscle synergy control model-tuned EMG driven torque estimation system with a musculo-skeletal model	3471-3474
<i>Min, Kyuengbo Tokyo Metropolitan Inst. of Medical Science; Shin, Duk Tokyo Inst. of Technology; Lee, Jongho Tokyo Metropolitan Inst. of Medical Science; Kakei, Shinji Tokyo Metropolitan Inst. of Medical Science</i>	
09:30-11:00	FrB08.6
Estimating a Ranked List of Human Hereditary Diseases for Clinical Phenotypes by Using Weighted Bipartite Network	3475-3478
<i>Ullah, Md. Zia Toyohashi University of Technology; Aono, Masaki Toyohashi University of Technology; Seddiqui, Md. Hanif University of Chittagong</i>	
09:30-11:00	FrB08.7
Dynamic Contrast Enhanced Optical Imaging of Cervix, in Vivo: A Paradigm for Mapping Neoplasia-Related Parameters	3479-3482
<i>Papoutsoglou, George Technical University of Crete; Giakoumakis, Theodoros-Marios Department of Electronic & Computer Engineering, Technical Unive; Balas, Costas Technical University of Crete</i>	

- 09:30-11:00 FrB09.1
Hypnosis Control Based on the Minimum Concentration of Anesthetic Drug for Maintaining Appropriate Hypnosis 3483-3486
Furutani, Eiko Kyoto University; Nishigaki, Yuki Chubu Electric Power Co.,Inc.; Kanda, Chiaki Kyoto University; Takeda, Toshihiro Kagawa University Hospital; Shirakami, Gotaro Kagawa University Hospital
- 09:30-11:00 FrB09.2
Personalized Tuning of a Reinforcement Learning Control Algorithm for Glucose Regulation 3487-3490
Daskalaki, Elena University of Bern; Diem, Peter Bern University Hospital, Inselspital; Mougiakakou, Stavroula University of Bern
- 09:30-11:00 FrB09.3
Needle-Free Interstitial Fluid Acquisition Using a Lorentz-Force Actuated Jet Injector 3491-3494
Chang, Jean H. MIT; Hogan, N. Catherine Massachusetts Institute of Technology; Hunter, Ian Massachusetts Institute of Technology
- 09:30-11:00 FrB09.4
Toward a Real Time Tracking of a Medical Deformable Needle from Strain Measurements 3495-3498
Robert, Adeline Joseph Fourier University; Chagnon, Grégory Université de Grenoble; Bonvilain, Agnès Université Joseph Fourier Grenoble; Cinquin, Philippe Joseph Fourier University / CNRS; Moreau-Gaudry, Alexandre Université Joseph Fourier - Grenoble University Hospital
- 09:30-11:00 FrB09.5
Experimental Analysis of the Performance of an Air-Powered Needle-Free Liquid Jet Injector 3499-3502
Portaro, Rocco Concordia University; Ng, Hoi Dick Concordia University

- 09:30-11:00 FrB10.1
Impact of Haemodialysis on Insulin Sensitivity of Sepsis Patients with Acute Renal Failure (ARF) in Critical Care 3503-3506
Jamaludin, Ummu Kulthum University of Canterbury; Docherty, Paul David University of Canterbury; Chase, J. Geoffrey University of Canterbury; Shaw, Geoffrey M Christchurch Hospital
- 09:30-11:00 FrB10.2
An Ensemble Rank Learning Approach for Gene Prioritization 3507-3510
Lee, Paul National Tsing-Hua University; Soo, Von-Wun Institute of Information Systems and Applications, National Tsing
- 09:30-11:00 FrB10.3
A Hybrid Model for the Prediction of mRNA Polyadenylation Signals 3511-3514
Han, Jiuqiang Xi'an Jiaotong University; Liu, Ze Xi'an jiaotong University; Zhong, Dexing Xi'an Jiaotong University; Wang, Tuo Xi'an Jiaotong University
- 09:30-11:00 FrB10.4
A Bio-Inspired Cooperative Algorithm for Distributed Source Localization with Mobile Nodes 3515-3518
Khalili, Azam Malayer University; Rastegarnia, Amir Malayer University; Islam, Md Kafiul National University of Singapore; Yang, Zhi National University of Singapore
- 09:30-11:00 FrB10.5
Experimental Comparison of Classification Methods for Key Kinase Identification for Neurite Elongation 3519-3522
Yoshida, Yuji Nara Inst. of Science and Technology; Majima, Kei Nara Inst. of Science and Technology; Yamada, Tatsuya Nara Inst. of Science and Technology; Maruno, Yuki Nara Inst. of Science and Technology; Sakumura, Yuichi Aichi Prefectural University; Ikeda, Kazushi Nara Inst. of Science and Technology

09:30-11:00		FrB10.6
Compartmental Pharmacokinetic Modeling of Lopinavir in Humans		3523-3526
<i>Lohitnavy, Manupat Naresuan University; Duangchaemkarn, Khanita Naresuan University</i>		
09:30-11:00		FrB10.7
SF-RPQ: A Novel Statistical Framework for Reliable Protein Quantification in Label-Free Quantitative Proteomics		3527-3530
<i>Kang, Mingon University of Texas at Arlington; Kim, Dong-Chul University of Texas at Arlington; Li, Shuo University of Texas, at Arlington; Gao, Jean University of Texas</i>		
09:30-11:00		FrB10.8
The Significance of LPV Modeling of a Widely Used T1DM Model		3531-3534
<i>Szalay, Peter Budapest Univ. of Technology and Economics; Eigner, Gyorgy Budapest Univ. of Technology and Economics; Kozlovsky, Miklos Obuda Univ.; Rudas, Imre Obuda Univ.; Kovacs, Levente Obuda Univ.</i>		
FrB11: 09:30-11:00		Event Hall-Area D (3F)
6.4.4 Sensory Neuroprostheses II (Poster Session)		
09:30-11:00		FrB11.1
Electrical Characteristics of 2D and 3D Microelectrodes for High-Resolution Retinal Prostheses		3535-3538
<i>Lee, Sangmin Seoul National University; Ahn, Jae Hyun Seoul National University; Yoo, Hyung Jung Seoul National University; Jung, Suk Won Korea Electronics Technology Institute; Oh, Sung Jin Seoul National University; Park, Sun Kil Seoul National University; Cho, Dong Il Seoul National University</i>		
09:30-11:00		FrB11.2
Visual Evoked Potential Characterization of Rabbit Animal Model for Retinal Prosthesis Research		3539-3542
<i>Khraiche, Massoud University of California, San Diego; El Emam, Sharif Jacob's Retina Center; Akinin, Abraham UCSD; Cauwenberghs, Gert University of California San Diego; Freeman, William Jacob's Retina Center; Silva, Gabriel UCSD</i>		
09:30-11:00		FrB11.3
Effect of Saccades in Tongue Electrotactile Stimulation for Vision Substitution Applications		3543-3546
<i>Chekhchoukh, Abdessalem AGIM Laboratory, University Joseph Fourier, CNRSFRE3405, Faculty; Vuillerme, Nicolas FRE 3405, AGIM (AGEing Imaging Modeling), CNRS-UJF-EPHE, Grenoble; Payan, Yohan Laboratoire TIMC-IMAG; Glade, Nicolas AGIM Laboratory, AGEing, Imaging and Modeling, CNRS FRE3405</i>		
09:30-11:00		FrB11.4
Early Rehabilitation of the Lower Limb. Does Passive Mobilization Provide Clinically-Relevant Brain Stimulation?		3547-3550
<i>Pittaccio, Simone National Research Council of Italy; Garavaglia, Lorenzo Institute for Energetics and Interphases, National Research Coun; Molteni, Erika Scientific Institute, IRCCS E. Medea; Guanzioli, Eleonora Clinica Villa Beretta, Ospedale Valduce, Costamasnaga; Zappasodi, Filippo Dept. of Neuroscience and Imaging and Institute for Advanced Bio; Beretta, Elena IRCCS "E.Medea", Associazione La Nostra Famiglia, Bosisio Parini; Strazzer, Sandra IRCCS; Molteni, F Hospital Valduce "Villa Beretta"; Villa, Elena Institute for Energetics and Interphases, National Research Coun; Passaretti, Francesca Institute for Energetics and Interphases, National Research Coun</i>		
09:30-11:00		FrB11.5
Bedside Assessment of Residual Functional Activation in Minimally Conscious State Using NIRS and General Linear Models		3551-3554
<i>Molteni, Erika Scientific Institute, IRCCS E. Medea; Arrigoni, Filippo IRCCS "E.Medea"; Bardoni, Alessandra IRCCS "E. Medea"; Galbiati, Sara Scientific Institute IRCCS E. Medea; Villa, Federica Scientific Institute, IRCCS E. Medea; Colombo, Katia Scientific Institute, IRCCS E. Medea; Strazzer, Sandra IRCCS</i>		
09:30-11:00		FrB11.6
Auditory Mismatch Negativity in Cochlear Implant Users: A Window to Spectral Discrimination		3555-3558
<i>Lopez Valdes, Alejandro Trinity Centre for Bioengineering, Trinity College Dublin; Reilly, Richard Trinity College Dublin; Zeng, Fan -Gang University of California, Irvine; Smith, Jaclyn National Cochlear Implant Program, Beaumont Hospital; Viani, Laura National Cochlear Implant Program, Beaumont Hospital; Walshe, Peter National Cochlear Implant Program, Beaumont Hospital; McLaughlin, Myles Tinity Center for Bioengineering, Trinity College Dublin</i>		

09:30-11:00	FrB11.7
A Microprocessor-Based Multichannel Subsensory Stochastic Resonance Electrical Stimulator	3559-3562
<i>Chang, Gwo-Ching I-Shou University</i>	
09:30-11:00	FrB11.8
Embracing the Irregular: A Patient-Specific Image Processing Strategy for Visual Prostheses	3563-3566
<i>Kiral-Kornek, Filiz Isabell Univ. of Melbourne; Savage, Craig Owen Univ. of Melbourne; O'Sullivan-Greene, Elma Univ. of Melbourne; Burkitt, Anthony Neville Univ. of Melbourne; Grayden, David B. Univ. of Melbourne</i>	
09:30-11:00	FrB11.9
Safety Assessment of Semichronic Suprachoroidal Electrical Stimulation to Rabbit Retina	3567-3570
<i>Terasawa, Yasuo NIDEK Co., Ltd; Tashiro, Hiroyuki Kyushu University; Oosawa, Kouji NIDEK CO., Ltd.; Nakano, Yukari Nidek Co., Ltd; Ozawa, Motoki NIDEK CO., Ltd.</i>	

FrB13: 09:30-11:00	Event Hall-Area A (3F)
9.4.3 Stimulation (Poster Session)	

09:30-11:00	FrB13.1
Electrical Stimulation Device As Possible Treatment for Nocturnal Bruxism: Preliminary Results	3571-3573
<i>Aqueveque, Pablo University of Concepcion; Pino, Esteban J Universidad de Concepcion; Lopez, Roberto University of Concepcion</i>	
09:30-11:00	FrB13.2
Development of a Novel Hearing-Aid for the Profoundly Deaf Using Bone-Conducted Ultrasonic Perception: Evaluation of Transposed Modulation	3574-3577
<i>Nakagawa, Seiji National Institute of Advanced Industrial Science and Technology; Fujiyuki, Chika National Institute of Advanced Industrial Science and Technology; Okubo, Yuko National Institute of Advanced Industrial Science and Technology; Hotehama, Takuya National Institute of Advanced Industrial Science and Technology; Kagomiya, Takayuki National Institute of Advanced Industrial Science and Technology</i>	
09:30-11:00	FrB13.3
The precise adjustment of coil location for transcranial magnetic stimulation during dynamic motion ...	3578-3581
<i>Kitamura, Taku Shibaura institute of Technology; Yaeshima, Katsutoshi University of Tokyo; Yamamoto, Shin-ichiroh Shibaura Institute of Technology; Kawashima, Noritaka Research Institute, National Rehabilitation Center forPersons wi</i>	
09:30-11:00	FrB13.4
Study on Performance Evaluation System for Transcranial Magnetic Stimulation Devices	3582-3585
<i>Liang, Zheng Xi'an Jiaotong Univ.; Li, Jianhao Xi'an Jiaotong Univ., China; Zhao, Zhijie Xi'an Jiaotong Univ.; Li, Jiangtao School of Electrical Engineering, Xi'an Jiaotong Univ.; Shi, Qindong Xi'an Jiaotong Univ.</i>	
09:30-11:00	FrB13.5
Coil Positioning System for Repetitive Transcranial Magnetic Stimulation Treatment by TOF Camera Ego-Motion	3586-3589
<i>Yasumuro, Yoshihiro Kansai University; Ebisuwaki, Ryo Kansai University; Fuyuki, Masahiko Kansai University; Matsuzaki, Taiga Teijin Pharma Limited; Saitoh, Youichi Osaka University</i>	
09:30-11:00	FrB13.6
Effects of Low Amplitude Pulsed Radiofrequency Stimulation with Different Waveform in Rats for Neuropathic Pain	3590-3593
<i>Lin, Wei-Tso National Taiwan University; Lin, Chii-Wann National Taiwan University; Chang, Chi-Heng NTU; Cheng, CHANYI National Taiwan University; Lin, Chih-Ting National Taiwan University; Wen, Yeong-Ray China Medical University; Chen, Meng-Chao National Taiwan University, Biomedical Engineering</i>	

FrB14: 09:30-11:00	Event Hall-Area D (3F)
6.3.3 Motor Neuroprostheses II (Poster Session)	

09:30-11:00	FrB14.1
Offline Decoding of Upper Limb Muscle Synergies from EEG Slow Cortical Potentials	3594-3597
<i>Beuchat, Nicolas Ecole Polytechnique Fédérale de Lausanne; Chavarriga, Ricardo Ecole Polytechnique Federale de Lausanne; Degallier, Sarah EPFL; Millán, José del R. Ecole Polytechnique Federale de Lausanne</i>	

09:30-11:00	FrB14.2
Modeling Open-Loop Stability of a Human Arm Driven by a Functional Electrical Stimulation Neuroprosthesis	3598-3601
<i>Liao, Yu-Wei Northwestern Univ.; Schearer, Eric Northwestern Univ.; Hu, Xiao Northwestern Univ.; Perreault, Eric Northwestern Univ.; Tresch, Matthew Northwestern Univ.; Lynch, Kevin Northwestern Univ.</i>	
09:30-11:00	FrB14.3
Using Speech for Mode Selection in Control of Multifunctional Myoelectric Prostheses	3602-3605
<i>Fang, Peng Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Wei, zheng Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Geng, Yanjuan Shenzhen Institutes of Advanced Technology; Yao, Fuan School of Control Science and Engineering, Shandong University; Li, Guanglin Shenzhen Institutes of Advanced Technology</i>	
09:30-11:00	FrB14.4
Design and Validation of a Neuroprosthesis for the Treatment of Upper Limb Tremor	3606-3609
<i>Gallego, Juan Alvaro Consejo Superior de Investigaciones Cientificas CSIC; Rocon, Eduardo CSIC; Belda-Lois, Juan-Manuel Asociación Instituto de Biomecánica de Valencia; Koutsou, Aikaterini D. Bioengineering Group, Consejo Superior de Investigaciones Cientí; Pons, Jose Luis Instituto de Automática Industrial</i>	
09:30-11:00	FrB14.5
An Implantable Wireless System for Muscle Afferent Recording from the Sciatic Nerve During Functional Electrical Stimulation	3610-3613
<i>Song, Kang-Il Korea Institute of Science and Technology; Chu, Jun-Uk Korea Institute of Science and Technology; Shon, Ahnsei Korea Institute of Science and Technology; Choi, Kuiwon Korea Institute of Science and Technology; Hwang, Dosik Yonsei University; Youn, Inchan Korea Institute of Science and Technology</i>	
09:30-11:00	FrB14.6
Spatially Distributed Sequential Stimulation Reduces Muscle Fatigue During Neuromuscular Electrical Stimulation	3614-3617
<i>Sayenko, Dimitry Toronto Rehab-UHN; Popovic, Milos R. Univ. of Toronto; Masani, Kei Univ. of Toronto</i>	
09:30-11:00	FrB14.7
Temporal Muscle Activation Assessment by Ultrasound Imaging During Flexor Withdrawal Reflex and Voluntary Contraction	3618-3621
<i>Gomez Tames, Jose David Chiba University; Nakamura, Shuto Chiba University; Gonzalez, Jose Chiba University; Yu, Wenwei University of Chiba</i>	
09:30-11:00	FrB14.8
Long Term Stability of Surface EMG Pattern Classification for Prosthetic Control	3622-3625
<i>Amsuess, Sebastian Otto Bock Healthcare Products GmbH; Paredes Calderon, Liliana Patricia Otto Bock Healthcare GmbH; Rudigkeit, Nina n@ottobock.de 3 N.Rudigkeit is with Max Planck Institute for Dyn; Graimann, Bernhard Otto Bock Healthcare GmbH; Herrmann, Michael School of Informatics, The University of Edinburgh; Farina, Dario Bernstein Center for Computational Neuroscience, University Medi</i>	
09:30-11:00	FrB14.9
Pudendal Neuromodulation with a Closed-Loop Control Strategy to Improve Bladder Functions in the Animal Study	3626-3629
<i>Peng, Chih-Wei Taipei Medical University</i>	
09:30-11:00	FrB14.10
Real-Time Comparison of Conventional Direct Control and Pattern Recognition Myoelectric Control in a Two-Dimensional Fitts' Law Style Test	3630-3633
<i>Wurth, Sophie Marie Swiss Federal Institute of Technology Lausanne, Center for Bioni; Hargrove, Levi Rehabilitation Institute of Chicago</i>	
09:30-11:00	FrB14.11
Compensation for Injury Potential by Electrical Stimulation after Acute Spinal Cord Injury in Rat	3634-3637
<i>Zhang, Guanghao Institute of Electrical Engineering, Chinese Academy of Sciences; Huo, Xiaolin Chinese Academy of Sciences</i>	

09:30-11:00 FrB14.12
Shared Control Strategies for Human – Machine Interface in an Intelligent Wheelchair 3638-3641
Nguyen, Anh V. University of Technology, Sydney; Nguyen, Lien B. University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney; Su, Steven Weidong University of Technology, Sydney

09:30-11:00 FrB14.13
The Advancement of an Obstacle Avoidance Bayesian Neural Network for an Intelligent Wheelchair 3642-3645
Nguyen, Anh V. University of Technology, Sydney; Nguyen, Lien B. University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney; Su, Steven Weidong University of Technology, Sydney

FrB15: 09:30-11:00 Event Hall-Area C (3F)
2.8.2 Image Classification II (Poster Session)

09:30-11:00 FrB15.1
Half-Against-Half Structure in Classification of Benthic Macroinvertebrate Images 3646-3649
Joutsijoki, Henry University of Tampere

09:30-11:00 FrB15.2
Multiobjective Evolutionary Optimization for Tumor Segmentation of Breast Ultrasound Images 3650-3653
Kim, Ye-Hoon SAIT, Samsung Electronics; Cho, Baek Hwan Samsung Advanced Institute of Technology; Seong, Yeong Kyeong Samsung Advanced Institute of Technology; Park, Moon Ho Samsung Electronics; Kim, Junghoe Samsung Electronics; Yu, Sinsang Samsung Advanced Institute of Technology; Woo, Kyoung-Gu Samsung Advanced Institute of Technology (SAIT), Samsung Electron

09:30-11:00 FrB15.3
Exploiting Gastrointestinal Anatomy for Organ Classification in Capsule Endoscopy Using Locality Preserving Projections 3654-3657
Azzopardi, Carl Univ. of Malta; Hicks, Yulia A. Univ. of Cardiff; Camilleri, Kenneth Patrick Univ. of Malta

09:30-11:00 FrB15.4
Automation of ROI Extraction in Hyperspectral Breast Images 3658-3661
Kim, Bo Ram University of Texas at Dallas; Kehtarnavaz, Nasser University of Texas at Dallas; Liu, Hanli University of Texas at Arlington; LeBoulluec, Peter University of Texas at Arlington

09:30-11:00 FrB15.5
Liver Tumor Detection and Segmentation Using Kernel-Based Extreme Learning Machine 3662-3665
*Huang, Weimin Institute for Infocomm Research, Agency for Science Technology and; Li, Ning Nanyang Technological Univ; Lin, Zhiping Nanyang Technological University; Huang, Guang-bin Nanyang Technological University; Zong, Weiwei NTU; Zhou, Jiayin Institute for Infocomm Research; Duan, Yuping Institute for Infocomm Research, A*STAR*

09:30-11:00 FrB15.6
Robust Classification of DNA Damage Patterns in Single Cell Gel Electrophoresis 3666-3669
Lee, Taehoon Seoul National University; Lee, Sungmin Seoul National University; Sim, Woo Young NanoEnTek; Jung, Yu Mi NanoEnTek; Han, Sunmi NanoEnTek; Chung, Chanil NanoEnTek; Chang, Jay Junkeun NanoEnTek; Min, Hyeyoung Chung-Ang University; Yoon, Sunghroh Seoul National University

09:30-11:00 FrB15.7
Automated Down Syndrome Detection Using Facial Photographs 3670-3673
Zhao, Qian Children's National Medical Center; Rosenbaum, Kenneth Children's National Medical Center; Okada, Kazunori San Francisco State University; zand, dina Children's National Medical Center; Raymond Sze, W Children's Natinal Medical Center; Summar, Marshall Children's National Medical Center; Linguraru, Marius George Children's National Medical Center

09:30-11:00 FrB15.8
On the Combination of Wavelet and Curvelet for Feature Extraction to Classify Lung Cancer on Chest Radiographs 3674-3677
Al-Absi, Hamada Rasheed Hassan University Teknologi PETRONAS; Samir, Brahim Belhaouari Alfaisal University; Alhersh, Taha Independent Researching; Sulaiman, Suziah University Teknologi PETRONAS

09:30-11:00 FrB15.9
Classification of Clinical Data Using Diffusion Maps: A Density Based Approach 3678-3681
*Chen, Ko-Kung national Yang Ming university; Hung, CHih-I National Yang-Ming University;
Soong, Bing-Wen National Yang-Ming University; Wu, Hsiu-Mei Taipei Veteran General Hospital;
Wu, Yu-Te National Yang-Ming University; Wang, Po-Shan Taipei Municipal Gan-Dau Hospital*

FrB16: 09:30-11:00 Event Hall-Area C (3F)
2.8.5 Image Feature Extraction III (Poster Session)

09:30-11:00 FrB16.1
Application of Fuzzy Skeletonization to Quantitatively Assess Trabecular Bone Micro-Architecture 3682-3685
Jin, Dakai University of Iowa; Liu, Yinxiao University of Iowa; Saha, Punam K. University of Iowa

09:30-11:00 FrB16.2
Quantitative Analysis of Lymphocytes Morphology and Motion in Intravital Microscopic Images 3686-3689
*Huang, Yali Beijing Institute of Technology; Liu, Zhiwen Beijing Institute of Technology; Shi, Yonggang Beijing
Institute of Technology; Li, Ning Beijing You'An Hospital; An, Xing Beijing Institute of Technology; Gou,
Xiaoming Beijing Institute of Technology*

09:30-11:00 FrB16.3
Smartphones As Image Processing Systems for Prosthetic Vision 3690-3693
*Zapf, Marc Patrick Hans University of New South Wales; Matteucci, Paul Brendan University of New South
Wales; Lovell, Nigel H. University of New South Wales; Suaning, Gregg The University of New South Wales*

09:30-11:00 FrB16.4
A New Quantitative Approach for Estimating Bone Cell Connections from Nano-CT Images 3694-3697
*Dong, Pei CREATIS, CNRS UMR 5220, Inserm 1044, INSA of Lyon; Pacureanu, Alexandra Centre for Image
Analysis/SciLifeLab, Uppsala University; Zuluaga, Maria A. University College of London; Olivier, Cécile
CREATIS; Frouin, Frederique INSERM; Grimal, Quentin Université PARIS 6, CNRS UMR 7623; Peyrin,
Francoise CREATIS*

09:30-11:00 FrB16.5
Automated Detection of Malaria in Giemsa-Stained Thin Blood Smears 3698-3701
*Mushabe, Mark University of Cape Town; Dendere, Ronald University of Cape Town;
Douglas, Tania S University of Cape Town*

09:30-11:00 FrB16.6
Model-Based Segmentation of the Middle Phalanx in Digital Radiographic Images of the Hand 3702-3705
Dendere, Ronald Univ. of Cape Town; Kabelitz, Gordian Univ. of Lübeck; Douglas, Tania S Univ. of Cape Town

09:30-11:00 FrB16.7
Quantitative Measures of Facial Expression for Patients with Head and Neck Cancer 3706-3709
*Lee, Juhun The Univ. of Texas at Austin; Fingeret, Michelle The Univ. of Texas MD Anderson Cancer Center;
Teo, Irene MD Anderson Cancer Center; Hanasono, Matthew The Univ. of Texas MD Anderson Cancer Center;
Skoracki, Roman UT MD Anderson Cancer Center; Markey, Mia The Univ. of Texas at Austin*

09:30-11:00 FrB16.8
Vascular Pattern Localization Via Temporal Signature 3710-3713
*Xu, Beilei Xerox Corporation; Liu, Yi Massachusetts Institute of Technology; Mestha, Lalit, K. Xerox
Corporation; Loce, Robert Xerox Corporation*

09:30-11:00 FrB16.9
**Integral Scale Histogram Local Binary Patterns for Classification of Narrow-Band
Gastroenterology Images** 3714-3717
*Riaz, Farhan Universidade do Porto; Dinis-Ribeiro, Mário Instituto Português de Oncologia - Porto;
Pimentel-Nunes, Pedro Instituto Portugues de Oncologia; Coimbra, Miguel Instituto de Telecomunicações /
Universidade do Porto*

9.5.5 Thermal Therapies (Poster Session)

- 09:30-11:00 FrB17.1
Effect of Phase Difference in Multi-Antenna Microwave Thermal Ablation for Breast Cancer Treatment . 3718-3721
Phasukkit, Pattarapong King Mongkut's Inst. of Technology Ladkrabang; Sanpanich, Arthorn Inst. of Molecular Biosciences, Mahidol Univ., Nakhonpa; Tungjikusolmun, Supan KMITL; Hamamoto, Kazuhiko Tokai Univ.
- 09:30-11:00 FrB17.2
Temperature Distributions Measurement of High Intensity Focused Ultrasound Using a Thin-Film Thermocouple Array and Estimation of Thermal Error Caused by Viscous Heating 3722-3725
Matsuki, Kosuke The Univ. of Tokyo; Narumi, Ryuta The Univ. of Tokyo; Azuma, Takashi The Univ. of Tokyo; Yoshinaka, Kiyoshi AIST; Sasaki, Akira The Univ. of Tokyo Faculty of Engineering; Okita, Kohei Nihon Univ.; Takagi, Shu The Univ. of Tokyo; Matsumoto, Yoichiro The Univ. of Tokyo
- 09:30-11:00 FrB17.3
MRI-Compatible Ultrasound Heating System with Ring-Shaped Phased Arrays for Breast Tumor Thermal Therapy 3726-3728
Chen, Hung-Nien National Taiwan University; Guan-Ming, Chen Institute of Biomedical Engineering, National Taiwan University; Lin, Bo-Sian Institute of Biomedical Engineering, National Taiwan University; Lien, Pi-Hsien Institute of Biomedical Engineering, National Taiwan University; Yung-Yaw, Chen National Taiwan University; Chen, Gin-Shin National Health Research Institutes; Lin, Win-Li National Taiwan University
- 09:30-11:00 FrB17.4
Temperature Feedback Based Heating Strategy for Ultrasound Thermal Surgery 3729-3732
Ju, Kuen-Cheng I-Shou University
- 09:30-11:00 FrB17.5
Design of Fiber Optic Applicators for Laser Interstitial Thermotherapy: Theoretical Evaluation of Thermal Outcomes 3733-3736
Saccomandi, Paola University Campus Bio-Medico of Rome; Schena, Emiliano University of Rome Campus Bio-Medico; Silvestri, Sergio Università Campus Bio-Medico di Roma
- 09:30-11:00 FrB17.6
Influence of FBG Sensors Length on Temperature Measures in Laser-Irradiated Pancreas: Theoretical and Experimental Evaluation 3737-3740
Saccomandi, Paola University Campus Bio-Medico of Rome; Lupi, Giulia University Campus Bio-Medico di Roma; Schena, Emiliano University of Rome Campus Bio-Medico; Polimadei, Andrea ENEA - Centro Ricerche Frascati; Caponero, Michele Arturo ENEA - Centro Ricerche Frascati; Panzera, Francesco University Campus Bio-Medico of Rome; Martino, Margareth University Campus Bio-Medico of Rome; Di Matteo, Francesco Maria University Campus Bio-Medico of Rome; Sciuto, Salvatore Andrea University "Roma Tre"; Silvestri, Sergio Università Campus Bio-Medico di Roma
- 09:30-11:00 FrB17.7
Automatic Control System of Brain Temperature by Air-Surface Cooling for Therapeutic Hypothermia .. 3741-3744
Utsuki, Tomohiko Showa University
- 09:30-11:00 FrB17.8
Optimizing Bipolar Radiofrequency Ablation Treatment by Means of Pulsed Currents 3745-3748
Soetaert, Frederik Ghent University; Crevecoeur, Guillaume Ghent University; Dupré, Luc Ghent University, Dept. Electrical Energy, Systems and Automatio
- 09:30-11:00 FrB17.9
Superficial Heat Reduction Technique for a Hybrid Microwave-Optical Device 3749-3752
Al-Armaghany, Allann Univ. College London; Tong, Kenneth UCL; Leung, Terence UCL, Dept. of Medical Physic
- 09:30-11:00 FrB17.10
Computation of Temperature Elevation in Fetus Due to Radio-Frequency Exposure with a New Thermal Modeling 3753-3756
Hirata, Akimasa Nagoya Institute of Technology; Ishii, Yuri Nagoya Institute of Technology; Nomura, Tomoki Nagoya Institute of Technology; Laakso, Ilkka Nagoya Institute of Technology

09:30-11:00 FrB17.11
Control of Rapid Hypothermia Induction by Total Liquid Ventilation: Preliminary Results 3757-3760
Nadeau, Mathieu Universite de Sherbrooke; *Micheau, Philippe* Universite de Sherbrooke; *Robert, Raymond* Universite de Sherbrooke; *Avoine, Olivier* Universite de Sherbrooke; *Tissier, Renaud* Institut National de la Santé et de la Recherche Médicale; *Germim, Pamela Samanta* Universite de Sherbrooke; *Walti, Hervé* Universite de Sherbrooke

09:30-11:00 FrB17.12
Mid-Long Term Effect of Non-Ablative High Radiofrequency Therapy on the Rabbit Dermal Extracellular Matrix 3761-3764
Choi, Samjin Kyung Hee Univ.; *Shin, Jae-Ho* Kyung Hee Univ.; *Nam, Seong-Won* Kyung Hee Univ.; *Jang, Hoyoung* Yamaguchi Univ.; *Tao, Ting* Yamaguchi Univ.; *Kwak, Hyung-Woo* Kyung Hee Univ.; *Jin, Kyung-Hyun* Kyung Hee Univ.; *Lee, Gi-Ja* Kyung Hee Univ.; *Park, Hun-Kuk* Kyung Hee Univ.

09:30-11:00 FrB17.13
A Practical Comparison of Copper Bromide Laser for the Treatment of Vascular Lesions 3765-3768
Lee, Sunwoo Bison medical Co., Ltd.; *Lee, Tae Bum* Korea ElectroTechnology Research Institute; *Kim, Hoyoun* Bison medical Co., Ltd.; *Kim, Jung su* Bison Medical; *Eun, Hey Jun* Bison Medical; *Kim, Ryun Kyung* Korea ElectroTechnology Research Institute

09:30-11:00 FrB17.14
New Treatment Strategy of Cryosurgery and Temperature Control 3769-3772
Zou, Xianjing Shanghai Jiao Tong University; *bai, jingfeng* Shanghai Jiao Tong University; *Zhang, Aili* Shanghai Jiao Tong University; *Liu, Ping* Shanghai Jiao Tong University; *Xu, Lisa* Xuemin Shanghai Jiaotong University

FrB18: 09:30-11:00 Event Hall-Area B (3F)
5.8.1 Cardiac Electrophysiology (Poster Session)

09:30-11:00 FrB18.1
Detection of Transient, Regional Cardiac Repolarization Alternans by Time-Frequency Analysis of Synthetic Electrograms 3773-3776
Orini, Michele University College London; *Hanson, Ben Mark* University College London, UK; *Taggart, Peter* University College London; *Lambiase, Pier* University College London Hospital

09:30-11:00 FrB18.2
Mapping Activation in a Sino-Atrial Node Cardiac Tissue Preparation with a Multi-Electrode Array 3777-3780
Tanyous, Fred University of New South Wales; *Al Abed, Amr* University of New South Wales; *Bradd, Adrian* UNSW; *Lovell, Nigel H.* University of New South Wales; *Dokos, Socrates* University of New South Wales

09:30-11:00 FrB18.3
Wavelet-Sparsity Based Regularization Over Time in the Inverse Problem of Electrocardiography 3781-3784
Cluitmans, Matthijs Maastricht Univ.; *Karel, Joël* Maastricht Univ.; *Bonizzi, Pietro* Maastricht Univ.; *Volders, Paul* Maastricht Univ.; *Westra, Ronald* Universiteit Maastricht; *Peeters, Ralf* Maastricht Univ.

09:30-11:00 FrB18.4
A Working Heart-Brainstem Preparation of the Rat for the Study of Reflex Mediated Autonomic Influences on Atrial Arrhythmia Development 3785-3788
Ashton, Jesse L University of Auckland; *Paton, Julian F.R.* University of Bristol; *Trew, Mark L.* University of Auckland; *LeGrice, Ian* University; *Smaill, Bruce* University of Auckland

09:30-11:00 FrB18.5
Methodology for Automated Detection of Fragmentation in QRS Complex of Standard 12-Lead ECG 3789-3792
Maheshwari, Sidharth Indian Institute of Technology Guwahati; *Acharyya, Amit* Indian Institute of Technology Hyderabad; *Puddu, Paolo Emilio* Dept of Cardiovascular Sciences, Sapienza University of Rome, It; *Schiarly, Michele* Dept of Cardiovascular Sciences, Sapienza University of Rome, It

09:30-11:00 FrB18.6
Two Dimensional Wavelet Energy Analysis on a Beat to Beat Basis: Application to Atrial Fibrillation 3793-3796
Filos, Dimitrios Aristotle University o Thessaloniki; *Chouvarda, Ioanna* Aristotle University, EL090049627; *Dakos, George* Aristotle University o Thessaloniki; *Vassilikos, Vassilios* Aristotle University o Thessaloniki; *Maglaveras, Nikolaos* Aristotle University of Thessaloniki

09:30-11:00 FrB18.7
Computing the Electrical Activity of the Heart with a Dynamic Inverse Monodomain Operator 3797-3800
Lopez-Rincon, Alejandro Institut National de Recherche en Informatique et en Automatique; Ainseba, Bedreddine Institut de Mathématiques de Bordeaux; Bendahmane Mostafa, Bendahmane Mostafa University Bordeaux Segalen, Bordeaux

09:30-11:00 FrB18.8
Cardiovascular Changes in Parabolic Flights Assessed by Ballistocardiography 3801-3804
Delière, Quentin Royal Military Academy; Migeotte, Pierre-François Royal Military Academy; Neyt, Xavier Royal Military Academy; Funtova, Irina I. IMBP Moscow, Russia; Baevsky, Roman M. IMBP Moscow, Russia; Tank, Jens Hannover Medical School; Pattyn, Nathalie Royal Military Academy, Brussels, Belgium

FrB19: 09:30-11:00	Event Hall-Area B (3F)
5.8.2 Baroreflex and Autonomic Nervous System (Poster Session)	

09:30-11:00 FrB19.1
Effects of L-Type Ca²⁺ Channel Blocker Nifedipine on Dynamic Arterial Blood Pressure Control 3805-3808
Kawada, Toru Nat. Cerebral and Cardiovascular Center Res Inst; Yamamoto, Hiromi Kinki University School of Medicine; Shimizu, Shuji National Cerebral and Cardiovascular Center; Turner, Michael National Cerebral and Cardiovascular Center, Japan; Sugimachi, Masaru Natl Cardio Center Research Inst

09:30-11:00 FrB19.2
Differential Dynamic Control of Cardiac and Splanchnic Sympathetic Nerve Activity by the Arterial Baroreflex 3809-3812
Turner, Michael National Cerebral and Cardiovascular Center, Japan; Kawada, Toru Nat. Cerebral and Cardiovascular Center Res Inst; Sugimachi, Masaru Natl Cardio Center Research Inst

09:30-11:00 FrB19.3
A Novel Approach to the Design of an Artificial Bionic Baroreflex 3813-3816
Ataee, Pedram University of British Columbia; Dumont, Guy University of British Columbia; Ahmadi Noubari, Hossain 1- University of Tehran, and 2- University of British Columbia; Boyce, W. Thomas College for Interdisciplinary Studies and Faculty of Medicine, U; Ansermino, J. Mark British Columbia's Children's Hospital

09:30-11:00 FrB19.4
Microfabricated Device for Co-Culture of Sympathetic Neuron and Ips-Derived Cardiomyocytes 3817-3820
Takeuchi, Akimasa The University of Tokyo; Shimba, Kenta University of Tokyo; Takayama, Yuzo National Institute of Advanced Industrial Science and Technology; Kotani, Kiyoshi University of Tokyo; Lee, Jong-Kook Nagoya University; Noshiro, Makoto Kitasato University; Jimbo, Yasuhiko University of Tokyo

09:30-11:00 FrB19.5
Investigating the Beat by Beat Phase Synchronization between Maternal and Fetal Heart Rates 3821-3824
Wang, Qianqian The University of Melbourne; Khandoker, Ahsan Habib Khalifa University of Science, Technology and Research; Marzbanrad, Faezeh The University of Melbourne; Funamoto, Kiyoe Tohoku University; Sugibayashi, Rika Tohoku University; Endo, Miyuki Tohoku University; Kimura, Yoshitaka Tohoku Univ; Palaniswami, Marimuthu The University of Melbourne

09:30-11:00 FrB19.6
An Extended Model of Blood Pressure Variability: Incorporating the Respiratory Modulation of Vascular Resistance 3825-3828
Chalacheva, Patjanaporn University of Southern California; Khoo, Michael University of Southern California

FrB22: 09:30-11:00	Event Hall-Area B (3F)
5.10.2 Respiratory Monitoring II (Poster Session)	

09:30-11:00 FrB22.1
Estimation of Respiratory Signal from Thoracic Impedance Cardiography in Low Electrical Current 3829-3832
Fernando, Jeffry Bonar Panasonic Corp.; Morikawa, Koji Panasonic Corp.; Ozawa, Jun Panasonic Corp.

09:30-11:00	FrB22.2
Further Applications of Doppler Radar for Non-Contact Respiratory Assessment	3833-3836
<i>Lee, Yee Siong Deakin University; Pathirana, Pubudu N. Deakin University; Caelli, Terry National ICT Australia (Located: VRL); LI, SAIYI Deakin University</i>	
09:30-11:00	FrB22.3
Development of a New Measurement System to Detect Selectively Volatile Organic Compounds Derived from the Human Body	3837-3840
<i>Kanou, Saki Tokai University; Magatani, Kazushige Tokai Univ.; Iitsuka, Shinjiro Tokai University; Nagaoka, Takashi Waseda University; Kobayashi, Naofumi Nihon Kohden Corporation; Kurahashi, Muneshige Nihon Kohden Corporation; Takeda, Sunao Tokyo University of Technology; Aoki, Takuya Tokai University; Tsuji, Chizuko Tokai University; Urano, Tetsuya Tokai University; Abe, Tadashi Tokai University; Magatani, Kazushige TOKAI University</i>	
09:30-11:00	FrB22.4
Fundamental Study of Measurement of Cardiorespiratory Signals in a Sitting Position Using Piezoelectric Sensors	3841-3844
<i>Igasaki, Tomohiko Kumamoto University; Yoshikawa, Kazuma Kumamoto University; Murayama, Nobuki Kumamoto University</i>	
09:30-11:00	FrB22.5
Cardiac Interference Reduction in Diaphragmatic MMG Signals During a Maintained Inspiratory Pressure Test	3845-3848
<i>Sarlabous, Leonardo Univ. Politècnica de Catalunya (UPC); Torres, Abel Univ. Politècnica de Catalunya; Fiz Fernandez, José Antonio Navarra Hospital; Jané, Raimon Institut de Bioenginyeria de Catalunya (IBEC)</i>	
09:30-11:00	FrB22.6
Characterization of the Respiratory Pattern Variability of Patients with Different Pressure Support Levels	3849-3852
<i>Giraldo, Beatriz Universitat Politècnica de Catalunya; Chaparro, Javier Escuela Colombiana de Ingeniería Julio Garavito; Caminal, Pere Technical University of Catalonia (UPC); Benito, Salvador Hospital de la Santa Creu i Sant Pau</i>	
09:30-11:00	FrB22.7
Detection of Respiration in Central Venous Pressure Using State Machine	3853-3856
<i>Dow, Douglas E Wentworth Institute of Technology; Garcia, Alejandra Wentworth Institute of Technology</i>	
FrB23: 09:30-11:00	Event Hall-Area B (3F)
5.11.1 Coronary Circulation (Poster Session)	
09:30-11:00	FrB23.1
Validation of a Multi-Scale Model of the Coronary Circulation in Adult Sheep and Newborn Lambs	3857-3860
<i>Mynard, Jonathan Murdoch Children's Research Institute; Penny, Daniel Murdoch Children's Research Institute; Smolich, Joseph Murdoch Children's Research Institute</i>	
09:30-11:00	FrB23.2
Role of Endogenous Hydrogen Peroxide During Angiotensin Type 1 Receptor Blockers Administration in Pacing-Induced Metabolic Coronary Vasodilatation in Dogs in Vivo	3861-3864
<i>Yada, Toyotaka Kawasaki Medical School,; Shimokawa, Hiroaki Tohoku University Graduate School of Medicine; Hiramatsu, Osamu Kawasaki University of Medical Welfare; Goto, Masami Kawasaki Medical School; Ogasawara, Yasuo Kawasaki Medical School; kajija, fumihiiko kawasaki university of medical welfare</i>	
09:30-11:00	FrB23.3
Area Stenosis Associated with Non-Invasive Fractional Flow Reserve Obtained from Coronary CT Images	3865-3868
<i>Zhang, Jun-Mei National Heart Center; Luo, Tong Indiana University Purdue University Indianapolis, Indianapolis; Huo, Yunlong Purdue University; Wan, Min National Heart Centre Singapore; Chua, Terrance National Heart Center; tan, ru san National heart center; Kassab, Ghassan Purdue University; Tan, Swee Yaw National Heart Center; Zhong, Liang National Heart Centre Singapore</i>	

09:30-11:00 FrB23.4
Effects of Stenosis on the Porcine Left Anterior Descending Arterial Tree 3869-3872
Zhong, Liang National Heart Centre Singapore; Su, BoYang Department of Bioengineering, National University of Singapore; Zhang, Jun-Mei National Heart Center; Huo, Yunlong Purdue University; Leo, Hwa liang Department of bioengineering; Kassab, Ghassan Purdue University; tan, ru san National heart center

09:30-11:00 FrB23.5
Automatic Measurement of Lumen Diameter of Carotid Artery in A-Mode Ultrasound 3873-3876
Sahani, Ashish Kumar Indian Institute of Technology Madras; Joseph, Jayaraj HTIC, Indian Institute of Technology; Sivaprakasam, Mohanasankar Indian Institute of Technology Madras

09:30-11:00 FrB23.6
Multiobjective Patient-Specific Estimation of a Coronary Circulation Model for Triple Vessel Disease 3877-3880
Ojeda, David Universite de Rennes 1. LTSI; Le Rolle, Virginie University of Rennes 1; Drochon, Agnès UTC; Harmouche, Majid Rennes University Hospital, Department of Thoracic and Cardiovas; Verhoye, Jean-Philippe Rennes University Hospital, Department of Thoracic and Cardiovas; Corbineau, Hervé Rennes University Hospital, Department of Thoracic and Cardiovas; Hernández, Alfredo I Univ. of Rennes 1 and INSERM U642

09:30-11:00 FrB23.7
A Model-Based Approach for the Evaluation of Vagal and Sympathetic Activities in a Newborn Lamb ... 3881-3884
Le Rolle, Virginie University of Rennes 1; Ojeda, David Universite de Rennes 1. LTSI; Beuchée, Alain Rennes University Hospital and INSERM U642; praud, Jean-Paul University of Sherbrooke; Pladys, Patrick Centre Hospitalier Universitaire; Hernández, Alfredo I Univ. of Rennes 1 and INSERM U642

09:30-11:00 FrB23.8
Computational Assessment of the Fractional Flow Reserve from Intravascular Ultrasound and Coronary Angiography Data: A Pilot Study 3885-3888
Siogkas, Panagiotis FORTH-IMBB; Papafaklis, Michail Brigham and Women's Hospital, Harvard Medical School; Sakellarios, Antonis University of Ioannina; Stefanou, Kostas FORTH-BRI; Bourantas, Christos Dept. of Academic Cardiology, Castle Hill Hospital, Cottingham, HU; Athanasiou, Lambros University of Ioannina; Bellos, Christos FORTH BRI Foundation for Research and Technology -Hellas,Biomed; Exarchos, Themis P. Unit of Medical Tech & Intelligent Info; Naka, Katerina University of Ioannina; Michalis, Lampros University of Ioannina; Parodi, Oberdan CNR Clinical Physiology Institute - Milan; Fotiadis, Dimitrios I. University of Ioannina

09:30-11:00 FrB23.9
Prediction of Coronary Atherosclerosis Progression Using Dynamic Bayesian Networks 3889-3892
Exarchos, Konstantinos University of Ioannina; Exarchos, Themis P. Unit of Medical Tech & Intelligent Info; Bourantas, Christos Dept. of Academic Cardiology, Castle Hill Hospital, Cottingham, HU; Papafaklis, Michail Brigham and Women's Hospital, Harvard Medical School; Naka, Katerina University of Ioannina; Michalis, Lampros University of Ioannina; Parodi, Oberdan CNR Clinical Physiology Institute - Milan; Fotiadis, Dimitrios I. University of Ioannina

FrC01: 13:30-15:00 Conference Hall (12F)
1.1.6 Time-Frequency and Time-Scale Analysis of Biosignals IV (Oral Session)
Chair: Laguna, Pablo (*Zaragoza Univ. and CIBER-BBN*)

13:30-13:45 FrC01.1
Automated Identification of Fetal Cardiac Valve Timings 3893-3896
Marzbanrad, Faezeh The University of Melbourne; Khandoker, Ahsan Habib Khalifa University of Science, Technology and Research; Funamoto, Kiyoe Tohoku University; Sugibayashi, Rika Tohoku University; Endo, Miyuki Tohoku University; Velayo, Clarissa Tohoku University; Kimura, Yoshitaka Tohoku Univ; Palaniswami, Marimuthu The University of Melbourne

13:45-14:00 FrC01.2
Sparse Reconstruction of Correlated Multichannel Activity 3897-3900
Peelman, Sem Univ. of Antwerp; Van der Hertten, Joachim Univ. of Antwerp; De Vos, Maarten KU Leuven; Lee, Wen-shin Univ. of Antwerp; Van Huffel, Sabine Katholieke Universiteit Leuven; Cuyt, Annie Univ. of Antwerp

14:00-14:15 FrC01.3
Empirical Mode Decomposition Improves Detection of SSVEP 3901-3904
Huang, Liya Nanjing University of Posts and Telecommunications; Huang, Xiaoxia Shanghai Maritime University; Wang, Yu-Te University of California San Diego; Wang, Yijun University of California, San Diego; Jung, Tzyy-Ping University of California San Diego; Cheng, Chung-Kuan University of California, San Diego

14:15-14:30 FrC01.4
Automatic Doppler Signal Analysis to Assess Utero-Placental Circulation for Identifying High Risk Pregnancies 3905-3908
Das, Ranjan Frost and Sullivan; Vajinepalli, Pallavi Philips Research Asia - Bangalore; Sisodia, Rajendra Singh Philips Research Asia - Bangalore; Gupta, Lalit Philips Electronics India Ltd.

14:30-14:45 FrC01.5
Heart Sound Segmentation of Pediatric Auscultations Using Wavelet Analysis 3909-3912
Castro, Ana Faculdade de Ciências da Universidade do Porto; Vinhoza, Tiago Instituto de Telecomunicações; Mattos, Sandra UCMF - Unidade de Cardiologia e Medicina Fetal; Coimbra, Miguel Instituto de Telecomunicações / Universidade do Porto

14:45-15:00 FrC01.6
Electrocardiogram Derived Respiration from QRS Slopes 3913-3916
Lázaro, Jesús Universidad de Zaragoza; Alcaine, Alejandro Univ. of Zaragoza; Gil, Eduardo Zaragoza Univ. and CIBER-BBN; Laguna, Pablo Zaragoza Univ. and CIBER-BBN; Bailon, Raquel Univ. of Zaragoza

FrC02: 13:30-15:00 1202 (12F)
1.2.7 Signal Processing in Physiological Systems III (Oral Session)
Chair: Voss, Andreas (*Univ. of Applied Sciences Jena*)
Co-Chair: Abry, Patrice (*ENS Lyon, CNRS*)

13:30-13:45 FrC02.1
Multilevel Model Based Glucose Control for Type-1 Diabetes Patients 3917-3920
Garcia-Gabin, Winston KTH, Royal Inst. of Technology; Jacobsen, Elling W. KTH Royal Inst. of Technology

13:45-14:00 FrC02.2
A novel online recalibration strategy for continuous glucose measurement sensors employing LMI techniques 3921-3924
Kirchsteiger, Harald Johannes Kepler University; Zaccarian, Luca CNRS; Renard, Eric Hospitalier Universitaire de Montpellier; del Re, Luigi Johannes Kepler University

14:00-14:15 FrC02.3
Combining Pharmacological Therapy and Vaccination in Chronic Myeloid Leukemia Via Model Predictive Control 3925-3928
Laurino, Marco University of Pisa; Stano, Maurizio University of Pisa; Betta, Monica University of Pisa; Pannocchia, Gabriele University of Pisa; Landi, Alberto University of Pisa

14:15-14:30 FrC02.4
Tracking Instantaneous Pressure-To-Flow Dynamics of Cerebral Autoregulation Induced by CO2 Reactivity 3929-3932
Liu, Jia Chinese Academy of Sciences; Koochakpour, Hesam University of Southampton; Katsogridakis, Emmanuel University of Leicester; Panerai, Ronney University of Leicester; Simpson, David Martin University of Southampton; Wang, Zuoen Chinese Academy of Sciences

14:30-14:45 FrC02.5
Altered Cardiovascular Coupling in Patients with Sudden Sensorineural Hearing Loss in Comparison to Healthy Subjects 3933-3936
Schulz, Steffen University of Applied Sciences Jena; Witt, Katharina University of Applied Sciences Jena, Dept. Medical Engineering a; Fischer, Claudia University of Applied Sciences Jena, Dept. Medical Engineering a; Bär, Karl-Jürgen Friedrich-Schiller-University of Jena; Ritter, Julia University Hospital Jena, Department of Otorhinolaryngology, Jen; Guntinas-Lichius, Orlando University Hospital Jena, Department of Otorhinolaryngology, Jen; Voss, Andreas University of Applied Sciences Jena

14:45-15:00 FrC02.6
Effect of Respiratory-Induced Intensity Variations on Finger SpO2 Measurements in Volunteers 3937-3940
Phillips, Justin City University London; belhaj, Alla Barts and the London; Langford, Richard St Bartholomew's Hospital; Kyriacou, Panayiotis City University London

FrC03: 13:30-15:00 1203(12F)
1.6.1 Kalman Filtering and Markov Models in Biomedical Signals (Oral Session)
Chair: Barbieri, Riccardo (*MGH-Harvard Medical School-MIT*)
Co-Chair: Hettiarachchi, Imali Thanuja (*Deakin Univ.*)

13:30-13:45 FrC03.1
Blind Deconvolution of Hodgkin-Huxley Neuronal Model 3941-3944
Lankarany, Milad Concordia University; Zhu, Weiping Concordia University; Swamy, M. N. S. Concordia University; Toyozumi, Taro Riken Brain Science Institute

13:45-14:00 FrC03.2
An Extended Multivariate Autoregressive Framework for EEG-Based Information Flow Analysis of a Brain Network 3945-3948
Hettiarachchi, Imali Thanuja Deakin University; Mohamed, Shady Deakin University; Nyhof, Luke Deakin University; Nahavandi, Saeid Deakin University

14:00-14:15 FrC03.3
Abnormality Detection in Noisy Biosignals 3949-3952
Kaya, Emine Merve Johns Hopkins University; Elhilali, Mounya Johns Hopkins University

14:15-14:30 FrC03.4
Modification and Fixed-Point Analysis of a Kalman Filter for Orientation Estimation Based on 9D Inertial Measurement Unit Data 3953-3956
Brückner, Hans-Peter Leibniz Universität Hannover; Spindeldreier, Christian Leibniz Universität Hannover; Blume, Holger Leibniz Universität Hannover

14:30-14:45 FrC03.5
Discriminative Tandem Features for HMM-Based EEG Classification 3957-3960
Ting, Chee-Ming University Teknologi Malaysia; King, Simon Centre for Speech Technology Research, University of Edinburgh; Salleh, Sh-Hussain University Teknologi Malaysia; Ariff, A. K. Center for Biomedical Engineering, University Teknologi Malaysia

14:45-15:00 FrC03.6
HMM-Based Snorer Group Recognition for Sleep Apnea Diagnosis 3961-3964
Abeyratne, Udantha R University of Queensland

FrC04: 13:30-15:00 1001 (10F)
2.4.1 X-Ray Imaging I (Oral Session)
Chair: Yuasa, Tetsuya (*Yamagata Univ.*)
Co-Chair: Larson-Prior, Linda (*Washington Univ. in St. Louis*)

13:30-13:45 FrC04.1
Fully Automated Scoring of Chest Radiographs in Cystic Fibrosis 3965-3968
LEE, Min-Zhao The University of Sydney; Cai, Weidong University of Sydney; Song, Yang University of Sydney; Selvadurai, Hiran Sydney Children's Hospitals Network; Feng, Dagan The University of Sydney

13:45-14:00 FrC04.2
Emphysema Classification Based on Embedded Probabilistic PCA 3969-3972
Zulueta-Coarasa, Teresa Institute of Biomaterials and Biomedical Engineering, University; Kurugol, Sila Brigham and Women's Hospital and Harvard Medical School; Ross, James Brigham Women's Hospital and Harvard Medical School; Washko, George R. Brigham Women's Hospital and Harvard Medical School; San Jose Estepar, Raul Laboratory of Mathematics in Imaging, Brigham and Women's Hospital

14:00-14:15 FrC04.3
Benefits of Texture Analysis of Dual Energy Ct for Computer-Aided Pulmonary Embolism Detection 3973-3976
Foncubierta-Rodríguez, Antonio University of Applied Sciences Western Switzerland (HES-SO); Jimenez del Toro, Oscar Alfonso University of Applied Sciences Western Switzerland (HES-SO); Platon, Alexandra University and University Hospitals of Geneva (HUG); Poletti, Pierre-Alexandre University and University Hospitals of Geneva (HUG); Müller, Henning University of Applied Sciences Western Switzerland (HES-SO); Depeursinge, Adrien University of Applied Sciences Western Switzerland (HES-SO)

14:15-14:30 FrC04.4
Automated Measurement of Skull Circumference, Cranial Index, and Braincase Volume from Pediatric Computed Tomography 3977-3980
Smith, Kirk Washington University in St. Louis; Politte, David Washington University School of Medicine; Reiker, Gregory Washington University School of Medicine; Nolan, Tracy Washington University School of Medicine; Hildebolt, Charles Washington University School of Medicine; Mattson, Chelsea University of Oregon; Tucker, Don University of Oregon; Prior, Fred Washington University School of Medicine; Turovets, Sergei University of Oregon; Larson-Prior, Linda Washington University in St. Louis

14:30-14:45 FrC04.5
Measure Oriented Cost-Sensitive SVM for 3D Nodule Detection 3981-3984
Cao, Peng Northeastern University; Zhao, Dazhe Northeastern University; Zaiane, Osmar University of Alberta

14:45-15:00 FrC04.6
Adaptation of the Contrast Injection Protocol to Tube Potential for Cardiovascular Computed Tomography 3985-3988
Wang, Yajuan Bayer Healthcare Medical Care; Halliburton, Sandra Cleveland Clinic; Kemper, Corey Bayer Healthcare Medical Care; Kottha, Anjali Cleveland Clinic; Kalafut, John Bayer Healthcare Medical Care

FrC05: 13:30-15:00 1002 (10F)
2.7.2 Image Registration (Oral Session)
Chair: Liu, Sheena Xin (*Philips Res. North America*)

13:30-13:45 FrC05.1
An Analysis-Synthesis Approach for Neurosphere Modelisation under Phase-Contrast Microscopy 3989-3992
*Rigaud, Stephane Ulysse IPAL UMI 2955, University Pierre and Marie Curie, CNRS - A*STAR; Huang, Chao-Hui Bioinformatics Institute; Ahmed, Sohail Institute of Medical Biology; Lim, Joo-Hwee Institute for Infocomm Research; Racoceanu, Daniel French National Center for Scientific Research*

13:45-14:00 FrC05.2
Automatic Prostate Segmentation in Cone-Beam Computed Tomography Images Using Rigid Registration 3993-3997
Boydev, Christine Université de Valenciennes et du Hainaut-Cambrésis; Pasquier, David Centre O. Lambret, University Lille 2; Derraz, Foued Medical College, Lille; Peyrodie, Laurent Hei; Taleb-Ahmed, abdelmalik Université de Valenciennes et du Hainaut Cambresis; Thiran, Jean-Philippe Ecole Polytechnique Fédérale de Lausanne (EPFL)

14:00-14:15 FrC05.3
Registration for Frameless Brain Surgery Based on Stereo Imaging 3998-4001
Chang, Yau-Zen Chang Gung University; Hou, Jung-Fu Chang Gung University

14:15-14:30 FrC05.4
A New Strategy to Improve Coregistration of SPECT and MR Images in Patients with High Grade Glioma 4002-4005
Tacchella, Jean-Marc ESME Sudria, INSERM UMR_S 678; Roullot, Elodie ESME-Sudria; Lefort, Muriel INSERM UMR_S 678; Cohen, Mike-Ely INSERM UMR_S 678; Guillevin, Remy CHU de Poitiers, Université de Poitiers; Petrirena, Grégorio groupe hospitalier Pitié-Salpêtrière, APHP; Delattre, Jean-Yves groupe hospitalier Pitié-Salpêtrière, APHP; Habert, Marie-Odile Hôpital de la Salpêtrière; Yeni, Nathanaelle Hôpital de la Salpêtrière, INSERM UMR_S 678; Kas, Aurélie Hôpital de la Salpêtrière, INSERM UMR_S 678; Frouin, Frederique INSERM

14:30-14:45 FrC05.5
Anisotropic Smoothing Regularization (AnSR) in Thirion's Demons Registration
Evaluates Brain MRI Tissue Changes Post-Laser Ablation 4006-4009
Hwuang, Eileen Rutgers University; Danish, Shabbar University of Medicine and Dentistry; Rusu, Mirabela Department of Biomedical Engineering, Case Western Reserve Univ.; Sparks, Rachel Rutgers University; Toth, Robert Rutgers University; Madabhushi, Anant Case Western Reserve University

14:45-15:00 FrC05.6
Cardiac Right Ventricular Segmentation Via Point Correspondence 4010-4013
Punithakumar, Kumaradevan University of Alberta; Noga, Michelle University of Alberta; Boulanger, Pierre University of Alberta

FrC06: 13:30-15:00	1003 (10F)
2.6.1 Image Enhancement (Oral Session)	
Chair: Wang, Lei (<i>Shenzhen Inst. of Advanced Tech.</i>)	
Co-Chair: Dong, Di (<i>Chinese Acad. of Sciences</i>)	

13:30-13:45 FrC06.1
Improving Abdomen Tumor Low-Dose Ct Images Using Dictionary Learning
Based Patch Processing and Unsharp Filtering 4014-4017
Chen, Yang Southeast University; yu, fei Southeast University; luo, limin Southeast University; Toumoulin, Christine Université de Rennes I

13:45-14:00 FrC06.2
Integral Invariants for Image Enhancement 4018-4021
Janan, Faraz University of Oxford; Brady, Michael University of Oxford

14:00-14:15 FrC06.3
Isotropic Anomalous Filtering in Diffusion-Weighted Magnetic Resonance Imaging 4022-4025
Senra Filho, Antonio Carlos da S. University of Sao Paulo; Duque, Juliano Jinzenji University of São Paulo; Murta Jr., Luiz Otavio University of Sao Paulo

14:15-14:30 FrC06.4
Pre-Processing for Muscle Motion Analysis: Adaptive Guided Image Filtering for
Speckle Reduction of Ultrasound Images 4026-4029
Chen, Ye Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Zhou, Yongjin Pre-processing for Muscle Motion Analysis: Adaptive Guided Image; Ivanov, Kamen Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Li, Jizhou Shenzhen Institutes of Advanced Technology, Chinese Academy of Sc; Shu, Yuanzhong Nanchang Hangkong Univ.; Wang, Lei Shenzhen Institutes of Advanced Technology

14:30-14:45 FrC06.5
Magnetic Resonance Image Restoration Via Dictionary Learning under Spatially Adaptive Constraints . 4030-4033
Wang, Shanshan The University of Sydney; Xia, Yong The University of Sydney; Dong, Pei The University of Sydney; Feng, Dagan The University of Sydney; Luo, Jianhua Shanghai Jiaotong University; Huang, Qiu Shanghai Jiaotong University

14:45-15:00 FrC06.6
Denosing 3D Ultrasound Volumes Using Sparse Representation 4034-4037
Kim, Dae Hoe Korea Advanced Institute of Science and Technology; Plataniotis, Konstantinos University of Toronto; Ro, Yong Man Korea Advanced Institute of Science and Technology

FrC07: 13:30-15:00	1004 (10F)
3.4.1 Physiological Monitoring I (Oral Session)	
Chair: Cloete, Garth (<i>Stellenbosch Univ.</i>)	

13:30-13:45 FrC07.1
Implantable Acceleration Plethysmography for Blood Pressure Determination 4038-4041
Theodor, Michael Univ. Freiburg; Ruh, Dominic Univ. of Freiburg; Foerster, Katharina Department of Cardiovascular Surgery, Albert-Ludwigs-Univ.; Heilmann, Claudia Department of Cardiovascular Surgery, Albert-Ludwigs-Univ.; Beyersdorf, Friedhelm Department of Cardiovascular Surgery, Albert-Ludwigs-Univ.; Zappe, Hans Univ. of Freiburg, Department of Microsystems Engineering,; Seifert, Andreas Univ. of Freiburg

13:45-14:00 FrC07.2
Development and Testing of an Artificial Arterial and Venous Pulse Oximeter 4042-4045
Cloete, Garth Stellenbosch University; Scheffer, Cornie Stellenbosch University;
Fourie, Pieter Rousseau Stellenbosch University

14:00-14:15 FrC07.3
Free Flap Pulse Oximetry Utilizing Reflectance Photoplethysmography 4046-4049
Zaman, tina City University; Kyriacou, Panayiotis City University London; Pal, Sandip Broomfield Hospital

14:15-14:30 FrC07.4
A Wideband Scalar Network Analyzer for Biomedical Dehydration Measurements 4050-4053
Hofmann, Maximilian University of Erlangen Nuremberg; Nehring, Johannes University of Erlangen-Nuremberg;
Fischer, Georg University of Erlangen-Nuremberg; Weigel, Robert University of Erlangen Nuremberg; Kissinger,
Dietmar University of Erlangen-Nuremberg

14:30-14:45 FrC07.5
ARTSENS – An Image-Free System for Noninvasive Evaluation of Arterial Compliance 4054-4057
Joseph, Jayaraj HTIC, Indian Institute of Technology; Thomas, Emy Anu Healthcare Technology Innovation
Centre - IIT Madras; Sivaprakasam, Mohanasankar Indian Institute of Technology Madras

14:45-15:00 FrC07.6
Ambulatory Respiratory Rate Detection Using ECG and a Triaxial Accelerometer 4058-4061
Chan, Alexander M. Vital Connect, Inc; Ferdosi, Nima Vital Connect, Inc.; Narasimhan, Ravi Vital Connect, Inc.

FrC09: 13:30-15:00 1006 (10F)
4.6.4 Bringing Big Data to its Knees; Advances in Computational Discovery of Life-Saving Knowledge from Big Biomedical Data II (Invited Session)
Chair: Seker, Huseyin (*Bio-Health Informatics Res. Group*)
Co-Chair: Kurnaz, Mehmet Nadir (*Nigde Univ.*)

13:30-13:45 FrC09.1
Support Vector-Based Takagi-Sugeno Fuzzy System for the Prediction of Binding Affinity of Peptides . 4062-4065
Uslan, Volkan De Montfort University; Seker, Huseyin Bio-Health Informatics Research Group

13:45-14:00 FrC09.2
Construction of Protein Distance Matrix Based on Amino Acid Indices and Discrete Fourier Transform 4066-4069
Chrysostomou, Charalambos Leicester University; Seker, Huseyin Bio-Health Informatics Research Group

14:00-14:15 FrC09.3
Segmentation of MR Images by Using Grow and Learn Network on FPGAs 4070-4073
Kurnaz, Mehmet Nadir Nigde University; Cinar, Salim Nigde University

14:15-14:30 FrC09.4
A Framework towards Computational Discovery of Disease Sub-Types and Associated (Sub-) Biomarkers 4074-4077
Kurnaz, Mehmet Nadir Nigde University; Seker, Huseyin Bio-Health Informatics Research Group

14:30-15:00 FrC09.5
Panel Discussion on the Analysis of Big Biomedical Data: Industrial and Academic Views *
Seker, Huseyin Bio-Health Informatics Res. Group

FrC10: 13:30-15:00 1007 (10F)
5.2.1 Arterial Hemodynamics: Measurement and Modeling (Invited Session)
Chair: Mukkamala, Ramakrishna (*Michigan State Univ.*)
Co-Chair: Yamane, Takashi (*Kobe Univ.*)

13:30-13:45 FrC10.1
Effect of Large Arteries on Blood Pressure Variability 4078-4081
Avolio, Alberto P Macquarie University; Xu, Ke Macquarie University; Butlin, Mark Macquarie University

13:45-14:00		FrC10.2
An Initial Step towards Improving the Accuracy of the Oscillometric Blood Pressure Measurement	4082-4085	
<i>Liu, Jiankun Michigan State University; Hahn, Jin-Oh University of Maryland; Mukkamala, Ramakrishna Michigan State University</i>		
14:00-14:15		FrC10.3
Risk Analysis and Detection of Thrombosis by Measurement of Electrical Resistivity of Blood	4086-4089	
<i>Sapkota, Achyut Chiba University; Asakura, Yuta Chiba University; Maruyama, Osamu National Institute of Advanced Industrial Science and Technology; Kosaka, Ryo AIST; Yamane, Takashi Kobe University; Takei, Masahiro Chiba University</i>		
14:15-14:30		FrC10.4
Noninvasive Blood-Flow Meter Using a Curved Cannula with Zero Compensation for an Axial Flow Blood Pump	4090-4093	
<i>Kosaka, Ryo AIST; Fukuda, Kyohei Tokyo University of Science; Nishida, Masahiro National Institute of Advanced Industrial Science and Technology; Maruyama, Osamu National Institute of Advanced Industrial Science and Technology; Yamane, Takashi Kobe University</i>		
14:30-14:45		FrC10.5
Computational Simulation to Understand Vision Changes During Prolonged Weightlessness	4094-4097	
<i>Rose, William C. University of Delaware</i>		
14:45-15:00		FrC10.6
Wearable PWV technologies to measure Blood Pressure: eliminating brachial cuffs	4098-4101	
<i>Sola, Josep CSEM- Centre Suisse d'Electronique et Microtechnique; Proença, Martin Swiss Center for Electronics and MicroTechnology (CSEM); Chételat, Olivier CSEM</i>		
FrC14: 13:30-15:00		804 (8F)
7.9.1 Electronic DNA Detection, Self-Assembled Biomaterials (Invited Session)		
Chair: Ghafar-Zadeh, Ebrahim (York Univ.)		
Co-Chair: Wang, Jin-Ye (Shanghai Jiao Tong Univ.)		
13:30-13:45		FrC14.1
CMOS Capacitive Biosensors for Highly Sensitive Biosensing Applications	4102-4105	
<i>Chang, An-Yu Electrical Engineering, National Tsing Hua University; Lu, S.C National Tsing Hua University</i>		
13:45-14:00		FrC14.2
Detection of RNAP-DNA Complexes Using Solid State Nanopores	4106-4109	
<i>Raillon, Camille EPFL; Granjon, Pierre Le laboratoire GIPSA-lab, Grenoble Images Parole Signal Automati; Graf, Michael EPFL; Radenovic, Aleksandra EPFL</i>		
14:00-14:15		FrC14.3
Temporal Resolution of Nanopore Sensor Recordings	4110-4113	
<i>Rosenstein, Jacob Brown University; Shepard, Kenneth Columbia University</i>		
14:15-14:30		FrC14.4
Physical Stability of Cholesterol Derivatives Combined with Liposomes and Their in Vitro Behavior	4114-4117	
<i>Yang, Bin Shanghai Jiaotong University; Geng, Sheng-Yong Shanghai Jiaotong University; Wang, Jin-Ye Shanghai Jiao Tong University</i>		
14:30-14:45		FrC14.5
Engineered Virus-Like Nanoparticle Heparin Antagonists	4118-4120	
<i>Udit, Andrew Occidental College</i>		
14:45-15:00		FrC14.6
Effects of Low Level Light Irradiation on the Migration of Mesenchymal Stem Cells Derived from Rat Bone Marrow	4121-4124	
<i>Li, Wen-Tyng Chung-Yuan Christian University</i>		

FrC15: 13:30-15:00	1102 (11F)
8.4.3 Design and Development of Robots for Human-Robot Interaction (Oral Session)	
Chair: Menon, Samir (<i>Stanford Univ.</i>)	
Co-Chair: Okuno, Ryuhei (<i>Setsunan Univ.</i>)	

13:30-13:45	FrC15.1
Modeling of Animal Movement by AR Process and Effect of Predictability of the Behavior on Perception of Animacy and Intentionality	4125-4128
<i>Fukai, Hidekazu Gifu University; Terada, Kazunori Gifu University</i>	
13:45-14:00	FrC15.2
Changes in EMG Latencies during Balance Therapy Using Enhanced Virtual Reality with Haptic Floor ..	4129-4132
<i>Cikajlo, Imre University Rehabilitation Institute; Krpič, Andrej SmartCom Ltd; Gorišek-Humar, Marta University rehabilitation institute</i>	
14:00-14:15	FrC15.3
Haptic Training for a Visuomotor Fetch & Pursue Task	4133-4136
<i>Morasso, Pietro Italian Institute of Technology; casadio, maura University of Genova; Squeri, Valentina Istituto Italiano di Tecnologia</i>	
14:15-14:30	FrC15.4
Haptic Fmri: Combining Functional Neuroimaging with Haptics for Studying the Brain's Motor Control Representation	4137-4142
<i>Menon, Samir Stanford University; Brantner, Gerald Stanford University; Aholt, Chris Stanford University; Kay, Kendrick Stanford University; Khatib, Oussama Stanford University</i>	
14:30-14:45	FrC15.5
Haptic Perception of Multi-Joint Hypertonia During Simulated Patient-Therapist Physical Tele-Interaction ..	4143-4147
<i>Piovesan, Davide Rehabilitation Institute of Chicago; Melendez-Calderon, Alejandro Rehabilitation Institute of Chicago; Mussa-Ivaldi, Ferdinando Northwestern University</i>	
14:45-15:00	FrC15.6
Robot Hand with Soft Tactile Sensors and Underactuated Control	4148-4151
<i>Tsutsui, Hiroshi Osaka Institute of Technology; Murashima, Yoshihiko Osaka Institute of Technology; Honma, Naoki Osaka Institute of Technology; Akazawa, Kenzo Osaka Institute of Technology</i>	

FrC16: 13:30-15:00	Small Hall (5F)
9.2.2 Point of Care (Oral Session)	
Chair: Pino, Esteban J (<i>Univ. de Concepcion</i>)	

13:30-13:45	FrC16.1
Evaluation of the Microsoft Kinect for Screening ACL Injury	4152-4155
<i>Stone, Erik University of Missouri; Butler, Michael University of Missouri - Columbia; McRuer, Aaron University of Missouri - Columbia; Gray, Aaron University of Missouri - Columbia; Marks, Jeffery University of Missouri - Columbia; Skubic, Marjorie University of Missouri</i>	
13:45-14:00	FrC16.2
VCSEL Based, Wearable, Continuously Monitoring Pulse Oximeter	4156-4159
<i>Kollmann, Daniel Koronis Biomedical Technologies; Hogan, William Vixar Inc; Steidl, Charles Vixar Inc; Hibbs-Brenner, Mary Vixar Inc; Hedin, Daniel Advanced Medical Electronics; Lichter, Patrick Koronis Biomedical Technologies</i>	
14:00-14:15	FrC16.3
Contact Pressure Monitoring Device for Sleep Studies	4160-4163
<i>Pino, Esteban J Universidad de Concepcion; Dörner De la Paz, Astrid University of Concepcion; Aqueveque, Pablo University of Concepcion; Chávez, Javier A. P. Universidad de Concepción; Morán, Alejandra A. Universidad de Concepción</i>	

14:15-14:30 FrC16.4
Quantitative Classification of Tumor Cell Morphological Changes on Selectively Functionalized Biochips 4164-4166
Mahmood, Mohammed A.I. University of Texas at Arlington; Arafat, Chaudhry M. A. University of Texas at Arlington; Kim, Young-Tae University of Texas at Arlington; Iqbal, Samir M University of Texas at Arlington

14:30-14:45 FrC16.5
Development of a Point-Of-Care Medical Device to Measure Head Impact in Contact Sports 4167-4170
Ambekar, Dhanashree Univ. of Cincinnati; Al Deneh, Zakaria Univ. of Cincinnati; Dao, Triet Univ. of Cincinnati; Dziech, Alexander Univ. of Cincinnati; Subbian, Vignesh Univ. of Cincinnati; Beyette, Fred R Univ. of Cincinnati

14:45-15:00 FrC16.6
Point-Of-Care Device for Quantification of Zinc in Serum 4171-4174
Zerhusen, Benjamin University of Cincinnati; de Silva, Geethanga University of Cincinnati; Pei, Xing University of Cincinnati; Beyette, Fred R University of Cincinnati; Papautsky, Ian University of Cincinnati

FrC17: 13:30-15:00 801+802 (8F)
10.6.1 Health Information Systems I (Oral Session)
Chair: Kuroda, Tomohiro (*Kyoto Univ.*)
Co-Chair: Bressan, Nadja (*Univ. of Ontario Inst. of Tech.*)

13:30-13:45 FrC17.1
Integration of Drug Infusion Data with Physiological Data Streams Using a Cloud Computing Paradigm 4175-4178
Bressan, Nadja University of Ontario Institute of Technology; James, Andrew University of Toronto; McGregor, Carolyn Univ of Ontario Inst of Technology

13:45-14:00 FrC17.2
Applying Secret Sharing for HIS Backup Exchange 4179-4182
Kuroda, Tomohiro Kyoto University; Kimura, Eizen Medical School of Ehime University.; Matsumura, Yasushi Osaka University; Yamashita, Yoshinori University of Fukui; Hiramatsu, Haruhiko Hyogo College of Medicine; Kume, Naoto Kyoto University; Sato, Atsushi NRI Secure Technologies

14:00-14:15 FrC17.3
Data Processing and Presentation for a Personalised, Image-Driven Medical Graphical Avatar 4183-4186
de Ridder, Michael Aart The University of Sydney; Bi, Lei University of Sydney; Constantinescu, Liviu University of Sydney; Kim, Jinman University of Sydney; Feng, Dagan The University of Sydney

14:15-14:30 FrC17.4
Patient in Control in Clinical Trials – European Initiatives for Improving Patient Empowerment in Clinical Trials through Technical Implementation of Legal Norms 4187-4190
Forgó, Nikolaus Leibniz University Hannover; Góralczyk, Magdalena Leibniz University Hannover; Haenold, Stefanie Leibniz University Hannover

14:30-14:45 FrC17.5
Protection of Electronic Health Records (EHRs) in the Cloud 4191-4194
Alabdulatif, Abdulatif RMIT university; Khalil, Ibrahim RMIT University; Mai, Vu RMIT University

14:45-15:00 FrC17.6
Automatic Extraction and Mapping of Discharge Summary's Concepts into SNOMED CT 4195-4198
Batool, Rabia Kyung Hee University

FrD01: 15:00-16:30 Event Hall-Area B (3F)
1.4.5 Biomedical Signal Classification II (Poster Session)

15:00-16:30 FrD01.1
Effect of Temporal Fine Structure on Speech Intelligibility Modeling 4199-4202
Chen, Fei The Univ. of Hong Kong; Guan, Tian Tsinghua Univ.; Wong, Lena L. N. The Univ. of Hong Kong

15:00-16:30	FrD01.2
Clustering of Atrial Fibrillation Based on Surface ECG Measurements	4203-4206
<i>Donoso, Felipe Univ. de Concepcion; Figueroa, Rosa Univ. de Concepcion; Lecannelier, Eduardo Hospital G. Grant Benavente; Pino, Esteban J Univ. de Concepcion; Rojas, Alejandro Univ. de Concepcion</i>	
15:00-16:30	FrD01.3
Single-Trial Laser-Evoked Potentials Feature Extraction for Prediction of Pain Perception	4207-4210
<i>Huang, Gan The University of Hong Kong; Xiao, Ping Southwest University; Hu, Li The University of Hong Kong; Zhang, Zhiguo The University of Hong Kong; Hung, Y.S. The University of Hong Kong</i>	
15:00-16:30	FrD01.4
Impact of Bipolar Electrode Contact on Fractionation Index Measurement	4211-4214
<i>Navoret, Nicolas University of Burgundy; Jacquir, Sabir Laboratoire LE2I UMR CNRS 6306, Université de Bourgogne; Laurent, Gabriel LE2I UMR CNRS 5158, Université de Bourgogne, France; Binczak, Stéphane Université de Bourgogne</i>	
15:00-16:30	FrD01.5
Improving Activity Recognition Using Temporal Coherence	4215-4218
<i>Ataya, Abbas CEA Grenoble; Jallon, Pierre CEA Grenoble; Bianchi, Pascal LTCI/ Telecom Paris Tech - 46 rue Barrault - 75634 Paris Cedex 1; Doron, Maeva CEA LETI</i>	
15:00-16:30	FrD01.6
Automatic Classification of Time-Frequency Plots Applied to the Center-Of-Pressure Rotational Components	4219-4222
<i>Chiaramello, Emma Politecnico di Torino, Italy; Agostini, Valentina Politecnico di Torino; Balestra, Gabriella Politecnico di Torino; Knaflitz, Marco Politecnico di Torino</i>	
15:00-16:30	FrD01.7
Comparison of Surface and Intramuscular EMG Pattern Recognition for Simultaneous Wrist/Hand Motion Classification	4223-4226
<i>Smith, Lauren Northwestern University; Hargrove, Levi Rehabilitation Institute of Chicago</i>	
15:00-16:30	FrD01.8
Combined Use of SEmg and Accelerometer in Hand Motion Classification Considering Forearm Rotation	4227-4230
<i>Peng, Liang Institute of Automation, Chinese Academy of Sciences; Hou, Zeng-Guang Institute of Automation, Chinese Academy of Sciences; Chen, Yixiong Institute of Automation, Chinese Academy of Sciences; Wang, Weiqun Institute of Automation, Chinese Academy of Sciences; Tong, Lina Institute of Automation, Chinese Academy of Sciences; Li, Pengfeng Institute of Automation, Chinese Academy of Sciences</i>	
15:00-16:30	FrD01.9
Ensemble Regularized Linear Discriminant Analysis Classifier for P300-Based Brain-Computer Interface	4231-4234
<i>Onishi, Akinari Kyushu Institute of Technology; Natsume, Kiyohisa Kyushu Institute of Technology</i>	
15:00-16:30	FrD01.10
EEG Classification of Physiological Conditions in 2D/3D Environments Using Neural Network*	4235-4238
<i>Wajid, Mumtaz University Teknologi PETRONAS; Xia, Likun University Teknologi PETRONAS; Malik, Aamir Saeed University Teknologi PETRONAS; Azhar, Yasin University Sains Malaysia</i>	
15:00-16:30	FrD01.11
Noise Enhanced Array Signal Detection in P300 Speller Paradigm using ICA-Based Subspace Projections	4239-4242
<i>Sampanna, Rujipan Faculty of Engineering, Thammasat University; Mitaim, Sanya Faculty of Engineering, Thammasat University</i>	
15:00-16:30	FrD01.12
Automatic Estimation of Sleep Level for Nap Based on Conditional Probability of Sleep Stages and an Exponential Smoothing Method	4243-4246
<i>Wang, Bei East China University of Science and Technology; Wang, Xingyu East China University of Science and Technology; Tao Zhang, Tao Zhang Department of Automation, School of Information Science and Techn; Masatoshi Nakamura, Masatoshi Nakamura Research Institute of Systems Control, Saga University, Saga, Ja</i>	

15:00-16:30	FrD01.13
Accurate Arrhythmia Classification Using Auto-Associative Neural Network	4247-4250
<i>Chakroborty, Sandipan Samsung Advanced Institute of Technology</i>	
15:00-16:30	FrD01.14
Asynchronous Brain-Computer Interfacing Based on Intended Movement Direction	4251-4254
<i>Shimpo, Keita Tokyo University of Agriculture and Technology; Tanaka, Toshihisa Tokyo University of Agriculture and Technology</i>	
15:00-16:30	FrD01.15
Effectiveness of Different Sensing Modalities in Predicting Targets of Reaching Movements	4255-4258
<i>Novak, Domen ETH Zurich; Omlin, Ximena ETH Zurich; Leins-Hess, Rebecca ETH Zurich; Riener, Robert ETH and University Zurich</i>	
15:00-16:30	FrD01.16
A Novel Biometric Authentication Approach Using Electrocardiogram Signals	4259-4262
<i>Gurkan, Hakan ISIK University; Guz, Umit ISIK University; Yarman, B. Siddik Istanbul University</i>	
15:00-16:30	FrD01.17
Using EEG Spatial Correlation, Cross Frequency Energy, and Wavelet Coefficients for the Prediction of Freezing of Gait in Parkinson's Disease Patients	4263-4266
<i>Handojoseno, Aluysius Maria Ardi University of Technology, Sydney; Shine, James M. Parkinson's Disease Research Clinic, Brain and Mind Research Ins; Nguyen, Tuan Nghia University of Technology, Sydney; Tran, Yvonne University of Technology, Sydney; Lewis, Simon J.G. Parkinson's Disease Research Clinic, Brain and Mind Research Ins; Nguyen, Hung T. University of Technology, Sydney</i>	
15:00-16:30	FrD01.18
An Adaptation Strategy of Using LDA Classifier for EMG Pattern Recognition	4267-4270
<i>Zhang, Haoshi Shenzhen Institutes of Advanced Technology; Zhao, Yaonan Northeastern Univ.; Yao, Fuan School of Control Science and Engineering, Shandong Univ.; Xu, Lisheng Northeastern Univ.; Shang, Peng Shenzhen Institutes of Advanced Technology; Li, Guanglin Shenzhen Institutes of Advanced Technology</i>	
15:00-16:30	FrD01.19
Automated Assessment of Mobility in Bedridden Patients	4271-4274
<i>Bennett, Stephanie Louise Carleton University; Goubran, Rafik A. Carleton University</i>	
15:00-16:30	FrD01.20
Classification of IRBD and Parkinson's Patients Using a General Data-Driven Sleep Staging Model Built on EEG	4275-4278
<i>Koch, Henriette Technical University of Denmark; Christensen, Julie Anja Engelhard Technical University of Denmark; Frandsen, Rune Danish Center for Sleep Medicine, Glostrup Hospital; Arvastson, Lars H. Lundbeck A/S; Christensen, Soren Rahn Lundbeck; Sorensen, Helge B D Technical University of Denmark; Jennum, Poul Danish Centre for Sleep Medicing</i>	
15:00-16:30	FrD01.21
Semi-Supervised Adaptation in SSVEP-Based Brain-Computer Interface Using Tri-Training	4279-4282
<i>Bender, Thomas Technical University of Denmark; Kjaer, Troels Wesenberg Rigshospitalet; Thomsen, Carsten Eckhart University of Copenhagen; Sorensen, Helge B D Technical University of Denmark; Puthusserypady, Sadasivan National University of Singapore</i>	
15:00-16:30	FrD01.22
Automatic Characterization of Dynamics in Absence Epilepsy	4283-4286
<i>Petersen, Katrine Nicole Hafstrøm Technical University of Denmark; Nielsen, Trine Nørgaard Technical University of Denmark; Kjaer, Troels Wesenberg Rigshospitalet; Thomsen, Carsten Eckhart University of Copenhagen; Sorensen, Helge B D Technical University of Denmark</i>	
15:00-16:30	FrD01.23
EEG-based Recognition of Video-induced Emotions: Selecting Subject-independent Feature Set	4287-4290
<i>Kortelainen, Jukka University of Oulu; Seppänen, Tapio University of Oulu</i>	

15:00-16:30	FrD01.24
Classifying the Speech Response of the Brain Using Gaussian Hidden Markov Model (HMM) with Independent Component Analysis (ICA)	4291-4294
<i>Jongin, Kim Gwangju Institute of Science and Technology; Lee, Suh-Kyung Gwangju Institute of Science and Technology; Lee, Boreom Gwangju Institute of Science and Technology (GIST)</i>	
15:00-16:30	FrD01.25
Exploratory Study of EEG Burst Characteristics in Preterm Infants	4295-4298
<i>Zhayida, Simayijiang Lund Univ.; Backman, Sofia Skåne Univ. Hospital; Ulén, Johannes Lund Univ.; Wikström, Sverre Center for Clinical Research, County Council of Värmland, Sweden; Åström, Kalle Lund Univ.</i>	
15:00-16:30	FrD01.26
Event-Related Evoked Potentials in Alzheimer's Disease by a Tool-Using Gesture Paradigm	4299-4301
<i>Chan, Hsiao-Lung Chang Gung University</i>	
15:00-16:30	FrD01.27
A Self Produced Mother Wavelet Feature Extraction Method for Motor Imagery Brain-Computer Interface	4302-4305
<i>Yeh, Wei-Lin National Chiao Tung University; Huang, Yu-Chieh National Chiao Tung University; Chiou, Jian-Hau National Chiao Tung University</i>	
15:00-16:30	FrD01.28
Single-Trial EEG-Based Emotion Recognition Using Kernel Eigen-Emotion Pattern and Adaptive Support Vector Machine	4306-4309
<i>Liu, Yi-Hung Chung Yuan Christian University; Wu, Chien-Te National Taiwan University; Kao, Yung-Hwa Chung Yuan Christian University; Chen, Ya-Ting National Taiwan University</i>	
15:00-16:30	FrD01.29
Mu Rhythm Suppression During the Imagination of Observed Action	4310-4313
<i>Ogoshi, Sakiko Fukui University; Ogoshi, Yasuhiro Fukui University; Momose, Shu Fukui University; Tomohiro, Takezawa The National Institute of Vocational Rehabilitation; Mitsunashi, Yoshinori Fukui University</i>	
15:00-16:30	FrD01.30
EEG Seizure Detection and Epilepsy Diagnosis Using a Novel Variation of Empirical Mode Decomposition	4314-4317
<i>Kaleem, Muhammad Farhat Ryerson Univ.; Guergachi, Aziz Ryerson Univ.; Krishnan, Sridhar Ryerson Univ.</i>	
15:00-16:30	FrD01.31
Non-Negative Matrix Factorization and Sparse Representation for Sleep Signal Classification	4318-4321
<i>Shokrollahi, Mehrnaz Ryerson University; Krishnan, Sridhar Ryerson University</i>	
15:00-16:30	FrD01.32
Dynamic Physiological Signal Analysis Based on Fisher Kernels for Emotion Recognition	4322-4325
<i>Hernan felipe garcia, Hernan Universidad Tecnológica de Pereira; Orozco, Alvaro Universidad Tecnológica de Pereira; Álvarez, Mauricio A. Universidad Tecnológica de Pereira</i>	
15:00-16:30	FrD01.33
Unsupervised Learning Applied in MER and ECG Signals through Gaussians Mixtures with the Expectation-Maximization Algorithm and Variational Bayesian Inference	4326-4329
<i>Vargas Cardona, Hernán Darío Universidad Tecnológica de Pereira; Álvarez, Mauricio A. Universidad Tecnológica de Pereira; Orozco, Alvaro Universidad Tecnológica de Pereira</i>	
15:00-16:30	FrD01.34
Feature Selection for Multimodal Emotion Recognition in the Arousal-Valence Space	4330-4333
<i>Torres, Cristian Universidad Tecnológica de Pereira; Orozco, Alvaro Universidad Tecnológica de Pereira; Álvarez, Mauricio A. Universidad Tecnológica de Pereira</i>	
15:00-16:30	FrD01.35
Analysis of Adventitious Lung Sounds Originating from Pulmonary Tuberculosis	4334-4337
<i>Becker, Konrad Ecotech cc; Scheffer, Cornie Stellenbosch University; Blanckenberg, Mike Stellenbosch University; Diacon, Andreas Stellenbosch University</i>	

15:00-16:30 FrD01.36
Tremor Modulations across Periods with and without Voluntary Motion and Limb Load Task Demands Using Movement Quantification 4338-4341
Faria, Paula Cristina ESTG, CDRSP, IPEiria; Patrício, Miguel IBILI, FMUC; Philipiak, Gregor IBILI, FMUC; Caramelo, Francisco IBILI, FMUC; Januário, Cristina FMUC; Freire, António Faculty of Medicine and Coimbra University Hospital Centre (CHUC; Castelo-Branco, Miguel University of Coimbra

FrD02: 15:00-16:30 Event Hall-Area B (3F)
1.5.2 Connectivity and Directionality Analysis (Poster Session)

15:00-16:30 FrD02.1
Exploring Neural Directed Interactions with Transfer Entropy Based on an Adaptive Kernel Density Estimator 4342-4345
Zuo, Kai Southeast Univ.; Bellanger, Jean-Jacques LTSI-INSERM U1099; Yang, Chunfeng Southeast Univ.; Shu, Huazhong Southeast Univ.; Le Bouquin Jeannes, Regine Université de Rennes 1 - LTSI INSERM U1099

15:00-16:30 FrD02.2
The Effect of Normalization of Partial Directed Coherence on the Statistical Assessment of Connectivity Patterns: A Simulation Study 4346-4349
Toppi, Jlenia University of Rome "Sapienza"; Petti, Manuela Neuroelectrical Imaging and BCI Lab IRCCS Fondazione Santa Lucia; Vecchiato, Giovanni University of Rome Sapienza; Cincotti, Febo Fondazione Santa Lucia IRCCS; Salinari, Serenella La Sapienza University of Rome; Mattia, Donatella Fondazione Santa Lucia IRCCS; Babiloni, Fabio University of Rome; Astolfi, Laura University of Rome Sapienza

15:00-16:30 FrD02.3
Aged-Related Changes in Brain Activity Classification with Respect to Age by Means of Graph Indexes 4350-4353
Petti, Manuela Neuroelectrical Imaging and BCI Lab IRCCS Fondazione Santa Lucia; Toppi, Jlenia Univ. of Rome "Sapienza"; Pichiorri, Floriana Fondazione Santa Lucia, IRCCS, Rome, Italy; Cincotti, Febo Fondazione Santa Lucia IRCCS; Salinari, Serenella La Sapienza Univ. of Rome; Babiloni, Fabio Univ. of Rome; Astolfi, Laura Univ. of Rome Sapienza; Mattia, Donatella Fondazione Santa Lucia IRCCS

15:00-16:30 FrD02.4
Hidden Markov Chain Modeling for Epileptic Networks Identification 4354-4357
LE CAM, Steven Université de Lorraine; Louis-Dorr, Valerie Nancy-University; MAILLARD, Louis Centre de Recherche en Automatique de Nancy (CRAN), Nancy-Univer

15:00-16:30 FrD02.5
Analysis of Evoked Deep Brain Connectivity 4358-4361
Klimes, Petr Institute of Scientific Instruments of the ASCR, v.v.i.; Janecek, Jiri Institute of Scientific Instruments, ASCR, v.v.i.; Jurak, Pavel Inst of Scientific Instruments Academy; Halamek, Josef Institute of Scientific Instruments; Chladek, Jan Institute of Scientific Instruments, ASCR, v.v.i.; Brazdil, Milan Masaryk University Brno

15:00-16:30 FrD02.6
Analysis of Epileptic EEG Signals in Children by Symbolic Dynamics 4362-4365
Paternoster, Luca Universitat Politècnica de Catalunya (Barcelonatech); Vallverdu, Montserrat Universitat Politècnica de Catalunya; Melia, Umberto Sergio Pio Universitat Politècnica de Catalunya; Claria, Francesc Lleida University; Voss, Andreas University of Applied Sciences Jena; Caminal, Pere Technical University of Catalonia (UPC)

15:00-16:30 FrD02.7
Nonlinear Estimation of Coupling and Directionality between Signals: Application to Uterine EMG Propagation 4366-4369
Diab, Ahmad Université de technologie de Compiègne - UTC; Hassan, Mahmoud Université de Rennes 1; Boudaoud, Sofiane University of Technology of Compiègne (UTC); Marque, Catherine University of Technology of compiegne; Karlsson, Brynjar Reykjavik University

15:00-16:30 FrD02.8
Monitoring the Fetal Heart Rate Variations by Means of Time-Variant Multivariate Analysis 4370-4373
Ungureanu, G. Mihaela Politehnica University of Bucharest; Taralunga, Dragos-Daniel Politehnica University of Bucharest; Gussi, Ilinca University of Medicine and Pharmacy Carol Davila; Wolf, Werner University AF Munich; Piper, Diana Politehnica University of Bucharest; Strungaru, Rodica Politehnica University of Bucharest

15:00-16:30 FrD02.9
An Active Method for Tracking Connectivity in Temporally Changing Brain Networks 4374-4377
Lepage, Kyle Boston Univ.; Kramer, Mark Boston Univ.; Ching, ShiNung Massachusetts Institute of Technology

FrD03: 15:00-16:30 Event Hall-Area C (3F)
2.8.7 Medical Image Analysis II (Poster Session)

15:00-16:30 FrD03.1
Intraoperative Tracking of Aortic Valve Plane 4378-4381
Nguyen, Duc-Long-Hung University of Rennes 1; GARREAU, Mireille INSERM, U642, Université de Rennes 1; Auffret, Vincent Université de Rennes 1, CCP, University Hospital Pontchaillou, R; Le Breton, Hervé INSERM, U1099, Université de Rennes 1, CCP, University Hospital; Verhoye, Jean-Philippe Rennes University Hospital, Department of Thoracic and Cardiovas; Haigron, Pascal Univ. of Rennes 1

15:00-16:30 FrD03.2
Robust Estimation of MRI Myocardial Perfusion Parameters 4382-4385
Aja-Fernandez, Santiago Universidad de Valladolid; Cordero-Grande, Lucilio Universidad de Valladolid; Vegas-Sanchez-Ferrero, Gonzalo Universidad de Valladolid; de Luis-García, Rodrigo University of Valladolid; Alberola-López, Carlos Universidad de Valladolid

15:00-16:30 FrD03.3
Analysis of 3D Cardiac Deformations with 3D SinMod 4386-4389
Wang, Hui University of Louisville; Stoeck, Christian Torben University and ETH Zurich; Kozerke, Sebastian University and ETH Zurich; Amini, Amir University of Louisville

15:00-16:30 FrD03.4
Noninvasive 3D Pressure Calculation from PC-MRI Via Non-Iterative Harmonics-Based Orthogonal Projection: Constant Flow Experiment 4390-4393
Negahdar, MJ University of Louisville; Cha, Jung won university of louisville; Kadbi, Mo university of louisville; Cebal, Juan George Mason University; Amini, Amir University of Louisville

15:00-16:30 FrD03.5
Analysis of Reliability Metrics and Quality Enhancement Measures in Current Density Imaging 4394-4397
Hosseyndoust Foomany, Farbod Ryerson University; beheshti, mohammadali Ryerson University; Magtibay, Karl Ryerson University; Masse, Stephane THCFM Lab, Toronto General Hospital; Foltz, Warren Princess Margaret Hospital; Sevapsidis, Elias Toronto General Hospital; Lai, Patrick F.H. Toronto General Hospital; Jaffray, David A. University Health Network; Krishnan, Sridhar Ryerson University; Nanthakumar, Kumaraswamy THCFM Lab, Toronto General Hospital; Umapathy, Karthikeyan Ryerson University

15:00-16:30 FrD03.6
Performance Evaluation of Point Matching Algorithms for Left Ventricle Motion Analysis in MRI 4398-4401
Santiago, Carlos Instituto Superior Técnico; Nascimento, Jacinto Instituto Superior Técnico; Marques, Jorge Instituto Superior Tecnico

15:00-16:30 FrD03.7
Evaluation of Somatosensory Cortical Differences between Flutter and Vibration Tactile Stimuli 4402-4405
Han, Sangwoo Korea University; Chung, Yoon Gi Korea University; Hyung-Sik, Kim Konkuk University; Chung, Soon-Cheol Konkuk University; Park, Jang Yeon Konkuk university; Kim, Sung-Phil Korea University

15:00-16:30 FrD03.8
On the Least-Square Estimation of Parameters for Statistical Diffusion Weighted Imaging Model 4406-4409
Yuan, Jing The Chinese University of Hong Kong; Zhang, Qinwei The Chinese University of Hong Kong

FrD04: 15:00-16:30 Event Hall-Area C (3F)
2.9.1 MEG imaging (Poster Session)

15:00-16:30 FrD04.1
Quantitative Performance Assessments for Neuromagnetic Imaging Systems 4410-4413
Koga, Ryou Tokyo Metropolitan University; Hiyama, Ei Tokyo Metropolitan University; Matsumoto, Takuya Tokyo Metropolitan University; Sekihara, Kensuke Tokyo Metropolitan University

15:00-16:30		FrD04.2
Residual Coherence and Residual Envelope Correlation in MEG/EEG Source-Space Connectivity Analysis	4414-4417	
<i>Sekihara, Kensuke Tokyo Metropolitan Univ.; Nagarajan, Srikantan S. Univ. of California, San Francisco</i>		
15:00-16:30		FrD04.3
Neuromagnetic Auditory Steady State Response to Chords: Effect of Frequency Ratio	4418-4421	
<i>Otsuka, Asuka National Institute of Advanced Industrial Science and Technology; Yumoto, Masato Graduate School of Medicine, The University of Tokyo; Kuriki, Shinya Tokyo Denki University; Nakagawa, Seiji National Institute of Advanced Industrial Science and Technology</i>		
15:00-16:30		FrD04.4
Steady-State Visually Evoked Fields (SSVEF) Associated with Affective Emotions	4422-4425	
<i>Tanaka, Keita Tokyo Denki University; Araki, Toru Tokyo Denki University; Kuriki, Shinya Tokyo Denki University; Uchikawa, Yoshinori Tokyo Denki University</i>		
15:00-16:30		FrD04.5
Spinal Cord Evoked Magnetic Field Measurement Using a Magnetospinography System Equipped with a Cryocooler	4426-4429	
<i>Adachi, Yoshiaki Kanazawa Institute of Technology; Oyama, Daisuke Kanazawa Institute of Technology; Kawai, Jun Kanazawa Institute of Technology; Kawabata, Shigenori Tokyo Medical and Dental University; Uehara, Gen Kanazawa Institute of Technology</i>		
FrD05: 15:00-16:30		Event Hall-Area C (3F)
2.10.3 Computer Aided Diagnosis II (Poster Session)		
15:00-16:30		FrD05.1
Computer-Aided Diagnosis in Endoscopy: A Novel Application Toward Automatic Detection of Abnormal Lesions on Magnifying Narrow-Band Imaging Endoscopy in the Stomach	4430-4433	
<i>Lee, Tsung-Chun Department of Internal Medicine, National Taiwan University Hosp; Lin, Yu-Huei Department of Electrical Engineering, National Yunlin University; Uedo, Noriya Department of Gastrointestinal Oncology, Osaka Medical Center fo; Wang, Hsiu-Po Department of Internal Medicine, National Taiwan University Hosp; Chang, Hsuan T. National Yunlin University of Science & Technology; Hung, Chung-Wen National Yunlin University of Science and Technology</i>		
15:00-16:30		FrD05.2
Improving Mammographic Lesions' Characterization through the Combined Use of Different Fractal Dimension Measures	4434-4437	
<i>Perre, Ana Catarina Escola Superior de Tecnologia da Saúde de Lisboa; Freire, Luis C. Escola Superior de Tecnologia da Saúde de Lisboa</i>		
15:00-16:30		FrD05.3
Fast Identification & Modelling of Osteoarthritic Holes in the Human Knee with Contour Interpolated Radial Basis Functions	4438-4441	
<i>Javaid, Zarrar University of Auckland; Unsworth, Charles Peter University of Auckland; Boocock, Mark Health and Rehabilitation Research Center AUT; McNair, Peter Health and Rehabilitation Research Center AUT</i>		
15:00-16:30		FrD05.4
A Novel Endoscopic Spectral Imaging Platform Integrating K-Means Clustering for Early and Non-Invasive Diagnosis of Endometrial Pathology	4442-4445	
<i>Kavvadias, Vasileios Technical University of Crete; Epitropou, George Technical University of Crete; Georgiou, Nikolaos Technical University of Crete; Gkorzou, Fani University of Ioannina; Paschopoulos, Minas University of Ioannina; Balas, Costas Technical University of Crete</i>		
15:00-16:30		FrD05.5
Ciliary Motility Activity Measurement Using a Dense Optical Flow Algorithm	4446-4449	
<i>Parrilla, Eduardo Biomechanics Institute of Valencia; Armengot, Miguel Primary Ciliary Dysquinesia Unit of the General and University H; Mata, Manuel Research Department, General and University Hospital; Cortijo, Julio Research Department, General and University Hospital; Riera, Jaime Institute of Multidisciplinary Mathematics, Universitat Politècn; Hueso, José L. Institute of Multidisciplinary Mathematics, Universitat Politècn; Moratal, David Universitat Politècnica de València</i>		

15:00-16:30 FrD05.6
A Novel Automatic Breast Density Classification Based in Nagao Filter and a Priori Dense Segmentation .. 4450-4453
Ferrer, Jose Pontificia Universidad Catolica del Peru; Castañeda, Benjamin Pontificia Universidad Catolica del Perú; Pinto, Joseph Oncosalud; Guerrero, Jorge Oncosalud

15:00-16:30 FrD05.7
Development of a Numerical Simulator of Human Swallowing Using a Particle Method (Part 1. Preliminary Evaluation of the Possibility of Numerical Simulation Using the MPS Method) 4454-4457
Kamiya, Tetsu Meiji Co., Ltd.; Toyama, Yoshio Meiji Co., Ltd.; Michiwaki, Yukihiko Musashino Red Cross Hospital; Kikuchi, Takahiro Musashino Red Cross Hospital

FrD06: 15:00-16:30 Event Hall-Area A (3F)
3.8.2 Microfluidics in Biological Applications II (Poster Session)

15:00-16:30 FrD06.1
Toward Reducing Uncertainty in Fluorescence Recovery After Photobleaching 4458-4461
Lee, Jeonghoon Korea University of Technology and Education; Lee, Donghee Kookmin University; Kim, Jung Kyung Kookmin University; Cho, Myoung-Ock Kookmin University

15:00-16:30 FrD06.2
Separation Method of Blood Constituents Using Dielectrophoresis and Flow-Induced Shear Force 4462-4465
Yamashita, Minami Keio University; Miyata, Shogo KEIO University; Takeuchi, Shinya Nissha Printing Co., Ltd.; Inoue, Hajime St. Marianna University School of Medicine

15:00-16:30 FrD06.3
High Throughput Cell Sorting Device Using Dielectrophoresis and Fluid-Induced Shear Force 4466-4469
Takahashi, Yuuwa Keio University; Takeuchi, Shinya Nissha Printing Co., Ltd.; Miyata, Shogo KEIO University

15:00-16:30 FrD06.4
Detection of Stress Hormones by a Microfluidic-Integrated Polycarbazole/Fullerene Photodetector 4470-4473
Pires, Nuno M.M. Norwegian Centre of Expertise on Micro and NanoTechnology, IMST;; Dong, Tao Norwegian Centre of Expertise on Micro and NanoTechnology, Vestf

15:00-16:30 FrD06.5
Microfluidic Cell Culture System with On-Chip Hypoxic Conditioning 4474-4477
Takano, Atsushi Frontier R&D Center, Tokyo Denki University; Tanaka, Masato Tokyo Denki University; Futai, Nobuyuki Shibaura Institute of Technology

15:00-16:30 FrD06.6
Measurement of Subcutaneous Biological Substances Using Thin Metal Needle with Micro Flow Channel 4478-4481
Tsuruoka, Noriko Tohoku University; Ishii, Kenji Tohoku University; Matsunaga, Tadao Tohoku University; Nagatomi, Ryoichi Tohoku University; Haga, Yoichi Tohoku University

15:00-16:30 FrD06.7
Light-Induced Microbubble Poration of Localized Cells 4482-4485
Fan, Qihui University of Hawaii at Manoa; HU, Wenqi University of Hawaii at Manoa; Ohta, Aaron University of Hawaii at Manoa

FrD07: 15:00-16:30 Event Hall-Area A (3F)
3.9.2 Micro and Nano Sensors II (Poster Session)

15:00-16:30 FrD07.1
Continuous Wavelet Transform Based Continuum Regression for Quantitative Analysis of Surface-Enhanced Raman Spectra 4486-4489
Li, Shuo Univ. of Texas, at Arlington; Kang, Mignon Univ. of Texas at Arlington; Nyagilo, James Univ. of Texas at Arlington; Dave, Digant The Univ. of Texas at Arlington; Gao, Jean Univ. of Texas

15:00-16:30 FrD07.2
A Grasping Forceps with a Triaxial MEMS Tactile Sensor for Quantification of Stresses on Organs 4490-4493
Kuwana, Kenta Tokyo Denki University; Nakai, Akihito University of Tokyo; Masamune, Ken The University of Tokyo; Dohi, Takeyoshi The University of Tokyo

15:00-16:30 FrD07.3
Research of PLGA Microspheres Preparation Based on the Micro-Jetting Technology 4494-4497
huaiyuan, sun Shanghai Medical Instrumentation College

FrD08: 15:00-16:30 Event Hall-Area A (3F)
3.9.3 Bio-nano Technology (Poster Session)

15:00-16:30 FrD08.1
Expression of C-ErbB-2 in Breast Cancer Cell Lines As Experimental Receptor of Magnetic Nanoparticles 4498-4501
Silva Escobedo, Jesus Gabriel Escuela Militar de Graduados de Sanidad.; González, César A Instituto Politécnico Nacional

15:00-16:30 FrD08.2
Interfacing Neurons through the Patch Membrane Pierced with Single-Walled Carbon Nanotubes 4502-4505
Hayashida, Yuki Osaka University; Motomura, Tamami Grad. Sci. & Tech., Kumamoto University; Kinoshita, Tomohiro Eng., Kumamoto University

15:00-16:30 FrD08.3
Multiple Reaction Analysis of Cancer with Different Markers Using Silicon Nanowire FET 4506-4509
Chemo/bio-sensing techniques Min-Ho Lee; Korea Electronics Technology Institute Kuk Jin Jang; Korea Electronics Technology Institute Hyeyoun Kim; Korea Electronics Technology Institute Kook-Nyung Lee; Korea Electronics Technology Institute

15:00-16:30 FrD08.4
Urine Glucose Analysis with Functionalized Graphene Oxide As a Material for Amperometric Sensor ... 4510-4512
Kim, Hyeyoun KETI; Jang, Kuk Jin Korea Electronics Technology Institute; Lee, Min-Ho Korea Electronics Technology Institute

FrD09: 15:00-16:30 Event Hall-Area A (3F)
4.9.3 Models of Cells and Physiological Systems (Poster Session)

15:00-16:30 FrD09.1
Three-Dimensional Modeling of Oxidized-LDL Accumulation and HDL Mass Transport in a Coronary Artery: A Proof-Of-Concept Study for Predicting the Region of Atherosclerotic Plaque Development 4513-4516
Sakellarios, Antonis Univ. of Ioannina; Siogkas, Panagiotis FORTH-IMBB; Athanasiou, Lambros University of Ioannina; Exarchos, Themis P. Unit of Medical Tech & Intelligent Info; Papafaklis, Michail Brigham and Women's Hospital, Harvard Medical School; Bourantas, Christos Dept. of Academic Cardiology, Castle Hill Hospital, Cottingham, HU; Naka, Katerina University of Ioannina; Michalis, Lampros University of Ioannina; Filipovic, Nenad University of Kragujevac; Parodi, Oberdan CNR Clinical Physiology Institute - Milan; Fotiadis, Dimitrios I. University of Ioannina

15:00-16:30 FrD09.2
Dynamic Mechanical Finite Element Model of Biological Cells for Studying Cellular Pattern Formation . 4517-4520
Zhao, Jieling University of Illinois at Chicago; Naveed, Hammad University of Illinois at Chicago; Kachalo, Sema University of Illinois at Chicago; Cao, Youfang University of Illinois at Chicago; Tian, Wei University of Illinois at Chicago; Liang, Jie University of Illinois at Chicago

15:00-16:30 FrD09.3
Estimation of Shear-Stress-Induced Endothelial Nitric Oxide Production from Flow-Mediated Dilatation ... 4521-4524
Yamazaki, Yoichi Aichi Science and Technology Foundation; Kondo, Yohei Aichi Prefectural University; Kamiyama, Yoshimi Aichi Prefectural University

15:00-16:30		FrD09.4
Exposure of High Resolution Fetuses in Advanced Pregnant Woman Models at Different Stages of Pregnancy to Uniform Magnetic Fields at the Frequency of 50 Hz		4525-4528
<i>Liorni, Ilaria Politecnico di Milano, Milano and Istituto di Ingegneria Biomedica; Parazzini, Marta Consiglio Nazionale delle Ricerche; Fiocchi, Serena Consiglio Nazionale delle Ricerche CNR; Ravazzani, Paolo CNR</i>		
15:00-16:30		FrD09.5
A Tumor-Immune Mathematical Model of CD4+ T Helper Cell Dependent Tumor Regression by Oncogene Inactivation		4529-4532
<i>Nwabugwu, Chinyere Ifeoma Stanford University; Rakhra, Kavya Stanford University; Paik, David Seungwon Stanford University; Felsher, Dean Stanford University</i>		
15:00-16:30		FrD09.6
An Intelligent Flow Control System for Long Term Fluid Restriction in Small Animals		4533-4536
<i>Zheng, Can National Cerebral and Cardiovascular Center; Li, Meihua Nat. Cardiovascular Center Res Inst; Kawada, Toru Nat. Cerebral and Cardiovascular Center Res Inst; Uemura, Kazunori National Cerebral and Cardiovascular Center Research Institute; Inagaki, Masashi National Cerebral and Cardiovascular Center Research Inst.; Sugimachi, Masaru Natl Cardio Center Research Inst</i>		
15:00-16:30		FrD09.7
2D Data-Driven Stalk Cell Prediction Model Based on Tip-Stalk Cell Interaction in Angiogenesis		4537-4540
<i>Wang, Mengmeng Nanyang Technological University; Ong, Lee-Ling Sharon Singapore-MIT Alliance for Research and Technology; Dauwels, Justin NTU; Asada, Harry MIT</i>		
15:00-16:30		FrD09.8
Functional Simulation of the Cochlea for Implant Optimization		4541-4544
<i>Ceresa, Mario Alma IT System; Perez, Frederic Alma IT Systems; Vera, Sergio Alma IT Systems / Computer Vision Center, Universitat Autònoma de Catalunya; Carranza, Noemi Alma IT Systems; Herrero, Javier Alma IT Systems; Mistrik, Pavel Medel; Gonzalez Ballester, Miguel Angel Alma IT Systems</i>		
15:00-16:30		FrD09.9
Implementation of a Gelatin Model to both simulate and facilitate detection of Inner Ear Biological Activity		4545-4548
<i>Kumaragamage, Chathura University of Manitoba; Edwards, Roger Neural Diagnostics Pty Ltd; Moussavi, Zahra University of Manitoba; Lithgow, Brian John Alfred Hospital</i>		
15:00-16:30		FrD09.10
Statistical Analysis of Tracheal Breath Sounds During Wakefulness for Screening Obstructive Sleep Apnea		4549-4552
<i>MacGregor, Cameron Andrew University of Manitoba; Karimi, Davood University of Manitoba; Azarbarzin, Ali The University of Manitoba; Moussavi, Zahra University of Manitoba</i>		
15:00-16:30		FrD09.11
Influence of Cell Morphology in a Computational Model of ON and OFF Retinal Ganglion Cells		4553-4556
<i>Guo, Tianruo University of New South Wales; Tsai, David University of New South Wales; Morley, John William University of Western Sydney; Suaning, Gregg The University of New South Wales; Lovell, Nigel H. University of New South Wales; Dokos, Socrates University of New South Wales</i>		
15:00-16:30		FrD09.12
Influence of Active Dendrites on Firing Patterns in a Retinal Ganglion Cell Model		4557-4560
<i>Guo, Tianruo University of New South Wales; Tsai, David University of New South Wales; Sovilj, Sinisa University of Zagreb, Faculty of Electrical Engineering and Comp; Morley, John William University of Western Sydney; Suaning, Gregg The University of New South Wales; Lovell, Nigel H. University of New South Wales; Dokos, Socrates University of New South Wales</i>		
15:00-16:30		FrD09.13
New Trends in Computational Modeling: A Neuroid-Based Retina Model		4561-4564
<i>Arguello, Erick Laboratorio C Universidad Simon Bolivar; Silva, Ricardo Programa Prometeo; Huerta, Mónica Simon Bolivar University; Castillo, Cecilia Instituto de Estudios Avanzados</i>		

4.9.6 Biomechanics Modeling II (Poster Session)

- 15:00-16:30 FrD10.1
Influence of the Anisotropic Mechanical Properties of the Skull in Low-Intensity Focused Ultrasound towards Neuromodulation of the Brain 4565-4568
Kilany, Mohamed Kyung Hee University; Han, Hee Sok Kyung Hee University; Jeon, Hyun Jae Kyunghee University; Kim, Tae-Seong Kyung Hee University; Khang, Gon Kyung Hee University
- 15:00-16:30 FrD10.2
Real-Time Rendering of Drugs Injection and Interactive Simulation of Vessel Deformation Using GPU .. 4569-4572
Wu, Jichuan National University of Singapore; Chui, Chee Kong National University of Singapore; Teo, Chee Leong National University of Singapore; Binh, P. Nguyen National University of Singapore
- 15:00-16:30 FrD10.3
Theoretical Analysis of Body Hair Movement in ELF Electric Field Exposure in Different Environmental Conditions 4573-4576
Iida, Ken Hokkaido Univ.; Shimizu, Hisae Hokkaido Institute of Technology; Shimizu, Koichi Hokkaido Univ.
- 15:00-16:30 FrD10.4
Fundamental Study on Formulation Design of Skin Care Products by Modeling of Tactile Sensation 4577-4580
Akiyama, Yoko Graduate school of engineering, Osaka University; Mishima, Fumihito Graduate school of engineering, Osaka University; Nishijima, Shigehiro Graduate school of engineering, Osaka University
- 15:00-16:30 FrD10.5
Uncertainty Modeling of Input Data for a Biomechanical System of Systems 4581-4584
DAO, Tien-Tuan Univ de Technologie de Compiègne; HO BA THO, Marie-Christine Université de Technologie de Compiègne
- 15:00-16:30 FrD10.6
Facial Mimics Simulation Using MRI and Finite Element Analysis 4585-4588
DAO, Tien-Tuan Univ de Technologie de Compiègne; Dakpé, Stéphanie CHU Amiens- Service Chirurgie Maxillo-Faciale; Pouletaut, Philippe UTC France; Devauchelle, Bernard CHU Amiens- Service Chirurgie Maxillo-Faciale; HO BA THO, Marie-Christine Université de Technologie de Compiègne

8.4.2 Human Machine Interfaces and Robotics Applications (Poster Session)

- 15:00-16:30 FrD11.1
Muscle Force Estimation with Surface EMG During Dynamic Muscle Contractions: A Wavelet and ANN Based Approach 4589-4592
Bai, Fengjun National University of Singapore; Chew, Chee Meng National University of Singapore
- 15:00-16:30 FrD11.2
A Linear Model for Simultaneously and Proportionally Estimating Wrist Kinematics from EMG during Mirrored Bilateral Movements 4593-4596
Pan, Lizhi Shanghai Jiao Tong University; Sheng, Xinjun Shanghai Jiao Tong University; Zhang, Dingguo Shanghai Jiao Tong University; Zhu, XiangYang Shanghai Jiao Tong University
- 15:00-16:30 FrD11.3
Experimental Study on a Smart Wheelchair System Using a Combination of Stereoscopic and Spherical Vision 4597-4600
Nguyen, Jordan Son University of Technology, Sydney; Su, Steven Weidong University of Technology, Sydney; Nguyen, Hung T. University of Technology, Sydney
- 15:00-16:30 FrD11.4
Improvement of Tactile Sensitivity by Stochastic Resonance Effect - Applications to Surgical Grasping Forceps - 4601-4604
Sueda, Yamato Hiroshima University; Hattori, Minoru Hiroshima University; Ohdan, Hideki Hiroshima University; Egi, Hiroyuki Hiroshima University; Sawada, Hiroyuki Hiroshima University; Ueda, Jun Georgia Institute of Technology; Tsuji, Toshio Hiroshima University; Kurita, Yuichi Hiroshima University

15:00-16:30 FrD11.5
Real-Time Estimation of Tongue Movement Based on Suprahyoid Muscle Activity 4605-4608
Sasaki, Makoto Iwate University; Onishi, Kohei Iwate University; Arakawa, Takayuki Iwate University; Nakayama, Atsushi Ichinoseki National College of Technology; Stefanov, Dimitar Coventry University; Yamaguchi, Masaki Iwate University

15:00-16:30 FrD11.6
Influence of the Model's Degree of Freedom on Human Body Dynamics Identification 4609-4612
Maita, Daichi Tokyo University of Agriculture and Technology; Venture, Gentiane Tokyo University of Agriculture and Technology

FrD12: 15:00-16:30 Event Hall-Area D (3F)
6.7.1 Virtual Reality in Rehabilitation (Poster Session)

15:00-16:30 FrD12.1
Comparing "Pick and Place" Task in Spatial Augmented Reality versus Non-Immersive Virtual Reality for Rehabilitation Setting 4613-4616
Khademi, Maryam University of California, Irvine; Mousavi Hondori, Hossein Nanyang Technological University; Dodakian, Lucy University of California Irvine; Cramer, Steven University of California, Irvine; Lopes, Cristina Videira University of California, Irvine

15:00-16:30 FrD12.2
Passive-Type Rehabilitation Systems for Upper Limbs with MR Fluid Brake and Its Training Software .. 4617-4620
Haraguchi, Makoto Fukui University of Technology; Furusho, Junji Fukui University of Technology

15:00-16:30 FrD12.3
Proprioception Rehabilitation Training System for Stroke Patients Using Virtual Reality Technology 4621-4624
Kim, Sun I. Osong Medical Innovation foundation; Song, In-Ho Osong Medical Innovation foundation; Cho, Sangwoo Hanyang University; Kim, In-Young Hanyang University; KU, Jeonghun Hanyang University; Kang, Youn Joo Eulji University School of Medicine; Jang, Dong Pyo Hanyang University

15:00-16:30 FrD12.4
Kinect-based Rehabilitation System for Patients with Traumatic Brain Injury 4625-4628
Venugopalan, Janani Georgia Institute of Technology; Cheng, Chihwen Georgia Institute of Technology; Stokes, Todd Georgia Institute of Technology; Wang, May D. Georgia Tech and Emory University

FrD13: 15:00-16:30 Event Hall-Area D (3F)
10.4.5 Telehealth and Telemedicine II (Poster Session)

15:00-16:30 FrD13.1
Estimation of Physical Activity Monitored During the Day-To-Day Life by an Autonomous Wearable Device (SVELTE Project) 4629-4632
Doron, Maeva CEA LETI; Bastian, Thomas Centre Hospitalier Lyon Sud; Maire, Aurélie CRNH Rhône-Alpes/CENS, Centre Hospitalier Lyon Sud - 165 chemin; Dugas, Julien CRNH Rhône-Alpes/CENS, Centre Hospitalier Lyon Sud; Perrin, Emilie MOVEA SA – Le Pulsar – 4, avenue du Doyen Louis Weil – 38000 Gre; Gris, Florence MOVEA SA – Le Pulsar – 4, avenue du Doyen Louis Weil – 38000 Gre; Guillemaud, Regis CEA Léti MINATEC; Deschamps, Thibault LNPCA, 19 rue du 19 mars 1962 - BP 50163 Oignies - 62212 Carvin; Bianchi, Pascal LTCI/ Telecom Paris Tech - 46 rue Barrault - 75634 Paris Cedex 1; Caritu, Yanis MOVEA SA – Le Pulsar – 4, avenue du Doyen Louis Weil – 38000 Gre; Simon, Chantal CRNH Rhône-Alpes/CENS, Centre Hospitalier Lyon Sud - 165 chemin; Jallon, Pierre CEA Grenoble

15:00-16:30 FrD13.2
Relationship between Elevated Plantar Pressure of Toes and Forefoot and Gait Features in Diabetic Patients 4633-4636
Amemiya, Ayumi The University of Tokyo; Noguchi, Hiroshi The University of Tokyo; Oe, Makoto The University of Tokyo; Takehara, Kimie The University of Tokyo; Yamada, Amika The University of Tokyo; Ohashi, Yumiko The University of Tokyo Hospital; Ueki, Kohjiro The University of Tokyo; Kadowaki, Takashi The University of Tokyo; Mori, Taketoshi The University of Tokyo; Sanada, Hiromi The University of Tokyo

15:00-16:30	FrD13.3
Evaluating the Benefit of Introducing Medical Clerks as Transcriptionists to Assist Physicians in Outpatient Clinics: A Quantitative Analysis of Medical Records by Counting Characters	4637-4641
<i>Kasahara, Satoko Graduate School of Health Care Sciences, Jikei Institute; Yoshizaki, Kayoko Graduate School of Health Care Sciences, Jikei Institute; Yamashita, Tepeji Graduate School of Health Care Sciences, Jikei Institute; Takeda, Hiroshi Graduate School of Health Care Sciences, Jikei Institute</i>	
15:00-16:30	FrD13.4
A Smart Phone/Tablet Based Mobile Health Care System for Developing Countries	4642-4645
<i>Vaidya, Avinash BITS-Pilani, Hyderabad Campus; P, Himanbindu Wipro technologies; Jumaxanova, Daria Dept. of Information Systems, Semey State University; M.B, Srinivas Birla Institute of Technology and Science - Pilani, Hyderabad Ca</i>	
15:00-16:30	FrD13.5
Tele-Auscultation Support System with Mixed Reality Navigation	4646-4649
<i>Hori, Kenta Gunma Prefectural College of Health Sciences; Uchida, Yusuke Kyoto University; Kan, Tsukasa Osaka City University; Minami, Maya Kyoto University Hospital; Naito, Chisako Kyoto University Hospital; Kuroda, Tomohiro Kyoto University; Takahashi, Hideya Osaka City University; Ando, Masahiko Nagoya University Hospital; Kawamura, Takashi Kyoto University; Kume, Naoto Kyoto University; Okamoto, Kazuya Kyoto University; Takemura, Tadamasu Kyoto University; Yoshihara, Hiroyuki Kyoto University</i>	
15:00-16:30	FrD13.6
Collecting and Distributing Wearable Sensor Data: An Embedded Personal Area Network to Local Area Network Gateway Server	4650-4653
<i>Neuhaeuser, Jakob Technical Univ. of Munich; D'Angelo, Lorenzo Tancredi Technische Universitaet Muenchen</i>	
15:00-16:30	FrD13.7
Addressing the Challenges of Sleep/wake Class Imbalance in Bed Based Non-Contact Actigraphic Recordings of Sleep	4654-4657
<i>McDowell, Andrew University of Ulster; Donnelly, Mark University of Ulster; Nugent, Chris University of Ulster; Galway, Leo University of Ulster; McGrath, Michael James Intel Ireland Ltd</i>	
15:00-16:30	FrD13.8
Implementation of an iPhone Wireless Accelerometer Application for the Quantification of Reflex Response	4658-4661
<i>LeMoyne, Robert Northern Arizona University; Mastroianni, Timothy Independent; Grundfest, Warren S. UCLA; Nishikawa, Kiisa Northern Arizona University</i>	
15:00-16:30	FrD13.9
Automatically Captured Sociability and Sleep Quality in Healthy Adults	4662-4665
<i>Butt, Maryam Masdar Institute of Science and Technology; Moturu, Sai Thejasvee Massachusetts Institute of Technology; Pentland, Alex 'Sandy' Toshiba Professor of Media, Arts, and Sciences, MIT; Khayal, Inas Masdar Institute of Science and Technology, MIT</i>	

FrD14: 15:00-16:30	Event Hall-Area D (3F)
10.5.4 Smart Homes and Ambient Assisted Living III (Poster Session)	

15:00-16:30	FrD14.1
Human Activities Recognition with RGB-Depth Camera Using HMM	4666-4669
<i>Dubois, Amandine Université de Lorraine; Charpillet, François Loria</i>	
15:00-16:30	FrD14.2
ESUMS: A Mobile System for Continuous Home Monitoring of Rehabilitation Patients	4670-4673
<i>Strisland, Frode SINTEF ICT; Svalgård, Ingrid SINTEF ICT; Seeberg, Trine Margrethe SINTEF ICT; Mathisen, Bjørn Magnus SINTEF; Vedum, Jon SINTEF ICT; Austad, Hanne Opsahl SINTEF ICT; Liverud, Anders Erik SINTEF; Kofod-Petersen, Anders SINTEF; Bendixen, Ole Christian SINTEF ICT</i>	
15:00-16:30	FrD14.3
Fixation Distance Estimation Using Vergence Eye Movement for Automatic Focusing Glasses	4674-4677
<i>Tsuyoshi, Inoue Panasonic Corporation; Bounyong, Souksakhone Panasonic Corporation; Kato O., Yumiko Panasonic Corporation; Ozawa, Jun Panasonic Corporation</i>	

15:00-16:30		FrD14.4
Potential Barriers in Adoption of a Medication Compliance Neckwear by Elderly Population	4678-4681	
<i>Choi, Young Mi Georgia Institute of Technology; Olubanjo, Temiloluwa Georgia Institute of Technology; Farajidavar, Aydin New York Institute of Technology; Ghovanloo, Maysam Georgia Institute of Technology</i>		
15:00-16:30		FrD14.5
Accuracy of Caring Personnel in Estimating Water Intake Based on Missing Liquid in Drinking Vessels	4682-4685	
<i>Kreutzer, Joachim Friedrich Technische Universitaet Muenchen; Pfitzer, Michael KWA Kuratorium Wohnen im Alter; D'Angelo, Lorenzo Tancredi Technische Universitaet Muenchen</i>		
15:00-16:30		FrD14.6
Measurement System of Body Shift During Head of Bed Elevation Based on Robust Tracking of Mattress Edges Using LIDAR	4686-4689	
<i>Noguchi, Hiroshi The University of Tokyo; Ogawa, Yuki The University of Tokyo; Nakagami, Gojiro The University of Tokyo; Mori, Taketoshi The University of Tokyo; Sanada, Hiromi The University of Tokyo</i>		
15:00-16:30		FrD14.7
Design of an Unobtrusive System for Fall Detection in Multiple Occupancy Residences	4690-4693	
<i>Ariani, Arni University of New South Wales; Redmond, Stephen James University of New South Wales; Narayanan, Michael Ravi University of New South Wales; Zhang, Zhaonan The University of New South Wales; Lovell, Nigel H. University of New South Wales</i>		
15:00-16:30		FrD14.8
Voice Response System of Color and Pattern on Clothes for Visually Handicapped Person	4694-4697	
<i>Miyake, Masao Osaka University; Manabe, Yoshitsugu Chiba University; Uranishi, Yuki Osaka University; Imura, Masataka Osaka University; Oshiro, Osamu Osaka University</i>		
15:00-16:30		FrD14.9
Work Step Indication with Grid-Pattern Projection for Demented Senior People	4698-4701	
<i>Uranishi, Yuki Osaka University; Yamamoto, Goshiro Nara Institute of Science and Technology; Asghar, Zeeshan University of Oulu; Pulli, Petri University of Oulu; Kato, Hirokazu Nara Institute of Science and Technology; Oshiro, Osamu Osaka University</i>		
15:00-16:30		FrD14.10
An Assistive Technology for Hearing-Impaired Persons: Analysis, Requirements and Architecture	4702-4705	
<i>Mielke, Matthias Univ. of Siegen; Gruenewald, Armin Univ. of Siegen; Brück, Rainer Univ. of Siegen</i>		
15:00-16:30		FrD14.11
A Novel Non-Contact Radar Sensor for Affective and Interactive Analysis	4706-4709	
<i>Lin, Hong-Dun Industrial Technology Research Institute; Lee, Yen-Hsien Industrial Technology Research Institute; Shih, Hsiang-Lan Creativity Laboratory, Industrial Technology Research Institute; Chuang, Bor-Nian Industrial Technology Research Institute</i>		

FrD15: 15:00-16:30

Event Hall-Area A (3F)

9.6.1 Physiological Measurements (Poster Session)

15:00-16:30		FrD15.1
Assessment of Speech Production with Dentures by Electromagnetic Articulography	4710-4713	
<i>Bonaventura, Patrizia Case Western Reserve University; Piecuch, Trevor Case Western Reserve University, Dept of Mechanical and Aerospace; Oxley, Madeleine Louis Perry & Associates, Inc.; Iida, Jun Case Western Reserve University, Dept of Mechanical and Aerospace; Prael, Joseph Case Western Reserve University, Dept of Mechanical and Aerospace</i>		
15:00-16:30		FrD15.2
A Micro Opto-Mechanical Displacement Sensor Based on Micro-Diffraction Gratings: Design and Characterization	4714-4717	
<i>Accoto, Dino Campus Bio-Medico University; Schena, Emiliano University of Rome Campus Bio-Medico; Cidda, Martina University Campus Bio-Medico of Rome; Francomano, Maria Teresa Università Campus Bio-Medico di Roma; Saccomandi, Paola University Campus Bio-Medico of Rome; Silvestri, Sergio Università Campus Bio-Medico di Roma</i>		

15:00-16:30	FrD15.3
Wearable ECG Recorder with Acceleration Sensors for Monitoring Daily Stress: Office Work Simulation Study	4718-4721
<i>Okada, Yoshio Industrial Research Institute of Shizuoka Prefecture; Yi Yoto, Tsuyoshi Industrial Research Institute of Shizuoka Prefecture; Suzuki, Taka-aki Industrial Research Institute of Shizuoka Prefecture; Sakuragawa, Satoshi Industrial Research Institute of Shizuoka Prefecture; Sugiura, Toshifumi Research Institute of Electronics, Shizuoka University</i>	
15:00-16:30	FrD15.4
A High Reliability Detection Algorithm for Wireless ECG Systems Based on Compressed Sensing Theory	4722-4725
<i>Balouchestani, Mohammadreza Ryerson university; Raahemifar, Kaamran Ryerson University; Krishnan, Sridhar Ryerson University</i>	
15:00-16:30	FrD15.5
NOTES Suction Grasper for Tubular Viscera – Characterization of Gripping Force When Varying Hole Size, Diameter, and Number	4726-4729
<i>Brooks, Robert Joseph Hostipal for Sick Children, University of Toronto; Piper, Hannah Division of Pediatric Surgery, Children's Medical Center, Univer; Looi, Thomas CIGITI, Hospital for Sick Children; Drake, James University of Toronto, CIGITI, Hospital for Sick Children</i>	
15:00-16:30	FrD15.6
Oxygen Permeability Measurements of Contact Lenses: A Proposal for Accuracy Improvement	4730-4733
<i>D'Avenio, Giuseppe Istituto Superiore di Sanità; Poli, Cecilia Istituto Superiore di Sanità; Daniele, Carla Istituto Superiore di Sanità; Grigioni, Mauro Istituto Superiore di Sanità</i>	
15:00-16:30	FrD15.7
A Syringe Injection Rate Detector Employing a Dual Hall-Effect Sensor Configuration	4734-4737
<i>Mukherjee, Biswarup Indian Institute of Technology Madras; George, Boby Indian Institute of Technology Madras; Sivaprakasam, Mohanasankar Indian Institute of Technology Madras</i>	

FrD16: 15:00-16:30	Event Hall-Area A (3F)
9.6.2 Safety (Poster Session)	

15:00-16:30	FrD16.1
Helping The Blind to Find the Floor of Destination in Multistory Buildings Using a Barometer	4738-4741
<i>Bai, YiCheng University of Pittsburgh; Jia, Wenyan University of Pittsburgh; Zhang, Hong beihang university; Mao, Zhi-Hong University of Pittsburgh; Sun, Mingui University of Pittsburgh</i>	
15:00-16:30	FrD16.2
Monitoring of Bedridden Patients: Development of a Fall Detection Tool	4742-4745
<i>Vilas-Boas, Maria Faculty of Engineering, University of Porto; Silva, Pedro Tomorrow Options, Microelectronics S.A.; Reis Cunha, Sergio Universidade do Porto, Faculdade de Engenharia; Correia, Miguel Faculdade de Engenharia da Universidade do Porto</i>	
15:00-16:30	FrD16.3
Potential to Fall of Bipeds Using Foot Kinematics	4746-4750
<i>Vogt, Andrew Peter Salt Lake Community College and University of Utah; Beschorner, Kurt University of Wisconsin; Merryweather, Andrew University of Utah; Bamberg, Stacy J Morris University of Utah</i>	
15:00-16:30	FrD16.4
A Pressure Distribution Measurement System for Supporting Areas of Wheelchair Users	4751-4754
<i>Arias Guzman, Sandra Centro de Investigación y de Estudios Avanzados del Instituto Po; Cardiel, Eladio CINVESTAV-IPN; Garay, Laura UPIITA-IPN; Tovar, Blanca UPIITA-IPN; Pla, Michele CINVESTAV-IPN; Hernandez, Pablo Rogeli CINVESTAV-IPN</i>	

10.6.2 Health Information Systems II (Poster Session)

- 15:00-16:30 FrD17.1
Medical Reliable Network Using Concatenated Channel Codes through GSM Network 4755-4758
Ahmed Talha, Emtithal Yokohama National University; kohno, Ryuji NICT
- 15:00-16:30 FrD17.2
Lifeguard for Robotic Surgery Assistance “LIGRA”: An Interactive Platform Centralizing Information and Control in Robotic Surgery 4759-4762
Bleuler, Hannes EPFL; Vaucher, Jean EPFL
- 15:00-16:30 FrD17.3
The Diagnostic-Therapeutic Process. Workflow Analysis and Risk Management with IT Tools 4763-4766
Iadanza, Ernesto Università degli Studi di Firenze; Gaudio, Flavia Dept. of Information Engineering; Federica, Marini Azienda Sanitaria Fiorentina
- 15:00-16:30 FrD17.4
Testing of Electronic Healthcare Record Images and Reports Viewer 4767-4770
Noumeir, Rita Ecole de technologie superieure; Rose, Jose Softmedical
- 15:00-16:30 FrD17.5
Concept and Approach of Human Signal-Molecular-Profiling Database: A Pilot Study on Depression Using Lab-On-Chips 4771-4774
Dong, Tao 1.Vestfold University College 2. Nanjing University of Science and; Zhao, Xinyan Vestfold University College; Yang, ZhaoChu Vestfold University College
- 15:00-16:30 FrD17.6
Ethical Concerns Caused by Integrative Patient Empowerment Solutions for Personalized Medicine 4775-4778
Kuchinke, Wolfgang Heinrich-Heine University Duesseldorf
- 15:00-16:30 FrD17.7
Mapping Query Terms to Data and Schema Using Content Based Similarity Search in Clinical Information Systems 4779-4782
Safari, Leila University of sydney; Patrick, Jon University of sydney
- 15:00-16:30 FrD17.8
Merging Medical Informatics and Automated Diagnostic Methods 4783-4786
Hudson, Donna L Univ. of California, San Francisco; Cohen, Maurice Univ. of California San Francisco
- 15:00-16:30 FrD17.9
New Use Cases for Remote Control and Configuration of Interoperable Medical Devices 4787-4790
Barron Gonzalez, Hector Gilberto Autonomy Univ. of Nuevo león; Martinez-Espronceda, Miguel Public Univ. of Navarra; Led, Santiago Public Univ. of Navarra; Serrano, Luis Public Univ. of Navarra; Fischer, Christoph Institute of Assistance Systems and Qualification at the SRH Uni; Clarke, Malcolm Brunel Univ.
- 15:00-16:30 FrD17.10
Real Time Biomedical Signal Transmission of Mixed ECG Signal and Patient Information using Visible Light Communication 4791-4794
Tan, Yee Yong Pukyong National University; Jung, Sang-Joong Pukyong National University; Chung, Wan-Young Pukyong National University

1.6.2 Adaptive and Kalman Filtering in Biomedical Signals (Poster Session)

- 15:00-16:30 FrD18.1
Using an injection signal to reduce motion artifacts in capacitive ECG measurements 4795-4798
Serteyn, Aline Eindhoven University of Technology; Vullings, Rik Eindhoven University of Technology; Meftah, Mohammed Philips Research; Bergmans, Johannes Wilhelmus Maria Eindhoven University of Technology

15:00-16:30		FrD18.2
Human Pose Recovery for Rehabilitation Using Ambulatory Sensors		4799-4802
<i>Lin, Jonathan Feng-Shun University of Waterloo; Kulic, Dana University of Waterloo</i>		
15:00-16:30		FrD18.3
A Novel Gradient Adaptive Step Size LMS Algorithm with Dual Adaptive Filters		4803-4806
<i>Jiao, Yuzhong Hong Kong Applied Science and Tech. Research Institute; Cheung, Rex Hong Kong Applied Science and Tech. Research Institute Co.; Chow, Winnie Hong Kong Applied Science and Tech. Research Institute; Mok, Mark Hong Kong Applied Science and Tech. Research Institute Co., L</i>		
15:00-16:30		FrD18.4
Non-Parametric Permutation Thresholding for Adaptive Nonlinear Beamformer Analysis on MEG Revealed Oscillatory Neuronal Dynamics in Human Brain		4807-4810
<i>Ishii, Ryouhei Osaka University; Canuet, Leonides Madrid Complutense University; Aoki, Yasunori Osaka University; Ikeda, Syunichiro Osaka University; Hata, Masahiro Osaka University; Iwase, Masao Osaka University; Takeda, Masatoshi Osaka University</i>		
15:00-16:30		FrD18.5
Cortico-Muscular Coherence on Artifact Corrected EEG-EMG Data Recorded with a MRI Scanner		4811-4814
<i>Muthuraman, Muthuraman Christian Albrechts University; Andreas, Galka Christian albrechts University, department of Neuropediatircs Ki; Hong, VN CAU Kiel; Ulrich Heute, Ulrich Heute Christian Albrechts University Kiel; Gunther, Deuschl Department of Neurology; Jan, Raethjen Department of Neurology</i>		
15:00-16:30		FrD18.6
DBS Artifact Suppression Using a Time-Frequency Domain Filter		4815-4818
<i>Santillan-Guzman, Alina University of Kiel; Heute, Ulrich University of Kiel; Muthuraman, Muthuraman Christian Albrechts University; Stephani, Ulrich Christian-Albrechts-University of Kiel; Galka, Andreas Christian-Albrechts-University of Kiel</i>		
15:00-16:30		FrD18.7
MEG-EEG Fusion by Kalman Filtering within a Source Analysis Framework		4819-4822
<i>Hamid, Laith University of Kiel; Aydin, Ümit University of Münster; Wolters, Carsten University of Muenster; Stephani, Ulrich Christian-Albrechts-University of Kiel; Siniatchkin, Michael University of Frankfurt; Galka, Andreas Christian-Albrechts-University of Kiel</i>		
15:00-16:30		FrD18.8
Robust Sleep Apnea Monitoring Using Heart Rate Variability and Extended Kalman Classification Based on Single Lead ECG		4823-4826
<i>Asadpour, Vahid Sadjad Institute of Higher Educations; Alibakhshian, Elahe Azad University; Fazel-Rezaei, Reza University of North Dakota</i>		
15:00-16:30		FrD18.9
Linear Dynamic Models for Classification of Single-Trial EEG		4827-4830
<i>Samdin, S. Balqis University Teknologi Malaysia; Ting, Chee-Ming University Teknologi Malaysia; Salleh, Sh-Hussain University Teknologi Malaysia; Ariff, A. K. Center for Biomedical Engineering, University Teknologi Malaysia; Mohd Noor, A. B. University Teknologi Malaysia</i>		
15:00-16:30		FrD18.10
Labeling Colorectal NBI Zoom-Videoendoscope Image Sequences with MRF and SVM		4831-4834
<i>Hirakawa, Tsubasa Hiroshima University; Tamaki, Toru Hiroshima University; Raytchev, Bissier Hiroshima University; Kaneda, Kazufumi Hiroshima University; Koide, Tetsushi Hiroshima University; Yoshida, Shigeto Hiroshima University; Kominami, Yoko Hiroshima University; Matsuo, Taiji Hiroshima University; Miyaki, Rie Hiroshima University; Tanaka, Shinji Hiroshima University</i>		

FrD19: 15:00-16:30

Event Hall-Area C (3F)

8.5.3 Surgical Robotics II (Poster Session)

15:00-16:30		FrD19.1
Development of a Tool System to Support Endoscope		4835-4838
<i>Omori, Yui Shibaura Institute of Technology; Takahashi, Yoshiyuki Toyo University; Yamamoto, Shin-ichiroh Shibaura Institute of Technology; Komeda, Takashi Shibaura Institute of Technology</i>		

15:00-16:30		FrD19.2
Supervisory System for Robot Assisted Laser Phonomicrosurgery		4839-4842
<i>Fichera, Loris Istituto Italiano di Tecnologia; Pardo, Diego Istituto Italiano di Tecnologia;</i>		
<i>Mattos, Leonardo IIT - Istituto Italiano di Tecnologia</i>		
15:00-16:30		FrD19.3
Intraoperative Bowel Cleansing Tool in Active Locomotion Capsule Endoscopy		4843-4846
<i>Ciuti, Gastone Scuola Superiore Sant'Anna; Tognarelli, Selene Scuola Superiore Sant'Anna;</i>		
<i>Verbeni, Antonella Scuola Superiore Sant'Anna; Menciacsi, Arianna Scuola Superiore Sant'Anna;</i>		
<i>Dario, Paolo Scuola Superiore Sant'Anna</i>		
15:00-16:30		FrD19.4
Parallel Manipulator Robot Assisted Femoral Fracture Reduction on Traction Table		4847-4850
<i>Lin, Hong TSRHC; Wang, Junqiang Beijing JST Hospital</i>		
15:00-16:30		FrD19.5
Towards Haptics-Enabled Robotic Surgery System		4851-4854
<i>Lim, Yo-An Samsung Advanced Institute of Technology, Samsung Electronics; Choi, Hyun Do SAIT</i>		
<i>(Samsung Advanced Institute of Technology); Kim, Jun Hyung Samsung Electronics Co.</i>		
15:00-16:30		FrD19.6
Human Abdomen Recognition Using Camera and Force Sensor in Medical Robot System for Automatic Ultrasound Scan		4855-4858
<i>Mustafa, Ammar Safwan Bin Waseda University; Ishii, Takashi Waseda University; Matsunaga, Yoshiki</i>		
<i>Waseda University; Nakadate, Ryu Kyushu University; Ishii, Hiroyuki Waseda University; Ogawa, Kouji Hitachi</i>		
<i>Aloka Medical Ltd.; Saito, Akiko Tokyo Women Medical University; Niki, Kiyomi Tokyo City University;</i>		
<i>Sugawara, Motoaki Himeji Dokkyo University; Takanishi, Atsuo Waseda University</i>		
15:00-16:30		FrD19.7
Development and Fundamental Evaluation of a Flexible Viewpoint Laparoscope Using an Oblique-Viewing Laparoscope		4859-4862
<i>Fukushima, Yusuke School of Engineering, The University of Tokyo; Kobayashi, Etsuko The University of</i>		
<i>Tokyo; Ando, Takehiro The University of Tokyo; Sakuma, Ichiro The University of Tokyo</i>		
15:00-16:30		FrD19.8
Boundary Condition Generating Large Strain on Breast Tumor for Nonlinear Elasticity Estimation		4863-4866
<i>Tsukune, Mariko Waseda University; Hatano, Maya Waseda University; Kobayashi, Yo Waseda University;</i>		
<i>Miyashita, Tomoyuki Waseda University; Fujie, Masakatsu G. Waseda University</i>		
15:00-16:30		FrD19.9
On the Use of Discrete Steps in Robot-Aided Flexible Needle Insertion		4867-4870
<i>Geraldes, André Augusto Universidade de Brasília; Marques Marinho, Murilo Universidade de Brasília;</i>		
<i>Costa Bernardes, Mariana Universidade de Brasília; Padilha Lanari Bó, Antônio Universidade de Brasília;</i>		
<i>Araújo Borges, Geovany Universidade de Brasília</i>		
15:00-16:30		FrD19.10
Underactuated Comanipulation for Ultrasound Breast Examinations		4871-4874
<i>Marx, Anja CNRS UMR 7222 - UPMC ISIR; Vitrani, Marie-Aude CNRS UMR 2777 - UPMC ISIR; MULLER,</i>		
<i>Serge GE Healthcare; Morel, Guillaume Université Pierre et Marie Curie - Paris 6</i>		
15:00-16:30		FrD19.11
A Compliant Parallel Mechanism for Needle Intervention		4875-4878
<i>Moon, Youngjin Asan Medical Center; Choi, Jaesoon Asan Institute for Life Sciences, Asan Medical Center</i>		

- 15:00-16:30 FrD20.1
Three-Dimensional Kinematic Analysis of Active Cervical Spine Motion by Using a Multifaceted Marker Device 4879-4882
Tsunezuka, Hiroaki Kyoto Prefectural University of Medicine; Kato, Daishiro Kyoto Prefectural University of Medicine; Okada, Satoru Kyoto Prefectural University of Medicine; Ishihara, Shunta Kyoto Prefectural University of Medicine; Shimada, Junichi Kyoto Prefectural University of Medicine
- 15:00-16:30 FrD20.2
Use of an Ultra-Miniaturized IMU-Based Motion Capture System for Objective Evaluation and Assessment of Walking Skills 4883-4886
Zecca, Massimiliano Waseda Univ.; Saito, Kohei Waseda Univ.; Sessa, Salvatore Waseda Univ.; Bartolomeo, Luca Waseda Univ.; Lin, Zhuohua Waseda Univ.; Cosentino, Sarah Waseda Univ.; Ishii, Hiroyuki Waseda Univ.; Ikai, Tetsuo Tokyo Women's Medical Univ.; Takanishi, Atsuo Waseda Univ.
- 15:00-16:30 FrD20.3
Biomechanical Evaluation of the Phases During Simulated Endotracheal Intubation (ETI): Pilot Study on the Effect of Different Laryngoscopes 4887-4890
Bartolomeo, Luca Waseda University; Noh, Yohan Waseda University; Kasuya, Yusuke Tokyo Women's Medical University; Nagai, Mirei Tokyo Women's Medical University; Zecca, Massimiliano Waseda University; Sessa, Salvatore Waseda University; Cosentino, Sarah Waseda University; Saito, Kohei Waseda University; Ishii, Hiroyuki Waseda University; Lin, Zhuohua Waseda University; Takanishi, Atsuo Waseda University
- 15:00-16:30 FrD20.4
Measurement of Three-Dimensional Posture and Trajectory of Lower Body During Standing Long Jumping Utilizing Body-Mounted Sensors 4891-4894
Ibata, Yuki Hirosaki University; Kitamura, Seiji Hirosaki University; Motoi, Kosuke Hirosaki University; Sagawa, Koichi Hirosaki University
- 15:00-16:30 FrD20.5
Quantitative Study of the Knee Joint Surface Configurations Using a Morpho-Functional Approach 4895-4898
Breton, Delphine Telecom Bretagne INSERM UMR 1101; Burdin, Valérie Institut Telecom/Telecom Bretagne - INSERM U650; Leboucher, Julien Université de Bretagne Occidentale - INSERM UMR 1101; Rémy-Néris, Olivier CHU Morvan
- 15:00-16:30 FrD20.6
Computation Method for Available Response Time Due to Tripping at Minimum Foot Clearance 4899-4902
Nagano, Hanatsu Victoria University; Begg, Rezaul Victoria University; Sparrow, William Victoria University
- 15:00-16:30 FrD20.7
An Experimental Protocol for the Definition of Upper Limb Anatomical Frames on Children Using Magneto-inertial Sensors 4903-4906
Ricci, Luca Università Campus Bio Medico di Roma; Formica, Domenico Campus Bio-Medico University; Tamilia, Eleonora Università Campus Bio Medico di Roma; Taffoni, Fabrizio Campus Bio-Medico University; Sparaci, Laura Institute of Cognitive Sciences and Technologies, CNR; Capirci, Olga Institute of Cognitive Sciences and Technologies, CNR; Guglielmelli, Eugenio Campus Bio-Medico University
- 15:00-16:30 FrD20.8
Gait Phase Detection in Able-Bodied Subjects and Dementia Patients 4907-4910
Meng, Xiaoli National University of Singapore; Yu, Haoyong National University of Singapore; Tham, Ming Po National University of Singapore
- 15:00-16:30 FrD20.9
The Effect of Bone Displacement Operations on Facial Soft Tissues 4911-4914
Habib, Ali Mahmoud Medstreaming
- 15:00-16:30 FrD20.10
Integration of an Adaptive Swing Control into a Neuromuscular Human Walking Model 4915-4918
Song, Seungmoon Carnegie Mellon; Desai, Ruta Carnegie Mellon Univ.; Geyer, Hartmut Carnegie Mellon Univ.

15:00-16:30 FrD20.11
Estimating the Center of Mass of a Free-Floating Body in Microgravity 4919-4922
*Lejeune, Laurent Royal Military Academy, Brussels; Neyt, Xavier Royal Military Academy;
Migeotte, Pierre-François Royal Military Academy*

15:00-16:30 FrD20.12
**Linear Parameter Varying Identification of Ankle Joint Intrinsic Stiffness During
Imposed Walking Movements** 4923-4927
Sobhani Tehrani, Ehsan McGill Univ.; Jalaledini, Kian McGill Univ.; Kearney, Robert Edward McGill Univ.

15:00-16:30 FrD20.13
**A Novel Algorithm for Linear Parameter Varying Identification of Hammerstein Systems with
Time-Varying Nonlinearities** 4928-4932
Sobhani Tehrani, Ehsan McGill Univ.; Jalaledini, Kian McGill Univ.; Kearney, Robert Edward McGill Univ.

FrD21: 15:00-16:30 Event Hall-Area C (3F)
8.5.4 Computer-assisted Surgery (Poster Session)

15:00-16:30 FrD21.1
**Using CamiTK for Rapid Prototyping of Interactive Computer Assisted Medical
Intervention Applications** 4933-4936
*Promayon, Emmanuel Université Joseph Fourier; Fouard, Céline Université Joseph Fourier; Bailet, Mathieu
Université Joseph Fourier, Laboratoire TIMC-IMAG; Deram, Aurélien Université Joseph Fourier; Fiard, Gaëlle
Urology department, Grenoble University Hospital; Hungr, Nikolai Université Joseph Fourier; Luboz, Vincent
Université Joseph Fourier; Payan, Yohan Laboratoire TIMC-IMAG; Sarrazin, Johan Université Joseph Fourier;
Saubat, Nicolas Université Joseph Fourier; Selmi, Sonia Yuki Université Joseph Fourier; Voros, Sandrine
TIMC-IMAG laboratory; Cinquin, Philippe Joseph Fourier University / CNRS; Troccaz, Jocelyne Univ. Joseph
Fourier - CNRS UMR 5525*

15:00-16:30 FrD21.2
**Viscoelastic Interaction between Intraocular Microrobots and Vitreous Humor:
A Finite Element Approach** 4937-4940
*Wang, Zhongkui Ristumeikan University; Pokki, Juho Anton Ilmari ETH Zurich; Ergeneman, Olgac ETH Zurich;
Nelson, Bradley ETH Zurich; Hirai, Shinichi Ristumeikan University*

15:00-16:30 FrD21.3
**Synchronous Simulation for Deformation of Liver and Gallbladder with Stretch and
Compression Compensation** 4941-4944
*Duan, Yuping Institute for Infocomm Research, A*STAR; Huang, Weimin Institute for Infocomm Research,
Agency for Science Technology and; Chang, Huibin Tianjin Normal Univ.; Toe, Kyaw Kyar Institute for
Infocomm Research, A*STAR; Yang, Tao Institute of Infocomm Research; Zhou, Jiayin Institute for Infocomm
Research; Liu, Jiang Institute for Infocomm Research, A STAR; Teo, Soo Kng Institute of High Performance
Computing, A*STAR; Lim, Calvin Institute of High Performance Computing; Su, Yi Institute of High Performance
Computing; Chui, Chee Kong National Univ. of Singapore; Chang, Stephen KY National Univ. of Singapore*

15:00-16:30 FrD21.4
Image Plane Positioning by Pneumatic Actuators for Ultrasound Guidance 4945-4948
*Yoshida, Toshio Graduate School of Bio-Applications and Systems Engineering, Tok; Onogi, Shinya Tokyo
University of Agriculture and Technology; Sugano, Yuki Tokyo University of Agriculture and Technology; Saito,
Shun Graduate School of Bio-Applications and Systems Engineering, Tok; Mochizuki, Takashi Tokyo University
of Agriculture and Technology; Masuda, Kohji Tokyo Univ. A&T*

15:00-16:30 FrD21.5
An Algorithm for Planning the Number and the Pose of the Iceballs in Cryoablation 4949-4952
*Toricelli, Massimo Università di Modena e Reggio Emilia; Ferraguti, Federica Università di Modena
and Reggio Emilia; Secchi, Cristian University of Modena and Reggio Emilia*

15:00-16:30 FrD21.6
Sensing Elasticity from the Phase Difference of the Stepper Motor 4953-4956
*Kawai, Toshikazu Osaka Institute of Technology; Nishio, Kensuke Osaka Institute of Technology; Morita,
Yusuke Doshisha University; Nishizawa, Yuji Department of Gastroenterological Surgery, Faculty of Medicine,;
Nakamura, Tatsuo Kyoto University*

6.6.2 Motor Learning and Neuromuscular Control II (Poster Session)

- 15:00-16:30 FrD22.1
Decoding Movement Intent of Patient with Multiple Sclerosis for the Powered Lower Extremity Exoskeleton 4957-4960
Zhang, Fan University of Rhode Island; Huang, He University of Rhode Island
- 15:00-16:30 FrD22.2
Two-Channel Surface Electromyography for Individual and Combined Fingers Movements 4961-4964
Anam, Khairul University of Technology Sydney; Khushaba, Rami N. University of Technology, Sydney (UTS); Al-Jumaily, Adel University of Technology Sydney
- 15:00-16:30 FrD22.3
Comparison of Complexity of EMG Signals between a Normal Subject and a Patient after Stroke - a Case Study 4965-4968
Ao, Di Sun Yat-sen University; Sun, Rui Sun Yat-sen University; Song, Rong Sun Yat-sen University
- 15:00-16:30 FrD22.4
The Role of Proprioceptive Feedback in Parkinsonian Resting Tremor 4969-4972
Govil, Nikhil Institute for Neural Computation, UCSD; Akinin, Abraham UCSD; Ward, Samuel UC San Diego; Snider, Joseph UC San Diego; Plank, Markus UC San Diego; Cauwenberghs, Gert University of California San Diego; Poizner, Howard UCSD
- 15:00-16:30 FrD22.5
Linear Model of Peripheral Nerve after Surgical Manipulation: Preliminary Report in Animal Study and Model Shift 4973-4976
Puanhvan, Dilok Mahidol University; Chumnanvej, Sorayouth Mahidol University; Wongsawat, Yodchanan Mahidol University
- 15:00-16:30 FrD22.6
Wireless-Based Portable EEG-EOG Monitoring for Real Time Drowsiness Detection 4977-4980
Arnin, Jetsada Mahidol University; Anopas, D. Mahidol University; Horapong, M. Mahidol University; Triponyuwasi, P. Mahidol University; Yamsa-ard, T. Mahidol University; lampetch, S. Mahidol University; Wongsawat, Yodchanan Mahidol University
- 15:00-16:30 FrD22.7
Estimating Mood Variation from MPF of EMG During Walking 4981-4984
Kinase, Yuta Tokyo University of Agriculture and Technology; Venture, Gentiane Tokyo University of Agriculture and Technology
- 15:00-16:30 FrD22.8
Emergence of Motor Synergy in Vertical Reaching Task via Tacit Learning 4985-4988
Hayashibe, Mitsuhiro INRIA; Shimoda, Shingo RIKEN
- 15:00-16:30 FrD22.9
Effects of Whole Body Vibration on Spinal Proprioception in Normal Individuals 4989-4992
Lee, Tin Yan Hong Kong Polytechnic Univ.; Chow, Daniel Hung Kay The Hong Kong Polytechnic Univ.
- 15:00-16:30 FrD22.10
A Customizable Stochastic State Point Process Filter (SSPPF) for Neural Spiking Activity 4993-4996
Xin, Yao City University of Hong Kong; Li, Will X. Y. City University of Hong Kong; Min, Biao City University of Hong Kong; Han, Yan Zhejiang University; Cheung, Ray C. C. City University of Hong Kong
- 15:00-16:30 FrD22.11
Dynamical System Design of Silicon Neurons Using Phase Reduction Approach 4997-5000
Nakada, Kazuki Kyushu University; Miura, Keiji Tohoku University; Asai, Tetsuya Hokkaido University

15:00-16:30 FrD22.12
Electrical Morris-Lecar Neuron 5001-5004
Behdad, Rachid LE2I UMR CNRS 6306, Université de Bourgogne; Binczak, Stéphane Université de Bourgogne; Nekorkin, Vladimir I Institute of Applied Physics of RAS, 603950, 46 Ulyanova Str., N; Dmitrichev, Alexey S Institute of Applied Physics of RAS, 603950, 46 Ulyanova Str., N; Bilbault, Jean-Marie LE2I UMR CNRS 5158, Université de Bourgogne, France

15:00-16:30 FrD22.13
Analysis of Muscle Coupling During Isokinetic Endurance Contractions by Means of Nonlinear Prediction 5005-5008
Rojas, Mónica Technical University of Catalonia; Alonso, Joan Francesc Technical University of Catalonia (UPC); Chaler, Joaquim Mutua Egara Hospital; Mañanas, Miquel Angel Technical University of Catalonia (UPC)

15:00-16:30 FrD22.14
Static Ankle-Foot Orthosis Improves Static Balance and Gait Functions in Hemiplegic Patients after Stroke 5009-5012
Jen-Suh, Chern Chang Gung University

FrE01: 16:30-18:00 Conference Hall (12F)
1.4.1 Biomedical Signal Classification in Sleep Studies (Oral Session)
Chair: Long, Xi (*Philips Res. and Eindhoven Univ. of Tech.*)
Co-Chair: Gutierrez, Gonzalo Cesar (*Univ. of Valladolid*)

16:30-16:45 FrE01.1
Detection of Apnoea from Respiratory Time Series Data Using Clinically Recognizable Features and Knn Classification 5013-5016
Thommandram, Anirudh University of Ontario Institute of Technology; Eklund, J. Mikael University of Ontario Institute of Technology; McGregor, Carolyn Univ of Ontario Inst of Technology

16:45-17:00 FrE01.2
Respiration Amplitude Analysis for REM and NREM Sleep Classification 5017-5020
Long, Xi Philips Research and Eindhoven University of Technology; Foussier, Jerome RWTH Aachen University; Fonseca, Pedro Philips Research and Eindhoven University of Technology; Haakma, Reinder Philips Research; Aarts, Ronald M. Philips

17:00-17:15 FrE01.3
Assessment of Spectral Bands of Interest in Airflow Signal to Assist in Sleep Apnea-Hypopnea Syndrome Diagnosis 5021-5024
Gutierrez, Gonzalo Cesar Univ. of Valladolid; Álvarez, Daniel Univ. of Valladolid, CIF: Q4718001C; Gómez, Javier Univ. of Valladolid; del Campo, Félix Hospital del Río Hortega; Hornero, Roberto Univ. Of Valladolid

17:15-17:30 FrE01.4
Metric Learning for Automatic Sleep Stage Classification 5025-5028
Phan, Huy University of Information Technology; Do, Quan University of Information Technology; Do, The Luan University of Information Technology, Vietnam National University; Vu, Duc Lung University of Information Technology-Vietnam National University

17:30-17:45 FrE01.5
Sleep Apnea Classification Using Least-Squares Support Vector Machines on Single Lead ECG 5029-5032
Varon, Carolina Katholieke Universiteit Leuven; Testelmans, Dries Universitair Ziekenhuis Gasthuisberg; Buyse, Bertien Katholieke Universiteit Leuven; Suykens, Johan K.U. Leuven; Van Huffel, Sabine Katholieke Universiteit Leuven

17:45-18:00 FrE01.6
Decision Tree for Smart Feature Extraction from Sleep HR in Bipolar Patients 5033-5036
Migliorini, Matteo Politecnico di Milano; Mariani, Sara Politecnico di Milano; Bianchi, Anna Maria Politecnico di Milano

FrE02: 16:30-18:00	1202 (12F)
1.2.10 Entropy-based Analysis of Physiological Time Series (Invited Session)	
Chair: Faes, Luca (<i>Univ. of Trento</i>)	
Co-Chair: Porta, Alberto (<i>Univ. degli Studi di Milano</i>)	

16:30-16:45 FrE02.1
Compression Based Entropy Estimation of Heart Rate Variability on Multiple Time Scales 5037-5040
Baumert, Mathias The University of Adelaide; Voss, Andreas University of Applied Sciences Jena; Javorka, Michal Comenius University

16:45-17:00 FrE02.2
Different Approaches of Symbolic Dynamics to Quantify Heart Rate Complexity 5041-5044
Cysarz, Dirk University of Witten/Herdecke; Porta, Alberto Universita' degli Studi di Milano; Montano, Nicola Universita' degli Studi di Milano; Van Leeuwen, Peter Chair Radiology / Microtherapy, University of Witten /Herdecke; Kurths, Juergen University Potsdam; Kraemer, Jan F. Humboldt-Universität zu Berlin; Wessel, Niels Humboldt-Universität zu Berlin

17:00-17:15 FrE02.3
Entropy-Based Complexity of the Cardiovascular Control in Parkinson Disease: Comparison between Binning and K-Nearest-Neighbor Approaches 5045-5048
Porta, Alberto Universita' degli Studi di Milano; Bari, Vlasta Politecnico di Milano, Milan, Italy; Bassani, Tito Politecnico di Milano; Marchi, Andrea Department of Emergency, L. Sacco Hospital, Milan, Italy; Tassin, Stefano Ecker Technologies Sagl, Switzerland; Canesi, Margherita Parkinson Institute, Istituti Clinici di Perfezionamento, Milan,; Barbic, Franca Department of Medical Biotechnologies and Translation Medicine,; Furlan, Raffaello Department of Medical Biotechnologies and Translation Medicine,

17:15-17:30 FrE02.4
Decomposing the Transfer Entropy to Quantify Lag-Specific Granger Causality in Cardiovascular Variability 5049-5052
Faes, Luca University of Trento; Nollo, Giandomenico University of Trento

17:30-17:45 FrE02.5
Assessing Sample Entropy of Physiological Signals by the Norm Component Matrix Algorithm: Application on Muscular Signals During Isometric Contraction 5053-5056
Castiglioni, Paolo Fondazione Don Carlo Gnocchi ONLUS; Żurek, Sebastian Institute of Physics, University of Zielona Góra; Piskorski, Jaroslaw Institute of Physics, University of Zielona Góra; Kośmider, Marcin Institute of Physics, University of Zielona Góra; Guzik, Przemyslaw Dept.of Cardiology - Intensive Therapy and Internal Diseases, Po; Cè, Emiliano Dept. of Biomedical Sciences for Health, University of Milan, It; Rampichini, Susanna Dept. of Biomedical Sciences for Health, University of Milan; Merati, Giampiero University of Milan

17:45-18:00 FrE02.6
Entropy Analysis of MEG Background Activity in Attention-Deficit/Hyperactivity Disorder 5057-5060
Gomez, Carlos University of Valladolid, CIF: Q4718001C; Poza, Jesus University of Valladolid; Fernandez, Alberto Universidad Complutense de Madrid; Bachiller, Alejandro University of Valladolid; Gómez, Javier University of Valladolid; Hornero, Roberto University Of Valladolid

FrE03: 16:30-18:00	1203 (12F)
1.6.3 Parametric Filtering and Estimation (Oral Session)	
Chair: Cerutti, Sergio (<i>Pol. di Milano</i>)	

16:30-16:45 FrE03.1
Approximation-Based Common Principal Component for Feature Extraction in Multi-Class Brain-Computer Interfaces 5061-5064
Tran, Dat University of Canberra; Hoang, Tuan University of Canberra; Huang, Xu University of Canberra

16:45-17:00 FrE03.2
Identification of a Parametric, Discrete-Time Model of Ankle Stiffness 5065-5070
Guarin, Diego Luis McGill Univ.; Jalaleddini, Kian McGill Univ.; Kearney, Robert Edward McGill Univ.

17:00-17:15	FrE03.3
Subspace Method Decomposition and Identification of the Parallel-cascade Model of Ankle Joint Stiffness: Theory and Simulation	5071-5074
<i>Jalaleddini, Kian McGill University; Kearney, Robert Edward McGill University</i>	
17:15-17:30	FrE03.4
Multi-Step Prediction of Physiological Tremor for Robotics Applications	5075-5078
<i>Veluvolu, Kalyana C. Kyungpook National Univ.; Tatinati, Sivanagaraja Kyungpook National University; Hong, Sun-Mog School of EECS, Kyungpook National Univ.; Ang, Wei Tech Nanyang Technological Univ.</i>	
17:30-17:45	FrE03.5
Detection and Removal of Ocular Artifacts from EEG Signals for an Automated REM Sleep Analysis	5079-5082
<i>Betta, Monica University of Pisa; Gemignani, Angelo University of Pisa; Landi, Alberto University of Pisa; Laurino, Marco University of Pisa; Piaggi, Paolo University of Pisa; menicucci, danilo National Research Council (CNR)</i>	
17:45-18:00	FrE03.6
Classification of EEG Bursts in Deep Sevoflurane, Desflurane and Isoflurane Anesthesia Using AR-Modeling and Entropy Measures	5083-5086
<i>Lipping, Tarmo Tampere University of Technology; Stålnacke, Juha Tampere University of Technology; Olejarczyk, Elzbieta Polish Academy of Sciences; Marciniak, Radosław Medical University of Silesia; Jäntti, Ville Seinäjoki Central Hospital and Tampere University of Technology</i>	
FrE04: 16:30-18:00	1001 (10F)
2.4.2 X-Ray Imaging II (Oral Session)	
Chair: Janan, Faraz (Univ. of Oxford)	
16:30-16:45	FrE04.1
Experiment-Based Scatter Correction for Cone-Beam Computed Tomography Using the Statistical Method	5087-5090
<i>Aootaphao, Sorapong National Electronics and Computer Technology Center; Thongvigitmanee, Saowapak National Electronics & Comp Tech Ctr; Rajruangrabin, Jartuwat National Science and Technology Development Agency; Junhune, Parinya the Medical Devices Lab, Biomedical Engineering Research Unit, N; Thajchayapong, Pairash National Science and Technology Development Agency</i>	
16:45-17:00	FrE04.2
A Fast Method for Spine Localization in X-Ray Images	5091-5094
<i>Huang, Chao-Hui Bioinformatics Institute</i>	
17:00-17:15	FrE04.3
Volume Registration Based on 3-D Phase Correlation for Tumor Motion Estimation in 4-D CT	5095-5098
<i>Zhang, Xiaoyong Tohoku University; Homma, Noriyasu Cyberscience Center, Tohoku University; Abe, Makoto Tohoku University; Sugita, Norihiro Tohoku University; Takai, Yoshihiro Hirosaki University; Narita, Yuichiro Hirosaki University; Yoshizawa, Makoto Tohoku University</i>	
17:15-17:30	FrE04.4
Shape Matching by Integral Invariants on Eccentricity Transformed Images	5099-5102
<i>Janan, Faraz University of Oxford; Brady, Michael University of Oxford</i>	
17:30-17:45	FrE04.5
A Realistic Computed Tomography Simulator for Small Motion Analysis of Cerebral Aneurysms	5103-5106
<i>Sepehri, Shima Swiss Federal Institute of Technology Lausanne (EPFL); Zouaoui, Karim Laboratoire de Médecine Expérimentale (ULB 222 Unit), Université; Thiran, Jean-Philippe Ecole Polytechnique Fédérale de Lausanne (EPFL)</i>	
17:45-18:00	FrE04.6
Iterative Image Reconstruction for Ultra-low-dose CT with a Combined Low-mAs and Sparse-view Protocol	5107-5110
<i>Zhang, Yunwan Southern Medical Univ.; Huang, Jing Southern Medical Univ.; Ma, Jianhua School of Biomedical Engineering, Southern Medical Univ.; Zhang, Hua School of Biomedical Engineering, Southern Medical Univ.; Bian, Zhaoying Southern Medical Univ.; Zeng, Dong School of Biomedical Engineering, Southern Medical Univ.; Gao, Yang Southern Medical Univ.; Chen, Wufan Southern Medical Univ.</i>	

FrE05: 16:30-18:00 1002 (10F)

2.7.3 Image Segmentation I (Oral Session)

Chair: Arimura, Hidetaka (*Kyushu Univ.*)

16:30-16:45 FrE05.1
Fully Automated Segmentation of Corpus Callosum in Midsagittal Brain MRIs 5111-5114
Li, Yue University of Alberta; Mandal, Mrinal University of Alberta; Ahmed, Nizam University of Alberta

16:45-17:00 FrE05.2
Simultaneous Label Fusion with Vessel Preserving for Bone Removal in CT Angiography Scans 5115-5118
Yuan, Lei Siemens Corporate Technology; Zhang, Li Siemens Corporate Technology; Ditt, Hendrik Siemens AG; Ordj, Vincent Siemens Corporate Technology; Pereira, Francisco Siemens Corporate Technology; Chefd'hotel, Christophe Siemens Corporate Technology

17:00-17:15 FrE05.3
A Robust Semi-Automatic Approach for ROI Segmentation in 3D CT Images 5119-5122
Lu, Kongkuo Philips Research North America; Xue, Zhong The Methodist Hospital; Wong, Stephen The Methodist Hospital

17:15-17:30 FrE05.4
Non-Euclidean Basis Function Based Level Set Segmentation with Statistical Shape Prior 5123-5126
Ruiz, Esmeralda University Medical Center Freiburg; Reisert, Marco University Medical Center Freiburg; Bai, Li University of Nottingham

17:30-17:45 FrE05.5
Ultrasound Contrast Image Segmentation Using a Modified Level Set Method 5127-5130
Qian, Ming Chinese Academy of Sciences; Niu, Lili Shenzhen Institute of Advanced Technology, Chinese Academy of Sci; Xiao, Yang the Paul C. Lauterbur Research Center for Biomedical imaging, the Insti; Wang, Congzhi Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Qiu, Weibao Shenzhen Institutes of Advanced Technology, Chinese Academy of S; zheng, Hairong Shenzhen Inst of Advanced Tech

17:45-18:00 FrE05.6
Local Binary Fitting Energy Solution by Graph Cuts for MRI Segmentation 5131-5134
Cardenas-Peña, David Universidad Nacional de Colombia; Martínez-Vargas, Juan David Universidad Nacional de Colombia; Castellanos-Dominguez, Germán Universidad Nacional de Colombia

FrE06: 16:30-18:00 1003 (10F)

2.6.2 Image Reconstruction (Oral Session)

Chair: Watabe, Hiroshi (*Tohoku Univ.*)

16:30-16:45 FrE06.1
Three-Dimensional Quantitative Microwave Imaging of Realistic Numerical Breast Phantoms Using Huber Regularization 5135-5138
Bai, Funing Ghent University; Franchois, Ann Ghent University; De Zaeytijd, Jurgen Ghent University; Pizurica, Aleksandra Ghent University

16:45-17:00 FrE06.2
Accuracy and Uncertainty of Asymmetric Magnetization Transfer Ratio Quantification for Amide Proton Transfer (APT) Imaging at 3T: A Monte Carlo Study 5139-5142
Yuan, Jing The Chinese University of Hong Kong; Zhang, Qinwei The Chinese University of Hong Kong; Wang, Yi-Xiang The Chinese University of Hong Kong; Wei, Juan Philips Healthcare, IGIT, Beijing; Zhou, Jinyuan Johns Hopkins University

17:00-17:15 FrE06.3
Iterative Reconstruction of CT Images on GPUs* 5143-5146
Flores, Liubov Alexandrovna Universidad Politecnica de Valencia; Vidal, Vicente Universidad Politécnica de Valencia; Mayo, Patricia Universidad Politecnica de Valencia; Rodenas, Francisco Universidad Politecnica de Valencia; Verdú, Gumersindo Polytechnic University of Valencia

17:15-17:30 FrE06.4
EGS5 Simulations to Design a Ce:GAGG Scintillator Based Compton Camera 5147-5150
Malik, Azhar Hussain The University of Tokyo; Shimazoe, Kenji School of Engineering, The University of Tokyo;
Takahashi, Hiroyuki School of Engineering, The University of Tokyo

17:30-17:45 FrE06.5
Energy Back-Projective Composition for 3-D Coronary Artery Reconstruction 5151-5154
Cong, Weijian Beijing Institute of Technology; Yang, Jian Beijing Institute of Technology; Liu, Yue Beijing
Institute of Technology; Wang, Yongtian Beijing Institute of Technology

17:45-18:00 FrE06.6
Noise Behavior of MR Brain Reconstructions Using Compressed Sensing 5155-5158
Ding, Yuqiong Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzh; Ying, Leslie The State
University of New York at Buffalo; Zhang, Na Shenzhen Institutes of Advanced Technology, Chinese Academy
of S; Liang, Dong Shenzhen Institutes of Advanced Technology

FrE07: 16:30-18:00 1004 (10F)
3.5.1 Implantable Sensors and Technologies (Oral Session)
Chair: Murakami, Yuji (*Toyohashi Univ. of Tech.*)
Co-Chair: Bozkurt, Alper (*North Carolina State Univ.*)

16:30-16:45 FrE07.1
Microfabricated Polymer-Based Neural Interface for Electrical Stimulation/Recording, Drug Delivery, and Chemical Sensing - Development 5159-5162
Tooker, Angela Lawrence Livermore National Lab; Madsen, Teresa Emory University; Yorita, Allison University
of California Los Angeles; Crowell, Andrea Emory University; Shah, Kedar Lawrence Livermore National
Laboratory; Felix, Sarah Lawrence Livermore National Laboratory; Mayberg, Helen Emory University; Pannu,
Satinderpall Lawrence Livermore National Laboratory; Rainnie, Donald Emory University; Tolosa, Vanessa
Lawrence Livermore National Laboratory

16:45-17:00 FrE07.2
An Improved System Approach towards Future Cochlear Implants 5163-5166
Lawand, Nishant S. Delft University of Technology; Ngamkham, Wannaya Delft Universit of Technology;
Nazarian, Ghazaleh Delft University of Technology; French, Patrick J. TU Delft; Serdijn, Wouter A. Delft
University of Technology; Gaydadjiev, Georgi Delft University of Technology; Briaire, Jeroen Johannes Leiden
University Medical Center (LUMC), Department of ORL-HNS (; Frijns, Johan H. M. Leiden University Medical
Center (LUMC), Department of ORL-HNS (

17:00-17:15 FrE07.3
A Feasibility Study of Using Backscattering for Telemonitoring of In-Stent Restenosis 5167-5170
Keikhosravy, Kamyar University of British Columbia; Kamalinejad, Pouya University of British Columbia;
Zargaran-Yazd, Arash University of British Columbia; Mirabbasi, Shahriar University of British Columbia;
Takahata, Kenichi University of British Columbia; Leung, Victor The University of British Columbia

17:15-17:30 FrE07.4
A MedRadio-Band Low-Energy-Per-Bit 4-Mbps CMOS OOK Receiver for Implantable Medical Devices ... 5171-5174
Chou, Chia-Wei National Chiao Tung University; Liu, Li-Chen National Chiao Tung University;
Wu, Chung-Yu National Chiao Tung University

17:30-17:45 FrE07.5
Experimental Implant Communication of High Data Rate Video Using an Ultra Wideband Radio Link 5175-5178
Chavez-Santiago, Raul Oslo University Hospital; Balasingham, Ilango Intervention Center, Oslo University
Hospital; Jacob, Bergsland Oslo University Hospital, BH Heart Centre; Zahid, Wasim The Intervention Centre;
Takizawa, Kenichi NICT; Miura, Ryu NICT; Li, Huan-Bang NICT

17:45-18:00 FrE07.6
Electromagnetic and Thermal Effects of IR-UWB Wireless Implant Systems on the Human Head 5179-5182
Thotahewa, Kasun Monash Univ.; Redouté, Jean-Michel Monash Univ.; Yuce, Mehmet Monash Univ.

FrE08: 16:30-18:00	1005 (10F)
3.6.1 Body Sensor Networks I (Oral Session)	
Chair: Jafari, Roozbeh (<i>Univ. of Texas at Dallas</i>)	
Co-Chair: Jovanov, Emil (<i>Univ. of Alabama in Huntsville</i>)	

16:30-16:45 FrE08.1
A Wireless ECG Acquisition and Classification System for Body Sensor Networks 5183-5186
Hong, Jia-Hua National Chung Cheng University; Lee, Shuenn-Yuh National Cheng Kung University; Liang, Ming-Chun National Chung Cheng University; Hsieh, Cheng-Han National Chung Cheng University; Chang Chien, Shih-Yu National Chung Cheng University

16:45-17:00 FrE08.2
Indoor Inertial Waypoint Navigation for the Blind 5187-5190
Riehle, Timothy H Koronis Biomed. Technologies Corp.; Anderson, Shane Koronis Biomedical Technologies; Giudice, Nicholas University of Maine, Orono; Lichter, Patrick Koronis Biomedical Technologies; Whalen, William University of Maine

17:00-17:15 FrE08.3
Development of a Low-Cost Wireless Monitoring System Supporting the Continuity of Medical Care of the Patient at Home 5191-5194
Tzavaras, Aris Tech Educational Inst of Athens; Spyropoulos, Basile Technological Education Institute of Athens

17:15-17:30 FrE08.4
Bit Error Rate Estimation for Galvanic-Type Intra-Body Communication Using Experimental Eye-Diagram and Jitter Characteristics 5195-5198
Li, Jiawen University of Macau; Chen, Xi Mei University of Macau; Pun, Sio Hang University of Macau; Mak, Peng Un University of Macau; Gao, Yue Ming Fu zhou University; Vai, Mang I. University of Macau; du, min 523 Gongye Road, Fuzhou University ,Fuzhou, Fujian, 350002,P.R.

17:30-17:45 FrE08.5
Using Wearable UWB Radios to Measure Foot Clearance During Walking 5199-5202
Qi, Yongbin Nanyang Technological University; Soh, Cheong Boon Nanyang Technological University; Gunawan, Erry Nanyang Technological University; Low, Kay soon Nanyang Technological University; Maskooki, Arash Nanyang Technological University

17:45-18:00 FrE08.6
Ballistocardiography with Fiber Optic Sensor in Headrest Position: A Feasibility Study and a New Processing Algorithm 5203-5206
Zhu, Yongwei Institute for Infocomm Research, Agency for Science, Technology; Zhang, Haihong Institute for Infocomm Research; Maniyeri, Jayachandran Institute for Infocomm Research; Ng, Andrew Keong Institute for Infocomm Research (I2R), Agency for Science, Technol; Biswas, Jit Institute for Infocomm Research; Chen, Zhihao Institute for Infocomm Research

FrE09: 16:30-18:00	1006 (10F)
5.5.1 Respiratory Mechanics (Oral Session)	
Chair: Giraldo, Beatriz (<i>Univ. Poitècnica de Catalunya</i>)	

16:30-16:45 FrE09.1
Mechanical Ventilation System Monitoring: Automatic Detection of Dynamic Hyperinflation and Asynchrony 5207-5210
Nguyen, Quang-Thang Institut Telecom; Telecom Bretagne; UMR CNRS 6285 Lab-STICC; Uni; Pastor, Dominique Institut Telecom; Telecom Bretagne; UMR CNRS 6285 Lab-STICC; Uni; Lellouche, François Research Unit, Institut universitaire de cardiologie et de pneum; L'Her, Erwan Medical Intensive Care Unit, CHRU de Brest, INSERM U1101 LATIM U

16:45-17:00 FrE09.2
Real-Time Noninvasive Estimation of Intrapleural Pressure in Mechanically Ventilated Patients: A Feasibility Study 5211-5215
Albanese, Antonio Columbia University; Karamolegkos, Nikolaos Columbia University; Haider, Syed Philips Research NA; Seiver, Adam Philips; Chbat, Nicolas Philips Research North America

17:00-17:15		FrE09.3
Cough Sound Analysis – a New Tool for Diagnosing Pneumonia	5216-5219	
<i>Abeyratne, Udantha R University of Queensland; Swarnkar, Vinayak University of Queensland</i>		
17:15-17:30		FrE09.4
Hierarchical Individualization of a Recruitment Model with a Viscoelastic Component for ARDS Patients	5220-5223	
<i>Schranz, Christoph Furtwangen University; Moeller, Knut Furtwangen University; Kretschmer, Joern Furtwangen University</i>		
17:30-17:45		FrE09.5
Model-Based Respiratory Mechanics to Titrate PEEP and Monitor Disease State for Experimental ARDS Subjects	5224-5227	
<i>van Druenen, Erwin Johan University of Canterbury; Chiew, Yeong Shiong University of Canterbury; Chase, J. Geoffrey University of Canterbury; Lambermont, Bernard University of Liege; Janssen, Nathalie University Hospital of Liege; Desai, Thomas University of Liege</i>		
17:45-18:00		FrE09.6
Study of the Oscillatory Breathing Pattern in Elderly Patients	5228-5231	
<i>Giraldo, Beatriz Univ. Politècnica de Catalunya; Tellez, Juan P. Institut de Bioenginyeria de Catalunya (IBEC); Herrera, Sergio Hospital de la Santa Creu i Sant Pau; Benito, Salvador Hospital de la Santa Creu i Sant Pau</i>		
FrE11: 16:30-18:00		1008 (10F)
6.9.1 Stochastic Resonance in Nervous Systems (Invited Session)		
Chair: Mino, Hiroyuki (<i>Kanto Gakuin Univ.</i>)		
Co-Chair: Durand, Dominique (<i>Case Western Res. Univ.</i>)		
16:30-16:45		FrE11.1
Identifying Positive Roles for Endogenous Stochastic Noise During Computation in Neural Systems	5232-5235	
<i>McDonnell, Mark Damian University of South Australia; Ward, Lawrence University of British Columbia</i>		
16:45-17:00		FrE11.2
Stochastic Resonance Occurring in Tactile Sensation of Human Finger	5236-5239	
<i>Beceran, Kadir Nagoya University; Ohka, Masahiro Nagoya University</i>		
17:00-17:15		FrE11.3
Effects of Electrical Noise to a Knee Joint on Quiet Bipedal Stance and Treadmill Walking	5240-5241	
<i>Kimura, Tetsuya Ritsumeikan University; Taki, Chinami Ritsumeikan University; Shiozawa, Naruhiro Ritsumeikan University; Kouzaki, Motoki Kyoto University</i>		
17:15-17:30		FrE11.4
Reverse Stochastic Resonance in a Hippocampal CA1 Neuron Model	5242-5245	
<i>Durand, Dominique Case Western Reserve University; Kawaguchi, Minato Kanto Gakuin University; Mino, Hiroyuki Kanto Gakuin University</i>		
17:30-17:45		FrE11.5
Effects of the Rates of Pseudo-Spontaneous Spikes Generated by Electric Stimuli on Information Transmission in an Auditory Nerve Fiber Model	5246-5249	
<i>Kumsa, Parichat Kanto-Gakuin University; Mino, Hiroyuki Kanto Gakuin University</i>		
FrE12: 16:30-18:00		1009 (10F)
6.2.5 Brain-computer Interface III (Oral Session)		
Chair: Wang, Yu-Te (<i>Univ. of California San Diego</i>)		
16:30-16:45		FrE12.1
Feature Extraction and Unsupervised Classification of Neural Population Reward Signals for Reinforcement Based BMI	5250-5253	
<i>Prins, Noeline W. University of Miami; Geng, Shijia University of Miami; Pohlmeier, Eric A. University of Miami; Mahmoudi, Babak University of Miami; Sanchez, Justin C. University of Miami</i>		

16:45-17:00 FrE12.2
A BCI Using VEP for Continuous Control of a Mobile Robot 5254-5257
Kapeller, Christoph g.tec medical engineering GmbH; Hintermueller, Christoph g.tec medical engineering GmbH; Abu-Alqumsan, Mohammad Institute of Automatic Control Engineering of the Technische Uni; Prueckl, Robert g.tec medical engineering GmbH; Peer, Angelika Institute of Automatic Control Engineering of the Technische Uni; Guger, Christoph g.tec medical engineering GmbH

17:00-17:15 FrE12.3
Shared-Control Brain-Computer Interface for a Two Dimensional Reaching Task Using EEG Error-Related Potentials 5258-5262
Iturrate, Iñaki Univ. of Zaragoza; Montesano, Luis Universidad de Zaragoza; Minguez, Javier Zaragoza Univ.

17:15-17:30 FrE12.4
Using Frequency-Domain Features for the Generalization of EEG Error-Related Potentials among Different Tasks 5263-5266
Omedes, Jason University of Zaragoza; Iturrate, Inaki University of Zaragoza; Montesano, Luis Universidad de Zaragoza; Minguez, Javier Zaragoza University

17:30-17:45 FrE12.5
An Online BCI Game Based on the Decoding of Users' Attention to Color Stimulus 5267-5270
Yang, Lingling City University of HongKong; Leung, Howard City University of HongKong

17:45-18:00 FrE12.6
Developing Stimulus Presentation on Mobile Devices for a Truly Portable SSVEP-Based BCI 5271-5274
Wang, Yu-Te University of California San Diego; Wang, Yijun University of California, San Diego; Cheng, Chung-Kuan University of California, San Diego; Jung, Tzyy-Ping University of California San Diego

FrE13: 16:30-18:00 1010 (10F)
6.4.3 Sensory Neuroprostheses I (Oral Session)
Chair: Carter, Paul Michael (*Univ. of Sydney*)

16:30-16:45 FrE13.1
Fast Neuromorphic Sound Localization for Binaural Hearing Aids 5275-5278
Park, Paul K. J. Samsung Advanced Institute of Technology; Ryu, Hyunsurk Samsung Advanced Institute of Technology; Lee, Jung Haeng Samsung Advanced Institute of Technology; Shin, Chang Woo Samsung Advanced Institute of Technology; Lee, Kyoo Bin Samsung Advanced Institute of Technology; Woo, Joo Yeon Samsung Advanced Institute of Technology; Kim, Jun-Seok Samsung Advanced Institute of Technology; Kang, Byung Chang Samsung Advanced Institute of Technology; Liu, Shih-Chii University of Zurich/ETH; Delbruck, Tobi Institute of Neuroinformatics, University of Zurich/ETH

16:45-17:00 FrE13.2
A Filtering Process for Human Detection in Bionic Eye 5279-5282
Wang, Fang NJUST and NICTA; Li, Yi NICTA and ANU; Barnes, Nick NICTA Canberra Research Laboratory

17:00-17:15 FrE13.3
Enhancing Scene Structure in Prosthetic Vision Using Iso-Disparity Contour Perturbance Maps 5283-5286
Feng, David NICTA; McCarthy, Chris NICTA

17:15-17:30 FrE13.4
Real-Time Dual-Microphone Noise Classification for Environment-Adaptive Pipelines of Cochlear Implants 5287-5290
Mirzahasanloo, Taher University of Texas-Dallas; Kehtarnavaz, Nasser University of Texas at Dallas

17:30-17:45 FrE13.5
Influence of Blood Vessel Conductivity in Cochlear Implant Stimulation Using a Finite Element Head Model 5291-5294
Tran, Phillip The University of Sydney; Wong, Paul University of Sydney; Sue, Andrian University of Sydney; Li, Qing The University of Sydney; Carter, Paul Michael University of Sydney

17:45-18:00 FrE13.6
Advancements in Fabrication Process of Microelectrode Array for a Retinal Prosthesis Using Liquid Crystal Polymer (LCP) 5295-5298
Jeong, Joonsoo Seoul National University; Shin, Soowon Seoul National University; Lee, Geun Jae Seoul National University; Gwon, Tae Mok Seoul National University; Park, Jeonghoan Seoul National University; Kim, Sung June Seoul National University

FrE15: 16:30-18:00 1102 (11F)
8.6.1 Novel Biorobotics (Oral Session)
Chair: Morasso, Pietro (*Italian Inst. of Tech.*)
Co-Chair: Mizuno, Fumio (*Tohoku Inst. of Tech.*)

16:30-16:45 FrE15.1
Magnetic Control of Potential Microrobotic Drug Delivery Systems: Nanoparticles, Magnetotactic Bacteria and Self-Propelled Microjets 5299-5302
Khalil, Islam S. M. University of Twente; Magdanz, Veronika Institute for Integrative Nanosciences, IFW Dresden; Sanchez, Samuel IFW Dresden; Schmidt, Oliver G. IFW Dresden; Abelmann, Leon MESA+, University of Twente; Misra, Sarthak University of Twente

16:45-17:00 FrE15.2
Bubble-Driven Light-Absorbing Hydrogel Microrobot for the Assembly of Bio-Objects 5303-5306
HU, Wenqi University of Hawaii at Manoa; Fan, Qihui University of Hawaii at Manoa; Wade, Tonaki University of Hawaii at Manoa; Ohta, Aaron University of Hawaii at Manoa

17:00-17:15 FrE15.3
A Biomimetic Framework for Coordinating and Controlling Whole Body Movements in Humanoid Robots 5307-5310
Morasso, Pietro Italian Institute of Technology; Rea, Francesco Italian Institute of Technology; Mohan, Vishwanathan Italian Institute of Technology

17:15-17:30 FrE15.4
Development of a System to Provide Different Fields of View to Eyes with a Function to Generate Rapid Movements 5311-5314
Mizuno, Fumio Tohoku Institute of Technology; Hayasaka, Tomoaki Tohoku University; Yamaguchi, Takami Tohoku University

17:30-17:45 FrE15.5
Ratbot Automatic Navigation by Electrical Reward Stimulation Based on Distance Measurement in Unknown Environments 5315-5318
Gao, Liqiang Zhejiang University; Sun, Chao Zhejiang University; Zhang, Chen Zhejiang University; Zheng, Nenggan Zhejiang University; Chen, Weidong zhejiang university; Zheng, Xiaoxiang Zhejiang University

FrE16: 16:30-18:00 Small Hall (5F)
9.5.2 Catheter Technologies (Oral Session)
Chair: Uematsu, Miyuki (*National Inst. of Health Sciences*)

16:30-16:45 FrE16.1
An Augmented Magnetic Navigation System for Transcatheter Aortic Valve Implantation 5319-5322
Luo, Zhe Shanghai Jiao Tong University; Cai, Junfeng Ruijin Hospital, Schoole of Medicine ,Shanghai Jiaotong Universi; Nie, Yuanyuan Shanghai Jiao Tong University; Wang, Guotai Shanghai Jiao Tong University; Gu, Lixu Shanghai Jiaotong University

16:45-17:00 FrE16.2
An Impedance-Guided Intra Arterial Catheter 5323-5326
Schwartz, Paul Stellenbosch University; Scheffer, Cornie Stellenbosch University; Fourie, Pieter Rousseau Stellenbosch University; Coetzee, Andre Stellenbosch University

17:00-17:15 FrE16.3
A Surgical Navigation System for Aortic Vascular Surgery: A Practical Approach 5327-5330
Uematsu, Miyuki National Institute of Health Sciences; Kenya, Asato Waseda Univ.; Ichihashi, Takuya Waseda Univ.; Umezu, Mitsuo Waseda Univ. Graduate School; Nakaoka, Ryusuke National Institute of Health Sciences; Matsuoka, Atsuko National Institute of Health Sciences; Aomi, Shigeyuki Tokyo Women's Medical Univ.; Iimura, Hiroshi Tokyo Women's Univ.; Suzuki, Takashi Tokyo Women's Medical Univ.; Muragaki, Yoshihiro Tokyo Women's Medical Univ.; Iseki, Hiroshi Tokyo Women's Medical Univ.

17:15-17:30 FrE16.4
A New Production Method of Elastic Silicone Carotid Phantom Based on MRI Acquisition Using Rapid Prototyping Technique 5331-5334
Cao, Peng University of Technology of Compiègne; Duhamel, Yvan University of Technology of Compiègne; Olympe, Guillaume University of Technology of Compiègne; Ramond, Bruno University of Technology of Compiègne; Langevin, François Compiègne University of Technology

17:30-17:45 FrE16.5
An Artificial Model for Studying Fluid Dynamics in the Obstructed and Stented Ureter 5335-5338
Carugo, Dario University of Southampton; ElMahdy, Motaz Bristol Urological Institute; Zhao, Xuefeng Central South University; Drake, Marcus University of Bristol; Zhang, Xunli University of Southampton; Clavica, Francesco Erasmus MC

FrE17: 16:30-18:00 801+802 (8F)
9.4.1 Tissue Stimulation (Oral Session)
Chair: Panescu, Dorin (*Intuitive Surgical*)
Co-Chair: Takahashi, Hirokazu (*Univ. of Tokyo*)

16:30-16:45 FrE17.1
FES-Cycling Training in Spinal Cord Injured Patients 5339-5341
Mazzoleni, Stefano Scuola Superiore Sant'Anna; Stampacchia, Giulia Univ. Hospital Pisa; Gerini, Adriana Univ. Hospital Pisa; Tombini, Tullia Univ. Hospital Pisa; Carrozza, Maria Chiara Scuola Superiore Sant'Anna

16:45-17:00 FrE17.2
Electrical Safety of Conducted Electrical Weapons Relative to Requirements of Relevant Electrical Standards 5342-5347
Panescu, Dorin Intuitive Surgical; Nerheim, Max TASER International; Kroll, Mark University of Minnesota

17:00-17:15 FrE17.3
Modulation of Cortical Synchrony by Vagus Nerve Stimulation in Adult Rats 5348-5351
Usami, Kenichi Graduate School of Medicine, The Univ. of Tokyo; Kano, Ryuji Research Center for Advance Science and Technology, The University; Kawai, Kensuke Department of Neurosurgery, Graduate School of Medicine, The University; Noda, Takahiro Univ. of Tokyo; Shiramatsu, Tomoyo Univ. of Tokyo; Saito, Nobuhito Department of Neurosurgery, Graduate School of Medicine, The University; Takahashi, Hirokazu Univ. of Tokyo

17:15-17:30 FrE17.4
A Custom Robot for Transcranial Magnetic Stimulation: First Assessment on Healthy Subjects 5352-5355
Ginhoux, Romuald Axilum Robotics; Renaud, Pierre INSA Strasbourg; Zorn, Lucile Univ. of Strasbourg; Goffin, Laurent Univ. of Strasbourg; Bayle, Bernard Univ. of Strasbourg, LSIT; Foucher, Jack R INSERM; Lamy, Julien Université de Strasbourg; Armspach, Jean-Paul LINC; de Mathelin, Michel Univ. of Strasbourg

17:30-17:45 FrE17.5
Safety System for Moving Coil Pressure Algometer 5356-5359
Adnadjevic, Djordje Aalborg University; Lorrain, Thomas Aalborg University; Graven-Nielsen, Thomas Center for Sensory-Motor Interaction (SMI, Aalborg University)

SaA02: 08:00-09:30 1202 (12F)
1.8.1 Coherence in Biosignal Processing (Oral Session)
Co-Chair: Barbieri, Riccardo (*MGH-Harvard Medical School-MIT*)

08:00-08:15 SaA02.1
Real-Time Cardiorespiratory Coherence Is Blind to Changes in Respiration During General Anesthesia ... 5360-5364
Brouse, Chris J. University of British Columbia; Dumont, Guy University of British Columbia; Myers, Dorothy British Columbia's Children's Hospital; Cooke, Erin British Columbia's Children's Hospital; Stinson, Jonathan British Columbia's Children's Hospital; Lim, Joanne British Columbia Children's Hospital; Ansermino, J. Mark British Columbia's Children's Hospital

08:15-08:30 SaA02.2
Very Low Frequency Modulation in QRS Slopes and Its Relation with Respiration and Heart Rate Variability During Hemodialysis 5365-5368
Hernando, David Univ. of Zaragoza (Spain); Alcaine, Alejandro Univ. of Zaragoza; Laguna, Pablo Zaragoza Univ. and CIBER-BBN; Pueyo, Esther Univ. of Zaragoza; Bailon, Raquel Univ. of Zaragoza

08:30-08:45 SaA02.3
The Cortical and Sub-Cortical Network of Sensory Evoked Response in Healthy Subjects 5369-5372
Muthuraman, Muthuraman Christian Albrechts University; Helge, Hellriegel Dept. of Neurology; Sergiu, Groppa Dept. of Neurology; Gunther, Deuschl Dept. of Neurology; Jan, Raethjen Dept. of Neurology

08:45-09:00 SaA02.4
Automated Detection of Apnea/Hypopnea Events in Healthy Children Polysomnograms: Preliminary Results 5373-5376
Held, Claudio M. Universidad de Chile; Causa, Leonardo Universidad de Chile; Jaillet, Fabrice Université Claude Bernard Lyon 1, Laboratoire d'InfoRmatique en; Chamorro, Rodrigo Universidad de Chile; Garrido, Marcelo Universidad de Chile; Algarin, Cecilia Universidad de Chile; Peirano, Patricio Universidad de Chile

09:00-09:15 SaA02.5
Circadian Changes of Influence of Swallowing on Heart Rate Variability with Respiratory-Phase Domain Analysis 5377-5380
Numata, Takashi The University of Tokyo; Kishida, Yuji The University of Tokyo; Jimbo, Yasuhiko University of Tokyo; Kotani, Kiyoshi University of Tokyo

09:15-09:30 SaA02.6
Characterization of Surrogate Parameters for Blood Pressure Regulation in Neurally-Mediated Syncope ... 5381-5385
de Carvalho, Paulo Univ. of Coimbra - NIF: 501617582; Couceiro, Ricardo Univ. of Coimbra; Muehlsteff, Jens Philips; Henriques, Jorge Univ. of Coimbra - NIF 501617582; Ritz, Anita Heinrich-Heine-Univ. Düsseldorf; Kelm, Malte Univ. Hospital Duesseldorf; Meyer, Christian Heinrich-Heine-Univ. Hospital; Schulze, Volker Heinrich-Heine Univ. Hospital Düsseldorf; Paiva, Rui Pedro Univ. of Coimbra

SaA03: 08:00-09:30 1203 (12F)
1.7.1 Neural Networks in Biosignal Processing and Classification (Oral Session)
Chair: Feng, Dagan (*The Univ. of Sydney*)

08:00-08:15 SaA03.1
Combining Genetic Algorithm and Levenberg-Marquardt Algorithm in Training Neural Network for Hypoglycemia Detection Using EEG Signals 5386-5389
Nguyen, Lien B. University of Technology, Sydney; Nguyen, Anh V. University of Technology, Sydney; Ling, Steve University of Technology Sydney; Nguyen, Hung T. University of Technology, Sydney

08:15-08:30 SaA03.2
Application of Artificial Neural Networks on Mosquito Olfactory Receptor Neurons for an Olfactory Biosensor 5390-5393
Bachtiar, Luqman R The University of Auckland; Unsworth, Charles Peter University of Auckland; Newcomb, Richard D The New Zealand Institute for Plant & Food Research

08:30-08:45 SaA03.3
Bioelectric Signal Classification Using a Recurrent Probabilistic Neural Network with Time-Series Discriminant Component Analysis 5394-5397
Hayashi, Hideaki Hiroshima University; Shima, Keisuke Hiroshima University; Shibasaki, Taro Hiroshima University; Kurita, Yuichi Hiroshima University; Tsuji, Toshio Hiroshima University

08:45-09:00 SaA03.4
Localized Sparse Code Gradient in Alzheimer's Disease Staging 5398-5401
Liu, Sidong University of Sydney; Cai, Weidong University of Sydney; Song, Yang University of Sydney; Pujol, Sonia Harvard University; Kikinis, Ron Brigham and Women's Hospital and Harvard Medical School; Wen, Lingfeng University of Sydney; Feng, Dagan The University of Sydney

09:00-09:15 SaA03.5
A New Method of Concurrently Visualizing States, Values, and Actions in Reinforcement Based Brain Machine Interfaces 5402-5405
Bae, Jihye University of Florida; Sanchez Giraldo, Luis Gonzalo University of Florida; Pohlmeier, Eric A. University of Miami; Sanchez, Justin C. University of Miami; Principe, Jose University of Florida

09:15-09:30 SaA03.6
Multichannel EEG feature extraction based on Hilbert-Huang transform and extreme learning machine 5406-5409
Han, Min Dalian University of Technology; Wang, Minghui Dalian University of Technology

SaA04: 08:00-09:30 1001 (10F)
2.5.1 Electrical Source Imaging (Invited Session)
Chair: Ding, Lei (*Univ. of Oklahoma*)
Co-Chair: Hori, Junichi (*Niigata Univ.*)

08:00-08:15 SaA04.1
Cortical Dipole Imaging Using Truncated Total Least Squares Considering Transfer Matrix Error 5410-5413
Hori, Junichi Niigata University

08:15-08:30 SaA04.2
Cortical Neural Activities Associated with Binocular Rivalry: An EEG-fMRI Integrative Study* 5414-5417
Kobayashi, Tetsuo Kyoto University; Akamatsu, Koichiro Graduate School of engineering Kyoto University; Natsukawa, Hiroaki Graduate School of Engineering, Kyoto University

08:30-08:45 SaA04.3
Wavelet Based Sparse Source Imaging Technique 5418-5421
Ding, Lei University of Oklahoma; Zhu, Min University of Oklahoma; liao, ke university of oklahoma

08:45-09:00 SaA04.4
Differences in the Perceived Music Pleasantness between Monolateral Cochlear Implanted and Normal Hearing Children Assessed by EEG 5422-5425
Babiloni, Fabio University of Rome; Colosimo, Alfredo University of Rome "Sapienza"; Astolfi, Laura University of Rome Sapienza; Vecchiato, Giovanni University of Rome Sapienza; Maglione, Anton Giulio University of Rome Sapienza; Marsella, Pasquale IRCCS Ospedal Bambin Gesù; Scorpecci, Alessandro Ospedale Pediatrico "Bambino Gesù" - IRCCS; Malerba, Paolo Cochlear

09:00-09:15 SaA04.5
Reference-Free Harmonic Regression Technique to Remove EEG-fMRI Ballistocardiogram Artifacts 5426-5429
Krishnaswamy, Pavitra Massachusetts Institute of Technology; bonmassar, giorgio A. A. Martinos Ctr. for Biomedical Imaging; Purdon, Patrick L Massachusetts General Hospital; Brown, Emery MIT

09:15-09:30 SaA04.6
Noninvasive Imaging of Internal Muscle Activities from Multi-Channel Surface EMG Recordings 5430-5432
Zhang, Yingchun University of Houston

SaA05: 08:00-09:30 1002 (10F)

2.7.4 Image Segmentation II (Oral Session)

Chair: Mendonça, Teresa (*Faculdade de Ciencias, Univ. do Porto*)

08:00-08:15 SaA05.1

A Novel Tracing Method for the Segmentation of Cell Wall Networks 5433-5436

*De Vylder, Jonas Ghent University; rooms, filip ghent university; Dhondt, stijn ghent university;
Inze, Dirk ghent university; Philips, Wilfried Ghent University*

08:15-08:30 SaA05.2

PH² - A dermoscopic image database for research and benchmarking 5437-5440

Mendonça, Teresa Faculdade de Ciencias, Universidade do Porto; Ferreira, Pedro M. Faculdade de Ciencias, Universidade do Porto; Marques, Jorge Instituto Superior Tecnico; Marcal, Andre R. S. Faculdade de Ciencias, Universidade do Porto; Rozeira, Jorge Hospital de Pedro Hispano

08:30-08:45 SaA05.3

Mass Segmentation in Mammograms by Using Bidimensional Emperical Mode Decomposition BEMD .. 5441-5444

*Jai Andaloussi, Said Telecom Bretagne; Sekkaki, Abderrahim Faculty of science Ain-chok, Casablanca;
Quellec, Gwenole Inserm; Lamard, Mathieu Université de Bretagne Occidentale; Cazuguel, Guy Institut Mines-
Telecom/Telecom Bretagne; Roux, Christian TELECOM Bretagne*

08:45-09:00 SaA05.4

Segmenting Overlapping Cell Nuclei in Digital Histopathology Images 5445-5448

*Shu, Jie University of Nottingham; Fu, Hao University of Nottingham; Qiu, Guoping University of Nottingham;
Philip, Kaye School of Molecular Medical Sciences; Mohammad, Ilyas Queens Medical Center NHS Trust,
University of Nottingham*

09:00-09:15 SaA05.5

Pixel Profiling for Extraction of Arteriovenous Malformation in 3-D CTA Images 5449-5452

*Babin, Danilo Ghent University; Spyrtanis, Michail University of Leuven - KU Leuven; Pizurica, Aleksandra
Ghent University; Philips, Wilfried Ghent University*

09:15-09:30 SaA05.6

Cellular Automata and Anisotropic Diffusion Filter Based Interactive Tumor

Segmentation for Positron Emission Tomography 5453-5456

*Bi, Lei Univ. of Sydney; Kim, Jinman Univ. of Sydney; Wen, Lingfeng Univ. of Sydney; Kumar, Ashnil Univ. of
Sydney; Fulham, Michael Royal Prince Alfred Hospital; Feng, Dagan The Univ. of Sydney*

SaA06: 08:00-09:30 1003 (10F)

2.8.1 Image Classification I (Oral Session)

Chair: Schaefer, Gerald (*Loughborough Univ.*)

08:00-08:15 SaA06.1

Classification of Diffuse Lung Diseases Patterns by a Sparse Representation Based

Method on HRCT Images 5457-5460

*Zhao, Wei Yamaguchi Univ.; Xu, Rui Yamaguchi Univ.; Hirano, Yasushi Yamaguchi Univ.; Tachibana, Rie
Oshima National College of Maritime Technology; Kido, Shoji Graduate School of Medicine, Yamaguchi Univ.*

08:15-08:30 SaA06.2

Overlapping Node Discovery for Improving Classification of Lung Nodules 5461-5464

*Zhang, Fan Univ. of Sydney; Cai, Weidong Univ. of Sydney; Song, Yang Univ. of Sydney; LEE, Min-Zhao The
Univ. of Sydney; Shan, Shimin Dalian Univ. of Technology; Feng, Dagan The Univ. of Sydney*

08:30-08:45 SaA06.3

Semantic Characteristics Prediction of Pulmonary Nodule Using Artificial Neural Networks 5465-5468

*Li, Guangxu Kyushu Institute of Technology; Kim, Hyoungseop Kyushu Institute of Technology; Tan, Joo Kooi
Kyushu Institute of Technology; Ishikawa, Seiji Kyushu Institute of Technology; Hirano, Yasushi Yamaguchi
University; Kido, Shoji Graduate School of Medicine, Yamaguchi University; Tachibana, Rie Oshima National
College of Maritime Technology*

08:45-09:00 SaA06.4
Femoral Cartilage Segmentation in Knee MRI Scans Using Two Stage Voxel Classification 5469-5472
Prasoon, Adhish University of Copenhagen; Igel, Christian University of Copenhagen; Loog, Marco Delft University of Technology; Lauze, Francois, Bernard University of Copenhagen; Dam, Erik Biomediq; Nielsen, Mads University of Copenhagen, Denmark

09:00-09:15 SaA06.5
Scleroderma Capillary Pattern Identification Using Texture Descriptors and Ensemble Classification 5473-5476
Schaefer, Gerald Loughborough University; Krawczyk, Bartosz Wroclaw University of Technology; Doshi, Niraj Loughborough University; Merla, Arcangelo ITAB-Foundation Univ G.d'Annunzio

09:15-09:30 SaA06.6
A Modified Anomaly Detection Method for Capsule Endoscopy Images Using Non-linear Color Conversion and Higher-order Local Auto-Correlation (HLAC) 5477-5480
Hu, Erzhong University of Tsukuba; Nosato, Hirokazu National Institute of Advanced Industrial Science and Technology; Sakanashi, Hidenori National Institute of Advanced Industrial Science and Technology; Murakawa, Masahiro National Institute of Advanced Industrial Science and Technology

SaA07: 08:00-09:30 1004 (10F)
3.7.1 Integrated Sensor Systems I (Oral Session)
Chair: Watanabe, Takashi (*Tohoku Univ.*)

08:00-08:15 SaA07.1
Microwave Breast Tumor Detection and Size Estimation Using Contrast-Agent-Loaded Magnetotactic Bacteria 5481-5484
Chen, Yifan South University of Science and Technology of China; Kosmas, Panagiotis Kings College London; Martel, Sylvain Ecole Polytechnique de Montreal

08:15-08:30 SaA07.2
Characteristics of Magnetic Probes for Identifying Sentinel Lymph Nodes 5485-5488
Ookubo, Tetsu The University of Tokyo; Inoue, Yusuke The University of Tokyo; Kim, Dongmin The University of Tokyo; Ohsaki, Hiroyuki The University of Tokyo; Mashiko, Yusuke Kyoshin Co., Ltd.; Kusakabe, Moriaki The University of Tokyo; Sekino, Masaki The University of Tokyo

08:30-08:45 SaA07.3
An RFID Tag System-On-Chip with Wireless ECG Monitoring for Intelligent Healthcare Systems 5489-5492
Wang, Cheng-Pin National Chung Cheng University; Lee, Shuenn-Yuh National Cheng Kung University; Lai, Wei-Chih National Chung Cheng University

08:45-09:00 SaA07.4
Validation of a Wrist Monitor for Accurate Estimation of RR Intervals During Sleep 5493-5496
Renevey, Philippe CSEM; Sola, Josep CSEM- Centre Suisse d'Electronique et Microtechnique; Theurillat, Patrick CSEM SA; Bertschi, Mattia CSEM; Krauss, Jens CSEM; Andries, Daniela Center for Investigation and Research in Sleep (CIRS), Universit; Sartori, Claudio University Hospital CHUV Lausanne

09:00-09:15 SaA07.5
Clock Recovery PLL with Gated PFD for NRZ ON-OFF Modulated Signals in a Retinal Implant System .. 5497-5500
Brendler, Christian University of Ulm; Pour Aryan, Naser University of Ulm; Rieger, Viola University of Ulm; Rothermel, Albrecht University of Ulm

09:15-09:30 SaA07.6
A CMOS UWB Transmitter for Possible Use for Medical and Biological Imaging Based on Radio-Wave Induced Ultrasound 5501-5504
Nguyen, Andrew Touro University; Nguyen, Cam Texas A&M University

SaA08: 08:00-09:30 1005 (10F)

3.8.1 Microfluidics in Biological Applications I (Oral Session)

Chair: Yasuda, Takashi (*Kyushu Inst. of Tech.*)

Co-Chair: Ibrahim, Fatimah (*Univ. of Malaya*)

08:00-08:15 SaA08.1

Wirelessly Addressable Heater Array for Centrifugal Microfluidics and Escherichia Coli Sterilization 5505-5508

Chen, Xing *The Univ. of British Columbia*; Song, LeLe *The Univ. of British Columbia*; Assadsangabi, Babak *The Univ. of British Columbia*; Fang, Jie *The Univ. of British Columbia*; Mohamed Ali, Mohamed Sultan *Faculty of Electrical Engineering, Univ. Teknologi Malaysia*; Takahata, Kenichi *Univ. of British Columbia*

08:15-08:30 SaA08.2

Novel Liquid Equilibrium Valving on Centrifugal Microfluidic CD Platform 5509-5512

Al Faqheri, Wisam *Medical Informatics & Biological Micro-electro-mechanical System*; Ibrahim, Fatimah *Univ. of Malaya*; Thio, Tzer Hwai *Gilbert Univ. of Malaya / Inti International Univ.*; Arof, Hamzah *Medical Informatics & Biological Micro-electro-mechanical System*; Madou, Marc *Univ. of California, Irvine / Univ. of Malaya*

08:30-08:45 SaA08.3

Multi-Level 3D Implementation of Thermo-Pneumatic Pumping on Centrifugal Microfluidic CD Platforms ... 5513-5516

Thio, Tzer Hwai *Gilbert University of Malaya / Inti International University*; Ibrahim, Fatimah *University of Malaya*; Al Faqheri, Wisam *Medical Informatics & Biological Micro-electro-mechanical System*; Soin, Norhayati *University of Malaya*; Abdul Kahar, Maria Kahar *Bador University of Malaya*; Madou, Marc *University of California, Irvine / University of Malaya*

08:45-09:00 SaA08.4

Liquid-Phase Sample Preparation Method for Real-Time Monitoring of Air-Borne

Asbestos Fibers by Dual-Mode High-Throughput Microscopy 5517-5520

Cho, Myoung-Ock *Kookmin University*; Kim, Jung Kyung *Kookmin University*; Han, Hwataik *Kookmin University*; Lee, Jeonghoon *Korea University of Technology and Education*

09:00-09:15 SaA08.5

A Simple Microfluidic Gradient Generator with a Soft-Lithographically Prototyped,

High-Aspect-Ratio, ~2 μm Wide Microchannel 5521-5524

Ogawa, Tomohisa *Tokyo Denki University*; Matsunaga, Nirai *Tokyo Denki University*; INOMATA, SAORI *Tokyo Denki University*; Tanaka, Masato *Tokyo Denki University*; Futai, Nobuyuki *Shibaura Institute of Technology*

09:15-09:30 SaA08.6

Distinct Patterns of Cell Motion Inside a Micro-Channel under Different Osmotic Conditions 5525-5528

Tsai, Chia-Hung *Dylan Osaka University*; Kaneko, Makoto *Osaka University*; Sakuma, Shinya *Nagoya University*; Arai, Fumihito *Nagoya University*

SaA09: 08:00-09:30 1006 (10F)

4.9.1 Physiome and Multiscale Modeling I (Oral Session)

Chair: Liang, Jie (*Univ. of Illinois at Chicago*)

Co-Chair: Zervakis, Michalis (*Tech. Univ. of Crete, Greece*)

08:00-08:15 SaA09.1

A Versatile Platform for Multilevel Modeling of Physiological Systems: Template/instance Framework for Large-Scale Modeling and Simulation 5529-5532

Asai, Yoshiyuki *Okinawa Institute of Science and Technology Graduate University*; Abe, Takeshi *Okinawa Institute of Science and Technology*; Oka, Hideki *Fujitsu Ltd*; Okita, Masao *Osaka University*; Okuyama, Tomohiro *Osaka University*; Hagihara, Kenichi *Osaka University*; Ghosh, Samik *The University of Texas at Arlington*; Matsuoka, Yukiko *The Systems Biology Institute*; Kurachi, Yoshihisa *Osaka University*; Kitano, Hiroaki *Okinawa Institute of Science and Technology*

08:15-08:30 SaA09.2

Employing in-vivo Molecular Imaging in Simulating and Validating Tumor Growth 5533-5536

Tzamali, Eleftheria *ICS-FORTH*; Favicchio, Rosy *IESL-FORTH*; Roniotis, Alexandros *FORTH & Technical Univ. of Crete*; Tzedakis, Georgios *ICS-FORTH*; Grekas, Georgios *ICS-FORTH*; ripoll, jorge *FORTH*; Marias, Kostas *Foundation for Res. & Tech. Hellas*; Zacharakis, Giannis *IESL-FORTH*; Sakkalis, Vangelis *ICS-FORTH*

08:30-08:45 SaA09.3
Cellular Automaton Model for Simulating Tissue-Specific Intestinal Electrophysiological Activity 5537-5540
Gao, Jerry The University of Auckland; Du, Peng The University of Auckland; O'Grady, Gregory University of Auckland; Archer, Rosalind The University of Auckland; Gibbons, Simon J Mayo Clinic College of Medicine; Farrugia, Gianrico Mayo Clinic College of Medicine; Cheng, Leo The University of Auckland

08:45-09:00 SaA09.4
Standards and Tools Supporting Collaborative Development of the Virtual Physiological Human 5541-5544
Nickerson, David Phillip The University of Auckland; Garry, Alan University of Oxford; Nielsen, Poul The University of Auckland; Hunter, Peter University of Auckland

09:00-09:15 SaA09.5
In Silico Oncology: Exploiting Clinical Studies to Clinically Adapt and Validate Multiscale Oncosimulators 5545-5549
Stamatakos, Georgios National Technical University of Athens; Kolokotroni, Eleni Institute of Communication and Computer Systems (ICCS) - Nationa; Dionysiou, Dimitra National Technical University of Athens; Veith, Christian Institute of Pathology, Saarland University, Homburg/ Saar, Germ; Kim, Yoo-Jin Saarland University; Franz, Astrid Ruth Philips Technologie GmbH, Innovative Technologies, Research Labo; Marias, Kostas Foundation for Res. & Tech. Hellas; Sabczynski, Jörg Philips Technologie GmbH Innovative Technologies; Bohle, Rainer M. University of Saarland; Graf, Norbert University Hospital of the Saarland

09:15-09:30 SaA09.6
Modeling Spatial Population Dynamics of Stem Cell Lineage in Wound Healing and Cancerogenesis 5550-5553
Cao, Youfang University of Illinois at Chicago; Naveed, Hammad University of Illinois at Chicago; Liang, Claire Illinois Math and Science Academy; Liang, Jie University of Illinois at Chicago

SaA10: 08:00-09:30	1007 (10F)
5.7.1 Measures of Complexity of Heart Rate Variability I (Invited Session)	
Chair: Struzik, Zbigniew R. (<i>The Univ. of Tokyo</i>)	
Co-Chair: Jelinek, Herbert Franz (<i>Charles Sturt Univ.</i>)	

08:00-08:15 SaA10.1
Refined Multiscale Entropy Analysis of Heart Period and QT Interval Variabilities in Long QT Syndrome Type-1 Patients 5554-5557
Bari, Vlasta Politecnico di Milano, Milan, Italy; Valencia, José Dept. ESAll, Centre for Biomedical Engineering Research, Univers; Vallverdu, Montserrat Universitat Politècnica de Catalunya; Girardengo, Giulia Department of Molecular Medicine, University of Pavia and Fondaz; Bassani, Tito Politecnico di Milano; Marchi, Andrea Department of Emergency, L. Sacco Hospital, Milan, Italy; Calvillo, Laura Laboratory of Cardiovascular Genetics, IRCCS Istituto Auxologico; Caminal, Pere Technical University of Catalonia (UPC); Cerutti, Sergio Politecnico di Milano; Brink, Paul Department of Internal Medicine, University of Stellenbosch, Ste; Crotti, Lia Department of Molecular Medicine, University of Pavia and Fondaz; Schwartz, Peter J. Fondazione IRCCS Policlinico San Matteo and UniversityofPavia; Porta, Alberto Universita' degli Studi di Milano

08:15-08:30 SaA10.2
Complexity of Heart Rate Variability in Type 2 Diabetes - Effect of Hyperglycemia 5558-5561
Tarvainen, Mika Univ. of Eastern Finland; Cornforth, David John Univ. of Newcastle; Kuoppa, Pekka Univ. of Eastern Finland; Lipponen, Jukka Univ. of Eastern Finland; Jelinek, Herbert Franz Charles Sturt Univ.

08:30-08:45 SaA10.3
Using Renyi Entropy to Detect Early Cardiac Autonomic Neuropathy 5562-5565
Cornforth, David John University of Newcastle; Tarvainen, Mika University of Eastern Finland; Jelinek, Herbert Franz Charles Sturt University

08:45-09:00 SaA10.4
Beat to Beat Variability of Embryonic Chick Heart Cells under Septic Conditions: Application and Evaluation of Entropy As Well As Fractal Measures 5566-5569
Ahammer, Helmut Medical Univ. of Graz; Scherübel, Susanne Medical Univ. of Graz; Arnold, Robert Medical Univ. of Graz, Austria; Zorn-Pauly, Klaus Medical Univ. of Graz; Pelzmann, Brigitte Medical Univ. of Graz

09:00-09:15	SaA10.5
Heart Rate Complexity and Cardiac Sympathetic Dysinnervation in Patients with Type 2 Diabetes Mellitus	5570-5573
<i>Baumert, Mathias The University of Adelaide; Sacre, Julian Baker IDI Heart and Diabetes Institute</i>	
09:15-09:30	SaA10.6
Influence of Age and Gender on Complexity Measures for Short Term Heart Rate Variability Analysis in Healthy Subjects	5574-5577
<i>Voss, Andreas Univ. of Applied Sciences Jena; Schroeder, Rico Univ. of Applied Sciences Jena; Fischer, Claudia Univ. of Applied Sciences Jena, Dept. Medical Engineering a; Heitmann, Andreas Univ. of Applied Sciences Jena; Peters, Annette Helmholtz Zentrum München; Perz, Siegfried Helmholtz Zentrum München</i>	

SaA11: 08:00-09:30 1008 (10F) 6.10.1 Neural Signal Processing I (Oral Session) Chair: Principe, Jose (<i>Univ. of Florida</i>)

08:00-08:15	SaA11.1
Laguerre-Volterra Identification of Spike-Timing-Dependent Plasticity from Spiking Activity: A Simulation Study	5578-5581
<i>Robinson, Brian University of Southern California; Song, Dong University of Southern California; Berger, Theodore University of Southern California</i>	

08:15-08:30	SaA11.2
Synchrony of High Frequency Oscillations in the Human Epileptic Brain	5582-5585
<i>Cotic, Marija University of Toronto; Zalay, Osbert University of Toronto; Carlen, Peter L. University of Toronto; Chinvarun, Yotin Director of Comprehensive Epilepsy Program and Neurology Unit, P; Bardakjian, Berj Luther University of Toronto</i>	

08:30-08:45	SaA11.3
Information-Theoretic Metric Learning: 2-D Linear Projections of Neural Data for Visualization	5586-5589
<i>Brockmeier, Austin University of Florida; Sanchez Giraldo, Luis Gonzalo University of Florida; Emigh, Matthew University of Florida; Bae, Jihye University of Florida; Choi, John Stephen SUNY Downstate Medical Center; Francis, Joseph Thachil SUNY Downstate Medical Center; Principe, Jose University of Florida</i>	

08:45-09:00	SaA11.4
Decoding the Evolving Grasping Gesture from Electroencephalographic (EEG) Activity	5590-5593
<i>Agashe, Harshavardhan University of Houston; Contreras-Vidal, José University of Houston</i>	

09:00-09:15	SaA11.5
Frontal Theta EEG Dynamics in a Real-World Air Traffic Control Task	5594-5597
<i>Shou, Guofa University of Oklahoma; Ding, Lei University of Oklahoma</i>	

09:15-09:30	SaA11.6
Decoding of the Sound Frequency from the Steady-State Neural Activities in Rat Auditory Cortex	5598-5601
<i>Shiramatsu, Tomoyo University of Tokyo; Noda, Takahiro University of Tokyo; Kanzaki, Ryohei The University of Tokyo; Takahashi, Hirokazu University of Tokyo</i>	

SaA12: 08:00-09:30 1009 (10F) 6.2.6 Brain-computer Interface IV (Oral Session) Chair: Paek, Andrew (<i>Univ. of Houston</i>)

08:00-08:15	SaA12.1
Reconstructing Surface EMG from Scalp EEG During Myoelectric Control of a Closed Looped Prosthetic Device	5602-5605
<i>Paek, Andrew Univ. of Houston; Brown, Jeremy Univ. of Michigan; Gillespie, R. Brent Univ. of Michigan; O'Malley, Marcia K. Rice Univ.; Shewokis, Patricia A Drexel Univ.; Contreras-Vidal, José Univ. of Houston</i>	

08:15-08:30	SaA12.2
High Accuracy Decoding of User Intentions Using EEG to Control a Lower-Body Exoskeleton	5606-5609
<i>Kilcarslan, Atilla University of Houston; Prasad, Saurabh Mississippi State University; Grossman, Robert The Methodist Hospital; Contreras-Vidal, José University of Houston</i>	

08:30-08:45		SaA12.3
Novel Use of Empirical Mode Decomposition in Single-Trial Classification of Motor Imagery for Use in Brain-Computer Interfaces		5610-5613
<i>Davies, Simon R. H. University of Warwick; James, Christopher University of Warwick</i>		
08:45-09:00		SaA12.4
Subject-To-Subject Transfer for CSP Based BCIs: Feature Space Transformation and Decision-Level Fusion		5614-5617
<i>Heger, Dominic Karlsruhe Institute of Technology, Cognitive Systems Lab; Putze, Felix Karlsruhe Institute of Technology; Herff, Christian Karlsruhe Institute of Technology; Schultz, Tanja Karlsruhe Institute of Technology, Cognitive Systems Lab</i>		
09:00-09:15		SaA12.5
Sensitivity and Specificity of Upper Extremity Movements Decoded from Electrocorticogram		5618-5621
<i>Do, An H. University of California Irvine; Wang, Po T University of California Irvine; King, Christine E. University of California, Irvine; Schombs, Andrew University of California, Irvine; Lin, Jack J. University of California, Irvine; Sazgar, Mona University of California, Irvine; Hsu, Frank P. K. University of California, Irvine; Shaw, Susan J. University of Southern California; Millett, David University of Southern California; Liu, Charles Y. Keck Hospital of the University of Southern California; Szymanska, Agnieszka University of California, Irvine; Chui, Luis A. University of California, Irvine; Nenadic, Zoran University of California Irvine</i>		
09:15-09:30		SaA12.6
Sub-Mm Functional Decoupling of Electrocortical Signals through Closed-Loop Brain-Machine Learning		5622-5625
<i>Ledochowitsch, Peter University of California at Berkeley; Koralek, Aaron UC Berkeley; Moses, David University of California, Berkeley; Carmena, Jose M. University of California, Berkeley; Maharbiz, Michel University of California, Berkeley</i>		
SaA13: 08:00-09:30		1010 (10F)
6.6.1 Motor Learning and Neuromuscular Control I (Oral Session)		
Chair: Perreault, Eric (<i>Northwestern Univ.</i>)		
08:00-08:15		SaA13.1
Selection and Control of Limb Posture for Stability		5626-5629
<i>Franklin, David W. University of Cambridge; Selen, Luc P.J. Radboud University Nijmegen; Franklin, Sae University of Cambridge; Wolpert, Daniel M. University of Cambridge</i>		
08:15-08:30		SaA13.2
Hybrid Nonlinear Model of the Angular Vestibulo-Ocular Reflex		5630-5633
<i>Ranjbaran, Mina McGill University; Galiana, Henrietta L. McGill University</i>		
08:30-08:45		SaA13.3
Human Body Contour Data Based Activity Recognition		5634-5637
<i>Nergui, Myagmarbayar Chiba University; Yoshida, Yuki Chiba University; Imamoglu, Nevrez Chiba University; Gonzalez, Jose Chiba University; Otake, Mihoko Chiba University; Yu, Wenwei University of Chiba</i>		
08:45-09:00		SaA13.4
Spectral Modulation of Frontal EEG Activities During Motor Skill Acquisition: Task Familiarity Monitoring Using Single-Channel EEG		5638-5641
<i>Mak, Joe NeuroSky (Hong Kong) Co. Ltd; Chan, Rosa H. M. City University of Hong Kong; Wong, Wai Ho Savio The Hong Kong Institute of Education</i>		
09:00-09:15		SaA13.5
Fuzzy Logic Control of Ankle Movement Using Multi-Electrode Intraspinal Microstimulation		5642-5645
<i>Roshani, Amir Iran Univ. of Science and Technology; Erfanian, Abbas Iran Univ. of Science and Technology</i>		
09:15-09:30		SaA13.6
Feedback Compensation of Intrinsic Muscle Properties During Torque Regulation Tasks		5646-5649
<i>Hu, Xiao Northwestern Univ.; Murray, Wendy Northwestern Univ.; Perreault, Eric Northwestern Univ.</i>		

SaA14: 08:00-09:30	804 (8F)
7.4.3 Electronic Biointerfaces (Invited Session)	
Chair: Ghafar-Zadeh, Ebrahim (<i>York Univ.</i>)	
Co-Chair: Tandon, Nina (<i>Columbia Univ.</i>)	

08:00-08:15 SaA14.1
An E-Nose Concept Based on Semiconductor-Assisted Field Ionization and Gaseous Discharge on Arrays of Whiskered Nanowires 5650-5653
Banan Sadeghian, Ramin H2scan Corp.

08:15-08:30 SaA14.2
All-Carbon Graphene Bioelectronics 5654-5657
Nam, SungWoo University of Illinois, Urbana-Champaign; Chun, SungGyu University of Illinois, Urbana-Champaign; Choi, Jonghyun University of Illinois, Urbana-Champaign

08:30-08:45 SaA14.3
Toward Implantable Glucometer: Design, Modeling and Experimental Results 5658-5661
Ghafar-Zadeh, Ebrahim York University; Gholamzadeh, Bahareh École Polytechnique de Montréal; Sawan, Mohamad Ecole Polytechnique; Awwad, Falah UAEU

08:45-09:00 SaA14.4
A Wireless and Batteryless Neural Headstage with Optical Stimulation and Electrophysiological Recording 5662-5665
Ameli, Reza Laval University; Mirbozorgi, Seyedabdollah Laval University; Néron, Jean-Luc Doric Lenses Inc.; LeChasseur, Yoan Doric Lenses Inc.; Gosselin, Benoit Laval University

09:00-09:15 SaA14.5
Biomimetic Electrical Stimulation Platform for Neural Differentiation of Retinal Progenitor Cells 5666-5669
Tandon, Nina Columbia Univ.; Cimetta, Elisa Columbia Univ., Department of Biomedical Engineering; Taubman, Alanna Columbia Univ., Department of Biomedical Engineering; Kupferstein, Nicolette Cooper Union, Department of Electrical Engineering; Uday, Madaan Lehman College, Molecular Cell and Developmental Biology; Jason, Mighty Lehman College, Molecular Cell and Developmental Biology; Redenti, Stephen Lehman College, Molecular Cell and Developmental Biology; Vunjak-Novakovic, Gordana Columbia Univ.

SaA15: 08:00-09:30	1102 (11F)
8.5.1 Motion Cancellation in Surgical Robotics (Oral Session)	
Chair: Yang, Sungwook (<i>Carnegie Mellon Univ.</i>)	
Co-Chair: Gonenc, Berk (<i>Johns Hopkins Univ.</i>)	

08:00-08:15 SaA15.1
Performance of a 6-Degree-Of-Freedom Active Microsurgical Manipulator in Handheld Tasks 5670-5673
Yang, Sungwook Carnegie Mellon University; Wells, Trent Carnegie Mellon University; MacLachlan, Robert A. Carnegie Mellon University; Riviere, Cameron N Carnegie Mellon University

08:15-08:30 SaA15.2
Improvement of Optical Coherence Tomography Using Active Handheld Micromanipulator in Vitreoretinal Surgery 5674-5677
Yang, Sungwook Carnegie Mellon University; Balicki, Marcin Johns Hopkins University; Wells, Trent Carnegie Mellon University; MacLachlan, Robert A. Carnegie Mellon University; Liu, Xuan Johns Hopkins University; Kang, Jin U. Johns Hopkins University; Handa, James T Johns Hopkins University; Taylor, Russell H. The Johns Hopkins University; Riviere, Cameron N Carnegie Mellon University

08:30-08:45 SaA15.3
Evaluation of the Potential of Multi-Modal Sensors for Respiratory Motion Prediction and Correlation ... 5678-5681
Duerichen, Robert Univ. of Luebeck; Davenport, Lucas Univ. of Luebeck; Bruder, Ralf Univ. of Luebeck; Wissel, Tobias Univ. of Luebeck; Schweikard, Achim Univ. of Luebeck, Germany; Ernst, Floris Univ. of Luebeck

08:45-09:00 SaA15.4
The Introduction of a New Robot for Assistance in Ophthalmic Surgery 5682-5685
nasseri, M. Ali Technische Universitaet Muenchen; Eder, Martin Technische Universitaet Muenchen; deann, Emanuel c. TU Muenchen; Nair, Suraj Technische Universitaet Muenchen; Maier, Mathias Klinikum Rechst der isaar, Muenchen; Zapp, Daniel Augen Klinik rechts der Isar. Technische universitat Muenchen; Lohmann, Chris Klinikum Rechst der isaar, Muenchen; Knoll, Alois Technical University Munich

09:00-09:15 SaA15.5
Design of 3-DOF Force Sensing Micro-Forceps for Robot Assisted Vitreoretinal Surgery 5686-5689
Gonenc, Berk Johns Hopkins Univ.; Handa, James T Johns Hopkins Univ.; Gehlbach, Peter Johns Hopkins Medical Institute; Taylor, Russell H. The Johns Hopkins Univ.; lordachita, Iulian Johns Hopkins Univ.

09:15-09:30 SaA15.6
A Surgical Robot with Heart-Surface-Motion Synchronization Mechanism for Myoblast Cell Sheet Transplantation 5690-5693
Xu, Kangyi Chiba university; Nakamura, Ryoichi Chiba University

SaA16: 08:00-09:30 Small Hall (5F)
9.5.3 Endoscopy (Oral Session)
Chair: Nakamura, Ryoichi (*Chiba Univ.*)
Co-Chair: Kawai, Toshikazu (*Osaka Inst. of Tech.*)

08:00-08:15 SaA16.1
Proposal on 3-D Endoscope by Using Grid-Based Active Stereo 5694-5697
Aoki, Hirooki Hiroshima City University; Furukawa, Ryo Hiroshima City University; Aoyama, Masahito Hiroshima City University; Hiura, Shinsaku Hiroshima City University; Asada, Naoki Hiroshima City University; Sagawa, Ryusuke National Institute of Advanced Industrial Science and Technology; Kawasaki, Hiroshi Kagoshima University; Tanaka, Shinji Hiroshima University Hospital; Yoshida, Shigeto Hiroshima University; Sanomura, Yoji Department of Endoscopy, Hiroshima University

08:15-08:30 SaA16.2
Navigation Technique for MR-Endoscope System Using a Wireless Accelerometer-Based Remote Control Device 5698-5701
Kumamoto, Etsuko Kobe University; Takahashi, Akihiro Kobe University; Matsuoka, Yuichiro Foundation for Kobe International Medical Alliance; Morita, Yoshinori Kobe University; Kutsumi, Hiromu Kobe University; Azuma, Takeshi Department of Gastroenterology, Kobe University Graduate School; Kuroda, Kagayaki School of Information Science and Technology, Tokai University

08:30-08:45 SaA16.3
Enhanced Vision System for Laparoscopic Surgery 5702-5705
Tamadazte, Brahim FEMTO-ST; Fiard, Gaëlle Urology department, Grenoble University Hospital; Long, Jean-Alexandre Urology department, Grenoble University Hospital; Cinquin, Philippe Joseph Fourier University / CNRS; Voros, Sandrine TIMC-IMAG laboratory

08:45-09:00 SaA16.4
High-Resolution MR Imaging of Gastrointestinal Tissue by Intracavitary RF Coil with Remote Tuning and Matching Technique for Integrated MR-Endoscope System 5706-5710
Matsuoka, Yuichiro Foundation for Kobe International Medical Alliance; Takahashi, Akihiro Kobe University; Kumamoto, Etsuko Kobe University; Morita, Yoshinori Kobe University; Kutsumi, Hiromu Kobe University; Azuma, Takeshi Department of Gastroenterology, Kobe University Graduate School; Kuroda, Kagayaki School of Information Science and Technology, Tokai University

09:00-09:15 SaA16.5
Towards Real-Time in Situ Polyp Detection in WCE Images Using a Boosting-Based Approach 5711-5714
Silva, Juan ETIS UMR 8051, ENSEA, Univ. of Cergy-Pontoise, CNRS; Histace, Aymeric ETIS UMR 8051 CNRS; Romain, Olivier ETIS UMR 8051, ENSEA, Univ. of Cergy-Pontoise, CNRS; Dray, Xavier APHP, Hôpital Lariboisière, Department of Gastroenterology, Par; GRANADO, Bertrand LIP6 UMR 7606, Université Pierre et Marie Curie, CNRS, Paris; Pinna, Andrea LIP6 UMR 7606, Université Pierre et Marie Curie, CNRS, Paris

09:15-09:30 SaA16.6
A Knee Arthroscopy Simulator: Design and Validation 5715-5718
Escoto, Abelardo The Univ. of Western Ontario; Le Ber, Fraser The Univ. of Western Ontario; Trejos, Ana Luisa The Univ. of Western Ontario; Naish, Michael D. The Univ. of Western Ontario, Lawson Health Research Institute; Patel, Rajni London Health Sciences Centre; LeBel, Marie-Eve The Univ. of Western Ontario

SaA17: 08:00-09:30 801+802 (8F)
9.4.4 Development and Evaluation of Internal Artificial Organs (Invited Session)
Chair: Yambe, Tomoyuki (*Tohoku Univ.*)
Co-Chair: Abe, Yusuke (*The Univ. of Tokyo*)

08:00-08:15 SaA17.1
Development of Perioperative Glycemic Control Using an Artificial Endocrine Pancreas 5719-5722
Hanazaki, Kazuhiro Department of Surgery, Kochi Medical School, Kochi University; Namikawa, Tsutomu Kochi Medical School, Kochi University

08:15-08:30 SaA17.2
A New Control Method Depending on Primary Phase Angle of Transcutaneous Energy Transmission System for Artificial Heart 5723-5726
Miura, Hidekazu Tohoku University; Saito, Itsuro The University of Tokyo

08:30-08:45 SaA17.3
Navigation for Cochlear Implant 5727-5730
Cho, Byunghyun Kyushu Univ.; Matsumoto, Nozomu Kyushu Univ.; Hashizume, Makoto Kyushu Univ.

08:45-09:00 SaA17.4
Emergency Life Support System Aiming Preprimed Oxygenator 5731-5734
Isoyama, Takashi The University of Tokyo; ariyoshi, koki kitasato; Nii, Kyosuke Department of Materials Engineering, School of Engineering, The; Saito, Itsuro The University of Tokyo; Fukunaga, Kazuyoshi Kyorin University; Inoue, Yusuke The University of Tokyo; Ono, Toshiya The University of Tokyo; Ishii, Kohei The University of Tokyo; hara, shintaro Graduate School of Medicine The University of Tokyo; Imachi, Kou The University of Tokyo; Takai, Madoka The University of Tokyo; Abe, Yusuke The University of Tokyo

09:00-09:15 SaA17.5
Interbeat Control of a Ventricular Assist Device for Variable Pump Performance 5735-5738
Tanaka, Akira Fukushima University; Moriya, Aoi Tohoku Univ; Yoshizawa, Makoto Tohoku University; Shiraishi, Yasuyuki Tohoku University; Yambe, Tomoyuki Tohoku Univ

09:15-09:30 SaA17.6
Expansion Capsules for Diet Control with Artificial Organ Technology 5739-5742
Yambe, Tomoyuki Tohoku Univ

SaA20: 08:00-09:30 806 (8F)
6.2.9 EEG/MEG Instrumentation/Signal Processing (Minisymposium)
Chair: Matani, Ayumu (*the Univ. of Tokyo*)
Co-Chair: Sekihara, Kensuke (*Tokyo Metropolitan Univ.*)

09:00-09:15 SaA20.5
The Solution for the Independence of Bioelectric and Biomagnetic Signals is Confirmed 5743-5745
Malmivuo, Jaakko Aalto University

SaA22: 08:00-09:30	1201 (12F)
1.4.2 Biomedical Signal Classification through EMG Analysis (Oral Session)	
Chair: Kiryu, Tohru (<i>Niigata Univ.</i>)	
Co-Chair: Al-Timemy, Ali Hussian (<i>Plymouth Univ.</i>)	

08:00-08:15 SaA22.1
A New Feature Extraction Method Based on Autoregressive Power Spectrum for Improving Seng Classification 5746-5749
Liu, Jianwei Shanghai Jiao Tong University; He, Jiayuan Shanghai Jiao Tong University; Sheng, Xinjun Shanghai Jiao Tong University; Zhang, Dingguo Shanghai Jiao Tong University; Zhu, XiangYang Shanghai Jiao Tong University

08:15-08:30 SaA22.2
Artifact Removal Algorithm for an EMG-Based Silent Speech Interface 5750-5753
Wand, Michael Karlsruhe Institute of Technology; Himmelsbach, Adam Karlsruhe Institute of Technology; Heistermann, Till Karlsruhe Institute of Technology; Janke, Matthias Karlsruhe Institute of Technology, Cognitive Systems Lab; Schultz, Tanja Karlsruhe Institute of Technology, Cognitive Systems Lab

08:30-08:45 SaA22.3
Improving EMG Based Classification of Basic Hand Movements Using EMD 5754-5757
Sapsanis, Christos University of Patras, Electrical and Computer Engineering Depart; Georgoulas, George TEI of Epirus; Tzes, Anthony University of Patras; Lymberopoulos, Dimitrios University of Patras

08:45-09:00 SaA22.4
A Preliminary Investigation of the Effect of Force Variation for Myoelectric Control of Hand Prosthesis 5758-5761
Al-Timemy, Ali Hussian Plymouth University; Bugmann, Guido Centre for Robotics and Neural Systems, University of Plymouth; Escudero, Javier Plymouth University; Outram, Nicholas University of Plymouth

09:00-09:15 SaA22.5
Enhancing Classification Accuracy of Wrist Movement by Denoising sEMG Signals 5762-5764
Abbas, Baqar Aligarh Muslim Univ.; Farooq, Omar Aligarh Muslim Univ.; Khan, Yusuf Uzzaman Aligarh Muslim Univ.; Ali, Khan, Abid Aligarh Muslim Univ.; Vyas, Anoop Lal Indian Institute of Technology Delhi

09:15-09:30 SaA22.6
EMG Signal Morphology in Essential Tremor and Parkinson's Disease 5765-5768
Ruonala, Verner Matias Univ. of Eastern Finland; Meigal, Alexander Petrozavodsk State Univ.; Rissanen, Saara Mirjami Univ. of Eastern Finland; Airaksinen, Veikko Olavi Pietari Kuopio Univ. Hospital; Kankaanpää, Markku Juhani Kuopio Univ. Hospital; Karjalainen, Pasi, A Univ. of Eastern Finland

SaB01: 09:30-11:00	Event Hall-Area B (3F)
1.7.3 Support Vector Machine (SVM) applied to Biosignal Classification II (Poster Session)	

09:30-11:00 SaB01.1
Design and Implementation of a Low Power Mobile CPU Based Embedded System for Artificial Leg Control 5769-5772
Hernandez, Robert The University of Rhode Island; Yang, Qing University of Rhode Island; Huang, He University of Rhode Island; Zhang, Fan University of Rhode Island; Zhang, Xiaorong University of Rhode Island

09:30-11:00 SaB01.2
SLEEP phenomena as an early biomarker for Parkinsonism 5773-5776
Kempfner, Jacob Technical University of Denmark; Jennum, Poul Danish Centre for Sleep Medicing; Nikolic, Miki Department of Clinical Neurophysiology, Glostrup University Hospit; Christensen, Julie Anja Engelhard Technical University of Denmark; Sorensen, Helge B D Technical University of Denmark

09:30-11:00 SaB01.3
Automatic SLEEP staging: From young adults to elderly patients using multi-class support vector machine 5777-5780
Kempfner, Jacob Technical University of Denmark; Jennum, Poul Danish Centre for Sleep Medicing; Sorensen, Helge B D Technical University of Denmark; Christensen, Julie Anja Engelhard Technical University of Denmark; Nikolic, Miki Department of Clinical Neurophysiology, Glostrup University Hospit

09:30-11:00 SaB01.4
Automatic Recognition of Parkinson's Disease Using Surface Electromyography During Standardized Gait Tests 5781-5784
Kugler, Patrick University of Erlangen-Nuremberg; Jaremenko, Christian University of Erlangen-Nuremberg; Schlachetzki, Johannes University Hospital Erlangen; Winkler, Juergen University Hospital Erlangen; Klucken, Jochen University Hospital Erlangen; Eskofier, Bjoern M University of Erlangen-Nuremberg

09:30-11:00 SaB01.5
Classification of Ventricular Arrhythmia Using a Support Vector Machine Based on Morphological Features 5785-5788
Lee, Seung Hwan Yonsei University; Ko, Hyun-Chul Yonsei university; Yoon, Young-ro Yonsei University

09:30-11:00 SaB01.6
Parameterized SVM for Personalized Drug Concentration Prediction 5789-5792
You, Wenqi Swiss Federal Institute of Technology (EPFL); Simalatsar, Alena EPFL; De Micheli, Giovanni EPFL

SaB02: 09:30-11:00 Event Hall-Area B (3F)
1.9.3 Data Mining in Biosignals II (Poster Session)

09:30-11:00 SaB02.1
Detection of a Sleep Disorder Predicting Parkinson's Disease 5793-5796
Hansen, Ingeborg Helbeck Technical University of Denmark; Marcussen, Mikkel Technical University of Denmark; Jennum, Poul Danish Centre for Sleep Medicing; Christensen, Julie Anja Engelhard Technical University of Denmark; Sorensen, Helge B D Technical University of Denmark

09:30-11:00 SaB02.2
Shift Invariant Feature Extraction for sEMG-Based Speech Recognition with Electrode Grid 5797-5800
Kubo, Takatomi Nara Institute of Science and Tech.; Yoshida, Masaki Osaka Electro-Communication Univ; Hattori, Takumu Nara Institute of Science and Tech.; Ikeda, Kazushi Nara Institute of Science and Tech.

09:30-11:00 SaB02.3
One-Class Classification of Temporal EEG Patterns for K-Complex Extraction 5801-5804
Zacharakis, Evangelia University of Patras; Pippa, Evangelia University of Patras; Koupparis, Andreas University of Patras; Kokkinos, Vasileios University of Patras; Kostopoulos, Georgios University of Patras, School of Medicine; Megalooikonomou, Vasileios University of Patras

09:30-11:00 SaB02.4
Classification of Oscillometric Envelope Shape Using Frequent Sequence Mining 5805-5808
Diao, Hung-Wen Chung Yuan Christian University; Lan, Gong-Yau Dept. of Medical Image, Cheng Hsin Rehabilitation and Medical Ce; Hu, Wei-Chih Chung Yuan Christian University; Shyu, Liang-Yu Chung Yuan Christian University

09:30-11:00 SaB02.5
Quantifying Cognitive State from EEG Using Phase Synchrony 5809-5812
Wan, Lu University of Florida; Fadlallah, Bilal University of Florida; Keil, Andreas University of Florida; Principe, Jose University of Florida

09:30-11:00 SaB02.6
Early Detection of Cognitive Impairment in the Elderly Based on Bayesian Mining Using Speech Prosody and Cerebral Blood Flow Activation 5813-5816
Kato, Shohei Nagoya Institute of Technology; Endo, Hidetoshi National Center for Geriatrics and Gerontology; Homma, Akira Tokyo Dementia Care Research and Training Center; Sakuma, Takuto Nagoya Institute of Technology; Watanabe, Keita Nagoya Institute of Technology

09:30-11:00 SaB02.7
Protocol for Site Selection and Movement Assessment for the Myoelectric Control of a Multi-functional Upper-Limb Prosthesis 5817-5820
Al-Timemy, Ali Hussian Plymouth University; Escudero, Javier Plymouth University; Bugmann, Guido Centre for Robotics and Neural Systems, University of Plymouth; Outram, Nicholas University of Plymouth

1.10.2 Blind Source Separation and Independent Component Analysis II (Poster Session)

- 09:30-11:00 SaB03.1
Noninvasive Prediction of Catheter Ablation Acute Outcome in Persistent Atrial Fibrillation Based on Logistic Regression of ECG Fibrillatory Wave Amplitude and Spatio-Temporal Variability 5821-5824
Meo, Marianna Laboratoire I3S Université Nice; Zarzoso, Vicente Université Nice Sophia Antipolis - CNRS; Meste, Olivier UNSA-CNRS; Latcu, Decebal Gabriel Centre Hospitalier Princesse Grace; Saoudi, Nadir Princesse Grace Medical Centre Monaco
- 09:30-11:00 SaB03.2
Multivariate Assessment of Differences between a Neuromuscular Electrical Stimulation Therapy and Robotic Treadmill Training in the Rehabilitation of Spinal Cord Injured Rats 5825-5828
Sanchez, Patricia Cal State University, Los Angeles; Agarwal, Ankit California State University, Los Angeles; Askari, Sina University of Southern California; de Leon, Ray California State University Los Angeles; Park, Chong Jin San Diego State University; Won, Deborah Soonmee California State University, Los Angeles
- 09:30-11:00 SaB03.3
A Single-Trial Toolbox for Advanced Sleep Polysomnographic Preprocessing 5829-5832
Chaparro-Vargas, Ramiro RMIT University, School of Electrical and Computer Engineering; Cvetkovic, Dean RMIT University
- 09:30-11:00 SaB03.4
Blind Source Separation in Characterizing ECG Pre-Shock Waveforms During Ventricular Fibrillation ... 5833-5836
Rasooli, Marzieh Ryerson University; Hosseyndoust Foomany, Farbod Ryerson University; Balasundaram, Krishnanand Ryerson University; Masse, Stephane THCFM Lab, Toronto General Hospital; Zamiri, Nima Toronto General Hospital; Ramadeen, Andrew St. Michael's Hospital; Hu, Xudong St. Michael's Hospital; Dorian, Paul St. Michael's Hospital; Nanthakumar, Kumaraswamy THCFM Lab, Toronto General Hospital; Beheshti, Soosan Ryerson University; Umapathy, Karthikeyan Ryerson University
- 09:30-11:00 SaB03.5
Blind Source Separation of Neural Activities from Magnetoencephalogram in Periodical Median Nerve Stimuli 5837-5840
Kishida, Kuniharu Gifu University
- 09:30-11:00 SaB03.6
Eliminating Cardiac Electrical Artifacts from Cardiac Autonomic Nervous Signals Using a Combination of Empirical Mode Decomposition and Independent Component Analysis 5841-5844
Lee, Kwnagjin Gwangju Institute of Science and Technology (GIST); Choi, Eue Keun Seoul National University Hospital; Lee, Seung Min Seoul National University; Lee, Boreom Gwangju Institute of Science and Technology (GIST)
- 09:30-11:00 SaB03.7
EyeCatch: Data-Mining Over Half a Million EEG Independent Components to Construct a Fully-Automated Eye-Component Detector 5845-5848
Bigdely-Shamlo, Nima INC, UCSD; Delgado, Kenneth Kreutz University of California, San Diego; Kothe, Christian Andreas Edgar University of California San Diego; Makeig, Scott University of California San Diego
- 09:30-11:00 SaB03.8
Decomposing Atrial Activity Signal by Combining ICA and WABS 5849-5852
Dai, huhe The Key Lab for Health Informatics, Shenzhen Institutes of Advan; Sodhro, Ali Hassan Shenzhen Institutes of Advanced Technology, Chinese Academy of S; Li, Ye Chinese Academy of Sciences
- 09:30-11:00 SaB03.9
An Automatic Electroencephalography Blinking Artefact Detection and Removal Method Based on Template Matching and Ensemble Empirical Mode Decomposition 5853-5856
Bizopoulos, Paschalis Département Informatique et Télécommunication, ESIEE-Paris; Al-Ani, Tarik ESIEE-PARIS; Tsalikakis, Dimitrios Univesity of Western Macedonia, Greece; Tzallas, Alexandros University of Ioannina; Koutsouris, Dimitrios Biomedical Engineering Laboratory, School of Electrical and Comp; Fotiadis, Dimitrios I. University of Ioannina

- 09:30-11:00 SaB04.1
Quality Control and Multi-Lesion Detection in Automated Retinopathy Classification Using a Visual Words Dictionary 5857-5860
Jelinek, Herbert Franz Charles Sturt University; Pires, Ramon University of Campinas; Padilha, Rafael University of Campinas; Goldenstein, Siome University of Campinas; Wainer, Jacques University of Campinas; Rocha, Anderson University of Campinas
- 09:30-11:00 SaB04.2
Self-Assessment for Optic Disc Segmentation 5861-5864
Cheng, Jun Institute for Infocomm Research, AStar; Liu, Jiang Institute for Infocomm Research, A STAR; Yin, Fengshou Institute for Infocomm Research; Lee, Beng Hai Institute for Infocomm Research; Wong, Damon Institute for Infocomm Research; Aung, Tin Singapore Eye Research Institute; Cheng, Ching-Yu Singapore Eye Research Institute; Wong, Tien Yin National University of Singapore
- 09:30-11:00 SaB04.3
Automated Quantification of Retinal Arteriovenous Nicking from Colour Fundus Images 5865-5868
Nguyen, Uyen Thi Van The Univ. of Melbourne; Bhuiyan, Alauddin Commonwealth Scientific and Industrial Research Organization; Park, Laurence A. F. The Univ. of Western Sydney; kawasaki, Ryo Royal Victorian Eye and Ear Hospital, Univ. of Melbourne; Wong, Tien Yin National Univ. of Singapore; Wang, Jie jin Univ. of Sydney; Mitchell, Paul Univ. of Sydney; Kotagiri, Ramamohanarao The Univ. of Melbourne
- 09:30-11:00 SaB04.4
Automated Segmentation of the Choroid in Retinal Optical Coherence Tomography Images 5869-5872
Lu, Huiqi University of Liverpool; Boonarpa, Nattapon University of Liverpool; Kwong, Man Ting University of Liverpool; Zheng, Yalin University of Liverpool
- 09:30-11:00 SaB04.5
Automated Microaneurysm Detection Method Based on Eigenvalue Analysis Using Hessian Matrix in Retinal Fundus Images 5873-5876
Inoue, Tsuyoshi University of Shiga Prefecture; Hatanaka, Yuji University of Shiga Prefecture; Okumura, Susumu University of Shiga Prefecture; Muramatsu, Chisako Gifu University; Fujita, Hiroshi Gifu University
- 09:30-11:00 SaB04.6
3D Optic Disc Reconstruction Via a Global Fundus Stereo Algorithm 5877-5882
Bansal, Mayank SRI International; Sizintsev, Mikhail SRI International; Eledath, Jayan Sarnoff Corporation; Sawhney, Harpreet Sarnoff Corporation; Pearson, Denise University of Pennsylvania; Stone, Richard University of Pennsylvania
- 09:30-11:00 SaB04.7
Super-Image Mosaic of Infant Retinal Fundus: Selection and Registration of the Best-Quality Frames from Videos 5883-5886
Ruggeri, Alfredo University of Padua; Poletti, Enea University of Padova
- 09:30-11:00 SaB04.8
Automatic Screening of Narrow Anterior Chamber Angle and Angle-Closure Glaucoma Based on Slit-Lamp Image Analysis by Using Support Vector Machine 5887-5890
Theeraworn, Chonlada National Electronics and Computer Technology Center(NECTEC) and; Kongprawechnon, Wree Sirindhorn International Institute of Technology; Kondo, Toshiaki Sirindhorn International Institute of Technology; Bunnun, Pished National Electronics and Computer Technology Center (NECTEC); Nishihara, Akinori Tokyo Institute of Technology; Manassakorn, Anita Chulalongkorn University and King Chulalongkorn Memorial Hospita
- 09:30-11:00 SaB04.9
Comparison of Logistic Regression and Neural Network Classifiers in the Detection of Hard Exudates in Retinal Images 5891-5894
Garcia, Maria University of Valladolid, CIF: Q4718001C; Valverde, Carmen Hospital de Medina del Campo, Valladolid; López, María I. University of Valladolid; Poza, Jesus University of Valladolid; Hornero, Roberto University Of Valladolid

6.8.1 Wearable Systems for Neurorehabilitation (Poster Session)

- 09:30-11:00 SaB05.1
A Novel Wearable Laser Device to Regulate Stride Length in Parkinson's Disease 5895-5898
zhao, yan Technical University of Munich; Ramesberger, Stefan TU-Muenchen; Fietzek, Urban M. Schön Klinik München Schwabing Abt. Neurologie und klinische Neu; D'Angelo, Lorenzo Tancredi Technische Universitaet Muenchen; Lueth, Tim Technical University of Munich
- 09:30-11:00 SaB05.2
Development of Multichannel Array Transducer of Displacement Mechanical-Myogram 5899-5902
Oka, Hisao Okayama Univ.; Konishi, Yuto Osaka Electro-Communication Univ; Kitawaki, Tomoki Okayama Univ. Graduate School; Ichihashi, Noriaki Kyoto Univ.; Yoshida, Masaki Osaka Electro-Communication Univ
- 09:30-11:00 SaB05.3
Coordinated Upper Limb Training Assisted with an Electromyography (EMG)-Driven Hand Robot after Stroke 5903-5906
Hu, Xiaoling The Hong Kong Polytechnic Univ.; Tong, Kai Yu, Raymond The Hong Kong Polytechnic Univ.; Wei, Xi-jun The Hong Kong Polytechnic Univ.; Rong, Wei Dept of HTI, The Hong Kong Polytechnic Univ.; Susanto, Evan The Hong Kong Polytechnic Univ.; Ho, Sze Kit The Hong Kong Polytechnic Univ.
- 09:30-11:00 SaB05.4
A Method for Shoulder Range-Of-Motion Estimation Using a Single Wireless Sensor Node 5907-5910
Thiemjarus, Surapa NSTDA; Pongwat, Poomchoompol SIIT; Marukatat, Sanparith NECTEC
- 09:30-11:00 SaB05.5
Mapping Sensor Activation Time for Typing Tasks Performed with a Tongue Controlled Oral Interface . 5911-5913
Lontis, Eugen Romulus Aalborg University; Andreasen Struijk, Lotte N. S. Aalborg University
- 09:30-11:00 SaB05.6
Biofeedback Baropodometry Training Evaluation: A Study with Children with Equinus Foot Deformity . 5914-5917
Gomes, Leonardo Grilo Federal Technology University of Paraná; Scremim, Reginato Federal Technology University of Paraná; Abreu de Souza, Mauren Federal University of Technology (UTFPR); Gamba, Humberto Federal Univ of Technology UTFPR- C.N.P.J.
- 09:30-11:00 SaB05.7
Pattern Recognition Based Forearm Motion Classification for Patients with Chronic Hemiparesis 5918-5921
Geng, Yanjuan Shenzhen Institutes of Advanced Technology; Zhang, Liangqing Guangzhou Medical University; Tang, Dan Guangdong Provincial Work Injury Rehabilitation Center; Zhang, Xiufeng Tsinghua; Li, Guanglin Shenzhen Institutes of Advanced Technology
- 09:30-11:00 SaB05.8
Generating Tactile Afferent Stimulation Patterns for Slip and Touch Feedback in Neural Prosthetics 5922-5925
Rager, Danielle Univ. of New South Wales; Alvares, Darren The Univ. of New South Wales; Birznieks, Ingvars Univ. of Western Sydney; Redmond, Stephen James Univ. of New South Wales; Morley, John William Univ. of Western Sydney; Lovell, Nigel H. Univ. of New South Wales; Vickery, Richard Univ. of New South Wales
- 09:30-11:00 SaB05.9
Real-Time Implementation of a Self-Recovery EMG Pattern Recognition Interface for Artificial Arms 5926-5929
Zhang, Xiaorong University of Rhode Island; Huang, He University of Rhode Island; Yang, Qing University of Rhode Island

6.9.2 Brain Physiology and Modeling (Poster Session)

- 09:30-11:00 SaB06.1
Sparse Bayesian Inference Methods for Decoding 3D Reach and Grasp Kinematics and Joint Angles with Primary Motor Cortical Ensembles 5930-5933
Chen, Zhe Harvard Medical School/MIT; Takahashi, Kazutaka University of Chicago; Hatsopoulos, Nicholas University of Chicago

09:30-11:00		SaB06.2
Computational Models of Optogenetic Tools for Controlling Neural Circuits with Light	5934-5937	
<i>Nikolic, Konstantin Imperial College London; Jarvis, Sarah Imperial College London; Grossman, Nir Imperial College London; Schultz, Simon R Imperial College London</i>		
09:30-11:00		SaB06.3
Event-Related Potential Study on Image-Symmetry Discrimination in the Human Brain	5938-5941	
<i>Sambul, Alwin Melkie Kumamoto University; Murayama, Nobuki Kumamoto University; Igasaki, Tomohiko Kumamoto University</i>		
09:30-11:00		SaB06.4
A Neural Mass Model of Burst Suppression and Epileptic Seizures	5942-5945	
<i>Freestone, Dean Robert The Univ. of Melbourne; Netic, Dragan The Univ. of Melbourne; Jafarian, Amirhossein Cardiff Univ.; Grayden, David B. The Univ. of Melbourne; Cook, Mark St. Vincent's Hospital</i>		
09:30-11:00		SaB06.5
Internal Inconsistencies in Models of Electrical Stimulation in Neural Tissue	5946-5949	
<i>Meffin, Hamish National ICT Australia; Tahayori, Bahman University of Melbourne; Grayden, David B. The University of Melbourne; Burkitt, Anthony Neville The University of Melbourne</i>		
09:30-11:00		SaB06.6
The Role of Topography in the Transformation of Spatiotemporal Patterns by a Large-Scale, Biologically Realistic Model of the Rat Dentate Gyrus	5950-5953	
<i>Yu, Gene University of Southern California; Hendrickson, Phillip University of Southern California; Robinson, Brian University of Southern California; Song, Dong University of Southern California; Berger, Theodore University of Southern California</i>		
09:30-11:00		SaB06.7
Conformal Ceramic Electrodes That Record Glutamate Release and Corresponding Neural Activity in Primate Prefrontal Cortex	5954-5957	
<i>Hampson, Robert Wake Forest School of Medicine; Fuqua, Joshua University of Louisville; Huettl, Peter University of Kentucky Medical Center; Opris, Ioan Wake Forest University Health Sciences; Song, Dong University of Southern California; Shin, Dae University of Southern California; Marmarelis, Vasilis University of Southern California; Berger, Theodore University of Southern California; Gerhardt, Greg University of Kentucky Medical Center; Deadwyler, Sam Wake Forest University</i>		
09:30-11:00		SaB06.8
Modeling Analysis of Negative Effects of High Frequency Electrical Stimulation on Axonal Behaviors ..	5958-5961	
<i>Sun, Lifei Dalian Neusoft University of Information; Liu, Hailong Dalian University of Technology</i>		
09:30-11:00		SaB06.9
The Contribution of Relative Activation Levels between Populations of Cells to Network Activity in a Large-Scale Biologically Realistic Model of the Hippocampus	5962-5965	
<i>Hendrickson, Phillip University of Southern California; Yu, Gene University of Southern California; Robinson, Brian University of Southern California; Song, Dong University of Southern California; Berger, Theodore University of Southern California</i>		
09:30-11:00		SaB06.10
A Neuronal Network Model with Simplified Tonotopicity for Tinnitus Generation and Its Relief by Sound Therapy	5966-5969	
<i>Nagashino, Hirofumi The University of Tokushima; Kinouchi, Yohsuke The University of Tokushima; Danesh, Ali A. Florida Atlantic University; Pandya, Abhijit S. Florida Atlantic University</i>		

SaB14: 09:30-11:00

Event Hall-Area D (3F)

6.10.2 Neural Signal Processing II (Poster Session)

09:30-11:00		SaB14.1
Reduction of Metallic Interference in MEG Signals Using AMUSE*	5970-5973	
<i>Migliorelli, Carolina Technical University of Catalonia (UPC); Romero, Sergio Technical University of Catalonia (UPC); Alonso, Joan Francesc Technical University of Catalonia (UPC); Nowak, Rafal Centro Medico Teknon; Russi, Antonio Centro Medico Teknon; Mañanas, Miquel Angel Technical University of Catalonia (UPC)</i>		

09:30-11:00 SaB14.2
Information Theoretic Optimization of Cochlear Implant Electrode Usage Probabilities 5974-5977
Gao, Xiao University of South Australia; Grayden, David B. The University of Melbourne;
McDonnell, Mark Damian University of South Australia

09:30-11:00 SaB14.3
Optimal Stimulus Profiles for Neuroprosthetic Devices: Monophasic versus Biphasic Stimulation 5978-5981
Tahayori, Bahman University of Melbourne; Dokos, Socrates University of New South Wales

09:30-11:00 SaB14.4
On the Objective Assessment of the Auditory Brainstem Response Measurement Quality 5982-5985
Corona-Strauss, Farah I. Saarland University Hospital; Strauss, Daniel J. Saarland University, Medical Faculty

SaC01: 13:30-15:00 Conference Hall (12F)
1.4.3 Biomedical Signal Classification through EEG Analysis (Oral Session)
Chair: Tong, Shanbao (*Shanghai Jiao Tong Univ.*)
Co-Chair: Poza, Jesus (*Univ. of Valladolid*)

13:30-13:45 SaC01.1
Multi-Domain Feature Analysis of N170 in Depression by Nonnegative Tensor Factorization 5986-5989
Zhao, Qiangfeng Shanghai Jiao Tong University; Sun, Junfeng Shanghai Jiao Tong University; Cong, Fengyu University of Jyväskylä; Chen, Shan Shanghai Jiao Tong University; Tang, Yingying Shanghai Mental Health Center, Shanghai Jiao Tong University Scho; Tong, Shanbao Shanghai Jiao Tong University

13:45-14:00 SaC01.2
Characterization of the Spontaneous Electroencephalographic Activity in Alzheimer's Disease Using Disequilibria and Graph Theory 5990-5993
Poza, Jesus University of Valladolid; Garcia, Maria University of Valladolid, CIF: Q4718001C; Gomez, Carlos University of Valladolid, CIF: Q4718001C; Bachiller, Alejandro University of Valladolid; Carreres, Alicia Hospital Universitario "Pío del Río Hortega", Valladolid; Hornero, Roberto University Of Valladolid

14:00-14:15 SaC01.3
A Cepstral Analysis Based Method for Quantifying the Depth of Anesthesia from Human EEG 5994-5997
Kim, Tae-Ho KAIST; Yoon, Young-Gyu KAIST Institute; Uhm, Jinu KAIST Institute; Jeong, Dae-Woong KAIST; Yoon, Seung Zhoo Korea University; Park, Sang-Hyun KAIST Institute

14:15-14:30 SaC01.4
A Study of Morphology-Based Wavelet Features and Multiple-Wavelet Strategy for EEG Signal Classification: Results and Selected Statistical Analysis 5998-6002
Zhou, Jing Clemson University; Schalkoff, Robert Clemson University; Dean, Brian Clemson University; Halford, Jonathan Medical University of South Carolina

14:30-14:45 SaC01.5
Diagnosis Method of Mild Cognitive Impairment Based on Power Variance of EEG 6003-6006
Ueda, Taishi Tokyo Institute of Technology; Musha, Toshimitsu Brain Functions Lab., Inc.; Yagi, Tohru Tokyo Institute of Technology

14:45-15:00 SaC01.6
Neural Spike Sorting with a Self-Training Semi-Supervised Support Vector Machine 6007-6010
Ghanbari, Abdollah Sharif Univ. of Technology; Shamsollahi, Mohammad Bagher Sharif Univ. of Technology; vigneron, Vincent Université d'Evry val d'Essonne; Kifouche, Abdessalam Université Saad Dahlab Blida

SaC02: 13:30-15:00 1202 (12F)
1.10.3 Multimodal Blind Source Separation: Algorithms, Applications and Future Challenges (Invited Session)
Chair: Van Huffel, Sabine (*Katholieke Univ. Leuven*)
Co-Chair: De Vos, Maarten (*KU Leuven*)

13:30-13:45 SaC02.1
Independent Component Analysis of EEG-Fmri Data for Studying Epilepsy and Epileptic Seizures 6011-6014
Franchin, Tiziana Clinical-Technological Innovations Research Unit, Bambino Gesù C; Tana, Maria Gabriella Università degli Studi "G. d'Annunzio" di Chieti-Pescara; Cannatà, Vittorio Clinical-Technological Innovations Research Unit, Bambino Gesù C; Cerutti, Sergio Politecnico di Milano; Bianchi, Anna Maria Politecnico di Milano

13:45-14:00 SaC02.2
Exploiting Intracardiac and Surface Recording Modalities for Atrial Signal Extraction in Atrial Fibrillation 6015-6018
Garibaldi, Michele Univ. de Nice-Sophia Antipolis; Zarzoso, Vicente Université Nice Sophia Antipolis - CNRS

14:00-14:15 SaC02.3
Comparison of Correlation Analysis and JointICA for Simultaneous EEG-Fmri Recordings on Contour Integration Task 6019-6022
Mijovic, Bogdan Katholieke Universiteit Leuven; Machilsen, Bart KU Leuven; Hunyadi, Borbala KU Leuven; De Vos, Maarten KU Leuven; Wagemans, Johan KU Leuven; Van Huffel, Sabine Katholieke Universiteit Leuven

14:15-14:30 SaC02.4
Structure-Revealing Data Fusion Model with Applications in Metabolomics 6023-6026
Acar, Evrim University of Copenhagen; Lawaetz, Anders University of Copenhagen; Rasmussen, Morten University of Copenhagen; Bro, Rasmus Copenhagen University

14:30-14:45 SaC02.5
The Quest for Single Trial Correlations in Multimodal EEG-Fmri Data 6027-6030
De Vos, Maarten KU Leuven; Zink, Rob Katholieke Univ. Leuven; Hunyadi, Borbala KU Leuven; Mijovic, Bogdan Katholieke Univ. Leuven; Van Huffel, Sabine Katholieke Univ. Leuven; Debener, Stefan Hamburg Univ.

SaC03: 13:30-15:00 1203 (12F)
1.7.2 Support Vector Machine (SVM) applied to Biosignal Classification I (Oral Session)
Chair: He, Jiping (*Arizona State Univ.*)
Co-Chair: Ogawa, Mitsuhiro (*Teikyo Univ.*)

13:30-13:45 SaC03.1
Detection of Cigarette Smoke Inhalations from Respiratory Signals Using Reduced Feature Set 6031-6034
Patil, Yogendra University of Alabama; Lopez-Meyer, Paulo The University of Alabama; Tiffany, Stephen State University of New York at Buffalo; Sazonov, Edward University of Alabama

13:45-14:00 SaC03.2
Improving Transient State Myoelectric Signal Recognition in Hand Movement Classification Using Gyroscopes 6035-6038
Boschmann, Alexander University of Paderborn; Nofen, Barbara Universität Paderborn; Platzner, Marco University of Paderborn

14:00-14:15 SaC03.3
Boosting Specificity of MEG Artifact Removal by Weighted Support Vector Machine 6039-6042
Duan, Fang The Univ. of Tokyo; Phothisonothai, Montri Univ. of Tokyo; Kikuchi, Mitsuru Kanazawa Univ.; Yoshimura, Yuko Kanazawa Univ., Research Center for Child Mental Development; Minabe, Yoshio Kanazawa Univ.; Watanabe, Katsumi The Univ. of Tokyo; Aihara, Kazuyuki The Univ. of Tokyo

14:15-14:30 SaC03.4
Online LS-SVM Based Multi-Step Prediction of Physiological Tremor for Surgical Robotics 6043-6046
Tatinati, Sivanagaraja Kyungpook National Univesrsity; Wang, Yubo Kyungpook National University; Shafiq, Ghufuran Kyungpook National University; Veluvolu, Kalyana C. Kyungpook National University

14:30-14:45 SaC03.5
Classification of Schizophrenia Using Genetic Algorithm-Support Vector Machine (GA-SVM) 6047-6050
Hiesh, Ming-Hsien National Taiwan University Hospital; Lam, Yan-Yu Andy National Taiwan University; Shen, Chia-Ping National Taiwan University; Chen, Wei National Taiwan University; Lin, Feng-Sheng Academia Sinica of Taiwan; Sung, Hsiao-Ya National Taiwan University; Lin, Jeng-Wei Tunghai University; Chiu, Ming-Jang Department of Nerology, National Taiwan University Hospital, No.; Lai, Feipei National Taiwan University

14:45-15:00 SaC03.6
Selection of Cortical Neurons for Identifying Movement Transitions in Stand and Squat 6051-6054
Ma, Xuan Huazhong University of Science and Technology; Hu, Dingyin University; Huang, Jian Huazhong University of Science and Technology; Li, Wei Huazhong University of Science and Technology; He, Jiping Arizona State University

SaC05: 13:30-15:00 1002 (10F)
2.7.5 Image Segmentation III (Oral Session)
Chair: Watabe, Hiroshi (*Tohoku Univ.*)
Co-Chair: Feng, Dagan (*The Univ. of Sydney*)

13:30-13:45 SaC05.1
Robust Filtering Based Segmentation and Analysis of Dura Mater Vasculature using Epifluorescence Microscopy 6055-6058
Prasath, V. B. Surya Univ. of Missouri-Columbia; Bunyak, Filiz Univ. of Missouri Columbia; haddad, oussama Univ. of Missouri-Columbia; Glinskii, Olga Univ. of Missouri-Columbia; Glinsky, Vladislav Univ. of Missouri-Columbia; Huxley, Virginia Univ. of Missouri-Columbia; Palaniappan, Kannappan Univ. of Missouri-Columbia

13:45-14:00 SaC05.2
Segmentation of Aortic Flow in Real Time Magnetic Resonance Images 6059-6062
Maia Queiroz de Mendonça, Gustavo University of Brasilia; da Rocha, Adson F. University of Brasilia; Carvalho, Joao Luiz Azevedo de University of Brasília

14:00-14:15 SaC05.3
Direct Measurement of Speed of Sound in Cartilage in Situ Using Ultrasound and Magnetic Resonance Images 6063-6066
Nitta, Naotaka National Institute of AIST; Aoki, Takako Tokyo Metropolitan University; Hyodo, Koji National Institute of AIST; Misawa, Masaki National Institute of AIST; Homma, Kazuhiro National Institute of AIST

14:15-14:30 SaC05.4
Ultrasound Lesion Segmentation Using Clinical Knowledge-Driven Constrained Level Set 6067-6070
Lin, QiZhong Philips Research Asia Shanghai; Liu, Sheena Xin Philips Research North America; Parajuly, Shyam Sundar Department of Ultrasound, Western China Hospital; Deng, Yinhui Philips research; Boroczky, Lilla Philips Research North America; Fu, Sainan Philips Research China; Wu, Ying Philips Research China; Pen, Yulan Department of Ultrasound, Western China Hospital

14:30-14:45 SaC05.5
Prior Knowledge Enhanced Random Walk for Lung Tumor Segmentation from Low-Contrast CT Images 6071-6074
Cui, Hui The University of Sydney; Wang, Xiu Ying The University of Sydney; Fulham, Michael Royal Prince Alfred Hospital; Feng, Dagan The University of Sydney

14:45-15:00 SaC05.6
Segmentation Using Sparse Shape Model and Minimally Supervised Method in Liver Surgery Planning System 6075-6078
Wang, Guotai Shanghai Jiao Tong University; Zhang, Shaoting Rutgers; Li, Feng University of Western Ontario; Gu, Lixu Shanghai Jiaotong University

SaC06: 13:30-15:00 1003 (10F)
2.8.3 Image Feature Extraction I (Oral Session)
Chair: Mat Sakim, Harsa Amylia (*Univ. Sains Malaysia*)

13:30-13:45 SaC06.1
Lung Image Patch Classification with Automatic Feature Learning 6079-6082
Li, Qing University of Sydney; Cai, Weidong University of Sydney; Feng, Dagan The University of Sydney

13:45-14:00 SaC06.2
The Use of Pseudo-Landmarks for Craniofacial Analysis: A Comparative Study with L1-Regularized Logistic Regression 6083-6086
Mercan, Ezgi University of Washington; Shapiro, Linda G. University of Washington; Weinberg, Seth Department of Oral Biology, University of Pittsburgh; Lee, Su-In University of Washington

14:00-14:15 SaC06.3
Cell Nuclei Segmentation in Fluorescence Microscopy Images Using Inter and Intra-Region Discriminative Information 6087-6090
Song, Yang University of Sydney; Cai, Weidong University of Sydney; Feng, Dagan The University of Sydney; Chen, Mei Carnegie Mellon University

14:15-14:30 SaC06.4
Multi-Channels Statistical and Morphological Features Based Mitosis Detection in Breast Cancer Histopathology 6091-6094
Irshad, Humayun IPAL UMI CNRS; Roux, Ludovic Université Joseph Fourier; Racoceanu, Daniel French National Center for Scientific Research

14:30-14:45 SaC06.5
Discretized Data Pattern in Endoscopic Gastritis Images Using Dynamic Window and Pairwise Gini Criterion 6095-6098
Mohd Yacob, Yasmin University Sains Malaysia; Mat Sakim, Harsa Amylia University Sains Malaysia; Mat Isa, Nor Ashidi University Sains Malaysia; Sobri, Zuriani University Sains Malaysia

14:45-15:00 SaC06.6
Automatic Dental Arch Detection and Panoramic Image Synthesis from CT Images 6099-6102
Sa-ing, Vera National Electronics and Computer Tech. Center; Wangkaoom, Kongyot National Electronics And Computer Tech. Center; Thongvigitmanee, Saowapak National Electronics & Comp Tech Ctr

SaC07: 13:30-15:00 1004 (10F)
3.7.3 Wearable Systems I (Oral Session)
Chair: Poon, Carmen CY (*The Chinese Univ. of Hong Kong*)
Co-Chair: Tanaka, Shinobu (*Kanazawa Univ.*)

13:30-13:45 SaC07.1
Wearable Cuff-less PTT-based System for Overnight Blood Pressure Monitoring 6103-6106
Zheng, Yali The Chinese Univ. of Hong Kong; Yan, Bryan P. Prince of Wales Hospital, The Chinese Univ. of Hong Kong; Zhang, Yuan-Ting The Chinese Univ. of Hong Kong; Yu, Cheuk-Man Prince of Wales Hospital, The Chinese Univ. of Hong Kong, Hon; Poon, Carmen CY The Chinese Univ. of Hong Kong

13:45-14:00 SaC07.2
Blood Pressure Estimation from Pulse Wave Velocity Measured on the Chest 6107-6110
Fuke, Sawa Corporate R&D Center, TOSHIBA Corporation; Suzuki, Takuji Toshiba Corporation; Nakayama, Kanako Corporate R&D Center, TOSHIBA Corporation.; Tanaka, Hirokazu TOSHIBA Corporation; Minami, Shigenobu TOSHIBA Corporation

14:00-14:15 SaC07.3
An Inertial Sensor-Based System to Develop Motor Capacity in Children with Cerebral Palsy 6111-6114
Qiao, Shuo Indian Institute of Technology, Madras; Vathsangam, Harshvardhan University of Southern California; Prabhakar, Anil Indian Institute of Technology, Madras; Chandrachoodan, Nitin Indian Institute of Technology, Madras; Jacob, Namita Chetana Charitable Trust

14:15-14:30 SaC07.4
Wireless Patch Sensor for Remote Monitoring of Heart Rate, Respiration, Activity, and Falls 6115-6118
Chan, Alexander M. Vital Connect, Inc; Selvaraj, Nandakumar Vital Connect Inc; Ferdosi, Nima Vital Connect, Inc.; Narasimhan, Ravi Vital Connect, Inc.

14:30-14:45 SaC07.5
Analysis of Subtle Movements Related to Neurodegenerative Diseases Using Wearable Inertial Sensors: A Study in Healthy Subjects 6119-6122
Martinez-Mendez, Rigoberto Autonomous University of Mexico State; Portillo-Rodriguez, Otniel Autonomous University of Mexico State; Avila-Vilchis, Juan-Carlos Autonomous University of Mexico State; Lorias-Espinoza, Daniel CINVESTAV; Minor-Martinez, Arturo CINVESTAV

SaC10: 13:30-15:00	1007 (10F)
5.7.2 Measures of Complexity of Heart Rate Variability II (Invited Session)	
Chair: Jelinek, Herbert Franz (<i>Charles Sturt Univ.</i>)	
Co-Chair: Struzik, Zbigniew R. (<i>The Univ. of Tokyo</i>)	

13:30-13:45 SaC10.1
Stress Classification by Separation of Respiratory Modulations in Heart Rate Variability Using Orthogonal Subspace Projection 6123-6126
Widjaja, Devy KU Leuven; Vlemincx, Elke KU Leuven; Van Huffel, Sabine Katholieke Universiteit Leuven

13:45-14:00 SaC10.2
Complexity of the Heart Rhythm after Heart Transplantation by Entropy of Transition Network for RR-Increments of RR Time Intervals between Heartbeats 6127-6130
Makowiec, Danuta Institute of Theoretical Physics and Astrophysics, Gdansk Unive; Struzik, Zbigniew R. The Univ. of Tokyo; Graff, Beata Medical Univ. of Gdansk; Wdowczyk-Szulc, Joanna Medical Univ. of Gdansk; Zarczynska-Buchowiecka, Marta Medical Univ. of Gdansk; Gruchala, Marcin Medical Univ. of Gdansk, I Department of Cardiology; Rynkiewicz, Andrzej Medical Univ. of Gdansk, I Department of Cardiology

14:00-14:15 SaC10.3
Instantaneous Nonlinear Assessment of Complex Cardiovascular Dynamics by Laguerre-Volterra Point Process Models 6131-6134
Valenza, Gaetano University of Pisa; Citi, Luca MGH / Harvard Medical School; Barbieri, Riccardo MGH-Harvard Medical School-MIT

14:15-14:30 SaC10.4
Multi-Scale Tone Entropy in Differentiating Physiologic and Synthetic RR Time Series 6135-6138
Karmakar, Chandan K. The University of Melbourne; Khandoker, Ahsan Habib Khalifa University of Science, Technology and Research; Palaniswami, Marimuthu The University of Melbourne

14:30-14:45 SaC10.5
Evaluating Cardiovascular Risk Using the Tone-Entropy Algorithm 6139-6141
Khandoker, Ahsan Habib Khalifa University of Science, Technology and Research; Jelinek, Herbert Franz Charles Sturt University

14:45-15:00 SaC10.6
Arrhythmic Dynamics from Singularity Analysis of Electrocardiographic Maps 6142-6145
Pont, Oriol INRIA Bordeaux Sud-Ouest; Yahia, Hussein INRIA Bordeaux Sud-Ouest; Xu, Binbin INRIA Bordeaux Sud-Ouest

SaC11: 13:30-15:00	1008 (10F)
6.11.1 Clinical Neurophysiology (Invited Session)	
Chair: Fehrmann, Elizabeth (<i>Medtronic, Inc.</i>)	
Co-Chair: Sekino, Masaki (<i>The Univ. of Tokyo</i>)	

13:30-13:45 SaC11.1
A Flexible Algorithm Framework for Closed-Loop Neuromodulation Research Systems 6146-6150
Carlson, David Medtronic; Linde, David Medtronic; Isaacson, Benjamin Medtronic Inc; Afshar, Pedram Medtronic Neuromodulation; Bourget, Duane Medtronic Inc.; Stanslaski, Scott Medtronic; Stypulkowski, Paul Medtronic; Denison, Timothy Medtronic

13:45-14:00		SaC11.2
A Method for Actively Tracking Excitability of Brain Networks Using a Fully Implantable Monitoring System	6151-6154	
<i>Freestone, Dean Robert The Univ. of Melbourne; Long, Sam Nicholas The Univ. of Melbourne; Frey, Stephen Rogue Research Inc.; Stypulkowski, Paul Medtronic; Giftakis, Jon Medtronic; Cook, Mark St. Vincent's Hospital</i>		
14:00-14:15		SaC11.3
Development of a Uni-Acupoint Transcutaneous Electric Nerve Stimulation Device for Electroacupuncture-Like Neuromodulation	6155-6158	
<i>Sun, Chenhui Tsinghua University; Hu, Chunhua Tsinghua University; Hao, Hongwei Tsinghua University; Niu, Chuansen Tsinghua University; Li, Luming Tsinghua University</i>		
14:15-14:30		SaC11.4
Fatigue Test of Helical Nervous Electrodes and Weak Point Analysis of Helical Nervous Electrodes Design	6159-6162	
<i>Yuan, Yuan Tsinghua University; Hao, Hongwei Tsinghua University; Wen, Xiongwei Tsinghua University; Mo, Xiaolong Tsinghua; Li, Luming Tsinghua University</i>		
14:30-14:45		SaC11.5
Electrical or Repetitive Transcranial Magnetic Stimulation of Primary Motor Cortex for Intractable Neuropathic Pain	6163-6166	
<i>Saitoh, Youichi Osaka University; Maruo, Tomoyuki Osaka University; Yokoe, Masaru Osaka University; Matsuzaki, Taiga Teijin Pharma Limited; Sekino, Masaki The University of Tokyo</i>		
14:45-15:00		SaC11.6
Insomnia Types and Sleep Microstructure Dynamics	6167-6170	
<i>Chouvarda, Ioanna Aristotle University, EL090049627; Grassi, Andrea Sleep Disorders Centre, Department of Neurology, University of P; Mendez, Martin Oswaldo Universidad Autonoma de San Luis Potosi; Bianchi, Anna Maria Politecnico di Milano; Parrino, Liborio Sleep Disorders Centre, Department of Neurology, University of P; Milioli, Giulia Sleep Disorders Centre, Department of Neurology, University of P; Terzano, Mario Giovanni Sleep Disorders Centre, Department of Neurology, University of P; Maglaveras, Nikolaos Aristotle University of Thessaloniki; Cerutti, Sergio Politecnico di Milano</i>		
SaC12: 13:30-15:00		1009 (10F)
6.12.1 Brain Functional Imaging I (Oral Session)		
Chair: Babiloni, Fabio (<i>Univ. of Rome</i>)		
Co-Chair: Iwaki, Sunao (<i>National Inst. of Advanced Industrial Science and Tech.</i>)		
13:30-13:45		SaC12.1
Time and Time-Frequency Analysis of Near-Infrared Signals for the Assessment of Ozone Autohemotherapy Long-Term Effects in Multiple Sclerosis	6171-6174	
<i>Lintas, Giangiacomo Politecnico di Torino - DET - Biolab; Molinari, Filippo Politecnico di Torino; Simonetti, Vincenzo KAOS Onlus Foundation and SIOOT; Franzini, Marianno SIOOT Society; Liboni, William Gradenigo Hospital</i>		
13:45-14:00		SaC12.2
Quantitative Evaluation for the Wakefulness State Using Complexity-Based Decision Threshold Value in EEG Signals	6175-6178	
<i>Alaraj, Maen Yamagata University; Fukami, Tadanori Yamagata University</i>		
14:00-14:15		SaC12.3
Neuroelectric Brain Imaging During a Real Visit of a Fine Arts Gallery: A Neuroaesthetic Study of XVII Century Dutch Painters	6179-6182	
<i>Babiloni, Fabio University of Rome; Borghini, Gianluca University of Rome Sapienza; Mattia, Donatella Fondazione Santa Lucia IRCCS; Picconi, Daniela Azienda Speciale Palaexpo; Graziani, Ilenia Dipartimento di Fisiologia e Farmacologia, BrainSigns; Patrizia, Cherubino BrainSigns srl; Trettel, Arianna BrainSigns; Infarinato, Francesco Dipartimento di Fisiologia e Farmacologia; Vecchiato, Giovanni University of Rome Sapienza; Maglione, Anton Giulio University of Rome Sapienza</i>		
14:15-14:30		SaC12.4
Induced Gamma-Band Brain Responses to Direct Eye Contact in the Frontal and Parietal Cortices	6183-6186	
<i>Iwaki, Sunao National Institute of Advanced Industrial Science and Technology</i>		

14:30-14:45 SaC12.5
Amplitude Modulation of Alpha-Band Rhythm Caused by Mimic Collision: MEG Study 6187-6190
Yokosawa, Koichi Hokkaido Univ.; Watanabe, Tatsuya Hokkaido Univ.; Kikuzawa, Daichi Hokkaido Univ.; Aoyama, Gakuto Hokkaido Univ.; Takahashi, Makoto Hokkaido Univ.; Kuriki, Shinya Tokyo Denki Univ.

14:45-15:00 SaC12.6
Subspace Electrode Selection Methodology for EEG Multiple Source Localization Error Reduction Due to Uncertain Conductivity Values 6191-6194
Crevecoeur, Guillaume Ghent University; Yitembe, Bertrand Department Mathematical Analysis, Ghent University; Dupré, Luc Ghent University, Dept. Electrical Energy, Systems and Automatio; Van Keer, Roger Department Mathematical Analysis, Ghent University

SaC13: 13:30-15:00 6.6.3 Neuromuscular Systems (Oral Session) Chair: Mirbagheri, Mehdi (<i>Northwestern Univ.</i>) Co-Chair: Hewson, David J (<i>Univ. de Tech. de Troyes</i>)	1010 (10F)
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13:30-13:45 SaC13.1
Adapting Proportional Myoelectric-Controlled Interfaces for Prosthetic Hands 6195-6198
Pistohl, Tobias Newcastle University; Cipriani, Christian Scuola Superiore Sant'Anna; Jackson, Andrew Newcastle University; Nazarpour, Kianoush Newcastle University

13:45-14:00 SaC13.2
Preliminary Study on Proportional and Simultaneous Estimation of Hand Posture Using Surface EMG Based on Synergy Concept 6199-6202
Li, Shunchong Shanghai Jiao Tong University; Chen, Xingyu Shanghai Jiao Tong University; Sheng, Xinjun Shanghai Jiao Tong University; Zhu, XiangYang Shanghai Jiao Tong University

14:00-14:15 SaC13.3
Therapeutic Effects of Anti-Spastic Medication on Neuromuscular Abnormalities in SCI: A System Identification Approach 6203-6206
Mirbagheri, Mehdi Northwestern University/RIC; Kindig, Matthew Rehabilitation Institute of Chicago; Niu, Xun Northwestern University; Varoqui, Deborah Rehabilitation Institute of Chicago; Northwestern University

14:15-14:30 SaC13.4
Boundary Integral Formulation for the Electrical Response of a Nerve to an Extracellular Stimulation ... 6207-6210
Henríquez Barraza, Fernando Pontificia Universidad Católica de Chile; Jerez-Hanckes, Carlos School of Engineering, Pontificia Universidad Católica de Chile; Altermatt, Fernando División de Anestesiología Escuela de Medicina Pontificia Univer

14:30-14:45 SaC13.5
Development of a Linear Induction Motor Based Artificial Muscle System 6211-6214
Silva, Ricardo Programa Prometeo; Arguello, Erick Laboratorio C Universidad Simon Bolivar

14:45-15:00 SaC13.6
Development of a Monitoring System for Physical Frailty in Independent Elderly 6215-6218
Hewson, David J Univ. de technologie de Troyes; Jaber, Rana UTT; Chkeir, Aly Univ. of Technology of Troyes; Hammoud, Ali UTT; Gupta, Dhruv UTT; Bassement, Jennifer UTT; Vermeulen, Joan Maastricht Univ.; Yadav, Sandeep Indian Institute of Technology Jodhpur; de Witte, Luc Maastricht Univ.; Duchêne, Jacques UTT

SaC14: 13:30-15:00 7.10.1 Tissue Engineering (Oral Session) Chair: Inoue, Yusuke (<i>The Univ. of Tokyo</i>)	804 (8F)
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13:30-13:45 SaC14.1
Portable Bioreactor for Perfusion and Electrical Stimulation of Engineered Cardiac Tissue 6219-6223
Tandon, Nina Columbia University; Taubman, Alanna Columbia University, Department of Biomedical Engineering; Cimetta, Elisa Columbia University, Department of Biomedical Engineering; Saccenti, Laetitia Centre Universitaire de Saints-Pères; Vunjak-Novakovic, Gordana Columbia University

13:45-14:00		SaC14.2
A Dynamic Perfusion Bioreactor Approach for Engineering Respiratory Tissues In-Vitro	6224-6227	
<i>Poon, Christine Univ. of Sydney; Boughton, Philip The Univ. of Sydney; Ruys, Andrew John Univ. of Sydney</i>		
14:00-14:15		SaC14.3
Effect of DMSO Concentration, Cell Density and Needle Gauge on the Viability of Cryopreserved Cells in Three Dimensional Hyaluronan Hydrogel	6228-6231	
<i>Chen, Xia University of Wisconsin-Madison; Thibeault, Susan University of Wisconsin-Madison</i>		
14:15-14:30		SaC14.4
Analysis of the Contraction of Fibroblast-Collagen Gels and the Traction Force of Individual Cells by a Novel Elementary Structural Model	6232-6235	
<i>Feng, Zhonggang Yamagata University; wagatsuma, yusuke yamagata university; kobayashi, shuhei yamagata university; Kosawada, Tadashi Yamagata University; Sato, Daisuke Yamagata University; Nakamura, Takao Yamagata University; Kitajima, Tatsuo Malaysia-Japan International Institute of Technology (MJIT); Umezu, Mitsuo Waseda University Graduate School</i>		
14:30-14:45		SaC14.5
Development of a Patient Specific Artificial Tracheal Prosthesis: Design, Mechanical Behavior Analysis and Manufacturing	6236-6239	
<i>Chua, Matthew National University of Singapore; Chui, Chee Kong National University of Singapore</i>		
14:45-15:00		SaC14.6
A Case of Successful Interaction between Cells Derived from Human Ovarian Follicular Liquid and Gelatin Cryogel for Biotech and Medical Applications	6240-6243	
<i>Omes, Claudia Fondazione IRCCS Policlinico San Matteo; Fassina, Lorenzo University of Pavia; Van Vlierberghe, Sandra University of Ghent, Belgium; Magenes, Giovanni University of Pavia; Dubruel, Peter Polymer Chemistry and Biomaterials Research Group, University of; Vaghi, Patrizia University of Pavia; Reguzzoni, Marcella University of Insubria; Riva, Federica University of Pavia</i>		
SaC15: 13:30-15:00		1102 (11F)
8.5.2 Surgical Robotics I (Oral Session)		
Chair: Fujie, Masakatsu G. (Waseda Univ.)		
13:30-13:45		SaC15.1
3-D Robotic Tele-Surgery and Training Over Next Generation Wireless Networks	6244-6247	
<i>Martini, Maria University of Bologna; Eeriwarawe Ranasinghe Hewage, Chaminda Thushara Kingston University-London; Nasralla, Moustafa M. Kingston University-London; Smith, Ralph Minimal Access Therapy Training Unit (MATTU), UK.; Jourdan, Iain Minimal Access Therapy Training Unit (MATTU), UK.; Rockall, Timothy Minimal Access Therapy Training Unit (MATTU), UK.</i>		
13:45-14:00		SaC15.2
An Arc-Length Warping Algorithm for Gesture Recognition Using Quaternion Representation	6248-6251	
<i>Cifuentes Quintero, Jenny Alexandra Institut National des Sciences Appliquées de Lyon; Pham, Minh Tu Institut National des Sciences Appliquées (INSA de Lyon); Moreau, Richard INSA-Lyon; Prieto, Flavio Universidad Nacional de Colombia; Boulanger, Pierre University of Alberta</i>		
14:00-14:15		SaC15.3
Assistance to Bone Milling: A Tool Mounted Visual Display Improves the Efficiency of Robotic Guidance	6252-6256	
<i>Françoise, Vincent Univ. Pierre et Marie Curie - Paris 6, ISIR; SAHBANI, ANIS Pierre and Marie Curie University, Intelligent Systems and Robot; Roby-Brami, Agnes University Pierre et Marie Curie; Morel, Guillaume Université Pierre et Marie Curie - Paris 6</i>		
14:15-14:30		SaC15.4
The Effect of a Robot-Assisted Surgical System on the Kinematics of User Movements	6257-6260	
<i>Nisky, Ilana Stanford University; Hsieh, Michael Stanford University; Okamura, Allison Stanford University</i>		

14:30-14:45 SaC15.5
Development of a 6-DOF Manipulator Driven by Flexible Shaft for Minimally Invasive Surgical Application 6261-6264
Liu, Quanquan Waseda University; Kobayashi, Yo Waseda University; Noguchi, Takehiko Waseda University; Elgezua Fernandez, Inko Waseda University; Sekiguchi, Yuta Waseda University; Zhang, Bo Waseda University; Ye, Jing Waseda University; Toyoda, Kazutaka Waseda University; Hashizume, Makoto Kyushu University; Fujie, Masakatsu G. Waseda University

14:45-15:00 SaC15.6
A modular magnetic platform for Natural Orifice Transluminal Endoscopic Surgery 6265-6268
Tortora, Giuseppe Scuola Superiore Sant'Anna; Salerno, Marco Scuola Superiore Sant'Anna; Ranzani, Tommaso The Biorobotics Institute, Scuola Superiore Sant'Anna; Tognarelli, Selene Scuola Superiore Sant'Anna; Dario, Paolo Scuola Superiore Sant'Anna; Menciassi, Arianna Scuola Superiore Sant'Anna

SaC16: 13:30-15:00 Small Hall (5F)
9.5.4 HIFU (Oral Session)
Chair: Masuda, Kohji (*Tokyo Univ. A&T*)
Co-Chair: Hou, Gary (*Columbia Univ.*)

13:30-13:45 SaC16.1
A Viscoelastic Property Study in Canine Liver before and after HIFU Ablation in Vitro 6269-6272
Shahmirzadi, Danial Columbia University; Chen, Jianguang Columbia University; Hou, Gary Columbia University; Konofagou, Elisa Columbia University

13:45-14:00 SaC16.2
Localized Elasticity Measurement for Detection of Coagulation During HIFU Therapy 6273-6276
Aoyagi, Ryosuke The Univ. of Tokyo; Azuma, Takashi The Univ. of Tokyo; Fujiwara, Keisuke Hitachi Aloka Medical, Ltd.; Itani, Kazunori Hitachi Aloka Medical; Yoshinaka, Kiyoshi AIST; Sasaki, Akira The Univ. of Tokyo Faculty of Engineering; Takagi, Shu The Univ. of Tokyo; Matsumoto, Yoichiro The Univ. of Tokyo

14:00-14:15 SaC16.3
Active Control of Microbubbles Stream in Multi-Bifurcated Flow by Using 2D Phased Array Ultrasound Transducer 6277-6280
Koda, Ren Tokyo Univ. of Agriculture and Technology; Koido, Jun Tokyo Univ. of Agriculture and Technology; Hosaka, Naoto Tokyo Univ. of Agriculture and Technology; Ito, Takumi Tokyo Univ. of Agriculture and Technology; Onogi, Shinya Tokyo University of Agriculture and Technology; Mochizuki, Takashi Tokyo University of Agriculture and Technology; Masuda, Kohji Tokyo Univ. A&T; Ikeda, Seiichi Nagoya University; Arai, Fumihito Nagoya University

14:15-14:30 SaC16.4
Optimization of Real-Time Acoustical and Mechanical Monitoring of High Intensity Focused Ultrasound (HIFU) Treatment Using Harmonic Motion Imaging for High Focused Ultrasound 6281-6284
Hou, Gary Columbia Univ.; Marquet, Fabrice Columbia Univ., Department of Biomedical Engineering; Wang, Shutao Columbia Univ., Department of Biomedical Engineering; Konofagou, Elisa Columbia Univ.

14:30-14:45 SaC16.5
Production of Acoustic Field with Multiple Focal Points to Control High Amount of Microbubbles in Flow Using a 2D Array Transducer 6285-6288
Masuda, Kohji Tokyo Univ. A&T; Hosaka, Naoto Tokyo Univ. of Agriculture and Technology; Koda, Ren Tokyo Univ. of Agriculture and Technology; Onogi, Shinya Tokyo University of Agriculture and Technology; Mochizuki, Takashi Tokyo University of Agriculture and Technology

14:45-15:00 SaC16.6
Chemotherapy of Glioblastoma by Targeted Liposomal Platinum Compounds with Focused Ultrasound ... 6289-6292
Yang, Feng-Yi National Yang-Ming University; Hornig, Shih-Cheng ChaoYang University of Technology

6.11.3 Neurological Disorders and Clinical Neurophysiology (Poster Session)

- 15:00-16:30 SaD01.1
EEG-based Upper-Alpha Neurofeedback for Cognitive Enhancement in Major Depressive Disorder: A preliminary, uncontrolled study 6293-6296
Escolano, Carlos Univ. of Zaragoza; Navarro Gil, Mayte Bit&Brain Technologies SL; Javier García Campayo, Javier Department of Psychiatry and Miguel Servet Univ. Hospital,; Minguez, Javier Zaragoza Univ.
- 15:00-16:30 SaD01.2
Circadian Variation of Scalp EEG: A Novel Measure Based on Wavelet Packet Transform and Differential Entropy 6297-6300
Shahidi Zandi, Ali McGill University; Boudreau, Philippe McGill University; Boivin, Diane McGill University; Dumont, Guy University of British Columbia
- 15:00-16:30 SaD01.3
Hot Spot Hound: A Novel Robot-Assisted Platform for Enhancing TMS Performance 6301-6304
Pennimpe, Giuseppe Università Campus Bio-Medico di Roma; Spedaliere, Luca Campus Biomedico di Roma; Formica, Domenico Campus Bio-Medico Univ.; Di Pino, Giovanni campus Biomedico Univ.; Zollo, Loredana Università Campus Bio-Medico; Pellegrino, Giovanni Università Campus Bio-Medico di Roma; Di Lazzaro, Vincenzo Università Campus Bio-Medico di Roma; Guglielmelli, Eugenio Campus Bio-Medico Univ.
- 15:00-16:30 SaD01.4
Seizure Prediction with Bipolar Spectral Power Features Using Adaboost and SVM Classifiers 6305-6308
Bandarabadi, Mojtaba CISUC, University of Coimbra; Dourado, António FCTUC, University of Coimbra, VAT PT 501 617582; Teixeira, César University of Coimbra; Netoff, Tay University of Minnesota; Parhi, Keshab University of Minnesota
- 15:00-16:30 SaD01.5
A Boosted Cascade for Efficient Epileptic Seizure Detection 6309-6312
Ge, Tingting Zhejiang University; Qi, Yu Zhejiang University,QAAS; Wang, Yueming Zhejiang University; Chen, Weidong zhejiang university; Zheng, Xiaoxiang Zhejiang University
- 15:00-16:30 SaD01.6
Quantitative EEG Analysis in Minimally Conscious State Patients During Postural Changes 6313-6316
Greco, Alberto University of Pisa; Carboncini, Maria Chiara Unit of Neurorehabilitation, Department of Neuroscience, Univerisi; Virgillito, Alessandra Unit of Neurorehabilitation, Department of Neuroscience, Univerisi; Lanata', Antonio University of Pisa; Valenza, Gaetano University of Pisa; Scilingo, Enzo Pasquale University of Pisa
- 15:00-16:30 SaD01.7
Effect of Hypothermia on Cortical and Thalamic Signals in Anesthetized Rats 6317-6320
Chen, Cheng Johns Hopkins University, Biomedical Engg.; Maybhate, Anil Johns Hopkins University; Thakor, Nitish Johns Hopkins University; Jia, Xiaofeng Johns Hopkins University School of Medicine
- 15:00-16:30 SaD01.8
A Simple and Effective Semi-Invasive Method for Inducing Local Hypothermia in Rat Spinal Cord 6321-6324
Bazley, Faith A. National University of Singapore; Pashai, Nikta Johns Hopkins University; Kerr, Candace University of Maryland; Thakor, Nitish Johns Hopkins University; All, Angelo Johns Hopkins University,
- 15:00-16:30 SaD01.9
Source Activation During Facial Emotion Perception Correlates with Positive and Negative Symptoms Scores of Schizophrenia 6325-6328
Kim, Do-Won Hanyang University; Lee, Seung Hwan Inje University Ilsanpaik Hospital; Im, Chang-Hwan Hanyang University
- 15:00-16:30 SaD01.10
Characteristics of Sympathetic Nerve Activity in the Rat Sciatic Nerve in Response to Microstimulation in a Sympathetic Fascicle in the Contralateral Side 6329-6332
Sato, Daisuke Yamagata University; Shiwaku, Yutaka Yamagata University; Nakamura, Ryoichi Yamagata University; Koizumi, Shuntaro Yamagata University; Feng, Zhonggang Yamagata University; Kusunoki, Masataka Aichi Medical University; Nakamura, Takao Yamagata University

15:00-16:30 SaD01.11
Absence Seizure Epilepsy Detection using linear and nonlinear EEG analysis methods 6333-6336
Sakkalis, Vangelis ICS-FORTH; Giannakakis, Giorgos Institute of Computer Science (ICS), Computational Medicine Labo; Farmaki, Christina Institute of Computer Science (ICS), FORTH; Mousas, Abdou ICS-FORTH; Pediaditis, Matthew ICS-FORTH; Vorgia, Pelagia University of Crete, Faculty of Medicine; Tsiknakis, Manolis ICS-FORTH

15:00-16:30 SaD01.12
Using Decision Trees to Measure Activities in People with Stroke 6337-6340
Zhang, Ting The University of Alabama; Fulk, George Clarkson University; Tang, Wenlong The University of Alabama; Sazonov, Edward University of Alabama

SaD14: 15:00-16:30	Event Hall-Area D (3F)
6.12.2 Brain Functional Imaging II (Poster Session)	

15:00-16:30 SaD14.1
Classification of Stand-To-Sit and Sit-To-Stand Movement from Low Frequency EEG with Locality Preserving Dimensionality Reduction 6341-6344
Bulea, Thomas C. National Institutes of Health; Prasad, Saurabh Mississippi State University; Kilicarslan, Atilla University of Houston, Department of Electrical and Computer Eng; Contreras-Vidal, José University of Houston

15:00-16:30 SaD14.2
Cortical Activation Pattern for Grasping During Observation, Imagery, Execution, FES, and Observation-FES Integrated BCI: An Fnirs Pilot Study 6345-6348
An, Jinung DGIST; Jin, SangHyeon DGIST; Lee, Seung Hyun DGIST; Jang, GwangHee DGIST; Abibullaev, Berdakh DGIST; Lee, Hyun Ju DGIST; Moon, Jeon-II DGIST

15:00-16:30 SaD14.3
An Fmri-Compatible Multi-Configurable Handheld Response System Using an Intensity-Modulated Fiber-Optic Sensor 6349-6352
Jarrah, Behnaz ETH Zurich; Wanek, Johann University of Zurich, Balgrist University Hospital; Mehnert, Ulrich University of Zurich, Balgrist University Hospital; Kollias, Spyros University Hospital Zurich

15:00-16:30 SaD14.4
Passive Ankle Dorsiflexion by an Automated Device and the Reactivity of the Motor Cortical Network .. 6353-6356
Pittaccio, Simone National Research Council of Italy; Zappasodi, Filippo Dept. of Neuroscience and Imaging and Institute for Advanced Bio; Tamburro, Gabriella Dept. of Neuroscience and Imaging and Institute for Advanced Bio; Viscuso, Stefano Institute for Energetics and Interphases, National Research Coun; Marzetti, Laura Dept. of Neuroscience and Imaging and Institute for Advanced Bio; Garavaglia, Lorenzo Institute for Energetics and Interphases, National Research Coun; Tecchio, Franca Institute of Cognitive Sciences and Technologies, National Resea; Pizzella, Vittorio University of Chieti-Pescara

15:00-16:30 SaD14.5
Multi-Dipole EEG Source Localization Using Particle Swarm Optimization 6357-6360
Shirvany, Yazdan Chalmers University of Technology; Edelvik, Fredrik Fraunhofer-Chalmers Research Center, Chalmers University; Persson, Mikael Chalmers University of Technology

15:00-16:30 SaD14.6
Modular, Bluetooth Enabled, Wireless Electroencephalograph (EEG) Platform 6361-6364
Lovelace, Joseph A Univ. of Cincinnati; Witt, Tyler Univ. of Cincinnati; Beyette, Fred R Univ. of Cincinnati

15:00-16:30 SaD14.7
Cortiq – Clinical Software for Electroencephalographic Real-Time Functional Mapping of the Eloquent Cortex 6365-6368
Prueckl, Robert g.tec medical engineering GmbH; Kapeller, Christoph g.tec medical engineering GmbH; Potes, Crithian Wadsworth Center, New York State Department of Health, Albany, N; Korostenskaja, Milena Florida Hospital for Children, Comprehensive Pediatric Epilepsy; Schalk, Gerwin Wadsworth Center, New York State Department of Health; Lee, Ki H. Florida Hospital for Children, Orlando, FL; Guger, Christoph g.tec medical engineering GmbH

15:00-16:30 SaD14.8
Predicting rTMS Effect for Deciding Stimulation Parameters 6369-6372
Nojima, Kazuhisa Kyushu University; Katayama, Yoshinori Kyushu University;
Iramina, Keiji Kyushu University, Japan

SaD15: 15:00-16:30	Event Hall-Area D (3F)
6.13.3 Human Performance II (Poster Session)	

15:00-16:30 SaD15.1
Inhibitory Interference to Abandonment of Voluntary Finger Movement by Single-pulse Transcranial Magnetic Stimulation 6373-6376
Tokiwa, Tatsuji Hiroshima City University; Ishimaru, Naoyuki Graduate School of Information sciences, Hiroshima City Univ.;
Fukuda, Hiroshi Hiroshima City University; Hiwaki, Osamu Hiroshima City University

15:00-16:30 SaD15.2
Thermophysiological Responses Induced by a Body Heat Removal System with Peltier Devices in a Hot Environment 6377-6380
Suzurikawa, Jun Research Institute of National Rehabilitation Center for Persons; Fujimoto, Sho Nihon University; Mikami, Kousei Nihon University; JOnai, Hiroshi Nihon University; Inoue, Takenobu Research Institute of National Rehabilitation Center for Persons

15:00-16:30 SaD15.3
Changes in Behavior of Evoked Potentials in the Brain As a Possible Indicator of Fatigue in People 6381-6384
Kadambi, Pooja University of Cincinnati; Lovelace, Joseph A University of Cincinnati;
Beyette, Fred R University of Cincinnati

15:00-16:30 SaD15.4
Seated Balance During Pitch Motion with and without Visual Input 6385-6388
Shafeie, Mohsen University of Toronto; Zolfaghari, Nika Ryerson University; Valter McConville, Kristiina M. Ryerson University

15:00-16:30 SaD15.5
Body Movement Analysis During Sleep for Children with ADHD Using Video Image Processing 6389-6392
Nakatani, Masahiro Graduate school of Ritsumeikan Univ.; Okada, Shima Faculty of Science and Engineering, Kinki Univ.;
Makikawa, Masaaki Ritsumeikan Univ.; Taniike, Masako Osaka Univ.; Mohri, Ikuko Osaka Univ.;
Ohno, Yuko Osaka Univ. Graduate School of Medicine; Shimizu, Sachiko Osaka Univ.

15:00-16:30 SaD15.6
Development of a Network System Combined with Ambulatory and Non-Conscious Physiological Measurements for Supporting Challenged Kids -A New Proposal of a Gait Monitoring System for Use in Rehabilitation- 6393-6396
Motoi, Kosuke Hirosaki University; Oyama, Takano Graduate School of Science and Technology, Hirosaki University; Tanaka, Naoto Kanazawa University; Yuji, Tadahiko Fujimoto Hayasuzu Hospital; Higashi, Yuji Fujimoto General Hospital; Sagawa, Koichi Hirosaki University; Fujimoto, Toshiro Fujimoto Hayasuzu Hospital; Yamakoshi, Ken-ichi Kanazawa University

15:00-16:30 SaD15.7
Measurement of Attention During Movement: Acquisition of Ambulatory EEG and Cognitive Performance from Healthy Young Adults 6397-6400
Killane, Isabelle Trinity College Dublin; Browett, Glen Trinity College Dublin;
Reilly, Richard Trinity College Dublin

15:00-16:30 SaD15.8
Automatic Detection of the Wake and Stage 1 Sleep Stages Using the EEG Sub-Epoch Approach 6401-6404
Malaekah, Emad RMIT Univ., School of Electrical and Computer Engineering; Cvetkovic, Dean RMIT Univ.

15:00-16:30 SaD15.9
Do 3D Movies Produce More Symptoms of Visually Induced Motion Sickness? 6405-6408
Naqvi, Syed Ali Arsalan University Teknologi Petronas; Badruddin, Nasreen University Teknologi PETRONAS;
Malik, Aamir Saeed University Teknologi PETRONAS; Hazabbah, Wan University Sains Malaysia; Abdullah, Baharudin Department of Otolaryngology, School of Medical Sciences, Univers

15:00-16:30		SaD15.10
Main Disease Classification of Intermittent Claudication Via L1-Regularized SVM		6409-6412
<i>Watanabe, Tetsuyou Kanazawa University; Yoneyama, Takeshi Kanazawa University; Toribatake, Yasumitsu Koseiren takaoka Hospital; Hayashi, Hiroyuki Koseiren takaoka Hospital</i>		
15:00-16:30		SaD15.11
Electrotactile Vision Substitution for 3D Trajectory Following		6413-6416
<i>Chekhchoukh, Abdessalem AGIM Laboratory, University Joseph Fourier, CNRSFRE3405, Faculty; Goumidi, Malik TIMC-IMAG UMR5525, Grenoble; Vuillerme, Nicolas FRE 3405, AGIM (AGeing Imaging Modeling), CNRS-UJF-EPHE, Grenoble; Payan, Yohan Laboratoire TIMC-IMAG; Glade, Nicolas AGIM Laboratory, AGeing, Imaging and Modeling, CNRS FRE3405</i>		
15:00-16:30		SaD15.12
Development of Body Weight Support Gait Training System Using Pneumatic McKibben Actuators ~ Control of Lower Extremity Orthosis~		6417-6420
<i>Mat Dzahir, Mohd Azuwan Shibaura Institute of Technology; Nobutomo, Tatsuya Shibaura Institute of Technology; Yamamoto, Shin-ichiroh Shibaura Institute of Technology</i>		
15:00-16:30		SaD15.13
Predicting Functional Independence Measure in Hip Fracture Patients		6421-6424
<i>Jeremic, Aleksandar McMaster University; Radosavljevic, Natasa Institute for Rehabilitation; Nikolic, Dejan University Children's Hospital; Lazovic, Milica Faculty of Medicine</i>		
SaE04: 16:30-18:00		1001 (10F)
2.5.3 Electrical Impedance Imaging (Oral Session)		
Chair: Woo, Eung Je (<i>Kyung Hee Univ.</i>)		
Co-Chair: Ma, Weijing (<i>Univ. of Toronto</i>)		
16:30-16:45		SaE04.1
Electrical Impedance Tomography Reconstruction through Simulated Annealing with Multi-Stage Partially Evaluated Objective Functions		6425-6428
<i>Martins, Thiago de Castro Escola Politecnica da Universidade de Sao Paulo; TSuzuki, Marcos de Sales Guerra Escola Politecnica da Universidade de Sao Paulo</i>		
16:45-17:00		SaE04.2
FEM Electrode Refinement for Electrical Impedance Tomography		6429-6432
<i>Grychtol, Bartłomiej German Cancer Research Center; Adler, Andy Carleton University</i>		
17:00-17:15		SaE04.3
Evaluation of Anomaly Detection Algorithm Using Trans-Admittance Mammography with 60×60 Electrode Array		6433-6436
<i>Zhao, Mingkang Kyung Hee University; Wi, Hun KyungHee University; Oh, Tong In Kyunghee University; Woo, Eung Je Kyung Hee University</i>		
17:15-17:30		SaE04.4
Experimental Implementation of a New Method of Imaging Anisotropic Electric Conductivities		6437-6440
<i>Ma, Weijing University of Toronto; DeMonte, Tim P. Field Metrica Inc.; Nachman, Adrian University of Toronto; Elsaid, Nahla University of Toronto; Joy, Michael L.G. University of Toronto</i>		
17:30-17:45		SaE04.5
Bladder Volume Estimation from Electrical Impedance Tomography		6441-6444
<i>Schlebusch, Thomas RWTH Aachen; Nienke, Steffen RWTH Aachen University; Aguiar Santos, Susana RWTH Aachen University; Leonhardt, Steffen RWTH Aachen University</i>		
17:45-18:00		SaE04.6
Simulation of a Current Source with a Cole-Cole Load for Multi-Frequency Electrical Impedance Tomography		6445-6448
<i>Aguiar Santos, Susana RWTH Aachen University; Schlebusch, Thomas RWTH Aachen; Leonhardt, Steffen RWTH Aachen University</i>		

SaE05: 16:30-18:00 1002 (10F)
2.7.7 Image Processing I (Oral Session)
Chair: Adibi, Sasan (*Royal Melbourne Inst. of Tech. (RMIT)*)

16:30-16:45 SaE05.1
Cortical Surface Reconstruction Based on MEG Data and Spherical Harmonics 6449-6452
Lopez, Jose David Universidad de Antioquia; Troebinger, Luzia Wellcome Trust Centre for Neuroimaging, University College Londo; Penny, William D. Wellcome Trust Centre for Neuroimaging, University College Londo; Espinosa, Jairo Jose Universidad Nacional de Colombia; Barnes, Gareth Aston University

16:45-17:00 SaE05.2
Mobile Health (mHealth) Biomedical Imaging Paradigm 6453-6457
Adibi, Sasan Royal Melbourne Institute of Technology (RMIT)

17:00-17:15 SaE05.3
Potential of Hybridization Methods to Reducing the Dimensionality for Multispectral Biological Images ... 6458-6461
Younes, Rafic Lebanese University; Khoder, Jihan Versailles University

17:15-17:30 SaE05.4
Compression of the CT Images Using Classified Energy and Pattern Blocks 6462-6465
Gokbay, Inci Zaim Bahcesehir University; Gezer, Murat Istanbul University; Guz, Umit ISIK University; Gurkan, Hakan ISIK University; Yarman, B. Siddik Istanbul University

17:30-17:45 SaE05.5
Fusion of Multinuclear Magnetic Resonance Images of Knee for the Assessment of Articular Cartilage . 6466-6469
Ahmad Fadzil, Mohamad Hani University Teknologi Petronas; Kumar, Dileep Centre for Intelligent Signal and Imaging Research, University T; Malik, Aamir Saeed University Teknologi PETRONAS; Razak, Ruslan Department of Orthopaedic, Hospital Pantai Ipoh; Kiflie, Azman Radiology Department, Hospital Pantai Ipoh

17:45-18:00 SaE05.6
Visualization of Pulsatile CSF Motion Separated by Membrane-Like Structure Based on Four-Dimensional Phase-Contrast (4D-PC) Velocity Mapping 6470-6473
Yatsushiro, Satoshi School of Information Science and Technology, Tokai University; Hirayama, Akihiro Department of Neurosurgery, School of Medicine, Tokai University; Matsumae, Mitsunori School of Medicine, Tokai University; Kuroda, Kagayaki School of Information Science and Technology, Tokai University

SaE06: 16:30-18:00 1003 (10F)
2.8.4 Image Feature Extraction II (Oral Session)
Chair: Imura, Masataka (*Osaka Univ.*)
Co-Chair: Liao, Hongen (*The Univ. of Tokyo*)

16:30-16:45 SaE06.1
Development of 3-D Ultrasound System for Assessment of Adolescent Idiopathic Scoliosis (AIS): And System Validation 6474-6477
Cheung, Chung Wai James The Hong Kong Polytechnic University; Law, Siu Yin The Hong Kong Polytechnic University; Zheng, Yong-Ping The Hong Kong Polytechnic University

16:45-17:00 SaE06.2
Predicting a Multi-Parametric Probability Map of Active Tumor Extent Using Random Forests 6478-6481
Prior, Fred Washington University School of Medicine; Fouke, Sarah Swedish Medical Center; Benzinger, Tammie Mallinckrodt Institute of Radiology, Washington University Schoo; Boyd, Alicia Mallinckrodt Institute of Radiology, Washington University Schoo; Chicoine, Michael Department of Neurosurgery, Washington University School of Medi; Cholleti, Sharath Center for Comprehensive Informatics, Emory University; Kelsey, Matthew Washington University School of Medicine; Keogh, Bart Department of Radiology, Swedish Medical Center; Kim, Lauren Department of Radiology, Massachusetts General Hospital; Milchenko, Mikhail Mallinckrodt Institute of Radiology, Washington University Schoo; Politte, David Washington University School of Medicine; Tyree, Stephen Department of Computer Science & Engineering, Washington Univers; Weinberger, Kilian Department of Computer Science & Engineering, Washington Univers; Marcus, Daniel Mallinckrodt Institute of Radiology, Washington University Schoo

17:00-17:15 SaE06.3
Improved Detection of Landmarks on 3D Human Face Data 6482-6485
Liang, Shu Tsinghua University; Wu, Jia University of Washington; Weinberg, Seth Department of Oral Biology, University of Pittsburgh; Shapiro, Linda G. University of Washington

17:15-17:30 SaE06.4
Automatic Distance Measurement of Abdominal Aorta for Ultrasonography-Based Visceral Fat Estimation 6486-6489
Wang, Junchen The Univ. of Tokyo; Zhou, You The Univ. of Tokyo; Koizumi, Koizumi The Univ. of Tokyo; Kubota, Naoto Univ. of Tokyo; Asano, Takeharu The Univ. of Tokyo; Yuhashi, Kazuhito The Univ. of Tokyo; Mitake, Tsuyoshi Hitachi Aloka Medical, Ltd.; Itani, Kazunori Hitachi Aloka Medical; Takahashi, Toshiaki Hiraka General Hospital; Takeishi, Shigemi Hiraka General Hospital; Sasaki, Shiro Hiraka General Hospital; Kadowaki, Takashi The Univ. of Tokyo; Sakuma, Ichiro The Univ. of Tokyo; Liao, Hongen The Univ. of Tokyo

17:30-17:45 SaE06.5
Measures of Radial Correlation and Trend for Classification of Breast Masses in Mammograms 6490-6493
Casti, Paola University of Rome Tor Vergata; Mencattini, Arianna University of Rome Tor Vergata; Salmeri, Marcello University of Rome Tor Vergata; Ancona, Antonietta "San Paolo" Hospital of Bari; Mangieri, Fabio "San Paolo" Hospital of Bari; Rangayyan, Raj University of Calgary

17:45-18:00 SaE06.6
Automatic Cropping Method of Chest Radiographs Based on Adaptive Binarization 6494-6497
Imura, Masataka Osaka University; Tabata, Yoshito Kyoto College of Medical Science; Ishigaki, Rikuta Kyoto College of Medical Science; Kuroda, Yoshihiro Osaka University; Uranishi, Yuki Osaka University; Oshiro, Osamu Osaka University

SaE07: 16:30-18:00 1004 (10F)
3.7.5 Smart Textiles (Oral Session)
Chair: Paradiso, Rita (*Smartex srl*)
Co-Chair: Seeberg, Trine Margrethe (*SINTEF ICT*)

16:30-16:45 SaE07.1
Protective Jacket Enabling Decision Support for Workers in Cold Climate 6498-6501
Seeberg, Trine Margrethe SINTEF ICT; Vardøy, Astrid-Sofie Borge SINTEF ICT; Austad, Hanne Opsahl SINTEF ICT; Wiggen, Øystein SINTEF Technology and society; Stenersen, Henning Norwegian University of Science and Technology; Liverud, Anders Erik SINTEF; Storholmen, Tore Christian Bjorsvik SINTEF; Færevik, Hilde SINTEF Technology and Society

16:45-17:00 SaE07.2
Performances Evaluation of Piezoresistive Fabric Sensors As Function of Yarn Structure 6502-6505
Paradiso, Rita Smartex srl; Pacelli, Maria Smartex s.r.l.; Caldani, Laura Smartex srl

17:00-17:15 SaE07.3
Fabric-Based Pressure Sensor Array for Decubitus Ulcer Monitoring 6506-6509
Chung, Philip University of California, San Francisco; Rowe, Allison University of California, San Francisco; Etemadi, Mozziyar University of California, San Francisco; Lee, Hanmin University of California, San Francisco; Roy, Shuvo University of California at San Francisco

17:15-17:30 SaE07.4
Performances Evaluation of Textile Electrodes for EMG Remote Measurements 6510-6513
Sumner, Bonnie Smartex; Mancuso, Carlo Smartex s.r.l.; Paradiso, Rita Smartex srl

SaE08: 16:30-18:00 1005 (10F)

2.8.6 Medical Image Analysis I (Oral Session)

Chair: Kimura, Yuichi (*Faculty of Biology-Oriented Science and Tech. Kinki Univ.*)

Co-Chair: Razlighi, Qolamreza (*Department of Neurology, Columbia Univ.*)

16:30-16:45 SaE08.1

Multilevel Analysis of Calcium Dynamics in Stimulated Cultures of Cardiomyocytes 6514-6517

Vallmitjana, Alex Automatic Control Department, Universitat Politecnica de Catalun; Barriga, Montserrat Catalan Institute of Cardiovascular Sciences; Hove-Madsen, Leif Cardiovascular Research Center from the Spanish National Researc; Benitez, Raul Universitat Politecnica de Catalunya

16:45-17:00 SaE08.2

On Identification of Sinoatrial Node in Zebrafish Heart Based on Functional Time Series from Optical Mapping 6518-6521

Ding, Weiguang Simon Fraser University; Lin, Eric Simon Fraser University; Ribeiro, Amanda Simon Fraser University; Sarunic, Marinko Simon Fraser University; Tibbits, Glen F. Simon Fraser University; Beg, Mirza Faisal Simon Fraser University

17:00-17:15 SaE08.3

Resting State Inter and Intra Hemispheric Human Brain Functional Connectivity 6522-6525

Razlighi, Qolamreza Department of Neurology, Columbia University,; Steffener, Jason Columbia University; Habeck, Christian Columbia University; Laine, Andrew Columbia University; Stern, Yaakov Columbia University

17:15-17:30 SaE08.4

Graph Theoretical Connectivity Analysis of the Human Brain While Listening to Music with Emotional Attachment: Feasibility Study 6526-6529

Karmonik, Christof The Methodist Hospital Neurological Inst; Brandt, Anthony Shepard School of Music, Rice University; Fung, Steve The Methodist Hospital; Grossman, Robert The Methodist Hospital; Frazier, Todd Center for Performing Arts, Medicine, The Methodist Hospital

17:30-17:45 SaE08.5

Atlas Image Labeling of Subcortical Structures and Vascular Territories in Brain Ct Images 6530-6534

Du, Kaifang The University of Iowa; Zhang, Li Siemens Corporate Technology; Nguyen, Tony Siemens Corporate Technology; Ord, Vincent Siemens Corporate Technology; Fichte, Heinz Healthcare Sector, Siemens AG; Ditt, Hendrik Siemens AG; Chefd'hotel, Christophe Siemens Corporate Technology

17:45-18:00 SaE08.6

Identification of Brain White Matter Regions for Diagnosis of Alzheimer Using Diffusion Tensor Imaging 6535-6538

B Patil, Ravindra Indian institute of Technology Madras; Ranjan, Piyush Indian institute of Technology Madras; Ramakrishnan, Swaminathan IIT Madras, India

SaE09: 16:30-18:00 1006 (10F)

4.9.2 Physiome and Multiscale Modeling II (Oral Session)

Chair: Dokos, Socrates (*Univ. of New South Wales*)

Co-Chair: Kameneva, Tatiana (*The Univ. of Melbourne; NICTA*)

16:30-16:45 SaE09.1

Cell-Specific Modeling of Retinal Ganglion Cell Electrical Activity 6539-6542

Guo, Tianruo University of New South Wales; Tsai, David University of New South Wales; Morley, John William University of Western Sydney; Suaning, Gregg The University of New South Wales; Lovell, Nigel H. University of New South Wales; Dokos, Socrates University of New South Wales

16:45-17:00 SaE09.2

A Continuum Neuronal Tissue Model Based on a Two-Compartmental Representation of Cells 6543-6546

Al Abed, Amr University of New South Wales; Lovell, Nigel H. University of New South Wales; Suaning, Gregg The University of New South Wales; Dokos, Socrates University of New South Wales

17:00-17:15 SaE09.3
A Simplified Biophysical Cell Model for Gastric Slow Wave Entrainment Simulation 6547-6550
Du, Peng The University of Auckland; Gao, Jerry The University of Auckland; O'Grady, Gregory University of Auckland; Cheng, Leo The University of Auckland

17:15-17:30 SaE09.4
Modeling Intrinsic Electrophysiology of All Amacrine Cells: Preliminary Results 6551-6554
Apollo, Nicholas Vincent University of Melbourne; Grayden, David B. The University of Melbourne; Burkitt, Anthony Neville The University of Melbourne; Meffin, Hamish National ICT Australia; Kameneva, Tatiana The University of Melbourne; NICTA

17:30-17:45 SaE09.5
A Model of Evoked Potentials in Spinal Cord Stimulation 6555-6558
Laird, James NICTA Ltd; Parker, John NICTA Implant Systems

17:45-18:00 SaE09.6
Novel Spiking Neuron-Astrocyte Networks Based on Nonlinear Transistor-Like Models of Tripartite Synapses 6559-6562
Valenza, Gaetano University of Pisa; Tedesco, Luciano University of Pisa; Lanata', Antonio University of Pisa; De Rossi, Danilo University of Pisa; Scilingo, Enzo Pasquale University of Pisa

SaE10: 16:30-18:00 1007 (10F)
5.9.1 Heart Rate Variability in Sleep Studies (Invited Session)
Chair: Penzel, Thomas (*Charite Univ. Hospital*)
Co-Chair: Khandoker, Ahsan Habib (*Khalifa Univ. of Science, Tech. and Res.*)

16:30-16:45 SaE10.1
Pulse Rate Variability Compared with Heart Rate Variability in Children with and without Sleep Disordered Breathing 6563-6566
Kheirkhah Dehkordi, Parastoo University of British Columbia; Garde, Ainara Universitat Politècnica de Catalunya; Karlen, Walter UBC; Wensley, David BC Children's Hospital; Ansermino, J. Mark British Columbia's Children's Hospital; Dumont, Guy University of British Columbia

16:45-17:00 SaE10.2
Synchronisation and Coupling Analysis: Applied Cardiovascular Physics in Sleep Medicine 6567-6570
Wessel, Niels Humboldt-Universität zu Berlin; Riedl, Maik University Potsdam; Kraemer, Jan F. Humboldt-Universität zu Berlin; Mueller, Andreas Humboldt-Universität zu Berlin; Penzel, Thomas Charite University Hospital; Kurths, Juergen University Potsdam

17:00-17:15 SaE10.3
Estimating Sleep Disordered Breathing Based on Heart Rate Analysis 6571-6574
Penzel, Thomas Charite University Hospital; Glos, Martin Charite-Universitaetsmedizin Berlin; Schoebel, Christoph Charite Universitaetsmedizin Berlin; Lal, Sara University of Technology, Sydney; Fietze, Ingo Charite-Universitaetsmedizin Berlin

17:15-17:30 SaE10.4
Estimating Relative Respiratory Effort from Features of Photo-Plethysmography Signal 6575-6578
Khandoker, Ahsan Habib Khalifa Univ. of Science, Technology and Research; Karmakar, Chandan K. The Univ. of Melbourne; Penzel, Thomas Charite Univ. Hospital; Glos, Martin Charite-Universitaetsmedizin Berlin; Schoebel, Christoph Charite Universitaetsmedizin Berlin; Palaniswami, Marimuthu The Univ. of Melbourne

17:30-17:45 SaE10.5
Methods for Heart Rate Variability Analysis During Sleep 6579-6582
Bianchi, Anna Maria Politecnico di Milano; Mendez, Martin Oswaldo Universidad Autonoma de San Luis Potosi

SaE11: 16:30-18:00	1008 (10F)
6.11.2 Neurological Disorders (Oral Session)	
Chair: Lan, Ning (<i>Shanghai Jiao Tong Univ.</i>)	
Co-Chair: Ang, Kai Keng (<i>Inst. for Infocomm Res.</i>)	

16:30-16:45 SaE11.1
Capacity of Small Groups of Muscles to Accomplish Precision Grasping Tasks 6583-6586
Towles, Joseph University of Wisconsin-Madison; Valero-Cuevas, Francisco University of Southern California; Hentz, Vincent Stanford University

16:45-17:00 SaE11.2
A Novel Experimental Method to Evaluate Motor Task Control in Parkinson's Patients 6587-6590
He, Xin Shanghai Jiao Tong University; Hao, Manzhao School of Biomedical Engineering, Shanghai Jiao Tong University; Wei, Ming Department of Neurology & Institute of Neurology, Ruijin Hospita; Xiao, Qin Department of Neurology & Institute of Neurology, Ruijin Hospita; Lan, Ning Shanghai Jiao Tong University

17:00-17:15 SaE11.3
A Portable System for Quantitative Assessment of Parkinsonian Rigidity 6591-6594
Dai, Houde Technical University of Munich; Jan Hinnerk, Mehrkens Ludwig-Maximilian University; Bernward, Otten Institute of Micro Technology and Medical Device Technology; D'Angelo, Lorenzo Tancredi Technische Universitaet Muenchen

17:15-17:30 SaE11.4
The Role of Delta-Modulated High Frequency Oscillations in Seizure State Classification 6595-6598
Guirgis, Mirna University of Toronto; Chinvarun, Yotin Director of Comprehensive Epilepsy Program and Neurology Unit, P; Carlen, Peter L. University of Toronto; Bardakjian, Berj Luther University of Toronto

17:30-17:45 SaE11.5
Restored Brain Perfusion after Non-Invasive Stimulation of the Facial Nerve in a Canine Stroke Model . 6599-6602
García, Andrea Univ. Autónoma Metropolitana-Iztapalapa; Sacristan, Emilio Univ. Autónoma Metropolitana; Azpiroz-leehan, Joaquin Univ. Autonoma Metropolitana; Borsody, Mark Lake Biosciences, LLC

17:45-18:00 SaE11.6
A Clinical Study of Motor Imagery BCI Performance in Stroke by Including Calibration Data from Passive Movement 6603-6606
Ang, Kai Keng Institute for Infocomm Research; Guan, Cuntai Institute for Infocomm Research; Chua, Karen Sui Geok Tan Tock Seng Hospital Rehabilitation Centre; Phua, Koksoon Institute for Infocomm Research; Wang, Chuanchu Institute for Infocomm Research; Chin, Zheng Yang Institute for Infocomm Research; Zhou, Longjiang Institute for Infocomm Research, Agency for Science, Technology; Tang, Ka Yin, Christina Institute for Infocomm Research, Agency for Science, Technology; Ephraim, Gopal Joseph Tan Tock Seng Hospital; Kuah, Christopher Wee Keong Tan Tock Seng Hospital Rehabilitation Centre

SaE12: 16:30-18:00	1009 (10F)
6.13.1 Human Performance: Cognitive State (Oral Session)	
Chair: Astolfi, Laura (<i>Univ. of Rome Sapienza</i>)	
Co-Chair: Lu, Bao-Liang (<i>Shanghai Jiao Tong Univ.</i>)	

16:30-16:45 SaE12.1
Mental Fatigue and Working Memory Load Estimation: Interaction and Implications for EEG-Based Passive BCI 6607-6610
Roy, Raphaëlle N. CEA-LETI; Bonnet, Stéphane CEA Léti MINATEC; Charbonnier, Sylvie Gipsa-Lab; Campagne, Aurélie Laboratoire de Psychologie et Neurocognition, Grenoble

16:45-17:00 SaE12.2
Probing ECG-Based Mental State Monitoring on Short Time Segments 6611-6614
Roy, Raphaëlle N. CEA-LETI; Charbonnier, Sylvie Gipsa-Lab; Campagne, Aurélie Laboratoire de Psychologie et Neurocognition, Grenoble

17:00-17:15 SaE12.3
A wearable device for measuring eye dynamics in real-world conditions 6615-6618
Knopp, Simon J. University of Canterbury; Bones, P. J. University of Canterbury; Weddell, Stephen J. University of Canterbury; Innes, Carrie R. H. Canterbury District Health Board; Jones, Richard D. New Zealand Brain Research Institute

17:15-17:30 SaE12.4
Frontal EEG Theta Changes Assess the Training Improvements of Novices in a Flight Simulation Tasks 6619-6622
Borghini, Gianluca University of Rome Sapienza; Maglione, Anton Giulio University of Rome Sapienza; Vecchiato, Giovanni University of Rome Sapienza; Astolfi, Laura University of Rome Sapienza; Toppi, Jlenia University of Rome "Sapienza"; Mattia, Donatella Fondazione Santa Lucia IRCCS; Babiloni, Fabio University of Rome; Aricò, Pietro Fondazione Santa Lucia

17:30-17:45 SaE12.5
A Robust Principal Component Analysis Algorithm for EEG-Based Vigilance Estimation 6623-6626
Shi, Lichen Shanghai Jiao Tong University; Duan, Ruo-Nan Shanghai Jiao Tong University; Lu, Bao-Liang Shanghai Jiao Tong University

17:45-18:00 SaE12.6
Differential Entropy Feature for EEG-Based Vigilance Estimation 6627-6630
Shi, Lichen Shanghai Jiao Tong University; Jiao, Ying-Ying Shanghai Jiao Tong University; Lu, Bao-Liang Shanghai Jiao Tong University

SaE13: 16:30-18:00 1010 (10F)
6.6.4 EMG Models and Processing (Oral Session)
Chair: Yoshida, Masaki (*Osaka Electro-Communication Univ.*)

16:30-16:45 SaE13.1
Neuromuscular Interfacing: A Novel Approach to EMG-Driven Multiple DOF Physiological Models 6631-6634
Pau, James Wei Leung University of Auckland; Xie, Shane Sheng Quan University of Auckland; Xu, Peter W.L. University of Auckland

16:45-17:00 SaE13.2
A Pilot Study of High-Density Electromyographic Maps of Muscle Activity in Normal Deglutition 6635-6638
Yu, Bin Shenzhen Institute of Advanced Technology, Chinese Academy of S; Zhu, Mingxing ShenZhen Institutes of Advanced Technology Chinese Academy of Sc; Xu, Lisheng Northeastern University; Li, Guanglin Shenzhen Institutes of Advanced Technology

17:00-17:15 SaE13.3
Inverse Estimation of Muscle Activations from Joint Torque Via Local Multiple Regression 6639-6642
Li, Zhan University of Montpellier; Hayashibe, Mitsuhiro INRIA; Guiraud, David INRIA

17:15-17:30 SaE13.4
Study on sEMG-Based Exercise Therapy for Upper Limb of Severe Hemiplegic Patients 6643-6646
Fan, Zhijian Shanghai University; Zhao, Cuilian Shanghai University; Luo, Linhui Shanghai University; Huang, Songen Shanghai University

17:30-17:45 SaE13.5
Semg Pattern Classification Using Hierarchical Bayesian Model 6647-6650
Han, Hyonyoung KAIST; Jo, SungHo Korea Advanced Institute of Science & Technology (KAIST)

17:45-18:00 SaE13.6
Evaluation of Classifier Topologies for the Real-Time Classification of Simultaneous Limb Motions 6651-6654
Ortiz-Catalan, Max Chalmers University of Technology; Brånemark, Rickard Gothenburg University; Håkansson, Bo Chalmers University of Technology

SaE14: 16:30-18:00	804 (8F)
7.2.2 Micro-, Nano-fabrication in Tissue Engineering (Oral Session)	
Chair: Fukuda, Junji (<i>Yokohama National Univ.</i>)	

16:30-16:45 SaE14.1
Fabrication of Perfusable Vasculatures Using Micromolding and Electrochemical Cell Transfer 6655-6658
Osaki, Tatsuya University of Tsukuba; Fukuda, Junji Yokohama National University

16:45-17:00 SaE14.2
Fabrication of Polymeric Microfluidic Devices with Tunable Wetting Behavior for Biomedical Applications 6659-6662
Steidle, Nicole Elisabeth Karlsruhe Institute of Technology; Schneider, Marc Karlsruhe Institute of Technology; Ahrens, Ralf Karlsruhe Institute of Technology; Worgull, Matthias Karlsruhe Institute of Technology; Guber, Andreas E. Karlsruhe Institute of Technology

17:00-17:15 SaE14.3
Micropatterning C2C12 Myotubes for Orderly Recording of Intracellular Calcium Transients 6663-6666
Takayama, Yuzo National Institute of Advanced Industrial Science and Technology; Wagatsuma, Akira University of Tokyo; Hoshino, Takayuki University of Tokyo; Mabuchi, Kunihiko The University of Tokyo

17:15-17:30 SaE14.4
Preparation and Evaluation of Collagen I/ Gellan Gum/ β -TCP Microspheres As Bone Graft Substitute Materials 6667-6670
Ku, Kai-Chi I-Shou University; Lee, Ming Wei Chung Shan Medical University; Kuo, Shyh Ming I-Shou University; Yao, Chun-Hsu China Medical University; Chang, Shwu Jen I-Shou University

17:30-17:45 SaE14.5
Gelatin Nanofiber-Reinforced Alginate Gel Scaffolds for Corneal Tissue Engineering 6671-6674
Tonsomboon, Khaow University of Cambridge; Oyen, Michelle Lynn University of Cambridge, Department of Engineering; Strange, Daniel University of Cambridge

17:45-18:00 SaE14.6
Bidirectional Synaptic Connection between Primary and Stem Cell-Derived Neurons in Co-Culture Device 6675-6678
Shimba, Kenta University of Tokyo; Saito, Atsushi University of Tokyo; Takeuchi, Akimasa The University of Tokyo; Takayama, Yuzo National Institute of Advanced Industrial Science and Technology; Kotani, Kiyoshi University of Tokyo; Jimbo, Yasuhiko University of Tokyo

SaE15: 16:30-18:00	1102 (11F)
8.7.1 Biomechanics for Medical Robotics (Invited Session)	
Chair: Naemura, Kiyoshi (<i>Tokyo Univ. of Tech.</i>)	
Co-Chair: Chinzei, Kiyoyuki (<i>National Inst. of Advanced Industrial Science and Technology</i>)	

16:30-16:45 SaE15.1
Upper-Limb Tremor Suppression with a 7DOF Exoskeleton Power-Assist Robot 6679-6682
Kiguchi, Kazuo Kyushu University; Hayashi, Yoshiaki Saga University

16:45-17:00 SaE15.2
Coaxial Needle Insertion Assistant for Epidural Puncture - Effect of Lateral Force on Needle 6683-6686
Koseki, Yoshihiko AIST; Kawai, Masato Graduate School of TOYO Univ.; De Lorenzo, Danilo Politecnico di Milano; Yamauchi, Yasushi Toyo Univ.; Chinzei, Kiyoyuki Natl. Inst. of Advanced Industrial Science and Tech.

17:00-17:15 SaE15.3
An Implantable Neural Activity Monitor with Nonlinear Gain-Controlled Amplifier 6687-6690
Kyoso, Masaki Tokyo City University; Takeda, Takahiro Tokyo City University

17:15-17:30 SaE15.4
Histological Observation for Needle-Tissue Interactions 6691-6694
Nakagawa, Yoshiyuki Togo Medikit Co., Ltd.; koseki, yoshihiko AIST

17:30-17:45		SaE15.5
Robotic Tensor Device for Optimal Soft Tissue Balance in TKA		6695-6698
<i>Okamoto, Jun Tokyo Women's Medical University</i>		
17:45-18:00		SaE15.6
Biomechanical Analysis for the Epidural Needle Insertion		6699-6702
<i>Naemura, Kiyoshi Tokyo University of Technology</i>		
<hr/>		
SaE16: 16:30-18:00		Small Hall (5F)
9.3.1 Ambulatory Technologies I (Oral Session)		
Chair: Holmar, Jana (<i>Tallinn Univ. of Tech.</i>)		
Co-Chair: Nebuya, Satoru (<i>Kitasato Univ.</i>)		
<hr/>		
16:30-16:45		SaE16.1
Motor Recovery Monitoring in Post Acute Stroke Patients Using Wireless Accelerometer and Cross-Correlation		6703-6706
<i>Kumar, Dheeraj The University of Melbourne; Gubbi, Jayavardhana The University of Melbourne; Palaniswami, Marimuthu The University of Melbourne; Yan, Bernard The Royal Melbourne Hospital</i>		
16:45-17:00		SaE16.2
Estimation of Removed Uremic Toxin Indoxyl Sulphate During Hemodialysis by Using Optical Data of the Spent Dialysate		6707-6710
<i>Holmar, Jana Tallinn University of Technology; Uhlin, Fredrik University Hospital, Linköping; Ferenets, Rain Tallinn University of Technology; Lauri, Kai Tallinn University of Technology; Tanner, Risto National Institute of Chemical Physics and Biophysics; Arund, Jürgen Department of Biomedical Engineering, Tallinn University of Tech; Luman, Merike North-Estonian Regional Hospital; Fridolin, Ivo Centre of Biomedical Engineering</i>		
17:00-17:15		SaE16.3
Demonstrating the Accuracy of an In-Hospital Ambulatory Patient Monitoring Solution in Measuring Respiratory Rate		6711-6715
<i>Donnelly, Nicola Intelesens; Hunniford, Thomas Intelesens; Harper, Roy NHS; Flynn, Aiden Exploristics Ltd.; Kennedy, Alan Intelesens; Branagh, David Intelesens; McLaughlin, James University of Ulster</i>		
17:15-17:30		SaE16.4
Development of an Infection Screening System for Entry Inspection at Airport Quarantine Stations Using Ear Temperature, Heart and Respiration Rates		6716-6719
<i>Sun, Guanghao Tokyo Metropolitan University; Abe, Nobujiro Japan Self-Defense Forces Central Hospital; Sugiyama, Youhei Tokyo Metropolitan University; Nguyen, Vinh Quang Tokyo Metropolitan University; Nozaki, Kohei Tokyo Metropolitan University; nakayama, yosuke Tokyo metropolitan university; Takei, Osamu Lifetech Co., Ltd; Hakozaki, Yukiya Japan Self-Defense Forces Central Hospital; Abe, Shigeto Takasaka Clinic; Matsui, Takemi Tokyo Metropolitan University</i>		
17:30-17:45		SaE16.5
A New Ecological Method for the Estimation of Nutritive Sucking Efficiency in Newborns: Measurement Principle and Experimental Assessment		6720-6723
<i>Tamilla, Eleonora Università Campus Bio Medico di Roma; Taffoni, Fabrizio Campus Bio-Medico University; Schena, Emiliano University of Rome Campus Bio-Medico; Formica, Domenico Campus Bio-Medico University; Ricci, Luca Università Campus Bio Medico di Roma; Guglielmelli, Eugenio Campus Bio-Medico University</i>		
17:45-18:00		SaE16.6
Novel Screen Printed Electrode Set for Routine EEG Recordings in Patients with Altered Mental Status		6724-6727
<i>Myllymaa, Sami Aulis University of Eastern Finland; Lepola, Pasi University of Eastern Finland; Hukkanen, Taina Kuopio University Hospital; Oun, Andre Kuopio University Hospital; Mervaala, Esa Kuopio University Hospital, University of Eastern Finland; Töyräs, Juha Kuopio University Hospital, University of Eastern Finland; Lappalainen, Reijo University of Kuopio; Myllymaa, Katja Maria Kuopio University Hospital</i>		

10.5.3 Smart Homes and Ambient Assisted Living II (Oral Session)

Chair: Park, Kwang S. (*Seoul National Univ.*)

Co-Chair: Nambu, Masayuki (*Osaka Electro-Communication Univ.*)

16:30-16:45	A Hybrid Localization Technique for Patient Tracking	SaE21.1 6728-6731
	<i>Rodionov, Denis Lancaster University; Kolev, George Center of Coordination of International Scientific Education Pro; Bushminkin, Kirill Lancaster University</i>	
16:45-17:00	Biosignal-Based Relaxation Evaluation of Head-Care Robot	SaE21.2 6732-6735
	<i>Ando, Takeshi Panasonic Corporation; Takeda, Maki Osaka University; Maruyama, Tomomi Osaka University; Susuki, Yuto Osaka University; Hirose, Toshinori Panasonic Corporation; Fujioka, Soichiro Panasonic Corporation; Mizuno, Osamu Panasonic Corporation; Yamada, Kenji Osaka university; Ohno, Yuko Osaka University Graduate School of Medicine; Honda, Yukio Osaka Institute of Technology</i>	
17:00-17:15	Improvement of Acoustic Fall Detection Using Kinect Depth Sensing	SaE21.3 6736-6739
	<i>Li, Yun University of Missouri; Banerjee, Tanvi University of Missouri; Popescu, Mihail University of Missouri; Skubic, Marjorie University of Missouri</i>	
17:15-17:30	Signal Phase Estimation for Measurement of Respiration Waveform Using a Microwave Doppler Sensor	SaE21.4 6740-6743
	<i>Noguchi, Hiroshi The University of Tokyo; Kubo, Hajime The Univ. of Tokyo; Mori, Taketoshi The University of Tokyo; Sato, Tomomasa the Univ. of Tokyo; Sanada, Hiromi The University of Tokyo</i>	
17:30-17:45	Subsequence Dynamic Time Warping As a Method for Robust Step Segmentation Using Gyroscope Signals of Daily Life Activities	SaE21.5 6744-6747
	<i>Barth, Jens ASTRUM IT GmbH; Oberndorfer, Caecilia Univ. of Erlangen-Nuremberg; Kugler, Patrick Univ. of Erlangen-Nuremberg; Schuldhuis, Dominik Univ. of Erlangen-Nuremberg; Winkler, Juergen Univ. Hospital Erlangen; Klucken, Jochen Univ. Hospital Erlangen; Eskofier, Bjoern M Univ. of Erlangen-Nuremberg</i>	
17:45-18:00	A Mobile-Health Application to Detect Wandering Patterns of Elderly People in Home Environment	SaE21.6 6748-6751
	<i>Vuong, Nhu Khue NTU; Goh, Shen Guan Alvin Nanyang Technological University; Chan, Syin Nanyang Technological University; Chiew Tong, Lau Nanyang Technological University</i>	

SuA01: 08:00-09:30 Conference Hall (12F)
1.4.4 Biomedical Signal Classification I (Oral Session)
Chair: Momose, Keiko (*Waseda Univ.*)

08:00-08:15 SuA01.1
Body Weight-Normalized Energy Expenditure Estimation Using Combined Activity and Allometric Scaling Clustering 6752-6755
Altini, Marco imec / Holst Centre, Eindhoven University of Technology; Penders, Julien imec; Amft, Oliver Eindhoven University of Technology

08:15-08:30 SuA01.2
Estimation of Feature Importance for Food Intake Detection Based on Random Forests Classification .. 6756-6759
Fontana, Juan M. University of Alabama; Farooq, Muhammad University of Alabama; Sazonov, Edward University of Alabama

08:30-08:45 SuA01.3
On the Impact of Arousals on the Performance of Sleep and Wake Classification Using Actigraphy 6760-6763
Fonseca, Pedro Philips Research and Eindhoven University of Technology; Long, Xi Philips Research and Eindhoven University of Technology; Foussier, Jerome RWTH Aachen University; Aarts, Ronald M. Philips

08:45-09:00 SuA01.4
Simultaneous Determination of Hemolysis and Hematocrit in Extracorporeal Circulation by Plasma Surface Reflectance Spectroscopy 6764-6767
Sakota, Daisuke National Institute of Advanced Industrial Science and Technology; Kani, Yuki Graduate School of Science and Technology, Tokyo University of S; Kosaka, Ryo AIST; Nishida, Masahiro National Institute of Advanced Industrial Science and Technology; Maruyama, Osamu National Institute of Advanced Industrial Science and Technology

09:00-09:15 SuA01.5
Hybrid Sparse Regularization for Magnetic Resonance Spectroscopy 6768-6771
Laruelo, Andrea Institut Claudius Regaud, Toulouse, F-31052 France; Chaari, Lotfi University of Toulouse, IRIT - INP-ENSEEIH, France; Batatia, Hadj University of Toulouse - UMR CNRS 5505; Ken, Soleakhena Institut Claudius Regaud, Toulouse, F-31052 France ; INSERM, UMR; Rowland, Ben Institut Claudius Regaud, Toulouse, F-31052 France; Laprie, Anne Institut Claudius Regaud, Toulouse, F-31052 France ; INSERM,UMR825; Tournet, Jean-Yves University of Toulouse

SuA02: 08:00-09:30 1202 (12F)
1.9.1 Pattern Recognition Methods for Data Mining in Biosignals (Oral Session)

08:00-08:15 SuA02.1
Analyzing the Information Distribution in the fMRI Measurements by Estimating the Degree of Locality 6772-6775
Önal, Itir Middle East Technical University; Ozay, Mete Middle East Technical University; Firat, Orhan Middle East Technical University; oztekin, ilke koc university; Yarman Vural, Fatos Middle East Technical University

08:15-08:30 SuA02.2
A Method for Quantitative SEMG Decomposition and MUAP Classification During Voluntary Isovelocity Elbow Flexion 6776-6779
Akazawa, Jun Meiji University of Integrativemedicine; Okuno, Ryuhei Setsunan University

08:30-08:45 SuA02.3
Representation of Cognitive Processes Using the Minimum Spanning Tree of Local Meshes 6780-6783
Firat, Orhan Middle East Technical University; Ozay, Mete Middle East Technical University; Önal, Itir Middle East Technical University; oztekin, ilke koc university; Yarman Vural, Fatos Middle East Technical University

08:45-09:00 SuA02.4
Prediction of Chronic Obstructive Pulmonary Disease (COPD) Exacerbation Using Physiological Time Series Patterns 6784-6787
Xie, Yang The University of New South Wales; Redmond, Stephen James University of New South Wales; Mohktar, Mas Sahidayana Faculty of Engineering; Shany, Tal University of New South Wales; Basilakis, Jim University of Western Sydney; Hession, Michael Blacktown-Mt Druitt Hospitals/University of Sydney; Lovell, Nigel H. University of New South Wales

09:00-09:15 SuA02.5
An Effective Wavelet Strategy for the Trend Prediction of Physiological Time Series with Application to Phealth Systems 6788-6791
Rocha, Teresa Inst Superior de Eng de Coimbra; Paredes, Simão Instituto Superior de Engenharia de Coimbra; de Carvalho, Paulo Univ. of Coimbra - NIF: 501617582; Henriques, Jorge Univ. of Coimbra - NIF 501617582

SuA03: 08:00-09:30	1203 (12F)
1.10.1 Blind Source Separation and Independent Component Analysis I (Oral Session)	
Chair: Naik, Ganesh R (<i>Univ. of Tech. Sydney</i>)	

08:00-08:15 SuA03.1
Multiple Time-Lag Canonical Correlation Analysis for Removing Muscular Artifacts in EEG 6792-6795
Shen, Kaiquan NUS; Yu, Ke NUS; Bandla, Aishwarya National University of Singapore; Sun, Yu National University of Singapore; Thakor, Nitish Johns Hopkins University; Li, Xiaoping National University of Singapore

08:15-08:30 SuA03.2
Smoothness Constraint for Cortical Dipolar Sources Estimation 6796-6799
Korats, Gundars CRAN UMR 7039, Université de Lorraine; Ranta, Radu CRAN UMR 7039, Université de Lorraine/ CNRS; LE CAM, Steven Université de Lorraine; Louis-Dorr, Valerie Nancy-University

08:30-08:45 SuA03.3
Method for Removing Motion Artifacts from Fmirs Data Using ICA and an Acceleration Sensor 6800-6803
Hiroyasu, Tomoyuki Doshisha Univ.; Nakamura, Yuka Doshisha Univ.; Yokouchi, Hisatake Doshisha Univ.

08:45-09:00 SuA03.4
Comparison of the AMICA and the InfoMax Algorithm for the Reduction of Electromyogenic Artifacts in EEG Data 6804-6807
Leutheuser, Heike Digital Sports Group, Pattern Recognition Lab, Department of Com; Gabsteiger, Florian Digital Sports Group, Pattern Recognition Lab, Department of Com; Hebenstreit, Felix Digital Sports Group, Pattern Recognition Lab, Department of Com; Reis, Pedro Institute of Sport Science and Sport, Friedrich-Alexander-Univer; Lochmann, Matthias Institute of Sport Science and Sport, Friedrich-Alexander-Univer; Eskofier, Bjoern M University of Erlangen-Nuremberg

09:00-09:15 SuA03.5
An Efficient VLSI Implementation of On-Line Recursive ICA Processor for Real-Time Multi-Channel EEG Signal Separation 6808-6811
Shih, Wei-Yeh National Chiao Tung University; Liao, Jui-Chieh National Chiao Tung University; Huang, Kuan Ju National Chiao Tung University; Fang, Wai-Chi National Chiao Tung University; Cauwenberghs, Gert University of California San Diego; Jung, Tzzy-Ping University of California San Diego

09:15-09:30 SuA03.6
Single Channel Blind Source Separation Based Local Mean Decomposition for Biomedical Applications 6812-6815
Naik, Ganesh R University of Technology Sydney; Guo, Yina Taiyuan University of Science and Technology; Nguyen, Hung T. University of Technology, Sydney

SuA07: 08:00-09:30	1004 (10F)
3.9.1 Micro and Nano Sensors I (Oral Session)	
Chair: Haga, Yoichi (<i>Tohoku Univ.</i>)	
Co-Chair: Gu, Li-Qun (<i>Univ. of Missouri</i>)	

08:00-08:15 SuA07.1
Design Considerations for a CMOS Lab-On-Chip Microheater Array to Facilitate the in Vitro Thermal Stimulation of Neurons 6816-6819

Reverter, Ferran Universitat Politècnica de Catalunya; Liu, Yan Imperial College, London, UK; Georgiou, Pantelis Imperial College London; Prodromakis, Themistoklis Imperial College London, Centre for Bio-inspired Technology; Constandinou, Timothy Imperial College of Science, Technology and Medicine

08:15-08:30 SuA07.2
Silicon Nanotweezers with a Microfluidic Cavity for the Real Time Characterization of DNA Damage under Therapeutic Radiation Beams 6820-6820

Perret, Gregoire LIMMS/CNRS-IIS, UMI-2820, University of Tokyo

08:30-08:45 SuA07.3
Nanopore Single-Molecule Dielectrophoretic Detection of Cancer-Derived MicroRNA Biomarkers 6821-6824
Gu, Li-Qun University of Missouri

08:45-09:00 SuA07.4
Non-Planar and Flexible Chip Technology for Biomedical Applications 6825-6829

Liu, Ching-Yu National Tsing Hua University; Lin, Hsiao-Chien National Tsing Hua University; Teng, Chih-Chiao National Tsing Hua University; Fan, Long-Sheng National Tsing Hua University

09:00-09:15 SuA07.5
Threshold Levels for Wettability in Nano and Micro-Meter Periodic Structures 6830-6833

Yamaguchi, Masaki Iwate University; Sasaki, Shinya Iwate University; Sasaki, Yuto Iwate University; Sasaki, Makoto Iwate University; Chiba, Tsuyoshi Dai Nippon Printing Co., Ltd.; Itoh, Nobuyuki Dai Nippon Printing Co., Ltd.; Nakanishi, Tatsuro Ritsumeikan University

09:15-09:30 SuA07.6
Softening of the Mouse Zona Pellucida During Oocyte Maturation 6834-6837

Murayama, Yoshinobu Nihon University; Yoshida, Kenta Nihon University, College of Engineering; Harutaka, Takahashi Nihon University, College of Engineering; Mizuno, Jinji Kato Ladies Clinic; Akaishi, Kazuyuki Inui Maternity Clinic; Inui, Hiroaki Inui Maternity Clinic

SuA09: 08:00-09:30	1006 (10F)
4.9.4 Modeling Cardiac Electrical Activity (Oral Session)	
Chair: Matsuda, Tetsuya (<i>Kyoto Univ.</i>)	
Co-Chair: Doessel, Olaf (<i>Karlsruhe Inst. of Tech. (KIT)</i>)	

08:00-08:15 SuA09.1
Simulating the Role of Anisotropy in Human Atrial Cardioversion 6838-6841

Kharche, Sanjay University of Exeter; Biktasheva, Irina V University of Liverpool; Zhang, Henggui University of Manchester; Biktashev, Vadim N University of Exeter

08:15-08:30 SuA09.2
Simulating Cell Apoptosis Induced Sinus Node Dysfunction 6842-6845

Kharche, Sanjay Univ. of Exeter; Beling, John Biological Physics, Univ. of Manchester; Biktasheva, Irina V Univ. of Liverpool; Zhang, Henggui Univ. of Manchester; Biktashev, Vadim N Univ. of Exeter

08:30-08:45 SuA09.3
Modeling the Different Sections of the Cardiac Conduction System to Obtain Realistic Electrocardiograms 6846-6849

Sebastian, Rafael University of Valencia; Dux-Santoy, Lydia Universitat Politècnica de Valencia; Rodriguez, Jose Felix Universidad de Zaragoza; Ferrero, José M Universidad Politècnica de Valencia (I3BH)

08:45-09:00 SuA09.4
Simulation Study of Complex Action Potential Conduction in Atrioventricular Node 6850-6853
Inada, Shin National Cerebral and Cardiovascular Center; Ono, Takako Tokyo Denki University; Shibata, Nitaro Tokyo Metropolitan Health and Medical Treatment Corporation Ohku; Iwata, Michiaki National Cerebral and Cardiovascular Center Research Institute; Haraguchi, Ryo National Cerebral and Cardiovascular Center; Ashihara, Takashi Shiga University of Medical Science; Mitsui, Kazuyuki Tokyo Denki University; Boyett, Mark Richard University of Manchester; Dobrzynski, Halina University of Manchester; Nakazawa, Kazuo National Cerebral and Cardiovascular Center Research Institute

09:00-09:15 SuA09.5
A Study on the Relationship between Electrical Transmural Heterogeneity and Ventricular Energetics .. 6854-6857
Hasegawa, Yuki Kyoto University; Mishima, Mitsuharu Kyoto University; Shimayoshi, Takao ASTEM Research Institute of Kyoto; Amano, Akira Ritsumeikan University; Matsuda, Tetsuya Kyoto University

09:15-09:30 SuA09.6
Comparison of Simulated and Clinical Intracardiac Electrograms 6858-6861
Keller, Matthias Walter Karlsruhe Institute of Technology; Schuler, Steffen Institute of Biomedical Engineering, Karlsruhe Institute of Tech; Luik, Armin Staedisches Klinikum Karlsruhe; Seemann, Gunnar Karlsruhe Institute of Technology; Schilling, Christopher Universität Karlsruhe (TH); Schmitt, Claus Staedisches Klinikum Karlsruhe; Doessel, Olaf Karlsruhe Institute of Technology (KIT)

SuA10: 08:00-09:30 1007 (10F)
5.10.1 Respiratory Monitoring I (Oral Session)
Chair: Jovanov, Emil (*Univ. of Alabama in Huntsville*)

08:00-08:15 SuA10.1
Measuring Leg Movements During Sleep Using Accelerometry: Comparison with EMG and Piezo-Electric Scored Events 6862-6865
Terrill, Philip Ian University of Queensland; Leong, Matthew The Prince Charles Hospital; Barton, Katrina The Prince Charles Hospital; Freakley, Craig The University of Queensland; Downey, Carl The Prince Charles Hospital; Vanniekerk, Mark The Prince Charles Hospital; Jorgensen, Greg The Prince Charles Hospital; Douglas, James The Prince Charles Hospital

08:15-08:30 SuA10.2
Using Acoustics to Estimate Inspiratory Flow Rate and Drug Removed from a Dry Powder Inhaler 6866-6869
Holmes, Martin S. Trinity College Dublin; Seheult, Jansen RCSI; Geraghty, Colm RCSI; D'Arcy, Shona Trinity College Dublin; Costello, Richard Royal College of Surgeons in Ireland (RCSI); Reilly, Richard Trinity College Dublin

08:30-08:45 SuA10.3
Automatic Snoring Detection from Nasal Pressure Data 6870-6872
Lee, Hyo-Ki Yonsei University; Lee, Jeon Yonsei University; Kim, Hojoong Samsung Medical Center, Sungkyunkwan University; Lee, Kyoung Joung Yonsei University

08:45-09:00 SuA10.4
Validation of Automatic CPAP Leak Algorithm 6873-6876
Grandjean-Thomsen, Nicolas ResMed; Kang, Martin ResMed; Malouf, Gordon Joseph ResMed

09:00-09:15 SuA10.5
Human Respiration Detection Technique Based on Measurement of Current Generated by Electrostatic Induction 6877-6880
Kurita, Koichi Kinki University

09:15-09:30 SuA10.6
A Frequency Domain Analysis of Respiratory Variations in the Seismocardiogram Signal 6881-6884
Pandia, Keya Stanford University; Inan, Omer Stanford University; Kovacs, Gregory T.A. Stanford University

SuA11: 08:00-09:30 1008 (10F)
8.8.1 Neural Control of Movement and Robotics Applications (Oral Session)
Chair: Harley, Linda Rosemary (*Georgia Tech. Res. Inst.*)

08:00-08:15 SuA11.1
The Effect of Force Feedback on Transfer of Learning between the Arms During Bimanual Reaching 6885-6888
Harley, Linda Rosemary Georgia Tech Research Institute; Prilutsky, Boris School of Applied Physiology at Georgia Institute of Technology

08:15-08:30 SuA11.2
The Effect of the Direction of Force-Fields on Transfer of Learning between the Arms During Bimanual Reaching 6889-6892
Harley, Linda Rosemary Georgia Tech Research Institute; Prilutsky, Boris School of Applied Physiology at Georgia Institute of Technology

08:30-08:45 SuA11.3
Human Reach-To-Grasp Compensation with Object Pose Uncertainty 6893-6896
Fu, Qiushi Arizona State University; Ushani, Arash Liquid Robotics; Jentoft, Leif Harvard University; Howe, Robert Harvard University; Santello, Marco Arizona State University

08:45-09:00 SuA11.4
Improved Discrete Fourier Transform Based Spectral Feature for Surface Electromyogram Signal Classification 6897-6900
He, Jiayuan Shanghai Jiao Tong Univ.; Zhang, Dingguo Shanghai Jiao Tong Univ.; Sheng, Xinjun Shanghai Jiao Tong Univ.; Meng, Jianjun Shanghai Jiao Tong Univ.; Zhu, XiangYang Shanghai Jiao Tong Univ.

09:00-09:15 SuA11.5
Bio-Robots Automatic Navigation with Graded Electric Reward Stimulation Based on Reinforcement Learning 6901-6904
Zhang, Chen Zhejiang University; Sun, Chao Zhejiang University; Gao, Liqiang Zhejiang University; Zheng, Nenggan Zhejiang University; Chen, Weidong zhejiang university; Zheng, Xiaoxiang Zhejiang University

09:15-09:30 SuA11.6
An SSVEP Based BCI to Control a Humanoid Robot by Using Portable EEG Device 6905-6908
Güneysu, Arzu University of Bogazici; Akin, H. Levent Bogazici University

SuA12: 08:00-09:30 1009 (10F)
6.13.2 Human Performance I (Oral Session)
Chair: Yokosawa, Koichi (*Hokkaido Univ.*)

08:00-08:15 SuA12.1
Alpha-Band Rhythm Modulation under the Condition of Subliminal Face Presentation: MEG Study 6909-6912
Sakuraba, Satoshi Hokkaido Univ.; Kobayashi, Hana Department of Health Sciences, School of Medicine, Hokkaido Univ.; Sakai, Shinya Faculty of Health Sciences, Hokkaido Univ.; Yokosawa, Koichi Hokkaido Univ.

08:15-08:30 SuA12.2
Steering Timing Prediction in a Driving Simulator Task 6913-6916
Gheorghe, Lucian EPFL; Chavarriaga, Ricardo Ecole Polytechnique Federale de Lausanne; Millán, José del R. Ecole Polytechnique Federale de Lausanne

08:30-08:45 SuA12.3
Basic Study on a Walking Assist System with Electrical Stimulation for Elderly People 6917-6920
Funaki, Kazuhiro Kyushu Institute of Technology; Shintani, Myu Kyushu Institute of Technology; Takano, Yoshio Teikyo University; Matsuse, Hiroo Kurume University Hospital; Shiba, Naoto Kurume University Hospital; Tagawa, Yoshihiko Kyushu Institute of Technology

08:45-09:00	SuA12.4
Variance between Walking Speed and Neuropsychological Test Scores During Three Gait Tasks across the Irish Longitudinal Study on Aging (TILDA)	6921-6924
<i>Killane, Isabelle Trinity College Dublin; Donoghue, Orna The Irish Longitudinal Study On Aging (TILDA), Lincoln Gate, Tri; Savva, George The Irish Longitudinal Study On Aging (TILDA), Lincoln Gate, Tri; Cronin, Hilary The Irish Longitudinal Study On Aging (TILDA), Lincoln Gate, Tri; Kenny, Rose Anne Trinity College Dublin; Reilly, Richard Trinity College Dublin</i>	
09:00-09:15	SuA12.5
Integrating Eye-Tracking and Wireless Electroencephalogram (EEG) in Consumer Neuroscience	6925-6928
<i>Khushaba, Rami N. Univ. of Technology, Sydney (UTS); Wise, Chelsea Univ. of Technology, Sydney (UTS); Kodagoda, Sarath Univ. of Technology, Sydney (UTS); Louviere, Jordan Univ. of Technology, Sydney (UTS)</i>	
09:15-09:30	SuA12.6
Assessment of Visual Space Recognition in Patients with Visual Field Defects Using Head Mounted Display (HMD) System: Case Study with Severe Visual Field Defect	6929-6932
<i>Sugihara, Shunichi Hokkaido University; Tanaka, Toshiaki The University of Tokyo; Miyasaka, Tomoya Uekusa Gakuen University; Izumi, Takashi Tokai University; Shimizu, Koichi Hokkaido University</i>	

SuA13: 08:00-09:30	1010 (10F)
8.9.1 What Makes a Movement Human? (Invited Session)	
Chair: Pons, Jose Luis (<i>Inst. de Automática Industrial</i>)	
Co-Chair: Teramoto, Kenbu (<i>Saga Univ.</i>)	

08:00-08:15	SuA13.1
Similarity of Muscle Synergies in Human Walking and Cycling: Preliminary Results	6933-6936
<i>Barroso, Filipe Electronics Department, University of Minho, Guimarães; Torricelli, Diego Grupo de Bioingenieria, CSIC; Moreno, Juan C. CSIC; Taylor, Julian S Hospital Nacional de Paraplégicos; Gómez-Soriano, JULIO Castilla la Mancha University; Bravo Esteban, ELISABETH CSIC; Santos, Cristina University of Minho; Pons, Jose Luis Instituto de Automática Industrial</i>	

08:15-08:30	SuA13.2
Study of Variation in Human Upper Body Parameters and Motion for Use in Robotics Based Simulation	6937-6940
<i>Lura, Derek Univ. of South Florida; Carey, Stephanie Univ. of South Florida; Dubey, Rajiv Univ. of South Florida</i>	

08:30-08:45	SuA13.3
Principles of Human Locomotion: A Review	6941-6944
<i>Pons, Jose Luis Instituto de Automática Industrial; Moreno, Juan C. CSIC; Torricelli, Diego Grupo de Bioingenieria, CSIC; Taylor, Julian S Hospital Nacional de Paraplégicos</i>	

08:45-09:00	SuA13.4
Validation of a Passive Dynamic Walker Model for Human Gait Analysis	6945-6948
<i>Handzic, Ismet University of South Florida; Carey, Stephanie University of South Florida; Reed, Kyle University of South Florida</i>	

09:00-09:15	SuA13.5
Compensation of the Effects of Muscle Fatigue on EMG Based Control Using Fuzzy Rules Based Scheme	6949-6952
<i>Lalitharatne, Thilina Dulantha Saga University; Hayashi, Yoshiaki Saga University; Teramoto, Kenbu Saga University; Kiguchi, Kazuo Kyushu University</i>	

SuA14: 08:00-09:30	804 (8F)
7.1.2 Functional Biomaterials (Oral Session)	
Chair: Adachi, Taiji (<i>Kyoto Univ.</i>)	
Co-Chair: Green, Rylie A. (<i>Univ. of New South Wales</i>)	

08:00-08:15	SuA14.1
Preparation of Decellularized Meniscal Scaffolds Using Sonication Treatment for Tissue Engineering ...	6953-6956
<i>Azhim, Azran Tokyo Denki University</i>	

08:15-08:30 SuA14.2
Living Electrodes: Tissue Engineering the Neural Interface 6957-6960
Green, Rylie A. University of New South Wales; Lim, Khoon S. University of New South Wales; Henderson, William C. University of New South Wales; Hassarati, Rachelle University of New South Wales; Martens, Penny University of New South Wales; Lovell, Nigel H. University of New South Wales; Poole-Warren, Laura A. University of New South Wales

08:30-08:45 SuA14.3
Grid Polymeric Scaffolds with Polypeptide Gel Filling As Patches for Infarcted Tissue Regeneration 6961-6964
Vallés-Lluch, Ana Universitat Politècnica de València; Arnal-Pastor, María Center for Biomaterials and Tissue Engineering, Universitat Poli; Martínez-Ramos, Cristina Center for Biomaterials and Tissue Engineering, Universitat Poli; Vilariño-Feltrer, Guillermo Center for Biomaterials and Tissue Engineering, Universitat Poli; Vikingsson, Line Center for Biomaterials and Tissue Engineering, Universitat Poli; Monleón Pradas, Manuel Center for Biomaterials and Tissue Engineering, Universitat Poli

08:45-09:00 SuA14.4
The Lifetime and Attenuation Properties Measurements of a US/MR Multimodality Molecular Probe 6965-6968
Liao, Ai-Ho National Taiwan University of Science and Technology

09:00-09:15 SuA14.5
Construction of a Chondrocyte Cell Sheet Using Temperature-Responsive Poly(N-Isopropylacrylamide)-Co-Acrylamide 6969-6972
Viravaidya-Pasuwat, Kwanchanok King Mongkut's University of Technology, Thonburi; Wong-in, Sopita King Mongkut's University of Technology, Thonburi; Sakulaue, Phongphot Sirindhorn International Institute of Technology, Thammasat Univ; Siriawatwechakul, Wanwipa Sirindhorn International Institute of Technology, Thammasat Univ

09:15-09:30 SuA14.6
Cell Attachment and Viability on Micro-Arc-Oxidation (MAO) Microwave/hydrothermal Treated Titanium Surface 6973-6975
Lin, Dan-Jae China Medical University; Fuh, Lih-Jyh China Medical University; Chen, Chiing-Chang National Taichung University of Education

SuA15: 08:00-09:30 1102 (11F)
10.4.1 HeartCycle Next Generation of Telehealth Solutions (Invited Session)
Chair: Reiter, Harald (*Philips*)
Co-Chair: Sola, Josep (*CSEM- Centre Suisse d'Electronique et Microtechnique*)

08:00-08:15 SuA15.1
U-MCHC: A Predictive Framework for Ubiquitous Management of Exacerbations in Chronic Diseases ... 6976-6979
Andriopoulou, Foteini University of Patras; Birkos, Konstantinos University of Patras; Lymberopoulos, Dimitrios University of Patras

08:15-08:30 SuA15.2
Cardiovascular Disease Risk Assessment Innovative Approaches Developed in HeartCycle Project 6980-6983
Paredes, Simão Instituto Superior de Engenharia de Coimbra; Rocha, Teresa Inst Superior de Eng de Coimbra; de Carvalho, Paulo University of Coimbra - NIF: 501617582; Henriques, Jorge University of Coimbra - NIF 501617582; Morais, João Hospital de Santo André, Leiria; Ferreira, Jorge Cardiology Department, Santa Cruz Hospital, Lisbon, Portugal; Mendes, Miguel Cardiology Department, Santa Cruz Hospital, Lisbon, Portugal

08:30-08:45 SuA15.3
HeartCycle: Advanced Sensors for Telehealth Applications 6984-6987
Luprano, Jean CSEM; Sola, Josep CSEM- Centre Suisse d'Electronique et Microtechnique; Muehlsteff, Jens Philips; Eilebrecht, Benjamin RWTH Aachen; Kortelainen, Juha Matti VTT; Arnold, Patrik University of Basel, Switzerland; Ulbrich, Mark Philips Chair for Medical Information Technology, RWTH Aachen Un; Sipilä, Auli Clothing+; de Carvalho, Paulo University of Coimbra - NIF: 501617582

08:45-09:00 SuA15.4
HeartCycle: User Interaction and Patient Education 6988-6991
Vera-Muñoz, Cecilia Universidad Politécnica de Madrid (UPM); Arredondo, María Teresa Technical University of Madrid; Ottaviano, Manuel Technical University of Madrid; Salvi, Dario Technical University of Madrid; Stut, Wim Philips Research

09:00-09:15 SuA15.5
HeartCycle: From Insights to Clinically Evaluated ICT Solutions for Telehealth 6992-6995
Reiter, Harald Philips; Tesanovic, Aleksandra Philips Research Europe;
Martínez-Romero, Álvaro Instituto ITACA

09:15-09:30 SuA15.6
HeartCycle: Facilitating the Deployment of Advanced Care Processes 6996-6999
Meneu, Teresa Universidad Politécnica de Valencia; Traver, Vicente Institute ITACA; Guillen, Sergio Institute
Itaca Valencia; Valdivieso, Bernardo Hospital Universitario La Fe; Benedí, Jose Miguel ITI - Universidad
Politecnica de Valencia; Fernandez-Llatas, Carlos Universidad Politecnica de Valencia

SuA16: 08:00-09:30 Small Hall (5F)
9.3.6 Ballistocardiography and Seismocardiography: Towards an Assessment out of the Laboratory Setting.
Methods, Algorithms, Interpretation and Clinical Value I (Invited Session)
Chair: Di Rienzo, Marco (*Fondazione Don Carlo Gnocchi*)
Co-Chair: Viik, Jari (*Tampere Univ. of Tech.*)

08:00-08:15 SuA16.1
Analysis of Endocardial Acceleration During Intraoperative Optimization of Cardiac
Resynchronization Therapy 7000-7003
Hernández, Alfredo I Univ. of Rennes 1 and INSERM U642; Ziglio, Filippo Sorin CRM SAS, Clamart, France.;
Amblard, Amel Sorin CRM SAS, Clamart, France.; SENHADJI, Lotfi Université de Rennes 1 and INSERM;
Leclercq, Christophe CHU Rennes, INSERM U642, LTSI, University of Rennes 1

08:15-08:30 SuA16.2
Seismocardiography: Past, Present and Future 7004-7007
Zanetti, John M. Acceleron Medical Systems; Tavakolian, Kouhyar University of British Columbia

08:30-08:45 SuA16.3
Local Ballistocardiographic Spectrum Studies from Signals Obtained from Limbs and
Carotid Artery with an EMFi Sensor Induced with a Tilt Table 7008-7011
Alametsä, Jarmo Tampere University of Technology; Palomäki, Ari Kanta-Häme Central Hospital; Viik, Jari
Tampere University of Technology

08:45-09:00 SuA16.4
3D-Ballistocardiography in Microgravity: Comparison with Ground Based Recordings 7012-7016
Migeotte, Pierre-François Royal Military Academy; Delière, Quentin Royal Military Academy; Tank, Jens
Hannover Medical School; Funtova, Irina I. IMBP Moscow, Russia; Baevsky, Roman M. IMBP Moscow, Russia;
Neyt, Xavier Royal Military Academy; Pattyn, Nathalie Royal Military Academy, Brussels, Belgium

09:00-09:15 SuA16.5
Beat-To-Beat Estimation of LVET and QS2 Indices of Cardiac Mechanics from Wearable
Seismocardiography in Ambulant Subjects 7017-7020
Di Rienzo, Marco Fondazione Don Carlo Gnocchi; Vaini, Emanuele Polo Tecnologico, Fondazione Don Carlo
Gnocchi; Castiglioni, Paolo Fondazione Don Carlo Gnocchi ONLUS; Meriggi, Paolo Fondazione Don Gnocchi;
Rizzo, Francesco Fondazione Don C. Gnocchi ONLUS

09:15-09:30 SuA16.6
Comparative Analysis of Two Systems for Unobtrusive Heart Signal Acquisition and Characterization . 7021-7024
Postolache, Octavian Instituto de Telecomunicacoes; Girão, Pedro Instituto SuperiorTécnico, Instituto de
Telecomunicações; Postolache, Gabriela Universidade Atlântica

SuA17: 08:00-09:30 801+802 (8F)
10.5.1 Supporting Elderly People Living Independently Using Activities of Daily Living (Invited Session)
Chair: Karunanithi, Mohanraj (*CSIRO ICT Centre*)
Co-Chair: Jimison, Holly (*Oregon Health & Science Univ.*)

08:00-08:15 SuA17.1
A Socialization Intervention in Remote Health Coaching for Older Adults in the Home 7025-7028
Jimison, Holly Oregon Health & Science University; Marcoe, Jennifer Oregon Health & Science University;
Klein, Krystal Oregon Health & Science University

08:15-08:30		SuA17.2
Detecting Degeneration: Monitoring Cognitive Health in Independent Elders		7029-7032
<i>Bradford, Dana Kai CSIRO</i>		
08:30-08:45		SuA17.3
Step Training System: An ICT Solution to Measure and Reduce Fall Risk in Older Adults		7033-7035
<i>Smith, Stuart Trevor Neuroscience Research Australia; Davies, Thomas Neuroscience Research Australia; Lennox, Jamie Neuroscience Research Australia</i>		
08:45-09:00		SuA17.4
Self Directed Home Based Electrical Muscle Stimulation Training Improves Exercise Tolerance and Strength in Healthy Elderly		7036-7039
<i>Caulfield, Brian UCD; Ann, Prendergast University College Dublin; Rainsford, Gary Biomedical Research Ltd; Minogue, Conor M Biomedical Research Ltd</i>		
09:00-09:15		SuA17.5
Everyday Technologies across the Continuum of Dementia Care		7040-7043
<i>Smith, Glenn Mayo Clinic</i>		
09:15-09:30		SuA17.6
Determination of Activities of Daily Living of Independent Living Older People Using Environmentally Placed Sensors		7044-7047
<i>Zhang, Qing CSIRO ICT Centre; Karunanithi, Mohanraj CSIRO ICT Centre; rana, rajib csiro; Liu, Jiajun CSIRO</i>		
<hr/>		
SuB01: 11:00-12:30		Conference Hall (12F)
1.4.6 Biomedical Signal Classification for BCI Applications (Oral Session)		
Chair: Samek, Wojciech (<i>Berlin Inst. of Tech.</i>)		
11:00-11:15		SuB01.1
Multiple Kernel Learning for Brain-Computer Interfacing		7048-7051
<i>Samek, Wojciech Berlin Institute of Technology; Binder, Alexander Berlin Institute of Technology; Müller, Klaus-Robert Berlin Institute of Technology</i>		
11:15-11:30		SuB01.2
Adaptive Power Projection Method for Accumulative EEG Classification		7052-7055
<i>Li, Chunyue Dalian University of Technology; Liu, Rong Dalian University of Technology; Wang, Yuanyuan Dalian University of Technology; Wang, Yong-xuan Dalian University of Technology; Li, Xiang the Second Hospital of Dalian Medical University</i>		
11:30-11:45		SuB01.3
Extending Motor Imagery by Speech Imagery for Brain-Computer Interface		7056-7059
<i>Wang, Li Southeast University; Zhang, Xiong Southeast University; Zhang, Yu Southeast University</i>		
11:45-12:00		SuB01.4
Sequential Selection of Window Length for Improved SSVEP-Based BCI Classification		7060-7063
<i>Johnson, Erik C. University of Illinois at Urbana-Champaign; Norton, James JS University of Illinois; Jun, David University of Illinois; Bretl, Timothy University of Illinois at Urbana-Champaign; Jones, Douglas L University of Illinois at Urbana-Champaign</i>		
12:00-12:15		SuB01.5
An Improved P300 Extraction Using ICA-R for P300-BCI Speller		7064-7067
<i>Lee, Wee Lih Curtin University; Tan, Tele Curtin University; Leung, Yee Hong Curtin University</i>		
12:15-12:30		SuB01.6
Feature Relevance Analysis to Support Automatic Motor Imagery Discrimination in EEG Based BCI Systems		7068-7071
<i>Alvarez-Meza, Andres Marino Universidad Nacional de Colombia; Velasquez-Martinez, Luisa Fernanda Universidad Nacional de Colombia; Castellanos-Dominguez, Germán Universidad Nacional de Colombia</i>		

SuB02: 11:00-12:30 1202 (12F)
1.9.2 Data Mining in Biosignals I (Oral Session)
Chair: Fotiadis, Dimitrios I. (*Univ. of Ioannina*)

11:00-11:15 SuB02.1
Tracking Progression of Patient State of Health in Critical Care Using Inferred Shared Dynamics in Physiological Time Series 7072-7075
Lehman, Li-wei Massachusetts Institute of Technology; Nemat, Shamim Harvard School of Engineering and Applied Sciences; Adams, Ryan Harvard School of Engineering and Applied Sciences; Moody, George Massachusetts Institute of Technology; Malhotra, Atul Brigham and Women's Hospital and Harvard Medical School; Mark, Roger Massachusetts Institute of Technology

11:15-11:30 SuB02.2
Novel Heuristic Search for Ventricular Arrhythmia Detection Using Normalized Cut Clustering 7076-7079
Castro-Ospina, Andrés Eduardo Universidad Nacional de Colombia; Castro Hoyos, Cristian Universidad Nacional de Colombia, Sede Manizales; Peluffo-Ordóñez, Diego Hernán National University, Colombia - Manizales; Castellanos-Dominguez, Germán Universidad Nacional de Colombia

11:30-11:45 SuB02.3
Discovering Hidden Relationships in Physiological Signals for Prediction of Periventricular Leukomalacia 7080-7083
Jalali, Ali Villanova Univ.; Licht, Daniel J. Children's Hospital of Philadelphia; Nataraj, C. Villanova Univ.

11:45-12:00 SuB02.4
Clinical Validation of the CHRONIOUS Wearable System in Patients with Chronic Disease 7084-7087
Bellos, Christos FORTH BRI Foundation for Research and Technology -Hellas,Biomed; Papadopoulos, Athanasios Foundation for Research and Technology; Rosso, Roberto Tesan S.p.A.; Fotiadis, Dimitrios I. University of Ioannina

12:00-12:15 SuB02.5
Detection of Sleep Apnea Events Via Tracking Nonlinear Dynamic Cardio-Respiratory Coupling from Electrocardiogram Signals 7088-7091
Karandikar, Kunal Oklahoma State University; Le, Trung Oklahoma State University; Sa-ngasoongsong, Akkarapol Oklahoma State University; Wongdhamma, Woranat Oklahoma State University; Bukkapatnam, Satish Oklahoma State University

SuB03: 11:00-12:30 1203(12F)
1.2.9 Advanced State Space Methods for Analyzing Neurophysiological and Clinical Data (Invited Session)
Chair: Chen, Zhe (*Harvard Medical School/MIT*)
Co-Chair: Shinomoto, Shigeru (*Kyoto Univ.*)

11:00-11:15 SuB03.1
A Variational Nonparametric Bayesian Approach for Inferring Rat Hippocampal Population Codes 7092-7095
Chen, Zhe Harvard Medical School/MIT; Wilson, Matthew MIT

11:15-11:30 SuB03.2
Estimating Inputs and an Internal Neuronal Parameter from a Single Spike Train 7096-7099
Shinomoto, Shigeru Kyoto University; Kim, Hideaki Kyoto University

11:30-11:45 SuB03.3
A Stabilized Dual Kalman Filter for Adaptive Tracking of Brain-Computer Interface Decoding Parameters 7100-7103
Zhang, Yin Carnegie Mellon University; Chase, Steven M. Carnegie Mellon University

11:45-12:00 SuB03.4
Learning Outcome-Discriminative Dynamics in Multivariate Physiological Cohort Time Series 7104-7107
Nemat, Shamim Harvard School of Engineering and Applied Sciences; Lehman, Li-wei Massachusetts Institute of Technology; Adams, Ryan Harvard School of Engineering and Applied Sciences

12:00-12:15 SuB03.5
Real-Time Segmentation and Tracking of Brain Metabolic State in ICU EEG Recordings of Burst Suppression 7108-7111
Westover, Brandon Massachusetts General Hospital; Ching, ShiNung Massachusetts Institute of Technology; Shafi, Mouhsin Massachusetts General Hospital; Cash, Sydney Massachusetts General Hospital; Brown, Emery MIT

12:15-12:30 SuB03.6
Band Specific Changes in Thalamocortical Synchrony in Field Potentials after Cardiac Arrest Induced Global Hypoxia 7112-7115
Maybhat, Anil Johns Hopkins University; Chen, Cheng Johns Hopkins University, Biomedical Engg.; Akbari, Yama University of California, Irvine; Sherman, David Infinite Biomedical Technologies; Shen, Kaiquan NUS; Jia, Xiaofeng Johns Hopkins University School of Medicine; Thakor, Nitish Johns Hopkins University

SuB04: 11:00-12:30 1001 (10F)
2.10.1 Knowledge Based Computer-aided Diagnosis Systems Using Soft Computing Approaches (Invited Session)
Chair: Kobashi, Syoji (*Univ. of Hyogo*)
Co-Chair: Nagamune, Kouki (*Univ. of Fukui, Japan*)

11:00-11:15 SuB04.1
Automated Measurement of Cerebral Cortical Thickness Based on Fuzzy Membership Map Derived from MR Images for Evaluation of Alzheimer's Disease 7116-7119
Arimura, Hidetaka Kyushu Univ.; Tokunaga, Chiaki Kyushu Univ.; Yoshiura, Takashi Kyushu Univ.; Ohara, Tomoyuki Kyushu Univ.; Yamashita, Yasuo Kyushu Univ.; Toyofuku, Fukai Kyushu Univ.

11:15-11:30 SuB04.2
A Pruned Ensemble Classifier for Effective Breast Thermogram Analysis 7120-7123
Krawczyk, Bartosz Wroclaw University of Technology; Schaefer, Gerald Loughborough University

11:30-11:45 SuB04.3
An Automatic Bone Segmentation Method Based on Anatomical Structure for the Knee Joint in MDCT Image 7124-7127
Uozumi, Yosuke University of Fukui; Nagamune, Kouki Univ of Fukui, Japan

11:45-12:00 SuB04.4
EEG Epileptic Seizures Separation with Multivariate Empirical Mode Decomposition for Diagnostic Purposes 7128-7131
Rutkowski, Tomasz Univ. of Tsukuba; Struzik, Zbigniew R. The Univ. of Tokyo; Mandic, Danilo Imperial College

12:00-12:15 SuB04.5
An EEG Diagnosis System for Quasi Brain Death Based on Complexity and Energy Analyses 7132-7135
Cao, Jianting Saitama Institute of Technology; Watabe, Daishi Saitama Institute of Technology; Zhang, Liqing Shanghai Jiao Tong University

12:15-12:30 SuB04.6
Fuzzy Connectedness Image Segmentation for Newborn Brain Extraction in MR Images 7136-7139
Kobashi, Syoji University of Hyogo; Udupa, Jayaram University of Pennsylvania

SuB05: 11:00-12:30 1002 (10F)
2.11.1 From Laboratory to Clinic: The Validation of Retinal Image Analysis Tools (Invited Session)
Chair: Trucco, Emanuele (*Univ. of Dundee*)
Co-Chair: Liu, Jiang (*Inst. for Infocomm Res. A STAR*)

11:00-11:15 SuB05.1
Retina Image Analysis and Ocular Telehealth: The Oak Ridge National Laboratory-Hamilton Eye Institute Case Study 7140-7143
Karnowski, Thomas Oak Ridge National Laboratory; Giancardo, Luca University of Burgundy - Oak Ridge National Lab; Li, Yaqin University of Tennessee Health Science Center; Tobin, Kenneth Oak Ridge National Laboratory; Cham, Edward Univ of Tennessee Hamilton Eye Inst

11:15-11:30 SuB05.2
Multimedia Data Mining for Automatic Diabetic Retinopathy Screening 7144-7147
Quellec, Gwenole Inserm; Lamard, Mathieu Université de Bretagne Occidentale; Cochener, Béatrice CHU Morvan; Decenciere, Etienne MINES ParisTech; LAY, Bruno ADCIS; Chabouis, Agnes Assistance Publique-Hopitaux de Paris, Paris, france; Roux, Christian TELECOM Bretagne; Cazuguel, Guy Institut Mines-Telecom/Telecom Bretagne

11:30-11:45 SuB05.3
Integrating Research, Clinical Practice and Translation: The Singapore Experience 7148-7151
*Liu, Jiang Institute for Infocomm Research, A STAR; Wong, Damon Institute for Infocomm Research; Zhang, Zhuo A*STAR; Lee, Beng Hai Institute for Infocomm Research; Gao, Xinting Institute for Infocomm Research; Yin, Fengshou Institute for Infocomm Research; Zhang, Jielin Nanyang Technological University; Htoo, Min The Institute for Infocomm Research*

11:45-12:00 SuB05.4
Towards a Multi-Site International Public Dataset for the Validation of Retinal Image Analysis Software ... 7152-7155
Trucco, Emanuele University of Dundee; Ruggeri, Alfredo University of Padua

12:00-12:30 SuB05.5
Open Discussion on the Formation of an International Interest Group *
Trucco, Emanuele University of Dundee

SuB09: 11:00-12:30 1006 (10F)
4.9.5 Biomechanics Modeling I (Oral Session)
Chair: Palladino, Joseph (*Trinity Coll.*)

11:00-11:15 SuB09.1
Accuracy Improvement in Cranio-Maxillofacial Soft Tissue Simulation Using a Muscle Embedded Meshing Approach 7156-7159
Shahim, Kamal Univ. of Bern; Goksel, Orcun ETH Zurich; Juergens, Philipp Dept. of Oral & Maxillofacial Surgery, Univ. Hospital Basel; Reyes, Mauricio Institute for Surgical Technology and Biomechanics, Univ. Bern

11:15-11:30 SuB09.2
Phase Velocity and Attenuation Predictions of Waves in Cancellous Bone Using an Iterative Effective Medium Approximation 7160-7163
Potsika, Vassiliki University of Ioannina; Protopappas, Vasilios C. University of Patras; Vavva, Maria University of Ioannina; Polyzos, Demosthenes University of Patras; Fotiadis, Dimitrios I. University of Ioannina

11:30-11:45 SuB09.3
A Rectangular Tetrahedral Adaptive Mesh Based Corotated Finite Element Model for Interactive Soft Tissue Simulation 7164-7167
Tagawa, Kazuyoshi Ritsumeikan University; Yamada, Takahiro Ritsumeikan University; Tanaka, Hiromi Ritsumeikan University

11:45-12:00 SuB09.4
Modelling the Generation of the Cochlear Microphonic 7168-7171
Ayat, Mohammad Victoria University of Wellington, New Zealand; Teal, Paul School of Engineering and Computer Science VUW

12:00-12:15 SuB09.5
Estimating Muscle Activation Patterns Using a Surrogate Model of Facial Biomechanics 7172-7175
Wu, Tim University of Auckland; Martens, Harald Norwegian Institute of Food, Fisheries and Aquaculture Research; Hunter, Peter University of Auckland; Mithraratne, Kumar University of Auckland

12:15-12:30 SuB09.6
Cardiac Muscle Strip Model Parameters and Muscle Elastance 7176-7179
Palladino, Joseph Trinity College

SuB11: 11:00-12:30	1008 (10F)
11.3.1 Cutting Edge in Information Technology for Contributions to Society (Invited Session)	
Chair: Takada, Hiroki (<i>Graduate School of Engineering, Univ. of Fukui</i>)	
Co-Chair: Yokoyama, Kiyoko (<i>Nagoya City Univ.</i>)	

11:00-11:15 SuB11.1
A New Technique of Bone Thickness Measurement for Pedicle Screw Insertion Safety Purpose 7180-7183
Ali Hassan, Muhamad Khairul University of Fukui; Nagamune, Kouki Univ of Fukui, Japan

11:15-11:30 SuB11.2
Study on Improvement of Signal Detectability Considering Noise Characteristics in Medical X-Ray Images 7184-7187
Sugiura, Akihiro Gifu University of Medical Science; Yokoyama, Kiyoko Nagoya City University; Takada, Hiroki Graduate School of Engineering, University of Fukui

11:30-11:45 SuB11.3
Multilingual Medical Dialog System Developed As Smartphone/Tablet Application 7188-7191
Hasegawa, Satoshi Nagoya Bunri University; Hasegawa, Akira Nagoya Bunri University; Takasu, Kento Nagoya Bunri University; Kojima, Takehito Nagoya University; Miyao, Masaru Nagoya University; Sugita, Namiho SK WORD; Sakai, Yuki SK WORD; Kato, Keisuke SK WORD

11:45-12:00 SuB11.4
Usage of Stereoscopic Visualization in the Learning Contents of Rotational Motion 7192-7195
Matsuura, Shu Tokyo Gakugei University

12:00-12:15 SuB11.5
Accommodation Training in Foreign Workers 7196-7199
Takada, Masumi Aichi Medical University School of Medicine; Miyao, Masaru Nagoya University; Matsuura, Yasuyuki University of Fukui; Takada, Hiroki Graduate School of Engineering, University of Fukui

12:15-12:30 SuB11.6
Comparison of Form in Potential Functions While Maintaining Upright Posture During Exposure to Stereoscopic Video Clips 7200-7203
Kutsuna, Kenichiro Shizuoka Univ.; Matsuura, Yasuyuki Univ. of Fukui; Fujikake, Kazuhiro Nagoya Univ.; Miyao, Masaru Nagoya Univ.; Takada, Hiroki Graduate School of Engineering, Univ. of Fukui

SuB12: 11:00-12:30	1009 (10F)
3.6.3 Wearable Sensors and Body Area Sensor Networks for Activity Monitoring: Advances in Understanding of Human Activity (Invited Session)	
Chair: Sazonov, Edward (<i>Univ. of Alabama</i>)	
Co-Chair: Bonato, Paolo (<i>Harvard Medical School</i>)	

11:00-11:15 SuB12.1
Clinical Applications of Mobile Health Technology *
Bonato, Paolo Harvard Medical School

11:15-11:30 SuB12.2
A Mobile System for Assessment of Physiological Response to Posture Transitions 7205-7208
Jovanov, Emil University of Alabama in Huntsville; Milosevic, Mladen University of Alabama in Huntsville; Milenkovic, Aleksandar University of Alabama in Huntsville

11:30-11:45 SuB12.3
Development of SmartStep: An Insole-Based Physical Activity Monitor 7209-7212
Sazonov, Edward University of Alabama; Hegde, Nagaraj The University of Alabama; Tang, Wenlong The University of Alabama

11:45-12:00 SuB12.4
Measurement of Knee Flexion/Extension Angle Using Wearable UWB Radios 7213-7216
Qi, Yongbin Nanyang Technological University; Soh, Cheong Boon Nanyang Technological University; Gunawan, Erry Nanyang Technological University; Low, Kay soon Nanyang Technological University; Maskooki, Arash Nanyang Technological University

12:00-12:15 SuB12.5
Quantitative Analysis of the Fall-Risk Assessment Test with Wearable Inertia Sensors 7217-7220
Tamura, Toshiyo Osaka Electro-Communication Univ.; Zakaria, Nor Aini Nara Institute of Science and Technology; Kuwae, Yutaka Fujimoto Hayasuzu Hospital; Sekine, Masaki Osaka Electro-Communication Univ.; Minato, Kotaro Nara Institute of Science and Technology; Yoshida, Masaki Osaka Electro-Communication Univ

12:15-12:30 SuB12.6
3-D Kinematics and Neuromuscular Signals' Integration for Post ACL Reconstruction Recovery Assessment 7221-7225
Senanayake, S. Mudiyanseelage Namal Arosha Univ. Brunei Darussalam; Malik, Owais Ahmed Univ. Brunei Darussalam; Petra, Pg Dr M Iskandar Univ. of Brunei; Zaheer, Danish Sports Medicine & Research Centre

SuB13: 11:00-12:45 1010 (10F)
8.9.2 Modeling and Simulation in Biomechanics (Oral Session)
Chair: Wessel, Carolina (*Univ. of Oxford*)

11:00-11:15 SuB13.1
An EKF-Based Approach for Estimating Leg Stiffness During Walking 7226-7228
Ochoa Diaz, Claudia Patricia University of Brasilia; Marra Menegaz, Henrique University of Brasilia; Padilha Lanari Bó, Antônio Universidade de Brasilia; Araújo Borges, Geovany Universidade de Brasília

11:15-11:30 SuB13.2
The Effect of Vary Varus Malalignment on Knee Adduction Moment During Walking of Human Normal Gait 7229-7232
Maneekittichot, Thanakrit King Mongkut's University of Technology Thonburi; Chanthasopeephan, Teeranoot King Mongkut's University of Technology Thonburi

11:30-11:45 SuB13.3
Multijoint Upper Limb Torque Estimation from sEMG Measurements 7233-7236
R. Bueno, Diana University of Zaragoza; Montano Gella, Luis University of Zaragoza

11:45-12:00 SuB13.4
Sport Helmet Design and Virtual Impact Test by Image-Based Finite Element Modeling 7237-7240
Luo, Yunhua University of Manitoba; Liang, ZhaoYang University of Manitoba

12:00-12:15 SuB13.5
Local Dynamic Stability of Lower Extremity Joints in Lower Limb Amputees During Slope Walking 7241-7244
Chen, Jin-Ling Shanghai Jiaotong University; Gu, Dong-Yun Shanghai Ninth People's Hospital Affiliated to Shanghai Jiaotong U

12:15-12:30 SuB13.6
Motion Recognition from Contact Force Measurement 7245-7248
Yabuki, Takumi Tokyo University of Agriculture and Technology; Venture, Gentiane Tokyo University of Agriculture and Technology

12:30-12:45 SuB13.7
Realistic Biomechanical Model of a Cancerous Breast for the Registration of Prone to Supine Deformations 7249-7252
Wessel, Carolina University of Oxford; Schnabel, Julia University of Oxford; Brady, Michael University of Oxford

SuB15: 11:00-12:30 1102 (11F)
10.4.2 mHealth I (Oral Session)
Chair: Panayides, Andreas (*Univ. of Cyprus*)
Co-Chair: Matsumura, Yasushi (*Osaka Univ.*)

11:00-11:15 SuB15.1
M-Health Medical Video Communication Systems: An Overview of Design Approaches and Recent Advances 7253-7256
Panayides, Andreas University of Cyprus; Pattichis, Marios University of New Mexico;; Constantinides, Anthony G. Imperial College; Pattichis, Constantinos University of Cyprus

11:15-11:30	SuB15.2
Toward Energy-Efficient and Distributed Mobile Health Monitoring Using Parallel Offloading	7257-7261
<i>Ahnn, Jong Hoon Univ. of California, Los Angeles; Potkonjak, Miodrag Univ. of California, Los Angeles</i>	
11:30-11:45	SuB15.3
A Portable Real-Time ECG Recognition System Based on Smartphone	7262-7265
<i>Yan, Tzu-Hao National Chung Cheng University; Chang, Chung-Yu National Chung Cheng University; Yu, Sung-Nien National Chung Cheng University</i>	
11:45-12:00	SuB15.4
Development of Lifelog Sharing System for Rheumatoid Arthritis Patients Using Smartphone	7266-7269
<i>Shinohara, Akio Nippon Telegraph and Telephone Corporation; Ito, Tatsuaki Nippon Telegraph and Telephone Corporation; Ura, Tetsuya NTT Service Evolution Laboratories; Nishiguchi, Shu the Department of Physical Therapy, Human Health Sciences, Kyoto; Ito, Hiromu Department of the Control for Rheumatic Diseases, Kyoto University; Yamada, Minoru Department of Physical Therapy, Human Health Sciences, Kyoto Uni; Yoshitomi, Hiroyuki Department of Innovation Center for Immunoregulation Technology; Furu, Moritoshi Department of the Control for Rheumatic Diseases, Kyoto University; Okamoto, Kazuya Kyoto University Hospital; Aoyama, Tomoki the Department of Physical Therapy, Human Health Sciences, Kyoto</i>	
12:00-12:15	SuB15.5
Design and Evaluation of a Multimodal mHealth Based Medication Management System for Patient Self Administration	7270-7273
<i>Schreier, Guenter AIT Austrian Institute of Technology GmbH; Schwarz, Mark AIT - Austrian Institute of Technology; Modre, Robert ARC Seibersdorf research GmbH; Kastner, Peter Austrian Research Centers GmbH - ARC; Scherr, Daniel Hopital Haut Leveque; Fruhwald, Friedrich Medical University of Graz</i>	
12:15-12:30	SuB15.6
Comparing Stress Markers across Various Cohorts in a Mobile Setting	7274-7277
<i>Gandhi, Shreyans Indian Institute of Technology Bombay; Jain, Jawahar Fujitsu Laboratories of America; Shojaei Baghini, Maryam Indian Institute of Technology Bombay; Mukherji, Soumyo Indian Institute of Technology Bombay</i>	
SuB16: 11:00-12:30	Small Hall (5F)
9.3.7 Ballistocardiography and Seismocardiography: Towards an Assessment out of the Laboratory Setting. Methods, Algorithms, Interpretation and Clinical Value II (Invited Session)	
Chair: Migeotte, Pierre-François (<i>Royal Military Acad.</i>)	
Co-Chair: Inan, Omer (<i>Stanford Univ.</i>)	
11:00-11:15	SuB16.1
A New Seismocardiography Segmentation Algorithm for Diastolic Timed Vibrations	7278-7281
<i>Khosrow-khavar, Farzad Simon Fraser Univ.; Tavakolian, Kouhyar Univ. of British Columbia; Soleimani-Nouri, Maxim SFU; Kaminska, Bozena Simon Fraser Univ.; Menon, Carlo Simon Fraser Univ.</i>	
11:15-11:30	SuB16.2
Physiological Insights from Gravity-Free Ballistocardiography	7282-7285
<i>Prisk, Gordon Kim University of California, San Diego; Migeotte, Pierre-François Royal Military Academy</i>	
11:30-11:45	SuB16.3
A Preliminary Study Investigating the Quantification of Beat-To-Beat Morphological Consistency in Seismocardiogram Signals	7286-7289
<i>Inan, Omer Stanford University; Pandia, Keya Stanford University; Giovangrandi, Laurent Stanford University; Zamanian, Roham Stanford University; Kovacs, Gregory T.A. Stanford University</i>	
11:45-12:00	SuB16.4
Preliminary Results from Standing Ballistocardiography Measurements in Microgravity	7290-7293
<i>Wiard, Richard M. Stanford University; Inan, Omer Stanford University; Giovangrandi, Laurent Stanford University; Cuttino, Charles M. Orbital Medicine, Inc.; Kovacs, Gregory T.A. Stanford University</i>	

12:00-12:15 SuB16.5
Timing and Source of the Maximum of the Transthoracic Impedance Cardiogram (dZ/dt) in Relation to the H-I-J Complex of the Longitudinal Ballistocardiogram under Gravity and Microgravity Conditions ... 7294-7297
Luchitskaya, Elena IBMP Moscow; Delière, Quentin Royal Military Academy; Diedrich, André Vanderbilt University, Nashville, TN; Pattyn, Nathalie Royal Military Academy, Brussels, Belgium; Almorad, Alexandre Université Libre de Bruxelles, Erasme Hospital, Cardiology; Beck, Luis PUCRS; Gauger, Peter German Space Agency, DLR, Cologne; Limper, Ulrich German Space Agency, DLR, Cologne; Funtova, Irina I. IMBP Moscow, Russia; Baeovsky, Roman M. IMBP Moscow, Russia; Migeotte, Pierre-François Royal Military Academy; Tank, Jens Hannover Medical School

SuB17: 11:00-12:30	801+802 (8F)
10.5.2 Smart Homes and Ambient Assisted Living I (Oral Session)	
Chair: Nakajima, Kazuki (<i>Univ. of Toyama</i>)	
Co-Chair: Finkelstein, Joseph (<i>Johns Hopkins Univ. School of Medicine</i>)	

11:00-11:15 SuB17.1
The Sweet-Home Project: Audio Processing and Decision Making in Smart Home to Improve Well-Being and Reliance 7298-7301
Vacher, Michel CNRS; Chahuara, Pedro LIG UMR CNRS/UJF/G-INP 5217; Lecouteux, Benjamin LIG; Istrate, Dan ESIGETEL; Portet, Francois Grenoble Institute of Technology; Joubert, Thierry THEORIS; Sehili, Mohamed El Amine ESIGETEL; Meillon, Brigitte LIG; Bonnefond, Nicolas Université Joseph Fourier Grenoble 1 - LIG; Fabre, Sébastien Technosens; Roux, Camille Floralis; Caffiau, Sybille Université Joseph Fourier Grenoble 1 - LIG

11:15-11:30 SuB17.2
Development of an Image Processing Support System Based on Fluorescent Dye to Prevent Elderly People with Dementia from Wandering 7302-7305
Nishigaki, Yutaka University of Toyama; Tanaka, Kentaro University of Toyama; Kim, Juhyon University of Toyama; Nakajima, Kazuki University of Toyama

11:30-11:45 SuB17.3
Feasibility of a Wireless Health Monitoring System for Prevention and Health Assessment of Elderly People 7306-7309
Jiménez-Mixco, Viveca Universidad Politécnica de Madrid; Cabrera-Umpierrez, Maria Fernanda Universidad Politecnica de Madrid; Arredondo, María Teresa Technical University of Madrid; Panou, Maria Centre for Research and Technology Hellas; Struck, Matthias Fraunhofer IIS; Bonfiglio, Silvio BARCO

11:45-12:00 SuB17.4
Remotely Controlled Cycling Exercise System for Home-Based Telerehabilitation 7310-7313
Finkelstein, Joseph Johns Hopkins University School of Medicine; Jeong, In cheol Johns Hopkins University

12:00-12:15 SuB17.5
Predictors of Successful Acceptance of Home Telemanagement in Veterans with Multiple Sclerosis 7314-7317
Finkelstein, Joseph Johns Hopkins University School of Medicine; Cha, Eunme Johns Hopkins University; Wood, Jeffrey Johns Hopkins University; Wallin, Mithell Baltimore VAMC

12:15-12:30 SuB17.6
Adaptive and Automated Ambiance Surveillance and Event Detection for Ambient Assisted Living 7318-7321
Matern, Dierck University of Luebeck; Condurache, Alexandru Paul University of Lübeck; Mertins, Alfred University of Lübeck

SuC01: 13:30-15:00	Conference Hall (12F)
1.4.7 Biomedical Signal Classification through ECG Analysis (Oral Session)	
Chair: Katayama, Norihiro (<i>Tohoku Univ.</i>)	

13:30-13:45 SuC01.1
Coordinate Rotation Based Low Complexity Architecture for 3D Single Channel Independent Component Analysis 7322-7325
Yerrapragada, Jayesh Indian Institute of Technology Guwahati; Olemann, Aditi Indian Institute of Technology, Guwahati; Acharyya, Amit Indian Institute of Technology Hyderabad; Shaik, Rafi Ahamed Indian Institute of Technology Guwahati

13:45-14:00 SuC01.2
Detection of Myocardial Scar from the VCG Using a Supervised Learning Approach 7326-7329
Panagiotou, Christos Industrial Systems Institute; Dima, Sofia-Maria Industrial Systems Institute; Mazomenos, Evangelos University of Southampton; Rosengarten, James University Hospital Southampton NHS Trust; Maharatna, Koushik University of Southampton; Gialelis, John Industrial Systems Institute; Morgan, John University Hospital Southampton NHS Trust

14:00-14:15 SuC01.3
Noise-Tolerant Instantaneous Heart Rate and R-Peak Detection Using Short-Term Autocorrelation for Wearable Healthcare Systems 7330-7333
Fujii, Takahide Kobe University; Nakano, Masanao Kobe University; Konishi, Toshihiro Kobe University; Izumi, Shintaro Kobe University; Kawaguchi, Hiroshi Kobe University; Yoshimoto, Masahiko Kobe University; Yamashita, Ken Kobe University

14:15-14:30 SuC01.4
Detection of Myocardial Ischemia Episode Using Morphological Features 7334-7337
Fan, Cheng-Hsiang National Chung Cheng University; Hsu, Yu National Chung Cheng University; Yu, Sung-Nien National Chung Cheng University; Lin, Jou-Wei National Taiwan University Hospital Yun-Lin Branch

14:30-14:45 SuC01.5
Reconstruction of Fetal Vector Electrocardiogram from Maternal Abdominal Signals under Fetus Body Rotations 7338-7341
Nabeshima, Yuuji Tohoku University; Kimura, Yoshitaka Tohoku Univ; Ito, Takuya Tohoku Univ; Ohwada, Kazunari Atom medical Co Ltd; Karashima, Akihiro Tohoku University; Katayama, Norihiro Tohoku univ; Nakao, Mitsuyuki Tohoku University

14:45-15:00 SuC01.6
Automated Classification of Spatiotemporal Characteristics of Gastric Slow Wave Propagation 7342-7345
Paskaranandavivel, Niranchan The University of Auckland; Gao, Jerry The University of Auckland; Du, Peng The University of Auckland; O'Grady, Gregory University of Auckland; Cheng, Leo K The University of Auckland

SuC04: 13:30-15:00 1001 (10F)
2.10.2 Computer Aided Diagnosis I (Oral Session)
Chair: Suzuki, Kenji (*Univ. of Chicago*)

13:30-13:45 SuC04.1
Enhanced Imaging Colonoscopy Facilitates Dense Motion-Based 3D Reconstruction 7346-7349
Fernández Alcantarilla, Pablo Université d'Auvergne; Bartoli, Adrien Université d'Auvergne; Chadebecq, François Blaise Pascal University; Tilmant, Christophe Université Blaise Pascal; Lepilliez, Vincent Gastroenterology Department, Edouard Herriot Hospital

13:45-14:00 SuC04.2
Impact of Image Preprocessing Methods on Polyp Localization in Colonoscopy Frames 7350-7354
Bernal, Jorge Universitat Autònoma de Barcelona and Computer Vision Center; Sánchez, Francisco Javier Universitat Autònoma de Barcelona and Computer Vision Center; Vilariño, Fernando Universitat Autònoma de Barcelona and Computer Vision Center

14:00-14:15 SuC04.3
A New Method for Pulmonary Nodule Detection Using Decision Trees 7355-7359
Tartar, Ahmet University of Istanbul; Kılıç, Niyazi University of Istanbul; Akan, Aydin Istanbul University

14:15-14:30 SuC04.4
A Multiscale Product Approach for an Automatic Classification of Voice Disorders from Endoscopic High-Speed Videos 7360-7363
Unger, Jakob University of Applied Science Trier; Schuster, Maria University Hospital, Campus Grosshadern, University of Munich; Hecker, Dietmar J. Saarland University; Schick, Bernhard Klinik und Poliklinik für HNO, Universität des Saarlandes; Lohscheller, Joerg University of Applied Science Trier

14:30-14:45		SuC04.5
Markerless Tracking for Augmented Reality for Image-Guided Endoscopic Retrograde Cholangiopancreatography	7364-7367	
<i>Nguyen, Tien Thinh Korea Advanced Institute of Science and Technology; Jung, Hoe Ryong KAIST; Lee, Doo Yong KAIST</i>		
14:45-15:00		SuC04.6
Multi-Label Fast Marching and Seeded Watershed Segmentation Methods for Diagnosis of Breast Cancer Cytology	7368-7371	
<i>Filipczuk, Pawel University of Zielona Gora; Kowal, Marek University of Zielona Góra; Obuchowicz, Andrzej Institute of Control and Computation Engineering, University of</i>		
SuC05: 13:30-15:15		1002 (10F)
2.11.2 Retinal Imaging I (Oral Session)		
Chair: Trucco, Emanuele (<i>Univ. of Dundee</i>)		
Co-Chair: Bhuiyan, Alauddin (<i>Commonwealth Scientific and Industrial Res. Organization</i>)		
13:30-13:45		SuC05.1
Towards Automatic Detection of Abnormal Retinal Capillaries in Ultra-Widefield-Of-View Retinal Angiographic Exams	7372-7375	
<i>Zutis, Kris University of Dundee; Trucco, Emanuele University of Dundee; Hubschman, Jean Pierre UCLA; Reed, David UCLA; Shah, Sanket UCLA; van Hemert, Jano Optos plc</i>		
13:45-14:00		SuC05.2
Automatic Detection of Focal Arteriolar Narrowing from Color Retinal Image	7376-7379	
<i>Roy, Pallab The University of Melbourne; Bhuiyan, Alauddin Commonwealth Scientific and Industrial Research Organization; Kotagiri, Ramamohanarao The University of Melbourne</i>		
14:00-14:15		SuC05.3
Automated Anterior Chamber Angle Localization and Glaucoma Type Classification in OCT Images	7380-7383	
<i>Xu, Yanwu Institute for Infocomm Research; Liu, Jiang Institute for Infocomm Research, A STAR; Cheng, Jun Institute for Infocomm Research, AStar; Lee, Beng Hai Institute for Infocomm Research; Wong, Damon Institute for Infocomm Research; Baskaran, Mani Singapore Eye Research Institute; Perera, Shamira Singapore Eye Research Institute; Aung, Tin Singapore Eye Research Institute</i>		
14:15-14:30		SuC05.4
Adaptive Colour Transformation of Retinal Images for Stroke Prediction	7384-7387	
<i>Unnikrishnan, Premith RMIT University; Aliahmad, Behzad RMIT university; kawasaki, Ryo Royal Victorian Eye and Ear Hospital, University of Melbourne; Kant Kumar, Dinesh RMIT university</i>		
14:30-14:45		SuC05.5
Automatic Detection of Subretinal Fluid and Sub-Retinal Pigment Epithelium Fluid in Optical Coherence Tomography Images	7388-7391	
<i>Ding, Weiguang Simon Fraser University; Young, Mei University of British Columbia; Bourgault, Serge University of British Columbia, Université Laval; Lee, Sieun Simon Fraser University; Albiani, David A. University of British Columbia; Kirker, Andrew W. University of British Columbia; Forooghian, Farzin University of British Columbia; Sarunic, Marinko Simon Fraser University; Merkur, Andrew B. University of British Columbia; Beg, Mirza Faisal Simon Fraser University</i>		
14:45-15:00		SuC05.6
Drusen Quantification for Early Identification of Age Related Macular Degeneration (AMD) Using Color Fundus Imaging	7392-7395	
<i>Bhuiyan, Alauddin Commonwealth Scientific and Industrial Research Organization; Karmakar, Chandan K. The University of Melbourne; Xiao, Di Commonwealth Scientific and Industrial Research Organization; Kotagiri, Ramamohanarao The University of Melbourne; Kanagasingam, Yogi The Australian eHealth Research Centre, Perth, CSIRO.</i>		
15:00-15:15		SuC05.7
Retinal Vessel Classification: Sorting Arteries and Veins	7396-7399	
<i>Relan, Devanjali University of Edinburgh; MacGillivray, Thomas University Of Edinburgh; Ballerini, Lucia University of Dundee; Trucco, Emanuele University of Dundee</i>		

SuC07: 13:30-15:00 1004 (10F)
2.5.2 Imaging and Signaling of Human Brain Functions (Invited Session)
Chair: Wongsawat, Yodchanan (*Mahidol Univ.*)

13:30-13:45 SuC07.1
EEG Brain Mapping and Brain Connectivity Index for Subtypes Classification of Attention Deficit Hyperactivity Disorder Children During the Eye-Opened Period 7400-7403
Rodrak, Supassorn Mahidol University; Wongsawat, Yodchanan Mahidol University

13:45-14:00 SuC07.2
Pursuing the Flow of Information: Connectivity between Bilateral Premotor Cortices Predicts Better Accuracy in the Phonological Working Memory Task 7404-7407
Ono, Yumie Meiji University; Nanjo, Tatsuya Waseda University; Ishiyama, Atsushi Waseda University

14:00-14:15 SuC07.3
Localization of Extrastriate Body Area Using Functional Near-Infrared Spectroscopy and 3D Digitizer ... 7408-7411
Shimada, Sotaro Meiji University

14:15-14:30 SuC07.4
Measurement of Brain Activity Responded by Subjects'own Name Using EEG 7412-7415
Tamura, Kaori Kyushu University

14:30-14:45 SuC07.5
Hybrid SSVEP-Motion Visual Stimulus Based BCI System for Intelligent Wheelchair 7416-7419
Punsawad, Yunyong Mahidol Univ; Wongsawat, Yodchanan Mahidol University

14:45-15:00 SuC07.6
Regularization Using Similarities of Signals Observed in Nearby Sensors for Feature Extraction of Brain Signals 7420-7423
Higashi, Hiroshi Tokyo University of Agriculture and Technology; Tanaka, Toshihisa Tokyo University of Agriculture and Technology

SuC09: 13:30-15:15 1006 (10F)
4.9.7 Multiscale Modeling and Analysis of Uterine Electrophysiological Activity (Invited Session)
Chair: Mischi, Massimo (*Eindhoven Univ. of Tech.*)
Co-Chair: Karlsson, Brynjar (*Reykjavik Univ.*)

13:30-13:45 SuC09.1
Low-Complexity Intrauterine Pressure Monitoring by Teager Energy Estimation 7424-7427
Rooijackers, Michael Johannes Eindhoven University of Technology; Rabotti, Chiara Eindhoven University of Technology; Oei, S. Guid Maxima Medisch Centrum, Veldhoven; Aarts, Ronald M. Philips; Mischi, Massimo Eindhoven University of Technology

13:45-14:00 SuC09.2
Prediction of Labor Using Non-Invasive Laplacian EHG Recordings 7428-7431
Ye Lin, Yiyao Universitat Politècnica de València; Prats-Boluda, Gema Universitat Politècnica de València; Alberola-Rubio, Jose Universitat Politècnica de València; Bueno-Barrachina, Jose Manuel Universitat Politècnica de València; Perales, Alfredo Hospital Universitario y Politécnico La Fe de Valencia; Garcia-Casado, Javier Universitat Politècnica de València

14:00-14:15 SuC09.3
Characterization of EHG Contractions at Term Labor by Nonlinear Analysis 7432-7435
Garcia-Gonzalez, Maria-Teresa Universidad Autonoma Metropolitana; Charleston-Villalobos, Sonia Universidad Autonoma Metropolitana; Vargas Garcia, Carlos Centro de Investigacion Materno Infantil del Grupo de Estudios a; Gonzalez-Camarena, Ramon Universidad Autonoma Metropolitana; Aljama-Corrales, Tomas Universidad Autonoma Metropolitana

14:15-14:30		SuC09.4
Ultrasound Analysis of the Uterine Wall Movement for Improved Electrohysterographic Measurement and Modeling	.....	7436-7439
<i>Rabotti, Chiara Eindhoven University of Technology; de Lau, Hinke Maxima medical centre Veldhoven; Haazen, Nicole Eindhoven University of Technology; Oei, S. Guid Maxima Medisch Centrum, Veldhoven; Mischi, Massimo Eindhoven University of Technology</i>		
14:30-14:45		SuC09.5
Preliminary Global Sensitivity Analysis of an Uterine Electrical Activity Model	.....	7440-7443
<i>Laforet, Jeremy CNRS; Marque, Catherine University of Technology of compiegne</i>		
14:45-15:00		SuC09.6
Windowed Multivariate Auto-Regressive Model Improving Classification of Labor vs. Pregnancy Contractions	.....	7444-7447
<i>Karlsson, Brynjar Reykjavik University; Hassan, Mahmoud Université de Rennes 1; Marque, Catherine University of Technology of compiegne</i>		
15:00-15:15		SuC09.7
A Multiscale Model of the Electrohysterogram the BioModUE_PTL Project	.....	7448-7451
<i>Marque, Catherine University of Technology of compiegne; Laforet, Jeremy CNRS; Rabotti, Chiara Eindhoven University of Technology; Alexandersson, Asgeir faculty of medicine, University of Iceland, Reykjavik, Iceland.; GERMAIN, Guy CEA-INSERM; Gondry, Jean CGO, Amiens; Karlsson, Brynjar Reykjavik University; Leskosek, Brane IBMI, University of Ljubljana; Mischi, Massimo Eindhoven University of Technology; Muszynski, Charles CGO, Amiens; Oei, S. Guid Maxima Medisch Centrum, Veldhoven; Peuscher, Jan TMSi, Enschede; Rudel, Drago MKS Electronic Systems</i>		
SuC13: 13:30-15:15		1010 (10F)
8.9.3 Mechanics of Locomotion and Balance (Oral Session)		
Chair: Zecca, Massimiliano (<i>Waseda Univ.</i>)		
13:30-13:45		SuC13.1
The Influences of Emotional Intensity for Happiness and Sadness on Walking	.....	7452-7455
<i>Destephe, Matthieu Waseda University; Maruyama, Takayuki Waseda University; Zecca, Massimiliano Waseda University; Hashimoto, Kenji Waseda University; Takanishi, Atsuo Waseda University</i>		
13:45-14:00		SuC13.2
Using Single Leg Standing Time to Predict the Fall Risk in Elderly	.....	7456-7458
<i>Chang, Chun-Ju National Yang-Ming University, Taipei, Taiwan; Yang, Sai-Wei Department of Biomedical Engineering, National Yang-Ming Univ</i>		
14:00-14:15		SuC13.3
Effects of Light Finger Touch to the Upper Legs on Postural Sway and Muscle Activity During Quiet Standing	.....	7459-7462
<i>OSHITA, Kazushige Kyushu Kyoritsu University; YANO, Sumio Kobe University</i>		
14:15-14:30		SuC13.4
Generalization of a Muscle-Reflex Control Model to 3D Walking	.....	7463-7466
<i>Song, Seungmoon Carnegie Mellon; Geyer, Hartmut Carnegie Mellon University</i>		
14:30-14:45		SuC13.5
Ageing Effects on Medio-Lateral Balance During Walking with Increased and Decreased Step Width	.....	7467-7470
<i>Nagano, Hanatsu Victoria University; Begg, Rezaul Victoria University; Sparrow, William Victoria University</i>		
14:45-15:00		SuC13.6
Using a Foot Mounted Accelerometer to Detect Changes in Gait Patterns	.....	7471-7475
<i>Patterson, Matt University College Dublin; Caulfield, Brian UCD</i>		
15:00-15:15		SuC13.7
An Analysis of Leg Joint Synergy During Backward Walking	.....	7476-7479
<i>Suenaga, Hiromichi Yamaguchi University; Hashizume, Yoshimitsu Yamaguchi University; Nishii, Jun Yamaguchi University</i>		

10.4.4 Telehealth and Telemedicine I (Oral Session)**Chair:** Henriques, Jorge (*Univ. of Coimbra - NIF 501617582*)**Co-Chair:** Oguri, Koji (*Aichi Prefectural Univ.*)

13:30-13:45

SuC15.1

Recognition of Correct Finger Placement for Photoplethysmographic Imaging 7480-7483*Karlen, Walter UBC; Lim, Joanne British Columbia Children's Hospital; Ansermino, J. Mark British Columbia's Children's Hospital; Dumont, Guy University of British Columbia; Scheffer, Cornie Stellenbosch University*

13:45-14:00

SuC15.2

A Novel Data-Mining Platform Leveraging Social Media to Monitor Outcomes of Januvia 7484-7487*Akay, Altug Royal Institute of Technology; Dragomir, Andrei University of Houston; Erlandson, Björn-Erik KTH Royal Institute of Technology*

14:00-14:15

SuC15.3

Telehealth Streams Reduction Based on Pattern Recognition Techniques for Events Detection and Efficient Storage in EHR 7488-7491*Henriques, Jorge University of Coimbra - NIF 501617582; Rocha, Teresa Inst Superior de Eng de Coimbra; Paredes, Simão Instituto Superior de Engenharia de Coimbra; de Carvalho, Paulo University of Coimbra - NIF: 501617582*

14:15-14:30

SuC15.4

A Telehealth System for Parkinson's Disease Remote Monitoring. the PERFORM Approach 7492-7495*Cancela, Jorge Universidad Politécnica de Madrid; Pastorino, Matteo Universidad Politecnica de Madrid; Arredondo, María Teresa Technical University of Madrid; Hurtado, Olivia Universidad Complutense de Madrid*

14:30-14:45

SuC15.5

A Low-Cost Scalable Solution for Digitizing Analog X-Rays with Applications to Rural Healthcare 7496-7499*Channappayya, Sumohana Indian Institute of Technology Hyderabad; Acharyya, Amit Indian Institute of Technology Hyderabad; Kunderu, HARI KRISHNA IIT Hyderabad; Javvadi Appanacharya, Kalyan Tej IIT Hyderabad; Tatinati, Anil Kumar IIT Hyderabad; Syed, Khalid Mohammad IIT Hyderabad; Tripathy, Souravmoy Ordnance Factory Hospital, Hyderabad, India*

14:45-15:00

SuC15.6

A Wearable Healthcare System for Cardiac Signal Monitoring Using Conductive Textile Electrodes 7500-7503*Lim, Chae Young KETI(korea electronics Technology institute); Jang, Kuk Jin Korea Electronics Technology Institute; Kim, Hyun-Woo KETI; Kim, Young Hwan KETI*