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Co-Chair: McIntyre, Joseph *Tecnia Research and Innovation*

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 Li, Xiong* *Chonbuk National Univ.*; V. Panicker, Gayathri *Chonbuk National Univ.*; Im, Jae Joong *Chonbuk National Univ.*

09:00-09:15 WeAT12.5
Asynchronous Noise Removal for Earbud-Based PPG Sensors 259-262
 Tomita, Yohei* *Foster Electric Co., Ltd.*

09:15-09:30 WeAT12.6
Synchrosqueezing an Effective Method for Analyzing Doppler Radar Physiological Signals 263-266
 Yavari, Ehsan* *Univ. of Hawaii Manoa*; Rahman, Ashikur *Univ. of Hawaii at Manoa*; Xu, Jia *Univ. of Hawaii at Manoa*; Mandic, Danilo *Imperial College*; Boric-Lubecke, Olga *Univ. of Hawaii Manoa*

WeAT14: 08:00-09:30 Sorcerers Apprentice 2
Biomarkers and Global Healthcare (Oral Session)
Chair: Berengueres, Jose *UAE Univ.*

08:00-08:15 WeAT14.1
3D Printed Microfluidic Mixer for Point-of-Care Diagnosis of Anemia 267-270
 Plevniak, Kimberly *Kansas State Univ.*; Campbell, Matthew *KSU*; HE, MEI* *Kansas State Univ.*

08:15-08:30 WeAT14.2
Migraine Factors as Reported by Smartphone Users 271-274
 Berengueres, Jose* *UAE Univ.*; Cadiou, Francois *Healint.com*

08:30-08:45 WeAT14.3
Effect of Self-Monitoring Clusters on Weight and Hemoglobin A1c 275-278
 Padhye, Nikhil* *The Univ. of Texas Health Science Center at Houston*; Wang, Jing *The Univ. of Texas Health Science Center at Houston*

08:45-09:00 WeAT14.4
Toward an Analysis of Emotion Regulation in Children using Late Positive Potential 279-282
 Mehmood, Raja Majid *Chonbuk National Univ.*; Lee, Hyo Jong* *Chonbuk National Univ.*

09:00-09:15 WeAT14.5
Towards an Unsupervised Device for the Diagnosis of Childhood Pneumonia in Low Resource Settings: Automatic Segmentation of Respiratory Sounds 283-286
 Sola, Josep* *CSEM – Centre Suisse d'Electronique et Microtechnique*; Braun, Fabian *CSEM SA*; Muntané Calvo, Enric *CSEM*; Verjus, Christophe *CSEM*; Bertschi, Mattia *CSEM*; Hugon, Florence *Univ. Hospitals of Geneva*; Sergio, Manzano *Univ. Hospitals of Geneva*; Mohamed, Benissa *Univ. of Geneva*; Alain, Gervais *Univ. Hospitals of Geneva*

09:15-09:30 WeAT14.6
Upper Extremity Prosthesis User Perspectives on Unmet Needs and Innovative Technology 287-290
 Benz, Heather* *Food and Drug Administration*; Yao, Jia *Food and Drug Administration*; Rose, Laura *Food and Drug Administration*; Olgac, Okan *Johns Hopkins Univ.*; Kreutz, Karen *Illuminov LLC*; Saha, Anindita *Food and Drug Administration*; Civillico, Eugene Francis *U.S. Food and Drug Administration*

WeAT15: 08:00-09:30 Sorcerers Apprentice 3
Micro/Nanofabricated Devices for Biomedical Sensing and Diagnostics. (Oral Session)
Chair: Mohseni, Pedram *Case Western Reserve Univ.*
Co-Chair: Suster, Michael *Case Western Reserve Univ.*

08:00-08:15 WeAT15.1
A PMMA Microfluidic Dielectric Sensor for Blood Coagulation Monitoring at the Point-of-Care 291-294
 Maji, Debnath *Case Western Reserve Univ.*; Suster, Michael *Case Western Reserve Univ.*; Kucukal, Erdem *Case Western Reserve Univ.*; Gurkan, Umut A. *Case Western Reserve Univ.*; Stavrou, Evi *Case Western Reserve Univ.*; Mohseni, Pedram* *Case Western Reserve Univ.*

08:15-08:30 WeAT15.2
Nano-Fabricated Memristive Biosensors for Biomedical Applications with Liquid and Dried Samples 295-298
 Tzouvadaki, Ioulia* *EPFL*; Lu, Xiaoling *Dept. of Informatics and Microsystem Technology HS-KL Zweib*; De Micheli, Giovanni *EPFL*; Ingebrandt, Sven *Univ. of Applied Sciences Kaiserslautern*; Carrara, Sandro *EPFL – Swiss Federal Institute of Technology – Lausanne*

08:30-08:45		WeAT15.3
Simulations and Design of Microfabricated Interdigitated Electrodes for use in a Gold Nanoparticle Enhanced Biosensor		299-302
Hermansen, Peter <i>Univ. of Alberta</i> ; MacKay, Scott* <i>Univ. of Alberta</i> ; Wishart, David <i>Univ. of Alberta</i> ; Chen, Jie <i>Univ. of Alberta</i>		
08:45-09:00		WeAT15.4
A Diaper-Embedded Disposable Nitrite Sensor with Integrated On-Board Urine-Activated Battery for UTI Screening		303-306
Ziaie, Babak* <i>Purdue Univ.</i>		
09:00-09:15		WeAT15.5
Origami Microfluidic Paper-Analytical-Devices (omPAD) for Sensing and Diagnostics		307-310
Punjiya, Meera <i>Tufts Univ.</i> ; Chen, Yu <i>Tufts Univ.</i> ; Moon, Chung Hee <i>Tufts Univ.</i> ; Sonkusale, Sameer* <i>Tufts Univ.</i>		
09:15-09:30		WeAT15.6
Sensing Textile Seam-Line for Wearable Multimodal Physiological Monitoring		311-314
McKnight, Michael <i>North Carolina State Univ.</i> ; Agcayazi, Talha <i>North Carolina State Univ.</i> ; Kausche, Hannah <i>North Carolina State Univ.</i> ; Ghosh, Tushar <i>North Carolina State Univ.</i> ; Bozkurt, Alper* <i>North Carolina State Univ.</i>		
WeBT1: 11:00-12:30		Fantasia A
EMG Processing and Applications (Oral Session)		
11:00-11:15		WeBT1.1
Selecting the Optimal Movement Subset with Different Pattern Recognition based EMG Control Algorithms		315-318
Ali, Ali Hussian <i>Baghdad Univ.</i> ; Khushaba, Rami N. <i>Univ. of Technology, Sydney (UTS)</i> ; Escudero, Javier* <i>Univ. of Edinburgh</i>		
11:15-11:30		WeBT1.2
An Ensemble-Based Regression Approach for Continuous Estimation of Wrist and Fingers Movements from Surface Electromyography		319-322
Alazrai, Rami* <i>German Jordanian Univ.</i> ; Khalifeh, Ala <i>German Jordanian Univ.</i> ; Alnuman, Nasim <i>German Jordanian Univ.</i> ; Alabed, Deena <i>German Jordanian Univ.</i> ; Mowafi, Yaser <i>German Jordanian Univ.</i>		
11:30-11:45		WeBT1.3
Serial Estimation of Motor Unit Numbers using an Implantable System Following Nerve Injury and Repair in Rats		323-326
Willand, Michael P.* <i>The Hospital for Sick Children</i> ; Catapano, Joseph <i>The Hospital for Sick Children</i>		
11:45-12:00		WeBT1.4
Short Latency Hand Movement Classification based on Surface EMG Spectrogram with PCA		327-330
Zhai, Xiaolong <i>City Univ. of Hong Kong</i> ; Jelfs, Beth <i>City Univ. of Hong Kong</i> ; Chan, Rosa H. M. <i>City Univ. of Hong Kong</i> ; Tin, Chung* <i>City Univ. of Hong Kong</i>		
12:00-12:15		WeBT1.5
The Variability of Co-Activation Pattern of Antagonist Muscle in Human Infant Crawling		331-334
Xiong, Qiliang <i>Chongqing Univ.</i> ; Hou, Wensheng* <i>Bioengineering Inst of Chongqing Univ.</i> ; Peng, Fei <i>Chongqing Univ.</i>		
12:15-12:30		WeBT1.6
Properties of the Motor Unit Action Potential Shape in Proximal and Distal Muscles of the Upper Limb in Healthy and Post-Stroke Individuals		335-339
McPherson, Laura Miller* <i>Florida International Univ.</i> ; Negro, Francesco <i>Univ. Medical Center Göttingen, Bernstein Center for Comput</i> ; Thompson, Christopher K. <i>Northwestern Univ.</i> ; Sanchez, Laura <i>Florida International Univ.</i> ; Heckman, CJ <i>Feinberg School of Medicine, Northwestern Univ.</i> ; Dewald, Julius P. A. <i>Northwestern Univ.</i> ; Farina, Dario <i>Bernstein Center for Computational Neuroscience, Univ. Medicine</i>		

WeBT2: 11:00-12:30	Fantasia B
Electromagnetic Theranostic Devices: From Diagnostics to Treatment with High Frequency Sensors (Oral Session)	
Chair: Damm, Christian <i>Technische Univ. Darmstadt</i>	
Co-Chair: Puentes, Margarita <i>Technische Univ. Darmstadt</i>	

11:00-11:15	WeBT2.1
Theranostic Microwave Applicator Suitable for Minimal Invasive Therapy of Malignant Tissue	340-343
Reimann, Carolin* <i>TU Darmstadt</i> ; Puentes, Margarita <i>Technische Univ. Darmstadt</i> ; Schuessler, Martin <i>TU Darmstadt</i> ; Hübner, Frank <i>Univ. Frankfurt</i> ; Bazrafshan, Babak <i>Institute of Diagnostic and Interventional Radiology, Goethe Univ.</i> ; Vogl, Thomas <i>Institute of Diagnostic and Interventional Radiology, Goethe Univ.</i> ; Jakoby, Rolf <i>TU Darmstadt</i>	
11:15-11:30	WeBT2.2
Temperature Monitoring during Radiofrequency Ablation of Liver: In Vivo Trials	344-347
Saccomandi, Paola <i>Univ. Campus Bio-Medico of Rome</i> ; Frauenfelder, Giulia <i>Univ. Campus Bio-Medico di Roma</i> ; Massaroni, Carlo <i>Univ. Campus Bio-Medico di Roma</i> ; Caponero, Michele Arturo <i>ENEA – Centro Ricerche Frascati</i> ; Polimadei, Andrea <i>ENEA – Centro Ricerche Frascati</i> ; Di Matteo, Francesco Maria <i>Univ. Campus Bio-Medico of Rome</i> ; Costamagna, Guido <i>Unit of Digestive Endoscopy, Univ. Cattolica del Sacro Cuor</i> ; Giurazza, Francesco <i>Univ. Campus Bio-Medico di Roma</i> ; Schena, Emiliano* <i>Univ. of Rome Campus Bio-Medico</i> ; Taffoni, Fabrizio <i>Campus Bio-Medico Univ.</i>	
11:30-11:45	WeBT2.3
Design of a Dual-Slot Antenna for Small Animal Microwave Ablation Studies	348-351
Moon, Tyler* <i>Univ. of Wisconsin – Madison</i> ; Brace, Christopher <i>Univ. of Wisconsin</i>	
11:45-12:00	WeBT2.4
Microwave to Near-Infrared Conversion with a Millimeter-Scale Wireless Laser for Activating Molecular Transducers	352-354
Romano, Anthony <i>Drexel Univ.</i> ; Ho, John* <i>National Univ. of Singapore</i>	
12:00-12:15	WeBT2.5
Characterization of Thrombus Stiffening in Radio Frequency (rf) Mechanical Thrombectomy	355-358
Chon, Chi Hang <i>The Hong Kong Univ. of Science and Technology</i> ; Qin, Zhen <i>The Hong Kong Univ. of Science and Technology</i> ; Kwok, John C.K. <i>Hong Kong Univ. of Science and Technology</i> ; Lam, David C.C.* <i>Hong Kong Univ. of Science and Technology</i>	
12:15-12:30	WeBT2.6
Hyperthermia by Electromagnetic Fields to Enhanced Clinical Results in Oncology	359-362
van Rhoon, Gerard C.* <i>Erasmus MC Cancer Institute</i> ; Paulides, Margarethus M <i>Erasmus MC – Univ. Medical Center Rotterdam</i> ; Franckena, Martine <i>Erasmus MC Cancer Institute</i> ; van Holthe, Netteke <i>Erasmus MC Cancer Institute</i>	

WeBT3: 11:00-12:30	Fantasia C
EEG (Oral Session)	
Chair: Babiloni, Fabio <i>Univ. of Rome</i>	

11:00-11:15	WeBT3.1
Classification of ADHD and Non-ADHD using AR Models	363-366
Lopez Marcano, Juan* <i>DSPRL-Wireless@VT-ECE, Virginia Tech, Blacksburg VA</i> ; Bell, Martha Ann <i>Psychology Dept., Virginia Tech, Blacksburg VA</i> ; Beex, A. A. (Louis) <i>DSPRL-Wireless@VT-ECE, Virginia Tech, Blacksburg VA</i>	
11:15-11:30	WeBT3.2
Single-Channel EEG-Based Mental Fatigue Detection based on Deep Belief Network	367-370
Li, Pinyi* <i>Beijing Univ. of Posts and Telecommunications</i> ; Jiang, Wenhui <i>Beijing Univ. of Posts and Telecommunications</i> ; Su, Fei <i>Beijing Univ. of Posts and Telecommunications</i>	
11:30-11:45	WeBT3.3
Classification in Emotional BCI using Phase Information from the EEG	371-374
Santamaria, Lorena* <i>Univ. of Warwick</i> ; James, Christopher <i>Univ. of Warwick</i>	

11:45-12:00 WeBT3.4
Continuous Theta Burst Transcranial Magnetic Stimulation Affects Brain Functional Connectivity 375-378
Cao, Dan *Shanghai Univ.*; Li, YingJie* *Shanghai Univ.*; Wei, Ling *Shanghai Univ.*; Tang, Yingying *Shanghai Mental Health Center, Shanghai Jiao Tong Univ. Scho*

12:00-12:15 WeBT3.5
RTMS-Enhanced Gamma Oscillation through Strengthened Network Connection N/A
Dou, Mengmeng *Tianjin Medical Univ.*; Tian, Xin* *Tianjin Medical Univ.*

12:15-12:30 WeBT3.6
Phase to Amplitude Coupling as a Potential Biomarker for Creative Ideation: An EEG Study 383-386
Marmpena, Asimina *Univ. of Patras*; Dimitriadis, Stavros *Aristotle Univ.*; Thakor, Nitish *Johns Hopkins Univ.*; Bezerianos, Anastasios* *National Univ. of Singapore*

WeBT4: 11:00-12:30 Fantasia D
Electromyography (Oral Session)
Chair: Jones, Richard D. *New Zealand Brain Research Institute*

11:00-11:15 WeBT4.1
Frequency-of-Occurrence of Myoelectric Patterns to Evaluate Gait Motor Control Strategies after Hip Replacement Surgery 387-390
Agostini, Valentina *Politecnico di Torino*; Di Nardo, Francesco* *Polytechnic Univ. of Marche*; Fioretti, Sandro *Univ. Politecnica delle Marche*; Burattini, Laura *Univ. Politecnica delle Marche*; Rosati, Samanta *Politecnico di Torino*; Balestra, Gabriella *Politecnico di Torino*; Knaflitz, Marco *Politecnico di Torino*

11:15-11:30 WeBT4.2
Muscle Activity Distribution Features Extracted from HD sEMG to Perform Forearm Pattern Recognition N/A
Nougarou, François* *Laval Univ.*; Campeau-Lecours, Alexandre *Univ. Laval*; Massicotte, Daniel *Univ. du Québec à Trois-Rivières*; Gosselin, Benoit *Laval Univ.*

11:30-11:45 WeBT4.3
Novel Method to Characterize Upper-Limb Movements based on Paraconsistent Logic and Myoelectric Signals 395-398
Favieiro, Gabriela Winkler* *Federal Univ. of Rio Grande do Sul (UFRGS)*; Moura, Karina de Oliveira Alves de *Federal Univ. of Rio Grande do Sul (UFRGS)*; Balbinot, Alexandre *Federal Univ. of Rio Grande do Sul (UFRGS)*

11:45-12:00 WeBT4.4
Gender-Specific Automatic Valence Recognition of Affective Olfactory Stimulation through the Analysis of the Electrodermal Activity 399-402
Greco, Alberto* *Univ. of Pisa*; Lanata', Antonio *Univ. of Pisa*; Valenza, Gaetano *Univ. of Pisa-MGH-Harvard Medical School*; Di Francesco, Fabio *Univ. of Pisa*; Scilingo, Enzo Pasquale *Univ. of Pisa*

12:00-12:15 WeBT4.5
EDA-Gram: Designing Electrodermal Activity Fingerprints for Visualization and Feature Extraction 403-406
Chaspari, Theodora* *Univ. of Southern California*; Tsiartas, Andreas *SRI International*; Stein Duker, Leah I. *Univ. of Southern California*; Cermak, Sharon A. *Univ. of Southern California*; Narayanan, Shrikanth *Univ. of Southern California*

12:15-12:30 WeBT4.6
Investigating Mechanical Properties of a Fabric-Based Affective Haptic Display through Electrodermal Activity Analysis 407-410
Greco, Alberto* *Univ. of Pisa*; Valenza, Gaetano *Univ. of Pisa-MGH-Harvard Medical School*; Scilingo, Enzo Pasquale *Univ. of Pisa*

11:00-11:15	WeBT5.1
Embedded Clutter Reduction and Face Detection Algorithms for a Visual Prosthesis	411-414
Rollend, Derek <i>Johns Hopkins Univ. – Applied Physics Lab</i> ; Rosendall, Paul <i>JHU/APL</i> ; Wolfe, Kevin C. <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Kleissas, Dean M <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Billings, Seth <i>Johns Hopkins Univ., Applied Physics Lab</i> ; Oben, Jonathan <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Helder, John <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Tenore, Francesco <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Burlina, Philippe <i>Johns Hopkins Univ.</i> ; Roy, Arup <i>Second Sight Medical Products, Inc.</i> ; Greenberg, Robert <i>Second Sight Medical Products, Inc.</i> ; Katyal, Kapil* <i>Johns Hopkins Univ. Applied Physics Laboratory</i>	
11:15-11:30	WeBT5.2
Robust Estimation of Simulated Urinary Volume from Camera Images under Bathroom Illumination	415-418
Honda, Chizuru* <i>Aichi Prefectural Univ.</i> ; Bhuiyan, Md. Shoaib <i>Suzuka Univ. of Medical Science</i> ; Kawanaka, Haruki <i>Aichi Prefectural Univ.</i> ; Watanabe, Eiichi <i>Fujita Health Univ.</i> ; Oguri, Koji <i>Aichi Prefectural Univ.</i>	
11:30-11:45	WeBT5.3
Pain Detection from Facial Images using Unsupervised Feature Learning Approach	419-422
Kharghanian, Reza <i>Ferdowsi Univ. of Mashhad, Mashhad, Iran</i> ; Peiravi, Ali* <i>Ferdowsi Univ. of Mashhad, Mashhad, Iran</i> ; Moradi, Farshad <i>Integrated Circuits and Electronics Laboratory, Dept. of En</i>	
11:45-12:00	WeBT5.4
Classification of Facial-Emotion Expression in the Application of Psychotherapy using Viola-Jones and Edge-Histogram of Oriented Gradient	423-426
Candra, Henry <i>Univ. of Technology Sydney</i> ; Yuwono, Mitchell <i>Univ. of Technology Sydney</i> ; Chai, Rifai <i>Univ. of Technology, Sydney</i> ; Nguyen, Hung T.* <i>Univ. of Technology, Sydney</i> ; Su, Steven <i>Weidong Univ. of Technology, Sydney</i>	
12:00-12:15	WeBT5.5
3D Detection of Periodic Limb Movements in Sleep	427-430
Garn, Heinrich* <i>AIT Austrian Institute of Technology GmbH</i> ; Kohn, Bernhard <i>AIT Austrian Institute of Technology GmbH</i> ; Dittrich, Klaus <i>AIT Austrian Institute of Technology GmbH</i> ; Wiesmeyr, Christoph <i>AIT Austrian Institute of Technology GmbH</i> ; Kloesch, Gerhard <i>Medical Univ. of Vienna</i> ; Stepansky, Robert <i>Krankenhaus der Barmherzigen Brueder Wien</i> ; Wimmer, Markus <i>Kepler Univ. GmbH</i> ; Ipsiroglu, Osman <i>Univ. of British Columbia</i> ; Grossegger, Dieter <i>B.E.S.T. Medical Systems Dr. Grossegger und Drbal GmbH</i> ; Seidel, Stefan <i>Medical Univ. of Vienna</i> ; Kemethofer, Manuel <i>Institute for Sleep-Wake Research</i>	
12:15-12:30	WeBT5.6
Automatic Grasp Selection using a Camera in a Hand Prosthesis	431-434
DeGol, Joseph* <i>Univ. of Illinois Urbana-Champaign</i> ; Akhtar, Aadeel <i>Univ. of Illinois at Urbana-Champaign</i> ; Manja, Bhargava <i>Univ. of Illinois at Urbana-Champaign</i> ; Bretl, Timothy <i>Univ. of Illinois at Urbana-Champaign</i>	

11:00-11:15	WeBT6.1
Shearlet Transform: A Good Candidate for Compressed Sensing in Optical Coherence Tomography	435-438
Duflot, Lesley-Ann <i>Inria Rennes Bretagne Atlantique, femto-st Besançon</i> ; Tamadazte, Brahim* <i>FEMTO-ST Institute</i> ; Krupa, Alexandre <i>INRIA Bretagne</i> ; Andreff, Nicolas <i>FEMTO-ST Besançon, Univ. de Franche-Comté</i>	
11:15-11:30	WeBT6.2
Low Rank Magnetic Resonance Fingerprinting	439-442
Mazor, Gal* <i>The Technion, Israel Institute of Technology</i> ; Weizman, Lior <i>Technion, Israel Institute of Technology</i> ; Tal, Assaf <i>Weizmann Institute of Science</i> ; Eldar, Yonina <i>The Technion, Israel Institute of Technology</i>	

11:30-11:45		WeBT6.3
Bayesian Deconvolution of Scanning Electron Microscopy Images using Point-Spread Function Estimation and Non-Local Regularization	443-447	
Roels, Joris* <i>Ghent Univ.</i> ; Aelterman, Jan <i>Ghent Univ.</i> ; De Vylder, Jonas <i>Ghent Univ.</i> ; Luong, Quang Hiệp <i>Ghent Univ.</i> – <i>TELIN – IPI – iMinds</i> ; Saeys, Yvan <i>VIB – Ghent Univ.</i> ; Philips, Wilfried <i>Ghent Univ.</i>		
11:45-12:00		WeBT6.4
Sampling and Recovery of MRI Data using Low Rank Tensor Models	448-452	
Banco, Daniel P <i>Tufts Univ.</i> ; Aeron, Shuchin* <i>Tufts Univ.</i> ; Hoge, W Scott <i>Brigham and Women's Hospital and Harvard Medical School</i>		
12:00-12:15		WeBT6.5
Optimal Experiment Design for Magnetic Resonance Fingerprinting	453-456	
Zhao, Bo* <i>Martinos Center for BioMedical Imaging, MGH and Harvard Medical</i> ; Haldar, Justin <i>Univ. of Southern California</i> ; Setsompop, Kawin <i>Harvard Medical School</i> ; Wald, Lawrence L. A. <i>Martinos Center for BioMedical Imaging, Dept. of Radiology</i>		
12:15-12:30		WeBT6.6
Example-Based Super-Resolution for Enhancing Spatial Resolution of Medical Images	457-460	
Tran, Dai-Viet* <i>Univ. Paris 13</i> ; Li-Thiao-Té, Sébastien <i>Univ. Paris 13</i> ; Luong, Marie <i>Univ. Paris 13</i> ; Le-Tien, Thuong <i>Hochiminh Univ. of Technology</i> ; Dibos, Françoise <i>Univ. Paris 13</i> ; Rocchisani, Jean-Marie <i>Univ. Paris 13</i>		
WeBT7: 11:00-12:30		Fantasia K
Microfluidics and Applications (Oral Session)		
Chair: Ghafar-Zadeh, Ebrahim <i>York Univ.</i>		
11:00-11:15		WeBT7.1
Probing the Micromechanics of the Fastest Growing Plant Cell – The Pollen Tube	461-464	
Shamsudhin, Naveen* <i>ETH Zurich</i> ; Baris Atakan, Huseyin <i>ETH Zurich</i> ; Laeubli, Nino <i>ETH Zurich</i> ; Vogler, Hannes <i>Univ. of Zurich</i> ; Hu, Chengzhi <i>ETH Zurich</i> ; Sebastian, Abu <i>IBM Research</i> ; Grossniklaus, Ueli <i>Univ. of Zurich</i> ; Nelson, Bradley <i>ETH Zurich</i>		
11:15-11:30		WeBT7.2
Evaluation of a Novel Portable Micro-Pump and Infusion System for Drug Delivery	465-468	
McGuinness Abdollahi, Zahra* <i>Quantex</i> ; Pakhurst, Paul <i>Quantex Arc Ltd</i>		
11:30-11:45		WeBT7.3
Automated Transepithelial Electrical Resistance Measurements of the EpiDerm Reconstructed Human Epidermis Model	469-472	
Alexander, Frank* <i>cellasys GmbH</i> ; Wiest, Joachim <i>cellasys GmbH</i>		
11:45-12:00		WeBT7.4
Sheathless and High Throughput Sorting of Paramagnetic Microparticles in a Magneto-Hydrodynamic Microfluidic Device	473-476	
Kumar, Vikash <i>York Univ.</i> ; Rezaei, Pouya* <i>York Univ.</i>		
12:00-12:15		WeBT7.5
Directing the Spatial Patterning of Motor Neuron Differentiation in Engineered Microenvironments	477-480	
Demers, Christopher <i>Univ. of Maine</i> ; Cox, Gregory <i>The Jackson Laboratory</i> ; Collins, Scott D. <i>Univ. of Maine</i> ; Smith, Rosemary L.* <i>Univ. of Maine</i>		
12:15-12:30		WeBT7.6
Micro-Tube Mass Production Device for Microbial Culture	481-484	
Fujimoto, Kazuma* <i>Keio Univ.</i> ; Ogawa, Miho <i>Keio Univ.</i> ; Higashi, Kazuhiko <i>Keio Univ.</i> ; Miki, Norihisa <i>Univ.</i>		

WeBT8: 11:00-12:30	Fantasia L
Atrial Fibrillation (Oral Session)	
Chair: Doessel, Olaf <i>Karlsruhe Institute of Technology (KIT)</i>	
Co-Chair: Sugimachi, Masaru <i>Natl Cardio Center Research Inst</i>	

11:00-11:15	WeBT8.1
Combined Reconstruction of Atrial Morphology and Paracardial Fat Depositions to Study Remodeling in Atrial Fibrillation	485-488
Popovic, Natasa* <i>KU Leuven</i> ; Haemers, Peter <i>KU Leuven</i> ; Willems, Rik <i>KU Leuven</i> ; Claus, Piet <i>Catholic Univ. Leuven</i>	
11:15-11:30	WeBT8.2
Towards Patient-Specific Modelling of Lesion Formation during Radiofrequency Catheter Ablation for Atrial Fibrillation	489-492
Soor, Navjeevan <i>King's College London</i> ; Morgan, Ross <i>Kings College London</i> ; Varela, Marta <i>King's College London</i> ; Aslanidi, Oleg* <i>King's College London</i>	
11:30-11:45	WeBT8.3
Development of a Novel Probabilistic Algorithm for Localization of Rotors during Atrial Fibrillation	493-496
Ganesan, Prasanth <i>Rochester Institute of Technology</i> ; Salmin, Anthony J <i>Rochester Institute of Technology</i> ; Cherry, Elizabeth <i>Rochester Institute of Technology</i> ; Ghoraani, Behnaz* <i>Rochester Institute of Technology</i>	
11:45-12:00	WeBT8.4
Kurtosis as a Statistical Approach to Identify the Pivot Point of the Rotor	497-500
Poigai Arunachalam, Shivaram <i>Mayo Clinic</i> ; Mulpuru, Siva <i>Mayo Clinic</i> ; Friedman, Paul <i>Mayo Clinic</i> ; Tolkacheva, Elena <i>Univ. of Minnesota</i> ; Annoni, Elizabeth* <i>Univ. of Minnesota</i>	
12:00-12:15	WeBT8.5
A Novel Catheter-Guidance Algorithm for Localization of Atrial Fibrillation Rotor and Focal Sources	501-504
Salmin, Anthony J <i>Rochester Institute of Technology</i> ; Ganesan, Prasanth <i>Rochester Institute of Technology</i> ; Shillieto, Kristina E <i>Rochester Institute of Technology</i> ; Cherry, Elizabeth <i>Rochester Institute of Technology</i> ; Huang, David <i>Univ. of Rochester Medical Center</i> ; Pertsov, Arkady M. <i>SUNY Upstate Medical Univ.</i> ; Ghoraani, Behnaz* <i>Rochester Institute of Technology</i>	
12:15-12:30	WeBT8.6
Cardiac Conduction Velocity Estimation from Sequential Mapping Assuming Known Gaussian Distribution for Activation Time Estimation Error	505-508
Shariat, Mohammad Hassan* <i>Queen's Univ., Kingston, Ontario, Canada</i> ; Gazor, Saeed <i>Queen's Univ., Kingston, Ontario, Canada</i> ; Redfearn, Damian P <i>Queen's Univ.</i>	

WeBT9: 11:00-12:30	Fantasia M
m-Health Tools for Monitoring Cardiovascular Signals (Oral Session)	
Chair: Caiani, Enrico <i>Politecnico di Milano</i>	
Co-Chair: Cerutti, Sergio <i>Politecnico di Milano</i>	

11:00-11:15	WeBT9.1
Portable Electrocardiogram Device using Android Smartphone	509-512
Brucal, Stanley Glenn* <i>Asia Pacific College</i> ; Clamor, Gene Khyron <i>Asia Pacific College</i> ; Pasillao, Lyston Alfred <i>Asia Pacific College</i> ; Sorinao, Johannes Paolo <i>Asia Pacific College</i> ; Varilla, Lenard Philippe <i>Asia Pacific College</i>	
11:15-11:30	WeBT9.2
MobileHeart, a Mobile Smartphone-Based Application that Supports and Monitors Coronary Artery Disease Patients during Rehabilitation	513-516
Frederix, Ines* <i>Jessa Hospital, Hasselt Univ., Antwerp Univ.</i> ; Sankaran, Supraja <i>Expertise Center for Digital Media</i> ; Coninx, Karin <i>Expertise Center for Digital Media</i> ; Dendale, Paul <i>Jessa Hospital, Hasselt Univ.</i>	

11:30-11:45	WeBT9.3
An ICT and Mobile Health Integrated Approach to Optimize Patients' Education on Hypertension and Its Management by Physicians: The Patients Optimal Strategy of Treatment(POST) Pilot Study	517-520
Albini, Fabio <i>Istituto Auxologico Italiano</i> ; Iiu, xiaoqiu <i>Univ. of Miano-Bicocca, Istituto Auxologico Italiano</i> ; Torlasco, Camilla <i>Istituto Auxologico Italiano</i> ; Soranna, Davide <i>Istituto Auxologico Italiano, Univ. of Miano-Bicocca</i> ; Faini, Andrea <i>Istituto Auxologico Italiano</i> ; Ciminaghi, Renata <i>Istituto Auxologico Italiano</i> ; Celsi, Ada <i>Istituto Auxologico Italiano</i> ; Benedetti, Matteo <i>Istituto Auxologico Italiano</i> ; Zambon, Antonella <i>Istituto Auxologico Italiano, Univ. of Miano-Bicocca</i> ; Di Rienzo, Marco <i>Fondazione Don Carlo Gnocchi</i> ; Parati, Gianfranco* <i>Univ. of Mllano-Bicocca and Istituto Auxologico Italiano, M</i>	
11:45-12:00	WeBT9.4
Assessment of Beat-to-Beat Heart Rate Detection Method using a Camera as Contactless Sensor	521-524
Iozzia, Luca* <i>Politecnico of Milan</i> ; Cerina, Luca <i>Politecnico of Milan</i> ; Mainardi, Luca <i>Politecnico di Milano</i>	
12:00-12:15	WeBT9.5
Beat-to-Beat Heart Rate Detection by Smartphone's Accelerometers: Validation with ECG	525-528
Landreani, Federica <i>Politecnico di Milano</i> ; Martin-Yebra, Alba <i>Politecnico di Milano; Univ. de Zaragoza</i> ; Casellato, Claudia <i>Politecnico di Milano</i> ; Frigo, Carlo <i>Politecnico di Milano</i> ; Pavan, Esteban E. <i>Politecnico di Milano</i> ; Migeotte, Pierre-François <i>Univ. libre de Bruxelles – Hôpital Erasme</i> ; Caiani, Enrico* <i>Politecnico di Milano</i>	
12:15-12:30	WeBT9.6
Patient-Specific Detection of Ventricular Tachycardia in Remote Continuous Health Devices	529-532
Juneja, Amit <i>Univ. of Arizona</i> ; Marefat, Michael* <i>Univ. of Arizona</i>	
WeBT10: 11:00-12:30	Fantasia N
Drug Delivery and Therapeutic Systems (Oral Session)	
Chair: Haemmerich, Dieter <i>Medical Univ. of South Carolina</i>	
11:00-11:15	WeBT10.1
Cascaded PID Controller for Anaesthesia Delivery	533-536
Simalatsar, Alena* <i>EPFL</i> ; Guidi, Monia <i>Division of Clinical Pharmacology Centre Hospitalier Univ.</i> ; Buclin, Thierry <i>Division of Clinical Pharmacology, Centre Hospitalier Univ.</i>	
11:15-11:30	WeBT10.2
Effects of a Non-Thermal Plasma Needle Device on HPV-16 Positive Cervical Cancer Cell Viability in Vitro	537-540
Ryan, Hollie A.* <i>Old Dominion Univ.</i> ; Neuber, Johanna <i>Old Dominion Univ.</i> ; Song, Shutong <i>Old Dominion Univ.</i> ; Beebe, Stephen <i>Old Dominion Univ.</i> ; Jiang, Chunqi <i>Old Dominion Univ.</i>	
11:30-11:45	WeBT10.3
An Ultrasonically Powered Implantable Device for Targeted Drug Delivery	541-544
Charthad, Jayant* <i>Stanford Univ.</i> ; Baltsavias, Spyridon <i>Stanford Univ.</i> ; Samanta, Devleena <i>Stanford Univ.</i> ; Chang, Ting Chia <i>Stanford Univ.</i> ; Weber, Marcus J. <i>Stanford Univ.</i> ; Hosseini-Nassab, Niloufar <i>Stanford Univ.</i> ; Zare, Richard N. <i>Stanford Univ.</i> ; Arbabian, Amin <i>Stanford Univ.</i>	
11:45-12:00	WeBT10.4
Optimization of Extra Corporeal Enteral Prosthesis (ECEP) by Selective Aspiration of the Digestive Flow	545-548
Nzamushe, Jean-Robert <i>CHRU Lille</i> ; Sozanski, Jean Pierre <i>INSERM</i> ; De Jonckheere, Julien <i>CHRU de Lille</i> ; Jeanne, Mathieu <i>CHRU de Lille</i> ; Logier, Regis* <i>CHRU de Lille</i>	
12:00-12:15	WeBT10.5
In Vitro Examination of the Pressure Effect on Clot Dissolution with Thrombolytic Patch	549-552
Qin, Zhen* <i>The Hong Kong Univ. of Science and Technology</i> ; Chon, Chi Hang <i>The Hong Kong Univ. of Science and Technology</i> ; Kwok, John C.K. <i>Hong Kong Univ. of Science and Technology</i> ; Lam, David C.C. <i>Hong Kong Univ. of Science and Technology</i>	
12:15-12:30	WeBT10.6
A Device for Controlled Jet Injection of Large Volumes of Liquid	553-556
Mckeage, James William* <i>Auckland Bioengineering Institute</i> ; Ruddy, Bryan <i>Univ. of Auckland</i> ; Nielsen, Poul <i>The Univ. of Auckland</i> ; Taberner, Andrew <i>The Univ. of Auckland</i>	

WeBT11: 11:00-12:30	Fantasia P
Unobtrusive Wearable and Non-Wearable Method of Fall Detection in Smart Homes (Oral Session)	
Chair: Zhang, Qing <i>CSIRO ICT Centre</i>	

11:00-11:15	WeBT11.1
Testing Non-Wearable Fall Detection Methods in the Homes of Older Adults	557-560
Skubic, Marjorie* <i>Univ. of Missouri</i> ; Harris, Bradford H. <i>Univ. of Missouri – Columbia</i> ; Stone, Erik <i>Univ. of Missouri</i> ; Ho, K.C. <i>Univ. of Missouri</i> ; Su, Bo-Yu <i>Univ. of Missouri-Columbia</i> ; Rantz, Marilyn <i>Univ. of Missouri</i>	
11:15-11:30	WeBT11.2
Biomechanical Analysis of a Fall: Velocities at Impact	561-565
Noury, Norbert* <i>Univ. Lyon 1</i>	
11:30-11:45	WeBT11.3
Feasibility of Unobtrusive Ambient Sensors for Fall Detections in Home Environment	566-569
Zhang, Qing* <i>CSIRO ICT Centre</i> ; Karunanithi, Mohanraj <i>CSIRO Digital Productivity Flagship</i>	
11:45-12:00	WeBT11.4
Context-Aware Fall Detection using Inertial Sensors and Time-of-Flight Transceivers	570-573
Shastry, Mahesh <i>Oregon Health and Science Univ.</i> ; Asgari, Meysam <i>CSLU/OHSU</i> ; Wan, Eric <i>Portland State Univ.</i> ; Leitschuh, Joseph <i>Oregon Health and Science Univ.</i> ; Nicholas, Preiser <i>Oregon Health and Science Univ.</i> ; Folsom, Jon <i>MotioSens</i> ; Condon, John P <i>Advanced Medical Electronics</i> ; Cameron, Michelle <i>Oregon Health and Science Univ.</i> ; Jacobs, Peter G.* <i>Oregon Health & Science Univ.</i>	
12:00-12:15	WeBT11.5
Real-Time Measures of Context to Improve Fall-Detection Models	574-577
Jimison, Holly* <i>Northeastern Univ.</i> ; Pavel, Misha <i>Northeastern Univ.</i>	

WeBT12: 11:00-12:30	Fantasia Q
Robotics and Biomechanics (Oral Session)	
Chair: Panescu, Dorin <i>Advanced Cardiac Therapeutics</i>	

11:00-11:15	WeBT12.1
Hand Rehabilitation after Stroke using a Wearable, High DOF, Spring Powered Exoskeleton	578-581
Chen, Tianyao* <i>The Catholic Univ. of America</i> ; Lum, Peter <i>The Catholic Univ. of America</i>	
11:15-11:30	WeBT12.2
Design of a Thumb Module for the FINGER Rehabilitation Robot	582-585
Wolbrecht, Eric* <i>Univ. of Idaho</i> ; Morse, Kyle <i>Univ. of Idaho</i> ; Perry, Joel C. <i>Univ. of Idaho</i> ; Reinkensmeyer, David J. <i>Univ. of California</i>	
11:30-11:45	WeBT12.3
Quantifying the Human-Robot Interaction Forces between a Lower Limb Exoskeleton and Healthy Users	586-589
Rathore, Ashish <i>Univ. College London</i> ; Wilcox, Matthew <i>Univ. College London</i> ; Morgado Ramirez, Dafne Zuleima <i>Univ. College London</i> ; Loureiro, Rui <i>Univ. College London</i> ; Carlson, Tom* <i>Univ. College London</i>	
11:45-12:00	WeBT12.4
An Effective 3-Fingered Augmenting Exoskeleton for the Human Hand	590-593
Gearhart, Christopher James <i>The College on New Jersey</i> ; Varone, Benjamin <i>The College of New Jersey</i> ; Stella, Martha <i>The College of New Jersey</i> ; BuSha, Brett* <i>The College of New Jersey</i>	
12:00-12:15	WeBT12.5
Design of a Spring-Assisted Exoskeleton Module for Wrist and Hand Rehabilitation	594-597
Perry, Joel C.* <i>Univ. of Idaho</i> ; Trimble, Shawn <i>Univ. of Idaho</i> ; Castilho Machado, Luiz Gustavo <i>Univ. Tecnológica Federal do Paraná</i> ; Schroeder, Jeremiah <i>Univ. of Idaho</i> ; Belloso, Aitor <i>TECNALIA</i> ; Rodriguez-de-Pablo, Cristina <i>TECNALIA</i> ; Keller, Thierry <i>Tecnalia Research & Innovation</i>	

12:15-12:30 WeBT12.6
Flexible Sliding Frame for Gait Enhancing Mechatronic System (GEMS) 598-602
 Lee, Younbaek SAIT (*Samsung Advanced Institute of Technology*); Choi, ByungJune *Samsung Advanced Institute of Technology*; Lee, Jongwon *Samsung Electronics Co., Ltd.*; Lee, Minhyung *Samsung Advanced Institute and Technology*; Roh, Se-gon *Samsung Advanced Institute of Technology, Samsung Electronics Co*; Kim, Jeonghun SAIT (*Samsung Advanced Institute of Technology*); Choi, Hyun Do SAIT (*Samsung Advanced Institute of Technology*); Kim, Yong-Jae* *KOREATECH (Korea Univ. of Technology and Education)*

WeBT14: 11:00-12:30 Sorcerers Apprentice 2
Wearable Physiological Monitoring I (Oral Session)
Chair: Inan, Omer *Georgia Institute of Technology*

11:00-11:15 WeBT14.1
A Wearable Signal Acquisition System for Physiological Signs Including Throat PPG 603-606
 Zhong, Yizhou* *Zhejiang Univ.*; Pan, Yun *Zhejiang Univ.*; Zhang, Ling *Zhejiang Univ.*; Cheng, Kwang-Ting *Univ. of California, Santa Barbara*

11:15-11:30 WeBT14.2
Cuff-Less PPG based Continuous Blood Pressure Monitoring – A Smartphone based Approach 607-610
 Gaurav, Aman* *Samsung Research Institute, Bangalore*; Maram, Maheedhar *Samsung Research Institute*; Tiwari, Vijay Narayan *Samsung Research India, Bangalore*; Narayanan, Rangavittal *Samsung India Software Operations Pvt. Ltd.*

11:30-11:45 WeBT14.3
Photoplethysmography: Towards a Non-Invasive Pressure Measurement Technique 611-614
 Njoun, Haneen* *City Univ.*; Kyriacou, Panayiotis *City Univ. London*

11:45-12:00 WeBT14.4
A Preliminary Study on Multi-Wavelength PPG based Pulse Transit Time Detection for Cuffless Blood Pressure Measurement 615-618
 Liu, Jing *The Chinese Univ. of Hong Kong*; Zhang, Yuan-Ting *The Chinese Univ. of Hong Kong*; Ding, Xiao-Rong *The Chinese Univ. of Hong Kong*; Dai, Wenxuan *Chinese Univ. of Hong Kong*; Zhao, Ni* *The Chinese Univ. of Hong Kong*

12:00-12:15 WeBT14.5
A Temperature-Controlled Glove with Non-Invasive Arterial Pulse Sensing for Active Neuro-Vascular Assessment 619-622
 Carek, Andrew *Georgia Institute of Technology*; Inan, Omer* *Georgia Institute of Technology*

12:15-12:30 WeBT14.6
Wearable ECG Platform for Continuous Cardiac Monitoring 623-626
 SP, Preejith* *Healthcare Technology Innovation Center – IITMadras*; R, Dhinesh *HTIC-IITMadras*; Joseph, Jayaraj *HTIC, Indian Institute of Technology Madras*; Sivaprakasam, Mohanasankar *Indian Institute of Technology Madras*

WeBT15: 11:00-12:30 Sorcerers Apprentice 3
Deep Learning in BioMedical Imaging (Oral Session)

11:00-11:15 WeBT15.1
Fetal Facial Standard Plane Recognition via Very Deep Convolutional Networks 627-630
 Yu, Zhen *SZU*; Ni, Dong *National-Regional Key Technology Engineering Laboratory for Medi*; Chen, Siping *Shenzhen Univ.*; Li, Shengli *Dept. of Ultrasound, Affiliated Shenzhen Maternal and Child*; Wang, Tianfu *National-Regional Key Technology Engineering Laboratory for Medi*; Lei, Baiying* *Shenzhen Univ.*

11:15-11:30 WeBT15.2
Semi-Advised Learning Model for Skin Cancer Diagnosis based on Histopathological Images 631-634
 Masood, Ammara* *Univ. of Technology Sydney*; Al-Jumaily, Adel *Univ. of Technology Sydney*

11:30-11:45 WeBT15.3
Automatic Prostate Segmentation on MR Images with Deep Network and Graph Model 635-638
Yan, Ke* *The Univ. of Sydney*; Li, Changyang *Univ. of Sydney*; Wang, Xiu Ying *The Univ. of Sydney*; Li, Ang *The Univ. of Sydney*; Yuan, Yuchen *The Univ. of Sydney*; Feng, Dagan *The Univ. of Sydney*; Khadra, Mohamed *The Univ. of Sydney, Sydney, Australia*; Kim, Jinman *Univ. of Sydney*

11:45-12:00 WeBT15.4
A Deep Convolutional Neural Network for Bleeding Detection in Wireless Capsule Endoscopy Images 639-642
Jia, Xiao* *The Chinese Univ. of Hong Kong*; Meng, Max Q.-H. *The Chinese Univ. of Hong Kong*

12:00-12:15 WeBT15.5
Vessel Extraction in X-Ray Angiograms using Deep Learning 643-646
Nasr-Esfahani, Ebrahim *Isfahan Univ. of Technology*; Samavi, Shadrokh *McMaster Univ.*; Karimi, Nader *Isfahan Univ. of Technology*; Sorousmehr, S.M.Reza* *Univ. of Michigan, Ann Arbor*; Ward, Kevin *Univ. of Michigan*; Jafari, Mohammad Hossein *Dept. of Electrical and Computer Engineering*; Felfeliyan, Banafsheh *Isfahan Univ. of Technology*; Najarian, Kayvan *Univ. of Michigan – Ann Arbor*

12:15-12:30 WeBT15.6
Automatic Lumbar Vertebrae Detection based on Feature Fusion Deep Learning for Partial Occluded C-Arm X-Ray Images 647-650
Li, Yang* *Shenyang Institute of Automation, Chinese Academy of Sciences*; Liang, Wei *Shenyang Institute of Automation, Chinese Academy of Sciences.*; Zhang, Yinlong *Shenyang Institute of Automation, Chinese Academy of Sciences*; An, Haibo *Shenyang Institute of Automation, Chinese Academy of Sciences*; Tan, Jindong *Univ. of Tennessee, Knoxville*

WeBT17: 11:00-12:30 Pastoral 1
Recent Advances in Wearable and Ambient Mobility Evaluation for Neuronal and Musculoskeletal Movement Disorders (Oral Session)
Chair: Caulfield, Brian *UCD*

11:00-11:15 WeBT17.1
Towards Holistic Free-Living Assessment in Parkinson's Disease: Unification of Gait and Fall Algorithms with a Single Accelerometer 651-654
Godfrey, Alan* *Newcastle Univ.*; Bourke, Alan *Norwegian Univ. of Science and Technology*; Del Din, Silvia *Newcastle Univ.*; Morris, Rosie *Newcastle Univ.*; Hickey, Aodhán *Newcastle Univ.*; Helbostad, Jorunn L *Dept. of Neuroscience, Faculty of Medicine, Norwegian Univ.*; Rochester, Lynn *Newcastle Univ.*

11:15-11:30 WeBT17.2
Recent Machine Learning Advancements in Sensor-Based Mobility Analysis: Deep Learning for Parkinson's Disease Assessment 655-658
Eskofier, Bjoern M* *Friedrich-Alexander-Univ. Erlangen-Nürnberg*; Lee, Sunghoon *Ivan Harvard Medical School*; Daneault, Jean-Francois *Harvard Medical School*; Golabchi, Fatemeh *Noushin Northeastern Univ.*; Ferreira-Carvalho, Gabriela *Harvard Medical School*; Vergara-Diaz, Gloria *Harvard Medical School*; Sapienza, Stefano *Harvard Medical School*; Costante, Gianluca *Harvard Medical School*; Klucken, Jochen *Univ. Hospital Erlangen*; Kautz, Thomas *Friedrich-Alexander-Univ. Erlangen-Nürnberg*; Bonato, Paolo *Harvard Medical School*

11:30-11:45 WeBT17.3
Leveraging IMU Data for Accurate Exercise Performance Classification and Musculoskeletal Injury Risk Screening 659-662
Whelan, Darragh* *Univ. College Dublin*; O'Reilly, Martin *Insight Centre for Data Analytics, Univ. College Dublin*; Huang, Bingquan *Univ. College Dublin*; Giggins, Oonagh *Univ. College Dublin*; Kechadi, Tahar *Insight Centre for Data Analytics, Univ. College Dublin*; Caulfield, Brian *UCD*

11:45-12:00 WeBT17.4
Monitoring of Motor and Non-Motor Symptoms of Parkinson's Disease through a Mhealth Platform 663-666
Cancela, Jorge *Univ. Politécnica de Madrid*; Villanueva Mascato, Samanta *Univ. Politecnica de Madrid*;
Gatsios, Dimitrios *Dept. of Biomedical Research, Institute of Molecular Biology*; Rigas, Georgios *Univ. of Ioannina*;
Marcante, Andrea *IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's*; Gentile, Giovanni *IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's Di*; Biundo, Roberta *IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's Di*; Giglio, Manuela *IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's Di*; Chondrogiorgi, Maria *Univ. of Ioannina*; Vilmann, Robert *Moticon*;
Konitsiotis, Spiros *Medical School, Univ. of Ioannina*; Antonini, Angelo *IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's Di*; Arredondo, María Teresa* *Technical Univ. of Madrid*; Fotiadis, Dimitrios I. *Univ. of Ioannina*

12:00-12:15 WeBT17.5
Validation of Temporal Gait Metrics from Three IMU Locations to the Gold Standard Force Plate 667-671
Patterson, Matt* *Shimmer*; Johnston, William *Univ. College Dublin, Insight Centre*; O'Mahony, Sam *Shimmer, Algorithm development*; Nolan, Eimear *Shimmer, Algorithm development*; O'Mahony, Niamh *Shimmer*; Caulfield, Brian *UCD*

12:15-12:30 WeBT17.6
Combined Accelerometer and EMG Analysis to Differentiate Essential Tremor from Parkinson's Disease 672-675
Haji Ghassemi, Nooshin* *Friedrich-Alexander-Univ. Erlangen-Nürnberg*; Marxreiter, Franz *Univ. Hospital Erlangen*; Pasluosta, Cristian Federico *Friedrich-Alexander-Univ. Erlangen-Nürnberg*; Kugler, Patrick *Siemens Healthcare GmbH*; Schlachetzki, Johannes *Univ. Hospital Erlangen*; Schramm, Axel *Univ. Hospital Erlangen*; Eskofier, Bjoern M *Friedrich-Alexander-Univ. Erlangen-Nürnberg*; Klucken, Jochen *Univ. Hospital Erlangen*

WeCT1: 15:30-17:00 Fantasia A&B
Ignite_Theme 1_We1 (Ignite Session)
Chair: Astolfi, Laura *Univ. of Rome Sapienza*

15:30-17:00 WeCT1.1
Robust Estimation of Respiratory Rate via ECG and PPG-Derived Respiratory Quality Indices 676-679
Birrenkott, Drew A.* *Univ. of Oxford*; Pimentel, Marco A.F. *Univ. of Oxford*; Watkinson, Peter J. *Univ. of Oxford, Oxford Univ. Hospitals NHS Trust*; Clifton, David *Univ. of Oxford*

15:30-17:00 WeCT1.2
Arterial Pressure Beat to Beat Characterization during Post-Occlusive Reactive Hyperemia 680-683
Cymberknop, Leandro Javier* *Univ. Tecnológica Nacional*; Arbeitman, Claudia *Engineering and Exact and Natural Sciences Faculty, Favaloro Uni*; Manuel, Alfonso *Buenos Aires Regional Faculty, National Technological Univ.*; Farro, Ignacio *School of Medicine, Republic Univ.*; Armentano, Ricardo Luis *Republic Univ., Favaloro Univ.*

15:30-17:00 WeCT1.3
Delta Space Plot Analysis of Cardiovascular Coupling in Vasovagal Syncope during Orthostatic Challenge 684-687
Reulecke, Sina* *Univ. Autónoma Metropolitana*; Charleston-Villalobos, Sonia *Univ. Autónoma Metropolitana*; Voss, Andreas *Univ. of Applied Sciences Jena*; Gonzalez-Camarena, Ramon *Univ. Autónoma Metropolitana*; Gaitan-Gonzalez, Mercedes *Univ. Autónoma Metropolitana*; Gonzalez-Hermosillo, Jesus Antonio *Instituto Nacional de Cardiología*; Hernandez-Pacheco, Guadalupe *Instituto Nacional de Cardiología "Ignacio Chavez"*; Aljama-Corrales, Tomas *Univ. Autónoma Metropolitana*

15:30-17:00 WeCT1.4
J Peak Extraction from Non-Standard Ballistocardiography Data: A Preliminary Study 688-691
Li, Xin *Shenzhen Institutes of Advanced Technology, Chinese Academy of S*; Li, Ye* *Shenzhen Institutes of Advanced Technology, Chinese Academy of S*

15:30-17:00 WeCT1.5
Characterizing Artifacts in RR Stress Test Time Series 692-695
Astudillo Salinas, Darwin Fabián* *Univ. of Cuenca*; Palacio-Baus, Kenneth Samuel *Univ. of Cuenca*; Solano Quinde, Lizandro *Univ. de Cuenca*; Medina, Rubén *Univ. de Cuenca*; Wong C, Sara *Univ. Simon Bolivar*

15:30-17:00		WeCT1.6
Dynamic Cerebral Autoregulation in Young Athletes Following Concussion	696-699	
Kostoglou, Kyriaki* <i>McGill Univ.</i> ; Wright, Alexander D. <i>Univ. of British Columbia, Vancouver, Canada</i> ; Smirl, Jonathan D. <i>Centre for Heart, Lung and Vascular Health, School of Health and</i> ; Bryk, Kelsey <i>School of Health & Social Development – School of Health and Exercise</i> ; van Donkelaar, Paul <i>School of Health and Exercise Sciences, Univ. of British Columbia</i> ; Mitsis, Georgios D. <i>McGill Univ.</i>		
15:30-17:00		WeCT1.7
Novel Measure of the Weight Distribution Balance on the Brain Network: Graph Complexity Applied to Schizophrenia	700-703	
Gomez-Pilar, Javier* <i>Univ. of Valladolid, CIF</i> ; Poza, Jesus <i>Univ. of Valladolid</i> ; Bachiller, Alejandro <i>Univ. of Valladolid</i> ; Núñez, Pablo <i>Univ. of Valladolid, CIF</i> ; Gomez, Carlos <i>Univ. of Valladolid, CIF</i> ; Lubeiro, Alba <i>Univ. of Valladolid, CIF</i> ; Molina, Vicente <i>Univ. of Valladolid, CIF</i> ; Hornero, Roberto <i>Univ. of Valladolid</i>		
15:30-17:00		WeCT1.8
Response Conflict Processes' Classification in 7 and 9 Year Old Children using EEG Brain Connectivity Measures	704-707	
Almabruk, Tahani A. A.* <i>Curtin Univ.</i> ; Iyer, Kartik <i>Curtin Univ.</i> ; Girdler, Sonya <i>Curtin Univ.</i> ; Khan, Masood <i>Mehmood Curtin Univ.</i> ; Tan, Tele <i>Curtin Univ.</i>		
15:30-17:00		WeCT1.9
Quantification of Neural Functional Connectivity during an Active Avoidance Task	708-711	
Silva, Catia S.* <i>Univ. of Florida</i> ; Khodam Hazrati, Mehrnaz <i>Univ. of Luebeck</i> ; Keil, Andreas <i>Univ. of Florida</i> ; Principe, Jose <i>Univ. of Florida</i>		
15:30-17:00		WeCT1.10
A Node-Wise Analysis of the Uterine Muscle Networks for Pregnancy Monitoring	712-715	
Nader, Noujoud* <i>Sorbonne Univ., Univ. de Technologie de Compiègne</i> ; Hassan, Mahmoud <i>Univ. de Rennes 1</i> ; El Falou, Wassim <i>Univ. Libanaise- Faculté de Génie; Univ. Libanaise- E</i> ; Marque, Catherine <i>Univ. of Technology of Compiègne</i> ; Khalil, Mohamad <i>Lebanese Univ., Doctoral School for Sciences and Technology</i>		
15:30-17:00		WeCT1.11
Estimation of Resting State Effective Connectivity in Epilepsy using Direct-Directed Transfer Function	716-719	
Maharathi, Biswajit <i>Univ. of Illinois at Chicago, Chicago</i> ; Loeb, Jeffrey A. <i>Univ. of Illinois at Chicago</i> ; Patton, James (Jim)* <i>Rehab Institute of Chicago & U. of Illinois at Chicago</i>		
15:30-17:00		WeCT1.12
Identifying Glaucoma Patients by Applying Multivariate Analyses of Cardiovascular Signals	720-723	
Voss, Andreas* <i>Univ. of Applied Sciences Jena</i> ; Fischer, Claudia <i>Univ. of Applied Sciences Jena, Dept. Medical Engineering a</i> ; Martinez, Cristina Gonzalez <i>Ernst-Abbe-Hochschule Jena</i> ; Koch, Eva C. <i>RWTH Aachen Univ.</i> ; Plange, Niklas <i>RWTH Aachen Univ.</i> ; Kunert, Kathleen <i>Helios Hospital Erfurt</i>		
15:30-17:00		WeCT1.13
Analysis of Magnetoencephalography Signals from Alzheimer's Disease Patients using Granger Causality	724-727	
Juan-Cruz, Celia <i>Univ. of Valladolid</i> ; Gomez, Carlos* <i>Univ. of Valladolid, CIF</i> ; Poza, Jesus <i>Univ. of Valladolid</i> ; Fernandez, Alberto <i>Univ. Complutense de Madrid</i> ; Hornero, Roberto <i>Univ. of Valladolid</i>		
15:30-17:00		WeCT1.14
Exploratory Analysis of Nonlinear Coupling between EEG Global Field Power and End-Tidal Carbon Dioxide in Free Breathing and Breath-Hold Tasks	728-731	
Morelli, Maria Sole <i>Scuola Superiore Sant'Anna (Pisa)</i> ; Valenza, Gaetano <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Greco, Alberto <i>Univ. of Pisa</i> ; Giannoni, Alberto <i>Fondazione Gabriele Monasterio, Pisa</i> ; Emdin, Michele <i>Fondazione Gabriele Monasterio, Pisa</i> ; Passino, Claudio <i>Fondazione Gabriele Monasterio, Pisa</i> ; Scilingo, Enzo Pasquale* <i>Univ. of Pisa</i> ; Vanello, Nicola <i>Univ. of Pisa</i>		
15:30-17:00		WeCT1.15
Real Time ECG Characteristic Point Detection with Randomly Selected Signal Pair Difference (RSSPD) Feature and Random Forest Classifier	732-735	
Gao, Pengfei <i>Tsinghua Univ.</i> ; Zhao, Jingwei <i>Tsinghua Univ.</i> ; Wang, Guijin* <i>Tsinghua Univ.</i> ; Guo, Hengkai <i>Tsinghua Univ.</i>		

15:30-17:00		WeCT1.16
Automatic Switching between Noise Classification and Speech Enhancement for Hearing Aid Devices	736-739	
Saki, Fatemeh* <i>Univ. of Texas at Dallas</i> ; Kehtarnavaz, Nasser <i>Univ. of Texas at Dallas</i>		
15:30-17:00		WeCT1.17
An Unsupervised Learning for Robust Cardiac Feature Derivation from PPG Signals	740-743	
Bandyopadhyay, Soma* <i>TATA Consultancy Services</i> ; Ukil, Arijit <i>TATA Consultancy Services</i> ; Puri, Chetanya <i>Innovation Labs, Tata Consultancy Services, India</i> ; Singh, Rituraj <i>TATA Consultancy Services</i> ; Pal, Arpan <i>Tata Consultancy Services</i> ; Mandana, K M <i>Fortis Hospitals, Kolkata</i> ; Murthy, C. A. <i>Indian Statistical Institute</i>		
15:30-17:00		WeCT1.18
Semi-automated Image Analysis of Gel Electrophoresis of Cerebrospinal Fluid for Oligoclonal Band Detection	744-747	
Boudet, Samuel* <i>Faculté de Médecine et Maïeutique</i> ; Peyrodie, Laurent <i>HEI</i> ; Wang, Zefeng <i>Faculté de Médecine et Maïeutique</i> ; Forzy, Gerard <i>Faculté Libre de Medecine</i>		
15:30-17:00		WeCT1.19
Applications of UBMs and I-Vectors in EEG Subject Verification	748-751	
Ward, Christian* <i>Temple Univ.</i> ; Obeid, Iyad <i>Temple Univ.</i> ; Picone, Joseph <i>Temple Univ.</i>		
15:30-17:00		WeCT1.20
Fall Risk Probability Estimation based on Supervised Feature Learning using Public Fall Datasets	752-755	
Koshmak, Gregory* <i>Malardalen Univ.</i> ; Lindén, Maria <i>Malardalen Univ.</i> ; Loutfi, Amy <i>Örebro Univ.</i>		
15:30-17:00		WeCT1.21
Heart Beat Characterization from Ballistocardiogram Signals using Extended Functions of Multiple Instances	756-760	
Jiao, Changzhe <i>Univ. of Missouri</i> ; Lyons, Princess <i>Univ. of Missouri</i> ; Zare, Alina* <i>Univ. of Missouri</i> ; Rosales, Licet <i>Univ. of Missouri</i> ; Skubic, Marjorie <i>Univ. of Missouri</i>		
15:30-17:00		WeCT1.22
Online Estimation of a Cognitive Performance using Heart Rate Variability	761-765	
Tsunoda, Keisuke* <i>NTT Service Evolution Laboratories, NTT Corporation</i> ; Chiba, Akihiro <i>NTT Corporation</i> ; Chigira, Hiroshi <i>NTT Corporation</i> ; Yoshida, Kazuhiro <i>NTT Service Evolution Laboratories</i> ; Watanabe, Tomoki <i>NTT Corporation</i> ; Mizuno, Osamu <i>NTT Service Evolution Laboratories</i>		
15:30-17:00		WeCT1.23
Data-Driven Estimation of Blood Pressure using Photoplethysmographic Signals	766-769	
Gao, Shichao* <i>Tsinghua Univ.</i> ; Wittek, Peter <i>Univ. of Boras</i> ; Zhao, Li <i>Tsinghua Univ.</i> ; Jiang, Wenjun <i>Tsinghua Univ.</i>		
15:30-17:00		WeCT1.24
Beat-to-Beat Variability of P-Wave in Patients Suffering from Atrial Fibrillation	770-773	
Censi, Federica* <i>Italian National Institute of Health</i> ; Calcagnini, Giovanni <i>Italian National Institute of Health</i> ; Mattei, Eugenio <i>Italian National Institute of Health</i> ; Ricci, Alessandro <i>European Hospital</i> ; Corazza, Ivan <i>Univ. of Bologna</i> ; Reggiani, Elisa <i>Univ. of Bologna</i> ; Boriani, Giuseppe <i>Univ. of Bologna</i>		
15:30-17:00		WeCT1.25
Automatic Threshold Optimization in NEO based Spike Detection	774-777	
Malik, Muhammad Hassan* <i>National Univ. of Science and Technology</i> ; Saeed, Maryam <i>School of Electrical Engineering and Computer Science, National</i> ; Kamboh, Awais Mehmood <i>School of Electrical Engineering and Computer Science, National</i>		
15:30-17:00		WeCT1.26
Using Demographic and Time Series Physiological Features to Classify Sepsis in the Intensive Care Unit	778-782	
Gunnarsdottir, Kristin* <i>Johns Hopkins Univ.</i> ; Sadashivaiah, Vijay <i>Johns Hopkins Univ.</i> ; Kerr, Matthew <i>Johns Hopkins Univ.</i> ; Santaniello, Sabato <i>Univ. of Connecticut</i> ; Sarma, Sridevi V. <i>Johns Hopkins Univ.</i>		
15:30-17:00		WeCT1.27
Analysis of Locality-Sensitive Hashing for Fast Critical Event Prediction on Physiological Time Series	783-787	
Kim, Yongwook Bryce* <i>Massachusetts Institute of Technology</i> ; O'Reilly, Una-May <i>Massachusetts Institute of Technology</i>		

15:30-17:00	WeCT1.28
Support Vectors Machine Classification of Surface Electromyography for Non-Invasive Naturally Controlled Hand Prostheses	788-791
Moura, Karina de Oliveira Alves de <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i> ; Favieiro, Gabriela Winkler* <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i> ; Balbinot, Alexandre <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i>	
15:30-17:00	WeCT1.29
A Real-Time Hybrid Neuron Network for Highly Parallel Cognitive Systems	792-795
Christiaanse, Gerrit Jan* <i>Delft Univ. of Technology</i> ; Zjajo, Amir <i>Delft Univ. of Technology</i> ; Galuzzi, Carlo <i>Maastricht Technology</i> ; van Leuken, Rene <i>Delft Univ. of Technology</i>	
15:30-17:00	WeCT1.30
Application of Cross-Correlated Delay Shift Rule in Spiking Neural Networks for Interictal Spike Detection	796-799
Guo, Lili* <i>Florida International Univ.</i> ; Wang, Zhenzhong <i>Florida International Univ.</i> ; Cabrerizo, Mercedes <i>Florida International Univ.</i> ; Adjouadi, Malek <i>Florida International Univ.</i>	
15:30-17:00	WeCT1.31
EEG-Based Driver Fatigue Detection using Hybrid Deep Generic Model	800-803
San, Phyo Phyo <i>Agency for Science, Technology and Research</i> ; Ling, Steve <i>Univ. of Technology Sydney</i> ; Chai, Rifai* <i>Univ. of Technology, Sydney</i> ; Tran, Yvonne <i>Univ. of Technology, Sydney</i> ; Craig, Ashley <i>The Univ. of Sydney</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>	
15:30-17:00	WeCT1.32
Application of Semi-Supervised Deep Learning to Lung Sound Analysis	804-807
Chamberlain, Daniel* <i>Massachusetts Institute of Technology</i> ; Kodgule, Rahul <i>Chest Research Foundation</i> ; Ganelin, Daniela <i>Massachusetts Institute of Technology</i> ; Miglani, Vivek <i>Massachusetts Institute of Technology</i> ; Fletcher, Richard Ribon <i>Massachusetts Institute of Technology</i>	
15:30-17:00	WeCT1.33
Predicting Local Field Potentials with Recurrent Neural Networks	808-811
Kim, Louis <i>Draper Laboratory</i> ; Harer, Jacob <i>Boston Univ., Draper</i> ; Rangamani, Akshay <i>Johns Hopkins Univ.</i> ; Moran, James <i>Draper Laboratory</i> ; Parks, Philip <i>Draper Laboratory</i> ; Widge, Alik <i>Massachusetts General Hospital</i> ; Eskandar, Emad <i>Massachusetts General Hospital</i> ; Dougherty, Darin <i>Massachusetts General Hospital</i> ; Chin, Sang* <i>Boston Univ.</i>	
15:30-17:00	WeCT1.34
Encoding Physiological Signals as Images for Affective State Recognition using Convolutional Neural Networks	812-815
Yu, Guangliang <i>Tianjin Univ.</i> ; Li, Xiang <i>Tianjin Univ.</i> ; Zhang, Peng <i>Tianjin Univ.</i> ; Song, Dawei* <i>Tianjin Univ.</i> ; Hou, Yuexian <i>Tianjin Univ.</i> ; Hu, Bin <i>Lanzhou Univ.</i> ; Zhao, Xiaozhao <i>Tianjin Univ.</i>	
15:30-17:00	WeCT1.35
An Unsupervised Subject Identification Technique using EEG Signals	816-819
Birjandtalab, Javad <i>Univ. of Texas at Dallas</i> ; Baran Pouyan, Maziyar <i>Univ. of Texas at Dallas</i> ; Nourani, Mehrdad* <i>Univ. of Texas at Dallas</i>	

WeCT2: 15:30-17:00	Fantasia C&D
Ignite_Theme 1_We2 (Ignite Session)	
Chair: Toppi, Jlenia <i>Univ. of Rome "Sapienza"</i>	

15:30-17:00	WeCT2.1
An Efficient K-NN Approach for Automatic Drowsiness Detection using Single-Channel EEG Recordings	820-824
Jalilifard, Amir* <i>Federal Univ. of São Carlos</i> ; Brigante Pizzolato, Ednaldo <i>Federal Univ. of São Carlos</i>	
15:30-17:00	WeCT2.2
A Comparison of Independent Component Analysis Algorithms and Measures to Discriminate between EEG and Artifact Components	825-828
Dharmapran, Dhani* <i>Flinders Univ.</i> ; Nguyen, Hoang Khang <i>Flinders Univ.</i> ; Lewis, Trent <i>Flinders Univ.</i> ; DeLosAngeles, Dylan <i>Flinders Univ.</i> ; Willoughby, John <i>Flinders Univ.</i> ; Pope, Kenneth <i>Flinders Univ.</i>	

15:30-17:00	WeCT2.3
Visual Transparent & Visual Occlusion: An EEG and COP Study	829-832
Goh, Kwang Leng* <i>Curtin Univ.</i> ; Morris, Susan <i>Curtin Univ.</i> ; Lee, Wee Lih <i>Curtin Univ.</i> ; Ring, Alexander, Alexander Ring <i>Univ. of Western Australia</i> ; Tan, Tele <i>Curtin Univ.</i>	
15:30-17:00	WeCT2.4
Detection of Steering Direction using EEG Recordings based on Sample Entropy and Time-Frequency Analysis	833-836
Calderó-Bardají, Pau* <i>Univ. of Kiel</i> ; Longfei, Xiong <i>Christian Albrechts Univ. Kiel</i> ; Jaschke, Sven <i>Univ. of Kiel</i> ; Reermann, Jens <i>Univ. of Kiel</i> ; Mideksa, Kidist Gebremariam <i>Univ. of Kiel</i> ; Schmidt, Gerhard <i>Univ. of Kiel, Digital Signal Processing and System Theory</i> ; Gunther, Deuschl <i>Dept. of Neurology</i> ; Muthuraman, Muthuraman <i>Christian Albrechts Univ.</i>	
15:30-17:00	WeCT2.5
A Novel Method of EEG Data Acquisition, Feature Extraction and Feature Space Creation for Early Detection of Epileptic Seizures	837-840
Bugeja, Sylvia <i>Univ. of Malta</i> ; Garg, Lalit* <i>Univ. of Malta</i> ; Audu, Eliezar E. <i>Univ. of Malta</i>	
15:30-17:00	WeCT2.6
Improve the Generalization of Emotional Classifiers across Time by using Training Samples from Different Days	841-844
Liu, Shuang* <i>Tianjin Univ.</i> ; Tong, Jingjing <i>Tianjin Univ.</i> ; Xu, Minpeng <i>Tianjin Univ.</i> ; Yang, Jiajia <i>Tianjin Univ.</i> ; QI, Hongzhi <i>Tianjin Univ.</i> ; Ming, Dong <i>Tianjin Univ.</i>	
15:30-17:00	WeCT2.7
Emotion Classification using Single-Channel Scalp-EEG Recording	845-849
Jalilifard, Amir* <i>Federal Univ. of São Carlos</i> ; Brigante Pizzolato, Ednaldo <i>Federal Univ. of São Carlos</i> ; Islam, Md Kafiul <i>National Univ. of Singapore</i>	
15:30-17:00	WeCT2.8
Gaussian Process Dynamical Models for Multimodal Affect Recognition	850-853
Garcia, Hernan F.* <i>Univ. Tecnológica de Pereira, Univ. del Quindío</i> ; Alvarez, Mauricio A. <i>Univ. Tecnológica de Pereira</i> ; Orozco, Alvaro <i>Univ. Tecnológica de Pereira</i>	
15:30-17:00	WeCT2.9
High-Accuracy User Identification using EEG Biometrics	854-858
Koike-Akino, Toshiaki <i>Mitsubishi Electric Research Laboratories (MERL)</i> ; Mahajan, Ruhi <i>Univ. of Memphis</i> ; Marks, Tim K. <i>Mitsubishi Electric Research Laboratories (MERL)</i> ; Wang, Ye* <i>Mitsubishi Electric Research Laboratories (MERL)</i> ; Watanabe, Shinji <i>Mitsubishi Electric Research Laboratories (MERL)</i> ; Tuzel, Oncel <i>Mitsubishi Electric Research Laboratories (MERL)</i> ; Orlik, Philip <i>Mitsubishi Electric Research Laboratories (MERL)</i>	
15:30-17:00	WeCT2.10
An EEG Blind Source Separation Algorithm based on a Weak Exclusion Principle	859-862
Ma, Lan* <i>The Chinese Univ. of Hong Kong</i> ; Blu, Thierry <i>The Chinese Univ. of Hong Kong</i> ; Wang, William S-Y <i>The Chinese Univ. of Hong Kong</i>	
15:30-17:00	WeCT2.11
Autonomous Vision-Guided Approach for the Analysis and Grading of Vertical Suspension Tests during Hammersmith Infant Neurological Examination (HINE)	863-866
Dey, Prasenjit <i>IIT Kharagpur</i> ; Dogra, Debi Prosad <i>IIT Bhubaneswar</i> ; Pratim Roy, Partha <i>IIT Roorkee</i> ; Bhaskar, Harish* <i>Khalifa Univ.</i>	
15:30-17:00	WeCT2.12
A Canonical Correlation Analysis based EMG Classification Algorithm for Eliminating Electrode Shift Effect	867-870
Fan, Zhe* <i>School of Data and Computer Science, Sun Yat-sen Univ.</i> ; Wang, Zhong <i>School of Data and Computer Science, Sun Yat-sen Univ.</i> ; Li, Guanglin <i>Shenzhen Institutes of Advanced Technology</i> ; Wang, Ruomei <i>School of Data and Computer Science, Sun Yat-sen Univ.</i>	

15:30-17:00		WeCT2.13
Relationship between Dynamical Characteristics of Sit-to-Walk Motion and Physical Functions of Elderly Humans	871-875	
Liang, Shengyun <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Zhao, Guoru* <i>Shenzhen Institutes of Advanced Technology Chinese Academy of Sci</i> ; Ma, Yingnan <i>Beijing Research Center of Urban System Engineering</i> ; Gao, Xing <i>Beijing Research Center of Urban System Engineering</i>		
15:30-17:00		WeCT2.14
Non-Invasive Detection of the Freezing of Gait in Parkinson's Disease using Spectral and Wavelet Features	876-879	
Nazarzadeh, Kimia <i>RMIT Univ.</i> ; Poosapadi Arjunan, Sridhar* <i>RMIT Univ.</i> ; Kant Kumar, Dinesh <i>RMIT Univ.</i> ; Das, Debi Prasad <i>CSIR-Institute of Minerals and Materials Technology, Bhubaneswar</i>		
15:30-17:00		WeCT2.15
Person-Specific Gesture Set Selection for Optimised Movement Classification from EMG Signals	880-883	
Hartwell, Adam* <i>Univ. of Sheffield</i> ; Kadiramanathan, Visakan <i>Univ. of Sheffield</i> ; Anderson, Sean R <i>Univ. of Sheffield</i>		
15:30-17:00		WeCT2.16
Data Correction to Determine a Representative Pattern of a Set of 3D Knee Kinematic Measurements	884-887	
Mechmeche, Imen* <i>Institut National de la Recherche Scientifique</i> ; Mitiche, Amar <i>Institut National de la Recherche Scientifique</i> ; Ouakrim, Youssef <i>Ecole de technologie superieure</i> ; de Guise, Jacques A. <i>École de Technologie Supérieure</i> ; Mezghani, Neila <i>Ecole de technologie superieure</i>		
15:30-17:00		WeCT2.17
An Initial Investigation into the Real-Time Conversion of Facial Surface EMG Signals to Audible Speech	888-891	
Diener, Lorenz* <i>Univ. Bremen</i> ; Herff, Christian <i>Univ. of Bremen</i> ; Janke, Matthias <i>Univ. of Bremen</i> ; Schultz, Tanja <i>Univ. of Bremen</i>		
15:30-17:00		WeCT2.18
Characterizing Multi EMG Channels using Non-Negative Matrix Factorization for Driver Swings in Golf	892-895	
Ozaki, Yasunori* <i>NTT</i> ; Aoki, Ryosuke <i>NTT Corporation</i> ; Kimura, Toshitaka <i>NTT</i> ; Takashima, Youichi <i>NTT</i> ; Yamada, Tomohiro <i>NTT</i>		
15:30-17:00		WeCT2.19
Detection of Myasthenia Gravis using Electrooculography Signals	896-899	
Liang, Timothy* <i>Ryerson Univ.</i> ; Boulos, Mark I. <i>Sunnybrook Health Science Centre</i> ; Murray, Brian <i>Sunnybrook Health Sciences Center, Univ. of Toronto</i> ; Krishnan, Sridhar <i>Ryerson Univ.</i> ; Katzberg, Hans <i>Univ. Health Networks</i> ; Umapathy, Karthikeyan <i>Ryerson Univ.</i>		
15:30-17:00		WeCT2.20
Adaptive Myoelectric Pattern Recognition for Arm Movement in Different Positions using Advanced Online Sequential Extreme Learning Machine	900-903	
Anam, Khairul* <i>Univ. of Technology Sydney</i> ; Al-Jumaily, Adel <i>Univ. of Technology Sydney</i>		
15:30-17:00		WeCT2.21
Genetic Algorithms for Dipole Location of Fetal Magnetocardiography	904-907	
Escalona-Vargas, Diana Irazú* <i>Univ. of Arkansas for Medical Sciences</i> ; Murphy, Pamela <i>Univ. of Arkansas for Medical Sciences</i> ; Lowery, Curtis <i>Univ. of Arkansas for Medical Sciences</i> ; Eswaran, Hari <i>Univ. of Arkansas for Medical Sciences</i>		
15:30-17:00		WeCT2.22
Examining the Effect of MgSO4 on Sharp Wave Transient Activity in the Hypoxic-Ischemic Fetal Sheep Model	908-911	
Lakadia, Meherzad Jim <i>Univ. of Auckland</i> ; Abbasi, Hamid* <i>Univ. of Auckland</i> ; Gunn, Alistair Jan <i>Univ. of Auckland</i> ; Unsworth, Charles Peter <i>Univ. of Auckland</i> ; Bennet, Laura <i>The Univ. of Auckland</i>		
15:30-17:00		WeCT2.23
Application of Audio Fingerprinting to Neonatal EEG	912-915	
Murphy, Brian Michael* <i>Univ. College Cork</i> ; O'Driscoll, Cillian <i>Univ. College Cork</i> ; Korotchikova, Irina <i>Univ. College Cork</i> ; Boylan, Geraldine <i>Univ. College Cork</i> ; Lightbody, Gordon <i>Univ. College Cork</i> ; Marnane, Liam <i>Univ. College Cork</i>		

15:30-17:00		WeCT2.24
Comparison of Data Mining Techniques Applied to Fetal Heart Rate Parameters for the Early Identification of IUGR Fetuses	916-919	
Magenes, Giovanni* <i>Univ. of Pavia</i> ; Malovini, Alberto <i>IRCCS Fondazione S. Maugeri, Pavia</i> ; Bellazzi, Riccardo <i>Univ. of Pavia</i> ; Signorini, Maria G. <i>Politecnico di Milano</i>		
15:30-17:00		WeCT2.25
Improving Heart Rate Estimation in Preterm Infants with Bivariate Point Process Analysis of Heart Rate and Respiration	920-923	
Gee, Alan* <i>Wyss Institute at Harvard Univ.</i> ; Barbieri, Riccardo <i>Politecnico di Milano</i> ; Paydarfar, David <i>Univ. of Massachusetts medical School</i> ; Indic, Premananda <i>Univ. of Massachusetts Medical School</i>		
15:30-17:00		WeCT2.26
A Multivariate Time-Frequency Approach for Tracking QT Variability Changes Unrelated to Heart Rate Variability	924-927	
Orini, Michele* <i>Univ. College London</i> ; Taggart, Peter <i>Univ. College London</i> ; Lambiase, Pier <i>Univ. College London Hospital</i>		
15:30-17:00		WeCT2.27
Heart Rate Independent QT Variability Component can Detect Subclinical Cardiac Autonomic Neuropathy in Diabetes	928-931	
Imam, Mohammad Hasan <i>Univ. of Melbourne</i> ; Karmakar, Chandan* <i>Deakin Univ.</i> ; Khandoker, Ahsan Khalifa <i>Univ.</i> ; Jelinek, Herbert Franz <i>Charles Sturt Univ.</i> ; Palaniswami, Marimuthu <i>The Univ. of Melbourne</i>		
15:30-17:00		WeCT2.28
Disentanglement of Sympathetic and Parasympathetic Activity by Instantaneous Analysis of Human Heartbeat Dynamics	932-935	
Valenza, Gaetano <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Citi, Luca <i>Univ. of Essex</i> ; Barbieri, Riccardo* <i>Politecnico di Milano</i>		
15:30-17:00		WeCT2.29
Comparison of Pulse Rate Variability and Heart Rate Variability for High Frequency Content Estimation	936-939	
Logier, Regis* <i>CHRU de Lille</i> ; De Jonckheere, Julien <i>CHRU de Lille</i> ; Dassonneville, Alain <i>CHRU de Lille</i> ; Jeanne, Mathieu <i>CHRU de Lille</i>		
15:30-17:00		WeCT2.30
Early Warnings of Heart Rate Deterioration	940-943	
Almeida, Vania* <i>Aston Univ.</i> ; Nabney, Ian T. <i>Aston Univ.</i>		
15:30-17:00		WeCT2.31
Lomb Algorithm versus Fast Fourier Transform in Heart Rate Variability Analyses of Pain in Premature Infants	944-947	
Delane, Anas <i>Gonzaga Univ.</i> ; Bohorquez, Jorge* <i>Univ. of Miami</i> ; Gupta, Subhanshu <i>Washington State Univ.</i> ; Schiavenato, Martin <i>Washington State Univ.</i>		
WeCT3: 15:30-17:00		Fantasia E&F
Ignite_Theme 1_We3 (Ignite Session)		
15:30-17:00		WeCT3.1
Multi-Channel Algorithms for Epileptic High-Frequency Oscillation Detection	948-951	
Chou, Chen-Wei <i>National Tsing Hua Univ.</i> ; Chen, Chien <i>Taipei Veterans General Hospital</i> ; Kwan, Shang-Yeong <i>Taipei Veterans General Hospital</i> ; Wu, Shun Chi* <i>National Tsing Hua Univ.</i>		
15:30-17:00		WeCT3.2
Use of Local Field Potentials of Dissociated Cultures Grown on Multi-Electrode Arrays for Pharmacological Assays	952-956	
Mendis, Dulini* <i>Univ. of Melbourne</i> ; Morrisroe, Emma <i>Univ. of Melbourne</i> ; Reid, Christopher Alan <i>Univ. of Melbourne</i> ; Petrou, Steven <i>Univ. of Melbourne</i> ; Halgamuge, Saman <i>Univ. of Melbourne</i>		
15:30-17:00		WeCT3.3
Scoring Sequences of Hippocampal Activity using Hidden Markov Models	957-960	
Ackermann, Etienne* <i>Rice Univ.</i> ; Kemere, Caleb <i>Rice Univ.</i>		

15:30-17:00		WeCT3.4
Improving Test-Retest Reliability of Quantitative Electroencephalography using Different Preprocessing Approaches	961-964	
Suarez-Revelo, Jazmin Ximena* <i>Univ. de Antioquia</i> ; Ochoa, John Fredy <i>Univ. of Antioquia</i> ; Duque-Grajales, Jon <i>Univ. de Antioquia</i>		
15:30-17:00		WeCT3.5
On an Analogue Signal Processing Circuit in the Nematode <i>C. Elegans</i>	965-968	
Skandari, Roghieh* <i>The Univ. of Melbourne</i> ; Iino, Yuichi <i>Univ. of Tokyo</i> ; Manton, Jonathan <i>The Univ. of Melbourne</i>		
15:30-17:00		WeCT3.6
Automatic and Continuous Assessment of ERPs for Mismatch Negativity Detection	969-972	
Armanfard, Narges* <i>McMaster Univ.</i> ; Komeili, Majid <i>Univ. of Toronto</i> ; Reilly, James <i>McMaster Univ.</i> ; Mah, Richard <i>McMaster Univ.</i> ; Connolly, John F. <i>McMaster Univ.</i>		
15:30-17:00		WeCT3.7
Identifying Stereotypic Evolving Micro-Scale Seizures (SEMS) in the Hypoxic-Ischemic EEG of the Pre-Term Fetal Sheep with a Wavelet Type-II Fuzzy Classifier	973-976	
Abbasi, Hamid* <i>Univ. of Auckland</i> ; Bennet, Laura <i>The Univ. of Auckland</i> ; Gunn, Alistair Jan <i>Univ. of Auckland</i> ; Unsworth, Charles Peter <i>Univ. of Auckland</i>		
15:30-17:00		WeCT3.8
Optimal Weighted Averaging of Event Related Activity from Acquisitions with Artifacts	977-980	
Vollero, Luca* <i>Univ. Campus Bio-Medico di Roma</i> ; Petrichella, Sara <i>Univ. Campus Bio-Medico</i> ; Iannello, Giulio <i>Univ. Campus Bio-Medico di Roma</i>		
15:30-17:00		WeCT3.9
Neurophysiological Measures for Users' Training Objective Assessment during Simulated Robot-Assisted Laparoscopic Surgery	981-984	
Borghini, Gianluca* <i>Univ. of Rome Sapienza</i> ; Arico, Pietro <i>Fondazione Santa Lucia</i> ; Di Flumeri, Gianluca <i>Univ. of Rome Sapienza</i> ; Colosimo, Alfredo <i>Univ. of Rome "Sapienza"</i> ; Storti, Silvia Francesca <i>Univ. of Verona</i> ; Menegaz, Gloria <i>Univ. of Verona</i> ; Fiorini, Paolo <i>Univ. of Verona</i> ; Babiloni, Fabio <i>Univ. of Rome</i>		
15:30-17:00		WeCT3.10
Predicting Seizures in Untreated Temporal Lobe Epilepsy using Point-Process Nonlinear Models of Heartbeat Dynamics	985-988	
Valenza, Gaetano <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Romigi, Andrea <i>Univ. of Rome "Tor Vergata"</i> ; Citi, Luca <i>Univ. of Essex</i> ; Fabio, Placidi <i>Univ. of Rome "Tor Vergata"</i> ; Francesca, Izzi <i>Univ. of Rome "Tor Vergata"</i> ; Maria, Albanese <i>Univ. of Rome "Tor Vergata"</i> ; Scilingo, Enzo Pasquale <i>Univ. of Pisa</i> ; Marciani, Maria Grazia <i>Univ. of Rome "Tor Vergata"</i> ; Duggento, Andrea <i>Univ. of Rome "Tor Vergata"</i> ; Guerrisi, Maria <i>Univ. of Rome "Tor Vergata"</i> ; Toschi, Nicola* <i>Univ. of Rome "Tor Vergata", Faculty of Medicine</i> ; Barbieri, Riccardo <i>Politecnico di Milano</i>		
15:30-17:00		WeCT3.11
Channel Interpolation in TMS-EEG: A Quantitative Study towards an Accurate Topographical Representation	989-992	
Petrichella, Sara* <i>Univ. Campus Bio-Medico</i> ; Vollero, Luca <i>Univ. Campus Bio-Medico di Roma</i> ; Ferreri, Florinda <i>Univ. Campus Biomedico</i> ; Guerra, Andrea <i>Dept. of Neurology, Univ. Campus Bio-medico</i> ; Määttä, Sara <i>Kuopio Univ. Hospital and Univ. of Eastern Finland</i> ; Könönen, Mervi <i>Kuopio Univ. Hospital</i> ; Di Lazzaro, Vincenzo <i>Univ. Campus Bio-Medico di Roma</i> ; Iannello, Giulio <i>Univ. Campus Bio-Medico di Roma</i>		
15:30-17:00		WeCT3.12
Changes in the EEG Amplitude as a Biomarker for Early Detection of Alzheimer's Disease	993-996	
Al-nuaimi, Ali H. Hussein* <i>Univ. of Plymouth</i> ; Jammeh, Emmanuel <i>Plymouth Univ., School of Computing and Mathematics</i> ; Sun, Lingfen <i>Plymouth Univ., School of Computing and Mathematics</i> ; Ifeachor, Emmanuel <i>Univ. of Plymouth</i>		
15:30-17:00		WeCT3.13
Optimal Causal Filtering for $1/f^\alpha$-Type Noise in Single-Electrode EEG Signals	997-1001	
Paris, Alan* <i>Univ. of Central Florida</i> ; Atia, George <i>Univ. of Central Florida</i> ; Vosoughi, Azadeh <i>Univ. of Central Florida</i> ; Berman, Stephen <i>Univ. of Central Florida</i>		

15:30-17:00		WeCT3.14
Automatic Seizure Detection using Correlation Integral with Nonlinear Adaptive Denoising and Kalman Filter		1002-1005
Wang, Hongda* <i>The Chinese Univ. of Hong Kong</i> ; Choy, Chiu Sing <i>The Chinese Univ. of Hong Kong</i>		
15:30-17:00		WeCT3.15
Gaussian Mixture Model for the Identification of Psychogenic Non-Epileptic Seizures using a Wearable Accelerometer Sensor		1006-1009
Kusmakar, Shitanshu* <i>The Univ. of Melbourne</i> ; Muthuganapathy, Ramanathan <i>Indian Institute of Technology Madras</i> ; Yan, Bernard <i>The Royal Melbourne Hospital</i> ; O'Brien, Terence <i>The Royal Melbourne Hospital</i> ; Palaniswami, Marimuthu <i>The Univ. of Melbourne</i>		
15:30-17:00		WeCT3.16
Seizure Detection using Dynamic Warping for Patients with Intellectual Disability		1010-1013
Wang, Lei* <i>Eindhoven Univ. of Technology</i> ; Arends, Johan B.A.M. <i>Epilepsy Center Kempenhaeghe</i> ; Long, Xi <i>Eindhoven Univ. of Technology and Philips Research</i> ; wu, yan <i>Eindhoven Univ. of Technology</i> ; Cluitmans, Pierre J.M. <i>Eindhoven Univ. of Technology</i>		
15:30-17:00		WeCT3.17
Computational Modeling of High Frequency Oscillations Recorded with Clinical Intracranial Macroelectrodes		1014-1017
Shamas, Mohamad* <i>Univ. de Rennes 1</i> ; Benquet, Pascal <i>CNRS; Univ. de Rennes 1; UMR6026</i> ; Merlet, Isabelle <i>INSERM – Univ. de Rennes 1</i> ; El Falou, Wassim <i>Univ. Libanaise- Faculté de Génie; Univ. Libanaise-E</i> ; Khalil, Mohamad <i>Lebanese Univ., Doctoral School for Sciences and Technology</i> ; Wendling, Fabrice <i>INSERM – Univ. de Rennes 1</i>		
15:30-17:00		WeCT3.18
Connectivity Maps of Different Types of Epileptic Patterns		1018-1021
Rajaei, Hoda* <i>Florida International Univ.</i> ; Cabrerizo, Mercedes <i>Florida International Univ.</i> ; Janwattanapong, Panuwat <i>Florida International Univ.</i> ; Pinzon-Ardila, Alberto <i>Baptist Health Neuroscience Center, Baptist Hospital of Miami</i> ; Sergio, Gonzales-Arias <i>Herbert Wertheim College of Medicine, Florida International Univ.</i> ; Adjouadi, Malek <i>Florida International Univ.</i>		
15:30-17:00		WeCT3.19
Phase-Amplitude Coupling Analysis for Seizure Evolvement using Hilbert Huang Transform		1022-1025
Zhou, Hanyue <i>Univ. of California, Los Angeles</i> ; Li, Ying* <i>Univ. of California, Los Angeles</i> ; Hsin, Yue-Loong <i>Chung Shan Medical Univ.</i> ; Liu, Wentai <i>Univ. of California, Los Angeles</i>		
15:30-17:00		WeCT3.20
A-Phases Subtype Detection using Different Classification Methods		1026-1029
Machado, Fátima <i>Univ. of Coimbra</i> ; Teixeira, César <i>Univ. of Coimbra</i> ; Santos, Clara <i>Centro de Medicina do Sono do Hospital Geral de Coimbra</i> ; Bento, Conceição <i>Centro Hospitalar e Univ. de Coimbra</i> ; Sales, Francisco <i>Hospitais da Univ. de Coimbra</i> ; Dourado, António* <i>FCTUC, Univ. of Coimbra</i>		
15:30-17:00		WeCT3.21
A Multiple Kernel Learning Approach for Human Behavioral Task Classification using STN-LFP Signal		1030-1033
M. Golshan, Hosein* <i>Univ. of Denver</i> ; Hebb, Adam O. <i>Univ. of Washington</i> ; Hanrahan, Sara <i>Univ. of Utah</i> ; Nedrud, Joshua <i>Colorado Neurological Institute</i> ; Mahoor, Mohammad H. <i>Univ. of Denver</i>		

WeCT4: 15:30-17:00	Grand Republic A
Ignite_Theme 2_We1 (Ignite Session)	

15:30-17:00		WeCT4.1
Bone Texture Characterization for Osteoporosis Diagnosis using Digital Radiography		1034-1037
Zheng, Keni <i>Delaware State Univ.</i> ; Makrogiannis, Sokratis* <i>Delaware State Univ.</i>		
15:30-17:00		WeCT4.2
Quantitative Evaluation of Alveolar Bone Resorption on Dental Panoramic Radiographs by Standardized Dentition Image Transformation and Probability Estimation		1038-1041
Muramatsu, Chisako <i>Gifu Univ.</i> ; Takahashi, Ryo <i>Densan System Co., Ltd.</i> ; Hayashi, Tatsuro <i>Gifu Univ.</i> ; Hara, Takeshi <i>Gifu Univ. Graduate Sch of Medicine</i> ; Fukui, Tatsumasa <i>Asahi Univ. School of Dentistry</i> ; Katsumata, Akitoshi <i>Asahi Univ.</i> ; Fujita, Hiroshi* <i>Gifu Univ.</i>		

15:30-17:00	WeCT4.3
3D Knee Segmentation based on Three MRI Sequences from Different Planes	1042-1045
Zhou, Lulu* <i>Ecole de Technologie Supérieure</i> ; Chav, Ramnada <i>Ecole de Technologie Supérieure</i> ; Cresson, Thierry <i>Ecole de Technologie Supérieure</i> ; Chartrand, Gabriel <i>École de Technologie Supérieure</i> ; de Guise, Jacques A. <i>École de Technologie Supérieure</i>	
15:30-17:00	WeCT4.4
Hip Segmentation from MRI Volumes in Infants for DDH Diagnosis and Treatment Planning	1046-1049
Rakkunedeth Hareendranathan, Abhilash* <i>Univ. of Alberta</i> ; Zonoobi, Dornoosh <i>Univ. of Alberta</i> ; Mabee, Myles Garnet <i>Univ. of Alberta</i> ; Diederichs, Chad <i>Univ. of Alberta</i> ; Punithakumar, Kumaradevan <i>Univ. of Alberta</i> ; Noga, Michelle <i>Univ. of Alberta</i> ; Jaremko, Jacob <i>Univ. of Alberta</i>	
15:30-17:00	WeCT4.5
Molar Axis Estimation from Computed Tomography Images	1050-1053
Zhang, Dongxia <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Gan, Yangzhou <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Xia, Zeyang* <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Zhou, Xinwen <i>Shanghai Jiao Tong Univ.</i> ; Liu, Shoubin <i>Harbin Institute of Technology Shenzhen Graduate School</i> ; Xiong, Jing <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Li, Guanglin <i>Shenzhen Institutes of Advanced Technology</i>	
15:30-17:00	WeCT4.6
Fast Scale-Invariant Lateral Lumbar Vertebrae Detection and Segmentation in X-Ray Images	1054-1057
Sa, Ruhana* <i>State Univ. of New York (SUNY) at Buffalo</i> ; Owens Jr, William <i>State Univ. of New York (SUNY) at Buffalo</i> ; Wiegand, Raymond <i>Spine Metrics, Inc.</i> ; Chaudhary, Vipin <i>SUNY Buffalo</i>	
15:30-17:00	WeCT4.7
Thermal Analysis of Multiple-Antenna-Excited Breast Model for Breast Cancer Detection	1058-1061
Li, Yinan* <i>Univ. of Texas at Dallas</i> ; Fahimi, Babak <i>Univ. of Texas at Dallas</i>	
15:30-17:00	WeCT4.8
Extraction of Medically Interpretable Features for Classification of Malignancy in Breast Thermography	1062-1065
Madhu, Himanshu* <i>Xerox Research Center India</i> ; Kakileti, Siva Teja <i>XEROX Research Centre India</i> ; Venkataramani, Krithika <i>Xerox Research Center India</i> ; Jabbireddy, Susmija <i>Student at IIT Kharagpur</i>	
15:30-17:00	WeCT4.9
Preliminary Imaging Results and SAR Analysis of a Microwave Imaging System for Early Breast Cancer Detection	1066-1069
Ghanbarzadeh Dagheyan, Ashkan <i>Northeastern Univ.</i> ; Molaei, Ali <i>Northeastern Univ.</i> ; Obermeier, Richard <i>Northeastern Univ.</i> ; Martinez Lorenzo, Jose A.* <i>Northeastern Univ.</i>	
15:30-17:00	WeCT4.10
Simplified Computer-Aided Detection Scheme of Microcalcification Clusters in Digital Breast Tomosynthesis Images	1070-1073
Jeong, Ji-Wook* <i>ETRI</i> ; Chae, Seung-Hoon <i>ETRI</i> ; Chae, Eun Young <i>Asan Medical Center</i> ; Kim, Hak Hee <i>Asan Medical Center</i> ; Choi, Young Wook <i>Korea Electrotechnology Research Institute</i> ; Lee, Sooyeul <i>Electronics & Telecom Research Inst</i>	
15:30-17:00	WeCT4.11
Tracking of the Anterior Mitral Leaflet in Echocardiographic Sequences using Active Contours	1074-1077
Sultan, Malik Saad <i>Univ. of Porto</i> ; Martins, Nelson <i>Enermeter, Sistemas de Medição, Lda & Instituto de Telecomunicac</i> ; Veiga, Diana <i>Enermeter, Sistemas de Medição Ida/ Centro Algoritmi, Univ.</i> ; Ferreira, Manuel Joao <i>Univ. of Minho</i> ; Coimbra, Miguel* <i>Instituto de Telecomunicações / Univ. do Porto</i>	
15:30-17:00	WeCT4.12
Multiview Echocardiography Fusion using an Electromagnetic Tracking System	1078-1081
Punithakumar, Kumaradevan* <i>Univ. of Alberta</i> ; Rakkunedeth Hareendranathan, Abhilash <i>Univ. of Alberta</i> ; Paakkanen, Riitta <i>ABACUS, Mazankowski Heart Institute, Univ. of Alberta Hospi</i> ; Khan, Nehan <i>Univ. of Alberta</i> ; Noga, Michelle <i>Univ. of Alberta</i> ; Boulanger, Pierre <i>Univ. of Alberta</i> ; Becher, Harald <i>Mazankowski Alberta Heart Institute, Univ. of Alberta, Edmo</i>	

15:30-17:00		WeCT4.13
Towards Estimating Cardiac Motion using Low-Rank Representation and Topology Preservation for Ultrafast Ultrasound Data		1082-1086
Aviles, Angelica Ivone* <i>Univ. Politècnica de Catalunya</i> ; Widlak, Thomas <i>Ecole Normale Supérieure – ENS</i> ; Casals, Alicia <i>Center of Research in Biomedical Engineering, Univ. Politè</i> ; Ammari, Habib <i>Eidgenössische Technische Hochschule Zurich – ETH</i>		
15:30-17:00		WeCT4.14
Mitral Valve Annulus Localization in 3D Echocardiography		1087-1090
Tiwari, Abhishek <i>Samsung Research India Bangalore</i> ; Patwardhan, Kedar* <i>Samsung Research Institute Bangalore</i>		
15:30-17:00		WeCT4.15
Patient Movement Compensation for 3D Echocardiography Fusion		1091-1094
Rakkunedeth Hareendranathan, Abhilash* <i>Univ. of Alberta</i> ; Hanbidge, Michelle Anne <i>Univ. of Alberta</i> ; He, Weimin (Allen) <i>Alberta Mazankowski Heart Institute, Univ. of Alberta Hospital</i> ; Noga, Michelle <i>Univ. of Alberta</i> ; Boulanger, Pierre <i>Univ. of Alberta</i> ; Becher, Harald <i>Mazankowski Alberta Heart Institute, Univ. of Alberta, Edmo</i> ; Punithakumar, Kumaradevan <i>Univ. of Alberta</i>		
15:30-17:00		WeCT4.16
Polarity Detection in Ultrasound Current Source Density Imaging		1095-1098
Wang, Zhaohui* <i>Texas A&M Univ.-Kingsville</i> ; Park, Sung-won <i>Texas A&M Univ.-Kingsville</i>		
15:30-17:00		WeCT4.17
Structural Changes of Cingulate Cortex in Post Stroke Depression		1099-1102
Ye, Chenfei <i>Harbin Institute of Technology Shenzhen Graduate School</i> ; Wu, Jun <i>Peking Univ. Shenzhen Hospital</i> ; Chen, Xuhui <i>Peking Univ. Shenzhen Hospital</i> ; Zhang, Changle <i>Harbin Institute of Technology Shenzhen Graduate School</i> ; Mao, Shuai <i>Harbin Institute of Technology Shenzhen Graduate School</i> ; Li, Hengtong <i>Harbin Institute of Technology Shenzhen Graduate School, Shenzhen</i> ; Ma, Heather Ting* <i>Harbin Institute of Technology Shenzhen Graduate School</i>		
15:30-17:00		WeCT4.18
TLE Lateralization using Whole Brain Structural Connectivity		1103-1106
Davoodi-Bojd, Esmaeil <i>Henry Ford Health System</i> ; Elisevich, Kost V. <i>Dept. of Clinical Neurosciences, Spectrum Health Medical Gr</i> ; Schwab, Jason <i>Neurosurgery Dept., Henry Ford Hospital, Detroit, MI</i> ; Air, Ellen <i>Neurosurgery Dept., Henry Ford Hospital, Detroit, MI</i> ; Soltanian-Zadeh, Hamid* <i>Univ. of Tehran</i>		
15:30-17:00		WeCT4.19
Comprehensive Reconstruction of Multi-Shot Multi-Channel Diffusion Data using MUSSELS		1107-1110
Mani, Merry* <i>Univ. of Iowa</i> ; Magnotta, Vincent Alfonso <i>Univ. of Iowa</i> ; Kelley, Douglas <i>GE Healthcare</i> ; Jacob, Mathews <i>Univ. of Iowa</i>		
15:30-17:00		WeCT4.20
Multi-Output Gaussian Processes for Enhancing Resolution of Diffusion Tensor Fields		1111-1114
Vargas Cardona, Hernán Darío* <i>Univ. Tecnológica de Pereira</i> ; Orozco, Alvaro <i>Univ. Tecnológica de Pereira</i> ; Alvarez, Mauricio A. <i>Univ. Tecnológica de Pereira</i>		
15:30-17:00		WeCT4.21
Creation of a Whole Brain Short Association Bundle Atlas using a Hybrid Approach		1115-1119
Guevara, Miguel* <i>Univ. of Concepcion</i> ; Román, Claudio <i>Univ. de Concepcion</i> ; Houenou, Josselin <i>Inserm cea & aphp</i> ; Duclap, Delphine <i>I2BM, CEA-Neurospin</i> ; Poupon, Cyril <i>CEA I2BM NeuroSpin</i> ; Mangin, Jean-François <i>CEA I2BM NeuroSpin</i> ; Guevara, Pamela <i>Univ. of Concepción</i>		
15:30-17:00		WeCT4.22
Divergence Map from Diffusion Tensor Imaging: Concepts and Application to Corpus Callosum		1120-1123
Pinheiro, Gustavo* <i>UNICAMP</i> ; Saraiva Soares, Guilherme <i>Unicamp</i> ; Costa, André Luís da <i>Univ. of Campinas</i> ; Lotufo, Roberto <i>Univ. of Campinas</i> ; Rittner, Leticia <i>Univ. of Campinas</i>		

15:30-17:00		WeCT4.23
Differences in Brain White Matter Microstructure between Parkinson Patients with and without REM Sleep Behavior Disorder		1124-1126
Rahmani, Farzaneh <i>Neuroimaging and Genetic Research Interest Group (NiGIG), Univ.</i> ; Ansari, Mina <i>Students' Scientific Research Center, Tehran Univ. of Medica</i> ; Pooyan, Atefeh <i>Students' Scientific Research Center, Tehran Univ. of Medica</i> ; Mirbagheri, Mehdi <i>Northwestern Univ./RIC</i> ; Aarabi, Mohammad Hadi* <i>Basir Eye Health Research Center, Tehran, Iran.</i>		
15:30-17:00		WeCT4.24
Differences in Connectivity Patterns between Child and Adolescent Attention Deficit Hyperactivity Disorder Patients		1127-1130
Park, Bo-yong <i>Sungkyunkwan Univ.</i> ; Kim, Jonghoon <i>Sung Kyun Kwan Univ.</i> ; Park, Hyunjin* <i>Sungkyunkwan Univ.</i>		
15:30-17:00		WeCT4.25
Estimating Multimodal Brain Connectivity in Multiple Sclerosis: An Exploratory Factor Analysis		1131-1134
Mancini, Matteo* <i>Univ. degli Studi di Roma Tre</i> ; Giuliotti, Giovanni <i>Santa Lucia Foundation, Rome</i> ; Spanò, Barbara <i>Santa Lucia Foundation, Rome</i> ; Bozzali, Marco <i>Santa Lucia Foundation</i> ; Cercignani, Mara <i>4Brighton & Sussex Medical School, Clinical Imaging Sciences Cen</i> ; Conforto, Silvia <i>Univ. Roma TRE</i>		
15:30-17:00		WeCT4.26
Adaptive Change Point Detection of Dynamic Functional Connectivity Networks		1135-1138
Shakil, Sadia <i>Georgia Institute of Technology</i> ; Keilholz, Shella* <i>Emory Univ.</i> ; Lee, Chin-hui <i>Georgia Tech</i>		
15:30-17:00		WeCT4.27
An Image Resolution Perspective on Functional Activity Mapping		1139-1142
Dillon, Keith* <i>Tulane Univ.</i> ; Wang, Yu-Ping <i>Tulane Univ.</i>		
15:30-17:00		WeCT4.28
Estimation of Voxel-Wise Dynamic Cerebrovascular Reactivity Curves from Resting-State FMRI Data		1143-1146
Prokopiou, Prokopis <i>McGill Univ.</i> ; Murphy, Kevin <i>Cardiff Univ.</i> ; Wise, Richard G. <i>Cardiff Univ. Brain Research Imaging Center (CUBRIC), Schoo</i> ; Mitsis, Georgios D.* <i>McGill Univ.</i>		
15:30-17:00		WeCT4.29
CEREBRA: A 3-D Visualization Tool for Brain Network Extracted from FMRI Data		1147-1150
Nasir, Baris* <i>Middle East Technical Univ.</i> ; Yarman Vural, Fatos <i>Middle East Technical Univ.</i>		
WeCT5: 15:30-17:00		Grand Republic B
Ignite_Theme 2_We2 (Ignite Session)		
Chair: Lavarello, Roberto <i>Pontificia Univ. Catolica del Peru</i>		
15:30-17:00		WeCT5.1
Sorted Self-Similarity for Multi-Modal Image Registration		1151-1154
Kasiri, Keyvan* <i>Univ. of Waterloo</i> ; Fieguth, Paul <i>Univ. of Waterloo</i> ; Clausi, David Anthony <i>Univ. of Waterloo</i>		
15:30-17:00		WeCT5.2
Non-Rigid MRI/CT Registration for Effective Planning of Prostate Brachytherapy		1155-1158
Hamdan, Iyas* <i>IRT b-com</i> ; Dardenne, Guillaume <i>b-com</i> ; Bert, Julien <i>INSERM UMR1101 – CHRU Brest</i> ; Visvikis, Dimitris <i>INSERM U650</i>		
15:30-17:00		WeCT5.3
3-D Registration on Carotid Artery Imaging Data: MRI for Different Timesteps		1159-1162
Bizopoulos, Paschalis <i>National Technical Univ. of Athens</i> ; Sakellarios, Antonis <i>Univ. of Ioannina</i> ; Michalis, Lampros <i>Univ. of Ioannina</i> ; Koutsouris, Dimitrios <i>Biomedical Engineering Laboratory, School of Electrical and Comp</i> ; Fotiadis, Dimitrios I.* <i>Univ. of Ioannina</i>		

15:30-17:00		WeCT5.4
Slice Correspondence Estimation using SURF Descriptors and Context-Based Search for Prostate Whole-Mount Histology MRI Registration	1163-1166	
Guzman Medina, Lina Maria* <i>Univ. Nacional de Colombia</i> ; Commandeur, Frédéric <i>Univ. de Rennes 1, LTSI, Rennes, F-35000, France / INSERM</i> ; Acosta, Oscar <i>Univ. of Rennes 1</i> ; Simon, Antoine <i>Univ. of Rennes</i> ; Fautrel, Alain <i>H2P2, Laboratoire d'Anatomie Pathologique, Rennes, France</i> ; Rioux-Leclercq, Nathalie <i>Dept. of Pathological Anatomy and Cytology, CHU Pontchaillou</i> ; Romero, Eduardo <i>Univ. Nacional de Colombia</i> ; Mathieu, Romain <i>Dept. of Urology, CHU Pontchaillou, Rennes, F-35000, France</i> ; De Crevoisier, Renaud <i>INSERM, U1099, Rennes, F-35000, France – Univ. de Rennes 1</i>		
15:30-17:00		WeCT5.5
Curvelet based Residual Complexity Objective Function for Non-Rigid Registration of Pre-Operative MRI with Intra-Operative Ultrasound Images	1167-1170	
Farnia, Parastoo <i>Tehran Univ. of medical sciences</i> ; Makki Abadi, Bahador <i>Tehran Univ. of Medical Sciences</i> ; Ahmadian, Alireza* <i>Tehran Univ. of Medical Sciences</i> ; Alirezaie, Javad <i>Ryerson Univ., Univ. of Waterloo</i>		
15:30-17:00		WeCT5.6
Topology Guided Demons Registration with Local Rigidity Preservation	1171-1174	
Zheng, Chaojie <i>Univ. of Sydney</i> ; Wang, Xiu Ying* <i>The Univ. of Sydney</i> ; Feng, Dagan <i>The Univ. of Sydney</i>		
15:30-17:00		WeCT5.7
Quantitative Analysis of Histological Tissue Image based on Cytological Profiles and Spatial Statistics	1175-1178	
Chang, Young Hwan* <i>Oregon Health and Science Univ.</i> ; Thibault, Guillaume <i>Oregon Health & Science Univ.</i> ; Azimi, Vahid <i>Oregon Health and Science Univ.</i> ; Johnson, Brett <i>Oregon Health and Science Univ.</i> ; Jorgens, Danielle <i>Oregon Health & Science Univ.</i> ; Link, Jason <i>Oregon Health and Science Univ.</i> ; Margolin, Adam <i>Oregon Health and Science Univ.</i> ; Joe, Gray <i>Oregon Health and Science Univ.</i>		
15:30-17:00		WeCT5.8
Computer-Aided Planning and Reconstruction of Cranial 3D Implants	1179-1183	
Gall, Markus <i>TU Graz</i> ; Li, Xing <i>Shanghai Jiao Tong Univ.</i> ; Chen, Xiaojun <i>Shanghai Jiao Tong Univ.</i> ; Schmalstieg, Dieter <i>Graz Univ. of Technology</i> ; Egger, Jan* <i>Graz Univ. of Technology</i>		
15:30-17:00		WeCT5.9
Segmentation of Angiodysplasia Lesions in WCE Images using a MAP Approach with Markov Random Fields	1184-1187	
Vieira, Pedro Miguel* <i>Univ. of Minho</i> ; Gonçalves, Bruno <i>Hospital of Braga – Gastroenterology Dept.</i> ; Rolanda Gonçalves, Carla <i>ICVS – Univ. of Minho</i> ; Lima, Carlos Manuel Gregorio Santos <i>Univ. of Minho</i>		
15:30-17:00		WeCT5.10
Automatic Workflow for Narrow-Band Laryngeal Video Stitching	1188-1191	
Moccia, Sara* <i>Politecnico di Milano</i> ; Penza, Veronica <i>Politecnico di Milano</i> ; Omodeo Vanone, Gabriele <i>Politecnico di Milano</i> ; De Momi, Elena <i>Politecnico di Milano</i> ; Mattos, Leonardo <i>IIT – Istituto Italiano di Tecnologia</i>		
15:30-17:00		WeCT5.11
A Unifi Ed Bayesian-Based Compensated Magnetic Resonance Imaging	1192-1195	
Boroomand, Ameneh* <i>Univ. of Waterloo</i> ; Li, Edward <i>Univ. of Waterloo</i> ; Shafiee, Mohammad Javad <i>Univ. of Waterloo</i> ; Haider, Masoom <i>Univ. of Toronto</i> ; Khalvati, Farzad <i>Univ. of Toronto</i> ; Wong, Alexander <i>Univ. of Waterloo</i>		
15:30-17:00		WeCT5.12
Adaptive Segmentation and Mask-Specific Sobolev Inpainting of Specular Highlights for Endoscopic Images	1196-1199	
Alsaleh, Samar* <i>George Washington Univ., Dept. of Computer Science, Th</i> ; Aviles, Angelica Ivone <i>Univ. Politècnica de Catalunya</i> ; Sobrevilla, Pilar <i>Univ. Politècnica de Catalunya – NIF:Q-0818003-F</i> ; Casals, Alicia <i>Center of Research in Biomedical Engineering, Univ. Politè</i> ; Hahn, James <i>George Washington Univ.</i>		
15:30-17:00		WeCT5.13
Robust Watermarking in Non-ROI of Medical Images based on DCT-DWT	1200-1203	
Jamali, Maedeh <i>Isfahan Univ. of Technology</i> ; Samavi, Shadrokh <i>McMaster Univ.</i> ; Karimi, Nader <i>Isfahan Univ. of Technology</i> ; Soroushmehr, S.M.Reza* <i>Univ. of Michigan, Ann Arbor</i> ; Ward, Kevin <i>Univ. of Michigan</i> ; Najarian, Kayvan <i>Univ. of Michigan – Ann Arbor</i>		

15:30-17:00		WeCT5.14
How Well can the Fusion of Gabor Filters and Local Binary Patterns Help in Identifying Gastric Lesions?	1204-1207	
Riaz, Farhan <i>National Univ. of Sciences and Technology</i> ; Hassan, Ali <i>National Univ. of Sciences and Technology, Islamabad, Pakis</i> ; Nunes, Pedro-Pimentel <i>IPO, Porto</i> ; Lage, Diogo Libnio e Jorge <i>IPO, Porto</i> ; Coimbra, Miguel* <i>Instituto de Telecomunicações / Univ. do Porto</i>		
15:30-17:00		WeCT5.15
Automated Tracing of Microglia using Multilevel Thresholding and Minimum Spanning Trees	1208-1211	
Abdolhoseini, Mahmoud* <i>The Univ. of Newcastle</i> ; Walker, Frederick Rohan <i>Univ. of Newcastle</i> ; Johnson, Sarah <i>J Univ. of Newcastle</i>		
15:30-17:00		WeCT5.16
A New Hybrid Watermarking Algorithm for MRI Medical Images using DWT and Hash Functions	1212-1215	
Taher, Fatma* <i>Khalifa Univ. of Science, Technology and Research (KUSTAR)</i> ; Kunho, Alvi <i>India</i> ; al-ahmad, Hussein <i>Khalifa Univ. of Science, Technology and Research (KUSTAR)</i>		
15:30-17:00		WeCT5.17
Comparison of Viscoelastic Property Characterization of Plastisol Phantoms with Magnetic Resonance Elastography and High-Frequency Rheometry	1216-1219	
Lefebvre, Pauline Marie* <i>Univ. de Lyon, CREATIS ; CNRS UMR5220 ; Inserm U1044 ; INSA</i> ; Tse Ve Koon, Kevin <i>Univ. of Lyon, CREATIS, CNRS UMR5220, Inserm U1206, INSA-Ly</i> ; Brusseau, Elisabeth <i>UMR CNRS 5220</i> ; Nicolle, Stéphane <i>Univ. Claude Bernard Lyon 1</i> ; Palierne, Jean-François <i>ENS de Lyon</i> ; Lambert, Simon Auguste <i>Univ. de Lyon, CREATIS ; CNRS UMR5220 ; Inserm U1044 ; INSA</i> ; Grenier, Denis <i>Univ. Lyon 1, INSERM</i>		
15:30-17:00		WeCT5.18
Dynamically Scaled in Vitro PC-MRI Flow Compared to True-Scale CFD of Idealized, Stented and Patient-Specific Coronaries	1220-1223	
Beier, Susann <i>Univ. of Auckland</i> ; Ormiston, John <i>Mercy Angiography</i> ; Webster, Mark <i>Auckland District Health Board</i> ; Cater, John <i>Univ. of Auckland</i> ; Norris, Stuart <i>Univ. of Auckland</i> ; Medrano-Gracia, Pau <i>Univ. of Auckland</i> ; Young, Alistair <i>Univ. of Auckland</i> ; Gilbert, Kathleen* <i>Univ. of Auckland</i> ; Cowan, Brett <i>Univ. of Auckland</i>		
15:30-17:00		WeCT5.19
Fast Analytical Spectral Filtering Methods for Magnetic Resonance Perfusion Quantification	1224-1227	
Kasireddy, Viswanatha Reddy* <i>Samsung R & D Institute India, Bangalore</i> ; Mitra, Abhishek <i>Samsung R&D Bangalore</i> ; Yalavarthy, Phaneendra Kumar <i>Indian Institute of Science, Bangalore, India</i>		
15:30-17:00		WeCT5.20
Improving Assessment of Congenital Heart Disease through Rapid Patient Specific Modeling	1228-1231	
Gilbert, Kathleen* <i>Univ. of Auckland</i> ; Farrar, Genevieve <i>Univ. of California, San Diego</i> ; Cowan, Brett <i>Univ. of Auckland</i> ; Suinesiaputra, Avan <i>Univ. of Auckland</i> ; Occlshaw, Christopher <i>Univ. of Auckland</i> ; Pontre, Beau <i>Univ. of Auckland</i> ; Perry, James <i>Univ. of California, San Diego</i> ; Hegde, Sanjeet <i>Univ. of California, San Diego</i> ; Omens, Jeffrey <i>UCSD</i> ; McCulloch, Andrew <i>Univ. of California, San Diego</i> ; Young, Alistair <i>Univ. of Auckland</i>		
15:30-17:00		WeCT5.21
Investigation of Driving Forces of Cerebrospinal Fluid Motion by Power and Frequency Mapping based on Asynchronous Phase Contrast Technique	1232-1235	
Sunohara, Saeko <i>Tokai Univ.</i> ; Yatsushiro, Satoshi <i>Graduate School of Science and Technology, Tokai Univ.</i> ; Takizawa, Ken <i>School of Medicine, Tokai Univ.</i> ; Matsumae, Mitsunori <i>School of Medicine, Tokai Univ.</i> ; Kajihara, Nao <i>Dept. of Radiology, Tokai Univ. School of Medicine</i> ; Kuroda, Kagayaki* <i>School of Information Science and Technology, Tokai Univ.</i>		
15:30-17:00		WeCT5.22
A Chicken Embryo Cardiac Outflow Tract Atlas for Registering Changes Due to Abnormal Blood Flow	1236-1239	
Carson, James* <i>Texas Advanced Computing Center</i> ; Rennie, Monique <i>Oregon Health Science Univ.</i> ; Danilchik, Michael <i>Oregon Health Science Univ.</i> ; Thornburg, Kent <i>Oregon Health Science Univ.</i> ; Rugonyi, Sandra <i>Oregon Health Science Univ.</i>		
15:30-17:00		WeCT5.23
Guide-Wire Detecting using a Modified Cascade Classifier in Interventional Radiology	1240-1243	
Wang, Li <i>Univ. of Chinese Academy of Sciences</i> ; Xie, Xiao-Liang <i>Chinese Academy of Sciences</i> ; Gao, Zhan-Jie <i>Institute of Automation Chinese Academy of Science</i> ; Bian, Gui-Bin <i>Institute of Automation, Chinese Academy of Sciences</i> ; Hou, Zeng-Guang* <i>Institute of Automation, Chinese Academy of Sciences</i>		

15:30-17:00		WeCT5.24
Surgical Fiducial Segmentation and Tracking for Pose Estimation based on Ultrasound B-Mode Images ...	1244-1247	
Chen, Lei* <i>Johns Hopkins Univ.</i> ; Kuo, Nathanael <i>Johns Hopkins Univ.</i> ; Aalamifar, Fereshteh <i>Johns Hopkins Univ.</i> ; Narrow, David <i>Sonavex Surgical</i> ; O'Brien-Coon, Devin <i>Johns Hopkins Univ.</i> ; Prince, Jerry <i>Johns Hopkins Univ.</i> ; Boctor, Emad M. <i>Johns Hopkins Univ. School of Medicine</i>		
15:30-17:00		WeCT5.25
Distortion Indicator Algorithm for Simple Artifact Assessment of Passive MRI Markers	1248-1251	
Illanes, Alfredo* <i>Otto-von-Guericke Univ. of Magdeburg</i> ; Krug, Johannes <i>Otto-von-Guericke Univ.</i> ; Abadi, Hamideh <i>Otto Von Guericke Univ.</i> ; Friebe, Michael <i>Otto-von-Guericke-Univ.</i>		
15:30-17:00		WeCT5.26
Passive Artifact Behavior Prediction of Interventional Tools in High-Field MRI using a 0.55T Portable Benchtop MR Scanner	1252-1255	
Abadi, Hamideh* <i>Otto Von Guericke Univ.</i> ; Krug, Johannes <i>Otto-von-Guericke Univ.</i> ; Illanes, Alfredo <i>Otto-von-Guericke Univ. of Magdeburg</i> ; Friebe, Michael <i>Otto-von-Guericke-Univ.</i>		
15:30-17:00		WeCT5.27
RF Induced Energy for Partially Implanted Catheters: A Computational Study	1256-1259	
Lucano, Elena* <i>Univ. of Rome "Sapienza"</i> ; Liberti, Micaela <i>ICEmB at Sapienza Univ. of Rome</i> ; Lloyd, Thomas <i>Imricor</i> ; Apollonio, Francesca <i>ICEmB@La Sapienza Univ. Rome</i> ; Wedan, Steve <i>Imricor Medical Systems</i> ; Kainz, Wolfgang <i>Food and Drug Administration</i> ; Angelone, Leonardo M. <i>US Food and Drug Administration, Center for Devices and Radiology</i>		
15:30-17:00		WeCT5.28
Automatic Detection of Hemorrhage and Surgical Instrument in Laparoscopic Surgery Image	1260-1263	
Jo, Kyungmin <i>Asan Institute for Life Sciences, Asan Medical Center</i> ; Choi, Bareum <i>Asan Institute for Life Sciences, Asan Medical Center</i> ; Choi, Songe <i>Asan Institute for Life Sciences, Asan Medical Center</i> ; Moon, Youngjin <i>Asan Medical Center</i> ; Choi, Jaesoon* <i>Asan Institute for Life Sciences, Asan Medical Center</i>		
15:30-17:00		WeCT5.29
Lung Tumor Boundary Tracking in MRI with Moving Mesh Correspondences for Adaptive Radio Therapy	1264-1267	
Tahmasebi, Nazanin* <i>Univ. of Alberta</i> ; Boulanger, Pierre <i>Univ. of Alberta</i> ; Punithakumar, Kumaradevan <i>Univ. of Alberta</i>		
15:30-17:00		WeCT5.30
Association between Tumor Heterogeneity and Progression-Free Survival in Non-Small Cell Lung Cancer Patients with EGFR Mutations Undergoing Tyrosine Kinase Inhibitors Therapy	1268-1271	
Song, Jiangdian <i>Sino-Dutch Biomedical and Information Engineering School, Northe</i> ; Dong, Di <i>Chinese Academy of Sciences</i> ; Liu, Zaiyi <i>Dept. of Radiology, Guangdong General Hospital, Guangdong A</i> ; Huang, Yanqi <i>Dept. of Radiology, Guangdong General Hospital, Guangdong A</i> ; Tian, Jie* <i>Chinese Academy of Sciences</i> ; Zang, Yali <i>Institute of Automation, Chinese Academy of Sciences</i>		
15:30-17:00		WeCT5.31
Prediction of Malignant and Benign of Lung Tumor using a Quantitative Radiomic Method	1272-1275	
Wang, Jun <i>Harbin Univ. of Science and Technology</i> ; Liu, Xia <i>Harbin Univ. of Science and Technology</i> ; Dong, Di <i>Chinese Academy of Sciences</i> ; Song, Jiangdian <i>Sino-Dutch Biomedical and Information Engineering School, Northe</i> ; Xu, Min <i>Chinese Academy of Sciences</i> ; Zang, Yali <i>Institute of Automation, Chinese Academy of Sciences</i> ; Tian, Jie* <i>Chinese Academy of Sciences</i>		
15:30-17:00		WeCT5.32
Texton and Sparse Representation based Texture Classification of Lung Parenchyma in CT Images	1276-1279	
Yang, Jie <i>Columbia Univ.</i> ; Feng, Xinyang <i>Columbia Univ.</i> ; Angelini, Elsa <i>Columbia Univ.</i> ; Laine, Andrew* <i>Columbia Univ.</i>		

15:30-17:00		WeCT5.33
Automatic Segmentation of Lungs in SPECT Images using Active Shape Model Trained by Meshes Delineated in CT Images		1280-1283
Cheimariotis, Grigorios-Aris* <i>Aristotle Univ. of Thessaloniki, Thessaloniki, Greece</i> ; Al-Mashat, Mariam <i>Lund Univ., Dept. of Clinical Physiology, Skane Univ.</i> ; Haris, Kostas <i>Lab of Medical Informatics, Medical School, Aristotle Univ.</i> ; Aletras, Anthony <i>Lab. of Computing and Medical Informatics, Dept. of Medicin</i> ; Jögi, Jonas <i>Skåne Univ. hospital and Lund Univ.</i> ; Bajc, Marika <i>Dept. of Clinical Physiology and Nuclear Medicine, Skåne Un</i> ; Maglaveras, Nikolaos <i>Aristotle Univ. of Thessaloniki</i> ; Heiberg, Einar <i>Lunds Univ.</i>		
15:30-17:00		WeCT5.34
4D Lung Tumor Segmentation via Shape Prior and Motion Cues		1284-1287
Cha, Jung won* <i>Univ. of Louisville</i> ; Farhangi, Mohammad Mehdi <i>Univ. of Louisville</i> ; Dunlap, Neal <i>Univ. of Louisville, Louisville</i> ; Amini, Amir <i>Univ. of Louisville</i>		
WeCT6: 15:30-17:00		Grand Republic C
Ignite_Theme 2_We3 (Ignite Session)		
Chair: Grisan, Enrico <i>Univ. of Padova</i>		
15:30-17:00		WeCT6.1
Automatic Anterior Chamber Angle Structure Segmentation in AS-OCT Image based on Label Transferring		1288-1291
Fu, Huazhu* <i>Institute for Infocomm Research, A*STAR</i> ; Xu, Yanwu <i>Institute for Infocomm Research</i> ; Wong, Damon <i>Institute for Infocomm Research</i> ; Liu, Jiang <i>Ningbo Institute of Materials Technology and Engineering, CAS</i> ; Baskaran, Mani <i>Singapore Eye Research Institute</i> ; Perera, Shamira <i>Singapore Eye Research Institute</i> ; Aung, Tin <i>Singapore Eye Research Institute</i>		
15:30-17:00		WeCT6.2
Automated Segmentation of Intra-Retinal Cysts from Optical Coherence Tomography Scans using Marker Controlled Watershed Transform		1292-1295
Girish, Gn* <i>National Institute of Technology Karnataka, Surathkal</i> ; R Kothari, Abhishek <i>Dr. Agarwal's Eye Hospital, Jaipur, India</i> ; Rajan, Jeny <i>Dept. of Computer Science and Engineering, National Institu</i>		
15:30-17:00		WeCT6.3
Automated Morphometric Description of Human Corneal Endothelium from In-Vivo Specular and Confocal Microscopy		1296-1299
Scarpa, Fabio* <i>Univ. of Padova</i> ; Ruggeri, Alfredo <i>Univ. of Padua</i>		
15:30-17:00		WeCT6.4
Automated Detection of Neovascularization for Proliferative Diabetic Retinopathy Screening		1300-1303
Roychowdhury, Sohini* <i>Univ. of Washington, Bothell</i> ; Koozekanani, Dara <i>Univ. of Minnesota</i> ; Parhi, Keshab <i>Univ. of Minnesota</i>		
15:30-17:00		WeCT6.5
A CNN based Neurobiology Inspired Approach for Retinal Image Quality Assessment		1304-1307
Dwarikanath, Mahapatra* <i>IBM Research</i> ; Roy, Pallab <i>IBM Research Australia</i> ; Sedai, Suman <i>IBM Research Australia</i> ; Garnavi, Rahil <i>IBM Research Australia</i>		
15:30-17:00		WeCT6.6
Adaptive Higuichi's Dimension based Retinal Vessel Diameter Measurement		1308-1311
Aliahmad, Behzad* <i>RMIT Univ.</i> ; Kant Kumar, Dinesh <i>RMIT Univ.</i>		
15:30-17:00		WeCT6.7
Toward a Severity Index for ROP: An Unsupervised Approach		1312-1315
Tian, Peng <i>Northeastern Univ.</i> ; Ataer-Cansizoglu, Esra <i>Northeastern Univ.</i> ; Kalpathy-Cramer, Jayashree <i>Massachusetts General Hospital/Harvard Medical School</i> ; Ostmo, Susan <i>OHSU</i> ; Jonas, Karyn <i>UIC</i> ; Chan, R.V. <i>Paul Illinois Eye and Ear Infirmary, Univ. of Illinois at Chicag</i> ; Campbell, J. Peter <i>OHSU</i> ; Chiang, Michael F. <i>Oregon Health & Science Univ.</i> ; Erdogmus, Deniz* <i>Northeastern Univ.</i>		

15:30-17:00		WeCT6.8
In Vivo Characterization of Genetic Expression of Virus-Transduced Calcium Indicators in Retinal Ganglion Cells using a Low-Cost Funduscope	1316-1319	
Chang, Yao-Chuan* <i>Univ. of Southern California</i> ; Walston, Steven <i>Univ. of Southern California</i> ; Chow, Robert <i>Univ. of Southern California</i> ; Weiland, James <i>Univ. of Southern California</i>		
15:30-17:00		WeCT6.9
Artery/Vein Classification of Retinal Blood Vessels using Feature Selection	1320-1323	
Vijayakumar, Vishal <i>Univ. of Minnesota, Twin Cities</i> ; Koozekanani, Dara <i>Univ. of Minnesota</i> ; White, Robert <i>Univ. of Minnesota, Twin Cities</i> ; Kohler, James <i>Univ. of Minnesota, Twin Cities</i> ; Roychowdhury, Sohini <i>Univ. of Washington, Bothell</i> ; Parhi, Keshab* <i>Univ. of Minnesota</i>		
15:30-17:00		WeCT6.10
Automatic Detection of Neovascularization on Optic Disk Region with Feature Extraction and Support Vector Machine	1324-1327	
Yu, Shuang* <i>Commonwealth Scientific and Industrial Research Organization</i> ; Xiao, Di <i>Commonwealth Scientific and Industrial Research Organization</i> ; Kanagasingam, Yogi <i>The Australian eHealth Research Centre, Perth, CSIRO</i> .		
15:30-17:00		WeCT6.11
Integrating Holistic and Local Deep Features for Glaucoma Classification	1328-1331	
Li, Annan* <i>Institute for Infocomm Research, ASTAR</i> ; Cheng, Jun <i>Institute for Infocomm Research, AStar</i> ; Wong, Damon <i>Institute for Infocomm Research</i> ; Liu, Jiang <i>Ningbo Institute of Materials Technology and Engineering, CAS</i>		
15:30-17:00		WeCT6.12
Automatic Estimation of Corneal Nerves Focused Tortuosities	1332-1335	
Guimarães, Pedro* <i>Univ. of Padova</i> ; Wigdahl, Jeffrey <i>Univ. of Padova</i> ; Ruggeri, Alfredo <i>Univ. of Padua</i>		
15:30-17:00		WeCT6.13
Artery and Vein Diameter Ratio Measurement based on Improvement of Arteries and Veins Segmentation on Retinal Images	1336-1339	
Hatanaka, Yuji* <i>Univ. of Shiga Prefecture</i> ; Tachiki, Hirokazu <i>The Univ. of Shiga Prefecture</i> ; Ogohara, Kazunori <i>Univ. of Shiga Prefecture</i> ; Muramatsu, Chisako <i>Gifu Univ.</i> ; Okumura, Susumu <i>Univ. of Shiga Prefecture</i> ; Fujita, Hiroshi <i>Gifu Univ.</i>		
15:30-17:00		WeCT6.14
Deep Neural Ensemble for Retinal Vessel Segmentation in Fundus Images towards Achieving Label-Free Angiography	1340-1343	
Lahiri, Avisek* <i>Indian Institute of Technology Kharagpur</i> ; Guha Roy, Abhijit <i>Indian Institution of Technology, Kharagpur</i> ; Sheet, Debdoot <i>Indian Institute of Technology Kharagpur</i> ; Kumar Biswas, Prabir <i>Indian Institute of Technology Kharagpur</i>		
15:30-17:00		WeCT6.15
Classification of SD-OCT Volumes with Multi Pyramids, LBP and HOG Descriptors: Application to DME Detections	1344-1347	
Alsaih, Caesar Khaled <i>LE2I – UMR 6306</i> ; Lemaitre, Guillaume <i>LE2I – UMR 6306</i> ; Massich, Joan <i>LE2I – UMR 6306</i> ; Ratsgoo, Mojdeh <i>LE2I – UMR 6306</i> ; Sidibé, Désiré <i>Univ. de Bourgogne</i> ; Wong, Tien Yin <i>National Univ. of Singapore</i> ; Lamoureux, Ecosse <i>National Univ. of Singapore</i> ; Milea, Dan <i>Singapore National Eye Centre</i> ; Cheung, Carol <i>Chinese Univ. of Hong Kong</i> ; Meriaudeau, Fabrice* <i>Univ. de Bourgogne</i>		
15:30-17:00		WeCT6.16
Determining the Difference in Eyegaze Measurements in Individuals with Age Related Macular Degeneration	1348-1351	
Liu, Huiying <i>Institute for Infocomm Research</i> ; Wong, Damon* <i>Institute for Infocomm Research</i> ; Yow, Ai Ping <i>Institute for Infocomm Research</i> ; Xu, Yanwu <i>Institute for Infocomm Research</i> ; Yin, Fengshou <i>Institute for Infocomm Research</i> ; Laude, Augustinus <i>Tan Tock Seng Hospital</i> ; Lim, Tock Han <i>Tan Tock Seng Hospital</i>		
15:30-17:00		WeCT6.17
Pixel-Based Skin Segmentation in Psoriasis Images	1352-1356	
George, Yasmeen* <i>School of Engineering, Melbourne Univ.</i> ; Aldeen, Mohammad <i>The Univ. of Melbourne</i> ; Garnavi, Rahil <i>IBM Research Australia</i>		

15:30-17:00		WeCT6.18
Automatic Detection of Melanoma using Broad Extraction of Features from Digital Images	1357-1360	
Jafari, Mohammad Hossein <i>Dept. of Electrical and Computer Engineering; Samavi, Shadrokh McMaster Univ.;</i> Karimi, Nader <i>Isfahan Univ. of Technology; Soroushmehr, S.M.Reza* Univ. of Michigan, Ann Arbor; Ward,</i> Kevin <i>Univ. of Michigan; Najarian, Kayvan Univ. of Michigan – Ann Arbor</i>		
15:30-17:00		WeCT6.19
Multi-Scale Classification based Lesion Segmentation for Dermoscopic Images	1361-1364	
Abedini, Mani* <i>IBM Research; Codella, Noel IBM T.J. Watson Research Center; Chakravorty, Rajib IBM</i> <i>Research Australia; Garnavi, Rahil IBM Research Australia; Gutman, David Emory Univ. School of Medicine,</i> <i>Atlanta, GA; Helba, Brian Kitware; R Smith, John IBM T.J. Watson Research Center</i>		
15:30-17:00		WeCT6.20
Automatic Detection and Severity Measurement of Eczema using Image Processing	1365-1368	
Alam, Md Nafiul* <i>Univ. of North Dakota; Munia, Tamanna Tabassum Khan Univ. of North Dakota; Tavakolian,</i> Kouhyar <i>Assistant Professor; Vasefi, Fartash Simon Fraser Univ.;</i> Mackinnon, Nick <i>etreatMD; Fazel-Rezai,</i> Reza <i>Univ. of North Dakota</i>		
15:30-17:00		WeCT6.21
A Deep Bag-of-Features Model for the Classification of Melanomas in Dermoscopy Images	1369-1372	
Sabbaghi Mahmoudi, Sahar* <i>The Univ. of Melbourne; Aldeen, Mohammad The Univ. of Melbourne; Garnavi,</i> Rahil <i>IBM Research Australia</i>		
15:30-17:00		WeCT6.22
Melanoma Detection by Analysis of Clinical Images using Convolutional Neural Network	1373-1376	
Nasr-Esfahani, Ebrahim <i>Isfahan Univ. of Technology; Samavi, Shadrokh McMaster Univ.;</i> Karimi, Nader <i>Isfahan Univ. of Technology; Soroushmehr, S.M.Reza* Univ. of Michigan, Ann Arbor; Jafari, Mohammad</i> Hossein <i>Dept. of Electrical and Computer Engineering; Ward, Kevin Univ. of Michigan; Najarian, Kayvan Univ.</i> <i>of Michigan – Ann Arbor</i>		
15:30-17:00		WeCT6.23
A New Approach of Oral Cancer Detection using Bilateral Texture Features in Digital Infrared Thermal Images	1377-1380	
Chakravorty, Manashi* <i>Dept. of Electronics and Electrical Communication Engineering; Mukhopadhyay,</i> Sudipta <i>Indian Institute of Technology, Kharagpur; Dasgupta, Avijit Indian Institute of Technology, Kharagpur;</i> Patsa, Santanu <i>Dr. R. Ahmed Dental College and Hospital, Kolkata, India; Anjum, Nishat Dr. R. Ahmed Dental</i> <i>College and Hospital, Kolkata, India; Ray, Jay Gopal Dr. R. Ahmed Dental College and Hospital, Kolkata, India</i>		
15:30-17:00		WeCT6.24
Multisensor Data Fusion for Enhanced Respiratory Rate Estimation in Thermal Videos	1381-1384	
Barbosa Pereira, Carina* <i>RWTH Aachen Univ.;</i> Yu, Xinchun <i>RWTH Aachen Univ.;</i> Blazek, Vladimir <i>Philips Chair</i> <i>for Medical Information Technology, RWTH Aachen Un; Venema, Boudewijn Philips Chair for Medical</i> <i>Information Technology, RWTH Aachen Un; Leonhardt, Steffen RWTH Aachen Univ.</i>		
15:30-17:00		WeCT6.25
The use of a Thermal Camera and Eulerian Enhancement in the Examination of Pedal Pulse and Microvascular Health	1385-1388	
Bennett, Stephanie Louise* <i>Carleton Univ.;</i> Goubran, Rafik A. <i>Carleton Univ.;</i> Knoefel, Frank-Dietrich <i>Bruyere</i> <i>Continuing Care, Univ. of Ottawa, Carleton Univ.</i>		
15:30-17:00		WeCT6.26
Detection of Diabetic Foot Hyperthermia by using a Regionalization Method, based on the Plantar Angiosomes, on Infrared Images	1389-1392	
Polo Koch, Andrea <i>Pontificia Univ. Javeriana; Liu, Yang Univ. of Orleans; Zequera Diaz, Martha Lucia* Associate</i> <i>Professor at Pontificia Univ. Javeriana – Electr; Harba, Rachid Univ. d'Orléans; Canals, Raphael Univ. of Orleans;</i> Vilcahuaman, Luis <i>Pontifical Catholic Univ. of Peru; Bello Ceferino, Cristhian Yesid Univ. Javeriana</i>		
15:30-17:00		WeCT6.27
Analytical Approach to the Temporal Changes in NIRS Signals to Separate Hemodynamic Change from Brain Activity	1393-1396	
Fukuda, Keiko* <i>Tokyo Metropolitan College of Industrial Technology; Ikeda, Akira Tokyo Metropolitan College</i> <i>of Industrial Technology; Takemoto, Hiroki Tokyo Metropolitan College of Industrial Technology</i>		

15:30-17:00 WeCT6.28
Generation of 3D Thermal Models for Dentistry Applications 1397-1400
 Abreu de Souza, Mauren* *Federal Univ. of Technology (UTFPR)*; Krefer, Andriy G. *Federal Univ. of Technology – Paraná*; Borba, Gustavo Benvenuto *Federal Univ. of Technology – Paraná*; Vizinoni e Silva, Gustavo José *Pontifical Univ. Catholic of Parana – PUCPR*; Oliveira Franco, Ana Paula Gebert *Federal Univ. of Technology – Paraná (UTFPR)*; Gamba, Humberto *Federal Univ. of Technology UTFPR- C.N.P.J.*

WeCT7: 15:30-17:00 Fantasia L
Ignite_Theme 4_We1 (Ignite Session)

15:30-17:00 WeCT7.1
A Neuromorphic Circuit Mimicking Biological Short-Term Memory 1401-1404
 Barzegarjalali, Saeid* *Univ. of Southern California*; Parker, Alice *Univ. of Southern California*

15:30-17:00 WeCT7.2
Place Field Detection using Grid-Based Clustering in a Large-Scale Computational Model of the Rat Dentate Gyrus 1405-1408
 Yu, Gene* *Univ. of Southern California*; Song, Dong *Univ. of Southern California*; Berger, Theodore *Univ. of Southern California*

15:30-17:00 WeCT7.3
Thalamic Gamma Band Desynchronization in a Computational Model of the Auditory Pathway 1409-1412
 Uriarte, Ana Evelina* *Systems Neuroscience and Neurotechnology Unit, Neurocenter, Facu*; Haab, Lars *Saarland Univ. Hospital*; Salafzoon, Narsis *Saarland Univ.*; Strauss, Daniel J. *Saarland Univ., Medical Faculty*

15:30-17:00 WeCT7.4
A Bi-Directional Communication Paradigm between Parallel NEURON and an External Non-NEURON Process 1413-1416
 Hendrickson, Phillip* *Univ. of Southern California*; Bingham, Clayton *Univ. of Southern California*; Song, Dong *Univ. of Southern California*; Berger, Theodore *Univ. of Southern California*

15:30-17:00 WeCT7.5
A Multiscale, Model-Based Analysis of the Multi-tissue Interplay Underlying Blood Glucose Regulation in Type I Diabetes 1417-1421
 Wadehn, Federico* *ETH Zurich*; Schaller, Stephan *RWTH Aachen*; Eissing, Thomas *Bayer Technology Services GmbH*; Kuepfer, Lars *RWTH Aachen*; Krauss, Markus *Bayer Technology Services GmbH*

15:30-17:00 WeCT7.6
Multimodal Characterization of Radiologically Detectable Lung Lesions 1422-1425
 Sarkar, Atasi* *IIT Kharagpur*; Sadhu, Anup *Eko CT and MRI Scan Centre, Medical College, Kolkata*; Basu Thakur, Sumitra *Dept. of Pulmonary Medicine, Medical College, Kolkata*; Sengupta, Sanghamitra *Dept. of Biochemistry, Univ. of Calcutta, Kolkata, WB*; Mukherjee, Anirban *Indian Institute of Technology Kharagpur*; Chatterjee, Jyotirmoy *Indian Institute of Technology Kharagpur*

15:30-17:00 WeCT7.7
Computational Analysis of Androgen Receptor Dependent Radiosensitivity in Prostate Cancer 1426-1429
 Qian, Mengdi *Case Western Reserve Univ.*; Almasan, Alexandru *Cleveland Clinic*; Gurkan-Cavusoglu, Evren* *Case Western Reserve Univ.*

15:30-17:00 WeCT7.8
Biclustering Strategies for Genetic Marker Selection in Gynecologic Tumor Cell Lines 1430-1433
 Alevyzaki, Androniki *School of Electronic and Computer Engineering, Technical Univ.*; Sfakianakis, Stelios *Foundation for Research and Technology Hellas*; Bei, Ekaterini *Technical Univ. of Crete*; Obermayr, Eva *Medical Univ. of Vienna, Vienna, Austria*; Zeillinger, Robert *Dept. of Obstetrics and Gynecology, Comprehensive Cancer Ce*; Fotiadis, Dimitrios I. *Univ. of Ioannina*; Zervakis, Michalis* *Technical Univ. of Crete, Greece*

15:30-17:00 WeCT7.9
Modeling Non-Clinical and Clinical Drug Tests in Gaucher Disease 1434-1438
 Phelix, Clyde* *The Univ. of Texas at San Antonio; AL Phahelix Biometrics*; Bourdon, Allen *Univ. of Tennessee Knoxville*; Villareal, Greg *AL Phahelix Biometrics, Inc.*; LeBaron, Richard *The Univ. of Texas at San Antonio; AL Phahelix Biometrics*

15:30-17:00		WeCT7.10
Evaluation of Multidrug Cancer Chronotherapy based on Cell Cycle Model under Influences of Circadian Clock		1439-1442
Inokawa, Hiroshi <i>Graduate School of Information Sciences, Tohoku Univ.</i> ; Katayama, Norihiro <i>Tohoku Univ.</i> ; Nakao, Mitsuyuki* <i>Tohoku Univ.</i>		
15:30-17:00		WeCT7.11
An In silico Model of the Effects of Vitamin D3 on Mycobacterium Infected Macrophage		1443-1446
Gough, Maya* <i>Univ. of Houston</i> ; May, Elebeoba <i>Univ. of Houston</i>		
15:30-17:00		WeCT7.12
Predicting Schizophrenia by Fusing Networks from SNPs, DNA Methylation and FMRI Data		1447-1450
Deng, Su-Ping <i>Tulane Univ.</i> ; Lin, Dongdong <i>The MIND research network</i> ; Calhoun, Vince <i>The Mind Research Network/Univ. of New Mexico</i> ; Wang, Yu-Ping* <i>Tulane Univ.</i>		
15:30-17:00		WeCT7.13
Simulation of Motor Current Waveforms in Monitoring Aortic Valve State during Ventricular Assist Device Support		1451-1454
Alonazi, Khalid Alafri <i>Ministry of Defense Saudi Arabia</i> ; Lovell, Nigel H. <i>Univ. of New South Wales</i> ; Dokos, Socrates* <i>Univ. of New South Wales</i>		
15:30-17:00		WeCT7.14
Biologically Inspired Design of Feedback Control Systems Implemented using DNA Strand Displacement Reactions		1455-1458
Foo, Mathias* <i>Univ. of Warwick</i> ; Sawlekar, Rucha <i>Univ. of Warwick</i> ; Kulkarni, Vishwesh <i>Univ. of Warwick</i> ; Bates, Declan Gerard <i>Univ. of Warwick</i>		
15:30-17:00		WeCT7.15
Modeling of Coupled Differential Equations for Cellular Chemical Signaling Pathways: Implications for Assay Protocols Utilized in Cellular Engineering		1459-1462
O'Clock, George* <i>Univ. of Minnesota (graduate student in Biomedical Engineer)</i>		
15:30-17:00		WeCT7.16
Host-Aware Modelling of a Synthetic Genetic Oscillator		1463-1466
Darlington, Alexander Peter Scott* <i>Univ. of Warwick</i> ; Bates, Declan Gerard <i>Univ. of Warwick</i>		
15:30-17:00		WeCT7.17
Pharmacokinetic and Pharmacodynamic Modeling in BioGears		1467-1470
Clipp, Rachel <i>Size Stream</i> ; Bray, Aaron <i>Applied Research Associates, Inc</i> ; Metoyer, Rodney <i>Applied Research Associates</i> ; Thames, M. Cameron <i>Applied Research Associates, Inc.</i> ; Webb, Jeffrey* <i>Applied Research Associates, Inc.</i>		
15:30-17:00		WeCT7.18
Learning a Probabilistic Boolean Network Model from Biological Pathways and Time-Series Expression Data		1471-1475
Pahuja, Vardaan <i>Indian Institute of Technology Kharagpur</i> ; Layek, Ritwik* <i>Indian Institute of Technology Kharagpur</i> ; Mitra, Pabitra <i>Indian Institute of Technology, Kharagpur</i>		
15:30-17:00		WeCT7.19
Parameter Estimation for Gene Regulatory Networks: A Two-Stage MCMC Bayesian Approach		1476-1479
Xue, Niannan <i>Imperial College London</i> ; Pan, Wei <i>Imperial College London</i> ; Guo, Yike* <i>Imperial College London</i>		
15:30-17:00		WeCT7.20
Mechanisms of Stochastic Focusing and Defocusing in Biological Reaction Networks: Insight from Accurate Chemical Master Equation (ACME) Solutions		1480-1483
Gursoy, Gamze <i>Univ. of Illinois at Chicago</i> ; Terebus, Anna <i>Univ. of Illinois at Chicago</i> ; Cao, Youfang <i>Los Alamos National Laboratory</i> ; Liang, Jie* <i>Univ. of Illinois at Chicago</i>		

15:30-17:00	WeCT8.1
Neural Decoding of Code Modulated Visual Evoked Potentials by Spatio-Temporal Inverse Filtering for Brain Computer Interfaces	1484-1487
Sato, Jun-ichi* <i>The Univ. of Electro-Communications</i> ; Washizawa, Yoshikazu <i>The Univ. of Electro-Communications</i>	
15:30-17:00	WeCT8.2
Exploring the Possibilities and Limitations of Multitarget SSVEP-Based BCI Applications	1488-1491
Gemler, Felix <i>Rhine-Waal Univ. of Applied Sciences</i> ; Stawicki, Piotr <i>Rhine-Waal Univ. of Applied Sciences</i> ; Volosyak, Ivan* <i>Rhine-Waal Univ. of Applied Sciences</i>	
15:30-17:00	WeCT8.3
Decoding of Responses to Mixed Frequency and Phase Coded Visual Stimuli using Multiset Canonical Correlation Analysis	1492-1495
Suefusa, Kaori <i>Tokyo Univ. of Agriculture and Technology</i> ; Tanaka, Toshihisa* <i>Tokyo Univ. of Agriculture and Technology</i>	
15:30-17:00	WeCT8.4
Detection of Intention of Pedaling Start Cycle through EEG Signals	1496-1499
Rodriguez-Ugarte, Marisol <i>Miguel Hernández Univ. of Elche</i> ; Hortal, Enrique <i>Miguel Hernandez de Elche</i> ; Costa, Álvaro <i>Miguel Hernández Univ. of Elche</i> ; Ianez, Eduardo* <i>Univ. Miguel Hernandez de Elche</i> ; Ubeda, Andres <i>Univ. Miguel Hernandez de Elche</i> ; Azorin, Jose M. <i>Univ. Miguel Hernandez de Elche</i>	
15:30-17:00	WeCT8.5
The Effect of Time Pressure on Stress Levels during Virtual Wheelchair Navigation	1500-1503
LAMTI, Hachem Amine* <i>South Univ. Toulon-Var</i> ; Gorce, Philippe <i>Univ. du Sud Toulon Var</i>	
15:30-17:00	WeCT8.6
Recoverix: A New BCI-Based Technology for Persons with Stroke	1504-1507
Sabathiel, Nikolaus <i>Guger Technologies OG</i> ; Ortner, Rupert <i>g.tec – Guger Technologies OG</i> ; Allison, Brendan <i>TUG</i> ; Coon, William* <i>g.tec neurotechnology USA</i> ; Guger, Christoph <i>g.tec Medical Engineering GmbH</i>	
15:30-17:00	WeCT8.7
Steady State Visual Evoked Potential based Brain-Computer Interface for Cognitive Assessment	1508-1511
Bendtsen, Rasmus* <i>Technical Univ. of Denmark</i> ; Westergren, Nicolai <i>Technical Univ. of Denmark</i> ; Sorensen, Helge B D <i>Technical Univ. of Denmark</i> ; Kjaer, Troels W. <i>Roskilde Univ. Hospital</i> ; Thomsen, Carsten Eckhart <i>Univ. of Copenhagen</i> ; Puthusserypady, Sadasivan <i>Technical Univ. of Denmark</i>	
15:30-17:00	WeCT8.8
A Comparative Study of Pseudorandom Sequences Used in a C-VEP based BCI for Online Wheelchair Control	1512-1515
Isaksen, Jonas* <i>Laboratory of Experimental Cardiology, Univ. of Copenhagen</i> ; Mohebbi, Ali <i>Technical Univ. of Denmark</i> ; Puthusserypady, Sadasivan <i>Technical Univ. of Denmark</i>	
15:30-17:00	WeCT8.9
Spatial Smoothing of Canonical Correlation Analysis for Steady State Evoked Potential based Brain Computer Interfaces	1516-1519
Ryu, Shingo* <i>Toyohashi Univ. of Technology</i> ; Higashi, Hiroshi <i>Toyohashi Univ. of Technology</i> ; Tanaka, Toshihisa <i>Tokyo Univ. of Agriculture and Technology</i> ; Nakauchi, Shigeki <i>Toyohashi Univ. of Technology</i> ; Minami, Tetsuto <i>Toyohashi Univ. of Technology</i>	
15:30-17:00	WeCT8.10
Soft Drink Effects on Sensorimotor Rhythm Brain Computer Interface Performance and Resting-State Spectral Power	1520-1523
Mundahl, John <i>Univ. of Minnesota – Dept. of Biomedical Engineering</i> ; Meng, Jianjun <i>Shanghai Jiao Tong Univ.</i> ; He, Jeffrey <i>Mounds View High School</i> ; He, Bin* <i>Univ. of Minnesota</i>	
15:30-17:00	WeCT8.11
Sample Size Determination for BCI Studies: How Many Subjects and Trials?	1524-1527
Melinscak, Filip* <i>Bit&Brain Technologies S.L.</i> ; Montesano, Luis <i>Univ. de Zaragoza</i>	

15:30-17:00	WeCT8.12
Thin-Film, High-Density Micro-Electrocorticographic Decoding of a Human Cortical Gyrus	1528-1531
Muller, Leah* <i>UCSF</i> ; Felix, Sarah <i>Lawrence Livermore National Laboratory</i> ; Shah, Kedar <i>Lawrence Livermore National Laboratory</i> ; Lee, Kye Young <i>Lawrence Livermore National Laboratory</i> ; Pannu, Satinderpall <i>Lawrence Livermore National Laboratory</i> ; Chang, Edward <i>UCSF</i>	
15:30-17:00	WeCT8.13
Decoding Speech using the Timing of Neural Signal Modulation	1532-1535
Jiang, Werner <i>Univ. of California, San Diego</i> ; Pailla, Tejaswy* <i>Univ. of California-San Diego</i> ; Dichter, Benjamin <i>Univ. of California San Francisco</i> ; Chang, Edward <i>UCSF</i> ; Gilja, Vikash <i>Stanford Univ.</i>	
15:30-17:00	WeCT8.14
An Audiovisual BCI System for Assisting Clinical Communication Assessment in Patients with Disorders of Consciousness: A Case Study	1536-1539
Wang, Fei* <i>South China Univ. of Technology</i> ; He, Yanbin <i>Guangzhou General Hospital of Guangzhou Military Command</i> ; Qu, Jun <i>South China Univ. of Technology</i> ; Xie, Qiyou <i>Guangzhou General Hospital of Guangzhou Military Command</i> ; Lin, Qing <i>Guangzhou General Hospital of Guangzhou Military Command</i> ; Ni, Xiaoxiao <i>Guangzhou General Hospital of Guangzhou Military Command</i> ; Chen, Yan <i>Guangzhou General Hospital of Guangzhou Military Command</i> ; Yu, Ronghao <i>Guangzhou General Hospital of Guangzhou Military Command</i> ; Lin, Chin-Teng <i>National Chiao-Tung Univ.</i> ; Li, Yuanqing <i>South China Univ. of Technology</i>	
15:30-17:00	WeCT8.15
Towards Direct Speech Synthesis from ECoG: A Pilot Study	1540-1543
Herff, Christian* <i>Univ. of Bremen</i> ; Johnson, Garrett <i>Old Dominion Univ.</i> ; Diener, Lorenz <i>Univ. Bremen</i> ; Shih, Jerry Mayo <i>Clinic</i> ; Krusienski, Dean <i>Old Dominion Univ.</i> ; Schultz, Tanja <i>Univ. of Bremen</i>	
15:30-17:00	WeCT8.16
Electrocorticographic Signals Comparison in Sensorimotor Cortex between Contralateral and Ipsilateral Hand Movements	1544-1547
Jin, Yile <i>Qiushi Academy for Advanced Studies, Zhejiang Univ.</i> ; Lu, Mingwei <i>Qiushi Academy for Advance Studies, Zhejiang Univ.</i> ; Wang, Xiaotian <i>Qiushi Academy for Advanced Studies, Zhejiang Univ.</i> ; Zhang, Shaomin <i>Zhejiang Univ.</i> ; Zhu, Junming* <i>Second Affiliated Hospital, School of Medicine, Zhejiang Univ.</i> ; Zheng, Xiaoxiang <i>Zhejiang Univ.</i>	
15:30-17:00	WeCT8.17
Unscented Kalman Filter for Neural Decoding of Human Treadmill Walking from Non-Invasive Electroencephalography	1548-1551
Luu, Trieu Phat* <i>Univ. of Houston</i> ; He, Yongtian <i>Univ. of Houston</i> ; Nakagome, Sho <i>Univ. of Houston</i> ; Gorges, Jeffrey <i>Univ. of Houston</i> ; Nathan, Kevin <i>Univ. of Houston</i> ; Contreras-Vidal, José <i>Univ. of Houston</i>	
15:30-17:00	WeCT8.18
Closed-Loop Afferent Electrical Stimulation for Recovery of Hand Function in Individuals with Motor Incomplete Spinal Injury: Early Clinical Results	1552-1555
Schildt, Chris <i>Univ. of Kentucky</i> ; Thomas, Sarah <i>Univ. of Kentucky</i> ; Powell, Elizabeth S. <i>Univ. of Kentucky</i> ; Sawaki, Lumy <i>Univ. of Kentucky</i> ; Sunderam, Sridhar* <i>Univ. of Kentucky</i>	
15:30-17:00	WeCT8.19
Control of a Nursing Bed based on a Hybrid Brain-Computer Interface	1556-1559
Peng, Nengneng <i>South China Univ. of Technology</i> ; Zhang, Rui <i>South China Univ. of Technology</i> ; Zeng, Haihua <i>South China Univ. of Technology</i> ; Wang, Fei <i>South China Univ. of Technology</i> ; Li, Kai <i>South China Univ. of Technology</i> ; Li, Yuanqing* <i>South China Univ. of Technology</i> ; Zhuang, Xiaobin <i>South China Univ. of Technology</i>	
15:30-17:00	WeCT8.20
Detecting Voluntary Gait Intention of Chronic Stroke Patients towards Top-Down Rehabilitation using EEG	1560-1563
Choi, Junhyuk <i>Korea Institute of Science and Technology</i> ; Kang, Hyolim <i>Georgia Institute of Technology</i> ; Chung, Sang Hun <i>Korea Univ.</i> ; Kim, Yeonghun <i>Korea Institute of Science and Technology</i> ; Lee, Unghee <i>Univ. of Michigan</i> ; Lee, Jong Min <i>Korea Institute of Science and Technology</i> ; Kim, Seung-Jong <i>Korea Institute of Science and Technology</i> ; Chun, Min Ho <i>Asan Medical Center, Univ. of Ulsan</i> ; Kim, Hyungmin* <i>Korea Institute of Science and Technology</i>	

15:30-17:00		WeCT8.21
Multistep Model for Predicting Upper-Limb 3D Isometric Force Application from Pre-Movement Electrographic Features	1564-1567	
Wu, Jing* <i>Univ. of Washington</i> ; Shuman, Benjamin <i>Univ. of Washington</i> ; Brunton, Bingni <i>Univ. of Washington</i> ; Steele, Katherine <i>Univ. of Washington</i> ; Olson, Jared <i>Univ. of Washington</i> ; Rao, Rajesh PN <i>Univ. of Washington</i> ; Ojemann, Jeffrey G <i>Univ. of Washington</i>		
15:30-17:00		WeCT8.22
Predicting the Control or Idle State with a Likelihood Ratio Test in Asynchronous SSVEP-Based Brain-Computer Interface Systems	1568-1571	
Meriño, Lenis <i>Univ. of Texas at San Antonio</i> ; Nayak, Tapsya <i>Univ. of Texas at San Antonio</i> ; Hall, Garrett <i>Univ. of Texas at San Antonio</i> ; Pack, Daniel <i>Univ. of Tennessee</i> ; Huang, Yufei* <i>Univ. of Texas at San Antonio</i>		
15:30-17:00		WeCT8.23
Idle State Classification using Spiking Activity and Local Field Potentials in a Brain Computer Interface	1572-1575	
Williams, Jordan* <i>Univ. of Pittsburgh</i> ; Tien, Rex <i>Univ. of Pittsburgh</i> ; Inonue, Yoh <i>Univ. of Pittsburgh</i> ; Schwartz, Andrew B. <i>Univ. of Pittsburgh</i>		
15:30-17:00		WeCT8.24
Comparison of EEG Spatial Filters for Movement Related Cortical Potential Detection	1576-1579	
Karimi, Fatemeh <i>Univ. of Waterloo</i> ; Kofman, Jonathan <i>Univ. of Waterloo</i> ; Mrachacz-Kersting, Natalie <i>Aalborg Univ.</i> ; Farina, Dario <i>Bernstein Center for Computational Neuroscience, Univ. Medic</i> ; Jiang, Ning* <i>Univ. of Waterloo</i>		
15:30-17:00		WeCT8.25
Detection of Arm Movement Direction using Phase-Space Analysis of Hemodynamic Responses based on Functional Near-Infrared Spectroscopy	1580-1583	
Tam, Nicoladie* <i>Univ. of North Texas</i> ; Pollonini, Luca <i>Univ. of Houston</i> ; Zouridakis, George <i>Univ. of Houston</i>		
15:30-17:00		WeCT8.26
Day-to-Day Variability in Hybrid, Passive Brain-Computer Interfaces: Comparing Two Studies Assessing Cognitive Workload	1584-1590	
Klosterman, Samantha* <i>Ball Aerospace Technologies Corp.</i> ; Estepp, Justin Ronald <i>Air Force Research Laboratory</i> ; Monnin, Jason <i>Ball Aerospace & Technologies Corp.</i> ; Christensen, James <i>U.S. Air Force Research Laboratory</i>		
15:30-17:00		WeCT8.27
Identification of Time-Varying Neural Dynamics from Spiking Activities using Chebyshev Polynomials	1591-1594	
Xu, Song <i>Beihang Univ.</i> ; Li, Yang <i>Beihang Univ.</i> ; Wang, Xudong <i>Beihang Univ.</i> ; Chan, Rosa H. M.* <i>City Univ. of Hong Kong</i>		
15:30-17:00		WeCT8.28
Analyzing the Feasibility of Time Correlated Spectral Entropy for the Assessment of Neuronal Synchrony	1595-1598	
Kapucu, Fikret Emre* <i>Tampere Univ. of Technology</i> ; Mikkonen, Jarno Eelis <i>Univ. of Jyväskylä</i> ; Tanskanen, Jarno M. A. <i>Tampere Univ. of Technology</i> ; Hyttinen, Jari <i>Tampere Univ. of Technology</i>		
15:30-17:00		WeCT8.29
Detection of Gait Initiation Failure in Parkinson's Disease Patients using EEG Signals	1599-1602	
Ly, Quynh Tran* <i>Univ. of Technology Sydney</i> ; Handojoseno, Aluysius Maria Ardi <i>Univ. of Technology, Sydney</i> ; Gilat, Moran <i>Parkinson's Disease Research Clinic, Brain and Mind Research Ins</i> ; Nguyen, Tuan Nghia <i>Univ. of Technology, Sydney</i> ; Chai, Rifai <i>Univ. of Technology, Sydney</i> ; Tran, Yvonne <i>Univ. of Technology, Sydney</i> ; Lewis, Simon J.G. <i>Parkinson's Disease Research Clinic, Brain and Mind Research Ins</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>		
15:30-17:00		WeCT8.30
Multi-Domain Feature Selection in Auditory MisMatch Negativity via PARAFAC-Based Template Matching Approach	1603-1607	
Pouryazdian, Saeed* <i>Ryerson Univ.</i> ; Chang, Andrew <i>McMaster Univ.</i> ; Bosnyak, Dan <i>McMaster Univ.</i> ; Trainor, Laurel J. <i>McMaster Univ.</i> ; Beheshti, Soosan <i>Ryerson Univ.</i> ; Krishnan, Sridhar <i>Ryerson Univ.</i>		
15:30-17:00		WeCT8.31
Neural Representation of Different Mandarin Tones in the Inferior Colliculus of the Guinea Pig	1608-1611	
Peng, Fei <i>Chongqing Univ.</i> ; Xia, Nan <i>Chongqing Univ.</i> ; Hou, Wensheng* <i>Bioengineering Inst of Chongqing Univ.</i>		

15:30-17:00	WeCT9.1
Effective Connectivity Matrix for Neural Ensembles	1612-1615
She, Qi* <i>City Univ. of Hong Kong</i> ; So, Ka Yan <i>City Univ. of Hong Kong</i> ; Chan, Rosa H. M. <i>City Univ. of Hong Kong</i>	
15:30-17:00	WeCT9.2
Stochastic Modeling of Spontaneous Bursting Activity to Simulate Neural Responses of In-Vitro Networks on Multielectrode Arrays	1616-1619
Valenza, Gaetano* <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Vannucci, Gianluca <i>Univ. of Pisa</i> ; De Rossi, Danilo <i>Univ. of Pisa</i> ; Wanke, Enzo <i>Univ. degli Studi di Milano-Bicocca</i> ; Scilingo, Enzo Pasquale <i>Univ. of Pisa</i>	
15:30-17:00	WeCT9.3
Decoding Memory Features from Hippocampal Spiking Activities using Sparse Classification Models	1620-1623
Song, Dong* <i>Univ. of Southern California</i> ; Hampson, Robert <i>Wake Forest School of Medicine</i> ; Robinson, Brian <i>Univ. of Southern California</i> ; Marmarelis, Vasilis <i>Univ. of Southern California</i> ; Deadwyler, Sam <i>Wake Forest Univ.</i> ; Berger, Theodore <i>Univ. of Southern California</i>	
15:30-17:00	WeCT9.4
Monte Carlo Validation of Spike-Timing-Dependent Plasticity Identification from Spiking Activity	1624-1627
Robinson, Brian* <i>Univ. of Southern California</i> ; Berger, Theodore <i>Univ. of Southern California</i> ; Song, Dong <i>Univ. of Southern California</i>	
15:30-17:00	WeCT9.5
Cortical Auditory Evoked Potentials (CAEPs) Represent Neural Cues Relevant to Pitch Perception	1628-1631
Zhang, Xiaochen <i>Tsinghua Univ.</i> ; Gong, Qin* <i>Tsinghua Univ.</i> ; Zhang, Tao <i>Tsinghua Univ.</i>	
15:30-17:00	WeCT9.6
Hidden-Markov Factor Analysis as a Spatiotemporal Model for Electrocorticography	1632-1635
Omigbodun, Akinyinka* <i>Univ. of California San Diego</i> ; Doyle, Werner <i>NYU</i> ; Devinsky, Orrin <i>New York Univ.</i> ; Friedman, Daniel <i>NYU School of Medicine</i> ; Thesen, Thomas <i>New York Univ.</i> ; Gilja, Vikash <i>Stanford Univ.</i>	
15:30-17:00	WeCT9.7
Properties of Primary Motor Cortical Local Field Potentials in the Leg and Trunk Representations during Arm Movements	1636-1639
Tobaa, Adil <i>Univ. of Chicago</i> ; Best, Matthew <i>Univ. of Chicago</i> ; Balasubramanian, Karthikeyan* <i>Univ. of Chicago</i> ; Takahashi, Kazutaka <i>Univ. of Chicago</i> ; Hatsopoulos, Nicholas <i>Univ. of Chicago</i>	
15:30-17:00	WeCT9.8
Tunable Somatosensory Stimulation for Selective Sleep Restriction Studies in Rodents	1640-1643
Huffman, Dillon <i>Univ. of Kentucky</i> ; Staggs, Kendra <i>Univ. of Kentucky</i> ; Yaghouby, Farid <i>FDA</i> ; Agarwal, Anuj <i>Univ. of Kentucky</i> ; O'Hara, Bruce <i>Univ. of Kentucky</i> ; Donohue, Kevin <i>Univ. of Kentucky</i> ; Blalock, Eric <i>Univ. of Kentucky</i> ; Sunderam, Sridhar* <i>Univ. of Kentucky</i>	
15:30-17:00	WeCT9.9
Effect of Temperature on Sleep Regulation in an Animal Epilepsy Model	1644-1647
Ajwad, Asmaa <i>Univ. of Kentucky</i> ; Yaghouby, Farid <i>FDA</i> ; Huffman, Dillon <i>Univ. of Kentucky</i> ; O'Hara, Bruce <i>Univ. of Kentucky</i> ; Sunderam, Sridhar* <i>Univ. of Kentucky</i>	
15:30-17:00	WeCT9.10
Long-Latency Components of Somatosensory Evoked Potentials during Passive Tactile Perception of Gratings	1648-1651
Genna, Clara <i>Scuola Superiore Sant'Anna of Pisa</i> ; Artoni, Fiorenzo <i>Scuola Superiore Sant'Anna Italy</i> ; Fanciullacci, Chiara <i>The Biorobotics Institute, Scuola Superiore Sant'Anna, Pisa, Ita</i> ; Carmelo, Chisari <i>Neurorehabilitation Unit, AOUP, Pisa</i> ; Oddo, Calogero Maria <i>Scuola Superiore Sant'Anna – PISA – Italy</i> ; Micera, Silvestro* <i>Scuola Superiore Sant'Anna</i>	
15:30-17:00	WeCT9.11
Analysis of Loss of Alertness Due to Cognitive Fatigue using Motif Synchronization of EEG Records	1652-1655
Sengupta, Anwasha* <i>IIT Kharagpur</i> ; Tiwari, Abhishek <i>IIT Kharagpur</i> ; Chaudhuri, Aritra <i>Indian Institute of Technology, Kharagpur, India</i> ; Routray, Aurobinda <i>Indian Institute of Technology, Kharagpur, India</i>	

15:30-17:00		WeCT9.12
A Mathematical Model of Ultradian Sleep-Wake Regulation in Rodents		1656-1659
Wang, Hao <i>Univ. of Kentucky</i> ; Yaghouby, Farid <i>FDA</i> ; Sunderam, Sridhar* <i>Univ. of Kentucky</i>		
15:30-17:00		WeCT9.13
Characterization of Motor Cortex Activity of the Lower Limb Region during Arm Movement in the Macaque Monkey		N/A
Mikhail, Fadi* <i>Univ. of Chicago</i> ; Balasubramanian, Karthikeyan <i>Univ. of Chicago</i> ; Best, Matthew <i>Univ. of Chicago</i> ; Takahashi, Kazutaka <i>Univ. of Chicago</i> ; Hatsopoulos, Nicholas <i>Univ. of Chicago</i>		
15:30-17:00		WeCT9.14
A Sparse Laguerre-Volterra Autoregressive Model for Seizure Prediction in Temporal Lobe Epilepsy		1664-1667
Yu, Pen-Ning* <i>Univ. of Southern California</i> ; Naiini, Shokofeh <i>Univ. of Southern California</i> ; Heck, Christi N. <i>Keck Hospital of the Univ. of Southern California</i> ; Liu, Charles Y. <i>Keck Hospital of the Univ. of Southern California</i> ; Song, Dong <i>Univ. of Southern California</i> ; Berger, Theodore <i>Univ. of Southern California</i>		
15:30-17:00		WeCT9.15
On the Development of a Low-Cost EMG Switch for Communication using Minimal Muscle Contractions		1668-1671
García-Conde, Begonia* <i>Univ. Complutense de Madrid</i> ; James, Christopher <i>Univ. of Warwick</i>		
15:30-17:00		WeCT9.16
Association between Visuomotor Adaptation and Mathematics Skills		N/A
Anwar, Muhammad Nabeel* <i>National Univ. of Sciences and Technology (NUST)</i> ; Rehman, Rida <i>Dept. of Biomedical Engineering and Sciences, National Univ.</i> ; Hassan, Umair <i>Dept. of Biomedical Engineering and Sciences, National Univ.</i>		
15:30-17:00		WeCT9.17
Muscle Synergy Analysis in Transtibial Amputee during Ramp Ascending Activity		1676-1679
Mehryar, Pouyan* <i>Univ. of Leeds</i> ; Sharif Shourijeh, Mohammad <i>Univ. of Ottawa</i> ; Maqbool, Hafiz Farhan <i>Univ. of Leeds</i> ; Torabi, Mahdi <i>Univ. of Hull</i> ; Deghani-Sanij, Abbas A. <i>Univ. of Leeds</i>		
15:30-17:00		WeCT9.18
Detection of Compensatory Balance Responses using Wearable Electromyography Sensors for Fall-Risk Assessment		1680-1683
Nouredanesh, Mina <i>Univ. of Waterloo</i> ; Kukreja, Sunil <i>National Univ. of Singapore</i> ; Tung, James Yungjen* <i>Univ. of Waterloo</i>		
15:30-17:00		WeCT9.19
A New Approach to Mitigate the Effect of Force Variation on Pattern Recognition for Myoelectric Control		1684-1687
Li, Xiangxin <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sc</i> ; Xu, Rui <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Samuel, Oluwarotimi Williams <i>Shenzhen Institutes of Advanced Technology</i> ; Tian, Lan <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of</i> ; Zhang, Xiufeng <i>National Research Center for Rehabilitation Technical Aids</i> ; Fang, Peng* <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Li, Guanglin <i>Shenzhen Institutes of Advanced Technology</i> ; Zou, Haiqing <i>Shenzhen Yingda Strong Technology Co.</i> ; Chen, Shixiong <i>Shenzhen Institutes of Advanced Technology</i>		
15:30-17:00		WeCT9.20
A Survey on the Feasibility of Surface EMG in Facial Pacing		1688-1691
Rantanen, Ville* <i>Tampere Univ. of Technology</i> ; Ilves, Mirja <i>Univ. of Tampere</i> ; Vehkaoja, Antti <i>Tampere Univ. of Technology</i> ; Kontunen, Anton Santeri <i>Tampere Univ. of Technology</i> ; Lylykangas, Jani <i>Univ. of Tampere</i> ; Mäkelä, Eeva <i>Pirkanmaa Hospital District</i> ; Rautiainen, Markus <i>Univ. of Tampere</i> ; Surakka, Veikko <i>Univ. of Tampere</i> ; Lekkala, Jukka <i>Tampere Univ. of Technology</i>		
15:30-17:00		WeCT9.21
Analysis of Muscle Synergy for Evaluation of Task-Specific Performance in Stroke Patients		1692-1695
Li, Si <i>Shanghai Jiao Tong Univ.</i> ; Zhuang, Cheng <i>Shanghai Jiao Tong Univ.</i> ; Zhang, Xiao <i>the Affiliated Ruijin Hospital of Shanghai Jiaotong Univ.</i> ; Niu, C. Minos <i>Univ. of Southern California</i> ; Xie, Qing <i>Ruijin Hospital Shanghai Jiaotong Univ. School of Medicine</i> ; Lan, Ning* <i>Shanghai Jiao Tong Univ.</i>		

15:30-17:00		WeCT9.22
Myoelectric Feature Extraction using Temporal-Spatial Descriptors for Multifunction Prosthetic Hand Control	1696-1699	
Khushaba, Rami N.* <i>Univ. of Technology, Sydney (UTS)</i> ; Ali, Ali Hussian <i>Baghdad Univ.</i> ; Al-Jumaily, Adel <i>Univ. of Technology Sydney</i> ; Al-Ani, Ahmed <i>Univ. of Technology, Sydney</i>		
15:30-17:00		WeCT9.23
A Preliminary Evaluation of Myoelectrical Energy Distribution of the Front Neck Muscles in Pharyngeal Phase during Normal Swallowing	1700-1703	
Zhu, Mingxing <i>ShenZhen Institutes of Advanced Technology Chinese Academy of Sc</i> ; Yang, Wanzhang <i>Dept. of Rehabilitation Medicine, Shenzhen Sixth People's H</i> ; Samuel, Oluwarotimi Williams <i>Shenzhen Institutes of Advanced Technology</i> ; Xiang, Yun <i>The Sixth People's Hospital of Shenzhen City, Rehabilitation Ins</i> ; Huang, Jianping <i>Harbin Institute of Technology</i> ; Li, Guanglin* <i>Shenzhen Institutes of Advanced Technology</i> ; Zou, Haiqing <i>Shenzhen Yingda Strong Technology Co.</i>		
15:30-17:00		WeCT9.24
Realistic Motor Unit Placement in a Cylindrical HD-sEMG Generation Model	1704-1707	
Carriou, Vincent* <i>UTC</i> ; Laforet, Jeremy <i>CNRS</i> ; Boudaoud, Sofiane <i>Univ. of Technology of Compiègne (UTC)</i> ; Al Harrach, Mariam <i>UTC</i>		
15:30-17:00		WeCT9.25
Pendulum Test Measure Correlates with Gait Parameters in Children with Cerebral Palsy	1708-1711	
Lotfian, Mahboube <i>Tehran Univ. of Medical Sciences</i> ; Mirbagheri, Mehdi <i>Northwestern Univ./RIC</i> ; Kharazi, Mohamad Reza <i>Islamic Azad Univ., Science and Research Branch</i> ; Dadashi, Farnoosh <i>Tehran Univ. of Medical Sciences</i> ; Nourian, Rohollah <i>Noorafshar Hospital, Tehran, Iran</i> ; Ashkan, Irani <i>Dept. of Occupational Therapy, Faculty of Rehabilitation, S</i> ; Mirbagheri, Alireza* <i>Tehran Univ. of Medical Sciences (TUMS)</i>		
15:30-17:00		WeCT9.26
Effects of Input Frequency Content and Signal-to-Noise Ratio on the Parametric Estimation of Surface EMG-Torque Dynamics	1712-1716	
Golkar, Mahsa* <i>McGill Univ.</i> ; Kearney, Robert Edward <i>McGill Univ.</i>		
15:30-17:00		WeCT9.27
Mentor's Brain Functional Connectivity Network during Robotic Assisted Surgery Mentorship	1717-1720	
B Shafiei, Somayeh* <i>SUNY at Buffalo</i> ; Doyle, Scott <i>Univ. at Buffalo</i> ; Guru, Khurshid <i>Roswell Park Cancer Institute</i>		
15:30-17:00		WeCT9.28
Controlling Interfered Area in Interferential Current Stimulation by Electrode-Area Patterning	1721-1724	
Bounyong, Souksakhone* <i>Panasonic Corporation</i> ; Adachi, Shinobu <i>Panasonic Corporation</i> ; Yoshimoto, Takamichi <i>Panasonic Corporation</i> ; Ota, Tomohiro <i>Panasonic Corporation</i> ; Ozawa, Jun <i>Panasonic Corporation</i>		
15:30-17:00		WeCT9.29
Comparison of Mean Frequency and Median Frequency in Evaluating Muscle Fiber Type Selection in Varying Gait Speed across Healthy Young Adult Individuals	1725-1728	
Chan, Chow Khuen* <i>National Univ. of Singapore</i> ; Fu, Timothy Guojun <i>National Univ. of Singapore</i> ; Yeow, Chen Hua <i>National Univ. of Singapore</i>		
15:30-17:00		WeCT9.30
Estimation of Gait Parameter using Sonoelastography in Children with Cerebral Palsy*	1729-1732	
Mansouri, Meysam <i>Tehran Univ. of medical sciences</i> ; Moradi Birgani, Parmida <i>Tehran Univ. of Medical Sciences</i> ; Kharazi, Mohamad Reza <i>Islamic Azad Univ., Science and Research Branch</i> ; Lotfian, Mahboube <i>Tehran Univ. of Medical Sciences</i> ; Naeimipoor, Mohammad <i>Noorafshar Hospital, Tehran, Iran</i> ; Mirbagheri, Mehdi* <i>Northwestern Univ./RIC</i>		
15:30-17:00		WeCT9.31
Validation of Empirical Mode Decomposition Combined with Notch Filtering to Extract Electrical Stimulation Artifact from Surface Electromyograms during Functional Electrical Stimulation	1733-1736	
Pilkar, Rakesh* <i>Kessler Foundation – Rutgers NJMS</i> ; Ramanujam, Arvind <i>Kessler Foundation</i> ; Garbarini, Erica <i>Kessler Foundation</i> ; Forrest, Gail <i>Kessler Foundation</i>		

15:30-17:00 WeCT9.32
Quantification of a Single Score (1+) in the Modified Ashworth Scale (MAS), a Clinical Assessment of Spasticity 1737-1740
 Ewoldt, Jourdan* *Rehabilitation Institute of Chicago*; Suresh, Nina *Rehabilitation Institute of Chicago*; Lazzaro, Emily *Rehabilitation Institute of Chicago*; Roth, Elliot *Rehabilitation Institute of Chicago*

WeCT10: 15:30-17:00 Sorcerers Apprentice 3
Ignite_Theme 6_We3 (Ignite Session)

15:30-17:00 WeCT10.1
Microneedle Cuff Electrodes for Extradiscal Peripheral Nerve Interfacing 1741-1744
 Patel, Yogi* *Georgia Institute of Technology*; Willsie, Andrew *Univ. of Utah*; Clements, Isaac *Plexon Inc.*; Aguilar, Ricardo *Axion BioSystems, Inc.*; Rajaraman, Swami *Axion BioSystems*; Butera, Robert *Georgia Institute of Technology*

15:30-17:00 WeCT10.2
Robust Spike Sorting of Retinal Ganglion Cells Tuned to Spot Stimuli 1745-1749
 Ghahari, Alireza* *National Institutes of Health/National Eye Institute*; Badea, Tudor *National Eye Institute*

15:30-17:00 WeCT10.3
Investigation of the Ca²⁺ Response of Human hNt Astrocytes to Laser Removal of Cellular Processes 1750-1753
 Raos, Brad J* *Univ. of Auckland*; Graham, Euan S *Univ. of Auckland*; Unsworth, Charles Peter *Univ. of Auckland*

15:30-17:00 WeCT10.4
The Effect of Inter-Electrode Distance on the Electric Field Distribution during Transcutaneous Lumbar Spinal Cord Direct Current Stimulation 1754-1757
 Bastos, Rui *Superior Technical Institute, Univ. of Lisbon*; Fernandes, Sofia Rita* *Faculdade de Ciências e Faculdade de Medicina da Univ. de*; Salvador, Ricardo *Institute of Biophysics and Biomedical Engineering (IBEB), Univ.*; Wenger, Cornelia *Faculdade de Ciências, Univ. de Lisboa*; de Carvalho, Mamede *IMM Molecular Medicine Institute, Faculty of Medicine, Univ.*; Miranda, Pedro Cavaleiro *Faculdade de Ciências, Univ. de Lisboa*

15:30-17:00 WeCT10.5
Transcranial Focused Ultrasound for BOLD fMRI Signal Modulation in Humans 1758-1761
 Ai, Leo* *Univ. of Minnesota*; Mueller, Jerel *Univ. of Minnesota*; Grant, Andrea *Univ. of Minnesota*; Eryaman, Yigitcan *Univ. of Minnesota-Center for Magnetic Resonance Research*; Legon, Wynn *Univ. of Minnesota*

15:30-17:00 WeCT10.6
Heterogeneous 3D Optrode with Variable Spatial Resolution for Optogenetic Stimulation and Electrophysiological Recording 1762-1765
 Ayub, Suleman* *IMTEK, Univ. of Freiburg*; Barz, Falk *Univ. of Freiburg*; Paul, Oliver *Univ. of Freiburg*; Ruther, Patrick *Univ. of Freiburg*

15:30-17:00 WeCT10.7
Generalized Binary Noise Stimulation Enables Time-Efficient Identification of Input-Output Brain Network Dynamics 1766-1769
 Yang, Yuxiao* *Univ. of Southern California*; Shanechi, Maryam *Univ. of Southern California*

15:30-17:00 WeCT10.8
A Distributed Current Stimulator ASIC for High Density Neural Stimulation 1770-1773
 Park, Jeong Hoan *Seoul National Univ.*; Kim, Chae-bin *Seoul National Univ.*; Ahn, Seung-Hee *Seoul National Univ.*; Gwon, Tae Mok *Seoul National Univ.*; Jeong, Joonsoo *Seoul National Univ.*; Jun, Sang Beom *Ewha Womans Univ.*; Kim, Sung June* *Seoul National Univ.*

15:30-17:00 WeCT10.9
On Comparing in Vivo Intracranial Recordings in Non-Human Primates to Predictions of Optimized Transcranial Electrical Stimulation 1774-1777
 Datta, Abhishek* *Soterix Medical, Inc.*; Krause, Matthew *McGill Univ.*; Pilly, Praveen *HRL Laboratories*; Choe, Jaehoon *HRL*; Zanos, Theodoros *Montreal Neurological Institute, McGill Univ.*; Thomas, Chris *Soterix Medical, Inc.*; Pack, Christopher C *Montreal Neurological Institute, McGill Univ.*

15:30-17:00	WeCT10.10
Evaluation of the Electric Field in the Brain during Transcranial Direct Current Stimulation: A Sensitivity Analysis	1778-1781
Santos, Laura <i>Instituto Superior Técnico, Univ. de Lisboa</i> ; Martinho, Miguel <i>Instituto Superior Técnico, Univ. de Lisboa</i> ; Salvador, Ricardo <i>Institute of Biophysics and Biomedical Engineering (IBEB), Univ.</i> ; Wenger, Cornelia <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Fernandes, Sofia Rita <i>Faculdade de Ciências e Faculdade de Medicina da Univ. de</i> ; Ripolles, Oscar <i>Neuroelectrics Barcelona</i> ; Ruffini, Giulio <i>Starlab Barcelona SL</i> ; Miranda, Pedro Cavaleiro* <i>Faculdade de Ciências, Univ. de Lisboa</i>	
15:30-17:00	WeCT10.11
Development of a Closed-Loop System for Tremor Suppression in Patients with Parkinson's Disease	1782-1785
Xu, Fuliang <i>Med-X Research Institute, School of Biomedical Engineering, Shan</i> ; Hao, Manzhao <i>School of Biomedical Engineering, Shanghai Jiao Tong Univ.</i> ; Xu, Shaoqing <i>Dept. of Neurology & Institute of Neurology, Ruijin Hospital</i> ; Hu, Zixiang <i>Med-X Research Institute, School of Biomedical Engineering, Shang</i> ; Xiao, Qin <i>Dept. of Neurology & Institute of Neurology, Ruijin Hospital</i> ; Lan, Ning* <i>Shanghai Jiao Tong Univ.</i>	
15:30-17:00	WeCT10.12
A Miniature Closed-Loop Deep Brain Stimulation Device	1786-1789
Parastarfeizabadi, Mahboubeh <i>Deakin Univ.</i> ; Kouzani, Abbas Z.* <i>Deakin Univ.</i> ; Gibson, Ian <i>Deakin Univ.</i> ; Tye, Susannah <i>Mayo Clinic</i>	
15:30-17:00	WeCT10.13
Effects of Prefrontal Anodal Transcranial Direct Current Stimulation on Working-Memory and Reaction Time	1790-1793
Veríssimo, Inês <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Machado Barradas, Isabel <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Santos, Tiago <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Miranda, Pedro Cavaleiro* <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Ferreira, Hugo <i>Institute of Biophysics and Biomedical Engineering</i>	
15:30-17:00	WeCT10.14
An Implantable, Designed-For-Human-Use Peripheral Nerve Stimulation and Recording System for Advanced Prosthetics	1794-1797
Lachapelle, John* <i>Draper laboratory</i> ; Bjune, Caroline <i>Charles Stark Draper Laboratory</i> ; Kindle, Alex <i>Draper Laboratory</i> ; Czarniecki, Andrew <i>Draper Laboratory</i> ; Segura, Carlos Alejandro <i>Draper Laboratory</i> ; Nugent, Brian <i>Draper Laboratory</i> ; Sriram, Tirunelveli <i>CS Draper Laboratory</i> ; Parks, Philip <i>Draper Laboratory</i> ; Keefer, Edward <i>Nerves Incorporated</i> ; Cheng, Jonathan <i>Univ. of Texas Southwestern Medical Center</i>	
15:30-17:00	WeCT10.15
Improved Electrode Material for Deep Brain Stimulation	1798-1801
Petrossians, Artin* <i>Univ. of Southern California</i> ; Whalen, Jack <i>Univ. of Southern California</i> ; Weiland, James <i>Univ. of Southern California</i>	
15:30-17:00	WeCT10.16
Novel Fractal Planar Electrode Design for Efficient Neural Stimulation	1802-1805
Wei, Xuefeng* <i>The College of New Jersey</i> ; Benmassaoud, Mehdi <i>The College of New Jersey</i> ; Meller, Miriam <i>The College of New Jersey</i> ; Kuchibhatla, Sindhuja <i>The College of New Jersey</i>	
15:30-17:00	WeCT10.17
Synaptic Depression Depends on Charge Delivered to Network	1806-1809
Graham, Robert <i>George Mason Univ.</i> ; Jose, Sharon <i>George Mason Univ.</i> ; Kaiser, Alex <i>George Mason Univ.</i> ; Peixoto, Nathalia* <i>George Mason Univ.</i>	
15:30-17:00	WeCT10.18
The Influence of the Pre-Stimulation Neural State on the Post-Stimulation Neural Dynamics via Distributed Microstimulation of the Hippocampus	1810-1813
Connolly, Mark <i>Emory Univ.</i> ; Gross, Robert <i>Emory Univ.</i> ; Mahmoudi, Babak* <i>Univ. of Miami</i>	
15:30-17:00	WeCT10.19
Electrical Resistance Increases at the Tissue-Electrode Interface as an Early Response to Nucleus Accumbens Deep Brain Stimulation	1814-1817
Kale, Rajas <i>Deakin Univ.</i> ; Kouzani, Abbas Z.* <i>Deakin Univ.</i> ; Berk, Julian <i>Deakin Univ.</i> ; Walder, Ken <i>Deakin Univ.</i> ; Berk, Michael <i>Deakin Univ.</i> ; Tye, Susannah <i>Mayo Clinic</i>	

15:30-17:00	WeCT10.20
Fully-Implantable, Multi-Channel, Microstimulator with Tracking Supply Ribbon and Energy Recovery	1818-1821
Rashidi, Amin* <i>K.N. Toosi Univ. of Technology</i> ; Yazdani, Niloofar <i>K.N. Toosi Univ. of Technology</i> ; Sodagar, Amir M. <i>Univ. of Michigan</i>	
15:30-17:00	WeCT10.21
QAPD: An Integrated System to Quantify Symptoms of Parkinson's Disease	1822-1825
Patel, Vrajeshri <i>Stevens Institute of Technology</i> ; Burns, Martin <i>Stevens Institute of Technology</i> ; Pourfar, Michael <i>Langone Medical Center</i> ; Mogilner, Alon <i>Langone Medical Center</i> ; Kondziolka, Douglas <i>Univ. of Pittsburgh</i> ; Vinjamuri, Ramana* <i>Stevens Institute of Technology</i>	
15:30-17:00	WeCT10.22
Hardware-Friendly Seizure Detection with a Boosted Ensemble of Shallow Decision Trees	1826-1829
Shoaran, Mahsa* <i>Caltech</i> ; Farivar, Masoud <i>Caltech</i> ; Emami, Azita <i>Caltech</i>	
15:30-17:00	WeCT10.23
The Long-Range Temporal Correlations of Broadband EEG Oscillations in Poststroke Depression Subjects with Basal Ganglia Infarction	1830-1833
Wang, Chunfang* <i>Tianjin Union Medical Centre</i> ; Du, Jingang <i>Tianjin Union Medical Centre</i> ; Zhang, Ying <i>Tianjin Union Medical Centre</i> ; Zhou, Peng <i>Tianjin Univ.</i> ; Ming, Dong <i>Tianjin Univ.</i>	
15:30-17:00	WeCT10.24
Effect of Vagus Nerve Stimulation on Neural Adaptation in Thalamo-Cortical System in Rats	1834-1837
Shiramatsu, Tomoyo* <i>the Univ. of Tokyo</i> ; Hitsuyu, Rie <i>The Univ. of Tokyo</i> ; Ibayashi, Kenji <i>Graduate School of Medicine, Univ. of Tokyo</i> ; Kanzaki, Ryohei <i>The Univ. of Tokyo</i> ; Kawai, Kensuke <i>Graduate School of Medicine, Jichi Medical Univ.</i> ; Takahashi, Hirokazu <i>The Univ. of Tokyo</i>	
15:30-17:00	WeCT10.25
Identifying Important Regions in EEG Epilepsy Brain Networks	N/A
Iakovidou, Nantia <i>Aristotle Univ.</i> ; Christodoulakis, Manolis <i>Univ. of Cyprus</i> ; Papathanasiou, Eleftherios S. <i>The Cyprus Institute for Neurology and Genetics</i> ; Papacostas, Savvas S. <i>The Cyprus Institute for Neurology and Genetics</i> ; Mitsis, Georgios D.* <i>McGill Univ.</i>	
15:30-17:00	WeCT10.26
Identifying Depressed Patients with and without Suicidal Ideation by Finger Photo-Plethysmography	1842-1845
Khandoker, Ahsan Habib* <i>Khalifa Univ. of Science, Technology and Research</i> ; Luthra, Veena <i>American Center for Psychiatry and Neurology</i> ; Abouallaban, Yousef <i>American Center for Psychiatry & Neurology</i> ; Saha, Simanto <i>United International Univ.</i> ; Ahmed, Khawza <i>United International Univ.</i> ; Mostafa, Raquibul <i>United International Univ.</i> ; Chowdhury, Nayeefa <i>Khalifa Univ.</i> ; Jelinek, Herbert Franz <i>Charles Sturt Univ.</i>	
15:30-17:00	WeCT10.27
Multimodel Quantitative Analysis of Somatosensory Evoked Potentials after Cardiac Arrest with Graded Hypothermia	1846-1849
Young, Leanne* <i>Johns Hopkins Univ.</i> ; Choudhary, Rishabh Charan <i>Univ. of Maryland</i> ; Jia, Xiaofeng <i>Univ. of Maryland School of Medicine, Johns Hopkins Univ.</i>	
15:30-17:00	WeCT10.28
Using Hilbert-Huang Transform to Assess EEG Slow Wave Activity during Anesthesia in Post-Cardiac Arrest Patients	1850-1853
Kortelainen, Jukka* <i>Univ. of Oulu</i> ; Väyrynen, Eero <i>Univ. of Oulu</i> ; Huuskonen, Usko <i>Univ. of Oulu and Oulu Univ. Hospital</i> ; Laurila, Jouko <i>Univ. of Oulu and Oulu Univ. Hospital</i> ; Koskenkari, Juha <i>Univ. of Oulu and Oulu Univ. Hospital</i> ; Backman, Janne T. <i>Univ. of Helsinki and Helsinki Univ. Hospital</i> ; Alahuhta, Seppo <i>Univ. of Oulu</i> ; Seppänen, Tapio <i>Univ. of Oulu</i> ; Ala-Kokko, Tero <i>Univ. of Helsinki and Helsinki Univ. Hospital</i>	
15:30-17:00	WeCT10.29
Impact of Mild Traumatic Brain Injury on Auditory Brain Stem Dysfunction in Mouse Model	1854-1857
Amanipour, Reza <i>Univ. of South Florida</i> ; Cresoe, Samantha <i>Univ. of South Florida</i> ; Parsons, Teresa <i>Univ. of South Florida</i> ; Cesario, Borlongan <i>Univ. of South Florida</i> ; Frisina, Robert <i>Univ. of South Florida</i> ; Walton, Joseph* <i>Univ. of South Florida</i> ; Zhu, Xiao Xia <i>Univ. of South Florida</i>	

15:30-17:00 WeCT10.30
Dihydrocapsaicin Induced Hypothermia after Asphyxial Cardiac Arrest in Rats 1858-1861
He, Junyun *Univ. of Maryland*; Young, Leanne *Johns Hopkins Univ.*; Jia, Xiaofeng* *Univ. of Maryland School of Medicine, Johns Hopkins Univ.*

15:30-17:00 WeCT10.31
Brain Activation Profiles in MTBI: Evidence from ERP Activity of Working Memory Response 1862-1865
li, Lianyang *Univ. of Houston*; Arakaki, Xianghong *Huntington Medical Research Institutes*; Tran, Thao *Huntington Medical Research Institutes*; Harrington, Michael *Huntington Medical Research Institutes*; Padhye, Nikhil *Univ. of Texas Health Science Center*; Zouridakis, George* *Univ. of Houston*

WeCT11: 15:30-17:00 Fantasia Q&P
Ignite_Theme 7_We1 (Ignite Session)
Chair: Telfer, Brian *MIT Lincoln Laboratory*

15:30-17:00 WeCT11.1
A Wearable Biofeedback Control System based Body Area Network for Freestyle Swimming 1866-1869
Li, Rui* *Victoria Univ.*; Cai, Zibo *Victoria Univ.*; Lai, Tze Huei, Daniel *Victoria Univ.*; Lee, WeeSit *Victoria Univ.*

15:30-17:00 WeCT11.2
Design and Preliminary Evaluation of a Wearable Device for Mass-Screening of Sleep Apnea 1870-1873
Puri, Rohan *Massachusetts Institute of Technology*; Athanassiadis, Athanasios G *Massachusetts Institute of Technology*; Gill, Niharika K. J. *Somaiya Medical College and Research Centre*; Sathya, Sai Sri* *Welingkar Institute of Management Development and Research*; Rathod, Geetanjali *Welingkar Institute of Management Development and Research*; Wahi, Akshat *Welingkar Institute of Management Development and Research*; Satat, Guy *Massachusetts General Hospital*; Majmudar, Maulik *Massachusetts General Hospital*; Shah, Pratik *Massachusetts Institute of Technology (MIT)*

15:30-17:00 WeCT11.3
Toward a Low-Cost Gait Analysis System for Clinical and Free-Living Assessment 1874-1877
Ladha, Cassim *Newcastle Univ.*; Del Din, Silvia *Newcastle Univ.*; Nazarpour, Kianoush *Newcastle Univ.*; Hickey, Aodhán *Newcastle Univ.*; Morris, Rosie *Newcastle Univ.*; Catt, Michael *Newcastle Univ.*; Rochester, Lynn *Newcastle Univ.*; Godfrey, Alan* *Newcastle Univ.*

15:30-17:00 WeCT11.4
Low-Power Metabolic Equivalents Estimation Algorithm using Adaptive Acceleration Sampling 1878-1881
Tsukahara, Mio* *Kobe Univ.*; Nakanishi, Motofumi *Omron Healthcare Co., Ltd*; Izumi, Shintaro *Kobe Univ.*; Nakai, Yozaburo *Kobe Univ.*; Kawaguchi, Hiroshi *Kobe Univ.*; Yoshimoto, Masahiko *Kobe Univ.*

15:30-17:00 WeCT11.5
Adaptive Data Processing for Real-Time Nutrition Monitoring 1882-1885
Hosseini, Anahita* *Dept. of Computer Science, Univ. of California, Los Angeles*; Kalantarian, Haik *Univ. of California, Los Angeles*; Sarrafzadeh, Majid *Univ. of California, Los Angeles*

15:30-17:00 WeCT11.6
Development of a Real Time Activity Monitoring Android Application Utilizing SmartStep 1886-1889
Hegde, Nagaraj* *The Univ. of Alabama*; Melanson, Edward *Univ. of Colorado Denver*; Sazonov, Edward *Univ. of Alabama*

15:30-17:00 WeCT11.7
A Simple Sensing Mechanism for Wireless, Passive Pressure Sensors 1890-1893
Drazan, John* *Rensselaer Polytechnic Institute*; Wassick, Michael *Rensselaer Polytechnic Institute*; Dahle, Reena *State Univ. of New York New Paltz*; Beardslee, Luke *SUNY Polytechnic Institute Center for Nanoscale Science and Engineering*; Cady, Nathaniel *SUNY College of Nanoscale Science & Engineering*; Ledet, Eric *Rensselaer Polytechnic Institute*

15:30-17:00 WeCT11.8
Analysis of Comfort and Ergonomics for Clinical Work Environments 1894-1897
Shafti, Ali* *King's College London*; Urbistondo Lazpita, Beatriz *King's College London*; Elhage, Oussama *King's College London*; Wurdemann, Helge Arne *Univ. College London*; Althoefer, Kaspar *King's College London*

15:30-17:00		WeCT11.9
A Graphene Oxide Ph Sensor for Wound Monitoring		1898-1901
Melai, Bernardo <i>Dept. of Chemistry and Industrial Chemistry, Univ. of, Salvo, Pietro* Univ. of Pisa; Calisi, Nicola Dept. of Chemistry and Industrial Chemistry, Univ. of, Moni, Letizia Univ. of Pisa, Dept. of Chemistry and Industrial Chemi; Bonini, Andrea Univ. of Pisa, Dept. of Chemistry and Industrial Chemi; Paoletti, Clara Dept. of Chemistry and Industrial Chemistry, Univ. of, Lomonaco, Tommaso Univ. of Pisa, Dept. of Chemistry and Industrial Chemi; Mollica, Vincenzo Univ. of Pisa, Dept. of Chemistry and Industrial Chemi; Fuoco, Roger Univ. of Pisa, Dept. of Chemistry and Industrial Chemi; Di Francesco, Fabio Univ. of Pisa</i>		
15:30-17:00		WeCT11.10
Complementary Sensors for Rapid and Sensitive Detection of Wound Bacteria		1902-1905
Sheybani, Roya* <i>Brown Univ.</i> ; Shukla, Anita <i>Brown Univ.</i>		
15:30-17:00		WeCT11.11
An Ultra Low-Power Front-End IC for Wearable Health Monitoring System		1906-1909
Hsu, Yu-Pin* <i>Rensselaer Polytechnic Institute</i> ; Liu, Zemin <i>Rensselaer Polytechnic Institute</i> ; Hella, Mona Mostafa <i>Rensselaer Polytechnic Institute</i>		
15:30-17:00		WeCT11.12
Comparative Frequency Response Analysis System for Electrochemical Impedance Spectroscopy Measurements		1910-1913
Chen, Tse-An* <i>National Cheng Kung Univ.</i> ; Wei, Chia-Ling <i>National Cheng Kung Univ.</i> ; Liu, Bin-Da <i>National Cheng Kung Univ.</i>		
15:30-17:00		WeCT11.13
Dual-Mode CMOS Analog Front-End (AFE) for Electrical Impedance Spectroscopy (EIS) Systems		1914-1917
Valente, Virgilio* <i>Univ. College London</i> ; Jiang, Dai <i>Univ. College London</i> ; Demosthenous, Andreas <i>Univ. College London</i>		
15:30-17:00		WeCT11.14
Stability of the Microdroplets for Portable Biosensor		1918-1921
Izawa, Yusuke* <i>Keio Univ.</i> ; Osaki, Toshihisa <i>Kanagawa Academy of Science and Technology</i> ; Kamiya, Koki <i>Kanagawa Academy of Science and Technology</i> ; Fujii, Satoshi <i>Kanagawa Academy of Science and Technology</i> ; Miki, Norihisa <i>Univ.</i> ; Takeuchi, Shoji <i>The Univ. of Tokyo</i>		
15:30-17:00		WeCT11.15
An Implantable Microelectrode Array for Dopamine and Electrophysiological Recordings in Response to L-Dopa Therapy for Parkinson's Disease		1922-1925
Zhang, Song <i>Institute of Electronics, Chinese Academy of Sciences</i> ; Song, Yilin <i>State Key Laboratory of Transducer Technology, Institute of Elec</i> ; Jia, Jun <i>Dept. of Physiology, Capital Medical Univ.</i> ; Xiao, Guihua <i>Univ. of Chinese Academy of Sciences</i> ; Yang, Lili <i>Univ. of Chinese Academy of Sciences</i> ; Sun, Min <i>Dept. of Physiology, Capital Medical Univ.</i> ; Wang, Mixia <i>Institute of Electronics, Chinese Academy of Sciences</i> ; Cai, Xinxia* <i>Institute of Electronics, Chinese Academy of Sciences</i>		
15:30-17:00		WeCT11.16
A Bifrequent Passive Sensor System for Measurement of the Pulse Wave Velocity in a Stent		1926-1929
Schächtele, Jonathan* <i>Fraunhofer IPA</i>		
15:30-17:00		WeCT11.17
Reducing the Effect of Parasitic Capacitance on Implantable Passive Resonant Sensors		1930-1933
Drazan, John* <i>Rensselaer Polytechnic Institute</i> ; Abdoun, Omar <i>Rensselaer Polytechnic Institute</i> ; Wassick, Michael <i>Rensselaer Polytechnic Institute</i> ; Marcus, George <i>State Univ. of New York at Geneseo</i> ; Dahle, Reena <i>State Univ. of New York New Paltz</i> ; Beardslee, Luke <i>SUNY Polytechnic Institute Center for Nanoscale Science and Engineering</i> ; Cady, Nathaniel <i>SUNY College of Nanoscale Science & Engineering</i> ; Ledet, Eric <i>Rensselaer Polytechnic Institute</i>		
15:30-17:00		WeCT11.18
Optimal Resonance Configuration for Ultrasonic Wireless Power Transmission to Millimeter-Sized Biomedical Implants		1934-1937
Meng, Miao* <i>The Pennsylvania State Univ.</i> ; Kiani, Mehdi <i>Pennsylvania State Univ.</i>		

15:30-17:00	WeCT11.19
Epoxy Casting Used as Nonhermetic Encapsulation Technique for Implantable Electronic Devices	1938-1941
Boeser, Fabian* <i>Univ. of Freiburg</i> ; Lang, Benjamin Gregory <i>Univ. of Freiburg</i> ; Stieglitz, Thomas <i>Univ. of Freiburg</i> ; Plachta, Dennis T.T. <i>Univ. of Freiburg – IMTEK</i>	
15:30-17:00	WeCT11.20
Evaluation of Biofouling for Implantable Micro Dialysis System	1942-1945
Ota, Takashi* <i>Keio Univ.</i> ; To, Naoya <i>Keio Univ.</i> ; Kanno, Yoshihiko <i>Tokyo Medical Univ.</i> ; Miki, Norihisa <i>Univ.</i>	
15:30-17:00	WeCT11.21
Effect of Growth Solution, Membrane Size and Array Connection on Microbial Fuel Cell Power Supply for Medical Devices	1946-1949
Roxby, Daniel Ninio* <i>Univ. of Technology, Sydney</i> ; Tran, Nham <i>Univ. of Technology, Sydney</i> ; Yu, Pak-Lam <i>Massey Univ., Biotechnology Group</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>	
15:30-17:00	WeCT11.22
Inductive Passive Sensor for Intraparenchymal and Intraventricular Monitoring of Intracranial Pressure	1950-1954
Behfar, Mohammadhossein* <i>Tampere Univ. of Technology</i> ; Abada, Emily <i>Univ. of San Francisco, California</i> ; Sydänheimo, Lauri <i>Tampere Univ. of Technology</i> ; Goldman, Ken <i>H-Cubed Inc</i> ; Fleischman, Aaron J. <i>Cleveland Clinic, Cleveland</i> ; Gupta, Nalin <i>Univ. of San Francisco, California</i> ; Ukkonen, Leena <i>Tampere Univ. of Technology</i> ; Roy, Shuvo <i>Univ. of California at San Francisco</i>	
15:30-17:00	WeCT11.23
Nanoporous Membrane Robustness / Stability in Small Form Factor Microfluidic Filtration System	1955-1958
Johnson, Dean G.* <i>Univ. of Rochester</i> ; McGrath, James <i>Univ. of Rochester</i> ; Hayden, Andrew <i>SiMPore, Inc.</i> ; Pan, Xuan <i>Univ. of Rochester</i>	
15:30-17:00	WeCT11.24
Characterization and Analysis of Dynamic Implant Communication Channels based on Inhomogeneous Model	1959-1962
Li, Jingzhen <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Liu, Yuhang <i>Shenzhen Institute of Advanced Technology</i> ; ma, jingjing <i>Shenzhen Entry-Exit Inspection and quarantine Bureau</i> ; Nie, Zedong* <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Wang, Lei <i>Shenzhen Institutes of Advanced Technology</i>	
15:30-17:00	WeCT11.25
Investigations on Different Epoxies for Electrical Insulation of Microflex Structures	1963-1966
Cvancara, Paul* <i>Univ. of Freiburg</i> ; Lauser, Simone <i>Univ. of Freiburg</i> ; Rudmann, Linda <i>Univ. of Freiburg</i> ; Stieglitz, Thomas <i>Univ. of Freiburg</i>	
15:30-17:00	WeCT11.26
Investigation on the Hermeticity of an Implantable Package with 32 Feedthroughs for Neural Prosthetic Applications	1967-1970
Bisoni, Lorenzo* <i>Univ. di Cagliari</i> ; Mueller, Matthias <i>Univ. of Freiburg</i> ; Cvancara, Paul <i>Univ. of Freiburg</i> ; Carboni, Caterina <i>Univ. di Cagliari</i> ; Puddu, Roberto <i>Univ. di Cagliari</i> ; Raffo, Luigi <i>Univ. of Cagliari</i> ; Barbaro, Massimo <i>Univ. of Cagliari</i> ; Stieglitz, Thomas <i>Univ. of Freiburg</i>	
15:30-17:00	WeCT11.27
A 32-Channel Wireless System for Recording Gastric Electrical Activity	1971-1974
Springston, Christopher <i>New York Institute of Technology</i> ; Bao, Rui <i>New York Institute of Technology</i> ; Farajidavar, Aydin* <i>New York Institute of Technology</i>	
15:30-17:00	WeCT11.28
Optimal Wireless Receiver Structure for Omnidirectional Inductive Power Transmission to Biomedical Implants	1975-1978
Sadeghi Gougheri, Hesam* <i>Pennsylvania State Univ.</i> ; Kiani, Mehdi <i>Pennsylvania State Univ.</i>	

15:30-17:00		WeCT12.1
Passthoughts Authentication with Low Cost EarEEG		1979-1982
Curran, Max* <i>Univ. of California, Berkeley</i> ; Yang, Jong-kai <i>Univ. of California, Berkeley</i> ; Merrill, Nick <i>Univ. of California, Berkeley</i> ; Chuang, John <i>Univ. of California, Berkeley</i>		
15:30-17:00		WeCT12.2
A New Crank Arm based Load Cell, with Built-In Conditioning Circuit and Strain Gages, to Measure the Components of the Force Applied by a Cyclist		1983-1986
Pigatto, Andre <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i> ; Moura, Karina de Oliveira Alves de <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i> ; Favieiro, Gabriela Winkler* <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i> ; Balbinot, Alexandre <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i>		
15:30-17:00		WeCT12.3
Exploring Various Orientation Measurement Approaches Applied to a Serious Game System for Functional Rehabilitation		1987-1990
Tannous, Halim* <i>Univ. de Technologie de Compiègne</i> ; Istrate, Dan <i>UTC</i> ; Benlarbi-Delai, Aziz <i>Univ. Pierre et Marie Curie</i> ; Sarrazin, Julien <i>Univ. Pierre et Marie Curie</i> ; Idriss, Mohamad <i>Univ. de Technologie de Compiègne</i> ; Ho Ba Tho, Marie-Christine <i>Univ. de Technologie de Compiègne</i> ; Dao, Tien-Tuan <i>Univ. of Technology of Compiègne</i>		
15:30-17:00		WeCT12.4
S2NI: A Mobile Platform for Nutrition Monitoring from Spoken Data		1991-1994
Hezarjaribi, Niloofar* <i>Washington State Univ.</i> ; Reynolds, Cody <i>Washington State Univ.</i> ; Miller, Drew <i>Washington State Univ.</i> ; Chaytor, Naomi <i>Washington State Univ.</i> ; Ghasemzadeh, Hassan <i>Washington State Univ.</i>		
15:30-17:00		WeCT12.5
Wearable EEG via Lossless Compression		1995-1998
Dufort, Guillermo <i>Univ. de la República</i> ; Favaro, Federico <i>Univ. de la República</i> ; Lecumberry, Federico <i>Univ. de la República</i> ; Martín, Alvaro <i>Univ. de la República</i> ; Oliver, Juan Pablo <i>Univ. de la República</i> ; Oreggioni, Julian* <i>IIE, Facultad de Ingeniería, Univ. de la República</i> ; Ramírez, Ignacio <i>Univ. de la República</i> ; Seroussi, Gadiel <i>Univ. de la República</i> ; Steinfeld, Leonardo <i>Univ. de la República</i>		
15:30-17:00		WeCT12.6
Wavelet PCA for Automatic Identification of Walking with and without an Exoskeleton on a Treadmill using Pressure and Accelerometer sensors		1999-2002
Naik, Ganesh R* <i>Univ. of Technology Sydney</i> ; Pendharkar, Gita <i>Monash Univ.</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>		
15:30-17:00		WeCT12.7
EMG Signal-Based Gait Phase Recognition using a GPES Library and ISMF		2003-2006
Ryu, Jaehwan <i>INHA Univ.</i> ; Lee, Byeonghyeon <i>INHA Univ.</i> ; Kim, Deok-Hwan* <i>INHA Univ.</i>		
15:30-17:00		WeCT12.8
Development of a Head Impact Monitoring "Intelligent Mouthguard"		2007-2009
Hedin, Daniel* <i>Advanced Medical Electronics</i> ; Gibson, Paul <i>Advanced Medical Electronics</i> ; Bartsch, Adam <i>Cleveland Clinic</i> ; Samorezov, Sergey <i>Cleveland Clinic</i>		
15:30-17:00		WeCT12.9
Low-Power Operation of a Barometric Pressure Sensor for use in an Automatic Fall Detector		2010-2013
Lu, Wei* <i>Univ. of New South Wales</i> ; Wang, Changhong <i>UNSW</i> ; Stevens, Michael Charles <i>Univ. of New South Wales</i> ; Redmond, Stephen James <i>Univ. of New South Wales</i> ; Lovell, Nigel H. <i>Univ. of New South Wales</i>		
15:30-17:00		WeCT12.10
Sticker-Type ECG/PPG Concurrent Monitoring System Hybrid Integration of CMOS SoC and Organic Sensor Device		2014-2017
Lee, Yongsu* <i>KAIST</i> ; Lee, Hyeonwoo <i>Korea Advanced Institute of Science and Technology</i> ; Yoo, Seunghyup <i>KAIST</i> ; Yoo, Hoi-Jun <i>KAIST</i>		

15:30-17:00		WeCT12.11
Evaluation of Skills in Swing Technique in Classical Japanese Swordsmanship using Sensors		N/A
Okamoto, Satoru* <i>Shimane Univ.</i>		
15:30-17:00		WeCT12.12
Miniaturized Force/Torque Sensor for in Vivo Measurements of Tissue Characteristics		2022-2025
Hessinger, Markus* <i>Technische Univ. Darmstadt</i> ; Pilic, Tobias <i>Hochschule für Technik, Wirtschaft und Kultur Leipzig</i> ; Werthschützky, Roland <i>Technische Univ. Darmstadt</i> ; Pott, Peter P. <i>Technische Univ. Darmstadt</i>		
15:30-17:00		WeCT12.13
A Pressure and Shear Sensing Liner for Prosthetic Sockets		2026-2029
Wheeler, Jason* <i>Sandia National Laboratories</i> ; Mazumdar, Anirban <i>Sandia National Labs</i> ; Marron, Lisa <i>Sandia National Labs</i> ; Dullea, Kevin <i>Sandia National Labs</i> ; Sanders, Joan <i>Univ. of Washington</i> ; Allyn, Kate <i>Univ. of Washington</i>		
15:30-17:00		WeCT12.14
Development of a Planar Shear Sensor		2030-2033
Mortimer, Bruce John Peter* <i>Engineering Acoustics Inc.</i> ; Zets, Gary A. <i>Engineering Acoustics, Inc.</i> ; Altenbernd, Brian J. <i>Engineering Acoustics, Inc.</i> ; Goonetilleke, Tharaka <i>Engineering Acoustics, Inc.</i>		
15:30-17:00		WeCT12.15
Gyrocardiography: A New Non-Invasive Approach in the Study of Mechanical Motions of the Heart. Concept, Method and Initial Observations		2034-2037
Jafari Tadi, Mojtaba* <i>Univ. of Turku</i> ; Lehtonen, Eero Lennart <i>Univ. of Turku</i> ; Pänkäälä, Mikko <i>Technology Research Center, Univ. of Turku</i> ; Saraste, Antti <i>Heart Center, Turku Univ. Hospital</i> ; Vasankari, Tuija <i>Heart Center, Turku Univ. Hospital</i> ; Mika, Teräs <i>Turku Univ. Central Hospital, Turku, Finland</i> ; Koivisto, Tero <i>Univ. of Turku</i>		
15:30-17:00		WeCT12.16
An Online Recursive Autocalibration of Triaxial Accelerometer		2038-2041
Ye, Lin* <i>Univ. of Technology, Sydney (UTS)</i> ; Su, Steven Weidong <i>Univ. of Technology, Sydney</i> ; Lei, Dong <i>Beijing Institute of Technology</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>		
15:30-17:00		WeCT12.17
Measurement of Force Applied by Infant Tongue to the Nipple during Sucking and Investigation of the Mechanism of Tongue Movement		2042-2045
Nishi, Eri* <i>Setsunan Univ.</i> ; Nagamatsu, Yuiko <i>Osaka Koseinenkin Hospital</i> ; Niikawa, Takuya <i>Osaka Electro-Communication Univ.</i>		
15:30-17:00		WeCT12.18
Ultrafast Oscillatory-Flow PCR for Amplification of Urine Short Tandem Repeats		N/A
Tang, Haoyu <i>Univ. College of Southeast Norway</i> ; Dong, Tao* <i>Vestfold Univ. College – HSN, TekMar</i>		
15:30-17:00		WeCT12.19
Hardware Image Assessment for Wireless Endoscopy Capsules		2050-2053
khorsandi, Mohammad Amin <i>Isfahan Univ. of Technology</i> ; Karimi, Nader <i>Isfahan Univ. of Technology</i> ; Samavi, Shadrokh <i>McMaster Univ.</i> ; Hajabdollahi, Mohsen <i>Isfahan Univ. of Technology</i> ; Soroushmehr, S.M.Reza* <i>Univ. of Michigan, Ann Arbor</i> ; Ward, Kevin <i>Virginia Commonwealth Univ.</i> ; Najarian, Kayvan <i>Univ. of Michigan – Ann Arbor</i>		
15:30-17:00		WeCT12.20
Finite Element Method Modeling to Assess Laplacian Estimates via Novel Variable Inter-Ring Distances Concentric Ring Electrodes		2054-2057
Makeyev, Oleksandr* <i>Diné College</i> ; Besio, W. G. <i>Univ. of Rhode Island</i>		
15:30-17:00		WeCT12.21
Analytic Assessment of Laplacian Estimates via Novel Variable Inter-Ring Distances Concentric Ring Electrodes		2058-2062
Makeyev, Oleksandr* <i>Diné College</i> ; Besio, W. G. <i>Univ. of Rhode Island</i>		

15:30-17:00	WeCT12.22
The Sound of Actions: A New Tool to Study Music Perception in Young Children	2063-2066
Di Perna, Leonardo* <i>Unit of Biomedical Robotics and Biomicrosystems, Univ. Camp</i> ; Di Stefano, Nicola <i>Institute of Philosophy of Scientific and Technological Practice</i> ; Formica, Domenico <i>Campus Bio-Medico Univ.</i> ; Focaroli, Valentina <i>Univ. Campus Bio-Medico di Roma</i> ; Taffoni, Fabrizio <i>Campus Bio-Medico Univ.</i>	
15:30-17:00	WeCT12.23
Human Physical Condition RF Sensing at THz Range	2067-2070
Vorobyov, Alexander* <i>CSEM</i> ; Daskalaki, Eleni <i>Centre Suisse d'Electronique et de Microtechnique (CSEM)</i> ; Hennemann, Cédric <i>CSEM SA</i> ; Decotignie, Jean-Dominique <i>Centre Suisse d'Electronique et de Microtechnique</i>	
15:30-17:00	WeCT12.24
Electrode-Electrolyte Interface Model of Tripolar Concentric Ring Electrode and Electrode Paste	2071-2074
Nasrollahhosseini, Seyed Hadi <i>Univ. of Rhode Island</i> ; Steele, Preston <i>CREmedical Corp., Kingston, RI</i> ; Besio, W. G.* <i>Univ. of Rhode Island</i>	
15:30-17:00	WeCT12.25
Possible Photoacoustic Gas Detection for a Smart Endoscope	2075-2078
Wadamori, Naoki* <i>Nagaoka Univ. of Technology</i>	
15:30-17:00	WeCT12.26
Fatigue Evaluation using a Glass-Shape Optical Sensors System	2079-2082
Horiuchi, Ryogo* <i>Keio Univ.</i> ; Miki, Norihisa <i>Univ.</i>	
15:30-17:00	WeCT12.27
Wearable Optical-Digital Assistive Device for Low Vision Students	2083-2086
Afinogenov, Boris <i>Skolkovo Institute of Science and Technology</i> ; James, Coles <i>Massachusetts Institute of Technology</i> ; Parthasarathy, Sailashri* <i>Massachusetts Institute of Technology</i> ; Press-Williams, Jessica <i>Massachusetts Institute of Technology</i> ; Tsykunova, Ralina <i>Skolkovo Institute of Science and Technology</i> ; Vasilenko, Anastasia <i>Skolkovo Institute of Science and Technology</i> ; Narain, Jaya <i>Massachusetts Institute of Technology</i> ; Hanumara, Nevan <i>Massachusetts Institute of Technology</i> ; Winter, Amos <i>MIT</i> ; Satgunam, PremNandhini <i>LV Prasad Eye Institute</i>	
15:30-17:00	WeCT12.28
Highly Sensitive Detection of Human Cancer Antigens by an Immunogold-Silver Assay Chip Coupled with a Polythiophene-Based Optical Sensor	2087-2090
Pires, Nuno M. M. <i>Univ. College of Southeast Norway – HBV, TekMar, IMST</i> ; Dong, Tao* <i>Vestfold Univ. College – HSN, TekMar</i>	
15:30-17:00	WeCT12.29
3D Endoscope System using DOE Projector	2091-2094
Furukawa, Ryo* <i>Hiroshima City Univ.</i> ; Sanomura, Yoji <i>Dept. of Endoscopy, Hiroshima Univ.</i> ; Tanaka, Shinji <i>Hiroshima Univ. Hospital</i> ; Yoshida, Shigeto <i>Hiroshima General Hospital of West Japan Railway Company</i> ; Sagawa, Ryusuke <i>National Institute of Advanced Industrial Science and Technology</i> ; Visentini-Scarzanella, Marco <i>Kagoshima Univ.</i> ; Kawasaki, Hiroshi <i>Kagoshima Univ.</i>	
15:30-17:00	WeCT12.30
Novel Refractive Index Biosensing of Microcontact Printed Molecules on Lithium Niobate	2095-2098
Bhalla, Nikhil* <i>Okinawa Institute of Science and Technology Graduate Univ.</i>	

WeCT13: 15:30-17:00	Fantasia N
Ignite_Theme 8_We1 (Ignite Session)	

15:30-17:00	WeCT13.1
Development of Artificial Tissue-Like Structures for a Hybrid Epidural Anesthesia Simulator	2099-2102
Esterer, Benjamin* <i>Univ. of Applied Sciences Upper Austria</i> ; Razenboeck, Johannes <i>Univ. of Applied Sciences Upper Austria</i> ; Hollensteiner, Marianne <i>Upper Austria Univ. of Applied Sciences</i> ; Fuerst, David <i>Upper Austria Univ. of Applied Sciences</i> ; Schrempf, Andreas <i>Upper Austria Univ. of Applied Sciences</i>	

15:30-17:00		WeCT13.2
Self-Folding Hydrogel Bilayer for Enhanced Drug Loading, Encapsulation, and Transport		2103-2106
Huang, Hen-Wei* <i>ETH Zurich</i> ; Petruska, Andrew J. <i>ETH Zurich</i> ; Sakar, Mahmut Selman <i>EPFL</i> ; Skoura, Maria <i>ETH Zurich</i> ; Ullrich, Franziska <i>ETH Zurich</i> ; Zhang, Qi <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Pané Vidal, Salvador <i>ETH Zürich</i> ; Nelson, Bradley <i>ETH Zurich</i>		
15:30-17:00		WeCT13.3
The Hybrid Bio-Inspired Aerial Vehicle: Concept and SIMSCAPE Flight Simulation		2107-2110
Zhang, Tao* <i>Univ. of Technology, Sydney</i> ; Su, Steven Weidong <i>Univ. of Technology, Sydney</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>		
15:30-17:00		WeCT13.4
Electrosynthesis of Magnetoresponse Microrobot for Targeted Drug Delivery using Calcium Alginate		2111-2114
Hu, Chengzhi* <i>ETH Zurich</i> ; Riederer, Katharina <i>ETH</i> ; Klemmer, Michael <i>ETH</i> ; Pané Vidal, Salvador <i>ETH Zürich</i> ; Nelson, Bradley <i>ETH Zurich</i>		
15:30-17:00		WeCT13.5
Design of a Bio-Inspired Pneumatic Artificial Muscle with Self-Contained Sensing		2115-2119
Erin, Onder* <i>Carnegie Mellon Univ.</i> ; Pol, Nishant <i>Carnegie Mellon Univ.</i> ; Valle, Luis <i>Carnegie Mellon Univ. – Robotics Institute</i> ; Park, Yong-Lae <i>Carnegie Mellon Univ.</i>		
15:30-17:00		WeCT13.6
A Wearable Skin Stretch Haptic Feedback Device: Towards Improving Balance Control in Lower Limb Amputees		2120-2123
Husman, Muhammad Afif <i>Univ. of Leeds</i> ; Maqbool, Hafiz Farhan <i>Univ. of Leeds</i> ; Awad, Mohammed Ibrahim <i>Univ. of Leeds</i> ; Abouhossein, Alireza <i>Univ. of Leeds</i> ; Dehghani-Sanij, Abbas A.* <i>Univ. of Leeds</i>		
15:30-17:00		WeCT13.7
Model-Based Assistance-As-Needed for Robotic Movement Therapy after Stroke		2124-2127
Taheri, Hossein <i>Univ. of Idaho</i> ; Reinkensmeyer, David J. <i>Univ. of California</i> ; Wolbrecht, Eric* <i>Univ. of Idaho</i>		
15:30-17:00		WeCT13.8
Design and Optimization of PARTNER: A Parallel Actuated Robotic Trainer for NEuroRehabilitation		2128-2132
Taheri, Hossein <i>Univ. of Idaho</i> ; Goodwin, Stephen <i>Univ. of Idaho</i> ; Tigue, James <i>Univ. of Utah</i> ; Perry, Joel C. <i>Univ. of Idaho</i> ; Wolbrecht, Eric* <i>Univ. of Idaho</i>		
15:30-17:00		WeCT13.9
Large-Deflection Statics Analysis of Active Cardiac Catheters through Co-Rotational Modelling		2133-2136
Qi, Peng* <i>National Univ. of Singapore</i> ; Qiu, Chen <i>Nanyang Technological Univ.</i> ; Mehndiratta, Aadarsh <i>Manipal Institute of Technology</i> ; Chen, I-Ming <i>Nanyang Technological Univ.</i> ; Yu, Haoyong <i>National Univ. of Singapore</i>		
15:30-17:00		WeCT13.10
Power Transfer for Rotating Medical Machine		2137-2140
Sofia, Andrea* <i>Univ. of Applied Sciences and Arts of Southern Switzerland</i> ; Tavilla, Agatino Christian <i>Univ. of Applied Sciences and Arts of Southern Switzerland</i> ; Gardenghi, Roberto <i>Univ. of Applied Sciences and Arts of Southern Switzerland</i> ; Stefanini, Igor <i>Univ. of Applied Sciences and Arts of Southern Switzerland</i>		
15:30-17:00		WeCT13.11
Using Liquid Metal Alloy (EGaln) to Electrochemically Enhance Stainless Steel Stimulation Electrodes for Biobotic Applications		2141-2144
Latif, Tahmid <i>North Carolina State Univ.</i> ; Gong, Fengyuan <i>North Carolina State Univ.</i> ; Dickey, Michael <i>North Carolina State Univ.</i> ; Sichitiu, Mihail <i>North Carolina State Univ.</i> ; Bozkurt, Alper* <i>North Carolina State Univ.</i>		
15:30-17:00		WeCT13.12
3D Force/Torque Characterization of Emergency Cricothyroidotomy Procedure using an Instrumented Scalpel		2145-2148
Ryason, Adam* <i>Rensselaer Polytechnic Institute</i> ; Sankaranarayanan, Ganesh <i>Rensselaer Polytechnic Institute</i> ; Butler, Kathryn <i>Massachusetts General Hospital</i> ; DeMoya, Marc <i>Massachusetts General Hospital</i> ; De, Suvranu <i>Rensselaer Polytechnic Institute</i>		

15:30-17:00	WeCT13.13
Transferring Knowledge during Dyadic Interaction: The Role of the Expert in the Learning Process	2149-2152
Avila Mireles, Edwin Johnatan* <i>Istituto Italiano di Tecnologia</i> ; De Santis, Dalia <i>Istituto Italiano di Tecnologia</i> ; Morasso, Pietro <i>Italian Institute of Technology</i> ; Zenzeri, Jacopo <i>Istituto Italiano di Tecnologia</i>	
15:30-17:00	WeCT13.14
Optical Measurement of Breathing: Algorithm Volume Calibration and Preliminary Validation on Healthy Trained Subjects	2153-2156
Massaroni, Carlo* <i>Univ. Campus Bio-Medico di Roma</i> ; Cassetta, Eugenio <i>Univ. Campus Bio-Medico di Roma</i> ; Levai, Irisz <i>School of Sport and Exercise Sciences, Univ. of Kent</i> ; Winter, Samantha <i>School of Sport and Exercise Sciences, Univ. of Kent</i> ; Dickinson, John W. <i>School of Sport and Exercise Sciences, Univ. of Kent</i> ; Silvestri, Sergio <i>Univ. Campus Bio-Medico di Roma</i>	
15:30-17:00	WeCT13.15
Lower Limb Pose Estimation for Monitoring the Kicking Patterns of Infants	2157-2160
Serrano, Miguel M.* <i>Georgia Institute of Technology</i> ; Chen, Yuping <i>Georgia State Univ.</i> ; Howard, Ayanna <i>Georgia Institute of Technology</i> ; Vela, Patricio A. <i>Georgia Inst. of Technology</i>	
15:30-17:00	WeCT13.16
Automated Feet Detection for Clinical Gait Assessment	2161-2164
Serrano, Miguel M.* <i>Georgia Institute of Technology</i> ; Chen, Yuping <i>Georgia State Univ.</i> ; Howard, Ayanna <i>Georgia Institute of Technology</i> ; Vela, Patricio A. <i>Georgia Inst. of Technology</i>	
15:30-17:00	WeCT13.17
Combined Gait Asymmetry Metric	2165-2168
Ramakrishnan, Tyagi* <i>Univ. of South Florida</i> ; Muratagic, Haris <i>Univ. of South Florida</i> ; Reed, Kyle <i>Univ. of South Florida</i>	
15:30-17:00	WeCT13.18
Prediction of Posture-Dependent Tremor by the Calculation of the Endpoint Compliance	2169-2172
Murata, Takuya* <i>Hiroshima Univ.</i> ; Sakurada, Kouhei <i>Hiroshima Univ.</i> ; Tsuji, Toshio <i>Hiroshima Univ.</i> ; Kurita, Yuichi <i>Hiroshima Univ.</i>	
15:30-17:00	WeCT13.19
Generating Physically Realistic Kinematic and Dynamic Models from Small Data Sets: An Application for Sit-to-Stand Actions	2173-2178
Matthew, Robert, Peter* <i>UC Berkeley</i> ; Shia, Victor <i>Univ. of California-Berkeley</i> ; Venture, Gentiane <i>Tokyo Univ. of Agriculture and Technology</i> ; Bajcsy, Ruzena <i>UC Berkeley, CITRIS</i>	
15:30-17:00	WeCT13.20
A Unified Parameterization of Human Gait across Ambulation Modes	2179-2183
Embry, Kyle* <i>The Univ. of Texas at Dallas</i> ; Villarreal, Dario Jose <i>Univ. of Texas at Dallas</i> ; Gregg, Robert <i>Univ. of Texas at Dallas</i>	
15:30-17:00	WeCT13.21
Preliminary Statistical Assessment towards Characterization of Biobotic Control	2184-2187
Latif, Tahmid <i>North Carolina State Univ.</i> ; Yang, Meng <i>North Carolina State Univ.</i> ; Lobaton, Edgar <i>North Carolina State Univ.</i> ; Bozkurt, Alper* <i>North Carolina State Univ.</i>	
15:30-17:00	WeCT13.22
Multiple Regression based Imputation for Individualizing Template Human Model from a Small Number of Measured Dimensions	2188-2193
Nohara, Ryuki* <i>Tokyo Univ. of Science</i> ; Endo, Yui <i>National Institute of Advanced Industrial Science and Technology</i> ; Murai, Akihiko <i>National Institute of Advanced Industrial Science and Technology</i> ; Takemura, Hiroshi <i>Tokyo Univ. of Science</i> ; Kouchi, Makiko <i>National Institute of Advanced Industrial Science and Technology</i> ; Tada, Mitsunori <i>National Institute of Advanced Industrial Science and Technology</i>	
15:30-17:00	WeCT13.23
An Investigation of Animal and Human Bones for Predicting Probable Location of Fractures	2194-2197
Manarvi, Irfan Anjum* <i>Prince Sultan Univ.</i>	

15:30-17:00	WeCT13.24
Stability of the Permanently Bent Plates Used in Mandibular Reconstructive Surgery	2198-2201
Park, Si Myung <i>Korea Institute of Science and Technology</i> ; Lee, Deukhee <i>Korea Institute of Science and Technology</i> ; Lee, Jung-Woo <i>School of Dentistry, Kyung Hee Univ.</i> ; Kim, Youngjun <i>Korea Institute of Science and Technology</i> ; Kim, Laehyun <i>Korea Institute of Science and Technology</i> ; Noh, Gunwoo* <i>Korea Institute of Science and Technology</i>	
15:30-17:00	WeCT13.25
Inexpensive Bone Cement Substitute for Vertebral Cement Augmentation Training	2202-2205
Hollensteiner, Marianne* <i>Upper Austria Univ. of Applied Sciences</i> ; Samrykit, Markus <i>Univ. of Applied Sciences Upper Austria</i> ; Hess, Michael <i>Upper Austria Univ. of Applied Sciences</i> ; Fuerst, David <i>Upper Austria Univ. of Applied Sciences</i> ; Esterer, Benjamin <i>Univ. of Applied Sciences Upper Austria</i> ; Schrempf, Andreas <i>Upper Austria Univ. of Applied Sciences</i>	
15:30-17:00	WeCT13.26
Six-Axis Orthodontic Force and Moment Sensing System for Dentists Technique Training	2206-2209
Midoriakawa, Yoshiyuki* <i>Tokyo Univ. of Science</i> ; Takemura, Hiroshi <i>Tokyo Univ. of Science</i> ; Mizoguchi, Hiroshi <i>Tokyo Univ. of Science</i>	
15:30-17:00	WeCT13.27
Evaluation of a Variable Resistance Orthotic Knee Joint	2210-2213
Herbert-Copley, Andrew* <i>Ottawa Hospital Research Institute</i> ; Lemaire, Edward <i>The Ottawa Hospital Rehab Centre</i> ; Baddour, Natalie <i>Univ. of Ottawa</i>	
15:30-17:00	WeCT13.28
A Robotic Exoskeleton to Treat Crouch Gait from Cerebral Palsy: Initial Kinematic and Neuromuscular Evaluation	2214-2217
Lerner, Zachary* <i>National Institutes of Health, Clinical Center</i> ; Damiano, Diane <i>National Institutes of Health</i> ; Bulea, Thomas C. <i>National Institutes of Health</i>	
15:30-17:00	WeCT13.29
Knee Orthosis with Variable Stiffness and Damping that Simulates Hemiparetic Gait	2218-2221
Lahiff, Christina-Anne <i>Univ. of South Florida</i> ; Ramakrishnan, Tyagi <i>Univ. of South Florida</i> ; Kim, Seok Hun <i>Univ. of South Florida</i> ; Reed, Kyle* <i>Univ. of South Florida</i>	
15:30-17:00	WeCT13.30
A Self-Aligning Knee Joint for Walking Assistance Devices	2222-2227
Choi, ByungJune* <i>Samsung Advanced Institute of Technology</i> ; Lee, Younbaek <i>SAIT (Samsung Advanced Institute of Technology)</i> ; Kim, Jeonghun <i>SAIT (Samsung Advanced Institute of Technology)</i> ; Lee, Minhyung <i>Samsung Advanced Institute and Technology</i> ; Lee, Jongwon <i>Samsung Electronics Co., Ltd.</i> ; Roh, Se-gon <i>Samsung Advanced Institute of Technology, Samsung Electronics Co</i> ; Choi, Hyun Do <i>SAIT (Samsung Advanced Institute of Technology)</i> ; Kim, Yong-Jae <i>KOREATECH (Korea Univ. of Technology and Education)</i> ; Choi, Jung-yun <i>Samsung Advanced Institute of Technology</i>	
15:30-17:00	WeCT13.31
Design and Characterization of a Torque-Controllable Actuator for Knee Assistance during Sit-to-Stand ...	2228-2231
Shepherd, Max* <i>Northwestern Univ.</i> ; Rouse, Elliott <i>Northwestern Univ. / Rehab Institute of Chicago</i>	

WeCT14: 15:30-17:00	Fantasia M
Ignite_Theme 9_We1 (Ignite Session)	
Chair: Prakash, Punit <i>Kansas State Univ.</i>	

15:30-17:00	WeCT14.1
VHP-Female Full-Body Human CAD Model for Cross-Platform FEM Simulations – Recent Development and Validations	2232-2235
Tankaria, Harshal* <i>Worcester Polytechnic Inst.</i> ; Jackson, Xavier Jamel <i>Worcester Polytechnic Institute</i> ; Borwankar, Raunak <i>Worcester Polytechnic Inst.</i> ; Srichandhru, Goutham N. K. <i>Worcester Polytechnic Inst.</i> ; Tran, Anh Le <i>Worcester Polytechnic Institute</i> ; Yanamadala, Janakinadh <i>Worcester Polytechnic Institute</i> ; Noetscher, Gregory <i>Worcester Polytechnic Institute</i> ; Nazarian, Ara <i>Harvard Med School</i> ; Louie, Sara <i>ANSYS, Inc.</i> ; Makarov, Sergey <i>Electrical and Computer Engineering, Worcester Polytechnic Institute</i>	

15:30-17:00		WeCT14.2
Distinguishing Obstructive from Central Sleep Apneas and Hypopneas using Linear SVM and Acoustic Features		2236-2240
Hummel, Richard <i>BresoTec Inc.</i> ; Bradley, T. Douglas <i>Univ. of Toronto</i> ; Packer, Devin <i>BresoTec Inc.</i> ; Alshaer, Hisham* <i>Toronto Rehabilitation Inst, UHN</i>		
15:30-17:00		WeCT14.3
Measuring the Quality of Exercises		2241-2244
Parmar, Paritosh* <i>Univ. of Nevada, Las Vegas</i> ; Morris, Brendan <i>Univ. of Nevada, Las Vegas</i>		
15:30-17:00		WeCT14.4
Nonlinear Model Predictive Glycemic Control of Critically Ill Patients using Online Identification of Insulin Sensitivity		2245-2248
Wu, Sha* <i>Kyoto Univ.</i> ; Furutani, Eiko <i>Kyoto Univ.</i>		
15:30-17:00		WeCT14.5
An Elementary Model for Exploring the Pathogenesis of Depression		N/A
Fernando, D. A. Irosh P.* <i>Univ. of Newcastle</i>		
15:30-17:00		WeCT14.6
Discriminating Clinical Phases of Recovery from Major Depressive Disorder using the Dynamics of Facial Expression		2254-2257
Harati, Sahar* <i>Emory Univ.</i> ; Nemati, Shamim <i>Emory Univ. School of Medicine</i> ; Crowell, Andrea <i>Emory Univ.</i> ; Mayberg, Helen <i>Emory Univ.</i> ; Kong, Jun <i>Emory Univ.</i>		
15:30-17:00		WeCT14.7
A Machine Learning based Approach for Identifying Traumatic Brain Injury Patients for Whom a Head CT Scan can be Avoided		2258-2261
Molaei, Somayeh <i>Univ. of Michigan</i> ; Korley, Frederick K <i>Univ. of Michigan</i> ; Soroushmehr, S.M.Reza* <i>Univ. of Michigan, Ann Arbor</i> ; Falk, Hayley <i>John Hopkins Univ.</i> ; Sair, Haris <i>John Hopkins Univ.</i> ; Ward, Kevin <i>Univ. of Michigan</i> ; Najarian, Kayvan <i>Univ. of Michigan – Ann Arbor</i>		
15:30-17:00		WeCT14.8
Automated Social Skills Training with Audiovisual Information		2262-2265
Tanaka, Hiroki* <i>Nara Institute of Science and Technology</i> ; Sakriani, Sakti <i>Nara Institute of Science and Technology</i> ; Neubig, Graham <i>Nara Institute of Science and Technology</i> ; Negoro, Hideki <i>Nara Univ. of Education</i> ; Iwasaka, Hidemi <i>Nara Univ. of Education</i> ; Satoshi, Nakamura <i>Nara Institute of Science and Technology</i>		
15:30-17:00		WeCT14.9
Personalized Sleep Staging System using Evolutionary Algorithm and Symbolic Fusion		2266-2269
Chen, Chen* <i>Pierre and Marie Curie Univ.</i> ; Ugon, Adrien <i>LIP 6 – CNRS UMR 7606</i> ; Zhang, Xun <i>Institut supérieur d'électronique de Paris</i> ; Amara, Amara <i>Institut supérieur d'électronique de Paris</i> ; Garda, Patrick <i>UPMC</i> ; Ganascia, Jean-Gabriel <i>Pierre et Marie Curie Univ.-Paris6</i> ; Philippe, Carole <i>Hospital tenon</i> ; Pinna, Andrea <i>LIP6 UMR 7606, Univ. Pierre et Marie Curie, CNRS, Paris</i>		
15:30-17:00		WeCT14.10
Design of a Dual-Hormone Model Predictive Control for Artificial Pancreas with Exercise Model		2270-2273
Resalat, Navid <i>Oregon Health and Science Univ.</i> ; Reddy, Ravi <i>Oregon Health and Science Univ.</i> ; El Youssef, Joseph <i>Oregon Health and Science Univ.</i> ; Jacobs, Peter G.* <i>Oregon Health & Science Univ.</i>		
15:30-17:00		WeCT14.11
Evaluation of the Microsoft Kinect Skeletal Versus Depth Data Analysis for Timed-up and Go and Figure of 8 Walk Tests		2274-2277
Hotrabhavananda, Benjamin* <i>Univ. of Missouri – Columbia</i> ; Mishra, Anup Kumar <i>Univ. of Missouri, Columbia</i> ; Skubic, Marjorie <i>Univ. of Missouri</i> ; Hotrabhavananda, Nijaporn <i>Univ. of Missouri-Columbia</i> ; Abbott, Carmen <i>Univ. of Missouri</i>		
15:30-17:00		WeCT14.12
Design of an Intraoperative Peritoneal Lavage Device		2278-2281
Aguilera, Maria Ignacia <i>Univ. de Concepcion</i> ; Pino, Esteban J* <i>Univ. de Concepcion</i>		

15:30-17:00	WeCT14.13
Portable Forced Oscillation Device for Point-of-Care Pulmonary Function Testing	2282-2286
Cao, Jian* <i>Rice Univ.</i> ; Sabharwal, Ashutosh <i>Rice Univ.</i>	
15:30-17:00	WeCT14.14
Thorax Disease Diagnosis using Deep Convolutional Neural Network	2287-2290
Chen, Jie* <i>Univ. of Oulu</i> ; Qi, Xianbiao <i>Univ. of Oulu</i> ; Tervonen, Osmo <i>Univ. of Oulu</i> ; Silven, Olli <i>Univ. of Oulu</i> ; Zhao, Guoying <i>Univ. of Oulu</i> ; Pietikäinen, Matti <i>Univ. of Oulu</i>	
15:30-17:00	WeCT14.15
Establishment of a Measurement Method for In-Shoe Pressure and Shear Stress in Specific Regions for Diabetic Ulcer Prevention	2291-2294
Amemiya, Ayumi* <i>The Univ. of Tokyo</i> ; Noguchi, Hiroshi <i>The Univ. of Tokyo</i> ; Oe, Makoto <i>The Univ. of Tokyo</i> ; Sanada, Hiromi <i>The Univ. of Tokyo</i> ; Mori, Taketoshi <i>The Univ. of Tokyo</i>	
15:30-17:00	WeCT14.16
Improving Clinical Models based on Knowledge Extracted from Current Datasets: A New Approach	2295-2298
Mendes, Diana <i>Univ. de Coimbra</i> ; Paredes, Simao <i>Instituto Politécnico de Coimbra</i> ; Rocha, Teresa <i>Inst Superior de Eng de Coimbra</i> ; de Carvalho, Paulo* <i>Univ. of Coimbra – NIF</i> ; Henriques, Jorge <i>Univ. of Coimbra – NIF</i> ; Morais, João <i>Hospital de Santo André, Leiria</i>	
15:30-17:00	WeCT14.17
Quantitative Assessment of Arm Tremor in People with Neurological Disorders	2299-2302
Kim, Jeonghee* <i>Georgia Institute of Technology</i> ; Parnell, Claire <i>Georgia Institute of Technology, Biomedical Engineering</i> ; Wichmann, Thomas <i>Dept. Neurology, School of Medicine, Emory Univ.</i> ; DeWeerth, Steve <i>Georgia Institute of Technology</i>	
15:30-17:00	WeCT14.18
Gastric Mucosa Injury Quantification in an Ischemia – Reperfusion Experimental Model	2303-2306
Peña, Eduardo <i>Univ. Autonoma Metropolitana</i> ; Garcia-Lorenzana, Mario <i>Univ. Autonoma Metropolitana</i> ; Arechaga, Elena <i>Univ. Autonoma Metropolitana</i> ; Gonzalez, Claudia H. <i>Univ. Autonoma Metropolitana</i> ; Beltran, Nohra E.* <i>Univ. Autonoma Metropolitana</i>	
15:30-17:00	WeCT14.19
EEG Epoch Selection: Lack of Alpha Rhythm Improves Discrimination of Alzheimer's Disease	2307-2310
Fraga, Francisco J.* <i>Univ. Federal do ABC (UFABC)</i> ; Oliveira, Eliezyer F. <i>Univ. Federal do ABC (UFABC)</i> ; Kanda, Paulo A. M. <i>Neurophysiology and EEG Laboratory (NEUROVALE)</i>	
15:30-17:00	WeCT14.20
Measurement of Electrical Impedance in Different Ex-Vivo Tissues	2311-2314
Meroni, Davide* <i>Politecnico di Milano</i> ; Bovio, Dario <i>Politecnico di Milano</i> ; Frisoli, Pietro <i>Politecnico di Milano</i> ; Aliverti, Andrea <i>Politecnico di Milano</i>	
15:30-17:00	WeCT14.21
Perspective Imaging of Flow in Arterial Model Obtained with Continuous Wave Doppler Focusing Technique	2315-2318
Nagaoka, Ryo <i>Tohoku Univ.</i> ; Sasaki, Katsuhiro <i>Finggal Link Co. Ltd.</i> ; Zama, Seiichi <i>Finggal Link Co. Ltd.</i> ; Nagone, Masaaki <i>Finggal Link Co. Ltd.</i> ; Nagai, Hiroshi <i>New Generation Imaging Laboratory</i> ; Takeuchi, Yasuhito <i>Asahikawa Medical Univ.</i> ; Saijo, Yoshifumi* <i>Tohoku Univ.</i>	
15:30-17:00	WeCT14.22
Analysis of Causal Cardio-Postural Interaction under Orthostatic Stress using Convergent Cross Mapping	2319-2322
Verma, Ajay Kumar <i>Univ. of North Dakota</i> ; Garg, Amanmeet <i>Simon Fraser Univ.</i> ; Blaber, Andrew Philip <i>Simon Fraser Univ.</i> ; Fazel-Rezai, Reza <i>Univ. of North Dakota</i> ; Tavakolian, Kouhyar* <i>Assistant Professor</i>	

15:30-17:00	WeCT14.23
The Letter and Shape Drawing (LSD) Test: An Efficient and Systematised Approach to Testing of Visuospatial Function	2323-2326
Tenório, Michael* <i>Univ. of Limerick</i> ; Williams, Olugbenga <i>Univ. of Limerick</i> ; Leonard, Maeve <i>Midwestern Regional Hospital and Milford Hospice Palliative Care</i> ; White, Debbie <i>Univ. of Limerick</i> ; Mckenna, Frank <i>Univ. of Limerick</i> ; Dunne, Colum <i>Univ. of Limerick</i> ; Meagher, David <i>Midwestern Regional Hospital and Milford Hospice Palliative Care</i> ; Exton, Chris <i>Univ. of Limerick</i>	
15:30-17:00	WeCT14.24
Feasibility Study of a Giant Magneto-Resistance based Respiration Rate Monitor	2327-2330
Chugh, Vinit <i>IIT Kharagpur</i> ; Kalyan, Kubera <i>IIT Kharagpur</i> ; Chandrika Sreekantan, Anoop* <i>Indian Institute of Technology Kharagpur</i>	
15:30-17:00	WeCT14.25
Blood Viscosity Monitoring during Cardiopulmonary Bypass based on Pressure-Flow Characteristics of a Newtonian Fluid	2331-2334
Okahara, Shigeyuki* <i>Graduate School of Engineering, Hiroshima Univ.</i> ; Soh, Zu <i>Dept. of System Cybernetics, Institute of Engineering, Hiro</i> ; Takahashi, Shinya <i>Dept. of Cardiovascular Surgery, Hiroshima Univ. Hospital</i> ; Sueda, Taijiro <i>Dept. of Cardiovascular Surgery, Hiroshima Univ. Hospital</i> ; Tsuji, Toshio <i>Hiroshima Univ.</i>	
15:30-17:00	WeCT14.26
Analysis and Experimental Simulation of Blood Pressure Signal Distortions Observed on Intensive Care Patients Monitored by a Catheter in Radial Artery	2335-2338
Noury, Norbert* <i>Univ. Lyon 1</i> ; Guigue, Lisa <i>Univ. of Grenoble</i> ; Lavault, Yves <i>Univ. Joseph Fourier</i> ; Lavault, Carole <i>All SAS, Grenoble, France</i> ; Boucher, Francois <i>Univ. Grenoble Alpes, TIMC – IMAG</i> ; Grimbert, Francis <i>Grenoble Univ. Hospital</i>	
15:30-17:00	WeCT14.27
A Novel Portable, Low-Cost Kinect-Based System for Motion Analysis in Neurological Diseases	2339-2342
Cunha, Joao Paulo Silva* <i>INESC TEC, PT</i> ; Rocha, Ana Patrícia <i>Univ. of Aveiro</i> ; Choupina, Hugo <i>Univ. of Porto</i> ; Fernandes, José Maria <i>Univ. of Aveiro (PT 501461108)</i> ; Rosas, Maria José S. <i>João Univ. Hospital</i> ; Vaz, Rui S. <i>João Univ. Hospital</i> ; Achilles, Felix <i>Technische Univ. München</i> ; Loesch, Anna Mira <i>Epilepsy Center, Dept. of Neurology, Univ. of Munich</i> ; Vollmar, Christian <i>Epilepsy Center, Dept. of Neurology, Univ. of Munich</i> ; Hartl, Elisabeth <i>Epilepsy Center, Dept. of Neurology, Univ. of Munich</i> ; Noachtar, Soheyl <i>Epilepsy Center, Dept. of Neurology, Univ. of Munich</i>	
15:30-17:00	WeCT14.28
Validity of the Small Swine Model for Human Electrical Safety Risks	2343-2348
Brave, Michael <i>LAAW International, LLC, Scottsdale, AZ</i> ; Lakkireddy, Dhanunjaya <i>Univ. of Kansas Hospitals</i> ; Kroll, Mark <i>Univ. of Minnesota</i> ; Panescu, Dorin* <i>Advanced Cardiac Therapeutics</i>	
15:30-17:00	WeCT14.29
Noninvasive Health Condition Monitoring Device for Workers at High Altitudes Conditions	2349-2352
Aqueveque, Pablo* <i>Univ. of Concepcion</i> ; Gutierrez, Christopher <i>Univ. of Concepcion</i> ; Pino, Esteban J <i>Univ. de Concepcion</i> ; Saavedra, Francisco <i>Univ. of Concepcion</i>	
15:30-17:00	WeCT14.30
Multi-Layer Low Frequency Tissue Equivalent Phantoms for Noninvasive Test of Shallow Implants and Evaluating Antenna-Body Interaction	2353-2356
Fomundam, Lawrence* <i>Univ. of Florida</i> ; Lin, Jenshan <i>Univ. of Florida</i>	
15:30-17:00	WeCT14.31
First Steps to Creating a Platform for High Throughput Simulation of TTFields	2357-2360
Bomzon, Ze'ev* <i>Novocure</i> ; Hershkovich, Hadas Sara <i>Novocure Ltd., Haifa, Israel</i> ; Wenger, Cornelia <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Urman, Noa <i>Novocure</i> ; Chaudhry, Aafia <i>Novocure, New York</i> ; Garcia-Caracedo, Dario <i>Novocure, New York</i> ; Kirson, Eilon David <i>Novocure</i> ; Weinberg, Uri <i>Novocure</i> ; Wassermann, Yoram <i>Novocure Ltd., Haifa, Israel</i> ; Palti, Yoram <i>Novocure</i>	

15:30-17:00 WeCT14.32
High Dielectric Material in MRI: Numerical Assessment of the Reduction of the Induced Local Power on Implanted Cardiac Leads 2361-2364
 Mattei, Eugenio *Italian National Institute of Health*; Lucano, Elena* *Univ. of Rome "Sapienza"*; Censi, Federica *Italian National Institute of Health*; Angelone, Leonardo M. *US Food and Drug Administration, Center for Devices and Radiology*; Calcagnini, Giovanni *Italian National Institute of Health*

15:30-17:00 WeCT14.33
A Daytime Obstructive Sleep Apnea Severity Assessment Framework 2365-2369
 Samy, Lauren* *Univ. of California, Los Angeles*; Macey, Paul M. *Univ. of California, Los Angeles*; Sarrafzadeh, Majid *Univ. of California, Los Angeles*

WeCT15: 15:30-17:00 Ignite_Theme 10_We1 (Ignite Session) Chair: Sun, Ye <i>Michigan Technological Univ.</i>	Atlantic A
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15:30-17:00 WeCT15.1
An Adaptive Approach for Heartbeat Detection based on S-Transform in Seismocardiograms 2370-2373
 Jafari Tadi, Mojtaba* *Univ. of Turku*; Lehtonen, Eero Lennart *Univ. of Turku*; Lahdenoja, Olli *Technology Research Center, Univ. of Turku*; Pänkäälä, Mikko *Technology Research Center, Univ. of Turku*; Koivisto, Tero *Univ. of Turku*

15:30-17:00 WeCT15.2
Development of an Earlobe Crease Identification System to Support Diagnosis of Arteriosclerosis 2374-2377
 Hirano, Harutoyo* *Shizuoka Univ.*; Katsumata, Ryosuke *Shizuoka Univ.*; Futagawa, Masato *Shizuoka Univ.*; Tsuji, Toshio *Hiroshima Univ.*; Kishimoto, Shinji *Hiroshima Univ.*; Oda, Nozomu *Hiroshima Univ.*; Kajikawa, Masato *Univ.*; Maruhashi, Tatsuya *Hiroshima Univ.*; Higashi, Yukihito *Hiroshima Univ.*

15:30-17:00 WeCT15.3
Extraction of the Brachialis Muscle Activity using HD-Semg Technique and Canonical Correlation Analysis 2378-2381
 Al Harrach, Mariam* *UTC*; Afsharipour, Babak *Northwestern Univ.*; Boudaoud, Sofiane *Univ. of Technology of Compiègne (UTC)*; Carriou, Vincent *UTC*; Marin, Frédéric *Univ. de Technologie de Compiègne*; Merletti, Roberto *Politecnico di Torino*

15:30-17:00 WeCT15.4
Acoustic Emission and Angular Movement Variations from Early Adulthood Healthy Knees to Late Adulthood Osteoarthritic Knees 2382-2385
 Shark, Lik-Kwan *Applied Digital Signal and Image Processing Research Centre, Uni*; Chen, Hongzhi *Iron and Steel Research Institute Group*; Quan, Wei* *Applied Digital Signal and Image Processing Research Centre, Uni*; Goodacre, John *Lancaster Health Hub, Faculty of Health and Medicine Lancaster U*

15:30-17:00 WeCT15.5
Missing RRI Interpolation for HRV Analysis using Locally-Weighted Partial Least Squares Regression 2386-2389
 Kamata, Keisuke *Kyoto Univ.*; Fujiwara, Koichi* *Kyoto Univ.*; Yamakawa, Toshitaka *Kumamoto Univ.*; Kano, Manabu *Kyoto Univ.*

15:30-17:00 WeCT15.6
Mechanism for Safe Remote Activation of Networked Surgical and PoC Devices using Dynamic Assignable Controls 2390-2394
 Kasparick, Martin* *Univ. of Rostock*; Rockstroh, Max *Univ. Leipzig*; Schlichting, Stefan *Drägerwerk AG & Co. KGaA*; Gólatowski, Frank *Univ. of Rostock*; Timmermann, Dirk *Univ. of Rostock*

15:30-17:00 WeCT15.7
3D Limb Movement Tracking and Analysis for Neurological Dysfunctions of Neonates using Multi-Camera Videos 2395-2398
 Gu, Irene Y.H.* *Chalmers Univ. of Technology*; Sowulewski, Grzegorz *Chalmers Univ. of Technology*; Yun, Yixiao *Chalmers Univ. of Technology*; Flisberg, Anders *Göteborg Univ.*; Thordstein, Magnus *Unit of Clinical Neurophysiology, Sahlgrenska Univ. Hospita*

15:30-17:00		WeCT15.8
Automated Segmentation and Classification of Cell Nuclei in Immunohistochemical Breast Cancer Images with Estrogen Receptor Marker	2399-2402	
Oscanoa, Julio* <i>Pontificia Univ. Católica del Perú</i> ; Doimi, Franco <i>Oncosalud-Auna</i> ; Dyer, Richard <i>Oncosalud-Auna</i> ; Araujo, Jhahaira <i>Oncosalud-Auna</i> ; Pinto, Joseph <i>Oncosalud</i> ; Castañeda, Benjamín <i>Pontificia Univ. Católica del Perú</i>		
15:30-17:00		WeCT15.9
Automated Tracking, Segmentation and Trajectory Classification of Pelvic Organs on Dynamic MRI	2403-2406	
Nekooimehr, Iman <i>Univ. of South Florida</i> ; Lai-Yuen, Susana* <i>Univ. of South Florida</i> ; Bao, Paul <i>Univ. of South Florida</i> ; Weitzenfeld, Alfredo <i>Univ. of South Florida</i> ; Hart, Stuart <i>Univ. of South Florida</i>		
15:30-17:00		WeCT15.10
Classification and Visualization Tool for Gait Analysis of Parkinson's Disease	2407-2410	
Pun, U Kit* <i>New York Institute of Technology</i> ; Gu, Huanying <i>New York Institute of Technology</i> ; Dong, Ziqian <i>New York Institute of Technology</i> ; Artan, Nabi Sertac <i>New York Institute of Technology</i>		
15:30-17:00		WeCT15.11
Occurrence of Elevated Shock Index in Acute Patients and Development of a Proportional Shock Index Metric	2411-2414	
Schmidt, Thomas* <i>Univ. of Southern Denmark</i> ; Lassen, Annmarie <i>Odense Univ. Hospital</i> ; Wiil, Uffe Kock <i>Univ. of Southern Denmark</i>		
15:30-17:00		WeCT15.12
Identification of Blood Biomarkers for Novel Point of Care Diagnosis Tools for Alzheimer's Disease	2415-2418	
Jammeh, Emmanuel* <i>Plymouth Univ., School of Computing and Mathematics</i> ; Ifeachor, Emmanuel <i>Univ. of Plymouth</i> ; Zhao, Peng <i>Plymouth Univ.</i>		
15:30-17:00		WeCT15.13
Risk Prediction for Cardiovascular Disease using ECG Data in the China Kadoorie Biobank	2419-2422	
Shen, Yanting <i>Univ. of Oxford</i> ; Yang, Yang <i>Univ. of Oxford</i> ; Parish, Sarah <i>Univ. of Oxford</i> ; Chen, Zhengming <i>Univ. of Oxford</i> ; Clarke, Robert <i>Univ. of Oxford</i> ; Clifton, David* <i>Univ. of Oxford</i>		
15:30-17:00		WeCT15.14
A Machine Learning Framework for Auto Classification of Imaging System Exams in Hospital Setting for Utilization Optimization	2423-2426	
Patil, Meru* <i>Philips India Limited</i> ; Balasheb Patil, Ravindra <i>Philips Research India</i> ; Palanisamy, Krishnamoorthy <i>Philips India Limited</i> ; John, Jacob <i>Philips India Ltd.</i>		
15:30-17:00		WeCT15.15
Differentiating Facial Incongruity and Flatness in Schizophrenia, using Structured Light Camera Data ..	2427-2430	
Tron, Talia* <i>Hebrew Univ. of Jerusalem, ELSC</i> ; Peled, Abraham <i>Technion</i> ; Grinshpoon, Alexander <i>Sha'ar Menashe Mental Health Center, Sha'ar Menashe, Rappaport</i> ; Weinshall, Daphna <i>Hebrew Univ. of Jerusalem</i>		
15:30-17:00		WeCT15.16
How Many Sleep Stages Do We Need for an Efficient Automatic Insomnia Diagnosis?	2431-2434	
Tmar-Ben Hamida, Sana* <i>Texas A&M Univ. at Qatar</i> ; Glos, Martin <i>Charite-Univ. Berlin</i> ; Penzel, Thomas <i>Charite Univ. Hospital</i> ; Ahmed, Beena <i>Texas A&M Univ. at Qatar</i>		
15:30-17:00		WeCT15.17
Detection of Mitotic Nuclei in Breast Histopathology Images using Localized ACM and Random Kitchen Sink based Classifier	2435-2439	
Sabeena Beevi, K* <i>TKM College of Engineering, Kollam</i> ; Nair, Madhu <i>Univ. of Kerala</i> ; Bindu, G R <i>College of Engineering, Trivandrum</i>		
15:30-17:00		WeCT15.18
Pan-Cancer Analysis for Studying Cancer Stage using Protein and Gene Expression Data	2440-2443	
Mishra, Sameer* <i>Georgia Institute of Technology</i> ; Kaddi, Chanchala D. <i>Georgia Institute of Technology</i> ; Wang, May D. <i>Georgia Tech and Emory Univ.</i>		

15:30-17:00		WeCT15.19
Random Forests to Predict Tumor Recurrence Following Cervical Cancer Therapy using Pre and Post-Treatment 18F-FDG PET Parameters	2444-2447	
Roman-Jimenez, Geoffrey <i>LTSI, INSERM, U1099, Univ. of Rennes 1, Rennes, F-35000, Fra</i> ; Acosta, Oscar <i>Univ. of Rennes 1</i> ; Leseur, Julie <i>Département of Radiothérapie, Centre Eugène Marquis, Rennes, F-3</i> ; Devillers, Anne <i>Département of Radiothérapie, Centre Eugène Marquis, Rennes, F-3</i> ; Der Sarkissian, Henri <i>Keosys Medical Imaging, Saint-Herblain, F-44815</i> ; Grossiord, Éloïse <i>Univ. Paris-Est</i> ; Ospina, Juan David <i>LTSI – Univ. of Rennes 1</i> ; De Crevoisier, Renaud <i>INSERM, U1099, Rennes, F-35000, France – Univ. de Rennes 1</i> ; Guzman Medina, Lina Maria* <i>Univ. Nacional de Colombia</i>		
15:30-17:00		WeCT15.20
A Comparison of Multimodal Biomarkers for Fibrosis Assessment in Chronic Hepatitis B using Recursive Feature Elimination	2448-2451	
Bai, Yanru <i>Nanyang Technological Univ.</i> ; Chen, Xin <i>Shenzhen Univ.</i> ; Dong, Changfeng <i>Shenzhen Third People's Hospital</i> ; Liu, Yingxia <i>Shenzhen Third People's Hospital</i> ; Zhang, Zhiguo* <i>Sun Yat-sen Univ.</i>		
15:30-17:00		WeCT15.21
Towards Sophisticated Learning from EHR: Increasing Prediction Specificity and Accuracy using Clinically Meaningful Risk Criteria	2452-2455	
Vasiljeva, Ieva <i>Univ. of St Andrews</i> ; Arandjelovic, Ognjen* <i>Univ. of St Andrews</i>		
15:30-17:00		WeCT15.22
Reconfigurable Hardware-Software Codesign Methodology for Protein Identification	2456-2459	
Gudur, Venkateshwarlu Yellaswamy <i>Indian Institute of Technology, Hyderabad</i> ; Thallada, Sandeep <i>IIT Hyderabad</i> ; Deevi, Abhinay <i>IIT Hyderabad</i> ; Gande, Venkat Krishna <i>IIT Hyderabad</i> ; Acharyya, Amit* <i>Indian Institute of Technology Hyderabad</i> ; Sharma, Paresh <i>NIAB Hyderabad</i> ; Bhandari, Vasundhara <i>UOH Hyderabad</i> ; Khursheed, Saqib <i>Univ. of Liverpool</i> ; Naik, Ganesh R <i>Univ. of Technology Sydney</i>		
15:30-17:00		WeCT15.23
Using Constrained Information Entropy to Detect Rare Adverse Drug Reactions from Medical Forums	2460-2463	
Zheng, Yi* <i>Univ. of Technology, Sydney</i> ; Lan, Chaowang <i>Univ. of Technology, Sydney</i> ; Peng, Hui <i>Univ. of Technology, Sydney</i> ; Li, Jinyan <i>Univ. of Technology Sydney (UTS), Australia</i>		
15:30-17:00		WeCT15.24
Prediction using Patient Comparison vs. Modeling: A Case Study for Mortality Prediction	2464-2467	
Hoogendoorn, Mark* <i>VU Univ. Amsterdam</i> ; el Hassouni, Ali <i>VU Univ. Amsterdam</i> ; Mok, Kwongyen <i>VU Univ. Amsterdam</i> ; Ghassemi, Marzyeh <i>Massachusetts Institute of Technology</i> ; Szolovits, Peter <i>Massachusetts Institute of Technology</i>		
15:30-17:00		WeCT15.25
Spatial-Temporal Forensic Analysis of Mass Casualty Incidents using Video Sequences	2468-2470	
Dong, Hao* <i>Univ. of Massachusetts Amherst</i> ; Yin, Juechen <i>Univ. of Massachusetts, Amherst</i> ; Schafer, James <i>Univ. of Massachusetts Amherst</i> ; Ganz, Aura <i>Univ. of Massachusetts, Amherst</i>		
15:30-17:00		WeCT15.26
Identification of Promising Research Directions using Machine Learning Aided Medical Literature Analysis	2471-2474	
Andrei, Victor <i>Univ. of St Andrews</i> ; Arandjelovic, Ognjen* <i>Univ. of St Andrews</i>		
15:30-17:00		WeCT15.27
Seasonal Weight Variation Patterns in Seven Countries Located in Northern and Southern Hemispheres	2475-2478	
Mehrang, Saeed* <i>Tampere Univ. of Technology</i> ; Helander, Elina <i>Tampere Univ. of Technology</i> ; Chieh, Angela <i>Withings</i> ; Korhonen, Ilkka <i>Tampere Univ. of Technology</i>		
15:30-17:00		WeCT15.28
Stratified Locality-Sensitive Hashing for Accelerated Physiological Time Series Retrieval	2479-2483	
Kim, Yongwook Bryce* <i>Massachusetts Institute of Technology</i> ; Hemberg, Erik <i>MIT</i> ; O'Reilly, Una-May <i>Massachusetts Institute of Technology</i>		

15:30-17:00 WeCT15.29
Sensor Data Quality Processing for Vital Signs with Opportunistic Ambient Sensing 2484-2487
 Sadek, Ibrahim* *Image and Pervasive Access Lab*; Biswas, Jit *Institute for Infocomm Research*; Zhu, Yongwei *Institute for Infocomm Research, Agency for Science, Technology*; Zhang, Haihong *Institute for Infocomm Research*; Maniyeri, Jayachandran *Institute for Infocomm Research*; Chen, Zhihao *Institute for Infocomm Research*; Teo, Ju Teng *Institute for Infocomm Research*; Ng, Soon Huat *Institute for Infocomm Research*; Mokhtari, Mounir *Institut Telecom France*

15:30-17:00 WeCT15.30
Arguing Effectiveness of Biomedical Signal Acquisition Devices using Colored Petri Nets Models and Assurance Cases in GSN: An ECG Case Study 2488-2491
 Sobrinho, Alvaro* *Federal Univ. of Campina Grande*; Cunha, Paulo *Federal Institute of Alagoas*; Silva, Leandro *Federal Univ. of Alagoas*; Perkusich, Angelo *Federal Univ. of Campina Grande*; Cordeiro, Thiago *Federal Univ. of Alagoas*; Brito Milanes Segundo, Jarbas *Anhembi Morumbi Univ.*

15:30-17:00 WeCT15.31
The Effects of Perceived USB-Delay for Sensor and Embedded System Development 2492-2495
 Du, Jiaying* *Mälardalen Univ.*; Kade, Daniel *Mälardalen Univ.*; Gerdtman, Christer *Motion Control i Västerås AB*; Özcan, Oguzhan *Ko c Univ.*; Lindén, Maria *Malardalen Univ.*

15:30-17:00 WeCT15.32
Data Hiding in Homomorphically Encrypted Medical Images for Verifying Their Reliability in Both Encrypted and Spatial Domains 2496-2499
 Bouslimi, Dalel *Telecom Bretagne*; Bellafqira, Reda *Institut Mines-Telecom; Telecom Bretagne*; Coatrieux, Gouenou* *Institut Telecom – Telecom Bretagne – Inserm*

15:30-17:00 WeCT15.33
A Data Model to Support the Evaluation of Coordinating Care EU Programmes in the Context of the ACT Programme 2500-2503
 Natsiavas, Pantelis *Aristotle Univ. of Thessaloniki*; Filos, Dimitrios *Aristotle Univ. o Thessaloniki*; Chouvarda, Ioanna *Aristotle Univ.*; Maramis, Christos *Aristotle Univ. of Thessaloniki*; van der Heijden, Remco *Philips Research Laboratories, Eindhoven*; Schonenberg, Helen *Philips Research Laboratories, Eindhoven*; Pauws, Stephen *Philips Research Laboratories, Eindhoven*; Bescos, Cristina *Philips Healthcare*; Maglaveras, Nikolaos* *Aristotle Univ. of Thessaloniki*

15:30-17:00 WeCT15.34
Automated Ongoing Data Validation and Quality Control of Multi-Institutional Studies 2504-2507
 Kanbar, Lara* *McGill Univ.*; Shalish, Wissam *McGill Univ.*; Precup, Doina *McGill Univ.*; Brown, Karen *McGill Univ.*; Sant'Anna, Guilherme Mendes *McGill Univ.*; Kearney, Robert Edward *McGill Univ.*

WeCT16: 15:30-17:00 Atlantic B
Ignite_Theme 10_We2 (Ignite Session)
Chair: He, Zhe *Florida State Univ.*

15:30-17:00 WeCT16.1
Sparse Shape Model for Fibular Transfer Planning in Mandibular Reconstruction 2508-2511
 Kawasaki, Riho* *Kyoto Univ.*; Nakao, Megumi *Kyoto Univ.*; Imai, Yuichiro *Rakuwakai Otowa Hospital, Kyoto*; Ueda, Nobuhiro *Nara Medical Univ.*; Hatanaka, Toshihide *Nara Medical Univ.*; Shiba, Mao *Nara Medical Univ. Hospital*; Kirita, Tadaaki *Nara Medical Univ.*; Matsuda, Tetsuya *Kyoto Univ.*

15:30-17:00 WeCT16.2
Automatic Segmentation and User-Friendly Software Techniques for Virtual Surgical Planning of Mandibular Reconstruction 2512-2515
 Kim, Youngjun *Korea Institute of Science and Technology*; Kim, Sunhee *Korea Institute of Science and Technology*; Kim, Hannah *Korea Institute of Science and Technology*; Cho, Hyunchul *Korea Institute of Science and Technology*; Lee, Deukhee* *Korea Institute of Science and Technology*; Kim, Laehyun *Korea Institute of Science and Technology*; Park, Sehyung *Korea Institute of Science and Technology*; Lee, Jung-Woo *School of Dentistry, Kyung Hee Univ.*

15:30-17:00		WeCT16.3
A Statistical Model for Stroke Outcome Prediction and Treatment Planning	2516-2519	
Sengupta, Abhishek <i>XEROX Research Centre India</i> ; Rajan, Vaibhav* <i>XEROX Research Centre India</i> ; Bhattacharya, Sakyajit <i>XEROX Research Centre India</i> ; Sarma, GRK <i>St Johns Medical College Hospital</i>		
15:30-17:00		WeCT16.4
Clinical Decision Support System for Patient Specific Outcome Prediction in Intensive Care Units	2520-2524	
Jalali, Ali* <i>Villanova Univ.</i> ; Bender, Dieter <i>Villanova Univ.</i> ; Rehman, Mohamed <i>The Children's Hospital of Philadelphia</i> ; Nadkarni, Vinay <i>Children's Hospital of Philadelphia</i> ; Nataraj, C. <i>Villanova Univ.</i>		
15:30-17:00		WeCT16.5
A Novel Algorithm for Reducing False Arrhythmia Alarms in Intensive Care Units	2525-2528	
Srivastava, Chandan <i>Univ. Rovira i Virgili, Tarragona, Spain</i> ; Sharma, Sonal <i>Prime Technology Group, LLC</i> ; Jalali, Ali* <i>Villanova Univ.</i>		
15:30-17:00		WeCT16.6
Visualizing Patient Journals by Combining Vital Signs Monitoring and Natural Language Processing ...	2529-2532	
Vilic, Adnan* <i>Technical Univ. of Denmark</i> ; Petersen, Asger <i>Bispebjerg Hospital</i> ; Hoppe, Karsten <i>DELTA</i> ; Sorensen, Helge B D <i>Technical Univ. of Denmark</i>		
15:30-17:00		WeCT16.7
Using I2b2 to Bootstrap Rural Health Analytics and Learning Networks	2533-2536	
Harris, Daniel* <i>Univ. of Kentucky, Center for Clinical and Translational Sc</i> ; Baus, Adam <i>West Virginia Univ.</i> ; Harper, Tamela <i>Univ. of Kentucky, Center for Clinical and Translational Sc</i> ; Jarrett, Traci <i>West Virginia Univ.</i> ; Pollard, Cecil <i>West Virginia Univ.</i> ; Talbert, Jeffrey <i>Univ. of Kentucky, Center for Clinical and Translational Sc</i>		
15:30-17:00		WeCT16.8
An End to End Secure CBIR Over Encrypted Medical Database	2537-2540	
Bellafqira, Reda <i>Institut Mines-Telecom; Telecom Bretagne</i> ; Coatrieux, Gouenou* <i>Institut Telecom – Telecom Bretagne – Inserm</i> ; Bouslimi, Dalel <i>Telecom Bretagne</i> ; Quellec, Gwenole <i>Inserm</i>		
15:30-17:00		WeCT16.9
Secure Access to Patient's Health Records using SpeechXRays a Mutli-Channel Biometrics Platform for User Authentication	2541-2544	
Spanakis, Emmanouil G.* <i>Foundation for Research and Technology – Hellas (FORTH)</i> ; Spanakis, Marios <i>Post Doc</i> ; Karantanas, Apostolos <i>Radiology, Univ. of Crete, Chairman, Dept. of Medical</i> ; Marias, Kostas <i>Foundation for Res. & Tech. Hellas</i>		
15:30-17:00		WeCT16.10
AMP: A Platform for Managing and Mining Data in the Treatment of Autism Spectrum Disorder	2545-2549	
Linstead, Erik* <i>Chapman Univ.</i> ; Burns, Ryan <i>Chapman Univ.</i> ; Nguyen, Duy <i>Chapman Univ.</i> ; Tyler, David <i>Chapman Univ.</i>		
15:30-17:00		WeCT16.11
Representativeness Comparisons of Nurse and Computer Charting of Heart Rate across Nursing-Intensity Protocols	2550-2553	
Luna, Jorge* <i>NYP</i> ; Yip, Natalie <i>Columbia Univ. Medical Center</i> ; Pivovarov, Rimma <i>New York Presbyterian</i> ; Vawdrey, David <i>New York Presbyterian</i>		
15:30-17:00		WeCT16.12
Deformable Resection Process Map for Intraoperative Cutting Guides	2554-2557	
Nakao, Megumi* <i>Kyoto Univ.</i> ; Taura, Kojiro <i>Kyoto Univ.</i> ; Matsuda, Tetsuya <i>Kyoto Univ.</i>		
15:30-17:00		WeCT16.13
Advanced Inside-Out Tracking Approach for Real-Time Combination of MRI and US Images in the Radio-Frequency Shielded Room using Combination Markers	2558-2561	
Nagaraj, Yeshaswini* <i>Technical Univ. munich</i> ; Bendicks, Christian <i>Otto-von-Guericke Univ. Magdeburg</i> ; Matthies, Philipp <i>Technische Univ. München</i> ; Friebe, Michael <i>Otto-von-Guericke-Univ.</i>		

15:30-17:00	WeCT16.14
Study of Functional Brain Regional Homogeneity in Female Patients with Major Depressive Disorder	2562-2565
<i>Zhang, Xiaoliu Shanghai Jiao Tong Univ., School of Biomedical Engineering; Tang, Yingying Shanghai Mental Health Center, Shanghai Jiao Tong Univ. Scho; Zhu, Yajing School of Biomedical Engineering and Med-X Research Institute, S; Li, Yao Shanghai Jiao Tong Univ.; Tong, Shanbao* Shanghai Jiao Tong Univ.</i>	
15:30-17:00	WeCT16.15
Dental Plaque Assessment Lifelogging System using Commercial Camera for Oral Healthcare	2566-2569
<i>Kasai, Mai* Tokyo Univ. of Science; Iijima, Yuka Tokyo Univ. of Science; Takemura, Hiroshi Tokyo Univ. of Science; Mizoguchi, Hiroshi Tokyo Univ. of Science; Ohshima, Tomoko Tsurumi Univ. School of Dental Medicine; Satomi, Naho Tsurumi Univ. School of Dental Medicine</i>	
15:30-17:00	WeCT16.16
Noninvasive Simultaneous Measurement of Blood Pressure and Blood Flow Velocity for Hemodynamic Analysis	2570-2573
<i>Kato, Yuki* Osaka Univ.; Yoshimoto, Shunsuke Osaka Univ.; Kuroda, Yoshihiro Osaka Univ.; Imura, Masataka Kwansai Gakuin Univ.; Yamashita, Shingo OMRON Healthcare Co., Ltd; Ogura, Toshihiko Omron Healthcare Co., Ltd; Oshiro, Osamu Osaka Univ.</i>	
15:30-17:00	WeCT16.17
Design and Development of an AAC App based on a Speech-to-Symbol Technology	2574-2577
<i>Radici, Elena* Georgia Regents Univ.; Bonacina, Stefano Karolinska Institutet; De Leo, Gianluca Georgia Regents Univ.</i>	
15:30-17:00	WeCT16.18
A Stochastic Framework for Spot-Scanning Particle Therapy	2578-2581
<i>Robini, Marc* CNRS UMR5220, INSERM U1206; Zhu, Yuemin CNRS; Liu, Wanyu Harbin Institute of Technology; Magnin, Isabelle INSA</i>	
15:30-17:00	WeCT16.19
Anticoagulation Manager: Development of a Clinical Decision Support Mobile Application for Management of Anticoagulants	2582-2585
<i>Cheng, Chihwen Georgia Institute of Technology; Wu, Hang* Georgia Institute of Technology; Pamela, Thompson Centers for Disease Control and Prevention; Taylor, Julie Centers for Disease Control and Prevention; Zehnbauser, Barbara Centers for Disease Control and Prevention; Wilson, Karlyn Centers for Disease Control and Prevention; Wang, May D. Georgia Tech and Emory Univ.</i>	
15:30-17:00	WeCT16.20
An Intelligent Assistant for Physicians	2586-2589
<i>Gavrilis, Dimitris* Dept. of Electrical Engineering and Computer Technology, Un; Georgoulas, George TEI of Epirus; Vasiloglou, Nikolaos Ismion Inc.; Nikolakopoulos, George Luleå Univ. of Technology</i>	
15:30-17:00	WeCT16.21
Distance Metric Learning using Random Forest for Cytometry Data	2590-2593
<i>Baran Pouyan, Mazyar Univ. of Texas at Dallas; Birjandtalab, Javad Univ. of Texas at Dallas; Nourani, Mehrdad* Univ. of Texas at Dallas</i>	
15:30-17:00	WeCT16.22
Optimal Decision Support Rules Improve Personalize Warfarin Treatment Outcomes	2594-2597
<i>Chi, Chih-Lin Univ. of Minnesota; Ravvaz, Kourosh Aurora Health Care; Weissert, John Univ. of Wisconsin of Milwaukee; Tonellato, Peter* Harvard Medical School and Brigham and Women's Hospital; Univ.</i>	
15:30-17:00	WeCT16.23
An Empirical Study on the Effect of Imbalanced Data on Bleeding Detection in Endoscopic Video	2598-2601
<i>Deeba, Farah Dept. of Electrical and Computer Engineering, Univ. of; Mohammed, Shahed Khan Univ. of Saskatchewan; Bui, Francis Minhthang Univ. of Saskatchewan; Wahid, Khan A.* Univ. of Saskatchewan</i>	
15:30-17:00	WeCT16.24
The Effects of Deep Network Topology on Mortality Prediction	2602-2605
<i>Du, Hao Nanyang Technology Univ.; Ghassemi, Mohammad* Massachusetts Institute of Technology; Feng, Mengling Massachusetts Institute of Technology</i>	

15:30-17:00	WeCT16.25
Covariance based Outlier Detection with Feature Selection	2606-2609
<i>Zwilling, Chris Univ. of Illinois, Champaign-Urbana; Wang, Michelle* Univ. of Illinois at Urbana-Champaign</i>	
15:30-17:00	WeCT16.26
HRV4Training: Large-Scale Longitudinal Training Load Analysis in Unconstrained Free-Living Settings using a Smartphone Application	2610-2613
<i>Altini, Marco* Bloom Technologies, USA – ACTLab, Univ. of Passau, DE; Amft, Oliver Eindhoven Univ. of Technology</i>	
15:30-17:00	WeCT16.27
Method for Seamless Unlock Function for Mobile Applications	2614-2617
<i>Vasylytsov, Ihor* Samsung Electronics; Bak, Changgyu Samsung Electronics</i>	
15:30-17:00	WeCT16.28
Mobile Interface for Neuroprosthesis Control Aiming Tetraplegic Users	2618-2621
<i>Barelli, Renato G. Centro Univ. da FEI; Aquino Jr., Plinio T. Centro Univ. da FEI; Castro, Maria Claudia F.* Centro Univ. da FEI</i>	
15:30-17:00	WeCT16.29
iProprio: A Smartphone-Based System to Measure and Improve Proprioceptive Function	2622-2625
<i>Mourcou, Quentin AGIM; Fleury, Anthony* Ecole des Mines de Douai; Diot, Bruno IDS SA; Vuillerme, Nicolas FRE 3405, AGIM (AGEing Imaging Modeling), CNRS-UJF-EPHE, Grenobl</i>	
15:30-17:00	WeCT16.30
Implementation of a Smartphone as a Wireless Gyroscope Platform for Quantifying Reduced Arm Swing in Hemiplegic Gait with Machine Learning Classification by Multilayer Perceptron Neural Network	2626-2630
<i>LeMoyne, Robert* Northern Arizona Univ.; Mastroianni, Timothy Independent</i>	
15:30-17:00	WeCT16.31
A Statistical Estimation Framework for Energy Expenditure of Physical Activities from a Wrist-Worn Accelerometer	2631-2635
<i>Wang, Qiao* Arizona State Univ.; Lohit, Suhas Anand Arizona State Univ.; Toledo, Meynard John Arizona State Univ.; Buman, Matthew P. Arizona State Univ.; Turaga, Pavan Arizona State Univ.</i>	
15:30-17:00	WeCT16.32
MOSES: A Matlab-Based Open-Source Stochastic Epidemic Simulator	2636-2639
<i>Varol, Huseyin Atakan* Nazarbayev Univ.</i>	
15:30-17:00	WeCT16.33
Vision-Based Responders Localization Techniques in Urban Search and Rescue Scenarios	2640-2643
<i>Yang, Zhuorui* Univ. of Massachusetts Amherst; Ganz, Aura Univ. of Massachusetts, Amherst</i>	
15:30-17:00	WeCT16.34
DIORAMA Enhances Efficiency of a Mass Casualty Incident: System and Experimentation	2644-2647
<i>Ganz, Aura* Univ. of Massachusetts, Amherst; Schafer, James Univ. of Massachusetts Amherst; Yang, Zhuorui Univ. of Massachusetts Amherst; Yi, Jun Univ. of Massachusetts; Ciottone, Gregory R. Beth Israel Deaconess Medical Center, Harvard Medical School</i>	
15:30-17:00	WeCT16.35
Energy-Based Metrics for Laparoscopic Skills Assessment	2648-2651
<i>Poursartip, Behnaz* Western Univ.; LeBel, Marie-Eve The Univ. of Western Ontario; Patel, Rajni London Health Sciences Centre; Naish, Michael D. The Univ. of Western Ontario, Lawson Health Research Institute; Trejos, Ana Luisa The Univ. of Western Ontario</i>	
15:30-17:00	WeCT16.36
FEA Modeling and Fluid Flow Simulation of Human Rectum with Inserted Bowel Catheters	2652-2655
<i>Zhang, Yong* Weber State Univ.; VanRiper, Tina Weber State Univ.; Rague, Brian Weber State Univ.; Weidman, Drew Weber State Univ.</i>	

15:30-17:00 WeCT16.37
Evaluation of the Impact of Arterial Wall Viscosity in Pressure Morphology by Means of a Simplified 1D Model 2656-2658
 Gabaldon, Felipe *Technical Univ. of Madrid*; Cymberknop, Leandro Javier* *Univ. Tecnológica Nacional*; Manuel, Alfonso *Buenos Aires Regional Faculty, National Technological Univ.*; Martinez Sartore, Melisa *National Technological Univ.*; Armentano, Ricardo Luis *Republic Univ., Favaloro Univ.*

WeCT17: 15:30-17:00 Fantasia K
Ignite_Theme 5_We1 (Ignite Session)

15:30-17:00 WeCT17.1
Improving Cardiopulmonary Resuscitation (CPR) Outcomes using Model based Optimization N/A
 Bender, Dieter* *Villanova Univ.*; Jalali, Ali *Villanova Univ.*; Nataraj, C. *Villanova Univ.*

15:30-17:00 WeCT17.2
Computational Estimation of the Severity of Coronary Lesions with IntraVascular UltraSound Images: A Pilot Study 2664-2667
 Siogkas, Panagiotis *FORTH-IMBB*; Papafaklis, Michail *Medical School, Univ. of Ioannina*; Gogas, Bill *Dept. of Medicine, Emory Univ.*; Samady, Habib *Dept. of Medicine, Emory Univ.*; Michalis, Lampros *Univ. of Ioannina*; Fotiadis, Dimitrios I.* *Univ. of Ioannina*

15:30-17:00 WeCT17.3
The Impact of Deformation of an Aneurysm Model under Pulsatile Flow on Hemodynamic Analysis 2668-2671
 Kawakami, Takumi *Tokyo Univ. of Science*; Takao, Hiroyuki *Jikei Univ. School of Medicine*; Ichikawa, Chihiro *Tokyo Univ. of Science*; Kamiya, Kaoru *Toukyou Univ. of sience*; Murayama, Yuichi *Jikei Univ. School of Medicine*; Motosuke, Masahiro* *Tokyo Univ. of Science*

15:30-17:00 WeCT17.4
Automatic Annotation of Peaks in Seismocardiogram for Systolic Time Intervals 2672-2675
 Shafiq, Ghufuran *Kyungpook National Univ.*; Tatinati, Sivanagaraja *Kyungpook National Univ.*; Veluvolu, Kalyana C.* *Kyungpook National Univ.*

15:30-17:00 WeCT17.5
Heart Rate Regulation during Cycle-Ergometer Exercise using Damped Parameter Estimation Method . 2676-2679
 Argha, Ahmadreza* *Univ. of Technology, Sydney*; Ye, Lin *Univ. of Technology, Sydney (UTS)*; Su, Steven Weidong *Univ. of Technology, Sydney*; Nguyen, Hung T. *Univ. of Technology, Sydney*; Celler, Branko George *Univ. of New South Wales*

15:30-17:00 WeCT17.6
Real-Time Modelling of Heart Rate Response during Exercise using a Novel Constrained Parameter Estimation Method 2680-2683
 Argha, Ahmadreza* *Univ. of Technology, Sydney*; Ye, Lin *Univ. of Technology, Sydney (UTS)*; Su, Steven Weidong *Univ. of Technology, Sydney*; Nguyen, Hung T. *Univ. of Technology, Sydney*; Celler, Branko George *Univ. of New South Wales*

15:30-17:00 WeCT17.7
Short-Term Assessment of Autonomic Nervous System as a Potential Tool to Quantify Pain Experience 2684-2687
 Hautala, Arto* *Univ. of Oulu*; Karppinen, Jaro *Univ. of Oulu*; Seppänen, Tapio *Univ. of Oulu*

15:30-17:00 WeCT17.8
A Model-Based Method to Measure Baroreflex Sensitivity 2688-2691
 Meng, Yu *Univ. of Chinese Academy of Sciences*; Huang, Zhipei* *Univ. of Chinese Academy of Sciences*; Wu, Jiangkang *Univ. of Chinese Academy of Sciences*; Cai, Xinxia *Institute of Electronics, Chinese Academy of Sciences*

15:30-17:00 WeCT17.9
Cardiovascular Fitness Strengthening using Portable Device 2692-2695
 Alqudah, Hamzah* *Univ. of Technology, Sydney (UTS)*; Cao, Kai *Univ. of Technology, Sydney*; Haddad, Azzam Hanna Jamil *Univ. of Technology Sydney*; Su, Steven Weidong *Univ. of Technology, Sydney*; Celler, Branko George *Univ. of New South Wales*; Nguyen, Hung T. *Univ. of Technology, Sydney*; Zhang, Tao *Univ. of Technology, Sydney*

15:30-17:00	WeCT17.10
Quantitative Heartbeat Coupling Measures in Human-Horse Interaction	2696-2699
Lanata', Antonio <i>Univ. of Pisa</i> ; Guidi, Andrea <i>Univ. of Pisa</i> ; Valenza, Gaetano <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Baragli, Paolo <i>Dept. of Veterinary Sciences, Univ. of Pisa</i> ; Scilingo, Enzo Pasquale* <i>Univ. of Pisa</i>	
15:30-17:00	WeCT17.11
Analysis of Blood Pressure Signal in Patients with Different Ventricular Ejection Fraction using Linear and Non-Linear Methods	2700-2703
Arcentales, Andrés <i>Univ. de las Fuerzas Armadas ESPE</i> ; Rivera, Patricio <i>Univ. de las Fuerzas Armadas ESPE</i> ; Caminal, Pere <i>Technical Univ. of Catalonia (UPC)</i> ; Voss, Andreas <i>Univ. of Applied Sciences Jena</i> ; Bayes-Genis, Antoni <i>Hospital de la Santa Creu i Sant Pau</i> ; Giraldo, Beatriz* <i>Univ. Politècnica de Catalunya</i>	
15:30-17:00	WeCT17.12
Optimal Control of Inspired Perfluorocarbon Temperature for Induction of Hypothermia by Total Liquid Ventilation in Juvenile Lamb Model	2704-2707
Nadeau, Mathieu* <i>Sherbrooke Univ.</i> ; Sage, Michaël <i>Univ. de Sherbrooke</i> ; Praud, Jean-Paul <i>Univ. of Sherbrooke</i> ; Tissier, Renaud <i>Institut National de la Santé et de la Recherche Médicale</i> ; Walti, Hervé <i>Univ. de Sherbrooke</i> ; Micheau, Philippe <i>Univ. de Sherbrooke</i>	
15:30-17:00	WeCT17.13
Real-Time Respiration Rate Measurement from Thoracoabdominal Movement with a Consumer Grade Camera	2708-2711
Chatterjee, Avishek <i>XEROX Research Centre India</i> ; ap, Prathosh <i>XEROX Research Centre India</i> ; Praveena, Pragathi* <i>XEROX Research Centre India</i>	
15:30-17:00	WeCT17.14
A Clinical Study of Short-Term Sternal Photoplethysmography: Recordings from Patients with Obstructive Airways Diseases	2712-2716
Chreiteh, Shadi <i>Dept. of Micro- and Nanotechnology, Technical Univ. of</i> ; Saadi, Dorthe Bodholt <i>BioTelemetry Technology ApS</i> ; Belhage, Bo <i>Univ. of Copenhagen</i> ; Nabipour, Nassim <i>Bispebjerg Hospital, Univ.. Dept. of Anesthesiology Bi</i> ; Hoppe, Karsten* <i>BioTelemetry Technology ApS</i> ; Thomsen, Erik V <i>Technical Univ. of Denmark</i>	
15:30-17:00	WeCT17.15
A Comparison between Four Techniques to Measure Cardiac Output	2717-2720
Pironet, Antoine* <i>Univ. of Liège (ULg)</i> ; Dauby, Pierre <i>Univ. of Liege</i> ; Chase, J. Geoffrey <i>Univ. of Canterbury</i> ; Morimont, Philippe <i>Univ. Hospital of Liège</i> ; Janssen, Nathalie <i>Univ. Hospital of Liege</i> ; Lambermont, Bernard <i>Univ. of Liege</i> ; Davidson, Shaun <i>Univ. of Canterbury</i> ; Desai, Thomas <i>Univ. of Liege</i>	
15:30-17:00	WeCT17.16
Noninvasive Estimation of Alveolar Pressure	2721-2724
Vicario, Francesco* <i>Philips Research North America</i> ; Buizza, Roberto <i>Philips Research North America</i> ; Truschel, William <i>Philips Respiration</i> ; Chbat, Nicolas W. <i>Philips Research North America</i>	
15:30-17:00	WeCT17.17
Long-Term Quasi-Continuous Oxygen Saturation Levels Obtained from Sternal Photoplethysmography on Patients with Obstructive Lung Diseases	2725-2728
Chreiteh, Shadi <i>Dept. of Micro- and Nanotechnology, Technical Univ. of</i> ; Saadi, Dorthe Bodholt <i>BioTelemetry Technology ApS</i> ; Belhage, Bo <i>Univ. of Copenhagen</i> ; Nabipour, Nassim <i>Bispebjerg Hospital, Univ.. Dept. of Anesthesiology Bi</i> ; Hoppe, Karsten* <i>BioTelemetry Technology ApS</i> ; Thomsen, Erik V <i>Technical Univ. of Denmark</i>	
15:30-17:00	WeCT17.18
Creating Virtual ARDS Patients	2729-2732
Das, Anup* <i>Univ. of Warwick</i> ; Haque, Mainul <i>Univ. of Nottingham</i> ; Chikhani, Marc <i>Univ. of Nottingham</i> ; Wang, Wenfei <i>Univ. of Warwick</i> ; Hardman, Jonathan G. <i>Univ. of Nottingham</i> ; Bates, Declan Gerard <i>Univ. of Warwick</i>	
15:30-17:00	WeCT17.19
Development of Data Acquisition Components for Simultaneous Recording of 3D Epicardial and Surface ECG Signals in the Langendorff Perfusion Apparatus	2733-2736
Selby, Ryan <i>Rochester Institute of Technology</i> ; Jonchhe, Anup <i>Rochester Institute of Technology</i> ; Kaplan, Chen <i>Univ. of Rochester Medical Center</i> ; Lopes, Coeli <i>Univ. of Rochester Medical Center</i> ; Ghoraani, Behnaz* <i>Rochester Institute of Technology</i>	

15:30-17:00	WeCT17.20
An Object-Oriented Model of the Cardiopulmonary System with Emphasis on the Gravity Effect	2737-2740
Ngo, Chuong <i>RWTH Aachen Univ.</i> ; Briones, Silvia <i>RWTH Aachen Univ.</i> ; Misgeld, Berno <i>RWTH Aachen Univ.</i> ; Vollmer, Thomas <i>Philips Technologie GmbH Innovative Technologies, Aachen</i> ; Leonhardt, Steffen* <i>RWTH Aachen Univ.</i>	
15:30-17:00	WeCT17.21
Catheter Simulator Software Tool to Generate Electrograms of Any Multi-Polar Diagnostic Catheter from 3D Atrial Tissue	2741-2744
Shillieto, Kristina E <i>Rochester Institute of Technology</i> ; Ganesan, Prasanth <i>Rochester Institute of Technology</i> ; Salmin, Anthony J <i>Rochester Institute of Technology</i> ; Cherry, Elizabeth <i>Rochester Institute of Technology</i> ; Pertsov, Arkady M. <i>SUNY Upstate Medical Univ.</i> ; Ghoraani, Behnaz* <i>Rochester Institute of Technology</i>	
15:30-17:00	WeCT17.22
Maximum Likelihood Cardiac Conduction Velocity Estimation from Sequential Mapping in the Presence of Activation Time Noise with Unknown Variances	2745-2748
Shariat, Mohammad Hassan* <i>Queen's Univ., Kingston, Ontario, Canada</i> ; Gazor, Saeed <i>Queen's Univ., Kingston, Ontario, Canada</i> ; Redfearn, Damian P <i>Queen's Univ.</i>	
15:30-17:00	WeCT17.23
Detection of the Propagating Direction of Electrical Wavefront in Atrial Fibrillation	2749-2752
Du, Dongping* <i>Texas Tech Univ.</i> ; Du, Yuncheng <i>Clarkson Univ.</i>	
15:30-17:00	WeCT17.24
Low-Energy Defibrillation Research using a Rabbit Ventricular Model: Optimizing the Potential Gradient Distribution using Multiple Epicardial Electrodes	2753-2756
Wang, Jianfei <i>Fudan Univ.</i> ; Jin, Lian <i>Fudan Univ.</i> ; Wu, Xiaomei* <i>Fudan Univ.</i> ; Song, Biao <i>Fudan Univ.</i> ; Qian, Li <i>Fudan Univ.</i> ; Wang, Weiqi <i>Fudan Univ.</i>	
15:30-17:00	WeCT17.25
Amplitude based Beat Detection for Atrial Fibrillation in Pacemaker	2757-2759
Lee, Seung Hwan <i>Yonsei Univ.</i> ; Myoung, Hyoun Seok <i>Yonsei Univ.</i> ; Kang, Chang Hoon <i>Yonsei Univ.</i> ; Choi, Eue Keun <i>Seoul National Univ. Hospital</i> ; Lee, Kyoung Joung* <i>Yonsei Univ.</i>	

Thursday, 18 August 2016

ThAT1: 08:00-09:30	Fantasia A
Brain-Computer Interface I (Oral Session)	
Chair: Sahin, Mesut <i>New Jersey Institute of Technology</i>	
08:00-08:15	ThAT1.1
Hybrid BCI Approach to Control an Artificial Tibio-Femoral Joint	2760-2763
Mercado, Luis* <i>Univ. Autónoma de Nuevo León</i> ; Rodríguez-Liñán, Angel <i>Univ. Autónoma de Nuevo León</i> ; Torre-Treviño, Luis <i>Univ. Autónoma de Nuevo León</i> ; Quiroz, Griselda <i>Univ. Autónoma de Nuevo León</i>	
08:15-08:30	ThAT1.2
EEG-Based Single-Trial Detection of Errors from Multiple Error-Related Brain Activity	2764-2767
Shou, Guofa* <i>Univ. of Oklahoma</i> ; Ding, Lei <i>Univ. of Oklahoma</i>	
08:30-08:45	ThAT1.3
Applicability of SSVEP-Based BCIs for Robot Navigation in Real Environments	2768-2771
Farmaki, Christina <i>Foundation for Research and Technology – Hellas (FORTH)</i> ; Christodoulakis, Georgios <i>Foundation for Research and Technology – Hellas (FORTH)</i> ; Sakkalis, Vangelis* <i>ICS-FORTH</i>	
08:45-09:00	ThAT1.4
Mutual Information-Based Feature Selection for Low-Cost BCIs based on Motor Imagery	2772-2775
Schiatti, Lucia* <i>Istituto Italiano di Tecnologia</i> ; Faes, Luca <i>Univ. of Trento</i> ; Tessadori, Jacopo <i>IIT – Italian Institute of Technology</i> ; Barresi, Giacinto <i>Istituto Italiano di Tecnologia</i> ; Mattos, Leonardo <i>IIT – Istituto Italiano di Tecnologia</i>	

09:00-09:15 ThAT1.5
A Small, Portable, Battery-Powered Brain-Computer Interface System for Motor Rehabilitation 2776-2779
McCrimmon, Colin M* *Univ. of California, Irvine*; Wang, Ming *Univ. of California, Irvine*; Silva Lopes, Lucas *Univ. of Brasilia, CAPES Foundation*; Wang, Po T. *Univ. of California Irvine*; Karimi-Bidhendi, Alireza *Univ. of California Irvine*; Liu, Charles Y. *Keck Hospital of the Univ. of Southern California*; Heydari, Payam *Univ. of California Irvine*; Nenadic, Zoran *Univ. of California Irvine*; Do, An H. *Univ. of California Irvine*

09:15-09:30 ThAT1.6
Prediction of Forelimb Muscle EMGs from the Corticospinal Signals in Rats 2780-2783
Gok, Sinan *New Jersey Institute of Technology*; Sahin, Mesut* *New Jersey Institute of Technology*

ThAT2: 08:00-09:30 Fantasia B
Microelectrode Technology (Oral Session)
Chair: Mueller, Matthias *Univ. of Freiburg*
Co-Chair: Berger, Theodore *Univ. of Southern California*

08:00-08:15 ThAT2.1
Effects of Geometry and Material on the Insertion of Very Small Neural Electrode 2784-2788
Marshall, Shaun* *Univ. of Michigan*; Lin, Wei Chen *Univ. of Michigan*; Patel, Paras *Univ. of Michigan*; Albert, Shih *Univ. of Michigan*; Chestek, Cynthia *Stanford Univ.*

08:15-08:30 ThAT2.2
Heterogeneous Neural Amplifier Integration for Scalable Extracellular Microelectrodes 2789-2793
Scholvin, Jorg* *MIT*; Kinney, Justin *MIT*; Bernstein, Jacob *MIT*; Moore-Kochlacs, Caroline *MIT*; Kopell, Nancy *Dept. of Mathematics and Statistics, Boston Univ.*; Fonstad, Clifton *MIT Microsystems Technology Laboratory, MIT Dept. of Elec*; Boyden, Edward *MIT*

08:30-08:45 ThAT2.3
A Large-Scale Detailed Neuronal Model of Electrical Stimulation of the Dentate Gyrus and Perforant Path as a Platform for Electrode Design and Optimization 2794-2797
Bingham, Clayton* *Univ. of Southern California*; Loizos, Kyle *Univ. of Utah*; Yu, Gene *Univ. of Southern California*; Gilbert, Andrew *Univ. of Utah*; Bouteiller, Jean-Marie Charles *Univ. of Southern California*; Song, Dong *Univ. of Southern California*; Lazzi, Gianluca *Univ. of Utah*; Berger, Theodore *Univ. of Southern California*

08:45-09:00 ThAT2.4
A Double-Sided Fabrication Process for Intrafascicular Parylene C based Electrode Arrays 2798-2801
Mueller, Matthias* *Univ. of Freiburg*; Boehler, Christian *Univ. of Freiburg*; Jäger, Jan *Univ. of Freiburg*; Asplund, Maria *Univ. of Freiburg*; Stieglitz, Thomas *Univ. of Freiburg*

09:00-09:15 ThAT2.5
High Density Penetrating Electrode Array for Autonomic Nerves 2802-2805
Burns, John* *Draper*; Hsieh, Yee-Hsee *Case Western Reserve Univ.*; Mueller, Andrew *Draper*; Juliette, Chevallier *Draper*; Sriram, Tirunelveli *CS Draper Laboratory*; Lewis, Stephen *Case Western Reserve Univ.*; Chew, Daniel *Glaxosmithkline*; Achyuta, Anil *Draper Laboratory*; Fiering, Jason *Draper Laboratory*

09:15-09:30 ThAT2.6
A Flexible Parylene Probe for in Vivo Recordings from Multiple Sub-Regions of the Rat Hippocampus 2806-2809
Xu, Huijing* *Univ. of Southern California*; Hsiao, Min-Chi *Univ. of Southern California*; Meng, Ellis *Univ. of Southern California*; Berger, Theodore *Univ. of Southern California*; Song, Dong *Univ. of Southern California*

ThAT3: 08:00-09:30 Fantasia C
EEG 2 (Oral Session)
Chair: Faes, Luca *Univ. of Trento*

08:00-08:15 ThAT3.1
Inspection of Short-Time Resting-State Electroencephalogram Functional Networks in Alzheimer's Disease 2810-2813
Escudero, Javier* *Univ. of Edinburgh*; Smith, Keith *Univ. of Edinburgh*; Azami, Hamed *Univ. of Edinburgh*; Abasolo, Daniel *Univ. of Surrey*

08:15-08:30		ThAT3.2
Source and Sink Nodes in Absence Seizures		2814-2817
Rodrigues, Abner C. <i>Univ. of Sao Paulo, Bioinformatics Inter-units Graduate Pr</i> ; Machado, Birajara S. <i>Hospital Israelita Albert Einstein</i> ; Caboclo, Luis Otávio S. F. <i>Hospital Israelita Albert Einstein</i> ; Fujita, André <i>Univ. of Sao Paulo, Institute of Mathematics and Statistic</i> ; Baccala, Luiz Antonio <i>Escola Politecnica</i> ; Sameshima, Koichi* <i>Univ. of Sao Paulo, Faculdade de Medicina</i>		
08:30-08:45		ThAT3.3
Quantifying Connectivity in Physiology based Models using Adaptive Dynamic Causal Modelling		2818-2821
Xiang, Wentao <i>Univ. de Rennes 1</i> ; Yang, Chunfeng <i>Southeast Univ.</i> ; Karfoul, Ahmad <i>Univ. de Rennes1</i> ; Le Bouquin Jeannes, Regine* <i>Univ. de Rennes 1 – LTSI INSERM U1099</i>		
08:45-09:00		ThAT3.4
Epileptic Seizure Onset Correlates with Long Term EEG Functional Brain Network Properties		2822-2825
Anastasiadou, Maria* <i>Univ. of Cyprus</i> ; Hadjipapas, Avgis <i>Univ. of Nicosia</i> ; Christodoulakis, Manolis <i>Univ. of Cyprus</i> ; Papathanasiou, Eleftherios S. <i>The Cyprus Institute for Neurology and Genetics</i> ; Papacostas, Savvas S. <i>The Cyprus Institute for Neurology and Genetics</i> ; Mitsis, Georgios D. <i>McGill Univ.</i>		
09:00-09:15		ThAT3.5
A Comparison of the Cluster-Span Threshold and the Union of Shortest Paths as Objective Thresholds of EEG Functional Connectivity Networks from Beta Activity in Alzheimer's Disease		2826-2829
Smith, Keith <i>Univ. of Edinburgh</i> ; Abasolo, Daniel <i>Univ. of Surrey</i> ; Escudero, Javier* <i>Univ. of Edinburgh</i>		
09:15-09:30		ThAT3.6
Analysis of Spontaneous EEG Activity in Alzheimer's Disease using Cross-Sample Entropy and Graph Theory		2830-2833
Gomez, Carlos* <i>Univ. of Valladolid, CIF</i> ; Poza, Jesus <i>Univ. of Valladolid</i> ; Gomez-Pilar, Javier <i>Univ. of Valladolid, CIF</i> ; Bachiller, Alejandro <i>Univ. of Valladolid</i> ; Juan-Cruz, Celia <i>Univ. of Valladolid</i> ; Tola-Arribas, Miguel A. <i>Dept. of Neurology, Hospital Univ. Río Hortega</i> ; Carreres, Alicia <i>Hospital Univ. "Pío del Río Hortega", Valladolid</i> ; Cano, Mónica <i>Dept. of Clinical Neurophysiology, Hospital Univ. R</i> ; Hornero, Roberto <i>Univ. of Valladolid</i>		
ThAT4: 08:00-09:30		Fantasia D
Sleep 1 (Oral Session)		
Chair: Jones, Richard D. <i>New Zealand Brain Research Institute</i>		
08:00-08:15		ThAT4.1
Probabilistic Characterization of Sleep Architecture: Home based Study on Healthy Volunteers		2834-2838
Garcia-Molina, Gary Nelson* <i>Philips Research North America</i> ; Vissapragada, Sreeram <i>Philips</i> ; Mahadevan, Anandi <i>Univ. of Akron, Philips Home Healthcare Solutions</i> ; Goodpaster, Robert <i>Wisconsin Sleep, Univ. of Wisconsin Health</i> ; Riedner, Brady <i>Univ. of Wisconsin</i> ; Bellesi, Michele <i>Univ. of Wisconsin-Madison</i> ; Tononi, Giulio <i>Univ. of Wisconsin</i>		
08:15-08:30		ThAT4.2
Bioradiolocation-Based Sleep Stage Classification		2839-2842
Tataraidze, Alexander* <i>Bauman Moscow State Technical Univ.</i> ; Korostovtseva, Lyudmila <i>Federal North-West Medical Research Centre</i> ; Anishchenko, Lesya <i>Bauman Moscow State Technical Univ.</i> ; Bochkarev, Mikhail <i>Federal North-West Medical Research Centre</i> ; Sviryayev, Yurii <i>Sleep Laboratory, Federal Almazov Medical Research Centre</i> ; Ivashov, Sergey <i>Bauman Moscow State Technical Univ.</i>		
08:30-08:45		ThAT4.3
Sleep Stage Recognition using Respiration Signals		2843-2846
Yang, Jialei <i>Univ. of Missouri</i> ; Keller, James M <i>Univ. of Missouri</i> ; Popescu, Mihail* <i>Univ. of Missouri</i> ; Skubic, Marjorie <i>Univ. of Missouri</i>		
08:45-09:00		ThAT4.4
Estimation of Macro Sleep Stages from Whole Night Audio Analysis		2847-2850
Dafna, Eliran* <i>Ben-Gurion Univ. of the Negev</i> ; Halevi, Matan <i>Ben-Gurion Univ. of the Negev</i> ; Ben Or, Dvir <i>Ben-Gurion Univ. of the Negev</i> ; Tarasiuk, Ariel <i>Ben-Gurion Univ.</i> ; Zigel, Yaniv <i>Ben-Gurion Univ. of the Negev</i>		

09:00-09:15 ThAT4.5
Developmental Differences of Dimension Complexity of Hippocampal EEG during REM Sleep 2851-2854
Ning, Taikang* *Trinity College*; Blaise, J. Harry *Trinity College*; Avagyan, Mariam *Trinity College*; Dahal, Prawesh *Trinity College*

09:15-09:30 ThAT4.6
Photoplethysmography Derivatives and Pulse Transit Time in Overnight Blood Pressure Monitoring 2855-2858
Salari Shahrbabaki, Sobhan* *RMIT Univ.*; Ahmed, Beena *Texas A&M Univ. at Qatar*; Penzel, Thomas *Charite Univ. Hospital*; Cvetkovic, Dean *RMIT Univ.*

ThAT5: 08:00-09:30 Fantasia E
Ultrasound I: Elastography (Oral Session)

08:00-08:15 ThAT5.1
Plural Spectral Frequency Divisions for Ultrasonic Tissue Displacement Vector Measurement 2859-2864
Sumi, Chikayoshi* *Sophia Univ.*

08:15-08:30 ThAT5.2
Force-Controlled Ultrasound to Measure Passive Mechanical Properties of Muscle in Duchenne Muscular Dystrophy 2865-2868
Pigula, Anne* *Massachusetts Institute of Technology*; Wu, Jim *Beth Israel Deaconess Medical Center*; Gilbertson, Matthew *Massachusetts Institute of Technology*; Darras, Basil *Children's Hospital Boston*; Rutkove, Seward *Harvard Medical School*; Anthony, Brian W. *Massachusetts Institute of Technology*

08:30-08:45 ThAT5.3
Altered Viscoelastic Properties of Stroke-Affected Muscles Estimated using Ultrasound Shear Waves – Preliminary Data 2869-2872
Rasool, Ghulam* *Rehabilitation Institute of Chicago*; Wang, Allison *Northwestern Univ.*; Rymer, William Zev *Northwest. & Rehab Inst of Chicago*; Lee, Sabrina *Northwestern Univ.*

08:45-09:00 ThAT5.4
Shear Wave Elastography using Wigner-Ville Distribution: A Simulated Multilayer Media Study 2873-2876
Sobhe Bidari, Pooya *Ryerson Univ.*; Alirezaie, Javad* *Ryerson Univ., Univ. of Waterloo*; Tavakkoli, Jahan *Ryerson Univ.*

09:00-09:15 ThAT5.5
Clinical Viability of Carotid Plaque Strain Estimation using B-Mode Ultrasound Image Sequences 2877-2880
Khan, Amir A.* *George Mason Univ.*; Hecker, Joseph *George Mason Univ.*; Lal, Brajesh *Univ. of Maryland*; Sikdar, Siddhartha *George Mason Univ.*

09:15-09:30 ThAT5.6
Tissue Characterization using Simultaneous Estimation of Backscatter Coefficient and Elastic Shear Modulus 2881-2884
Rouyer, Julien *Pontificia Univ. Católica del Perú*; Torres, Gabriela* *Pontificia Univ. Católica del Perú*; Urban, Matthew *Mayo Clinic College of Medicine*; Lavarello, Roberto *Pontificia Univ. Católica del Perú*

ThAT6: 08:00-09:30 Fantasia F
Optical Imaging I (Oral Session)

08:00-08:15 ThAT6.1
Automated Basal Cell Carcinoma Detection in High-Definition Optical Coherence Tomography 2885-2888
Li, Annan* *Institute for Infocomm Research, ASTAR*; Cheng, Jun *Institute for Infocomm Research, AStar*; Yow, Ai Ping *Institute for Infocomm Research*; Srivastava, Ruchir *Institute for Infocomm Research*; Wong, Damon *Institute for Infocomm Research*; Tey, Hongliang *National Skin Center, Singapore*; Liu, Jiang *Ningbo Institute of Materials Technology and Engineering, CAS*

08:15-08:30 ThAT6.2
Forward-Backward Pursuit Algorithm for Cerenkov Luminescence Tomography 2889-2892
Liu, Haixiao *Chinese Academy of Sciences*; Hu, Zhenhua *Chinese Academy of Sciences*; Liu, Muhan *Xidian Univ.*; Tian, Jie* *Chinese Academy of Sciences*

08:30-08:45 ThAT6.3
Non-Invasive Optical Imaging Techniques for Burn-Injured Tissue Detection for Debridement Surgery 2893-2896
Heredia Juesas, Juan* *Northeastern Univ.*; Thatcher, Jeffrey *Spectral MD*; Lu, Yang *SpectralMD*; Squiers, John *Baylor Research Institute*; King, Darlene *Spectral MD*; Wensheng, Fan *Spectral MD*; DiMaio, J. Michael *UT Southwestern Medical Center of Dallas*; Martinez Lorenzo, Jose A. *Northeastern Univ.*

08:45-09:00 ThAT6.4
Noninvasive Surface Damage Assessment of Bovine Articular Cartilage Explants by Reflected Polarized Light Microscopy 2897-2900
Huynh, Ruby* *The Catholic Univ. of America*; Raub, Christopher *The Catholic Univ. of America*

09:00-09:15 ThAT6.5
Random Forests for Dura Mater Microvasculature Segmentation using Epifluorescence Images 2901-2904
Kassim, Yasmin M *Univ. of Missouri-Columbia*; Prasath, V. B. Surya* *Univ. of Missouri-Columbia*; Pelapur, Rengarajan *Univ. of Missouri*; Glinskii, Olga *Univ. of Missouri-Columbia*; Maude, Richard *Mahidol-Oxford Tropical Medicine Research Unit, Faculty of Tropi*; Glinsky, Vladislav *Univ. of Missouri-Columbia*; Huxley, Virginia *Univ. of Missouri-Columbia*; Palaniappan, Kannappan *Univ. of Missouri-Columbia*

09:15-09:30 ThAT6.6
Cardiac Muscle Energetics: Improved Normalisation of Heat using Optical Coherence Tomography 2905-2908
Cheuk, Ming* *Univ. of Auckland*; Johnston, Callum Michael *The Univ. of Auckland*; Han, June-Chiew *The Univ. of Auckland*; Loiselle, Denis *The Univ. of Auckland*; Nielsen, Poul *The Univ. of Auckland*; Taberner, Andrew *The Univ. of Auckland*

ThAT8: 08:00-09:30 Fantasia K
Computational Models for Medical Treatment and Decision Making (Oral Session)
Chair: Yankeelov, Thomas *The Univ. of Texas at Austin*

08:00-08:15 ThAT8.1
Effects of the Geometry and Size of the Cerebrospinal Fluid on MRI Transmit and Safety Efficiencies at 300 MHz 2909-2912
Kozlov, Mikhail* *Max Planck Institute for Human Cognitive and Brain Sciences*; Bazin, Pierre-Louis *Max Planck Institute for Human Cognitive and Brain Sciences*; Weiskopf, Nikolaus *Max Planck Institute for Human Cognitive and Brain Sciences*; Möller, Harald *Max Planck Institute for Human Cognitive and Brain Sciences*

08:15-08:30 ThAT8.2
Boundary Element Simulation of Ultrasonic Backscattering during the Fracture Healing Process 2913-2916
Potsika, Vassiliki *Unit of Medical Technology and Intelligent Information Systems*; Grivas, Konstantinos *Dept. of Mechanical Engineering and Aeronautics, Univ.*; Gortsas, Theodoros *Dept. of Mechanical Engineering and Aeronautics, Univ.*; Protopappas, Vasilios C. *Univ. of Patras*; Polyzos, Demosthenes *Univ. of Patras*; Fotiadis, Dimitrios I.* *Univ. of Ioannina*

08:30-08:45 ThAT8.3
Modeling of Pharyngoesophageal Segment during Tracheoesophageal Phonation in Total Laryngectomy Patients with Preliminary Validation 2917-2920
Zhang, Teng* *St George Hospital, Univ. of New South Wales*; Bai, Siwei *Univ. of New South Wales*; Cook, Ian James *St George Hospital, Univ. of New South Wales*; Szczesniak, Michal *Univ. of New South Wales*; Maclean, Julia *St George Hospital*; Dokos, Socrates *Univ. of New South Wales*

08:45-09:00 ThAT8.4
Verification of a Research Prototype for Hemodynamic Analysis of Cerebral Aneurysms 2921-2924
Suzuki, Takashi *Tokyo Univ. of Science*; Nita, Cosmin *Transilvania Univ. of Brasov*; Rapaka, Saikiran* *Siemens Healthcare*; Takao, Hiroyuki *Jikei Univ. School of Medicine*; Mihalef, Viorel *Siemens Corporate Research*; Fujimura, Soichiro *Tokyo Univ. of Science*; Dahmani, Chiheb *Technical Univ. of Munich*; Sharma, Puneet *Siemens Corporation, Corporate Technology*; Mamori, Hiroya *Tokyo Univ. of science*; Ishibashi, Toshihiro *The Jikei Univ. School of Medicine, Dept. of Neurosurg*; Redel, Thomas *Siemens AG*; Yamamoto, Makoto *Tokyo Univ. of Science*; Murayama, Yuichi *Jikei Univ. School of Medicine*

09:00-09:15 ThAT8.5
Sound Preference Test in Animal Models of Addicts and Phobias 2925-2928
Soga, Ryo* *Graduate School of The Univ. of Tokyo*; Shiramatsu, Tomoyo *the Univ. of Tokyo*; Kanzaki, Ryohei *The Univ. of Tokyo*; Takahashi, Hirokazu *The Univ. of Tokyo*

09:15-09:30 ThAT8.6
Effect-Specific Analysis of Pathogenic SNVs in Human Interactome: Leveraging Edge-Based Network Robustness 2929-2932
 Cui, Hongzhu* *Worcester Polytechnic Institute*; Korkin, Dmitry *Worcester Polytechnic Institute*

ThAT9: 08:00-09:30 Fantasia L
Cardiovascular Variability (Oral Session)
Chair: Mukkamala, Ramakrishna *Michigan State Univ.*
Co-Chair: Khoo, Michael *Univ. of Southern California*

08:00-08:15 ThAT9.1
Comparison between K-Nearest-Neighbor Approaches for Conditional Entropy Estimation: Application to the Assessment of the Cardiac Control in Amyotrophic Lateral Sclerosis Patients 2933-2936
 Porta, Alberto* *Univ. degli Studi di Milano*; De Maria, Beatrice *IRCCS Fondazione Salvatore Maugeri, Milano*; Bari, Vlasta *Univ. of Milan*; Marchi, Andrea *Dept. of Electronics Information and Bioengineering, Polite*; Kalliopi, Marinou *IRCCS Fondazione Salvatore Maugeri, Milan*; Sideri, Riccardo *IRCCS Fondazione Salvatore Maugeri, Milan*; Mora, Gabriele *IRCCS Fondazione Salvatore Maugeri, Milan, Italy*; Dalla Vecchia, Laura *IRCCS Fondazione Salvatore Maugeri, Milan, Italy*

08:15-08:30 ThAT9.2
Cardiovascular Interactions Assessed via Conditional Joint Transfer Entropy in Patients Developing Atrial Fibrillation after Coronary Artery Bypass Graft Surgery 2937-2940
 Bari, Vlasta* *Univ. of Milan*; Ranucci, Marco *Dept. of Cardiothoracic, Vascular Anesthesia and Intensive*; Marchi, Andrea *Dept. of Electronics Information and Bioengineering, Polite*; De Maria, Beatrice *IRCCS Fondazione Salvatore Maugeri, Milano*; Pistuddi, Valeria *Dept. of Cardiothoracic, Vascular Anesthesia and Intensive*; Porta, Alberto *Univ. degli Studi di Milano*

08:30-08:45 ThAT9.3
Quantification of Peripheral and Central Blood Pressure Variability using a Time-Frequency Method 2941-2944
 Kouchaki, Zahra* *Macquarie Univ.*; Butlin, Mark *Macquarie Univ.*; Qasem, Ahmad *Macquarie Univ.*; Avolio, Alberto P *Macquarie Univ.*

08:45-09:00 ThAT9.4
Can PPG Be Used for HRV Analysis? 2945-2949
 Pinheiro, Nuno *Univ. de Coimbra*; Couceiro, Ricardo* *Univ. of Coimbra*; Henriques, Jorge *Univ. of Coimbra – NIF*; Muehlsteff, Jens *Philips*; Quintal, Isabel *Centro Hospitalar de Coimbra*; Gonçalves, Lino *Centro Hospitalar de Coimbra*; de Carvalho, Paulo *Univ. of Coimbra – NIF*

09:00-09:15 ThAT9.5
Selective Heart Rate Variability Analysis to Account for Uterine Activity during Labor and Improve Classification of Fetal Distress 2950-2953
 Warmerdam, Guy Johannes Jacobus* *Eindhoven Univ. of Technology*; Vullings, Rik *Eindhoven Univ. of Technology*; van Laar, O. E. H. Judith *Veldhoven Maxima Medical Center*; van der Hout-van der Jagt, Beatrijs *Maxima Medical Centre*; Bergmans, Johannes Wilhelmus Maria *Eindhoven Univ. of Technology*; Schmitt, Lars *Philips*; Oei, S. Guid *Maxima Medisch Centrum, Veldhoven*

09:15-09:30 ThAT9.6
Assessment of Autonomic Neurodevelopment in the Mouse Fetuses by using Fetal Electrocardiography ... 2954-2957
 Khandoker, Ahsan Habib *Khalifa Univ. of Science, Technology and Research*; Alkhoori, Thuraia* *Khalifa Univ. of Science, Technology and Research*; Ito, Takuya *Tohoku Univ.*; Kimura, Yoshitaka *Tohoku Univ.*; Sugibayashi, Rika *Tohoku Univ.*

ThAT10: 08:00-09:30 Fantasia M
Big Data Analytics (Oral Session)

08:00-08:15 ThAT10.1
On Efficient Meta-Filtering of Big Data 2958-2961
 Dillon, Keith* *Tulane Univ.*; Wang, Yu-Ping *Tulane Univ.*

08:15-08:30	ThAT10.2
Map Reduce for Optimizing a Large-Scale Dynamic Network – Internet of Hearts	2962-2965
Kan, Chen <i>The Pennsylvania State Univ.</i> ; Leonelli, Fabio <i>Univ. of South Florida and Veterans Administration Hospital</i> ; Yang, Hui* <i>The Pennsylvania State Univ.</i>	
08:30-08:45	ThAT10.3
Deep Neural Network Architectures for Forecasting Analgesic Response	2966-2969
Nickerson, Paul* <i>Univ. of Florida</i> ; Tighe, Patrick <i>Univ. of Florida</i> ; Shickel, Benjamin <i>Univ. of Florida</i> ; Rashidi, Parisa <i>Univ. of Florida</i>	
08:45-09:00	ThAT10.4
Assessing the Population Representativeness of Colorectal Cancer Treatment Clinical Trials	2970-2973
He, Zhe* <i>Florida State Univ.</i> ; Chen, Zhiwei <i>Florida State Univ.</i> ; George, Thomas J <i>Univ. of Florida</i> ; Lipori, Gloria <i>Univ. of Florida</i> ; Bian, Jiang <i>Univ. of Florida</i>	
09:00-09:15	ThAT10.5
CSDC – A Nationwide Screening Platform for Stroke Control and Prevention in China	2974-2977
Yu, Jinghui <i>Institute of Health Service and Medical Information, Academy of</i> ; Mao, Huajian <i>Academy of Military Medical Sciences of Chinese PLA</i> ; Li, Mei <i>China Stroke Data Center</i> ; Ye, Dan <i>Chinese Academy of Sciences</i> ; Zhao, Dongsheng* <i>Institute of Health Service and Medical Information, Academy of</i>	
09:15-09:30	ThAT10.6
Optimal Medication Dosing from Suboptimal Clinical Examples: A Deep Reinforcement Learning Approach	2978-2981
Nemati, Shamim* <i>Emory Univ. School of Medicine</i> ; Ghassemi, Mohammad <i>Massachusetts Institute of Technology</i> ; Clifford, Gari <i>Univ. of Oxford</i>	
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ThAT11: 08:00-09:30	Fantasia N
Lab-on-Chip Based Biosensors and Actuators for Biomedical Applications (Oral Session)	
Chair: Miled, Amine <i>Laval Univ.</i>	
Co-Chair: Gosselin, Benoit <i>Laval Univ.</i>	
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08:00-08:15	ThAT11.1
Towards an Implantable Bio-Sensor Platform for Continuous Real-Time Monitoring of Anti-Epileptic Drugs	2982-2985
Hammoud, Abbas* <i>Polytechnique Montréal</i> ; Chamseddine, Ahmad <i>Polytechnique Montréal</i> ; Nguyen, Dang Khoa <i>CHUM Hôpital Notre-Dame</i> ; Sawan, Mohamad <i>Polytechnique Montreal</i>	
08:15-08:30	ThAT11.2
Power Management Design for Lab-On-Chip Biosensors	2986-2989
Yu, Xiaojian* <i>Univ. of Alberta</i> ; Moez, Kambiz <i>Univ. of Alberta</i> ; Wey, I-Chyn <i>Chang Gung Univ.</i> ; Chen, Jle <i>Univ. of Alberta</i>	
08:30-08:45	ThAT11.3
Blood Glucose Level Prediction based on Support Vector Regression using Mobile Platforms	2990-2993
Reymann, Maximilian P* <i>Friedrich-Alexander-Univ. Erlangen-Nuernberg</i> ; Dorschky, Eva <i>Friedrich-Alexander-Univ. Erlangen-Nuernberg</i> ; Groh, Benjamin H. <i>Friedrich-Alexander-Univ. Erlangen-Nürnberg (FAU)</i> ; Martindale, Christine <i>Friedrich-Alexander-Univ. Erlangen-Nürnberg</i> ; Blank, Peter <i>Univ. of Erlangen-Nuremberg</i> ; Eskofier, Bjoern M <i>Friedrich-Alexander-Univ. Erlangen-Nürnberg</i>	
08:45-09:00	ThAT11.4
Towards A Multi-Wavelength Spectroscopy Platform for Blood Characterization and Analysis	2994-2997
Avakh Kisomi, Alireza <i>Univ. Laval</i> ; Landari, Hamza <i>Univ. Laval</i> ; Boukadoum, Mounir <i>Univ. of Quebec at Montréal</i> ; Miled, Amine <i>Laval Univ.</i> ; Gosselin, Benoit* <i>Laval Univ.</i>	
09:00-09:15	ThAT11.5
Automated and Reconfigurable Platform for Niosome Generation based on a Microfluidic Architecture	2998-3001
Frédéric Tessier, Frédéric Tessier <i>Univ. Laval</i> ; Laprise-Pelletier, Myriam <i>Univ. Laval</i> ; Boilard, Eric <i>Chu de Quebec</i> ; Fortin, Marc-Andre <i>Univ. Laval</i> ; Miled, Amine* <i>Laval Univ.</i>	

09:15-09:30 ThAT11.6
Integration of Optical and Electrochemical Sensors on a Microfluidic Platform using Organic Optoelectronic Components and Silver Nanowires 3002-3005
 Poorahong, Sujitra *UQAM*; Lefevre, Florent *UQAM*; Perron, Marie-Claude *UQAM*; Juneau, Philippe *UQAM*; Izquierdo, Ricardo* *Univ. du Québec à Montréal*

ThAT12: 08:00-09:30 Fantasia P
Design in Biomedical Engineering Education (Oral Session)

08:00-08:15 ThAT12.1
A Community-Based, Interdisciplinary Rehabilitation Engineering Course 3006-3009
 Lundy, Mary *Univ. of North Florida*; Aceros, Juan* *Univ. of North Florida*

08:15-08:30 ThAT12.2
Designing a Hands-On Brain Computer Interface Laboratory Course 3010-3014
 Khalighinejad, Bahar* *Columbia Univ.*; Long, Laura Kathleen *Columbia Univ.*; Mesgarani, Nima *Columbia Univ.*

08:30-08:45 ThAT12.3
Design Projects Motivated and Informed by the Needs of Severely Disabled Autistic Children 3015-3018
 Warren, Steve* *Kansas State Univ.*; Prakash, Punit *Kansas State Univ.*; Thompson, David *Kansas State Univ.*; Natarajan, Balasubramaniam *Kansas State Univ.*; Carlson, Charles *Kansas State Univ.*; Fowler, Kim *Kansas State Univ.*; Brokesh, Edwin *Kansas State Univ.*; Piersel, Wayne *Heartspring*; Kesterson, Janine *Kansas State Univ.*; Stoffregen, Steve *Heartspring*; Xin, Xiaojiang Jack *Kansas State Univ.*

08:45-09:00 ThAT12.4
Teaching Cardiopulmonary Auscultation in Workshops using a Virtual Patient Simulation Technology – A Pilot Study 3019-3022
 Pereira, Daniel *Faculty of Medicine, Univ. of Porto*; Gomes, Pedro Tiago* *Faculdade de Ciências da Univ. do Porto, Portugal*; Faria, Sérgio *Faculdade de Ciências da Univ. do Porto*; Correia, Ricardo *Health Information and Decision Sciences Dept. (CIDES) and*; Coimbra, Miguel *Instituto de Telecomunicações / Univ. do Porto*

09:00-09:15 ThAT12.5
Teaching Biomedical Design through a Univ.-Industry Partnership 3023-3026
 Khuon, Lunal *Drexel Univ.*; Zurn, Karl* *Villanova Univ.*; Zurn, Jane Brooks *Villanova Univ.*; Herrera, Gerald *Catamount Research and Development*

09:15-09:30 ThAT12.6
A Case Study for Integrated STEM Outreach in an Urban Setting using a Do-it-Yourself Vertical Jump Measurement Platform 3027-3030
 Drazan, John* *Rensselaer Polytechnic Institute*; Danielsen, Heather *Rensselaer Polytechnic Institute*; Matt, Vercelletto *Rensselaer Polytechnic Institute*; Loya, Amy *Rensselaer Polytechnic Institute*; Davis, James *Rensselaer Polytechnic Institute*; Eglash, Ron *RPI*

ThAT13: 08:00-09:30 Fantasia Q
Latest Advances in Radio Frequency, Molecular, and Processing Technologies for In-Body and On-Body Sensor Systems (Part II) (Oral Session)

08:00-08:15 ThAT13.1
Meandered Conformal Antenna for ISM-Band Ingestible Capsule Communication Systems 3031-3034
 Arefin, Md Shamsul* *Monash Univ.*; Redouté, Jean-Michel *Monash Univ.*; Yuce, Mehmet *Monash Univ.*

08:15-08:30 ThAT13.2
Interventional Placement of Thin Coil Shaped Implants Powered Wirelessly for Monitoring Vital Signals and Controlling Abnormal Activities by Electro-Stimulation 3035-3038
 Ohta, Hidetoshi* *Sapporo Orthopedics and Cardiovascular Hospital*; Takamiya, Makoto *Univ. of Tokyo*; Honda, Masanobu *Univ. of Tokyo*

08:30-08:45 ThAT13.3
Swallowable Sensing Device for Long-term Gastrointestinal Tract Monitoring 3039-3042
 Nakamura, Ryota *Kobe Univ.*; Izumi, Shintaro* *Kobe Univ.*; Kawaguchi, Hiroshi *Kobe Univ.*; Ohta, Hidetoshi *Sapporo Orthopedics and Cardiovascular Hospital*; Yoshimoto, Masahiko *Kobe Univ.*

08:45-09:00 ThAT13.4
On the Capacity of Diffusion-Based Molecular Communications with SiNW FET-Based Receiver 3043-3047
Kuscu, Murat* *Koc Univ.*; Akan, Ozgur B. *Koc Univ.*

09:00-09:15 ThAT13.5
In-to-Out Body Path Loss for Wireless Radio Frequency Capsule Endoscopy in a Human Body 3048-3051
Vermeeren, Gunter* *iMinds / Ghent Univ.*; Tanghe, Emmeric *Ghent Univ.*; Thielens, Arno *Ghent Univ.*; Martens, Luc *iMinds / Ghent Univ.*; Joseph, Wout *Ghent Univ.*

ThAT14: 08:00-09:30 Sorcerers Apprentice 1
Neural Plasticity and Motor Learning for Brain Machine Interfaces (Oral Session)

08:00-08:15 ThAT14.1
A Non-Linear Mapping Algorithm Shaping the Control Policy of a Bidirectional Brain Machine Interface 3052-3055
Boi, Fabio *Fondazione Istituto Italiano di Tecnologia*; Semprini, Marianna *Italian Institute of Technology*; Vato, Alessandro* *Fondazione Istituto Italiano di Tecnologia*

08:15-08:30 ThAT14.2
Maximum Correntropy based Attention-Gated Reinforcement Learning Designed for Brain Machine Interface 3056-3059
Li, Hongbao *Zhejiang Univ.*; Wang, Fang *Zhejiang Univ.*; Zhang, Qiaosheng *Zhejiang Univ.*; Zhang, Shaomin *Zhejiang Univ.*; Wang, Yiwen* *Zhejiang Univ.*; Zheng, Xiaoxiang *Zhejiang Univ.*; Principe, Jose *Univ. of Florida*

08:30-08:45 ThAT14.3
Dynamical Information Encoding in Neural Adaptation 3060-3063
Li, Luozheng *Beijing Normal Univ.*; Zhang, Wenhao *Beijing Normal Univ.*; Mi, Yuanyuan *Beijing Normal Univ.*; Wang, Dahui *Beijing Normal Univ.*; Lin, Xiaohan *Beijing Normal Univ.*; Wu, Si* *Beijing Normal Univ.*

08:45-09:00 ThAT14.4
Reward Value is Encoded in Primary Somatosensory Cortex and can be Decoded from Neural Activity during Performance of a Psychophysical Task 3064-3067
McNiel, David *SUNY downstate medical center*; Choi, John Stephen *SUNY Downstate Medical Center*; Hessburg, John *SUNY Downstate*; Francis, Joseph Thachil* *Univ. of Houston*

09:00-09:15 ThAT14.5
Modeling the Distinct Sources of Variability during Learning of a Neuroprosthetic Task 3068-3071
Khanna, Preeya *Univ. of California, Berkeley*; Athalye, Vivek *Univ. of California, Berkeley*; Gowda, Suraj *Univ. of California, Berkeley*; Costa, Rui *Champalimaud Neuroscience Programme, Instituto Gulbenkiande Ciên*; Carmena, Jose M.* *Univ. of California, Berkeley*

ThAT15: 08:00-09:30 Sorcerers Apprentice 2
Bringing Big Data to Its Knees – IV: Advances in Storing, Mining and Visualising Big Bio-Medical Data in the Post-Genomic Era – Part 1 (Oral Session)
Chair: Seker, Huseyin *The Univ. of Northumbria at Newcastle*

08:00-08:15 ThAT15.1
Unsupervised Selection of RV144 HIV Vaccine-Induced Antibody Features Correlated to Natural Killer Cell-Mediated Cytotoxic Reactions 3072-3075
Sarac, Ferdi *Northumbria Univ. at Newcastle*; Uslan, Volkan *De Montfort Univ.*; Seker, Huseyin* *The Univ. of Northumbria at Newcastle*; Bouridane, Ahmed *Northumbria Univ. Belfast*

08:15-08:30 ThAT15.2
A Novel Method for Splice Sites Prediction using Sequence Component and Hidden Markov Model 3076-3079
Pashaei, Elham *Yildiz Technical Univ.*; Yilmaz, Alper *Yildiz Technical Univ.*; Ozen, Mustafa *Biruni Univ.*; Aydin, Nizamettin* *Yildiz Technical Univ.*

08:30-08:45 ThAT15.3
Biomarker Discovery based on BBHA and AdaboostM1 on Microarray Data for Cancer Classification 3080-3083
Pashaei, Elnaz *Yildiz Technical Univ.*; Ozen, Mustafa *Biruni Univ.*; Aydin, Nizamettin* *Yildiz Technical Univ.*

08:45-09:00		ThAT15.4
Big Data Challenges in Decoding Cortical Activity in a Human with Quadriplegia to Inform a Brain Computer Interface		3084-3087
Friedenberg, David* <i>Battelle Memorial Institute</i> ; Bouton, Chad <i>Battelle</i> ; Annetta, Nicholas <i>Battelle Memorial Institute</i> ; Skomrock, Nicholas <i>Battelle Memorial Institute</i> ; Zhang, Mingming <i>Battelle Memorial Institute</i> ; Schwemmer, Michael <i>Battelle Memorial Institute</i> ; Bockbrader, Marcia <i>The Ohio State Univ.</i> ; Mysiw, Walter <i>The Ohio State Univ.</i> ; Rezaei, Ali <i>The Ohio State Univ.</i> ; Bresler, Herbert <i>Battelle</i> ; Sharma, Gaurav <i>Battelle Memorial Institute</i>		
09:00-09:15		ThAT15.5
Structural Classification of Protein Sequences based on Signal Processing and Support Vector Machines		3088-3091
Chrysostomou, Charalambos* <i>Univ. of Leicester</i> ; Seker, Huseyin <i>The Univ. of Northumbria at Newcastle</i>		
09:15-09:30		ThAT15.6
Path-Based Connectivity for Clustering Genome Sequences		3092-3095
Sengel, Ozgur <i>Istanbul Kultur Univ.</i> ; Kursun, Olcay* <i>Istanbul Univ.</i>		
ThAT16: 08:00-09:30		Sorcerers Apprentice 3
Wearable Activity Monitoring (Oral Session)		
Chair: Ghasemzadeh, Hassan <i>Washington State Univ.</i>		
08:00-08:15		ThAT16.1
Attractor-shape Descriptors for Balance Impairment Assessment in Parkinson's Disease		3096-3100
Som, Anirudh* <i>Arizona State Univ.</i> ; Krishnamurthi, Narayanan <i>Arizona State Univ.</i> ; Venkataraman, Vinay <i>Arizona State Univ.</i> ; Turaga, Pavan <i>Arizona State Univ.</i>		
08:15-08:30		ThAT16.2
Two-Threshold Energy based Fall Detection using a Triaxial Accelerometer		3101-3104
Lopez, Jose David* <i>Univ. de Antioquia</i> ; Sucerquia Vega, Luz Angela <i>Univ. de Antioquia</i> ; Vargas, Jesus Francisco <i>Univ. de Antioquia</i>		
08:30-08:45		ThAT16.3
An Asynchronous Multi-View Learning Approach for Activity Recognition using Wearables		3105-3108
Ma, Yuchao* <i>Washington State Univ.</i> ; Ghasemzadeh, Hassan <i>Washington State Univ.</i>		
08:45-09:00		ThAT16.4
A Novel Method to Assess Angle Sensor Performance for Wearable Exoskeletal Joint Kinematics		3109-3112
Bolus, Nicholas* <i>Georgia Institute of Technology</i> ; Kogler, Geza <i>Georgia Institute of Technology</i> ; Inan, Omer <i>Georgia Institute of Technology</i>		
09:00-09:15		ThAT16.5
Real-Time Activity-Classification in a Wearable System Prototype for Knee-Joint Health-Assessment via Joint Sounds		3113-3116
Töreyin, Hakan <i>Georgia Institute of Technology</i> ; Jeong, Hyeon Ki <i>Georgia Institute of Technology</i> ; Hersek, Sinan <i>Georgia Institute of Technology</i> ; Teague, Caitlin <i>Georgia Institute of Technology</i> ; Inan, Omer* <i>Georgia Institute of Technology</i>		
09:15-09:30		ThAT16.6
A Smartphone Application Suite for Assessing Mobility		3117-3120
Madhushri, Priyanka <i>Univ. of Alabama in Huntsville</i> ; Dzhagaryan, Armen A. <i>Univ. of Alabama in Huntsville</i> ; Jovanov, Emil* <i>Univ. of Alabama in Huntsville</i> ; Milenkovic, Aleksandar <i>Univ. of Alabama in Huntsville</i>		

ThBT1: 11:00-12:30 Neural Stimulation (Oral Session)	Fantasia A
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11:00-11:15	Influence of Electrode Configuration on the Electric Field Distribution during Transcutaneous Spinal Direct Current Stimulation of the Cervical Spine Region	ThBT1.1 3121-3124
	<i>Fernandes, Sofia Rita* Faculdade de Ciências e Faculdade de Medicina da Univ. de; Salvador, Ricardo Institute of Biophysics and Biomedical Engineering (IBEB), Univ.; Wenger, Cornelia Faculdade de Ciências, Univ. de Lisboa; de Carvalho, Mamede IMM Molecular Medicine Institute, Faculty of Medicine, Univ.; Miranda, Pedro Cavaleiro Faculdade de Ciências, Univ. de Lisboa</i>	
11:15-11:30	Electrical Stimulation of the Saphenous Nerve in Anesthetized Rats: A Novel Therapeutic Approach to Treating Overactive Bladder	ThBT1.2 3125-3128
	<i>Moazzam, Zainab* Univ. of Toronto; Yoo, Paul Univ. of Toronto</i>	
11:30-11:45	Co-Activation of Saphenous Nerve Fibers: A Potential Therapeutic Mechanism of Percutaneous Tibial Nerve Stimulation?	ThBT1.3 3129-3132
	<i>Elder, Christopher* Univ. of Toronto; Yoo, Paul Univ. of Toronto</i>	
11:45-12:00	Strategies to Improve Stimulation Efficiency for Retinal Prostheses	ThBT1.4 3133-3138
	<i>Davuluri, Navya Univ. of Southern California; Nimmagadda, Kiran Univ. of Southern California; Petrossians, Artin Univ. of Southern California; Humayun, Mark USC / Doheny Eye Institute; Weiland, James* Univ. of Southern California</i>	
12:00-12:15	A Modular, Closed-Loop Platform for Intracranial Stimulation in People with Neurological Disorders	ThBT1.5 3139-3142
	<i>Sarma, Anish A.* Brown Univ.; Crocker, Britni Harvard-MIT Division of Health Sciences and Technology; Cash, Sydney Massachusetts General Hospital; Truccolo, Wilson Brown Univ.</i>	
12:15-12:30	Neuromotor Response of the Leg Muscles Following a Supine, Stand Retraining With/Without Neuromuscular Electrical Stimulation Training Intervention for Individuals with SCI: A Case Series	ThBT1.6 3143-3146
	<i>Canton, Stephen Kessler Foundation; Momeni, Kamyar Kessler Foundation; Ramanujam, Arvind Kessler Foundation; Garbarini, Erica Kessler Foundation; Forrest, Gail F* Kessler Foundation</i>	

ThBT2: 11:00-12:30 From Sensor to Signal to User Experience: Towards Adaptive Assistive Rehabilitative Technologies Beyond the Clinic (Oral Session)	Fantasia B
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11:00-11:15	Estimation of Walked Distance using Inertial Sensors in Real Conditions	ThBT2.1 3147-3150
	<i>Cerny, Martin VSB – Technical Univ. of Ostrava; Noury, Norbert* Univ. Lyon 1</i>	
11:15-11:30	AART-BC: A Sensor System for Monitoring Assistive Technology use Beyond the Clinic	ThBT2.2 3151-3154
	<i>James, Christopher* Univ. of Warwick; Amor, James Univ. of Warwick; Holloway, Catherine Univ. College London; Cheng, Tsu-Jui UCL; Kenney, Laurence Univ. of Salford</i>	
11:30-11:45	Estimation of Heart Rate from Foot Worn Photoplethysmography Sensors during Fast Bike Exercise	ThBT2.3 3155-3158
	<i>Jarchi, Delaram Univ. of Manchester; Casson, Alexander James* The Univ. of Manchester</i>	
11:45-12:00	Conformal Electronics for Longitudinal Bio-Sensing in At-Home Assistive and Rehabilitative Devices	ThBT2.4 3159-3162
	<i>Batchelor, John Univ. of Kent; Yeates, Stephen G. The Univ. of Manchester; Casson, Alexander James* The Univ. of Manchester</i>	

12:00-12:15 ThBT2.5
Segmentation of Human Upper Body Movement using Multiple IMU Sensors 3163-3166
 Aoki, Takashi* *Tokyo Univ. of Agriculture and Technology*; Lin, Jonathan Feng-Shun *Univ. of Waterloo*; Kulic, Dana *Univ. of Waterloo*; Venture, Gentiane *Tokyo Univ. of Agriculture and Technology*

12:15-12:30 ThBT2.6
Street Rehab: Linking Accessibility and Rehabilitation 3167-3170
 Holloway, Catherine* *Univ. College London*; Heravi, Behzad *Univ. College London*; Barbareschi, Giulia *Univ. College London*; Nicholson, Sarah *Univ. College London*; Hailes, Stephen *Univ. College London*

ThBT3: 11:00-12:30 Independent Component Analysis (Oral Session) Chair: Babiloni, Fabio <i>Univ. of Rome</i>	Fantasia C
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11:00-11:15 ThBT3.1
Application of Independent Component Analysis to Remove Linear Dependencies in EEG Recorded in Hippocampus 3171-3174
 Blaise, J. Harry* *Trinity College*; Ning, Taikang *Trinity College*

11:15-11:30 ThBT3.2
Acoustic Evaluation of Pirfenidone on Patients with Combined Pulmonary Fibrosis Emphysema Syndrome 3175-3178
 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*; Mateos-Toledo, Heidegger *National Institute of Respiratory Diseases*; Aljama-Corrales, Tomas *Univ. Autonoma Metropolitana*

11:30-11:45 ThBT3.3
Double Sensor Complementary Placement Method to Reduce Motion Artifacts in PPG using Fast Independent Component Analysis 3179-3182
 Lo, Po Wen* *The Chinese Univ. of Hong Kong*; Meng, Max Q.-H. *The Chinese Univ. of Hong Kong*

11:45-12:00 ThBT3.4
Exploring Neuro-Muscular Synergies of Reaching Movements with Unified Independent Component Analysis 3183-3186
 Artoni, Fiorenzo* *Scuola Superiore Sant'Anna Italy*; Pirondini, Elvira *TNE – EPFL*; Panarese, Alessandro *Scuola Superiore Sant'Anna di Pisa*; Micera, Silvestro *Scuola Superiore Sant'Anna*

12:00-12:15 ThBT3.5
A New Regression-Based Method for the Eye Blinks Artifacts Correction in the EEG Signal, without using Any EOG Channel 3187-3190
 Di Flumeri, Gianluca* *Univ. of Rome Sapienza*; Arico, Pietro *Fondazione Santa Lucia*; Borghini, Gianluca *Univ. of Rome Sapienza*; Colosimo, Alfredo *Univ. of Rome "Sapienza"*; Babiloni, Fabio *Univ. of Rome*

12:15-12:30 ThBT3.6
Low Cost and Efficient Kurtosis-Based Deflationary ICA Method: Application to MRS Sources Separation Problem 3191-3194
 Saleh, Majd *AL-Baath Univ., Homs, Syria*; Karfoul, Ahmad* *Univ. de Rennes1*; Kachenoura, Amar *Univ. de Rennes1 and INSERM*; Senhadji, Lotfi *Univ. de Rennes 1 and INSERM*; Albera, Laurent *Univ. de Rennes 1 and INSERM*

ThBT4: 11:00-12:30 Sleep 2 (Oral Session) Chair: Jones, Richard D. <i>New Zealand Brain Research Institute</i>	Fantasia D
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11:00-11:15 ThBT4.1
Identifying Individual Sleep Apnea/Hypopnea Epochs using Smartphone-Based Pulse Oximetry 3195-3198
 Garde, Ainara* *Univ. of British Columbia*; Kheirhah Dehkordi, Parastoo *Univ. of British Columbia*; Ansermino, J. Mark *British Columbia's Children's Hospital*; Dumont, Guy *Univ. of British Columbia*

11:15-11:30		ThBT4.2
A New Algorithm for the Detection of Sleep Apnea Events in Respiration Signals		3199-3202
Kim, Jungyoon* <i>Univ. of Michigan</i> ; Ramachandran, Satya Krishna <i>Univ. of Michigan</i> ; Tilbury, Dawn <i>Univ. of Michigan</i> ; ElMoaqet, Hisham <i>Univ. of Michigan</i>		
11:30-11:45		ThBT4.3
Sleep Apnoea Classification using Heart Rate Variability, ECG Derived Respiration and Cardiopulmonary Coupling Parameters		3203-3206
de Chazal, Philip* <i>Univ. of Sydney</i> ; Sadr, Nadi <i>Univ. of Sydney</i>		
11:45-12:00		ThBT4.4
Obstructive Sleep Apnea Severity Estimation: Fusion of Speech-Based Systems		3207-3210
Ben Or, Dvir* <i>Ben-Gurion Univ. of the Negev</i> ; Dafna, Eliran <i>Ben-Gurion Univ. of the Negev</i> ; Tarasiuk, Ariel <i>Ben-Gurion Univ.</i> ; Zigel, Yaniv <i>Ben-Gurion Univ. of the Negev</i>		
12:00-12:15		ThBT4.5
Can We Discriminate between Apnea and Hypopnea using Audio Signals?		3211-3214
Halevi, Matan* <i>Ben-Gurion Univ. of the Negev</i> ; Dafna, Eliran <i>Ben-Gurion Univ. of the Negev</i> ; Tarasiuk, Ariel <i>Ben-Gurion Univ.</i> ; Zigel, Yaniv <i>Ben-Gurion Univ. of the Negev</i>		
12:15-12:30		ThBT4.6
Automatic Snoring Sound Detection from Respiratory Signal		3215-3218
Shokrollahi, Mehrnaz <i>Univ. of Toronto</i> ; Saha, Shumit <i>Univ. of Manitoba</i> ; Hadi Mohammadabadi, Peyman <i>Toronto Rehabilitation Institute, Univ. Health Network</i> ; Rudzicz, Frank <i>Toronto Rehabilitation Institute; Univ. of Toronto</i> ; Yadollahi, Azadeh* <i>Univ. of Toronto</i>		
ThBT5: 11:00-12:30		Fantasia E
Ultrasound II: Novel Applications (Oral Session)		
11:00-11:15		ThBT5.1
Real-Time, Ultrasound-Based Control of a Virtual Hand by a Trans-Radial Amputee		3219-3222
Baker, Clayton Alex* <i>George Mason Univ.</i> ; Akhlaghi, Nima <i>George Mason Univ.</i> ; Rangwala, Huzefa George <i>Mason Univ.</i> ; Kosecka, Jana <i>George Mason Univ.</i> ; Sikdar, Siddhartha <i>George Mason Univ.</i>		
11:15-11:30		ThBT5.2
Ultrasound Plane-Wave Imaging with Delay Multiply and Sum Beamforming and Coherent Compounding		3223-3226
Matrone, Giulia <i>Univ. of Pavia</i> ; Savoia, Alessandro <i>Stuart Univ. degli Studi Roma Tre</i> ; Caliano, Giosue <i>Univ. Roma Tre</i> ; Magenes, Giovanni* <i>Univ. of Pavia</i>		
11:30-11:45		ThBT5.3
Low-Frequency Ultrasound Radiosensitization and Therapy Response Monitoring of Tumors: An in Vivo Study		3227-3230
Sadeghi-Naini, Ali* <i>Univ. of Toronto Sunnybrook Research Institute</i> ; Stanisz, Martin <i>Sunnybrook Health Sciences Centre</i> ; Tadayyon, Hadi <i>Queen's Univ., School of Computing</i> ; Taank, Jaswinder <i>Sunnybrook Health Sciences Centre</i> ; Czarnota, Gregory <i>Univ. of Toronto, Sunnybrook Health Sciences Centre</i>		
11:45-12:00		ThBT5.4
Effects of Phase Aberration Correction Methods on the Minimum Variance Beamformer		3231-3234
Chau, Gustavo* <i>Pontificia Univ. Catolica del Peru</i> ; Dahl, Jeremy <i>Duke Univ.</i> ; Lavarello, Roberto <i>Pontificia Univ. Catolica del Peru</i>		
12:00-12:15		ThBT5.5
Photoacoustic-Imaging-Based Temperature Monitoring for High-Intensity Focused Ultrasound Therapy		3235-3238
Wu, Xun* <i>North Carolina State Univ.</i> ; Sanders, Jean Lunsford <i>North Carolina State Univ.</i> ; Oralkan, Omer <i>North Carolina State Univ.</i> ; Stephens, Douglas N. <i>Univ. of California</i>		

ThBT6: 11:00-12:30	Fantasia F
Retinal Imaging (Oral Session)	
Chair: Chan, Kevin C. <i>Univ. of Pittsburgh</i>	
Co-Chair: Grisan, Enrico <i>Univ. of Padova</i>	

11:00-11:15	ThBT6.1
Mapping the Retinas of a Patient using a Mixed Set of Fundus Photographs from Both Eyes	3239-3242
Quellec, Gwenole* <i>Inserm</i> ; Lamard, Mathieu <i>Univ. de Bretagne Occidentale</i> ; Cazuguel, Guy <i>Institut Mines-Telecom/Telecom Bretagne</i> ; Erginay, Ali <i>Hospital Lariboisiere, APHP</i> ; Cochener, Béatrice <i>CHU Morvan</i>	
11:15-11:30	ThBT6.2
High Speed In-Vivo Imaging of Retinal Hemodynamics in a Rodent Model of Hypertension	3243-3246
Rezaeian, Mahdieh* <i>Macquarie Univ.</i> ; Georgevsky, Dana <i>Macquarie Univ.</i> ; Golzan, S.Mojtaba <i>Macquarie Univ.</i> ; Graham, Stuart L <i>Macquarie Univ.</i>	
11:30-11:45	ThBT6.3
Retinal Image Registration through Simultaneous Camera Pose and Eye Shape Estimation	3247-3251
Hernandez-Matas, Carlos* <i>FORTH</i> ; Zabulis, Xenophon <i>Foundation for Research & Technology</i> ; Argyros, Antonis <i>Univ. of Crete</i>	
11:45-12:00	ThBT6.4
An Automatic Quantitative Measurement Method for Performance Assessment of Retina Image Registration Algorithms	3252-3255
Ong, Ee Ping* <i>Institute for Infocomm Research</i> ; Lee, Jimmy Addison <i>Institute for Infocomm Research, ASTAR</i> ; Xu, Guozhen <i>Institute for Infocomm Research</i> ; Lee, Beng Hai <i>Institute for Infocomm Research</i> ; Wong, Damon <i>Institute for Infocomm Research</i>	
12:00-12:15	ThBT6.5
Classification of Large-Scale Fundus Image Data Sets: A Cloud-Computing Framework	3256-3259
Roychowdhury, Sohini* <i>Univ. of Washington, Bothell</i>	
12:15-12:30	ThBT6.6
Segmentation of Optic Disc and Optic Cup in Retinal Fundus Images using Shape Regression	3260-3264
Sedai, Suman* <i>IBM Research Australia</i> ; Roy, Pallab <i>IBM Research Australia</i> ; Dwarikanath, Mahapatra <i>IBM Research</i> ; Garnavi, Rahil <i>IBM Research Australia</i>	

ThBT8: 11:00-12:30	Fantasia K
Personalized Medicine (Oral Session)	
Chair: Dhawan, Atam <i>New Jersey Institute of Technology</i>	

11:00-11:15	ThBT8.1
Activity Recognition in Patients with Lower Limb Impairments: Do We Need Training Data from Each Patient?	3265-3268
Lonini, Luca* <i>Rehabilitation Institute of Chicago / Northwestern Univ.</i> ; Gupta, Aakash <i>Rehabilitation Institute of Chicago</i> ; Kording, Konrad <i>Northwestern Univ.</i> ; Jayaraman, Arun <i>Rehabilitation Institute of Chicago and Northwestern Univ.</i>	
11:15-11:30	ThBT8.2
Telehomecare Telecommunication Framework – From Remote Patient Monitoring to Video Visits and Robot Telepresence	3269-3272
Lepage, Pierre <i>Univ. de Sherbrooke</i> ; Létourneau, Dominic <i>Univ. de Sherbrooke</i> ; Hamel, Mathieu <i>Institute Univ. de Geriatrie de Sherbrooke</i> ; Brière, Simon <i>Research Center on Aging CSSS-IUGS</i> ; Corriveau, Hélène <i>Univ. Sherbrooke</i> ; Tousignant, Michel <i>Univ. de Sherbrooke</i> ; Michaud, François* <i>Univ. de Sherbrooke</i>	
11:45-12:00	ThBT8.4
Prediction of Individual Prosthesis Size for Valve-Spring Aortic Root Reconstruction based on Geometric Features	3273-3276
Hagenah, Jannis* <i>Univ. of Luebeck</i> ; Werrmann, Erik <i>Univ. of Luebeck</i> ; Scharfschwerdt, Michael <i>Univ. Hospital Schleswig-Holstein</i> ; Ernst, Floris <i>Univ. of Luebeck</i> ; Metzner, Christoph <i>Univ. of Luebeck</i>	

12:00-12:15 ThBT8.5
Acceptability of a Team-Based Mobile Health (mHealth) Application for Lifestyle Self-Management in Individuals with Chronic Illnesses 3277-3281
 Hartzler, Andrea L. *Group Health Cooperative*; Venkatakrishnan, Anusha* *Palo Alto Research Center, Inc.*; Mohan, Shiwali *Palo Alto Research Center, Inc.*; Silva, Michael *Palo Alto Research Center, Inc.*; Lozano, Paula *Group Health*; Ralston, James *Group Health Research Institute*; Ludman, Evette *Group Health Research Institute*; Rosenberg, Dori *Group Health Research Institute*; Newton, Katherine M. *Group Health Research Institute*; Nelson, Lester *Palo Alto Research Center, Inc.*; Pirolli, Peter *PARC*

12:15-12:30 ThBT8.6
Effect of Wearable Sensor Dynamics on Physical Activity Estimates: A Comparison between SCI vs. Healthy Individuals 3282-3285
 Jayaraman, Chandrasekaran *Feinberg School of Medicine, Northwestern Univ.*; Mummidisetty, Chaithanya K *Rehabilitation Institute of Chicago*; Jayaraman, Arun* *Rehabilitation Institute of Chicago and Northwestern Univ.*

ThBT9: 11:00-12:30 Fantasia L
Cardiac/Vascular Mechanics (Oral Session)

11:00-11:15 ThBT9.1
Hemodynamic Determinants and Ventriculo-Arterial Coupling are Sex-Associated in Heart Failure Patients 3286-3289
 Kerkhof, Peter LM* *VU Univ. Medical Center*; Heyndrickx, Guy R. *Cardiovascular Center, OLV Clinic, Aalst*; Li, John K-J. *Rutgers Univ.*

11:15-11:30 ThBT9.2
Selection of an Optimal Feature Set to Predict Heart Transplantation Outcomes 3290-3293
 Medved, Dennis* *Lund Univ.*; Nugues, Pierre *Lund Univ.*; Nilsson, Johan *Dept. Clinical Sciences Lund, CardioThoracic Surgery, Lund Univ.*

11:30-11:45 ThBT9.3
Fundamentals of Left Ventricular Volume Representation 3294-3297
 Kerkhof, Peter LM* *VU Univ. Medical Center*

11:45-12:00 ThBT9.4
Hemodynamic Effects from Coil Distribution with Realistic Coil Models in an Aneurysm 3298-3301
 Fujimura, Soichiro* *Tokyo Univ. of Science*; Takao, Hiroyuki *Jikei Univ. School of Medicine*; Suzuki, Takashi *Tokyo Univ. of Science*; Dahmani, Chiheb *Technical Univ. of Munich*; Mamori, Hiroya *Tokyo Univ. of science*; Yamamoto, Makoto *Tokyo Univ. of Science*; Murayama, Yuichi *Jikei Univ. School of Medicine*

12:00-12:15 ThBT9.5
Bringing Hemodynamic Simulations Closer to the Clinics: A CFD Prototype Study for Intracranial Aneurysms 3302-3305
 Berg, Philipp* *Univ. of Magdeburg*; Voß, Samuel *Univ. of Magdeburg*; Becker, Mathias *Univ. Hospital Magdeburg*; Serowy, Steffen *Univ. Hospital Magdeburg*; Redel, Thomas *Siemens AG*; Janiga, Gabor *Univ. of Magdeburg*; Skalej, Martin *Univ. Hospital Magdeburg*; Beuing, Oliver *Univ. Hospital Magdeburg*

12:15-12:30 ThBT9.6
CFD Analysis of Strut Influence on Blood Flow in Stent-Implanted Left Main Coronary Artery Bifurcation 3306-3309
 Yamada, Yuya *Tokyo Univ. of Science*; Tsukahara, Takahiro* *Tokyo Univ. of Science*; Motosuke, Masahiro *Tokyo Univ. of Science*; Fujino, Yusuke *New Tokyo Hospital*

ThBT10: 11:00-12:30 Fantasia M
Knowledge Discovery and Management (Oral Session)

11:00-11:15 ThBT10.1
Integration of SNP-FMRI-Methylation Data with Sparse Multi-CCA for Schizophrenia Study 3310-3313
 Hu, Wenxing *Biomedical Engineering Dept., Tulane Univ.*; Lin, Dongdong *The MIND research network*; Calhoun, Vince *The Mind Research Network/Univ. of New Mexico*; Wang, Yu-Ping* *Tulane Univ.*

11:15-11:30	ThBT10.2
Learning Approaches to Improve Prediction of Drug Sensitivity in Breast Cancer Patients	3314-3320
Turki, Turki* <i>King Abdulaziz Univ. & New Jersey Institute of Technology</i> ; Wei, Zhi <i>New Jersey Institute of Technology</i>	
11:30-11:45	ThBT10.3
Multi-Task Transfer Learning for In-Hospital-Death Prediction of ICU Patients	3321-3324
Karmakar, Chandan* <i>Deakin Univ.</i> ; Saha, Budhaditya <i>Deakin Univ.</i> ; Palaniswami, Marimuthu <i>The Univ. of Melbourne</i> ; Venkatesh, Svetha <i>Deakin Univ.</i>	
11:45-12:00	ThBT10.4
Multi-View Non-Negative Tensor Factorization as Relation Learning in Healthcare Data	3325-3328
Wu, Hang* <i>Georgia Institute of Technology</i> ; Wang, May D. <i>Georgia Tech and Emory Univ.</i>	
12:00-12:15	ThBT10.5
Ensemble Statistical and Subspace Clustering Model for Analysis of Autism Spectrum Disorder Phenotypes	3329-3333
Al-jabery, Khalid <i>Missouri Univ. of Science and Technology</i> ; Obafemi-ajayi, Tayo* <i>Missouri Univ. of Science and Technology</i> ; Olbricht, Gayla <i>Missouri Univ. of Science and Technology</i> ; Takahashi, T. Nicole <i>Univ. of Missouri Thompson Center for Autism and other Nuer</i> ; Kanne, Stephen <i>Univ. of Missouri Thompson Center for Autism and other Nuer</i> ; Wunsch, Donald <i>Missouri Univ. of Science and Technology</i>	
12:15-12:30	ThBT10.6
A Biologically Inspired Image Classifier: Adaptive Feature Detection	3334-3337
Ames, Jeffrey C. <i>Rutgers Univ.</i> ; Michmizos, Konstantinos* <i>Rutgers Univ.</i>	

ThBT11: 11:00-12:30	Fantasia N
Invited Session: Modeling of Modern Devices and Technologies with Computational Human Phantoms – I (Oral Session)	
Chair: Makarov, Sergey <i>Electrical and Computer Engineering, Worcester Polytechnic Institute</i>	
Co-Chair: Horner, Marc <i>ANSYS, Inc.</i>	

11:00-11:15	ThBT11.1
The Visible Human Project: From Body to Bits	3338-3341
Ackerman, Michael* <i>National Library of Medicine</i>	
11:15-11:30	ThBT11.2
ITK-SNAP: An Interactive Tool for Semi-Automatic Segmentation of Multi-Modality Biomedical Images	3342-3345
Yushkevich, Paul* <i>Penn Image Computing and Science Laboratory (PICSL), Dept.</i> ; Gao, Yang <i>Scientific Computing and Imaging Institute, Univ. of Utah</i> ; Gerig, Guido <i>NYU Tandon School of Engineering</i>	
11:30-11:45	ThBT11.3
AustinMan and AustinWoman: High-Fidelity, Anatomical Voxel Models Developed from the VHP Color Images	3346-3349
Massey, Jackson <i>White Univ. of Texas at Austin</i> ; Yilmaz, Ali* <i>Univ. of Texas at Austin</i>	
11:45-12:00	ThBT11.4
Computational Human Model VHP-FEMALE Derived from Datasets of the National Library of Medicine	3350-3353
Noetscher, Gregory* <i>Worcester Polytechnic Institute</i> ; Yanamadala, Janakinadh <i>Worcester Polytechnic Institute</i> ; Tankaria, Harshal <i>Worcester Polytechnic Inst.</i> ; Louie, Sara <i>ANSYS, Inc.</i> ; Prokop, Alexander <i>Computer Simulation Technology</i> ; Nazarian, Ara <i>Harvard Med School</i> ; Makarov, Sergey <i>Electrical and Computer Engineering, Worcester Polytechnic Institute</i>	

ThBT12: 11:00-12:30	Fantasia P
New Technologies for Human Movement (Oral Session)	
Chair: Pons, Jose Luis <i>Cajal Institute, Spanish Research Council</i>	

11:00-11:15	ThBT12.1
Split-Belt Controllable Treadmill with Differential Velocity-Based Fall Stimulation and Motion Analysis	3354-3357
Nakashima, Yasutaka* <i>Kyushu Univ.</i> ; Noutsuka, Hiroki <i>Kyushu Univ.</i> ; Fukui, Takanori <i>Kyushu Univ.</i> ; Yamamoto, Motoji <i>Kyushu Univ.</i>	

11:15-11:30	ThBT12.2
A Wheelchair with Lever Propulsion Control for Climbing Up and Down Stairs	3358-3361
Sasaki, Kai* <i>Univ. of Tsukuba</i> ; Eguchi, Yosuke <i>Univ. of Tsukuba</i> ; Suzuki, Kenji <i>Univ. of Tsukuba</i>	
11:30-11:45	ThBT12.3
Fusion of Inertial and Magnetic Sensors for 3D Position and Orientation Estimation	3362-3365
Tadayon, Puian* <i>Dortmund Univ. of Applied Sciences and Arts</i> ; Felderhoff, Thomas <i>Dortmund Univ. of Applied Sciences and Arts</i> ; Knopp, Andreas <i>Univ. AF Munich</i> ; Staude, Gerhard <i>Univ. AF Munich</i>	
11:45-12:00	ThBT12.4
Design and Development of a Sensorized Cylindrical Object for Grasping Assessment	3366-3369
Cordella, Francesca* <i>Univ. of Campus Bio-Medico of Rome</i> ; Taffoni, Fabrizio <i>Campus Bio-Medico Univ.</i> ; Raiano, Luigi <i>Unit of Biomedical Robotics and Biomicrosystems, Dept. of E</i> ; Carpino, Giorgio <i>Campus Bio-Medico Univ.</i> ; Pantoni, Michele <i>Unit of Biomedical Robotics and Biomicrosystems, Dept. of E</i> ; Zollo, Loredana <i>Univ. Campus Bio-Medico</i> ; Scheda, Emiliano <i>Univ. of Rome Campus Bio-Medico</i> ; Guglielmelli, Eugenio <i>Campus Bio-Medico Univ.</i> ; Formica, Domenico <i>Campus Bio-Medico Univ.</i>	
12:00-12:15	ThBT12.5
A Smart Cane with Vibrotactile Biofeedback Improves Cane Loading for People with Knee Osteoarthritis	3370-3373
Routson, Rebecca L. <i>VA Puget Sound Health Care System, Univ. of Washington</i> ; Bailey, Marcus <i>Univ. of Washington</i> ; Pumford, Isabelle <i>Univ. of Arkansas</i> ; Czerniecki, Joseph M. <i>VA Puget Sound Health Care System, Univ. of Washington</i> ; Aubin, Patrick Mark* <i>VA Puget Sound Health Care System, Univ. of Washington</i>	
12:15-12:30	ThBT12.6
Measurement of Shank Angle during Stance using Laser Range Finders	3374-3377
Amiri, Pouya* <i>PhD candidate at McGill Univ.</i> ; MacLean, Luke <i>Student at Mechanical Engineering Dept. at McGill Univ.</i> ; Kearney, Robert Edward <i>McGill Univ.</i>	

ThBT13: 11:00-12:30	Fantasia Q
Wearable Cardiovascular Monitoring (Oral Session)	
Chair: Kim, Insoo <i>Samsung Research America – Dallas</i>	

11:00-11:15	ThBT13.1
Changes in ST, QT and RR ECG Intervals during Acute Stress in Firefighters: A Pilot Study	3378-3381
Paiva, Joana* <i>INESC TEC, Faculty of Engineering, Univ. of Porto</i> ; Rodrigues, Susana <i>Instituto de Engenharia de Sistemas e Computadores, Tecnologia e</i> ; Cunha, Joao Paulo Silva <i>INESC TEC, PT</i>	
11:15-11:30	ThBT13.2
Noninvasive and Continuous Blood Pressure Measurement via Superficial Temporal Artery Tonometry	3382-3385
Canning, Julia <i>Massachusetts Institute of Technology</i> ; Helbert, Kendall <i>Massachusetts Institute of Technology</i> ; Iashin, Grigoriy <i>Skoltech Institute of Science and Technology</i> ; Matthews, Jonathan <i>Massachusetts Institute of Technology</i> ; Yang, Jason* <i>Massachusetts Institute of Technology</i> ; Delano, Margaret <i>MIT</i> ; Sodini, Charles G. <i>Massachusetts Institute of Technology</i> ; Zhang, Quan <i>Massachusetts General Hospital/Harvard Medical School</i>	
11:30-11:45	ThBT13.3
Assessment of Pre-Ejection Period in Ambulatory Subjects using Seismocardiogram in a Wearable Blood Pressure Monitor	3386-3389
Zhang, Guanqun* <i>Sotera Wireless Inc.</i> ; Cottrell, Amber <i>Sotera Wireless, Inc.</i> ; Henry, Isaac <i>Sotera Wireless</i> ; McCombie, Devin <i>Sotera Wireless, Inc.</i>	
11:45-12:00	ThBT13.4
Towards Development of a Mobile RF Doppler Sensor for Continuous Heart Rate Variability and Blood Pressure Monitoring	3390-3393
Kim, Insoo* <i>Samsung Research America – Dallas</i> ; Bhagat, Yusuf <i>Samsung Research America</i>	
12:00-12:15	ThBT13.5
Monitoring and Detecting Atrial Fibrillation using Wearable Technology	3394-3397
Nemati, Shamim* <i>Emory Univ. School of Medicine</i> ; Ghassemi, Mohammad <i>Massachusetts Institute of Technology</i> ; Ambai, Vaidehi <i>Philadelphia College of Osteopathic Medicine</i> ; Isakadze, Nino <i>Dept of Medicine, Emory Univ. School of Medicine, Atlanta</i> ; Levantsevych, Oleksiy <i>Dept of Medicine, Emory Univ. School of Medicine, Atlanta</i> ; Shah, Amit <i>Dept of Medicine, Emory Univ. School of Medicine, Atlanta</i> ; Clifford, Gari <i>Univ. of Oxford</i>	

12:15-12:30 ThBT13.6
Multiple Switching Light Sources based Motion Artifacts Reduction in Reflectance Photoplethysmography 3398-3401
 Lee, Hooseok *Wonkwang Univ. School of Medicine*; Ko, Hoon *Wonkwang Univ. School of Medicine*; Thap, Tharoeun *Wonkwang Univ. School of Medicine*; Lee, Jinseok* *Wonkwang Univ. School of Medicine*

ThBT14: 11:00-12:30 Sorcerers Apprentice 1
Neural Signal Processing (Oral Session)
Chair: Strauss, Daniel J. *Saarland Univ., Medical Faculty*

11:00-11:15 ThBT14.1
Neural Correlates to Automatic Behavior Estimations from RGB-D Video in Epilepsy Unit 3402-3405
 Gabriel, Paolo* *Univ. of California, San Diego*; Doyle, Werner *NYU*; Devinsky, Orrin *New York Univ.*; Friedman, Daniel *NYU School of Medicine*; Thesen, Thomas *New York Univ.*; Gilja, Vikash *Stanford Univ.*

11:15-11:30 ThBT14.2
The Precuneus May Encode Irrationality in Human Gambling 3406-3409
 Sacré, Pierre* *Johns Hopkins Univ.*; Kerr, Matthew *Johns Hopkins Univ.*; Subramanian, Sandya *Johns Hopkins Univ.*; Kahn, Kevin *Johns Hopkins Univ.*; Gonzalez-Martinez, Jorge *Cleveland Clinic*; Johnson, Matthew *Cleveland Clinic*; Sarma, Sridevi V. *Johns Hopkins Univ.*; Gale, John *Cleveland Clinic*

11:30-11:45 ThBT14.3
Real-Time Algorithms for Sparse Neuronal System Identification 3410-3413
 Sheikhattar, Alireza* *Univ. of Maryland College Park*; Babadi, Behtash *Univ. of Maryland*

11:45-12:00 ThBT14.4
Assessment of Frequency Specific Auditory Steady-State Response using Amplitude Modulation with 2-Order Exponential Envelope 3414-3417
 Cevallos-Larrea, Pablo* *Federal Univ. of Rio de Janeiro*; Pereira, Thobias *Federal Univ. of Rio de Janeiro*; Santos, Wagner *Federal Univ. of Rio de Janeiro*; Frota, Silvana *Federal Univ. of Rio de Janeiro*; Infantosi, Antonio Fernando *Federal Univ. of Rio de Janeiro*; Ichinose, Roberto Macoto *Federal Univ. of Rio de Janeiro*; Terra-Criollo, Carlos Julio *Univ. Federal de Minas Gerais*

12:00-12:15 ThBT14.5
Robust Extraction of the N1--Effect in Dichotic Listening using Hardy Space Mappings of Auditory Late Single 3418-3421
 Strauss, Daniel J. *Saarland Univ., Medical Faculty*; Corona-Strauss, Farah I.* *Saarland Univ. Hospital*

12:15-12:30 ThBT14.6
Linear Methods for Reducing EMG Contamination in Peripheral Nerve Motor Decodes 3422-3425
 Kagan, Zachary B.* *Univ. of Utah*; Wendelken, Suzanne *Dartmouth College*; Page, David *Univ. of Utah*; Davis, Tyler *Univ. of Utah*; Hutchinson, Douglas *Univ. of Utah*; Clark, Gregory *Univ. of Utah*; Warren, David *Univ. of Utah*

ThBT15: 11:00-12:30 Sorcerers Apprentice 2
Bringing Big Data to Its Knees – IV: Advances in Storing, Mining and Visualising Big Bio-Medical Data in the Post-Genomic Era – Part 2 (Oral Session)
Chair: Seker, Huseyin *The Univ. of Northumbria at Newcastle*
Co-Chair: Friedenber, David *Battelle Memorial Inst.*

11:00-11:15 ThBT15.1
Prediction Method for Intronic Alternative Polyadenylation Sites N/A
 Zhang, Shanxin* *Jiangnan Univ.*

11:15-11:30 ThBT15.2
Does the Degree of Coarctation of the Aorta Influence Wall Shear Stress Focal Heterogeneity? 3429-3432
 Gounley, John* *Duke Univ.*; Chaudhury, Rafeed *Arizona State Univ.*; Vardhan, Madhurima *Duke Univ.*; Driscoll, Michael *Univ. of California, Berkeley*; Pathangey, Girish *Arizona State Univ.*; Winarta, Kevin *Arizona State Univ.*; Ryan, Justin *Arizona State Univ.*; Frakes, David *Arizona State Univ.*; Randles, Amanda *Duke Univ.*

11:30-11:45	ThBT15.3
A Data Science Approach for Quantifying Spatio-Temporal Effects to Graft Failures in Organ Transplantation	3433-3436
Pinheiro, Diego* <i>Florida Institute of Technology</i> ; Hamad, Farag <i>Florida Institute of Technology</i> ; Cadeiras, Martin <i>UCLA</i> ; Menezes, Ronaldo <i>Florida Institute of Technology</i> ; N Kachouie, Nezamoddin <i>Florida Institute of Technology</i>	
11:45-12:00	ThBT15.4
Multi-Omic Approaches for Characterization of Hepatocellular Carcinoma	3437-3440
Ressom, Habtom* <i>Georgetown Univ.</i> ; Di Poto, Cristina <i>Georgetown Univ.</i> ; Ferrarini, Alessia <i>Georgetown Univ.</i> ; Yunli, Hu <i>Texas Tech Univ.</i> ; Nezami Ranjbar, Mohammad <i>Georgetown Univ.</i> ; Song, Ehwang <i>Texas Tech Univ.</i> ; Varghese, Rency <i>Georgetown Univ. Medical Center</i> ; Wang, Minkun <i>Virginia Polytechnic Institute and State Univ.</i> ; Zhou, Shiyue <i>Texas Tech Univ.</i> ; Zhu, Rui <i>Texas Tech Univ.</i> ; Zuo, Yiming <i>Virginia Polytechnic Institute and State Univ.</i> ; Tadesse, Mahlet <i>Georgetown Univ.</i> ; Mechref, Yehia <i>Indiana Univ.</i>	
12:00-12:15	ThBT15.5
A Novel Thermal Tactile Stimulator Device for Quantitative Sensory Testing	N/A
Kursun, Umit <i>Istanbul Univ.</i> ; Kursun, Olcay* <i>Istanbul Univ.</i> ; Favorov, Oleg V. <i>Univ. of North Carolina</i>	
12:15-12:30	ThBT15.6
Binding Affinity Prediction of S. Cerevisiae 14-3-3 and GYF Peptide-Recognition Domains using Support Vector Regression	3445-3448
Uslan, Volkan* <i>De Montfort Univ.</i> ; Seker, Huseyin <i>The Univ. of Northumbria at Newcastle</i>	
ThCT1: 15:30-17:00	Fantasia A&B
Ignite_Theme 1_Th1 (Ignite Session)	
Chair: Astolfi, Laura <i>Univ. of Rome Sapienza</i>	
15:30-17:00	ThCT1.1
Why Should You Model Time When You use Markov Models for Analysing Heart Sounds	3449-3452
Oliveira, Jorge <i>Instituto de Telecomunicações, Faculdade de Ciências da Univ.</i> ; Mantadelis, Theofrastos <i>CRACS & INESC TEC, Univ. of Porto</i> ; Coimbra, Miguel* <i>Instituto de Telecomunicações / Univ. do Porto</i>	
15:30-17:00	ThCT1.2
Electrocardiographic Waveforms Fitness Check Device Technique for Sudden Cardiac Death Risk Screening	3453-3456
Escalona, Omar Jacinto* <i>Univ. of Ulster</i> ; Mendoza, Marianela <i>Univ. Simon Bolivar</i>	
15:30-17:00	ThCT1.3
Detection of Patients Considering Observation Frequency of Continuous and Discontinuous Adventitious Sounds in Lung Sounds	3457-3460
Nakamura, Naoki <i>Nagasaki Univ.</i> ; Yamashita, Masaru <i>Nagasaki Univ.</i> ; Matsunaga, Shoichi* <i>Nagasaki Univ.</i>	
15:30-17:00	ThCT1.4
Automated Detection of Atrial Fibrillation Episode using Novel Heart Rate Variability Features	3461-3464
Gilani, Mehrin <i>Univ. of Ontario Institute of Technology</i> ; Eklund, J. Mikael* <i>Univ. of Ontario Institute of Technology</i> ; Masoud, Makrehchi <i>Univ. of Ontario Institute of Technology</i>	
15:30-17:00	ThCT1.5
Myocardial Ischemic Beat and Episode Detection based on Morphology and Correcting Window Method	3465-3468
Yu, Sung-Nien* <i>National Chung Cheng Univ.</i> ; Tsai, Po-Chuan <i>National Chung Cheng Univ.</i>	
15:30-17:00	ThCT1.6
Pulse Transit Time and Heart Rate Variability in Sleep Staging	3469-3472
Salari Shahrabaki, Sobhan* <i>RMIT Univ.</i> ; Ahmed, Beena <i>Texas A&M Univ. at Qatar</i> ; Penzel, Thomas <i>Charite Univ. Hospital</i> ; Cvetkovic, Dean <i>RMIT Univ.</i>	
15:30-17:00	ThCT1.7
An Algorithm for Rotor Tracking in Atrial Fibrillation using Graph Search-Based Periodic Peak Detection	3473-3477
Dalvi, Rupin* <i>Univ. Health Network</i> ; Suszko, Adrian Michael <i>Univ. Health Network</i> ; Chauhan, Vijay S. <i>Univ. Health Network</i>	

15:30-17:00		ThCT1.8
Sleep Architecture Measurement based on Cardiorespiratory Parameters	3478-3481	
Tataraidze, Alexander* <i>Bauman Moscow State Technical Univ.</i> ; Anishchenko, Lesya <i>Bauman Moscow State Technical Univ.</i> ; Korostovtseva, Lyudmila <i>Federal North-West Medical Research Centre</i> ; Bochkarev, Mikhail <i>Federal North-West Medical Research Centre</i> ; Sviryaev, Yurii <i>Sleep Laboratory, Federal Almazov Medical Research Centre</i>		
15:30-17:00		ThCT1.9
Determining Team Cognition from Delay Analysis using Cross Recurrence Plot	3482-3485	
Hajari, Nasim <i>Univ. of Alberta</i> ; Cheng, Irene <i>Univ. of Alberta</i> ; Zheng, Bin <i>Univ. of Alberta</i> ; Basu, Anup* <i>Univ. of Alberta</i>		
15:30-17:00		ThCT1.10
Dictionary Learning for Sparse Representation and Classification of Neural Spikes	3486-3489	
Dallal, Ahmed* <i>Dept. of Electrical and Computer Engineering, Univ. of</i> ; Chen, Yiran <i>Univ. of Pittsburgh</i> ; Weber, Douglas <i>Univ. of Pittsburgh</i> ; Mao, Zhi-Hong <i>Univ. of Pittsburgh</i>		
15:30-17:00		ThCT1.11
Constrained Variant Detection with SPaRC: Sparsity, Parental Relatedness, and Coverage	3490-3493	
Banuelos, Mario* <i>Univ. of California, Merced</i> ; Almanza, Rubi <i>Univ. of California, Merced</i> ; Adhikari, Lasith <i>Univ. of California, Merced</i> ; Sindi, Suzanne <i>Univ. of California, Merced</i> ; Marcia, Roummel <i>Univ. of California, Merced</i>		
15:30-17:00		ThCT1.12
Estimation of Second-Phase Insulin Secretion in the Zucker Fatty Rat	3494-3497	
Morettini, Micaela <i>Univ. of Rome "Foro Italico"</i> ; Di Nardo, Francesco* <i>Polytechnic Univ. of Marche</i> ; Cogo, Carla <i>Emilia Univ. of Genoa</i> ; Faelli, Emanuela <i>Univ. of Genoa</i> ; Fioretti, Sandro <i>Politecnica delle Marche</i> ; Burattini, Laura <i>Politecnica delle Marche</i> ; Ruggeri, Piero <i>Univ. of Genoa</i>		
15:30-17:00		ThCT1.13
Effect of Oral Glucose Supplementation on Surface EMG during Fatiguing Dynamic Exercise	3498-3502	
Davidson, Clare Muireann* <i>Univ. College Dublin</i> ; Devito, Giuseppe <i>Univ. College Dublin</i> ; Lowery, Madeleine <i>Univ. College Dublin</i>		
15:30-17:00		ThCT1.14
Deep Learning Framework for Detection of Hypoglycemic Episodes in Children with Type 1 Diabetes	3503-3506	
San, Phyo Phyo <i>Agency for Science, Technology and Research</i> ; Ling, Steve <i>Univ. of Technology Sydney</i> ; Nguyen, Hung T.* <i>Univ. of Technology, Sydney</i>		
15:30-17:00		ThCT1.15
Comparison of Three Nonlinear Filters for Fault Detection in Continuous Glucose Monitors	3507-3510	
Mahmoudi, Zeinab* <i>Technical Univ. of Denmark</i> ; Lyngbye Wendt, Sabrina <i>Technical Univ. of Denmark</i> ; Boiroux, Dimitri <i>Technical Univ. of Denmark</i> ; Hagdrup, Morten <i>Technical Univ. of Denmark</i> ; Noergaard, Kirsten <i>Hvidovre Univ. Hospital</i> ; Kjølstad Poulsen, Niels <i>Technical Univ. of Denmark</i> ; Madsen, Henrik <i>Technical Univ. of Denmark</i> ; Jorgensen, John Bagterp <i>Technical Univ. of Denmark</i>		
15:30-17:00		ThCT1.16
Heart Rate Monitoring from Wrist-Type PPG based on Singular Spectrum Analysis with Motion Decision	3511-3514	
Wang, Yang* <i>Beijing Institute of Technology</i> ; Liu, Zhiwen <i>Beijing Institute of Technology</i> ; Dong, Bin <i>Beijing Institute of Technology</i>		
15:30-17:00		ThCT1.17
Body Position Classification for Cardiorespiratory Measurement	3515-3518	
Młyńczak, Marcel* <i>Warsaw Univ. of Technology, Faculty of Mechatronics, Institute</i> ; Berka, Martin <i>Univ. of Calgary, Dept. of Electrical and Computer Eng</i> ; Niewiadomski, Wiktor <i>Dept. of Applied Physiology, Mossakowski Medical Research C</i> ; Cybulski, Gerard <i>Warsaw Univ. of Technology, Faculty of Mechatronics</i>		
15:30-17:00		ThCT1.18
Towards Real-Time QRS Feature Extraction for Wearable Monitors	3519-3522	
Smital, Lukas* <i>Brno Univ. of Technology, Brno, CZ</i> ; Haider, Clifton <i>Mayo Clinic</i> ; Leinveber, Pavel <i>St. Anne's Univ. Hospital</i> ; Jurak, Pavel <i>Inst of Scientific Instruments Academy</i> ; Gilbert, Barry <i>Mayo Clinic College of Medicine</i> ; Holmes, David <i>Mayo Clinic</i>		

15:30-17:00	ThCT1.19
An Algorithm for Automatic Detection of Drowsiness for use in Wearable EEG Systems	3523-3526
Kwai, Chin Ang, Patrick <i>Imperial College London</i> ; Imtiaz, Syed Anas* <i>Imperial College London</i> ; Bowyer, Stuart A. <i>Imperial College London</i> ; Rodriguez-Villegas, Esther <i>Imperial College London</i>	
15:30-17:00	ThCT1.20
Vital Sign Monitoring Utilizing Eulerian Video Magnification and Thermography	3527-3530
Aubakir, Bauyrzhan* <i>Nazarbayev Univ.</i> ; Nurimbetov, Birzhan <i>Nazarbayev Univ.</i> ; Tursynbek, Ilyas <i>Nazarbayev Univ.</i> ; Varol, Huseyin Atakan <i>Nazarbayev Univ.</i>	
15:30-17:00	ThCT1.21
Towards an Algorithm for Automatic Accelerometer-Based Pulse Presence Detection during Cardiopulmonary Resuscitation	3531-3534
Dellimore, Kiran <i>Philips Research</i> ; Wijshoff, Ralph <i>Philips Research</i> ; Haarbuerger, Christoph <i>RWTH Aachen Univ.</i> ; Aarts, Vincent <i>Philips Research</i> ; Derkx, Rene <i>Philips Research</i> ; van de Laar, Jakob <i>Philips Research</i> ; Nammi, Krishnakant <i>Philips Medical Systems</i> ; Russell, James K. <i>Philips Healthcare</i> ; Hubner, Pia <i>Medical Univ. of Vienna</i> ; Sterz, Fritz <i>Medical Univ. of Vienna</i> ; Muehlsteff, Jens* <i>Philips</i>	
15:30-17:00	ThCT1.22
Low-Complexity Prediction of Frequency-Rich Biosignals for Lossless Compression in Wearable Technologies	3535-3538
Chen, Guangwei* <i>Imperial College London</i> ; Bowyer, Stuart A. <i>Imperial College London</i> ; Rodriguez-Villegas, Esther <i>Imperial College London</i>	
15:30-17:00	ThCT1.23
Comparing Wearable Devices with Wet and Textile Electrodes for Activity Recognition	N/A
Lokare, Namita* <i>North Carolina State Univ.</i> ; Gonzalez, Laura <i>North Carolina State Univ.</i> ; Lobaton, Edgar <i>North Carolina State Univ.</i>	
15:30-17:00	ThCT1.24
A Low Power Level-Crossing ADC for Wearable Wireless ECG Sensors	3543-3546
Tian, Zhenzhen <i>Shanghai Jiao Tong Univ.</i> ; Ying, Rendong <i>Shanghai Jiao Tong Univ.</i> ; Liu, Peilin <i>Shanghai Jiao Tong Univ.</i> ; Wang, Guoxing <i>Shanghai Jiao Tong Univ.</i> ; Lian, Yong* <i>York Univ.</i>	
15:30-17:00	ThCT1.25
Modeling Digital Pulse Waveforms by Solving One-Dimensional Navier-Stokes Equations	3547-3550
Fedotov, Aleksandr <i>Samara State Aerospace Univ.</i> ; Akulova, Anna* <i>Samara State Aerospace Univ.</i> ; Akulov, Sergey <i>Samara State Aerospace Univ.</i>	
15:30-17:00	ThCT1.26
Development of MATLAB Software to Control Data Acquisition from a Multichannel Systems Multi-Electrode Array	3551-3554
Messier, Erik <i>Rochester Institute of Technology</i> ; Ghoraani, Behnaz* <i>Rochester Institute of Technology</i>	
15:30-17:00	ThCT1.27
A Method to Detect Tortuosity of Vessel using Non Imaging Ultrasound Approach in Carotid Structure	3555-3559
Balasheb Patil, Ravindra* <i>Philips Research India</i> ; Palanisamy, Krishnamoorthy <i>Philips India Limited</i>	
15:30-17:00	ThCT1.28
On the Pleasantness of a Haptic Stimulation: How Different Textures can be Recognized through Heart Rate Variability Nonlinear Analysis	3560-3563
Nardelli, Mimma <i>Univ. of Pisa</i> ; Greco, Alberto <i>Univ. of Pisa</i> ; Bianchi, Matteo <i>Univ. of Pisa</i> ; Scilingo, Enzo Pasquale <i>Univ. of Pisa</i> ; Valenza, Gaetano* <i>Univ. of Pisa-MGH-Harvard Medical School</i>	
15:30-17:00	ThCT1.29
Non-Contact Real-Time Estimation of Intrapulmonary Pressure and Tidal Volume for Chronic Heart Failure Patients	3564-3567
Tran, Vinh Phuc* <i>Univ. of Technology Sydney</i> ; Al-Jumaily, Adel <i>Univ. of Technology Sydney</i>	

15:30-17:00 ThCT1.30
Indirect Measurement of the Carotid Arterial Pressure from Vibrocardiographic Signal: Calibration of the Waveform and Comparison with Photoplethysmographic Signal 3568-3571
 Casacanditella, Luigi *Univ. Politecnica delle Marche*; Gloria, Cosoli* *Univ. Politecnica delle Marche*; Casaccia, Sara *Univ. Politecnica delle Marche*; Scalise, Lorenzo *Univ. Politecnica delle Marche*; Tomasini, Enrico *Univ. Politecnica delle Marche*

ThCT2: 15:30-17:00 Ignite_Theme 1_Th2 (Ignite Session) Chair: Baccala, Luiz Antonio <i>Escola Politecnica</i>	Fantasia C&D
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15:30-17:00 ThCT2.1
Identification and Annotation of Multiple Periodic Pulse Trains using Dominant Frequency and Graph Search: Applications in Atrial Fibrillation Rotor Detection 3572-3575
 Dalvi, Rupin* *Univ. Health Network*; Suszko, Adrian Michael *Univ. Health Network*; Chauhan, Vijay S. *Univ. Health Network*

15:30-17:00 ThCT2.2
Baseline Fetal Heart Rate Analysis: Eleven Automatic Methods versus Expert Consensus 3576-3581
 Houzé de l'Aulnoit, Agathe *Groupement des Hôpitaux de l'Institut Catholique de Lille*; Boudet, Samuel* *Faculté de Médecine et Maïeutique*; Demailly, Romain *Faculté de Médecine et Maïeutique*; Peyrodie, Laurent *HEI*; Beuscart, Régis *Univ. hospital of Lille*; Houzé de l'Aulnoit, Denis *GHICL*

15:30-17:00 ThCT2.3
Modeling Volatility in Heart Rate Variability 3582-3585
 Leite, Argentina Maria* *Univ. de Trás os Montes e Alto Douro*; Silva, Maria Eduarda *Univ. do Porto*; Rocha, Ana Paula *Univ. do Porto, Faculdade de Ciencias*

15:30-17:00 ThCT2.4
Pre-Clinical Investigations of Multi-Path Propagation in Transcranial Doppler Ultrasound Flow Phantom 3586-3589
 Weir, Alexander James* *NHS Greater Glasgow and Clyde*; Wang, Cheng-Xiang *Heriot-Watt Univ.*; Parks, Stuart *Medical Devices Unit*

15:30-17:00 ThCT2.5
Development of a Head-Phantom and Measurement Setup for Lightning Effects 3590-3593
 Machts, René *Technical Univ. Ilmenau*; Hunold, Alexander *Technische Univ. Ilmenau*; Leu, Carsten *TU Ilmenau*; Haueisen, Jens* *Technical Univ. Ilmenau*; Rock, Michael *Technische Univ. Ilmenau*

15:30-17:00 ThCT2.6
A Descriptive Model of Resting-State Networks using Markov Chains 3594-3597
 Xie, Hua* *Texas Tech Univ.*; Pal, Ranadip *Texas Tech Univ.*; Mitra, Sunanda *Texas Tech Univ.*

15:30-17:00 ThCT2.7
Complex Network Analysis of Resting-State fMRI of the Brain 3598-3601
 Anwar, Abdul Rauf* *Univ. of Engineering & Technology*; Hashmy, Muhammad Yousuf *Univ. of Engineering and Technology*; Imran, Bilal *Univ. of Engineering and Technology, Lahore*; Riaz, Muhammad Husnain *Univ. of Engineering and Technology, Lahore*; Mehdi, Muntazir *Univ. of Engineering and Technology, Lahore*; Muthalib, Makii *Montpellier 1 Univ.*; Perrey, Stéphane *Univ. of Montpellier*; Gunther, Deuschl *Dept. of Neurology*; Sergiu, Groppa *Dept. of Neurology*; Muthuraman, Muthuraman *Christian Albrechts Univ.*

15:30-17:00 ThCT2.8
Early Diagnosis of NAFLD-NASH Transition using Mid Infrared Spectroscopy 3602-3605
 Bensaid, Siouar* *LTSI, UMR Inserm 1099*; Kachenoura, Amar *Univ. de Rennes1 and INSERM*; De Ledinghen, Victor *INSERM*; Vergniol, Julien *Univ. de Bordeaux*; Lainé, Fabrice *Univ. de Rennes 1*; Turlin, Bruno *Univ. de Rennes 1*; Tariel, Hugues *DIAFIR*; Senhadji, Lotfi *Univ. de Rennes 1 and INSERM*; Costet, Nathalie *LTSI, Univ. de Rennes1*

15:30-17:00 ThCT2.9
Classification of Obsessive-Compulsive Disorder from Resting-State fMRI 3606-3609
 Sen, Bhaskar* *Univ. of Minnesota*; Bernstein, Gail *Univ. of Minnesota*; Xu, Tingting *Univ. of Minnesota, Twin Cities*; Mueller, Bryon *Univ. of Minnesota*; Westlund Schreiner, Melinda *Univ. of Minnesota*; Cullen, Kathryn R. *Univ. of Minnesota*; Parhi, Keshab *Univ. of Minnesota*

15:30-17:00	ThCT2.10
Fluorescence Background Removal Method for Biological Raman Spectroscopy based on Empirical Mode Decomposition	3610-3613
León-Bejarano, Maritza <i>Univ. Autonoma de San Luis Potosi</i> ; Dorantes Méndez, Guadalupe* <i>Univ. Autónoma de San Luis Potosi</i> ; Ramirez-Elias, Miguel Ghebre <i>UASLP</i> ; Mendez, Martin Oswaldo <i>Univ. Autonoma de San Luis Potosi</i> ; Alba, Alfonso <i>Univ. Autonoma de San Luis Potosi</i> ; Rodríguez Leyva, Ildelfonso <i>Univ. Autonoma de San Luis Potosi</i> ; Jiménez Cataño, Maria Esther <i>Univ. Autonoma de San Luis Potosi</i>	
15:30-17:00	ThCT2.11
Features of Cerebral Oxygenation Detects Brain Injury in Premature Infants	3614-3617
O'Toole, John M.* <i>Univ. College Cork</i> ; Kenosi, Mmoloki <i>Irish Centre for Fetal and Neonatal Translational Research (INFA)</i> ; Finn, Daragh <i>Irish Centre for Fetal and Neonatal Translational Research (INFA)</i> ; Boylan, Geraldine <i>Univ. College Cork</i> ; Dempsey, Eugene <i>Irish Centre for Fetal and Neonatal Translational Research (INFA)</i>	
15:30-17:00	ThCT2.12
Extracting Dielectric Spectroscopic Properties from Microwave-Induced Thermoacoustic Signals	3618-3621
Liu, Shiyu <i>Stanford Univ.</i> ; Nan, Hao* <i>Stanford Univ.</i> ; Dolatsha, Nemat <i>Stanford Univ.</i> ; Arbabian, Amin <i>Stanford Univ.</i>	
15:30-17:00	ThCT2.13
Evaluation of the Low-Frequency Components in Surface Electromyography	3622-3625
Sbrollini, Agnese <i>Univ. Politecnica delle Marche</i> ; Agostinelli, Angela <i>Polytechnic Univ. of Marche</i> ; Di Nardo, Francesco <i>Polytechnic Univ. of Marche</i> ; Maranesi, Elvira <i>Univ. Politecnica delle Marche</i> ; Mengarelli, Alessandro <i>Univ. Politecnica delle Marche</i> ; Fioretti, Sandro <i>Univ. Politecnica delle Marche</i> ; Burattini, Laura* <i>Univ. Politecnica delle Marche</i>	
15:30-17:00	ThCT2.14
Convolutional Blind Source Separation on Surface EMG Signals for Respiratory Diagnostics and Medical Ventilation Control	3626-3629
Buchner, Herbert <i>Cambridge Univ., Dept. of Engineering</i> ; Petersen, Eike* <i>Univ. of Lübeck</i> ; Eger, Marcus <i>Dräger Medical</i> ; Rostalski, Philipp <i>Institute for Electrical Engineering in Medicine, Univ. of</i>	
15:30-17:00	ThCT2.15
An Adapted Double Threshold Protocol for Spastic Muscles	3630-3633
Vieira, Pedro Miguel* <i>Univ. of Minho</i> ; Ferreira, Joao <i>Univ. of Minho</i> ; Gomes, Pedro <i>Faculty of Engineering and Technologies, Univ. Lusíada</i> ; Lima, Carlos Manuel Gregorio Santos <i>Univ. of Minho</i>	
15:30-17:00	ThCT2.16
The Role of Electromechanical Delay in Modelling the EMG-Force Relationship during Quasi-Dynamic Contractions of the Upper-Limb	3634-3637
Johns, Gregory* <i>Queen's Univ.</i> ; Morin, Evelyn <i>Queen's Univ.</i> ; Hashtrudi-Zaad, Keyvan <i>Queen's Univ.</i>	
15:30-17:00	ThCT2.17
Age Related Neuromuscular Changes in SEMG of Tibialis Anterior using Higher Order Statistics (Gaussianity & Linearity Test)	3638-3641
Siddiqi, Ariba <i>RMIT Univ.</i> ; Pooapadi Arjunan, Sridhar* <i>RMIT Univ.</i> ; Kant Kumar, Dinesh <i>RMIT Univ.</i>	
15:30-17:00	ThCT2.18
Tremor UPDRS Estimation in Home Environment	3642-3645
Rigas, Georgios <i>Univ. of Ioannina</i> ; Gatsios, Dimitrios <i>Dept. of Biomedical Research, Institute of Molecular Biology</i> ; Fotiadis, Dimitrios I.* <i>Univ. of Ioannina</i> ; Tsiirwnis, Christos <i>Dept. of Neurology, Medical School, Univ. of Ioannina, Ioan</i> ; Konitsiotis, Spiros <i>Medical School, Univ. of Ioannina</i> ; Marcante, Andrea <i>IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's</i> ; Antonini, Angelo <i>IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's Di</i> ; Gentile, Giovanni <i>IRCCS Fondazione Ospedale San Camillo, Division of Parkinson's Di</i> ; Chondrogiorgi, Maria <i>Univ. of Ioannina</i>	
15:30-17:00	ThCT2.19
A MATLAB-Based Graphical User Interface for the Identification of Muscular Activations from Surface Electromyography Signals	3646-3649
Mengarelli, Alessandro <i>Univ. Politecnica delle Marche</i> ; Cardarelli, Stefano <i>Univ. Politecnica delle Marche</i> ; Verdini, Federica <i>Univ. Politecnica delle Marche</i> ; Burattini, Laura <i>Univ. Politecnica delle Marche</i> ; Fioretti, Sandro <i>Univ. Politecnica delle Marche</i> ; Di Nardo, Francesco* <i>Polytechnic Univ. of Marche</i>	

15:30-17:00	ThCT2.20
Detection of Motion and Posture Change using an IR-UWB Radar	3650-3653
Nguyen, Van* <i>Georgia Institute of Technology</i> ; Javaid, Abdul Qadir <i>Georgia Institute of Technology</i> ; Weitnauer, Mary Ann <i>Georgia Institute of Technology</i>	
15:30-17:00	ThCT2.21
Estimating the Progression of Muscle Fatigue based on Dependence Between Motor Units using High Density Surface Electromyogram	3654-3657
Bingham, Adrian* <i>RMIT Univ. Melbourne</i> ; Poosapadi Arjunan, Sridhar <i>RMIT Univ.</i> ; Kant Kumar, Dinesh <i>RMIT Univ.</i>	
15:30-17:00	ThCT2.22
Analyzing the Influence of Curl Cpeed in Fatiguing Biceps Brachii Muscles using sEMG Signals and Multifractal Detrended Moving Average Algorithm	3658-3661
Marri, Kiran* <i>Indian Institute of Technology Madras, Chennai</i> ; Ramakrishnan, Swaminathan <i>IIT Madras, India</i>	
15:30-17:00	ThCT2.23
An Analysis of Sounds for Lungs with Excessive Water	3662-3665
Hong, Kah Jun* <i>Nanyang Technological Univ.</i> ; Ser, Wee <i>Nanyang Technological Univ.</i> ; Foo, David Chee-Guan <i>Tan Tock Seng Hospital</i>	
15:30-17:00	ThCT2.24
Analysis of Glottal Source Parameters in Parkinsonian Speech	3666-3669
Hanratty, Jane* <i>Institute of Technology Blanchardstown</i>	
15:30-17:00	ThCT2.25
Two Microphones Spectral-Coherence based Speech Enhancement for Hearing Aids using Smartphone as an Assistive Device	3670-3673
Karadagur Ananda Reddy, Chandan* <i>The Univ. of Texas at Dallas</i> ; Hao, Yiya <i>The Univ. of Texas at Dallas</i> ; Panahi, Issa <i>Univ. of Texas at Dallas</i>	
15:30-17:00	ThCT2.26
Improving Quality and Intelligibility of Speech using Single Microphone for the Broadband FMRI Noise at Low SNR	3674-3678
Vahanesa, Chetan <i>The Univ. of Texas at Dallas</i> ; Karadagur Ananda Reddy, Chandan* <i>The Univ. of Texas at Dallas</i> ; Panahi, Issa <i>Univ. of Texas at Dallas</i>	
15:30-17:00	ThCT2.27
Detection of Crackle Events using a Multi-Feature Approach	3679-3683
Mendes, Luis <i>Univ. of Coimbra</i> ; Vogiatzis, Ioannis <i>General Hospital of Imathia – Health Unit of Naoussa</i> ; Perantoni, Eleni G.H. G.Papanikolaou, <i>Thessaloniki Greece</i> ; Kaimakamis, Evangelos <i>Aristotle Univ. of Thessaloniki</i> ; Chouvarda, Ioanna <i>Aristotle Univ.</i> ; Maglaveras, Nikolaos <i>Aristotle Univ. of Thessaloniki</i> ; Henriques, Jorge <i>Univ. of Coimbra – NIF</i> ; de Carvalho, Paulo* <i>Univ. of Coimbra – NIF</i> ; Paiva, Rui Pedro <i>Univ. of Coimbra</i>	
15:30-17:00	ThCT2.28
Objective Assessment of Listening Effort: Effects of an Increased Task Demand	3684-3687
Bernarding, Corinna* <i>Saarland Univ. Hospital</i> ; Corona-Strauss, Farah I. <i>Saarland Univ. Hospital</i> ; Hannemann, Ronny <i>Siemens Audiologische Technik</i> ; Strauss, Daniel J. <i>Saarland Univ., Medical Faculty</i>	
15:30-17:00	ThCT2.29
Resonance based Respiratory Sound Decomposition Aiming at Localization of Crackles in Noisy Measurements	3688-3691
Ulukaya, Sezer* <i>Bogazici Univ. / Trakya Univ.</i> ; Serbes, Gorkem <i>Yildiz Technical Univ.</i> ; Kahya, Yasemin P. <i>Bogazici Univ.</i>	
15:30-17:00	ThCT2.30
Dynamic Knee Muscles Co-Contraction Quantified during Walking	3692-3695
Strazza, Annachiara <i>Univ. Politecnica delle Marche</i> ; Mengarelli, Alessandro <i>Univ. Politecnica delle Marche</i> ; Agostini, Valentina <i>Politecnico di Torino</i> ; Knaflitz, Marco <i>Politecnico di Torino</i> ; Burattini, Laura <i>Univ. Politecnica delle Marche</i> ; Fioretti, Sandro <i>Univ. Politecnica delle Marche</i> ; Di Nardo, Francesco* <i>Polytechnic Univ. of Marche</i>	

15:30-17:00		ThCT2.31
Co-Activation Periods of Gastrocnemius and Vastus Lateralis during Walking Evaluated by Surface Electromyography		3696-3699
Mengarelli, Alessandro <i>Univ. Politecnica delle Marche</i> ; Strazza, Annachiara <i>Univ. Politecnica delle Marche</i> ; Sbröllini, Agnese <i>Univ. Politecnica delle Marche</i> ; Agostinelli, Angela <i>Polytechnic Univ. of Marche</i> ; Burattini, Laura <i>Univ. Politecnica delle Marche</i> ; Fioretti, Sandro <i>Univ. Politecnica delle Marche</i> ; Di Nardo, Francesco* <i>Polytechnic Univ. of Marche</i>		
15:30-17:00		ThCT2.32
Compressive Sensing of Foot-Gait Signals by Enhancing Group Block-Sparse Structure on the First-Order Difference		3700-3703
Pant, Jeevan Kumar* <i>Ryerson Univ.</i> ; Krishnan, Sridhar <i>Ryerson Univ.</i>		
15:30-17:00		ThCT2.33
Detecting Postural Transitions: A Robust Wavelet-Based Approach		3704-3707
Hemmati, Sadra <i>Univ. of Tennessee at Knoxville</i> ; Wade, Eric* <i>Univ. of Tennessee</i>		
15:30-17:00		ThCT2.34
Three-Dimensional Modeling of Physiological Tremor for Hand-Held Surgical Robotic Instruments		3708-3711
Tatinati, Sivanagaraja <i>Kyungpook National Univ.</i> ; Yan, Naing Aye <i>Nanyang Technological Univ.</i> ; Paul, Anand <i>Kyungpook National Univ.</i> ; Ang, Wei <i>Tech Nanyang Technological Univ.</i> ; Veluvolu, Kalyana C.* <i>Kyungpook National Univ.</i>		
15:30-17:00		ThCT2.35
Fall Detection Algorithms for Real-World Falls Harvested from Lumbar Sensors in the Elderly Population: A Machine Learning Approach		3712-3715
Bourke, Alan* <i>Norwegian Univ. of Science and Technology</i> ; Klenk, Jochen <i>Dept. of Clinical Gerontology, Robert Bosch Hospital, Stutt</i> ; Schwickert, Lars <i>Dept. of Clinical Gerontology, Robert Bosch Hospital, Stutt</i> ; Aminian, Kamiar <i>Ecole Polytechnique Federale de Lausanne</i> ; Ihlen, Espen A F <i>Dept. of Neuroscience, Faculty of Medicine, Norwegian Univ.</i> ; Mellone, Sabato <i>Univ. of Bologna</i> ; Helbstad, Jorunn L <i>Dept. of Neuroscience, Faculty of Medicine, Norwegian Univ.</i> ; Chiari, Lorenzo <i>Univ. of Bologna</i> ; Becker, Clemens <i>Robert Bosch Hospital, Stuttgart</i>		
ThCT3: 15:30-17:00		Fantasia E&F
Ignite_Theme 1_Th3 (Ignite Session)		
Chair: Schiecke, Karin <i>Jena Univ. Hospital. Friedrich Schiller Univ. Jena</i>		
15:30-17:00		ThCT3.1
EEG-Based Mental Fatigue Detection by Spectral Non-Negative Matrix Factorization		3716-3719
Li, Lili <i>Xi'an Jiaotong Univ.</i> ; Xu, Guanghua* <i>Xi'an Jiaotong Univ.</i> ; Xie, Jun <i>Xi'an Jiaotong Univ.</i> ; Li, Min <i>School of Mechanical Engineering, Xi'an Jiaotong Univ.</i> ; Zhang, Sicong <i>Xi'an Jiaotong Univ.</i> ; Luo, Ailing <i>Xi'an Jiaotong Univ.</i>		
15:30-17:00		ThCT3.2
Estimation and Modeling of EEG Amplitude-Temporal Characteristics using a Marked Point Process Approach		3720-3723
Loza, Carlos* <i>Univ. of Florida</i> ; Principe, Jose <i>Univ. of Florida</i>		
15:30-17:00		ThCT3.3
Analysis of the Non-Stationarity of Neural Activity during an Auditory Oddball Task in Schizophrenia		3724-3727
Núñez, Pablo <i>Univ. of Valladolid, CIF</i> ; Poza, Jesus <i>Univ. of Valladolid</i> ; Gomez-Pilar, Javier* <i>Univ. of Valladolid, CIF</i> ; Bachiller, Alejandro <i>Univ. of Valladolid</i> ; Gomez, Carlos <i>Univ. of Valladolid, CIF</i> ; Lubeiro, Alba <i>Univ. of Valladolid, CIF</i> ; Molina, Vicente <i>Univ. of Valladolid, CIF</i> ; Hornero, Roberto <i>Univ. of Valladolid</i>		
15:30-17:00		ThCT3.4
Removing Noise from Event-Related Potentials using a Probabilistic Generative Model with Grouped Covariance Matrices		3728-3731
Maki, Hayato* <i>Nara Institute of Science and Technology</i> ; Toda, Tomoki <i>Nara Institute of Science and Technology</i> ; Sakriani, Sakti <i>Nara Institute of Science and Technology</i> ; Neubig, Graham <i>Nara Institute of Science and Technology</i> ; Satoshi, Nakamura <i>Nara Institute of Science and Technology</i>		

15:30-17:00	ThCT3.5
Detection of Binaural Interaction in Free-Field Evoked Auditory Brainstem Responses by Time-Scale Representations	3732-3735
Schebsdat, Erik* <i>Systems Neuroscience and Neurotechnology Unit, Neurocenter, Facu; Hessel, Horst Cochlear Deutschland GmbH & Co. KG, Hannover, Germany; Seidler, Harald MediClin Bosenberg Kliniken; Strauss, Daniel J. Saarland Univ., Medical Faculty</i>	
15:30-17:00	ThCT3.6
Sleep-Spindle Identification on EEG Signals from Polysomnographic Recordings using Correntropy	3736-3739
Ulloa, Sebastian <i>Univ. of Chile; Estevez, Pablo A.* Univ. de Chile; Huijse, Pablo Univ. of Chile; Held, Claudio M. Univ. de Chile; Perez, Claudio A. Univ. de Chile; Chamorro, Rodrigo Univ. de Chile; Garrido, Marcelo Univ. de Chile; Algarin, Cecilia Univ. de Chile; Peirano, Patricio Univ. de Chile</i>	
15:30-17:00	ThCT3.7
Effect of Importance Sampling on Robust Segmentation of Audio-Cough Events in Noisy Environments	3740-3744
Monge-Álvarez, Jesús* <i>Centre for Artificial Intelligence, Visual Communications, and N; Hoyos-Barcelo, Carlos AVCN, Univ. of West of Scotland; Lesso, Paul Cirrus Logic; Escudero, Javier Univ. of Edinburgh; Dahal, Keshav AVCN, Univ. of West of Scotland; Casaseca-de-la-Higuera, Pablo Univ. of the West of Scotland</i>	
15:30-17:00	ThCT3.8
A Lung Sound Classification System based on the Rational Dilation Wavelet Transform	3745-3748
Ulukaya, Sezer* <i>Bogazici Univ. / Trakya Univ.; Serbes, Gorkem Yildiz Technical Univ.; Sen, Ipek Electrosalus Inc.; Kahya, Yasemin P. Bogazici Univ.</i>	
15:30-17:00	ThCT3.9
Changes in Inhaler Inhalation Acoustic Features during Induced Bronchoconstriction: A Pilot Study	3749-3752
McCartan, Thomas Alan <i>Trinity College Dublin; Taylor, Terence E.* Trinity College Dublin; Sulaiman, Imran Royal College of Surgeons in Ireland (RCSI); Costello, Richard Royal College of Surgeons in Ireland (RCSI); Reilly, Richard Trinity College Dublin</i>	
15:30-17:00	ThCT3.10
Assessing the Development of Fetal Myocardial Function by a Novel Doppler Myocardial Performance Index	3753-3756
Khandoker, Ahsan Habib* <i>Khalifa Univ. of Science, Technology and Research; Marzbanrad, Faezeh The Univ. of Melbourne; Kimura, Yoshitaka Tohoku Univ.; Al Nuaimi, Saeed Khalifa Univ.; Palaniswami, Marimuthu The Univ. of Melbourne</i>	
15:30-17:00	ThCT3.11
Using Surface Electromyography to Detect Changes in Innervation Zones Pattern after Human Cervical Spinal Cord Injury	3757-3760
Afsharipour, Babak* <i>Northwestern Univ.; Sandhu, Milapjit Singh Northwestern Univ., Rehabilitation Institute of Chicago; Rasool, Ghulam Rehabilitation Institute of Chicago; Suresh, Nina Rehabilitation Institute of Chicago; Rymer, William Zev Northwest. & Rehab Inst of Chicago</i>	
15:30-17:00	ThCT3.12
MEMD-Enhanced Multivariate Fuzzy Entropy for the Evaluation of Complexity in Biomedical Signals	3761-3764
Azami, Hamed* <i>Univ. of Edinburgh; Smith, Keith Univ. of Edinburgh; Escudero, Javier Univ. of Edinburgh</i>	
15:30-17:00	ThCT3.13
Human Static Postures Analysis using Empirical Mode Decomposition	3765-3768
SAFI, Khaled* <i>Univ. Paris-Est Creteil (UPEC); Hutin, Emilie CHU Henri Mondor, Creteil France; Mohammed, Samer Univ. Paris Est Créteil; Marie Albertsen, Inke CHU Henri Mondor, Creteil France; Delechelle, Eric Univ. Paris-Est; Amirat, Yacine Univ. Paris Est Créteil; Khalil, Mohamad Lebanese Univ., Doctoral School for Sciences and Technology; Gracies, Jean-Michel CHU Henri Mondor, Creteil France</i>	
15:30-17:00	ThCT3.14
A Noise-Assisted Data Analysis Method for Automatic EOG-Based Sleep Stage Classification using Ensemble Learning	3769-3772
Olesen, Alexander Neergaard* <i>Technical Univ. of Denmark; Christensen, Julie Anja Engelhard Technical Univ. of Denmark; Sorensen, Helge B D Technical Univ. of Denmark; Jennum, Poul Univ. of Copenhagen, Demnar</i>	

15:30-17:00		ThCT3.15
Assessment of Mental Workload by EEG+fNIRS		3773-3776
Aghajani, Haleh* <i>Univ. of Houston</i> ; Omurtag, Ahmet <i>Univ. of Houston</i>		
15:30-17:00		ThCT3.16
Prediction of the Outcome in Cardiac Arrest Patients Undergoing Hypothermia using EEG Wavelet Entropy		3777-3780
Moshirvaziri, Hana <i>California State Univ., Long Beach</i> ; Ramezan-Arab, Nima <i>Long Beach Memorial Medical Center</i> ; Asgari, Shadnaz* <i>California State Univ., Long Beach</i>		
15:30-17:00		ThCT3.17
Surface Electromyography based Muscle Fatigue Analysis for Stroke Patients at Different Brunnstrom Stages		3781-3784
Tu, Yinjun <i>RMIT Univ.</i> ; Zhang, Zhe <i>RMIT Univ.</i> ; Gu, Xudong <i>The 2nd Hospital of Jiaying</i> ; Fang, Qiang* <i>RMIT Univ.</i>		
15:30-17:00		ThCT3.18
Time-Frequency Representations of the Sternocleidomastoid Muscle Electromyographic Signal Recorded with Concentric Ring Electrodes		3785-3788
Estrada, Luis <i>Univ. Politècnica de Catalunya</i> ; Torres, Abel* <i>Univ. Politècnica de Catalunya</i> ; Garcia-Casado, Javier <i>Univ. Politècnica de València</i> ; Sarlabous, Leonardo <i>Institute for Bioengineering of Catalonia (IBEC)</i> ; Prats-Boluda, Gema <i>Univ. Politècnica de València</i> ; Jané, Raimon <i>Institut de Bioenginyeria de Catalunya (IBEC)</i>		
15:30-17:00		ThCT3.19
Mechanomyography Signals in Spastic Muscle and the Correlation with the Modified Ashworth Scale		3789-3792
Santos, Elgison da Luz dos* <i>Federal Technological Univ. of Paraná</i> ; dos Santos, Michele Caroline <i>Univ. Tecnológica Federal do Paraná</i> ; Krueger, Eddy <i>Federal Technological Univ. of Paraná</i> ; Nogueira-Neto, Guilherme <i>State Univ. of Campinas</i> ; Nohama, Percy <i>Univ. Tecnológica Federal do Parana</i>		
15:30-17:00		ThCT3.20
Applicability of Multiresolution Wavelet Analysis for QRS-Waves Detection		3793-3796
Fedotov, Aleksandr <i>Samara State Aerospace Univ.</i> ; Akulova, Anna* <i>Samara State Aerospace Univ.</i> ; Akulov, Sergey <i>Samara State Aerospace Univ.</i>		
15:30-17:00		ThCT3.21
Robust Respiration Rate Estimation using Adaptive Kalman Filtering with Textile ECG Sensor and Accelerometer		3797-3800
Lepine, Nicholas <i>NTT Device Technology Laboratories</i> ; Tajima, Takuro* <i>NTT Device Technology Laboratories</i> ; Ogasawara, Takayuki <i>NTT Device Innovation Center</i> ; Kasahara, Ryoichi <i>NTT Device Innovation Center</i> ; Koizumi, Hiroshi <i>NTT Device Technology Laboratories</i>		
15:30-17:00		ThCT3.22
Application of a New Robust ECG T-Wave Delineation Algorithm for the Evaluation of the Autonomic Innervation of the Myocardium		3801-3804
Cesari, Matteo* <i>Technical Univ. of Denmark</i> ; Mehlsen, Jesper <i>Frederiksberg Hospital, Denmark</i> ; Mehlsen, Anne-Birgitte <i>Dept. of Clinical Physiology, Nuclear Medicine and PET, Rig</i> ; Sorensen, Helge B D <i>Technical Univ. of Denmark</i>		
15:30-17:00		ThCT3.23
Detection of Mental Stress Due to Oral Academic Examination via Ultra-Short-Term HRV Analysis		3805-3808
Castaldo, Rossana <i>Univ. of Warwick</i> ; Xu, William <i>Univ. of Warwick</i> ; Melillo, Paolo <i>Univ. of Bologna</i> ; Pecchia, Leandro <i>Univ. of Warwick</i> ; Santamaria, Lorena* <i>Univ. of Warwick</i> ; James, Christopher <i>Univ. of Warwick</i>		
15:30-17:00		ThCT3.24
Wolff-Parkinson-White (WPW) Syndrome: The Detection of Delta Wave in an Electrocardiogram (ECG)		3809-3812
Mahamat, Hassan Adam* <i>Laboratoire LE2I UMB CNRS 6306, Univ. Bourgogne Franche-com</i> ; Jacquir, Sabir <i>Laboratoire LE2I UMR CNRS 6306, Univ. de Bourgogne</i> ; Khalil, Cliff <i>Univ. Hospital of Dijon</i> ; Laurent, Gabriel <i>LE2I UMR CNRS 5158, Univ. de Bourgogne, France</i> ; Binczak, Stéphane <i>Univ. de Bourgogne</i>		
15:30-17:00		ThCT3.25
Respiratory Rate Estimation from Multilead Directions, based on ECG Delineation		3813-3816
Noriega, Maikel <i>Oriente Univ.</i> ; Marañón, Enrique Juan <i>Oriente Univ.</i> ; Romero Pérez, Daniel <i>Univ. de Rennes 1</i> ; Orini, Michele <i>Univ. College London</i> ; Almeida, Rute* <i>Faculty of Science of the Univ. of Porto</i>		

15:30-17:00		ThCT3.26
An EEMD-PCA Approach to Extract Heart Rate, Respiratory Rate and Respiratory Activity from PPG Signal		3817-3820
Motin, Mohammad Abdul <i>PhD Student, Univ. of Melbourne</i> ; Karmakar, Chandan* <i>Deakin Univ.</i> ; Palaniswami, Marimuthu <i>The Univ. of Melbourne</i>		
15:30-17:00		ThCT3.27
Analysis of Embolic Signals with Directional Dual Tree Rational Dilation Wavelet Transform		3821-3824
Serbes, Gorkem* <i>Yildiz Technical Univ.</i> ; Aydin, Nizamettin <i>Yildiz Technical Univ.</i>		
15:30-17:00		ThCT3.28
Automated Embolic Signal Detection using Adaptive Gain Control and Classification using ANFIS		3825-3828
Sombune, Praotasna <i>Thammasat Univ.</i> ; Phienphanich, Phongphan <i>Thammasat Univ.</i> ; Muengtaweepongsa, Sombat <i>Thammasat Univ.</i> ; Ruamthanthong, Anuchit <i>Radiology Dept. Phramongkutklaow Hospital, Bangkok</i> ; Tantibundhit, Charturong* <i>Thammasat Univ.</i>		
ThCT4: 15:30-17:00		Grand Republic A
Ignite_Theme 2_Th1 (Ignite Session)		
Chair: Roychowdhury, Sohini <i>Univ. of Washington, Bothell</i>		
15:30-17:00		ThCT4.1
A New Method for Recognizing Hand Configurations of Brazilian Gesture Language		3829-3834
Costa Filho, Cicero F. F.* <i>Univ. Federal do Amazonas</i> ; Santos, Barbara <i>Federal Univ. of Amazonas</i> ; Souza, Robson <i>Federal Univ. of Amazonas</i> ; Santos, Jonilson <i>Federal Univ. of Amazonas</i> ; Costa, Marly G. F. <i>Federal Univ. of Amazonas – UFAM</i>		
15:30-17:00		ThCT4.2
Video-Based Depression Detection using Local Curvelet Binary Patterns in Pairwise Orthogonal Planes		3835-3838
Pampouchidou, Anastasia* <i>Institute of Computer Science (ICS), FORTH</i> ; Marias, Kostas <i>Foundation for Res. & Tech. Hellas</i> ; Tsiknakis, Manolis <i>ICS-FORTH</i> ; Simos, Panagiotis <i>Dept. of Psychiatry, Univ. of Crete</i> ; Yang, Fan <i>Univ. de Bourgogne</i> ; Meriaudeau, Fabrice <i>Univ. de Bourgogne</i> ; Lemaitre, Guillaume <i>LE2I – UMR 6306</i>		
15:30-17:00		ThCT4.3
In-Bed Posture Classification using Deep Autoencoders		3839-3842
Heydarzadeh, Mehrdad <i>The Univ. of Texas at Dallas</i> ; Nourani, Mehrdad* <i>Univ. of Texas at Dallas</i> ; Ostadabbas, Sarah <i>Northeastern Univ.</i>		
15:30-17:00		ThCT4.4
Low Resolution Tool Tracking for Microsurgical Training		3843-3846
Furtado, Antonio Carlos <i>Univ. of Alberta</i> ; Cheng, Irene <i>Univ. of Alberta</i> ; Fung, Eric <i>Univ. of Alberta</i> ; Zheng, Bin <i>Univ. of Alberta</i> ; Basu, Anup* <i>Univ. of Alberta</i>		
15:30-17:00		ThCT4.5
Non-Contact Robust Heart Rate Estimation using HSV Color Model and Matrix-Based IIR Filter in the Face Video Imaging		3847-3850
Cho, Dongrae <i>Gwangju Institute of Science and Technology</i> ; Lee, Boreom* <i>Gwangju Institute of Science and Technology (GIST)</i>		
15:30-17:00		ThCT4.6
Automatic Recognition of Pertrochanteric Bone Fractures in Femur using Level Sets		3851-3854
Wang, Ling* <i>Univ. of Electronic Science and Technology of China</i> ; Cheng, Hong <i>Univ. of Electronic Science and Technology of China</i> ; Lan, Hai <i>Affiliated Hospital of Chengdu Univ.</i> ; Zheng, Yingjie <i>Affiliated Hospital of Chengdu Univ.</i> ; Li, Kainan <i>Affiliated Hospital of Chengdu Univ.</i>		
15:30-17:00		ThCT4.7
Dermatologist-Like Feature Extraction from Skin Lesion for Improved Asymmetry Classification in PH² Database		3855-3858
Chakravorty, Rajib* <i>IBM Research Australia</i> ; Liang, Sisi <i>IBM Melbourne Research Lab</i> ; Abedini, Mani <i>IBM Research</i> ; Garnavi, Rahil <i>IBM Research Australia</i>		

15:30-17:00	ThCT4.8
Experimental Evaluation of the Accuracy at the C-Arm Pose Estimation with X-Ray Images	3859-3862
Thuerauf, Sabine* <i>fortiss GmbH An-Institut Technische Univ. München Mailing</i> ; Vogt, Florian <i>Siemens Healthcare GmbH</i> ; Hornung, Oliver <i>Siemens Healthcare GmbH</i> ; Koerner, Mario <i>Siemens Healthcare GmbH</i> ; nasseri, M. Ali <i>Technische Univ. Muenchen</i> ; Knoll, Alois <i>Technical Univ. Munich</i>	
15:30-17:00	ThCT4.9
A View Invariant Gait Cycle Segmentation for Ambient Monitoring	3863-3866
Wu, Hao* <i>IMG</i> ; Xu, Beilei <i>Xerox Corporation</i> ; Madhu, Himanshu <i>Xerox Research Center India</i> ; zhou, jing <i>PARC Inc., A Xerox Company</i>	
15:30-17:00	ThCT4.10
Characterization of Cardiac and Respiratory-Driven Cerebrospinal Fluid Motions using Correlation Mapping with Asynchronous 2-Dimensional Phase Contrast Technique	3867-3870
Yatsushiro, Satoshi <i>Graduate School of Science and Technology, Tokai Univ.</i> ; Sunohara, Saeko <i>Tokai Univ.</i> ; Takizawa, Ken <i>School of Medicine, Tokai Univ.</i> ; Matsumae, Mitsunori <i>School of Medicine, Tokai Univ.</i> ; Kajihara, Nao <i>Dept. of Radiology, Tokai Univ. School of Medicine</i> ; Kuroda, Kagayaki* <i>School of Information Science and Technology, Tokai Univ.</i>	
15:30-17:00	ThCT4.11
Unsupervised Abnormality Detection using Saliency and Retinex based Color Enhancement	3871-3874
Deeba, Farah <i>Dept. of Electrical and Computer Engineering, Univ. of Saskatchewan</i> ; Bui, Francis <i>Minhthang Univ. of Saskatchewan</i> ; Wahid, Khan A.* <i>Univ. of Saskatchewan</i>	
15:30-17:00	ThCT4.12
Kinect2 – Respiratory Movement Detection Study	3875-3878
Rihana, Sandy* <i>Holy Spirit Univ.</i> ; Younes, Elie <i>Holy Spirit Univ. of Kaslik, USEK</i> ; Visvikis, Dimitris <i>LATIM</i> ; Fayad, Hadi <i>LATIM</i>	
15:30-17:00	ThCT4.13
Signal Source Estimation Inside the Human Heart during Ventricular Activation using Switching Voltage Divider	3879-3882
Sakaue, Yusuke* <i>Ritsumeikan Univ.</i> ; Makikawa, Masaaki <i>Ritsumeikan Univ.</i>	
15:30-17:00	ThCT4.14
3D Gabor Wavelet based Vessel Filtering of Photoacoustic Images	3883-3886
Ul Haq, Israr* <i>Tohoku Univ., Japan</i> ; Nagaoka, Ryo <i>Tohoku Univ.</i> ; Makino, Takahiro <i>Tohoku Univ.</i> ; Tabata, Takuya <i>Tohoku Univ.</i> ; Saijo, Yoshifumi <i>Tohoku Univ.</i>	
15:30-17:00	ThCT4.15
A Method to Quantify Co-Localization in Biological Images	3887-3890
Zhu, Shiwen* <i>National Univ. of Singapore</i> ; Welsch, Roy <i>Massachusetts Institute of Technology</i> ; Matsudaira, Paul <i>Dept. of Biology Science, National Univ. of Singapore</i>	
15:30-17:00	ThCT4.16
Integrated Quantification based on Confocal Imaging: Cell Crowding Modulates Heterogeneity in GPCR-Mediated Calcium Oscillation	3891-3894
Joseph, Jophin G.* <i>Indian Institute of Technology Hyderabad</i> ; Nanda, Sailaja <i>Indian Institute of Technology Hyderabad</i> ; Vennamalla, Sheetal <i>Indian Institute of Technology Hyderabad (IIT-H)</i> ; Bhure, Govardhan <i>Indian Institute of Technology Hyderabad</i> ; Singh, Ranjana <i>Indian Institute of Technology Hyderabad</i> ; Jana, Soumya <i>Indian Institute of Technology Hyderabad</i> ; Giri, Lopamudra <i>Indian Institute of Technology, Hyderabad</i>	
15:30-17:00	ThCT4.17
Automated in Vivo 3D High-Definition Skin Analysis System	3895-3898
Yow, Ai Ping* <i>Institute for Infocomm Research</i> ; Cheng, Jun <i>Institute for Infocomm Research, AStar</i> ; Li, Annan <i>Institute for Infocomm Research, ASTAR</i> ; Srivastava, Ruchir <i>Institute for Infocomm Research</i> ; Wong, Damon <i>Institute for Infocomm Research</i> ; Liu, Jiang <i>Ningbo Institute of Materials Technology and Engineering, CAS</i> ; Tey, Hongliang <i>National Skin Center, Singapore</i>	

15:30-17:00		ThCT4.18
Statistical Identification of Stimulus-Activated Network Nodes in Multi-Neuron Voltage-Sensitive Dye Optical Recordings		3899-3903
Fathiazar, Elham <i>Univ. of Oldenburg</i> ; Anemüller, Jörn <i>Univ. of Oldenburg</i> ; Kretzberg, Jutta* <i>Computational Neuroscience, Univ. of Oldenburg</i>		
15:30-17:00		ThCT4.19
PulseCam: High-Resolution Blood Perfusion Imaging using a Camera and a Pulse Oximeter		3904-3909
Kumar, Mayank* <i>Rice Univ.</i> ; Suliburk, James <i>Baylor College of Medicine</i> ; Veeraraghavan, Ashok <i>Rice Univ.</i> ; Sabharwal, Ashutosh <i>Rice Univ.</i>		
15:30-17:00		ThCT4.20
Hybrid Segmentation of Fluorescent Leishmania-Infected Images using a Watershed and Combined Region Merging based Method		3910-3913
Ouertani, Ferdaous* <i>Ecole Nationale d'Ingénieurs de Tunis ENIT</i> ; Amiri, Hamid <i>Ecole Nationale d'Ingénieurs de Tunis ENIT</i> ; Bettaieb, Jihene <i>Institut Pasteur de Tunis</i> ; Yazidi, Rihab <i>Institut Pasteur de Tunis</i> ; Bensalah, Afif <i>Institut Pasteur de Tunis</i>		
15:30-17:00		ThCT4.21
Detection and Localization of Mouse Induced Pluripotent Stem Cell Formation using Time-Lapse Fluorescence Microscopy Images		3914-3917
Chang, Yuan-Hsiang <i>Chung Yuan Christian Univ.</i> ; Yokota, Hideo <i>RIKEN Center for Advanced Photonics</i> ; Abe, Kuniya <i>Mammalian Genome Dynamics, RIKEN BioResource Center</i> ; Liu, Jung Hsien <i>Chung Yuan Christian Univ.</i> ; Tsai, Ming-Dar* <i>Chung-Yuan Christian Univ.</i>		
15:30-17:00		ThCT4.22
Dynamic Analysis of Mental Sweating of Eccrine Sweat Gland of Human Fingertip by Time-Sequential Piled-Up En Face Optical Coherence Tomography Images		3918-3921
Ohmi, Masato* <i>Osaka Univ.</i> ; Wada, Yuki <i>Osaka Univ.</i>		
15:30-17:00		ThCT4.23
Multimodal Embryonic Imaging using Optical Coherence Tomography, Selective Plane Illumination Microscopy, and Optical Projection Tomography		3922-3925
Larin, Kirill* <i>Univ. of Houston</i>		
15:30-17:00		ThCT4.24
Comparative Study of Texture Features in OCT Images at Different Scales for Human Breast Tissue Classification		3926-3929
Gan, Yu <i>Columbia Univ.</i> ; Yao, Xinwen <i>Columbia Univ.</i> ; Chang, Ernest <i>Columbia Univ. Medical Center</i> ; Bin Amir, Syed Athar <i>Columbia Univ.</i> ; Hibshoosh, Hanina <i>Columbia Univ.</i> ; Feldman, Sheldon <i>Columbia Univ.</i> ; Hendon, Christine* <i>Columbia Univ.</i>		
15:30-17:00		ThCT4.25
Measuring Pulse Rate Variability using Long-Range, Non-Contact Imaging Photoplethysmography		3930-3936
Blackford, Ethan* <i>Ball Aerospace & Technologies Corp.</i> ; Piasecki, Alyssa <i>Air Force Research Laboratory</i> ; Estep, Justin Ronald <i>Air Force Research Laboratory</i>		
15:30-17:00		ThCT4.26
Motion Invariant Contrast Enhancement of Optical Imaging Data in the Gradient Domain		3937-3940
Flotho, Philipp* <i>Systems Neuroscience and Neurotechnology Unit</i> ; Romero Santiago, Alejandro E. <i>Saarland Univ.</i> ; Schwerdtfeger, Karsten <i>Saarland Univ. Hospital</i> ; Szczygielski, Jacek <i>Saarland Univ. Hospital, Neurosurgery Dept.</i> ; Hülser, Matthias <i>Saarland Univ. Hospital</i> ; Haab, Lars <i>Saarland Univ. Hospital</i> ; Strauss, Daniel J. <i>Saarland Univ., Medical Faculty</i>		
15:30-17:00		ThCT4.27
Electrocardiogram Reconstruction from High Resolution Voltage Optical Mapping		3941-3944
Uzelac, Ilija <i>Georgia Institute of Technology</i> ; Herndon, Conner <i>Georgia Institute of Technology</i> ; Farmer, James <i>Georgia Institute of Technology</i> ; Fenton, Flavio* <i>Georgia Institute of Technology</i>		

15:30-17:00		ThCT4.28
Real-Time Tracking of Laparoscopic Instruments using Kinect for Training in Virtual Reality	3945-3948	
Owlia, Mohammadhasan <i>School of Mechanical Engineering, Univ. of Tehran</i> ; Khabbazan, Mostafa <i>School of Mechanical Engineering, Univ. of Tehran</i> ; Mirbagheri, Mehdi <i>Northwestern Univ./RIC</i> ; Mirbagheri, Alireza* <i>Tehran Univ. of Medical Sciences (TUMS)</i>		
15:30-17:00		ThCT4.29
FBP Initialized Few-View CT Reconstruction Algorithm using Similar Prior Image Constraint	3949-3952	
Zhang, Weikang <i>Shanghai Jiao Tong Univ.</i> ; LI, Jiansen <i>Shanghai Jiao Tong Univ.</i> ; Sun, Jianqi <i>Shanghai Jiao Tong Univ.</i> ; Zhao, Jun* <i>Shanghai Jiao Tong Univ.</i>		
15:30-17:00		ThCT4.30
Parallel Generation of Digitally Reconstructed Radiographs on Heterogeneous Multi-GPU Workstations	3953-3956	
Abdellah, Marwan <i>Biomedical Engineering Dept., Cairo Univ.</i> ; Abdelaziz, Asem <i>Cairo Univ., Faculty of Engineering</i> ; Adel, Eslam <i>Systems and biomedical Engineering Cairo Univ.</i> ; Abdelazeez, Sherif <i>Cairo Univ., Faculty of Engineering</i> ; Sayed, Abdelrahman <i>Cairo Univ., Faculty of Engineering</i> ; Owis, Mohamed <i>Cairo Univ.</i> ; Eldeib, Ayman M.* <i>Cairo Univ.</i>		
15:30-17:00		ThCT4.31
Efficient Rendering of Digitally Reconstructed Radiographs on Heterogeneous Computing Architectures using Central Slice Theorem	3957-3960	
Abdellah, Marwan <i>Biomedical Engineering Dept., Cairo Univ.</i> ; Abdallah, Mohamed <i>Cairo Univ.</i> ; Alzanaty, Mohamed <i>Systems and Biomedical Engineering, Cairo Univ.</i> ; Eldeib, Ayman M.* <i>Cairo Univ.</i>		
15:30-17:00		ThCT4.32
Graph-Based Sinogram Denoising for Tomographic Reconstructions	3961-3964	
Mahmood, Faisal* <i>Okinawa Institute of Science & Technology (OIST)</i> ; Shahid, Nauman <i>Ecole Polytechnique Federale de Lausanne, LTS2, Lausanne, Switz</i> ; Vandergheynst, Plerre <i>Ecole Polytechnique Federale de Lausanne, LTS2, Lausanne, Switz</i> ; Skoglund, Ulf <i>Okinawa Institute of Science and Technology Graduate Univ.</i>		
15:30-17:00		ThCT4.33
A New Approach for the Detection of Architectural Distortions using Textural Analysis of Surrounding Tissue	3965-3968	
Zyout, Imad* <i>Tafila Technical Univ.</i> ; Togneri, Roberto <i>The Univ. of Western Australia</i>		
ThCT5: 15:30-17:00		Grand Republic B
Ignite_Theme 2_Th2 (Ignite Session)		
15:30-17:00		ThCT5.1
An Empirical Study of Parallel Solutions for GLCM Calculation of Diffraction Images	3969-3972	
Dixon, John <i>East Carolina Univ.</i> ; Ding, Junhua* <i>East Carolina Univ.</i>		
15:30-17:00		ThCT5.2
Automatic Classification of Cancer Cells in Multispectral Microscopic Images of Lymph Node Samples	3973-3976	
Gali, Gali Zimmerman Moreno* <i>Bar-Ilan Univ.</i> ; Marin, Irina <i>Sheba Medical Center</i> ; Lindner, Moshe <i>Bar-Ilan Univ.</i> ; Barshack, Iris <i>Sheba Medical Center</i> ; Yuval, Garini <i>Bar-Ilan Univ.</i> ; Konen, Eli <i>Sheba Medical Center, Tel Hashomer</i> ; Mayer, Arnaldo <i>Sheba Medical Center</i>		
15:30-17:00		ThCT5.3
Statistical Characterization of Ensembles of Symmetric Virus Particles: 3-D Stochastic Signal Reconstruction from Electron Microscope Images	3977-3980	
Xu, Nan* <i>Cornell Univ.</i> ; Doerschuk, Peter C. <i>Cornell Univ.</i>		
15:30-17:00		ThCT5.4
Image Classification of Unlabeled Malaria Parasites in Red Blood Cells	3981-3984	
Zhang, Zheng <i>Nanyang Technological Univ., Singapore</i> ; Ong, Lee-Ling Sharon* <i>Singapore-MIT Alliance for Research and Technology</i> ; Kong, Fang <i>Singapore-MIT Alliance for Research and Technology</i> ; Mathew, Athul <i>Nanyang Technological Univ.</i> ; Dauwels, Justin <i>NTU</i> ; Dao, Ming <i>Massachusetts Institute of Technology</i> ; Asada, Harry <i>MIT</i>		

15:30-17:00		ThCT5.5
Detecting Cell Division of Pseudomonas Aeruginosa Bacteria from Bright-Field Microscopy Images with Hidden Conditional Random Fields	3985-3988	
Ong, Lee-Ling Sharon* <i>Singapore-MIT Alliance for Research and Technology</i> ; Zhang, Xinghua <i>Wuhan Univ.</i> ; Kundukad, Binu <i>Singapore-MIT Alliance for Research and Technology</i> ; Dauwels, Justin <i>NTU</i> ; Doyle, Patrick S. <i>Massachusetts Institute of Technology</i> ; Asada, Harry <i>MIT</i>		
15:30-17:00		ThCT5.6
Learning to Distinguish Cerebral Vasculature Data from Mechanical Chatter in India-Ink Images Acquired using Knife-Edge Scanning Microscopy	3989-3992	
Nowak, Michael* <i>Texas A&M Univ.</i> ; Choe, Yoonsuck <i>Texas A&M Univ.</i>		
15:30-17:00		ThCT5.7
A Method to Project Clinical Outcome Topographies Onto Pre and Intraoperative MRI to Guide Direct DBS Targeting	3993-3996	
Shenai, Mahesh* <i>Inova Health System</i> ; Guthrie, Barton <i>Univ. of Alabama at Birmingham</i>		
15:30-17:00		ThCT5.8
Bio-Heat Transfer Model of Electroconvulsive Therapy: Effect of Biological Properties on Induced Temperature Variation	3997-4000	
Menezes de Oliveira, Marilia* <i>Univ. of Southern Queensland</i> ; Wen, Paul <i>Univ. of Southern Queensland</i> ; Ahfock, Tony <i>Univ. of Southern Queensland</i>		
15:30-17:00		ThCT5.9
A Frequency based Spatial Filter to Mitigate Volume Conduction in Electroencephalogram Signals	4001-4004	
Kota, Srinivas* <i>Children's National Health System</i> ; DuPlessis, Adre <i>Children's National Medical Center</i> ; Massaro, An <i>Children's National Health System</i> ; Chang, Taeun <i>Children's National Health System</i> ; Alshargabi, Tareq <i>Children's National Health System</i> ; Govindan, Rathinaswamy <i>Children's National Health System</i>		
15:30-17:00		ThCT5.10
Structural and Functional Changes during Epileptogenesis in the Mouse Model of Medial Temporal Lobe Epilepsy	4005-4008	
Dietrich, Yvan* <i>LTSI, Inserm UMR 1099, Univ. de Rennes 1, Rennes, France</i> ; Eliat, Pierre-Antoine <i>Univ. de Rennes1</i> ; Dieuset, Gabriel <i>LTSI, Inserm UMR 1099, Rennes, France</i> ; Univ. Rennes 1, Fran; Saint-Jalmes, Hervé <i>Univ. de Rennes 1, LTSI, U1099 INSERM</i> ; Pineau, Charles <i>IRSET, Inserm UMR 1085, PROTIM, Univ. de Rennes 1, Rennes</i> ; Wendling, Fabrice <i>INSERM – Univ. de Rennes 1</i> ; Martin, Benoit <i>INSERM; Univ. de Rennes 1; LTSI</i>		
15:30-17:00		ThCT5.11
An Integrated Neuroprotective Intervention for Brain Ischemia Validated by ECoG-fPAM	4009-4012	
Liu, Yu-Hang* <i>National Univ. of Singapore</i> ; Liao, Lun-De <i>SINAPSE</i> ; Chan, Su Jing <i>Singapore Institute for Neurotechnology (SINAPSE), Centre for Li</i> ; Bandla, Aishwarya <i>National Univ. of Singapore</i> ; Thakor, Nitish <i>Johns Hopkins Univ.</i>		
15:30-17:00		ThCT5.12
Principal Component Analysis of the Shape Deformations of the Hippocampus in Alzheimer's Disease	4013-4016	
Tang, Xiaoying* <i>Sun Yat-sen Univ.-Carnegie Mellon Univ. (SYSU-CMU) Joi</i> ; Wu, Jiong <i>Sun Yat-sen Univ.-Carnegie Mellon Univ. (SYSU-CMU) Joi</i>		
15:30-17:00		ThCT5.13
Impaired Episodic Memory Network in Subjects at High Risk for Alzheimer's Disease	4017-4020	
Zhan, Yafeng <i>School of Biomedical Engineering, Southern Medical Univ., G</i> ; Ma, Jianhua <i>School of Biomedical Engineering, Southern Medical Univ.</i> ; Xu, Kaibin <i>National Laboratory of Pattern Recognition, Institute of Automat</i> ; Ding, Yanhui <i>School of Information Science and Engineering, Shandong Normal U</i> ; Cui, Yue <i>National Laboratory of Pattern Recognition, Institute of Automat</i> ; Yang, Zhengyi <i>Brainnetome Center & National Laboratory of Pattern Recognition</i> ; Liu, Yong* <i>Chinese Academy of Sciences</i>		

15:30-17:00	ThCT5.14
Supervised Multimodal Fusion and Its Application in Searching Joint Neuromarkers of Working Memory Deficits in Schizophrenia	4021-4026
Qi, Shile <i>Brainnetome Center & National Laboratory of Pattern Recognition; Calhoun, Vince The Mind Research Network/Univ. of New Mexico; van Erp, Theo G. M. Dept. of Psychiatry and Human Behavior, Univ. of California; Damaraju, Eswar The Mind Research Network & LBERI, Albuquerque, New Mexico, USA; Bustillo, Juan Dept. of Psychiatry, Univ. of New Mexico; Turner, Jessica Georgia State Univ.; Du, Yuhui The Mind Research Network; Mathalon, Daniel H. San Francisco VA Medical Center; Ford, Judith M. San Francisco VA Medical Center; Voyvodic, James Dept. of Radiology, Brain Imaging and Analysis Center, Duke; Mueller, Bryon Univ. of Minnesota; Belger, Aysenil Dept. of Psychiatry, Univ. of North Carolina School of; McEwen, Sarah Dept. of Psychiatry and Biobehavioral Sciences, Univ.; Potkin, Steven G. Dept. of Psychiatry and Human Behavior, Univ. of California; Preda, Adrian Dept. of Psychiatry and Human Behavior, Univ. of California; Birn, F Dept. of Psychiatry and Human Behavior, Univ. of California; Jiang, Tianzi Institute of Automation; Sui, Jing* Institute of Automation, Chinese Academy of Science</i>	
15:30-17:00	ThCT5.15
Reliability of a Cortical Surface-Based Analysis with Subcortical Regression in the Identification of Resting-State Functional Networks	N/A
Lopes, Renaud* <i>Univ. hospital of Lille; Besson, Pierre Dept. of Clinical Neurophysiology, CHRU Lille & LNFP EA 455; Viard, Romain CHRU Lille; Bournonville, Clément Clinical Imaging Core facility, INSERM U1171, Lille Univ. H; Delmaire, Christine Univ. hospital of Lille; Leclerc, Xavier Univ. hospital of Lille</i>	
15:30-17:00	ThCT5.16
Investigation of Gaze Patterns in Multi View Laparoscopic Surgery	4031-4034
Kottayil, Navaneeth Kamballur <i>Univ. of Alberta; Bogdanova, Rositsa Univ. of Alberta; Cheng, Irene Univ. of Alberta; Zheng, Bin Univ. of Alberta; Basu, Anup* Univ. of Alberta</i>	
15:30-17:00	ThCT5.17
Radiomic Analysis of Multi-Contrast Brain MRI for the Prediction of Survival in Patients with Glioblastoma Multiforme	4035-4038
Chaddad, Ahmad* <i>Univ. of Quebec, Ecole de Technologie superieure; Desrosiers, Christian École de Technologie Supérieure; Toews, Matthew Univ. of Quebec, Ecole de Technologie Superieure</i>	
15:30-17:00	ThCT5.18
Functional Connectivity Analysis using Global and Regional Metrics in MS Patients*	4039-4042
Chirumamilla, Venkata Chaitanya* <i>Johannes Gutenberg Univ., Dept. of Neurology Mainz; Vinzenz, Fleischer Dept. of Neurology, Johannes Gutenberg Univ., Mainz; Drogby, Amgad Johannes Gutenberg Univ., Dept. of Neurology Mainz; Anjum, Tauqeer Univ. of Kiel, Digital Signal Processing and System Theory; Muthuraman, Muthuraman Christian Albrechts Univ.; Zipp, Frauke Johannes Gutenberg Univ.; Sergiu, Groppa Dept. of Neurology</i>	
15:30-17:00	ThCT5.19
Sulcal Curve Extraction using Laplace Beltrami Eigenfunction Level Sets	4043-4046
Shishegar, Rosita* <i>The Univ. of Melbourne, NICTA Victoria Research Laboratory; Tolcos, Mary The Ritchie Centre, MIMR-PHI Institute of Medical Research; Walker, David W. Monash Institute of Medical Research, The Ritchie Centre, Monash; Johnston, Leigh A. Univ. of Melbourne</i>	
15:30-17:00	ThCT5.20
Mesh Resolution Impacts the Accuracy of Inverse and Forward ECG Problems	4047-4050
Yao, Bing <i>The Pennsylvania State Univ.; Pei, Shenli The Pennsylvania State Univ.; Yang, Hui* The Pennsylvania State Univ.</i>	
15:30-17:00	ThCT5.21
Simplified EEG Inverse Solution for BCI Real-Time Implementation	4051-4054
Duque-Muñoz, Leonardo* <i>Univ. de Antioquia; Vargas, Jesus Francisco Univ. de Antioquia; Lopez, Jose David Univ. de Antioquia</i>	
15:30-17:00	ThCT5.22
Abnormal Interhemispheric Resting-State Functional Connectivity in Primary Open-Angle Glaucoma	4055-4058
Zhou, Peng <i>Institute of Automation, Chinese Academy of Sciences; Wang, Jieqiong Institute of Automation, Chinese Academy of Sciences; Li, Ting Beijing Tongren Hospital, Capital Medical Univ.; Wang, Ningli Beijing Tongren Hospital, Capital Medical Univ.; Xian, Junfang Beijing Tongren Hospital; He, Huiguang* Institute of Automation, Chinese Academy of Sciences</i>	

15:30-17:00	ThCT5.23
Evaluation of the Effect of Doubling Atlases using Midsagittal Plane on Multi-Atlas based Segmentation of Brain Structures	4059-4062
Gorthi, Subrahmanyam* <i>Samsung R&D Institute India – Bangalore (SRI-B)</i>	
15:30-17:00	ThCT5.24
Template based Rodent Brain Extraction and Atlas Mapping	4063-4066
Huang, Weimin* <i>Institute for Infocomm Research, Agency for Science Technology and</i> ; Zhang, Jiaqi <i>NTU</i> ; Lin, Zhiping <i>Nanyang Technological Univ.</i> ; Huang, Su <i>Institute for Infocomm Research, A*STAR, Singapore</i> ; Duan, Yuping <i>Tianjin Univ.</i> ; Lu, Zhongkang <i>Institute for Infocomm Research</i>	
15:30-17:00	ThCT5.25
Multivariate Autoregressive Model Constrained by Anatomical Connectivity to Reconstruct Focal Sources	4067-4070
Belaoucha, Brahim* <i>INRIA Sophia-Antipolis</i> ; Kachouane, Mouloud <i>USTHB, FEI, LRPE, ParIMed</i> ; Papadopoulo, Théodore <i>INRIA Sophia-Antipolis</i>	
15:30-17:00	ThCT5.26
Recursive Feature Elimination for Biomarker Discovery in Resting-State Functional Connectivity	4071-4074
Ravishankar, Hariharan* <i>General Electric Global Research</i> ; Madhavan, Radhika <i>General Electric, Global Research</i> ; Mullick, Rakesh <i>GE Global Research</i> ; Shetty, Teena <i>Hospital for Special Surgery</i> ; Marinelli, Luca <i>GE Global Research Center</i> ; Joel, Suresh Emmanuel Devadoss <i>General Electric Global Research</i>	
15:30-17:00	ThCT5.27
Structural Brain Network Analysis in Schizophrenia using Minimum Spanning Tree	4075-4078
Anjomshoa, Ali <i>Students' Scientific Research Center, Tehran Univ. of Medica</i> ; Dolatshahi, Mahsa <i>Students' Scientific Research Center, Tehran Univ. of Medica</i> ; Amirkhani, Fatemeh <i>Students' Scientific Research Center, Tehran Univ. of Medica</i> ; Rahmani, Farzaneh <i>Neuroimaging and Genetic Research Interest Group (NiGIG), Univ.</i> ; Mirbagheri, Mehdi <i>Northwestern Univ./RIC</i> ; Aarabi, Mohammad Hadi* <i>Students' Scientific Research Center, Tehran Univ. of Medica</i>	
15:30-17:00	ThCT5.28
Projected Current Density Comparison in tDCS Block and Smooth FE Modeling	4079-4082
Indahlastari, Aprinda* <i>Arizona State Univ.</i> ; Sadleir, Rosalind <i>Arizona State Univ.</i> ; Chauhan, Munish <i>Arizona State Univ.</i>	
15:30-17:00	ThCT5.29
MRI as a Diagnostic Imaging Alternative for DMD Therapeutic Assessments	4083-4086
Eresen, Aydin <i>Texas A&M Univ.</i> ; McConnell, Stephen <i>Texas A&M Univ.</i> ; Ji, Jim Xiuquan* <i>Texas A&M Univ.</i> ; Sharla, Birch <i>Texas A&M Univ.</i> ; Kornegay, Joe <i>Texas A&M Univ.</i> ; Griffin, Jay <i>Texas A&M Univ.</i>	
15:30-17:00	ThCT5.30
Source Imaging of Simple Finger Movements Captured during Auditory Response Tasks using Space-Time-Frequency based Sparsity Constraints	4087-4092
Chaudhuri, Aritra* <i>Indian Institute of Technology, Kharagpur, India</i> ; Routray, Aurobinda <i>Indian Institute of Technology, Kharagpur, India</i>	

ThCT6: 15:30-17:00	Grand Republic C
Ignite_Theme 2_Th3 (Ignite Session)	

15:30-17:00	ThCT6.1
Development of a Real-Time Lumbar Ultrasound Image Processing System for Epidural Needle Entry Site Localization	4093-4096
Leng, Yusong* <i>National Univ. of Singapore</i> ; Yu, Shuang <i>National Univ. of Singapore</i> ; Tan, Kok Kiong <i>National Univ. of Singapore</i> ; Tildsley, Philip <i>KK Women's and Children's Hospital</i> ; Sia, Alex Tiong Heng <i>KK Women's and Children's Hospital</i> ; Sng, Ban Leong <i>KK Women's and Children's Hospital</i>	

15:30-17:00		ThCT6.2
Segmentation of the Metacarpus and Phalange in Musculoskeletal Ultrasound Images using Local Active Contours	4097-4100	
Martins, Nelson <i>Enermeter, Sistemas de Medição, Lda & Instituto de Telecomunicac</i> ; Sultan, Malik Saad <i>Univ. of Porto</i> ; Veiga, Diana <i>Enermeter, Sistemas de Medição Ida/ Centro Algoritmi, Univ.</i> ; Ferreira, Manuel Joao <i>Univ. of Minho</i> ; Coimbra, Miguel* <i>Instituto de Telecomunicações / Univ. do Porto</i>		
15:30-17:00		ThCT6.3
Breast Lesion Detection and Characterization with 3D Features	4101-4104	
Sreekumari, Arathi* <i>GE Global Research, Bangalore</i> ; Shriram, K S <i>GE Global Research</i> ; Vaidya, Vivek <i>General Electric</i>		
15:30-17:00		ThCT6.4
Ultrasound Transducer Positioning Aid for Fetal Heart Rate Monitoring	4105-4108	
Hamelmann, Paul* <i>Eindhoven Univ. of Technology</i> ; Kolen, Alex <i>Philips Research</i> ; Schmitt, Lars <i>Philips</i> ; Vullings, Rik <i>Eindhoven Univ. of Technology</i> ; van Assen, Hans <i>Eindhoven Univ. of Technology</i> ; Mischì, Massimo <i>Eindhoven Univ. of Technology</i> ; Demi, Libertario <i>Eindhoven Univ. of Technology</i> ; van Laar, O. E. H. <i>Judith Veldhoven Maxima Medical Center</i> ; Bergmans, Johannes Wilhelmus Maria <i>Eindhoven Univ. of Technology</i>		
15:30-17:00		ThCT6.5
3D-2D Ultrasound Feature-Based Registration for Navigated Prostate Biopsy: A Feasibility Study	4109-4112	
Selmi, Sonia Yuki* <i>Univ. Joseph Fourier</i> ; Promayon, Emmanuel <i>Univ. Joseph Fourier</i> ; Troccaz, Jocelyne <i>Univ. Joseph Fourier – CNRS UMR 5525</i>		
15:30-17:00		ThCT6.6
Multi-Scale RANSAC Algorithm for Needle Location in 3D Ultrasound Guided Puncture Surgery	4113-4116	
Jin, Jing <i>Harbin Institute of Technology</i> ; Shen, Ruixue <i>Harbin Institute of Technology</i> ; Zhao, Yue* <i>Harbin Institute of Technology</i> ; Li, Dandan <i>Harbin Institute of Technology</i> ; Shen, Yi <i>Harbin Institute of Technology</i> ; Xiao, Yang <i>Harbin institute of technology</i>		
15:30-17:00		ThCT6.7
Automatic Pneumonia Detection based on Ultrasound Video Analysis	4117-4120	
Cisneros-Velarde, Pedro Arturo* <i>Pontificia Univ. Catolica del Peru</i> ; Correa, Malena <i>Univ. Peruana Cayetano Heredia – UPCH</i> ; Mayta, Holguer <i>Univ. Peruana Cayetano Heredia</i> ; Anticona, Cynthia <i>Univ. Peruana Cayetano Heredia – UPCH</i> ; Pajuelo, Monica <i>Univ. Peruana Cayetano Heredia – UPCH</i> ; Oberhelman, Richard <i>Tulane Univ., School of Public Health and Tropical Medicine</i> ; Checkley, William <i>Dept. of International Health, School of Public Health, John</i> ; Gilman, Robert H. <i>Johns Hopkins Univ., Bloomberg School of Public Health</i> ; Figueroa, Dante <i>Instituto Nacional del Niño</i> ; Zimic, Mirko <i>Univ. Peruana Cayetano Heredia</i> ; Lavarello, Roberto <i>Pontificia Univ. Catolica del Peru</i> ; Castañeda, Benjamín <i>Pontificia Univ. Católica del Perú</i>		
15:30-17:00		ThCT6.8
An Automated Bladder Volume Measurement Algorithm by Pixel Classification using Random Forests	4121-4124	
Annangi, Pavan* <i>GE Global Research</i> ; Frigstad, Sigmund <i>GE Healthcare</i> ; Sundaran Baby Sarojam, Subin <i>GE Healthcare</i> ; Sundararajan, Ramasubramanian <i>Sabre Airline Solutions</i> ; Torp, Anders Herman <i>GE Vingmed Ultrasound</i> ; Varna, Srinivas <i>GE Healthcare</i>		
15:30-17:00		ThCT6.9
Automated in Vivo Delineation of Lumen Wall using Intravascular Ultrasound Imaging	4125-4128	
China, Debarghya <i>Indian Institute of Technology, Kharagpur</i> ; Nag, Manas <i>Indian Institute of Technology, Kharagpur</i> ; Mandana, K M <i>Fortis Hospitals, Kolkata</i> ; Sadhu, Anup <i>Eko CT and MRI Scan Centre, Medical College, Kolkata</i> ; Mitra, Pabitra <i>Indian Institute of Technology, Kharagpur</i> ; Chakraborty, Chandan* <i>Indian Institute of Technology, Kharagpur</i>		
15:30-17:00		ThCT6.10
Spectral-Based Pneumonia Detection Tool using Ultrasound Data from Pediatric Populations	4129-4132	
Zenteno, Omar* <i>Pontificia Univ. Católica del Perú</i> ; Castañeda, Benjamín <i>Pontificia Univ. Católica del Perú</i> ; Lavarello, Roberto <i>Pontificia Univ. Catolica del Peru</i>		

15:30-17:00	ThCT6.11
A Probabilistic Framework based on SLIC-Superpixel and Gaussian Processes for Segmenting Nerves in Ultrasound Images	4133-4136
Gil González, Julián* <i>Univ. Tecnológica de Pereira</i> ; Alvarez, Mauricio A. <i>Univ. Tecnológica de Pereira</i> ; Orozco, Alvaro <i>Univ. Tecnológica de Pereira</i>	
15:30-17:00	ThCT6.12
Dynamic Mapping of Ventricular Function from Cardiovascular Magnetic Resonance Imaging	4137-4140
Panayiotou, Maria* <i>King's college London</i> ; Mounthey, Peter <i>Siemens</i> ; Brost, Alexander <i>Siemens Healthcare</i> ; Toth, Daniel <i>Siemens Healthcare, Division of Imaging Sciences and Biomedical</i> ; Jackson, Tom <i>Dept. of Cardiology, Guy's and St. Thomas' Hospitals NHS Fo</i> ; Behar, Jonathan M <i>Division of Imaging Sciences and Biomedical Engineering, King's</i> ; Rinaldi, Aldo <i>King's College London</i> ; Housden, Richard James <i>King's College London</i> ; Rhode, Kawal <i>King's College London</i>	
15:30-17:00	ThCT6.13
Atrioventricular Junction (AVJ) Motion Tracking: A Software Tool with ITK/VTK/Qt	4141-4144
Pengdong, Xiao* <i>National Heart Centre Singapore</i> ; Leng, Shuang <i>National Heart Centre Singapore</i> ; Zhao, Xiaodan <i>National Heart Centre Singapore</i> ; Zou, Hua <i>National Heart Centre Singapore</i> ; Tan, Ru San <i>National Heart Centre</i> ; Wong, Philip <i>National Heart Centre Singapore</i> ; Zhong, Liang <i>National Heart Centre Singapore</i>	
15:30-17:00	ThCT6.14
Mechanical Performances of Endovascular Aneurysm Repair Strategies with Main Aortic and Chimney Grafts	4145-4148
Kan, Chung-Dann* <i>National Cheng Kung Univ. Hospital, Dept. of Surgery, T</i> ; Huang, Bing-Feng <i>NCKU-BME</i> ; Yeh, Ming-Long <i>National Cheng Kung Univ./Dept. of Biomedical Engineering</i> ; Chen, Wei-Ling <i>Kaohsiung Veterans General Hospital</i>	
15:30-17:00	ThCT6.15
Characterization of Patient-Specific Biventricular Mechanics in Heart Failure with Preserved Ejection Fraction: Hyperelastic Wrapping Approach	4149-4152
Zou, Hua <i>National Heart Centre Singapore</i> ; Zhao, Xiaodan <i>National Heart Centre Singapore</i> ; Xi, Ce <i>Michigan State Univ.</i> ; Lee, Lik Chuan <i>Michigan State Univ.</i> ; Genet, Martin <i>Ecole polytechnic</i> ; Su, Yi <i>Institute of High Performance Computing</i> ; Tan, Ru San <i>National Heart Centre</i> ; Zhong, Liang* <i>National Heart Centre Singapore</i>	
15:30-17:00	ThCT6.16
Inexact Coronary Tree Matching Algorithm with Artificial Nodes	4153-4156
Feuillâtre, Hélène <i>Univ. de Rennes 1</i> ; Nunes, Jean Claude* <i>Univ. de Rennes</i> ; Toumoulin, Christine <i>Univ. de Rennes I</i>	
15:30-17:00	ThCT6.17
Calcification Detection of Abdominal Aorta in CT Images and 3D Visualization in VR Devices	4157-4160
García-Berná, José Alberto <i>Univ. of Murcia</i> ; Sánchez-Gómez, Juan Manuel <i>Univ. of Murcia</i> ; Hermanns, Judith <i>RWTH Aachen Univ.</i> ; García-Mateos, Ginés <i>Univ. of Murcia</i> ; Fernandez Aleman, Jose Luis* <i>Univ. of Murcia</i>	
15:30-17:00	ThCT6.18
Characterization of Normal and Scarred Myocardium based on Texture Analysis of Cardiac Computed Tomography Images	4161-4164
Antunes, Sofia* <i>San Raffaele Scientific Institute via Olgettina 58, 20132, Milan</i> ; Esposito, Antonio <i>Dept. of Radiology, San Raffaele Scientific Institute, Mila</i> ; Palmisano, Anna <i>Dept. of Radiology, San Raffaele Scientific Institute, Mila</i> ; Colantoni, Caterina <i>Dept. of Radiology, San Raffaele Scientific Institute, Mila</i> ; De Cobelli, Francesco <i>Dept. of Radiology, San Raffaele Scientific Institute, Mila</i> ; Del Maschio, Alessandro <i>Dept. of Radiology, San Raffaele Scientific Institute, Mila</i>	
15:30-17:00	ThCT6.19
A Method for Coronary Bifurcation Centerline Reconstruction from Angiographic Images based on Focalization Optimization	4165-4168
Montin, Eros* <i>Politecnico di Milano</i> ; Migliori, Susanna <i>Politecnico di Milano, Milan, Italy</i> ; Chiastra, Claudio <i>Politecnico di Milano</i> ; Credi, Caterina <i>Politecnico di Milano</i> ; Fedele, Roberto <i>Politecnico di Milano</i> ; Aurigemma, Cristina <i>Institute of Cardiology, Catholic Univ. of the Sacred Heart</i> ; Levi, Marinella <i>Politecnico di Milano</i> ; Burzotta, Francesco <i>Institute of Cardiology, Catholic Univ. of the Sacred Heart</i> ; Migliavacca, Francesco <i>Dept. of Chemistry, Materials and Chemical Engineering "Giu; Mainardi, Luca Politecnico di Milano</i>	

15:30-17:00	ThCT7.1
Bio-Active Polymer Implants to Adipose Tissue as in situ Source of Reprogramming Cells 4169-4172	
Mikhailov, Andrey* <i>Univ. of Tsukuba</i> ; Sugiyama, Fumihito <i>Laboratory Animal Resource Center, Univ. of Tsukuba</i> ; Mizuno, Saori <i>Laboratory Animal Resource Center, Univ. of Tsukuba</i> ; Sankai, Yoshiyuki <i>Univ. of Tsukuba</i>	
15:30-17:00	ThCT7.2
Colony Size Effect on Neural Differentiation of Embryonic Stem Cells Microprinted on Stromal Cells 4173-4176	
Joshi, Ramila <i>The Univ. of Akron</i> ; Buchanan, James <i>Univ. of Akron</i> ; Tavana, Hossein* <i>The Univ. of Akron</i>	
15:30-17:00	ThCT7.3
Microprinted Tumor Spheroids Enable Anti-Cancer Drug Screening 4177-4180	
Thakuri, Pradip <i>The Univ. of Akron</i> ; Ham, Stephanie <i>Univ. of Akron</i> ; Tavana, Hossein* <i>The Univ. of Akron</i>	
15:30-17:00	ThCT7.4
Electrospinning of Gelatin and SMPU with Carbon Nanotubes for Tissue Engineering Scaffolds 4181-4184	
Moncada, Maria Elena <i>Instituto Tecnológico Metropolitano</i> ; Mejia Suaza, Monica Liliana* <i>Instituto Tecnológico Metropolitano</i> ; Hoyos, Lina M. <i>Univ. Pontificia Bolivariana</i> ; Zapata, Jenniffer <i>Instituto Tecnológico Metropolitano</i> ; Restrepo, Luz M. <i>Univ. de Antioquia</i>	
15:30-17:00	ThCT7.5
Gelatin Methacrylamide Hydrogel with Graphene Nanoplatelets for Neural Cell-Laden 3D Bioprinting 4185-4188	
Zhu, Wei* <i>The George Washington Univ.</i> ; Harris, Brent T. <i>Georgetown Univ. Medical Center</i> ; Zhang, Lijie Grace <i>The George Washington Univ.</i>	
15:30-17:00	ThCT7.6
A Microdosimetry Study for a Realistic Shaped Nucleus 4189-4192	
Denzi, Agnese* <i>Istituto Italiano di Tecnologia (IIT@Sapienza)</i> ; Escobar, José Adolfo Alfaro <i>Univ. of Rome La Sapienza</i> ; Nasta, Claudia <i>Univ. of Rome La Sapienza</i> ; Merla, Caterina <i>ENEA</i> ; Benassi, Barbara <i>Italian National Agency for New Technologies, Energy, and Sustai</i> ; Consales, Claudia <i>Italian National Agency for New Technologies, Energy, and Sustai</i> ; Apollonio, Francesca <i>ICEMB@La Sapienza Univ. Rome</i> ; Liberti, Micaela <i>ICEMB at Sapienza Univ. of Rome</i>	
15:30-17:00	ThCT7.7
Effects of Extremely Low Frequency Electromagnetic Fields on In-Vitro Cellular Cultures HeLa and CHO 4193-4196	
Restrepo Alvarez, Andres Fernando* <i>Researcher – Univ. del Valle</i> ; Tobar Torres, Victoria Eugenia <i>Univ. del Valle</i> ; Camargo Amado, Ruben Jesus <i>Univ. del Valle</i> ; Franco Mejia, Edinson <i>Univ. del Valle</i> ; Pinedo Jaramillo, Carlos Rafael <i>Univ. del Valle</i> ; Gutierrez, Jose Oscar <i>Univ. del Valle</i>	
15:30-17:00	ThCT7.8
Poly(N-Isopropylacrylamide) Hydrogel-Based Shape-Adjustable Polyimide Films Triggered by Near-Human-Body Temperature 4197-4200	
Cui, Huanqing <i>Shenzhen Institutes of Advanced Technology (SIAT), Chinese Acade</i> ; Du, Xuemin* <i>Shenzhen Institutes of Advanced Technology (SIAT), Chinese Acade</i> ; Wang, Juan <i>Shenzhen Institutes of Advanced Technology (SIAT), Chinese Acade</i> ; Tang, Tianhong <i>Shenzhen Institutes of Advanced Technology (SIAT), Chinese Acade</i> ; Wu, Tianzhun <i>Shenzhen Institutes of Advanced Technology (SIAT), Chinese Acade</i>	
15:30-17:00	ThCT7.9
Three Dimensional Graphene Scaffold for Cardiac Tissue Engineering and In-Situ Electrical Recording 4201-4203	
Kabiri, Shideh <i>Tufts Univ.</i> ; Singh, Pramod <i>Tufts Univ.</i> ; D'Angelo, Robert <i>Tufts Univ.</i> ; Stoppel, Whitney <i>Tufts Univ.</i> ; Black, Lauren <i>Tufts Univ.</i> ; Sonkusale, Sameer* <i>Tufts Univ.</i>	
15:30-17:00	ThCT7.10
Graphene Neural Interfaces for Artifact Free Optogenetics 4204-4207	
Lyu, Hongming <i>Univ. of California San Diego</i> ; Liu, Xin <i>Univ. of California San Diego</i> ; Rogers, Nicholas <i>Univ. of California San Diego</i> ; Gilja, Vikash <i>Stanford Univ.</i> ; Kuzum, Duygu* <i>Univ. of California San Diego</i>	

15:30-17:00	ThCT7.11
Novel Ti-Nb Alloys with Improved Wear Resistance for Biomedical Implant Application	4208-4211
Chapala, Praveen <i>UOH Hyderabad</i> ; Acharyya, Swati Ghosh* <i>UOH Hyderabad</i> ; Shariff, S.M <i>ARCI Hyderabad</i> ; Naik, Ganesh R <i>Univ. of Technology Sydney</i>	
15:30-17:00	ThCT7.12
Low-Cost Rapid Prototyping of Liquid Crystal Polymer based Magnetic Microactuators for Glaucoma Drainage Devices	4212-4215
Park, Hyunsu* <i>Purdue Univ.</i> ; John, Simon <i>The Jackson Laboratory</i> ; Lee, Hyowon <i>Purdue Univ.</i>	
15:30-17:00	ThCT7.13
Behavior of Superparamagnetic Nanoparticles in Regard of Brain Activity – A Proof of Concept	4216-4219
Champagne, Pierre-Olivier* <i>Polytechnique Montreal</i> ; Nguyen, Dang <i>Notre-Dame Hospital</i> ; Carmant, Lionel <i>Sainte-Justine Hospital</i> ; Bouthillier, Alain <i>Notre-Dame Hospital</i> ; Sanon, Nathalie T <i>Hôpital Sainte-justine</i> ; Sawan, Mohamad <i>Polytechnique Montreal</i>	
15:30-17:00	ThCT7.14
Novel 3D Coaxial Flow-Focusing Nozzle Device for the Production of Monodispersed Collagen Microspheres	4220-4223
Jaligama, Sravani* <i>Texas A&M Univ., College Station</i> ; Huang, Po-Jung <i>Texas A&M Univ.</i> ; Kameoka, Jun <i>Texas A&M Univ.</i>	
15:30-17:00	ThCT7.15
Nanostructured Bioluminescence Quenching Sensor for Detecting Glucose	N/A
Chen, longyan <i>McGill Univ.</i> ; Chen, longyi <i>Univ. of Western Ontario</i> ; Zhang, Jin* <i>Univ. of Western Ontario</i>	
15:30-17:00	ThCT7.16
Quantitative Estimation of Electro-osmosis Force on Charged Particles Inside a Borosilicate Resistive-Pulse Sensor	4228-4231
Ghobadi, Mostafa <i>Univ. at Buffalo SUNY</i> ; Yuqian, Zhang <i>Univ. of Cincinnati</i> ; Rana, Ankit <i>Univ. of Cincinnati</i> ; Esfahani, Ehsan <i>Univ. at Buffalo, SUNY</i> ; Esfandiari, Leyla* <i>Univ. of Cincinnati</i>	
15:30-17:00	ThCT7.17
Microchambers for Cell Exposure: From the Design to Applications	4232-4235
Denzi, Agnese* <i>Istituto Italiano di Tecnologia (IIT@Sapienza)</i> ; Merla, Caterina <i>ENEA</i> ; Casciola, Maura <i>Sapienza Univ. of Rome</i> ; Hwang, James C. M. <i>Lehigh Univ., Bethlehem</i> ; Cheng, Xuanhong <i>Lehigh Univ., Bethlehem</i> ; Apollonio, Francesca <i>ICEmB@La Sapienza Univ. Rome</i> ; Liberti, Micaela <i>ICEmB at Sapienza Univ. of Rome</i>	
ThCT8: 15:30-17:00	Pastoral 1
Ignite_Theme 5_Th1 (Ignite Session)	
Chair: Penzel, Thomas <i>Charite Univ. Hospital</i>	
15:30-17:00	ThCT8.1
Non-Invasive Monitoring of Pulmonary Artery Pressure at the Bedside	4236-4239
Proença, Martin* <i>Swiss Center for Electronics and Microtechnology (CSEM)</i> ; Braun, Fabian <i>CSEM SA</i> ; Muntané Calvo, Enric <i>CSEM</i> ; Sola, Josep <i>CSEM – Centre Suisse d'Electronique et Microtechnique</i> ; Adler, Andy <i>Carleton Univ.</i> ; Lemay, Mathieu <i>CSEM</i> ; Thiran, Jean-Philippe <i>Ecole Polytechnique Fédérale de Lausanne (EPFL)</i> ; Rimoldi, Stefano <i>Inselspital Bern, Univ. Hospital</i>	
15:30-17:00	ThCT8.2
A Pulse Transit Time based Fusion Method for the Noninvasive and Continuous Monitoring of Respiratory Rate	4240-4243
Ding, Xiao-Rong <i>The Chinese Univ. of Hong Kong</i> ; Zhang, Yuan-Ting <i>The Chinese Univ. of Hong Kong</i> ; Tsang, Hon Ki <i>The Chinese Univ. of Hong Kong</i> ; Karlen, Walter* <i>ETH Zurich</i>	
15:30-17:00	ThCT8.3
Comparison of Methods for the Evaluation of NIBP from Pulse Transit Time	4244-4247
Noury, Norbert* <i>Univ. Lyon 1</i> ; Peter, Lukas <i>VSB Technical Univ. of Ostrava</i> ; Cerny, Martin <i>VSB – Technical Univ. of Ostrava</i> ; NYKL, Igor <i>Hospital Trinec Podlesi</i>	

15:30-17:00	ThCT8.4
Using Multiple Placements of Accelerometers to Measure Cardiovascular Pulse Transit Times	4248-4251
Canino, Natalie <i>Clarkson Univ.</i> ; Wang, Ruisheng <i>Cornell Univ.</i> ; Robinson, Charles* <i>Clarkson Univ.</i>	
15:30-17:00	ThCT8.5
Cuff-Pressure Induced PAT Changes – Modelling and Experimental Verification towards Calibration of BP Surrogates	4252-4255
Bresch, Erik* <i>Philips</i> ; Schmitt, Lars <i>Philips</i> ; Matteis, Dennis de <i>Philips</i> ; Muehlsteff, Jens <i>Philips</i>	
15:30-17:00	ThCT8.6
Single Source Photoplethysmograph Transducer for Local Pulse Wave Velocity Measurement	4256-4259
PM, Nabeel* <i>IIT MADRAS</i> ; Joseph, Jayaraj <i>HTIC, Indian Institute of Technology Madras</i> ; Awasthi, Vartika <i>Vellore Institute of Technology</i> ; Sivaprakasam, Mohanasankar <i>Indian Institute of Technology Madras</i>	
15:30-17:00	ThCT8.7
A Simple Mathematical Model of Spontaneous Swallow Effects on Breathing based on New Experimental Data	4260-4263
Fontecave-Jallon, Julie* <i>Univ. Grenoble Alpes, TIMC – IMAG</i> ; Baconnier, Pierre <i>Univ. Joseph Fourier</i>	
15:30-17:00	ThCT8.8
Importance of Metabolism Variations in a Model of Extracorporeal Carbon Dioxide Removal	4264-4267
Simon, Habran* <i>Univ. of Liege</i> ; Desaive, Thomas <i>Univ. of Liege</i> ; Morimont, Philippe <i>Univ. Hospital of Liège</i> ; Lambermont, Bernard <i>Univ. of Liege</i> ; Dauby, Pierre <i>Univ. of Liege</i>	
15:30-17:00	ThCT8.9
A Method for Extracting Respiratory Frequency during Blood Pressure Measurement, from Oscillometric Cuff Pressure Pulses and Korotkoff Sounds Recorded during the Measurement	4268-4271
Chen, Diliang <i>Southern Univ. of Science and Technology of China</i> ; Chen, Fei* <i>Southern Univ. of Science and Technology</i> ; Murray, Alan <i>Newcastle Univ.</i> ; Zheng, Dingchang <i>Anglia Ruskin Univ.</i>	
15:30-17:00	ThCT8.10
A Morphological Approach to Detect Respiratory Phases of Seismocardiogram	4272-4275
Alamdari, Nasim* <i>Student</i> ; Tavakolian, Kouhyar <i>Assistant Professor</i> ; Zakeri, Vahid <i>Simon Fraser Univ.</i> ; Fazel-Rezai, Reza <i>Univ. of North Dakota</i> ; Akhbardeh, Alireza <i>Johns Hopkins Univ.</i>	
15:30-17:00	ThCT8.11
Evaluation of Periodic Breathing in Respiratory Flow Signal of Elderly Patients using SVM and Linear Discriminant Analysis	4276-4279
Argerich, Sara <i>Institute for Bioengineering of Catalonia</i> ; Herrera, Sergio <i>Hospital de la Santa Creu i Sant Pau</i> ; Benito, Salvador <i>Hospital de la Santa Creu i Sant Pau</i> ; Giraldo, Beatriz* <i>Univ. Politècnica de Catalunya</i>	
15:30-17:00	ThCT8.12
Study of Phase Estimation Methods to Analyse Cardiorespiratory Synchronization in OSA Patients	4280-4283
Solà-Soler, Jordi* <i>Univ. Politècnica de Catalunya</i> ; Giraldo, Beatriz <i>Univ. Politècnica de Catalunya</i> ; Fiz Fernandez, José Antonio <i>Navarra Hospital</i> ; Jané, Raimon <i>Institut de Bioenginyeria de Catalunya (IBEC)</i>	
15:30-17:00	ThCT8.13
Leg Fluid Accumulation during Prolonged Sitting	4284-4287
Vena, Daniel* <i>Univ. of Toronto/Toronto Rehabilitation Institute</i> ; Rubianto, Jonathan <i>Univ. of Toronto</i> ; Popovic, Milos R. <i>Univ. of Toronto</i> ; Yadollahi, Azadeh <i>Univ. of Toronto</i>	
15:30-17:00	ThCT8.14
A Study of Apnea Induced Covariations of Cerebral Blood Flow and Exhaled CO₂	4288-4291
Kanal, Varun <i>Univ. of Texas at Arlington</i> ; Alex, Raichel* <i>Univ. of Texas Arlington</i> ; Mousavi, Nazaneen <i>Univ. of Texas at Arlington</i> ; Jepsen, Kevin <i>Univ. of Texas at Arlington</i> ; Watenpaugh, Donald <i>Sleep Consultants Inc.</i> ; Zhang, Rong <i>Univ. of Texas Southwestern Medical Center at Dallas</i> ; Behbehani, Khosrow <i>Univ. of Texas at Arlington</i>	
15:30-17:00	ThCT8.15
Dynamic Modeling of Apnea Induced Concurrent Variations in Arterial Blood Pressure and Cerebral Blood Flow Velocity	4292-4295
Alex, Raichel* <i>Univ. of Texas Arlington</i> ; Zhang, Rong <i>Univ. of Texas Southwestern Medical Center at Dallas</i> ; Watenpaugh, Donald <i>Sleep Consultants Inc.</i> ; Behbehani, Khosrow <i>Univ. of Texas at Arlington</i>	

15:30-17:00	ThCT8.16
Auto-Adjusting Mandibular Repositioning Device for In-Home Use	4296-4299
Brugarolas, Rita* <i>North Carolina State Univ.</i> ; Valero-Sarmiento, Jose M. <i>North Carolina State Univ.</i> ; Bozkurt, Alper <i>North Carolina State Univ.</i> ; Essick, Greg <i>Univ. of North Carolina at Chapel Hill</i>	
15:30-17:00	ThCT8.17
Hemodynamic Effects of Synchronizing an Intra-Aortic VAD in Reverse-Rotation Control with Left Ventricle: A Mock Loop Study	4300-4304
Wang, Yaxin* <i>Univ. of Cambridge</i> ; Smith, P. Alex <i>Texas Heart Institute at St. Luke's Hospital</i> ; Timms, Daniel Lee <i>Bivacor Pty Ltd</i> ; Hsu, Po-Lin <i>Artificial Organ Technology Laboratory, Soochow Univ., Suzh</i> ; McMahon, Richard <i>Dept. of Engineering, Univ. of Cambridge</i>	
15:30-17:00	ThCT8.18
The Effect of the Aortic Valve Orientation on Cavitation	4305-4308
Johansen, Peter* <i>Univ. of Aarhus, Faculty of Science and Technology</i> ; Travis, Brandon Reed <i>Aarhus Univ. Hospital</i> ; Smerup, Morten <i>Aarhus Univ. Hospital</i> ; Christensen, Thomas Decker <i>Aarhus Univ. Hospital</i> ; Funder, Jonas Amstrup <i>Aarhus Univ. Hospital</i> ; Nyboe, Camilla <i>Aarhus Univ. Hospital</i> ; Nygaard, Hans <i>Univ. of Aarhus</i> ; Hasenkam, J. Michael <i>Aarhus Univ. Hospital</i>	
15:30-17:00	ThCT8.19
Reaction Mechanism of Blood Coagulation Factors in Shear Flow Field	4309-4312
Kawakami, Koki <i>Tokyo Univ. of Science</i> ; Sakota, Daisuke <i>National Institute of Advanced Industrial Science and Technology</i> ; Kosaka, Ryo <i>AIST</i> ; Nishida, Masahiro <i>National Institute of Advanced Industrial Science and Technology</i> ; Kawaguchi, Yasuo <i>Tokyo Univ. of Science</i> ; Maruyama, Osamu* <i>National Institute of Advanced Industrial Science and Technology</i>	
15:30-17:00	ThCT8.20
Engineering based Assessment for a Shape Design of a Pediatric EPTFE Pulmonary Conduit Valve	4313-4316
Tsuboko, Yusuke* <i>Tohoku Univ.</i> ; Shiraishi, Yasuyuki <i>Tohoku Univ.</i> ; Yamada, Akihiro <i>Tohoku Univ.</i> ; Yambe, Tomoyuki <i>Tohoku Univ.</i>	
15:30-17:00	ThCT8.21
Development of a Simplified State-Space Model for the Biventricular Assist Device-Cardiovascular System Interaction	4317-4320
Koh, Vivian <i>Univ. of Malaya</i> ; Lim, Einly <i>Univ. of Malaya</i> ; Ng, Boon Chiang <i>Univ. of Malaya</i> ; Ho, Yong Kuen <i>Monash Univ. Malaysia</i> ; Lovell, Nigel H.* <i>Univ. of New South Wales</i>	
15:30-17:00	ThCT8.22
Patient Emulator: A Tool for Testing Mechanical Ventilation Therapies	4321-4324
Karamolegkos, Nikolaos* <i>Columbia Univ.</i> ; Albanese, Antonio <i>Philips Research North America</i> ; Isaza, Fernando <i>Philips Respironics</i> ; Chbat, Nicolas W. <i>Philips Research North America</i>	
ThCT9: 15:30-17:00	Fantasia K
Ignite_Theme 11-12_Th1 (Ignite Session)	
Chair: Panescu, Dorin <i>Advanced Cardiac Therapeutics</i>	
15:30-17:00	ThCT9.1
Building a More Diverse Biomedical Engineering Workforce: Biomedical Engineering at the Univ. of the District of Columbia, a Historically Black College & Univ. (HBCU)	4325-4328
Thompson, Lara* <i>Univ. of the District of Columbia</i> ; Adebayo, Segun <i>Univ. of the District of Columbia</i> ; Zhang, Nian <i>Univ. of the District of Columbia</i> ; Haghani, Sasan <i>Univ. of the District of Columbia</i> ; Dowell, Kathleen <i>EvaSolutions</i> ; Shetty, Devdas <i>Univ. of the District of Columbia</i>	
15:30-17:00	ThCT9.2
Status and Solutions to Medical Device Regulations for Improving the Healthcare Landscape in Africa	4329-4332
Lissel, Alexandra* <i>Anhalt Univ. of Applied Sciences</i> ; Ottenberg, Florian <i>Anhalt Univ. of Applied Sciences</i> ; Bracio, Boris Romanus <i>Univ. of Applied Science Anhalt</i> ; Ravizza, Alice <i>PGG Scientific</i> ; De Maria, Carmelo <i>Research Center E. Piaggio – Univ. of Pisa</i> ; Ahluwalia, Arti <i>Pisa Univ.</i> ; Di Pietro, Licia <i>Univ. of Pisa</i> ; Trommler, Peter <i>HELIOS Klinik Koethen</i>	

15:30-17:00	ThCT9.3
Defining New Aims for BME Programs in Latin America: The Case of UAM-Iztapalapa	4333-4336
<i>Azpiroz-leeahan, Joaquin* Univ. Autonoma Metropolitana; Martinez-Licon, Fabiola Univ. Autonoma Metropolitana; Urbina-Medal, E. Gerardo Univ. Autonoma Metropolitana; Cadena, Miguel Univ. Autonoma Metropolitana; Sacristan, Emilio Univ. Autónoma Metropolitana</i>	
15:30-17:00	ThCT9.4
Social Norms of "Good" Design: Interdisciplinary Perspectives from a Survey of Engineers and Clinicians in Bioengineering	4337-4340
<i>Johnson, Angela* Texas Tech Univ. / GE Healthcare</i>	
15:30-17:00	ThCT9.5
Use of Activity Theory-Based Need Finding for Biomedical Device Development	4341-4344
<i>Rismani, Shalaleh* Univ. of British Columbia; Ratto, Matt Univ. of Toronto; Van der Loos, H. F. Machiel Univ. of British Columbia</i>	
15:30-17:00	ThCT9.6
Automated ABO Rh-D Blood Type Detection using Smartphone Imaging for Point-of-Care Medical Diagnostics	4345-4348
<i>Srivathsa, Neha* The International School Bangalore; Dendukuri, Dhananjaya Achira Labs Pvt. Ltd, Bangalore</i>	
15:30-17:00	ThCT9.7
Label-Free Detection of Sex Determining Region Y (SRY) via Fractal Capacitive Biosensor	4349-4352
<i>Sivashankar, Shilpa* KAUST; Sapsanis, Christos Univ. of Patras, Electrical and Computer Engineering Dept.; Agambayev, Sümeyra Fatih Univ.; Buttner, Ulrich KAUST; Salama, Khaled N King Abdullah Univ. of Science and Technology</i>	
15:30-17:00	ThCT9.8
A Smartphone-Based System for Assessing Intraocular Pressure	4353-4356
<i>Mariakakis, Alex Univ. of Washington; Wang, Edward Univ. of Washington; Patel, Shwetak Univ. of Washington; Wen, Joanne C.* Univ. of Washington</i>	
15:30-17:00	ThCT9.9
Predictive Models for Diffuse Low-Grade Glioma Patients under Chemotherapy	4357-4360
<i>Ben Abdallah, Mériem* Univ. de Lorraine, Centre de Recherche en Automatique de Na; Blonski, Marie Neuro-Oncology Unit, Nancy Univ. Hospital, Univ. de Lo; Wantz-Mézières, Sophie Univ. de Lorraine, Institut de Mathématiques Elie Cartan, I; Gaudeau, Yann Univ. de Lorraine, Centre de Recherche en Automatique de Na; Taillandier, Luc Neuro-Oncology Unit, Nancy Univ. Hospital, Univ. de Lo; Moureaux, Jean-Marie Univ. de Lorraine, Centre de Recherche en Automatique de Na</i>	
15:30-17:00	ThCT9.10
Portable Video-Oculography Device for Implementation in Sideline Concussion Assessments: A Prototype	4361-4364
<i>Van Den Heever, Dawie* Stellenbosch Univ.; Fischer, Joshua Stellenbosch Univ.</i>	
15:30-17:00	ThCT9.11
A Low-Cost 3-D Printed Stethoscope Connected to a Smartphone	4365-4368
<i>Aguilera Astudillo, Carlos Eduardo Instituto Tecnológico de Morelia; Chávez, Campos, Gerardo Marx Instituto Tecnológico de Morelia; González, Suárez, Alan Cinvestav-IPN, Unidad Monterrey; Garcia-Cordero, Jose Luis* Cinvestav-IPN</i>	
15:30-17:00	ThCT9.12
Detection of Atrial Fibrillation with Seismocardiography	4369-4374
<i>Pänkäälä, Mikko Technology Research Center, Univ. of Turku; Koivisto, Tero* Univ. of Turku; Lahdenoja, Olli Technology Research Center, Univ. of Turku; Kiviniemi, Tuomas Heart Center, Turku Univ. Hospital; Saraste, Antti Heart Center, Turku Univ. Hospital; Vasankari, Tuija Heart Center, Turku Univ. Hospital; Airaksinen, Juhani Heart Center, Turku Univ. Hospital</i>	
15:30-17:00	ThCT9.13
Identi-Wheez – A Device for In-Home Diagnosis of Asthma	4375-4378
<i>Satat, Guy* MIT; Ramchander, Krithika MIT; Raskar, Ramesh MIT</i>	

15:30-17:00	ThCT9.14
Assessing App Quality through Expert Peer Review: A Case Study from the Gray Matters Study	4379-4382
Hartin, Phillip <i>Univ. of Ulster</i> ; Cleland, Ian* <i>Univ. of Ulster</i> ; Nugent, Chris <i>Univ. of Ulster</i> ; McClean, Sally <i>Univ. of Ulster</i> ; Tschanz, JoAnn <i>Utah State Univ.</i> ; Clark, Christine <i>Utah State Univ.</i> ; Norton, Maria <i>Utah State Univ.</i>	
15:30-17:00	ThCT9.15
A Real-Time Remote Video Streaming Platform for Ultrasound Imaging	4383-4386
Ahmadi, Mehdi* <i>McGill Univ.</i> ; Gross, Warren <i>McGill Univ.</i> ; Kadoury, Samuel <i>Polytechnique Montreal</i>	
15:30-17:00	ThCT9.16
Design of Peripheral Edema Measurement Device for Home Use	4387-4390
George, Stephanie* <i>East Carolina Univ.</i> ; Langley, Brandon <i>East Carolina Univ.</i> ; Weaver, Elizabeth <i>East Carolina Univ.</i> ; Hardin, Sonya <i>East Carolina Univ.</i> ; Yao, Jianchu <i>East Carolina Univ.</i>	
15:30-17:00	ThCT9.17
Augmented Reality for Breast Tumors Visualization	4391-4394
Ghaderi, Mohammad Ali* <i>The Univ. of Texas at Dallas</i> ; Heydarzadeh, Mehrdad <i>The Univ. of Texas at Dallas</i> ; Nourani, Mehrdad <i>Univ. of Texas at Dallas</i> ; Gupta, Gopal <i>Univ. of Texas Dallas</i> ; Tamil, Lakshman <i>Univ. of Texas at Dallas</i>	
15:30-17:00	ThCT9.18
Patient Walk Detection in Hospital Room using Microsoft Kinect V2	4395-4398
Liu, Liang* <i>Northwestern Univ.</i> ; Mehrotra, Sanjay <i>Northwestern Univ.</i>	
15:30-17:00	ThCT9.19
E-Health Prototype System for Cardiac Telemonitoring	4399-4402
Vargas Escobar, Laura Juliana* <i>Univ. Pontificia Bolivariana-seccional Bucaramanga</i> ; Salinas, Sergio Alexander <i>Univ. Pontificia Bolivariana-seccional Bucaramanga</i>	
15:30-17:00	ThCT9.20
Statistical Evaluation of Manual Segmentation of a Diffuse Low-Grade Glioma MRI Dataset	4403-4406
Ben Abdallah, Mériem* <i>Univ. de Lorraine, Centre de Recherche en Automatique de Na</i> ; Blonski, Marie <i>Neuro-Oncology Unit, Nancy Univ. Hospital, Univ. de Lo</i> ; Wantz-Mézières, Sophie <i>Univ. de Lorraine, Institut de Mathématiques Elie Cartan, I</i> ; Gaudeau, Yann <i>Univ. de Lorraine, Centre de Recherche en Automatique de Na</i> ; Taillandier, Luc <i>Neuro-Oncology Unit, Nancy Univ. Hospital, Univ. de Lo</i> ; Moureaux, Jean-Marie <i>Univ. de Lorraine, Centre de Recherche en Automatique de Na</i>	
15:30-17:00	ThCT9.21
Technology Adoption and Prediction Tools for Everyday Technologies Aimed at People with Dementia	4407-4410
Chaurasia, Priyanka <i>Univ. of Ulster</i> ; McClean, Sally <i>Univ. of Ulster</i> ; Nugent, Chris* <i>Univ. of Ulster</i> ; Cleland, Ian <i>Univ. of Ulster</i> ; Zhang, Shuai <i>Univ. of Ulster</i> ; Donnelly, Mark <i>Univ. of Ulster</i> ; Scotney, Bryan <i>Univ. of Ulster</i> ; Sanders, Chelsea <i>Utah State Univ.</i> ; Smith, Ken <i>Univ. of Utah</i> ; Norton, Maria <i>Utah State Univ.</i> ; Tschanz, JoAnn <i>Utah State Univ.</i>	
15:30-17:00	ThCT9.22
Telemedicine with Mobile Devices and Merged Reality for Early Postoperative Care	4411-4414
Ponce, Brent <i>Univ. of Alabama at Birmingham</i> ; Brabston, Eugene <i>Univ. of Alabama at Birmingham</i> ; Xu, Shin <i>Univ. of Alabama at Birmingham</i> ; Watson, Shawna <i>Univ. of Alabama at Birmingham</i> ; Baker, Dustin <i>Univ. of Alabama at Birmingham</i> ; Winn, Dennis <i>Univ. of Alabama at Birmingham</i> ; Guthrie, Barton <i>Univ. of Alabama at Birmingham</i> ; Shenai, Mahesh* <i>Inova Health System</i>	
15:30-17:00	ThCT9.23
Enhancing Improved Heuristic Drift Elimination for Step-And-Heading based Pedestrian Dead-Reckoning Systems	4415-4418
Diez, Luis Enrique* <i>Univ. of Deusto</i> ; Bahillo, Alfonso <i>CEDETEL</i> ; Bataineh, Safaa <i>Univ. of Deusto</i> ; Masegosa, Antonio David <i>Univ. of Deusto</i> ; Perallos, Asier <i>Univ. of Deusto</i>	
15:30-17:00	ThCT9.24
BioMEMS-Based Coding for Secure Medical Diagnostic Devices	4419-4422
Le, Tuan* <i>Rutgers Univ.</i> ; Salles-Loustau, Gabriel <i>Rutgers Univ.</i> ; Najafizadeh, Laleh <i>Rutgers Univ.</i> ; Mehdi Javanmard, Mehdi <i>Javanmard Rutgers Univ.</i> ; Zonouz, Saman <i>Rutgers Univ.</i>	

15:30-17:00	ThCT9.25
Recommendations for Antiarrhythmic Drugs based on Latent Semantic Analysis with K-Means Clustering	4423-4426
Park, Juyoung <i>Hanyang Univ.</i> ; Kang, Mingon <i>Univ. of Texas at Arlington</i> ; Hur, Junbeom <i>Korea Univ.</i> ; Kang, Kyungtae* <i>Hanyang Univ.</i>	
15:30-17:00	ThCT9.26
Localised Impedance Monitoring Device for the Remote Clinical Assessment of Home-Based Dialysis Patients	4427-4430
Montalibet, Amalric <i>INL UMR-5270 – INSA Lyon</i> ; Arkouche, Walid <i>AuraLyon</i> ; Bogónez-Franco, Paco <i>INSA-Lyon</i> ; Bonnet, Stéphane <i>CEA Léti MINATEC</i> ; Clarion, Antoine <i>RENAULT</i> ; Delhomme, Georges <i>INSA Lyon</i> ; Gehin, Claudine <i>INSA Lyon</i> ; Gharbi, Sadok <i>CEA/LETI/MINATEC</i> ; Guillemaud, Regis <i>CEA Léti MINATEC</i> ; Jallon, Pierre <i>CEA Grenoble</i> ; Massot, Bertrand <i>INSA Lyon</i> ; Pham, Pascale <i>CEA LETI</i> ; Ribbe-Cornet, Eva <i>Bioparhom</i> ; McAdams, Eric* <i>INSA Lyon</i>	
15:30-17:00	ThCT9.27
VibroCV: A Computer Vision-Based Vibroarthrography Platform with Possible Application to Juvenile Idiopathic Arthritis	4431-4434
Wiens, Andrew* <i>Georgia Institute of Technology</i> ; Prahalad, Sampath <i>Emory Univ.</i> ; Inan, Omer <i>Georgia Institute of Technology</i>	
ThCT10: 15:30-17:00	Sorcerers Apprentice 1
Ignite_Theme 6_Th1 (Ignite Session)	
15:30-17:00	ThCT10.1
Movement Imagery Classification in EMOTIV Cap based System by Naive Bayes	4435-4438
Stock, Vinicius N.* <i>UFRGS</i> ; Balbinot, Alexandre <i>Federal Univ. of Rio Grande do Sul (UFRGS)</i>	
15:30-17:00	ThCT10.2
A Wireless System with Stimulation and Recording Capabilities for Interfacing Peripheral Nerves in Rodents	4439-4442
Schönle, Philipp* <i>Integrated Systems Laboratory (IIS), ETH Zurich</i> ; Michoud, Frederic <i>EPFL</i> ; Brun, Noé <i>Integrated Systems Laboratory (IIS), ETH Zurich</i> ; Guex, Amelie <i>EPFL</i> ; Lacour, Stéphanie <i>EPFL</i> ; Wang, Qing <i>CHUV</i> ; Huang, Qiuting <i>Integrated Systems Laboratory (IIS), ETH Zurich</i>	
15:30-17:00	ThCT10.3
Effects of the Choice of Reference on the Selectivity of a Multi-Contact Nerve Cuff Electrode	4443-4446
Koh, Ryan* <i>Univ. of Toronto</i> ; Zariffa, Jose <i>Toronto Rehabilitation Institute</i>	
15:30-17:00	ThCT10.4
Promotion and Guidance of Neural Network Formation on SU-8 Photoresist Microchannels Adjusted with Multilayer Films	4447-4450
Liu, Yung-Chiang <i>Chang Gung Univ.</i> ; Lee, I Chi* <i>Chang-Gung Univ.</i> ; Lei, Kin Fong <i>Chang Gung Univ.</i>	
15:30-17:00	ThCT10.5
Neuronix Enables Continuous, Simultaneous Neural Recording and Electrical Microstimulation	4451-4454
Yang, Zhi* <i>Univ. of Minnesota</i> ; Xu, Jian <i>National Univ. of Singapore</i> ; Nguyen, Anh Tuan <i>National Univ. of Singapore</i> ; Wu, Tong <i>Univ. of Minnesota, Twin Cities</i> ; Zhao, Wenfeng <i>Biomedical Engineering, Univ. of Minnesota</i> ; Tam, Wing Kin <i>National Univ. of Singapore</i>	
15:30-17:00	ThCT10.6
Feasibility of a Chronic, Minimally Invasive Endovascular Neural Interface	4455-4458
Opie, Nicholas* <i>The Univ. of Melbourne</i> ; Rind, Gil <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; John, Sam <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; Ronayne, Stephen <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; Grayden, David B. <i>The Univ. of Melbourne</i> ; Burkitt, Anthony Neville <i>The Univ. of Melbourne</i> ; May, Clive <i>Florey Institute of Neuroscience and Mental Health</i> ; O'Brien, Terence <i>The Royal Melbourne Hospital</i> ; Oxley, Thomas <i>Univ. of Melbourne</i>	
15:30-17:00	ThCT10.7
Posterior Tibial Nerve Stimulation using a Wirelessly Powered System in Anesthetized Cats	4459-4462
Moazzam, Zainab* <i>Univ. of Toronto</i> ; Duke, Austin <i>Nuviant Medical Inc.</i> ; Yoo, Paul <i>Univ. of Toronto</i>	

15:30-17:00	ThCT10.8
Suitability of Nitinol Electrodes in Neural Prostheses Such as Endovascular Neural Interfaces	4463-4466
Wong, Yan Tat* <i>New York Univ.</i> ; Opie, Nicholas <i>The Univ. of Melbourne</i> ; John, Sam <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; Gerboni, Giulia <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; Rind, Gil <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; Ronayne, Stephen <i>Vascular Bionics Laboratory, The Dept. of Medicine, The Univ.</i> ; Fox, Kate <i>RMIT Univ.</i> ; Oxley, Thomas <i>Univ. of Melbourne</i> ; Grayden, David B. <i>The Univ. of Melbourne</i>	
15:30-17:00	ThCT10.9
Classification of Pilot-Induced Oscillations during In-Flight Piloting Exercises using Dry EEG Sensor Recordings	4467-4470
Scholl, Clara A. <i>Johns Hopkins Univ. Applied Physics Lab</i> ; Chi, Yu <i>Cognionics, Inc.</i> ; Elconin, Michael <i>Cognionics, Inc.</i> ; Gray, William <i>USAF Test Pilot School</i> ; Chevillet, Mark A <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Pohlmeier, Eric A.* <i>Johns Hopkins Univ. Applied Physics Laboratory</i>	
15:30-17:00	ThCT10.10
Powering and Communication for OMNI: A Distributed and Modular Closed-Loop Neuromodulation Device	4471-4474
Moin, Ali* <i>Univ. of California at Berkeley</i> ; Alexandrov, George <i>Univ. of California at Berkeley</i> ; Johnson, Benjamin C. <i>Cortera Neurotechnologies Inc</i> ; Izyumin, Igor <i>Cortera Neurotechnologies Inc</i> ; Burghardt, Fred <i>Univ. of California at Berkeley</i> ; Shah, Kedar <i>Lawrence Livermore National Laboratory</i> ; Pannu, Satinderpall <i>Lawrence Livermore National Laboratory</i> ; Alon, Elad <i>UC Berkeley</i> ; Muller, Rikky <i>Univ. of California at Berkeley</i> ; Rabaey, Jan M. <i>Univ. of California, Berkeley</i>	
15:30-17:00	ThCT10.11
A PDMS-Based Optical Waveguide for Transcutaneous Powering of Microelectrode Arrays	4475-4478
Ersen, Ali* <i>NJIT</i> ; Sahin, Mesut <i>New Jersey Institute of Technology</i>	
15:30-17:00	ThCT10.12
Efficient Assembly of Multi-Color Fiberless Optoelectrodes with On-Board Light Sources for Neural Stimulation and Recording	4479-4482
Kampasi, Komal* <i>Univ. of Michigan, Ann Arbor</i> ; Seymour, John P. <i>Univ. of Michigan</i> ; Stark, Eran <i>Tel Aviv Univ.</i> ; Buzsaki, Gyuri <i>New York Univ.</i> ; Wise, Kensall <i>Univ. of Michigan, Ann Arbor</i> ; Yoon, Euisik <i>Univ. of Michigan</i>	
15:30-17:00	ThCT10.13
Design and Evaluation of a Low Cost Intracranial Pressure Monitoring System	4483-4486
Sampath Kumaran, Ranjani <i>Arizona State Univ.</i> ; Greger, Bradley <i>Arizona State Univ.</i> ; Blain Christen, Jennifer* <i>Arizona State Univ.</i>	
15:30-17:00	ThCT10.14
Development of a Brain Monitoring System for Multimodality Investigation in Awake Rats	4487-4490
Limnusun, Kanokwan <i>Feinstein Institute for Medical Research</i> ; Narayan, Raj <i>Feinstein Institute for Medical Research</i> ; Chiluwal, Amrit <i>North Shore Univ. Hospital</i> ; Bouton, Chad <i>Battelle</i> ; Wang, Ping <i>Feinstein Institute for Medical Research</i> ; Li, Chunyan* <i>Feinstein Institute for Medical Research</i>	
15:30-17:00	ThCT10.15
Feasibility of a Hardware Platform for a Fully Implantable Brain-Computer Interface System	4491-4494
Wang, Po T.* <i>Univ. of California Irvine</i> ; Gandasetiawan, Keulanna <i>Univ. of California Irvine</i> ; McCrimmon, Colin M <i>Univ. of California, Irvine</i> ; Karimi-Bidhendi, Alireza <i>Univ. of California Irvine</i> ; Liu, Charles Y. <i>Keck Hospital of the Univ. of Southern California</i> ; Heydari, Payam <i>Univ. of California Irvine</i> ; Nenadic, Zoran <i>Univ. of California Irvine</i> ; Do, An H. <i>Univ. of California Irvine</i>	
15:30-17:00	ThCT10.16
Toward a Distributed Free-Floating Wireless Implantable Neural Recording System	4495-4498
Yeon, Pyungwoo <i>Georgia Institute of Technology</i> ; Tong, Xingyuan <i>Xi'an Univ. of Posts & Telecommunications</i> ; Lee, Byunghun <i>Georgia Tech</i> ; Mirbozorgi, Seyedabdollah <i>Laval Univ.</i> ; Ash, Bruce <i>Premitec Inc.</i> ; Eckhardt, Helmut <i>Premitec, Inc.</i> ; Ghovanloo, Maysam* <i>Georgia Institute of Technology</i>	

15:30-17:00	ThCT10.17
Implantation and Testing of WFMA Stimulators in Macaque	4499-4502
Troyk, Philip* <i>Illinois Institute of Technology</i> ; Frim, David <i>Univ. of Chicago</i> ; Roitberg, Ben <i>Univ. of Chicago</i> ; Towle, V <i>Univ. of Chicago</i> ; Takahashi, Kazutaka <i>Univ. of Chicago</i> ; Suh, Sungjae <i>Illinois Institute of Technology</i> ; Bak, M <i>Microprobes for Life Science, Inc.</i> ; Bredeson, Samuel <i>Illinois Institute of Technology</i> ; Hu, Zhe <i>Illinois Institute of Technology</i>	
15:30-17:00	ThCT10.18
In Vitro Assessment of Long-Term Reliability of Low-Cost μ ECoG Arrays	4503-4506
Palopoli-Trojani, Kay <i>Duke Univ.</i> ; Woods, Virginia <i>Duke Univ.</i> ; Chiang, Ken Chia-Han <i>Duke Univ.</i> ; Trumpis, Michael <i>Duke Univ.</i> ; Viventi, Jonathan* <i>Duke Univ.</i>	
15:30-17:00	ThCT10.19
Preparation of a Neural Electrode Implantation Device for In-Vivo Surgical Use	4507-4510
Tawakol, Omar* <i>Univ.</i> ; Bredeson, Samuel <i>Illinois Institute of Technology</i> ; Troyk, Philip <i>Illinois Institute of Technology</i>	
15:30-17:00	ThCT10.20
A Clinic Compatible, Open Source Electrophysiology System	4511-4514
Hermiz, John* <i>Univ. of California, San Diego</i> ; Rogers, Nicholas <i>Univ. of California San Diego</i> ; Kaestner, Erik <i>Univ. of California, San Diego</i> ; Ganji, Mehran <i>Univ. of California, San Diego</i> ; Cleary, Daniel <i>Univ. of California, San Diego</i> ; Snider, Joseph <i>UC San Diego</i> ; Barba, David <i>UCSD</i> ; Dayeh, Shadi <i>Univ. of California, San Diego</i> ; Halgren, Eric <i>Univ. of California San Diego</i> ; Gilja, Vikash <i>Stanford Univ.</i>	
15:30-17:00	ThCT10.21
Identification of Emotion Associated Brain Functional Network with Phase Locking Value	4515-4518
Gonuguntla, Venkateswarlu <i>Kyungpook National Univ.</i> ; Veluvolu, Kalyana C.* <i>Kyungpook National Univ.</i> ; Mallipeddi, Rammohan <i>Kyungpook National Univ.</i>	
15:30-17:00	ThCT10.22
Automatic Recognition of Pleasant Content of Odours through ElectroEncephaloGraphic Activity Analysis	4519-4522
Lanata', Antonio <i>Univ. of Pisa</i> ; Guidi, Andrea <i>Univ. of Pisa</i> ; Greco, Alberto* <i>Univ. of Pisa</i> ; Valenza, Gaetano <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Di Francesco, Fabio <i>Univ. of Pisa</i> ; Scilingo, Enzo Pasquale <i>Univ. of Pisa</i>	
15:30-17:00	ThCT10.23
Electroencephalography in Ellipsoidal Geometry with Fourth-Order Harmonics	4523-4526
Alcocer-Sosa, Mauricio <i>Cinvestav</i> ; Gutierrez, David* <i>Cinvestav Monterrey</i>	
15:30-17:00	ThCT10.24
Kernel Temporal Enhancement Approach for LORETA Source Reconstruction using EEG Data	4527-4530
Torres, Cristian* <i>Univ. Tecnológica de Pereira</i> ; Santamaria Moya, Claudia J. <i>Univ. Tecnológica de Pereira</i> ; Alvarez, Mauricio A. <i>Univ. Tecnológica de Pereira</i>	
15:30-17:00	ThCT10.25
Cross-Frequency Information Transfer from EEG to EMG in Grasping	4531-4534
So, Ka Yan* <i>City Univ. of Hong Kong</i> ; Yang, Lingling <i>City Univ. of Hong Kong</i> ; Jelfs, Beth <i>City Univ. of Hong Kong</i> ; She, Qi <i>City Univ. of Hong Kong</i> ; Wong, Wai Ho Savio <i>The Hong Kong Institute of Education</i> ; Mak, Joe <i>NeuroSky (Hong Kong) Co. Ltd</i> ; Chan, Rosa H. M. <i>City Univ. of Hong Kong</i>	
15:30-17:00	ThCT10.26
EEG Analysis via Multiscale Lempel-Ziv Complexity for Seizure Detection	4535-4538
Artan, Nabi Sertac* <i>New York Institute of Technology</i>	
15:30-17:00	ThCT10.27
Alpha-Band Rhythm Suppression during Memory Recall Reflecting Memory Performance	4539-4542
Yokosawa, Koichi* <i>Hokkaido Univ.</i> ; Kimura, Keisuke <i>Hokkaido Univ.</i> ; Chitose, Ryota <i>Hokkaido Univ.</i> ; Momiki, Takuya <i>Hokkaido Univ.</i> ; Kuriki, Shinya <i>Tokyo Denki Univ.</i>	

15:30-17:00		ThCT10.28
A Measure of Cortico-Cortical Potentials Evoked by 10Hz Direct Electrical Stimulation of the Brain and by Means of a Differential Recording Mode of Electrographic Signals	4543-4546	
Vincent, Marion* <i>LIRMM-INRIA</i> ; Rossel, Olivier <i>LIRMM – UMII/CNRS</i> ; Hugues, Duffau « <i>Plasticity of Central Nervous System, Stem Cells and Glial Tum</i> ; Bonnetblanc, François <i>INRIA, LIRMM, équipe DEMAR, Univ. of Montpellier 2, 34095 M</i> ; Guiraud, David <i>INRIA</i>		
15:30-17:00		ThCT10.29
A Feasibility Study of using Event-Related Potential as a Biometrics	4547-4550	
Yu, Yih-Choung* <i>Lafayette College</i> ; Wang, Sicheng <i>Georgia Institute of Technology</i> ; Gabel, Lisa A. <i>Lafayette College</i>		
15:30-17:00		ThCT10.30
Multi-Direction Hand Movement Classification using EEG-Based Source Space Analysis	4551-4554	
Handiru Vikram, Shenoy* <i>Nanyang Technological Univ.</i> ; Achutavarrier Prasad, Vinod <i>Nanyang Technological Univ.</i> ; Guan, Cuntai <i>Institute for Infocomm Research</i>		
15:30-17:00		ThCT10.31
Valence-Dependent Changes in Visual Arousing Elicitation: An Exploratory Study in EEG Gamma Oscillations	4555-4558	
Greco, Alberto* <i>Univ. of Pisa</i> ; Valenza, Gaetano <i>Univ. of Pisa-MGH-Harvard Medical School</i> ; Scilingo, Enzo Pasquale <i>Univ. of Pisa</i>		
15:30-17:00		ThCT10.32
On the Invariance of EEG-Based Signatures of Individuality with Application in Biometric Identification	4559-4562	
Wang, Yunqi <i>Rutgers Univ.</i> ; Najafizadeh, Laleh* <i>Rutgers Univ.</i>		
ThCT11: 15:30-17:00		Sorcerers Apprentice 2
Ignite_Theme 6_Th2 (Ignite Session)		
15:30-17:00		ThCT11.1
Assessing the Effect of Noise-reduction to the Intelligibility of Low-pass Filtered Speech	4563-4566	
Zhuge, Huimin <i>Southern Univ. of Science and Technology of China</i> ; Wang, Lei <i>Southern Univ. of Science and Technology of China</i> ; Chen, Fei* <i>Southern Univ. of Science and Technology</i> ; Zheng, Dingchang <i>Anglia Ruskin Univ.</i>		
15:30-17:00		ThCT11.2
Development of Sit-to-Stand and Stand-to-Sit Training System for Hemiplegic Patients	4567-4572	
Shiraishi, Ryoichiro* <i>Univ. of Tsukuba</i> ; Kawamoto, Hiroaki <i>Univ. of Tsukuba</i> ; Sankai, Yoshiyuki <i>Univ. of Tsukuba</i>		
15:30-17:00		ThCT11.3
Linear Discriminant Analysis for Symmetric Lifting Recognition of Skilled Logistic Experts by Center of Pressure Trajectory	4573-4576	
Jeong, Hieyong* <i>Osaka Univ.</i> ; Kido, Michiko <i>Osaka Univ.</i> ; Ohno, Yuko <i>Osaka Univ. Graduate School of Medicine</i>		
15:30-17:00		ThCT11.4
Step Length and Width Variability while Walking on a Motion Simulator Mounted Treadmill	4577-4580	
Boerger, Timothy* <i>Marquette Univ.</i> ; Van Dehy, Jacob <i>Marquette Univ.</i> ; Onushko, Tanya <i>Marquette Univ.</i> ; Schmit, Brian <i>Marquette Univ.</i> ; Hyingstrom, Allison <i>Marquette Univ.</i>		
15:30-17:00		ThCT11.5
Assessing the Role of Preknowledge in Force Compensation in a Tracking Task	4581-4584	
Menychtas, Dimitrios* <i>Univ. of South Florida</i> ; Sullins, Tyler <i>Univ. of South Florida</i> ; Rigsby, Benjamin <i>Univ. of South Florida</i> ; Carey, Stephanie <i>Univ. of South Florida</i> ; Reed, Kyle <i>Univ. of South Florida</i>		
15:30-17:00		ThCT11.6
Upper Extremity Post-Stroke Motion Quality Estimation with Decision Trees and Bagging Forests	4585-4588	
Chaeibakhsh, Sarvenaz <i>Univ. of Tennessee Knoxville</i> ; Phillips, Elissa <i>Univ. of Tennessee Medical Center</i> ; Buchanan, Amanda Waynick <i>Univ. of Tennessee Medical Center</i> ; Wade, Eric* <i>Univ. of Tennessee</i>		
15:30-17:00		ThCT11.7
Quantifying the Human Finger Reachable Space	4589-4592	
Pham, Trieu H.* <i>Deakin Univ.</i> ; Pathirana, Pubudu N. <i>Deakin Univ.</i>		

15:30-17:00		ThCT11.8
Skills based Evaluation of Alternative Input Methods to Command a Semi-Autonomous Electric Wheelchair	4593-4596	
Rojas, Mario* <i>Instituto Tecnológico y de Estudios Superiores de Monterrey, Cam</i> ; Ponce, Pedro <i>Itesm -campus ccm Mexico</i> ; Molina, Arturo <i>Instituto Tecnológico y de Estudios Superiores de Monterrey, Cam</i>		
15:30-17:00		ThCT11.9
A Pilot Study on the Neurometric Evaluation of Effective and Ineffective Antismoking Public Service Announcements	4597-4600	
Cartocci, Giulia <i>Univ. of Rome Sapienza</i> ; Maglione, Anton Giulio <i>Univ. of Rome Sapienza</i> ; Modica, Enrica <i>Univ. of Rome Sapienza</i> ; Rossi, Dario <i>Univ. of Rome Sapienza</i> ; Babiloni, Fabio* <i>Univ. of Rome</i>		
15:30-17:00		ThCT11.10
Assessing the Contribution of the Individual Alpha Frequency (IAF) in an EEG-Based Study of Program Comprehension	4601-4604	
Crk, Igor* <i>Southern Illinois Univ. Edwardsville</i> ; Kluthe, Timothy <i>Southern Illinois Univ. Edwardsville</i>		
15:30-17:00		ThCT11.11
Accurate Upper Body Rehabilitation System using Kinect	4605-4609	
Sinha, Sanjana <i>Innovation Labs, Tata Consultancy Services Ltd.</i> ; Bhowmick, Brojeshwar <i>Innovation Labs, Tata Consultancy Services Ltd.</i> ; Chakravarty, Kingshuk <i>Tata Consultancy Services Ltd.</i> ; Sinha, Aniruddha* <i>Tata Consultancy Services Ltd.</i> ; Das, Abhijit <i>Institute of Neurosciences Kolkata</i>		
15:30-17:00		ThCT11.12
Robot-Assisted Assessment of Wrist Proprioception: Does Wrist Proprioceptive Acuity Follow Weber's Law?	4610-4613	
Contu, Sara* <i>Nanyang Technological Univ.</i> ; Marini, Francesca <i>Istituto Italiano di Tecnologia</i> ; Cappello, Leonardo <i>Istituto Italiano di Tecnologia</i> ; Masia, Lorenzo <i>Nanyang Technological Univ.</i>		
15:30-17:00		ThCT11.13
A Preliminary Study for Quantitative Assessment of Upper Limb Proprioception	4614-4617	
Contu, Sara <i>Nanyang Technological Univ.</i> ; Hussain, Asif* <i>Nanyang Technological Univ.</i> ; Masia, Lorenzo <i>Nanyang Technological Univ.</i> ; Campolo, Domenico <i>Nanyang Technological Univ.</i>		
15:30-17:00		ThCT11.14
Cellular Effects of High-Definition Transcranial Direct Current Stimulation: A Computational Study	4618-4621	
Seo, Hyeon <i>Gwangju Institute of Science and Technology</i> ; Kim, Donghyeon <i>Gwangju Institute of Science and Technology</i> ; Jun, Sung Chan* <i>Gwangju Institute of Science and Technology</i>		
15:30-17:00		ThCT11.15
Biologically Inspired Multi-Layered Synthetic Skin for Tactile Feedback in Prosthetic Limbs	4622-4625	
Osborn, Luke* <i>Johns Hopkins Univ.</i> ; Nguyen, Harrison <i>Johns Hopkins Univ.</i> ; Betthausen, Joseph <i>Johns Hopkins Univ.</i> ; Kaliki, Rahul <i>Univ. of Southern California</i> ; Thakor, Nitish <i>Johns Hopkins Univ.</i>		
15:30-17:00		ThCT11.16
FMG-Based Body Motion Registration using Piezoelectret Sensors	4626-4629	
Li, Xiangxin <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sc</i> ; Zhuo, Qifang <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Samuel, Oluwarotimi <i>Williams Shenzhen Institutes of Advanced Technology</i> ; Xia, Zeyang <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Zhang, Xiaoqing <i>Tongji Univ.</i> ; Fang, Peng* <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Li, Guanglin <i>Shenzhen Institutes of Advanced Technology</i> ; Zhang, Xu <i>Dept. of Biology, South Univ. of Science and Technology</i>		
15:30-17:00		ThCT11.17
Tolerance of Neural Decoding Errors for Powered Artificial Legs: A Pilot Study	4630-4633	
Zhang, Fan* <i>North Carolina State Univ. and Univ. of North Carolina</i> ; Liu, Ming <i>NC State Univ.</i> ; Huang, He <i>North Carolina State Univ. and Univ. of North Carolina</i>		

15:30-17:00 ThCT11.18
Corticomuscular Coherence Variation throughout the Gait Cycle during Overground Walking and Ramp Ascent: A Preliminary Investigation 4634-4637
Winslow, Anna* *North Carolina State Univ. and The Univ. of North Caro*; Brantley, Justin *Univ. of Houston*; Zhu, Fangshi *Univ. of Houston*; Contreras-Vidal, José *Univ. of Houston*; Huang, He *North Carolina State Univ. and Univ. of North Carolina*

15:30-17:00 ThCT11.19
A Control Method for Transfemoral Prosthetic Knees in Level Walking and Stair Ascending based on High Angular Motion 4638-4641
Inoue, Koh* *Kagawa Univ.*; Paripunnachai, Ananya *Kagawa Univ.*; Wada, Takahiro *Ritsumeikan Univ.*

15:30-17:00 ThCT11.20
A Low-Cost, Open-Source, Compliant Hand for Enabling Sensorimotor Control for People with Transradial Amputations 4642-4645
Akhtar, Aadeel* *Univ. of Illinois at Urbana-Champaign*; Choi, Kyung Yun *Univ. of Illinois at Urbana-Champaign*; Fatina, Michael *Univ. of Illinois at Urbana-Champaign*; Cornman, Jesse *Univ. of Illinois at Urbana-Champaign*; Wu, Edward *Univ. of Illinois at Urbana-Champaign*; Sombeck, Joseph *Univ. of Illinois at Urbana-Champaign, Bioengineering Dept.*; Yim, Chris *Univ. of Illinois at Urbana-Champaign*; Slade, Patrick *Univ. of Illinois at Urbana-Champaign*; Lee, Jason *Univ. of Illinois at Urbana Champaign*; Moore, Jack *Univ. of Illinois at Urbana-Champaign*; Gonzales, Daniel *Univ. of Illinois at Urbana-Champaign*; Wu, Alvin *Univ. of Illinois at Urbana Champaign*; Anderson, Garrett *Univ. of Illinois*; Rotter, David *Scheck & Siress Prosthetics Orthotics*; Shin, Cliff *Univ. of Illinois at Urbana Champaign*; Bretl, Timothy *Univ. of Illinois at Urbana-Champaign*

ThCT12: 15:30-17:00 Sorcerers Apprentice 3
Ignite_Theme 6_Th3 (Ignite Session)

15:30-17:00 ThCT12.1
Driver Drowsiness Detection using the In-Ear EEG 4646-4649
Hwang, Taeho* *Samsung Electronics Co., Ltd.*; Kim, Miyoung *DMC R&D Center, Samsung Electronics*; Hong, Seunghyeok *Seoul National Univ.*; Park, Kwang S. *Seoul National Univ.*

15:30-17:00 ThCT12.2
Prediction of Microsleeps from EEG: Preliminary Results 4650-4653
Shoorangiz, Reza* *Univ. of Canterbury*; Weddell, Stephen J. *Univ. of Canterbury*; Jones, Richard D. *New Zealand Brain Research Institute*

15:30-17:00 ThCT12.3
Classification of EEG Based-Mental Fatigue using Principal Component Analysis and Bayesian Neural Network 4654-4657
Chai, Rifai* *Univ. of Technology, Sydney*; Tran, Yvonne *Univ. of Technology, Sydney*; Naik, Ganesh R *Univ. of Technology Sydney*; Nguyen, Tuan Nghia *Univ. of Technology, Sydney*; Ling, Steve *Univ. of Technology Sydney*; Craig, Ashley *The Univ. of Sydney*; Nguyen, Hung T. *Univ. of Technology, Sydney*

15:30-17:00 ThCT12.4
Detecting Slow Eye Movement for Recognizing Driver's Sleep Onset Period with EEG Features 4658-4661
Jiao, Yingying *Shanghai Jiao Tong Univ.*; Lu, Bao-Liang* *Shanghai Jiao Tong Univ.*

15:30-17:00 ThCT12.5
Research on EEG Features of Attended &Unattended Vigilance 4662-4665
Sun, Chang *Tianjin Univ.*; Chen, Runge *Tianjin Univ.*; Tian, Miao *Tianjin Univ.*; An, Xingwei *Tianjin Univ.*; Qi, Hongzhi *Tianjin Univ.*; Xu, Minpeng *Tianjin Univ.*; Wang, Xuemin *Tianjin Univ.*; Ming, Dong *Tianjin Univ.*; Zhou, Peng* *Tianjin Univ.*

15:30-17:00 ThCT12.6
Transfer Learning with Large-Scale Data in Brain-Computer Interfaces 4666-4669
Wei, Chun-Shu *Univ. of California, San Diego*; Lin, Yuan-Pin *Univ. of California, San Diego*; Wang, Yu-Te *Univ. of California San Diego*; Lin, Chin-Teng *National Chiao-Tung Univ.*; Jung, Tzyy-Ping* *Univ. of California San Diego*

15:30-17:00		ThCT12.7
Cortical Excitability Effects of Stimulation Intensity Change Speed during NMES		4670-4673
Jiang, Shenglong* <i>Tianjin Univ.</i> ; Wang, Zhongpeng <i>Tianjin Univ.</i> ; Yi, Weibo <i>Tianjin Univ.</i> ; He, Feng <i>Tianjin Univ.</i> ; Liu, Shuang <i>Tianjin Univ.</i> ; Qi, Hongzhi <i>Tianjin Univ.</i> ; Ming, Dong <i>Tianjin Univ.</i>		
15:30-17:00		ThCT12.8
EEG Patterns of Subacute Stroke Patients Performing Motor Tasks Correlate with Motor Functional Outcome: Preliminary Results		4674-4677
Park, Wanjoo <i>KIST</i> ; Kim, Yun-Hee <i>Samsung Medical Center</i> ; Kim, Sung-Phil <i>Ulsan National Institute of Science and Technology</i> ; Kim, Laehyun* <i>Korea Institute of Science and Technology</i>		
15:30-17:00		ThCT12.9
Case Studies in Poststroke Hemiplegic Subjects using SEMUL: A Passive Type 2-DOF Rehabilitation Robot		4678-4681
Koyanagi, Ken'ichi* <i>Toyama Prefectural Univ.</i> ; Kuwahara, Yuya <i>Kishiwadaeishinkai Hospital</i> ; Kamida, Takehiro <i>Socio-Medical Corporation Kyowakai</i> ; Ozawa, Takuya <i>Socio-Medical Corporation Kyowakai</i> ; Mizukami, Rieko <i>Taikounomori Day Service Center</i> ; Genda, Kiyokazu <i>Taikounomori Day Service Center</i> ; Mori, Ayaka <i>Toyama Prefectural Univ.</i> ; Motoyoshi, Tatsuo <i>Toyama Prefectural Univ.</i> ; Masuta, Hiroyuki <i>Toyama Prefectural Univ.</i> ; Oshima, Toru <i>Toyama Prefectural Univ.</i>		
15:30-17:00		ThCT12.10
Sudden Changes in Walking Surface Compliance Evoke Contralateral EMG in a Hemiparetic Walker: A Case Study of Inter-Leg Coordination after Neurological Injury		4682-4685
Skidmore, Jeffrey <i>Arizona State Univ.</i> ; Artemiadis, Panagiotis* <i>Arizona State Univ.</i>		
15:30-17:00		ThCT12.11
The Limb Movement Analysis of Rehabilitation Exercises using Wearable Inertial Sensors		4686-4689
Huang, Bingquan* <i>Univ. College Dublin</i> ; Giggins, Oonagh <i>Univ. College Dublin</i> ; Kechadi, Tahar <i>Insight Centre for Data Analytics, Univ. College Dublin</i> ; Caulfield, Brian <i>UCD</i>		
15:30-17:00		ThCT12.12
Design and Pilot Evaluation of Competitive and Cooperative Exercise Games for Arm Rehabilitation at Home		4690-4694
Gorsic, Maja <i>Univ. of Wyoming</i> ; Novak, Domen* <i>Univ. of Wyoming</i>		
15:30-17:00		ThCT12.13
A Dual-Axis, Single Proof-Mass Angular Accelerometer for a Vestibular Prosthesis		4695-4698
Jeong, Yaesuk <i>Georgia Tech</i> ; Töreyn, Hakan <i>Georgia Institute of Technology</i> ; Daruwalla, Anosh <i>Georgia Tech</i> ; Bhatti, Pamela* <i>Georgia Institute of Technology</i> ; Ayazi, Farrokh <i>Georgia Institute of Technology</i>		
15:30-17:00		ThCT12.14
Mirror Therapy Combined with Transcranial Electrical Stimulation for Rehabilitation of Stroke Survivors' Ankle Dorsiflexion		4699-4702
Salhab, Ghadir <i>Dept. of Physical Therapy, School of Public Health, Lebanes</i> ; Rifai Sarraj, Ahmad <i>Faculty of Public Health, Lebanese Univ.</i> ; Saleh, Soha* <i>Kessler Foundation</i>		
15:30-17:00		ThCT12.15
Improving Modified Tardieu Scale Assessment using Inertial Measurement Unit with Visual Biofeedback		4703-4706
Choi, Seoyoung <i>Daegu Gyeonbuk Institute of Science & Technology</i> ; Kim, Jonghyun* <i>Daegu Gyeongbuk Institute of Science and Technology (DGIST)</i>		
15:30-17:00		ThCT12.16
A Study on the Effect of Multisensory Stimulation in Behaving Rats		4707-4710
Semprini, Marianna <i>Italian Institute of Technology</i> ; Boi, Fabio <i>Fondazione Istituto Italiano di Tecnologia</i> ; Tucci, Valter <i>Istituto Italiano di Tecnologia</i> ; Vato, Alessandro* <i>Fondazione Istituto Italiano di Tecnologia</i>		
15:30-17:00		ThCT12.17
Moving Object Detection and Background Enhancement for Thalamic Visual Prostheses		4711-4714
Abolfotuh, Hossam H. <i>Ain Shams Univ.</i> ; Jawwad, Amr <i>Ain Shams Univ.</i> ; Abdullah, Bassem <i>Ain Shams Univ.</i> ; Mahdi, Hani <i>Ain Shams Univ.</i> ; Eldawlatly, Seif* <i>Ain Shams Univ.</i>		

15:30-17:00	ThCT12.18
A Simulation Analysis of the Variability of the Roving Level Hearing Test	4715-4718
Watkins, Gregory Douglas* <i>The Univ. of New South Wales</i> ; Swanson, Brett Anthony <i>Cochlear Limited</i> ; Suanning, Gregg <i>The Univ. of New South Wales</i>	
15:30-17:00	ThCT12.19
Somatosensory Encoding with Cuneate Nucleus Microstimulation: Detection of Artificial Stimuli	4719-4722
Sriharan, Srihari* <i>Univ. of Pennsylvania</i> ; Richardson, Andrew <i>Univ. of Pennsylvania</i> ; Weigand, Pauline <i>Univ. of Pennsylvania</i> ; Planell-Mendez, Ivette <i>Univ. of Pennsylvania</i> ; Liu, Xilin <i>Univ. of Pennsylvania</i> ; Zhu, Hongjie, Matt <i>Univ. of Pennsylvania</i> ; Zhang, Milin <i>Univ. of Pennsylvania</i> ; Van der Spiegel, Jan <i>Univ. of Pennsylvania</i> ; Lucas, Timothy <i>Univ. of Pennsylvania</i>	
15:30-17:00	ThCT12.20
A Method to Assess the Location and Positional Stability of Supra-Choroidal Retinal Phostheses	4723-4726
Gow, Barry <i>Univ. of New South Wales</i> ; Suanning, Gregg* <i>The Univ. of New South Wales</i>	
15:30-17:00	ThCT12.21
System to Induce and Measure Embodiment of an Artificial Hand with Programmable Convergent Visual and Tactile Stimuli	4727-4730
Benz, Heather* <i>Food and Drug Administration</i> ; Sieff, Talia <i>Univ. of Maryland</i> ; Alborz, Mahsa <i>George Washington Univ.</i> ; Kontson, Kimberly <i>U.S. Food and Drug Administration</i> ; Kilpatrick, Elizabeth <i>Food and Drug Administration</i> ; Civillico, Eugene Francis <i>U.S. Food and Drug Administration</i>	
ThCT13: 15:30-17:00	Fantasia Q&P
Ignite_Theme 7_Th1 (Ignite Session)	
Chair: Telfer, Brian <i>MIT Lincoln Laboratory</i>	
15:30-17:00	ThCT13.1
Efficient Compressive Sensing of ECG Segments based on Machine Learning for QRS-Based Arrhythmia Detection	4731-4734
Pant, Jeevan Kumar* <i>Ryerson Univ.</i> ; Krishnan, Sridhar <i>Ryerson Univ.</i>	
15:30-17:00	ThCT13.2
VO2 Estimation using 6-Axis Motion Sensor with Sports Activity Classification	4735-4738
Nagata, Takashi <i>Kansai Univ.</i> ; Nakamura, Naoteru <i>Kansai Univ.</i> ; Miyatake, Masato <i>Kansai Univ.</i> ; Yuuki, Akira <i>Kansai Univ.</i> ; Yomo, Hiroyuki* <i>Kansai Univ.</i> ; Kawabata, Takashi <i>Kansai Univ.</i> ; Hara, Shinsuke <i>Osaka City Univ.</i>	
15:30-17:00	ThCT13.3
Applying Neural Network to VO2 Estimation using 6-Axis Motion Sensing Data	4739-4742
Nakamura, Naoteru <i>Kansai Univ.</i> ; Nagata, Takashi <i>Kansai Univ.</i> ; Miyatake, Masato <i>Kansai Univ.</i> ; Yuuki, Akira <i>Kansai Univ.</i> ; Yomo, Hiroyuki* <i>Kansai Univ.</i> ; Kawabata, Takashi <i>Kansai Univ.</i> ; Hara, Shinsuke <i>Osaka City Univ.</i>	
15:30-17:00	ThCT13.4
Real-Time Monitoring of Swimming Performance	4743-4746
Delgado-Gonzalo, Ricard* <i>CSEM</i> ; Lemkaddem, Alia <i>EPFL</i> ; Renevey, Philippe <i>CSEM</i> ; Muntané Calvo, Enric <i>CSEM</i> ; Lemay, Mathieu <i>CSEM</i> ; Cox, Tracy Kade <i>ICON Health & Fitness Inc.</i> ; Ashby, Darren <i>ICON Health & Fitness Inc.</i> ; Jared, Willardson <i>ICON Health & Fitness Inc.</i> ; Bertschi, Mattia <i>CSEM</i>	
15:30-17:00	ThCT13.5
Video Monitoring of Oxygen Saturation during Controlled Episodes of Acute Hypoxia	4747-4750
Addison, Paul* <i>Medtronic</i> ; Foo, David Ming Hui <i>Medtronic</i> ; Jacquél, Dominique <i>Medtronic</i>	
15:30-17:00	ThCT13.6
Automatic Sleep Stage Classification using Ear-EEG	4751-4754
Stochholm, Andreas <i>Univ. of Aarhus</i> ; Mikkelsen, Kaare <i>Univ. of Aarhus</i> ; Kidmose, Preben* <i>Aarhus Univ., Denmark</i>	
15:30-17:00	ThCT13.7
Non-Invasive, Multi-Modal Sensing of Skin Stretch and Bioimpedance for Detecting Infiltration during Intravenous Therapy	4755-4758
Jambulingam, Jambu <i>Georgia Tech</i> ; McCrory, Russell <i>Georgia Tech Research Institute</i> ; West, Leanne <i>Georgia Tech</i> ; Inan, Omer* <i>Georgia Institute of Technology</i>	

15:30-17:00		ThCT13.8
A Fundamental Study on Visual Impairment Evaluation using N170		4759-4762
Ishii, Takayuki <i>Tokyo City Univ.</i> ; Kyoso, Masaki* <i>Tokyo City Univ.</i>		
15:30-17:00		ThCT13.9
Blood Perfusion Display based on Video Pulse Wave		4763-4767
Yoshizawa, Makoto* <i>Tohoku Univ.</i> ; Sugita, Norihiro <i>Tohoku Univ.</i> ; Abe, Makoto <i>Shinshu Univ.</i> ; Tanaka, Akira <i>Fukushima Univ.</i> ; Obara, Kazuma <i>Tohoku Univ.</i> ; Yamauchi, Tsuyoshi <i>Graduate School of Biomedical Engineering, Tohoku Univ.</i> ; Homma, Noriyasu <i>Tohoku Univ. Graduate School of Medicine</i> ; Yambe, Tomoyuki <i>Tohoku Univ.</i>		
15:30-17:00		ThCT13.10
A Preliminary Evaluation of Continuous, Shoe-Integrated Weight Measurements for Heart Failure Patients		4768-4771
Elian, Ahmed <i>Masdar Institute of Science and Technology</i> ; Sada, Nisrein* <i>Masdar Institute of Science and Technology</i> ; Elfadel, Ibrahim (Abe) <i>Masdar Institute of Science and Technology</i> ; Saeed, Mohammed <i>MIT</i> ; Shabra, Ayman <i>MediaTek</i>		
15:30-17:00		ThCT13.11
Implementation of a Control System for a Power Wheelchair with Induction of a Beta/Alpha Ratio by Visual Feedback		4772-4775
Iida, Yudai* <i>Shibaura Institute of Technology</i> ; Horie, Ryota <i>Shibaura Institute of Technology</i>		
15:30-17:00		ThCT13.12
Non-Invasive BCG Monitoring for Non-Traditional Settings		4776-4779
Pino, Esteban J* <i>Univ. de Concepcion</i> ; Larsen, Constanza <i>Univ. of Concepcion</i> ; Chávez, Javier A. P. <i>Univ. de Concepción</i> ; Aqueveque, Pablo <i>Univ. of Concepcion</i>		
15:30-17:00		ThCT13.13
A Novel System to Tackle Hospital Acquired Pressure Ulcers		4780-4783
B S, Renganathan* <i>Indian Institute of Technology – Madras</i> ; SP, Preejith <i>Healthcare Technology Innovation Center – IITMadras</i> ; Nagaiyan, Sridhar <i>Kauvery Hospital</i> ; Joseph, Jayaraj <i>HTIC, Indian Institute of Technology Madras</i> ; Sivaprakasam, Mohanasankar <i>Indian Institute of Technology Madras</i>		
15:30-17:00		ThCT13.14
Reconfigurable Analog Classifier for Knee-Joint Rehabilitation		4784-4787
Shah, Sahil* <i>ASU</i> ; Töreysin, Hakan <i>Georgia Institute of Technology</i> ; Inan, Omer <i>Georgia Institute of Technology</i> ; Hasler, Jennifer <i>Gatech</i>		
15:30-17:00		ThCT13.15
Development of Multi-Spot Impedance Sensing Biopsy Needle based on Attachable and Flexible Sensor Film		4788-4791
Park, Jaeho <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Park, Inkyu* <i>Korea Advanced Institute of Science and Technology (KAIST)</i>		
15:30-17:00		ThCT13.16
Design of a Wearable Bio-Patch for Monitoring Patient's Temperature		4792-4795
Vicente, Jose M. <i>Miguel Hernandez Univ.</i> ; Avila-Navarro, Ernesto <i>Miguel Hernandez Univ.</i> ; Juan, Carlos G. <i>Miguel Hernandez Univ.</i> ; Garcia-Aracil, Nicolas <i>Univ. Miguel Hernandez</i> ; Sabater-Navarro, Jose Maria* <i>Univ. Miguel Hernandez</i>		
15:30-17:00		ThCT13.17
TriboWalk: Triboelectric Dual Functional Wireless System for Gait Monitoring and Energy Harvesting		4796-4799
Li, Xian* <i>Michigan Technological Univ.</i> ; Huang, Hui <i>Michigan Technological Univ.</i> ; Sun, Ye <i>Michigan Technological Univ.</i>		
15:30-17:00		ThCT13.18
Inductive Power Transmission to Millimeter-Sized Biomedical Implants using Printed Spiral Coils		4800-4803
Ibrahim, Ahmed* <i>Pennsylvania State Univ.</i> ; Kiani, Mehdi <i>Pennsylvania State Univ.</i>		

15:30-17:00	ThCT13.19
Optimal Frequency for Powering Millimeter-Sized Biomedical Implants Inside an Inductively-Powered Homecage	4804-4807
Sadeghi Gougheri, Hesam <i>Pennsylvania State Univ.</i> ; Kiani, Mehdi* <i>Pennsylvania State Univ.</i>	
15:30-17:00	ThCT13.20
Variation of Radio Frequency Induced Power Deposition Due to Second Surrounding Tissue	4808-4811
Kozlov, Mikhail* <i>Max Planck Institute for Human Cognitive and Brain Sciences</i> ; Schaefer, Gregor <i>MR:comp GmbH</i>	
15:30-17:00	ThCT13.21
UHF Wearable Battery Free Sensor Module for Activity and Falling Detection	4812-4815
Dang, Trung Nam <i>Pukyong National Univ.</i> ; Tran, Viet Thang <i>HoChiMinh City Univ. of Technology</i> ; Chung, Wan-Young* <i>Pukyong National Univ.</i>	
15:30-17:00	ThCT13.22
Elastic Ribbon-Like Piezoelectric Energy Harvester for Wearable Devices with Stretchable Surfaces	4816-4819
Wong, You Liang Lionel* <i>Carnegie Mellon Univ.</i> ; Fedder, Gary K. <i>Carnegie Mellon Univ.</i>	
15:30-17:00	ThCT13.23
An Inductive Narrow-Pulse RFID Telemetry System for Gastric Slow Waves Monitoring	4820-4823
Javan Khoshkholgh, Amir <i>New York Institute of Technology</i> ; AbuKhalaf, Zaid <i>New York Institute of Technology</i> ; Li, Ji <i>New York Institute of Technology</i> ; Miller, Larry <i>Northwell</i> ; Kiani, Mehdi <i>Pennsylvania State Univ.</i> ; Farajidavar, Aydin* <i>New York Institute of Technology</i>	
15:30-17:00	ThCT13.24
SAW-LC Coupled Resonator Wideband VCO for Medical Telemetry	4824-4827
Venkateswaran, Madhav <i>Univ. of Wisconsin-Madison</i> ; Hillig, Mark <i>Micro Systems Engineering, Inc.</i> ; Brown, James* <i>MSEI</i> ; Stadnik, Paul <i>Micro Systems Engineering, Inc.</i> ; Von Arx, Jeffrey <i>Micro Systems Engineering, Inc.</i> ; Sutton, Brian <i>Biotronik</i> ; Stotts, Larry <i>Biotronik</i>	
15:30-17:00	ThCT13.25
An RF-Based Wearable Sensor System for Indoor Tracking to Facilitate Efficient Healthcare Management	4828-4831
Ouyang, Yuzhe <i>Univ. of Saskatchewan</i> ; Shan, Kai <i>Univ. of Saskatchewan</i> ; Bui, Francis Minhthang* <i>Univ. of Saskatchewan</i>	
15:30-17:00	ThCT13.26
Fall Risk Factors Analysis based on Sample Entropy of Plantar Kinematic Signal during Stance Phase	4832-4836
Jia, Huiyu <i>Institutes of Shenzhen Advanced Technology, Chinese Academy of Sc</i> ; Zhao, Guoru* <i>Shenzhen Institutes of Advanced Technology Chinese Academy of Sci</i> ; Liang, Shengyun <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Li, Zilong <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Ma, Yingnan <i>Beijing Research Center of Urban System Engineering</i> ; Gao, Xing <i>Beijing Research Center of Urban System Engineering</i>	
15:30-17:00	ThCT13.27
Research on Neural Information Detecting System Measuring Neuroelectricity in Hippocampus in Vivo and Dopamine in Vitro based on Microelectrode Array	4837-4840
Wang, Mixia <i>Institute of Electronics, Chinese Academy of Sciences</i> ; Xu, Shengwei <i>Institute of Electronics, Chinese Academy of Science</i> ; Lin, Nansen <i>Institute of Electronics, Chinese Academy of Sciences</i> ; Song, Yilin <i>State Key Laboratory of Transducer Technology, Institute of Elec</i> ; Zhang, Song <i>Univ. of Chinese Academy of Sciences</i> ; Cai, Xinxia* <i>Institute of Electronics, Chinese Academy of Sciences</i>	
15:30-17:00	ThCT13.28
A 180 nm CMOS Analog Adaptive Sampler for Blood Pressure Feature Extraction	4841-4844
Laurenson, Callum* <i>Monash Univ.</i> ; Rivet, Francois <i>Univ. of Bordeaux</i> ; Yuce, Mehmet <i>Monash Univ.</i> ; Redouté, Jean-Michel <i>Monash Univ.</i>	

15:30-17:00 ThCT13.29
Long-Term Vital Sign Measurement using a Non-Contact Vital Sign Sensor Inside an Office Cubicle Setting 4845-4848
 Hall, Travis* *Texas Tech Univ.*; Malone, Nicholas Autry *Texas Tech Univ.*; Tsay, Jerry *Texas Tech Univ.*;
 Lopez, Jerry *Texas Tech Univ.*; Nguyen, Tam *Texas Tech Univ. Health Sciences Center*; Lie, Donald Yu-Chun
Texas Tech Univ.; Banister, Ron *Texas Tech Univ. Health Center*

15:30-17:00 ThCT13.30
Real-Time Physiological and Facial Monitoring for Safe Driving 4849-4852
 Chang, Yu-Lung *National Chung Cheng Univ.*; Feng, Yen-Cheng *Automotive Research & Testing Center*;
 Chen, Oscar Tzyh-Chiang* *National Chung Cheng Univ.*

15:30-17:00 ThCT13.31
Design of New Multi-Channel Electrodes for Surface Electromyography Signals for Signal-Processing 4853-4856
 Kilby, Jeff* *Auckland Univ. of Technology*; Prasad, Krishnamachar *AUT Univ.*; Mawston, Grant Allen *Health and
 Rehabilitation Research Institute*

15:30-17:00 ThCT13.32
Modeling the Debye Dielectric Response in the Time Domain for a Liquid Crystal-Based Biopotential Optrode 4857-4860
 Srinivas, Hrishikesh *Univ. of New South Wales*; Al Abed, Amr* *Univ. of New South Wales*; Ladouceur, Francois
Univ. of New South Wales; Lovell, Nigel H. *Univ. of New South Wales*; Silvestri, Leonardo *The Univ. of New
 South Wales*

15:30-17:00 ThCT13.33
Photoacoustic Spectroscopy that Uses a Resonant Characteristic of a Microphone for in Vitro Measurements of Glucose Concentration 4861-4864
 Sim, Joo Yong* *Electronics and Telecommunications Research Institute*; Ahn, Chang-Geun *Electronics and
 Telecommunications Research Institute*; Jeong, Eunju *Electronics and Telecommunications Research Institute*;
 Kim, Bong Kyu *Electronics and Telecommunications Research Institute*

ThCT14: 15:30-17:00	Grand Republic D
Ignite_Theme 7_Th2 (Ignite Session)	
Chair: Li, Wen <i>Michigan State Univ.</i>	

15:30-17:00 ThCT14.1
Development of High Impedance Measurement System for Water Leakage Detection in Implantable Neuroprosthetic Devices 4865-4868
 Yousif, Aziz *Carnegie Mellon Univ.*; Kelly, Shawn* *Carnegie Mellon Univ.*

15:30-17:00 ThCT14.2
Data Fusion of Multiple Kinect Sensors for a Rehabilitation System 4869-4872
 Du, Huibin *Shenyang Institute of Automation (SIA), Chinese Academy of Science*; Zhao, Yiwen* *Shenyang
 Institute of Automation (SIA), Chinese Academy of Science*; Han, Jianda *The State Key Laboratory of Robotics,
 Shenyang Institute of Autom*; Wang, Zheng *Shenyang Institute of Automation (SIA), Chinese Academy of
 Science*; Song, Guoli *Shenyang Institute of Automation (SIA), Chinese Academy of Science*

15:30-17:00 ThCT14.3
Non-Invasive Heart Rate Monitoring System using Giant Magneto Resistance Sensor 4873-4876
 Kalyan, Kubera *RP Hall*; Chugh, Vinit *IIT Kharagpur*; Chandrika Sreekantan, Anoop* *Indian Institute of
 Technology Kharagpur*

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An Accelerometer based System to Measure Myocardial Performance Index during Stress Testing 4877-4880
 Dinh, Anh *Univ. of Saskatchewan*; Bui, Francis Minhthang* *Univ. of Saskatchewan*; Nguyen, Tam H. M.
Saskatchewan Univ.

15:30-17:00	ThCT14.5
Video Analysis Validation of a Real-Time Physical Activity Detection Algorithm based on a Single Waist	4881-4884
Bourke, Alan* <i>Norwegian Univ. of Science and Technology</i> ; Ihlen, Espen A F <i>Dept. of Neuroscience, Faculty of Medicine, Norwegian Univ.</i> ; van de Ven, Pepijn <i>Univ. of Limerick</i> ; Nelson, John <i>Univ. of Limerick</i> ; Helbostad, Jorunn L <i>Dept. of Neuroscience, Faculty of Medicine, Norwegian Univ.</i>	
15:30-17:00	ThCT14.6
A Silicon Neural Probe Fabricated using DRIE on Bonded Thin Silicon	4885-4888
Ong, Xiao Chuan* <i>Carnegie Mellon Univ.</i> ; Willard, Amanda M. <i>Carnegie Mellon Univ.</i> ; Forssell, Mats <i>Carnegie Mellon Univ.</i> ; Gittis, Aryn H. <i>Carnegie Mellon Univ.</i> ; Fedder, Gary K. <i>Carnegie Mellon Univ.</i>	
15:30-17:00	ThCT14.7
A Triboelectric Motion Sensor in Wearable Body Sensor Network for Human Activity Recognition	4889-4892
Huang, Hui <i>Michigan Technological Univ.</i> ; Li, Xian <i>Michigan Technological Univ.</i> ; Sun, Ye* <i>Michigan Technological Univ.</i>	
15:30-17:00	ThCT14.8
Spring Operated Wearable Enhancer for Arm Rehabilitation (SpringWear) after Stroke	4893-4896
Chen, Ji* <i>The Catholic Univ. of America</i> ; Lum, Peter <i>The Catholic Univ. of America</i>	
15:30-17:00	ThCT14.9
Unraveling Fabrication and Calibration of Wearable Gas Monitor for use under Free-Living Conditions	4897-4900
Deng, Yue <i>Arizona State Univ.</i> ; Chen, Cheng <i>Arizona State Univ.</i> ; Tsow, Francis <i>Arizona State Univ.</i> ; Xian, Xiaojun <i>Arizona State Univ.</i> ; Forzani, Erica* <i>Arizona State Univ.</i>	
15:30-17:00	ThCT14.10
A Study of the Effect of Subject Motion to Pulse Rate Estimation	4901-4904
Xu, Beilei* <i>Xerox Corporation</i> ; Madhu, Himanshu <i>Xerox Research Center India</i> ; Mestha, Lalit, K. <i>GE Global Research</i>	
15:30-17:00	ThCT14.11
Estimating Apnea-Hypopnea Index Only from an Accelerometer Signal Measured on the Chest	N/A
Yamauchi, Yasunobu* <i>Toshiba Corporation</i> ; Fuke, Sawa <i>Corporate R&D Center, TOSHIBA Corporation</i> ; Nakayama, Kanako <i>Corporate R&D Center, TOSHIBA Corporation.</i> ; Takakura, Jun'ya <i>National Institute for Environmental Studies</i> ; Usuniwa, Hitoshi <i>Ibaraki Prefectural Medical Center of Psychiatry</i> ; Koike, Keiji <i>Ibaraki Prefectural Medical Center of Psychiatry</i> ; Ouchi, Eriko <i>Ibaraki Prefectural Medical Center of Psychiatry</i> ; Doi, Nagafumi <i>Ibaraki Prefectural Medical Center of Psychiatry</i>	
15:30-17:00	ThCT14.12
Bed-Based Instrumentation for Unobtrusive Sleep Quality Assessment in Severely Disabled Autistic Children	4909-4912
Carlson, Charles* <i>Kansas State Univ.</i> ; Suliman, Ahmad <i>Kansas State Univ.</i> ; Prakash, Punit <i>Kansas State Univ.</i> ; Thompson, David <i>Kansas State Univ.</i> ; Wang, Shangxian <i>Kansas State Univ.</i> ; Natarajan, Balasubramaniam <i>Kansas State Univ.</i> ; Warren, Steve <i>Kansas State Univ.</i>	
15:30-17:00	ThCT14.13
Sleep Stage Classification by Non-Contact Vital Signs Indices using Doppler Radar Sensors	4913-4916
Kagawa, Masayuki* <i>Tokyo Metropolitan Univ.</i> ; Suzumura, Kazuki <i>Tokyo Metropolitan Univ.</i> ; Matsui, Takemi <i>Tokyo Metropolitan Univ.</i>	
15:30-17:00	ThCT14.14
Portable Prescreening System for Sleep Apnea	4917-4920
Gul, Martin Kjær* <i>Technical Univ. of Denmark</i> ; Jennum, Poul <i>Univ. of Copenhagen, Denmark</i> ; Sorensen, Helge B D <i>Technical Univ. of Denmark</i>	
15:30-17:00	ThCT14.15
Smart Monitoring of Fluid Intake and Bladder Voiding using Pressure Sensitive Mats	4921-4924
Cohen-McFarlane, Madison* <i>Carleton Univ.</i> ; Green, James R. <i>Carleton Univ.</i> ; Knoefel, Frank-Dietrich <i>Bruyere Continuing Care, Univ. of Ottawa, Carleton Univ.</i> ; Goubran, Rafik A. <i>Carleton Univ.</i>	

15:30-17:00	ThCT14.16
Contactless On-Bed Activity Sensing using First-Reflection Echolocation	4925-4928
Griffith, Henry* <i>Michigan State Univ.</i> ; Shi, Yan <i>Michigan State Univ.</i> ; Biswas, Subir <i>Michigan State Univ.</i>	
15:30-17:00	ThCT14.17
Detection of Chewing from Piezoelectric Film Sensor Signals using Ensemble Classifiers	4929-4932
Farooq, Muhammad* <i>Univ. of Alabama</i> ; Sazonov, Edward <i>Univ. of Alabama</i>	
15:30-17:00	ThCT14.18
Non-Invasive Cardiac Output Monitoring in Pharmacology: A Plethysmographic Solution in Rats	4933-4936
Flénet, Timothé* <i>Univ. Grenoble Alpes, TIMC – IMAG</i> ; Fontecave-Jallon, Julie <i>Univ. Grenoble Alpes, TIMC – IMAG</i> ; Tanguy, Stephane <i>Univ. Grenoble Alpes, TIMC – IMAG</i> ; Boucher, Francois <i>Univ. Grenoble Alpes, TIMC – IMAG</i> ; Baconnier, Pierre <i>Univ. Joseph Fourier</i> ; Gumery, Pierre-Yves <i>Univ. Joseph Fourier</i>	
15:30-17:00	ThCT14.19
Characterizing Graphene-modified Electrodes for Interfacing with Arduino®-Based Devices	4937-4940
Wan Salim, Wan Wardatul Amani* <i>International Islamic Univ. Malaysia (IIUM)</i> ; Arris, Farrah Aida <i>International Islamic Univ. Malaysia (IIUM)</i> ; Ithnin, Mohamad Hafiz <i>International Islamic Univ. Malaysia (IIUM)</i>	
15:30-17:00	ThCT14.20
Routing Over Multi-Hop Fading Wireless Body Area Networks with Reliability Considerations	4941-4945
Moosavi, Hussein <i>Univ. of Saskatchewan</i> ; Bui, Francis Minhthang* <i>Univ. of Saskatchewan</i>	
15:30-17:00	ThCT14.21
Non-Contact Automatic Respiration Monitoring in Restrained Rodents	4946-4950
Rezaei, Behnaz <i>Northeastern Univ.</i> ; Lowe, Jared <i>Northeastern Univ.</i> ; Yee, Jason <i>Northeastern Univ.</i> ; Porges, Stephen <i>Univ. of North Carolina at Chapel Hill</i> ; Ostadabbas, Sarah* <i>Northeastern Univ.</i>	
15:30-17:00	ThCT14.22
Energy Harvesting from Human Walking to Power Biomedical Devices using Oscillating Generation	4951-4954
Montoya, Jose Alberto <i>Univ. del Turabo</i> ; Mariscal, Dulce <i>Univ. of Pittsburgh</i> ; Romero, Edwar* <i>Turabo Univ.</i>	
15:30-17:00	ThCT14.23
Hand Motion Recognition based on Forearm Deformation Measured with a Distance Sensor Array	4955-4958
Cho, Sung-Gwi* <i>Nara institute of science and technology</i> ; Yoshikawa, Masahiro <i>Osaka Institute of Technology</i> ; Baba, Kohei <i>NAIST</i> ; Ogawa, Kazunori <i>Daiya Industry Co., Ltd.</i> ; Takamatsu, Jun <i>Nara Institute of Science and Technology</i> ; Ogasawara, Tsukasa <i>Nara Institute of Science and Technology</i>	
15:30-17:00	ThCT14.24
Relationship between Gait Variables and Domains of Neurologic Dysfunction in Multiple Sclerosis using Six-Minute Walk Test	4959-4962
Qureshi, Asma* <i>Univ. of Virginia</i> ; Brandt-Pearce, Maite <i>Univ. of Virginia</i> ; Goldman, Myla D. <i>Univ. of Virginia</i>	
15:30-17:00	ThCT14.25
Preliminary Investigation of Energy Comparison between Gyroscope, Electromyography and VO2 Wearable Sensors	4963-4966
Williams, Gareth* <i>Deakin Univ.</i> ; Li, Saiyi <i>Deakin Univ.</i> ; Pathirana, Pubudu N. <i>Deakin Univ.</i>	
15:30-17:00	ThCT14.26
Design and Prototyping of a Wristband-Type Wireless Photoplethysmographic Device for Heart Rate Variability Signal Analysis	4967-4970
Ghamari, Mohammad* <i>Univ. of Texas at El Paso</i> ; Soltanpur, Cinna <i>Univ. of Oklahoma</i> ; Cabrera, Sergio <i>Univ. of Texas at El Paso</i> ; Romero, Rodrigo <i>Univ. of Texas at El Paso</i> ; Martinek, Radek <i>Technical Univ. of Ostrava</i> ; Nazeran, Homayoun <i>The Univ. of Texas at El Paso</i>	
15:30-17:00	ThCT14.27
Computation Offloading for Real-Time Health-Monitoring Devices	4971-4974
Kalantarian, Haik* <i>Univ. of California, Los Angeles</i> ; Sideris, Costas <i>Univ. of California, Los Angeles</i> ; Le, Tuan <i>UCLA</i> ; Hosseini, Anahita <i>Dept. of Computer Science, Univ. of California, Los An</i> ; Sarrafzadeh, Majid <i>Univ. of California, Los Angeles</i>	

15:30-17:00	ThCT14.28
A Wearable Bluetooth LE Sensor for Patient Monitoring during MRI Scans	4975-4978
Vogt, Christian* <i>ETH Zürich</i> ; Reber, Jonas <i>ETHZ</i> ; Waltisberg, Daniel <i>ETH Zurich</i> ; Büthe, Lars <i>ETH Zürich</i> ; Marjanovic, Josip <i>ETHZ</i> ; Munzenrieder, Niko <i>ETH</i> ; Pruessmann, Klaas <i>ETHZ</i> ; Troster, Gerhard <i>ETH Zurich</i>	
15:30-17:00	ThCT14.29
Inertial Sensor based Gait Analysis Discriminates Subjects with and without Visual Impairment Caused by Simulated Macular Degeneration	4979-4982
Kanzler, Christoph Matthias* <i>Friedrich-Alexander-Univ. Erlangen-Nürnberg</i> ; Barth, Jens <i>ASTRUM IT GmbH</i> ; Klucken, Jochen <i>Univ. Hospital Erlangen</i> ; Eskofier, Bjoern M <i>Friedrich-Alexander-Univ. Erlangen-Nürnberg</i>	
15:30-17:00	ThCT14.30
An RF Powering System with Adaptive Impedance Matching for Individual Health Monitoring Applications	4983-4986
Liu, Zemin* <i>Rensselaer Polytechnic Institute</i> ; Hsu, Yu-Pin <i>Rensselaer Polytechnic Institute</i> ; Hella, Mona Mostafa <i>Rensselaer Polytechnic Institute</i>	
15:30-17:00	ThCT14.31
Testing the Assumption of Normality in Body Sway Area Calculations during Unipedal Stance Tests with an Inertial Sensor	4987-4990
Kim, Kyoung <i>Univ. of Miami</i> ; Lucarevic, Jennifer <i>Univ. of Miami</i> ; Bennett, Christopher <i>Univ. of Miami</i> ; Gaunaud, Ignacio <i>Univ. of Miami, Miller School of Medicine, Dept. of Ph</i> ; Gailey, Robert <i>Univ. of Miami</i> ; Agrawal, Vibhor* <i>Univ. of Miami</i>	
15:30-17:00	ThCT14.32
A Wearable System for Asymmetric Contactless Human Sensing	4991-4994
Griffith, Henry* <i>Michigan State Univ.</i> ; Shi, Yan <i>Michigan State Univ.</i> ; Biswas, Subir <i>Michigan State Univ.</i>	
15:30-17:00	ThCT14.33
Beacon-Based Opportunistic Scheduling in Wireless Body Area Network	4995-4998
Zhou, Yang* <i>Univ. of British Columbia</i> ; Sheng, Zhengguo <i>Univ. of Sussex</i> ; Leung, Victor <i>The Univ. of British Columbia</i> ; Servati, Peyman <i>the Univ. of British Columbia</i>	
15:30-17:00	ThCT14.34
Design and Validation of a Wearable "DRL-Less" EEG using a Novel Fully-Reconfigurable Architecture	4999-5002
Mahajan, Ruhi* <i>Univ. of Memphis</i> ; Morshed, Bashir <i>The Univ. of Memphis</i> ; Bidelman, Gavin M. <i>The Univ. of Memphis</i>	
15:30-17:00	ThCT14.35
Identifying the Number and Location of Body Worn Sensors to Accurately Classify Walking, Transferring and Sedentary Activities	5003-5006
Aziz, Omar* <i>Simon Fraser Univ.</i> ; Robinovitch, Stephen <i>Simon Fraser Univ.</i> ; Park, Edward J. <i>Simon Fraser Univ.</i>	
15:30-17:00	ThCT14.36
A System to Monitor Tremors in Patients with Parkinson's Disease	5007-5010
Bermeo, Alexander <i>Univ. Politécnica Salesiana</i> ; Bravo Guamán, Marco Fernando <i>Univ. Politécnica Salesiana, Grupo de Investigación de Ing</i> ; Huerta, Mónica* <i>Simon Bolivar Univ.</i> ; Soto, Angel <i>Univ. Politécnica Salesiana</i>	

ThCT15: 15:30-17:00	Fantasia N
Ignite_Theme 8_Th1 (Ignite Session)	

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Measurement of the Passive Stiffness of Ankle Joint in 3 DOF using Stewart Platform Type Ankle Foot Device	5011-5014
Nomura, Kenta* <i>Tokyo Univ. of Science</i> ; Yonezawa, Teru <i>Tokyo Univ. of Science</i> ; Mizoguchi, Hiroshi <i>Tokyo Univ. of Science</i> ; Takemura, Hiroshi <i>Tokyo Univ. of Science</i>	
15:30-17:00	ThCT15.2
Simulation of Fluid Environment using a Robotic Orthosis on Human Lower Extremity for Therapeutic Purposes	5015-5018
Ertop, Tayfun Efe* <i>Middle East Technical Univ.</i> ; Yuksel, Tolga <i>Middle East Technical Univ.</i> ; Konukseven, Erhan ilhan <i>Middle East Technical Univ.</i>	

15:30-17:00		ThCT15.3
Investigation of a Passive Capstan based Grasp Enhancement Feature in a Voluntary-Closing Prosthetic Terminal Device		5019-5025
Gemmell, Jr., Kevin <i>NuVasive, Inc.</i> ; Leddy, Michael* <i>Yale Univ.</i> ; Belter, Joseph <i>Yale Univ.</i> ; Dollar, Aaron <i>Yale Univ.</i>		
15:30-17:00		ThCT15.4
Hardness Map of Human Meta Tarsals and Phalanges of Toes		5026-5029
Manarvi, Irfan Anjum* <i>Prince Sultan Univ.</i>		
15:30-17:00		ThCT15.5
Optimization of an Unpowered Energy-Stored Exoskeleton for Patients with Spinal Cord Injury		5030-5033
Guan, Xinyu* <i>Tsinghua Univ.</i> ; Ji, Linhong <i>Tsinghua Univ.</i> ; WANG, Rencheng <i>Tsinghua Univ.</i> ; Huang, Wenjie <i>Shanghai Gaitech Scientific Instruments Co. Ltd</i>		
15:30-17:00		ThCT15.6
Building Blocks System for a Prosthesis Training of a Child with Congenital Amputee		5034-5037
Shimokakimoto, Tomoya* <i>Univ. of Tsukuba</i> ; Ueno, Tomoyuki <i>Univ. of Tsukuba Hospital</i> ; Akimichi, Nanao <i>Univ. of Tsukuba</i> ; Suzuki, Kenji <i>Univ. of Tsukuba</i>		
15:30-17:00		ThCT15.7
Effect of Environmental Factors on Level of Tripping Disturbance: A Simulation Study		5038-5041
Liu, Ming* <i>NC State Univ.</i> ; Bohlen, Peter <i>North Carolina State Univ.</i> ; Huang, He <i>North Carolina State Univ. and Univ. of North Carolina</i>		
15:30-17:00		ThCT15.8
Evaluation of a Wrist Orthosis on Lofstrand Crutch-Assisted Gait		5042-5045
Farooq, Deen <i>Univ. of Illinois at Urbana-Champaign</i> ; Jahanian, Omid* <i>Univ. of Wisconsin Milwaukee</i> ; Slavens, Brooke <i>Univ. of Wisconsin-Milwaukee</i> ; Hsiao-Wecksler, Elizabeth T. <i>Univ. of Illinois at Urbana-Champaign</i>		
15:30-17:00		ThCT15.9
Myoelectric Intuitive Control and Transcutaneous Electrical Stimulation of the Forearm for Vibrotactile Sensation Feedback Applied to a 3D Printed Prosthetic Hand		5046-5050
Germany, Enrique I.* <i>Univ. of Concepcion</i> ; Pino, Esteban J <i>Univ. de Concepcion</i> ; Aqueveque, Pablo <i>Univ. of Concepcion</i>		
15:30-17:00		ThCT15.10
A Wearable Robotic Orthosis with a Spring-Assist Actuator		5051-5054
Jung, Seungmin <i>Korea Institute of Science and Technology</i> ; Kim, Chankyu <i>Korea Institute of Science and Technology</i> ; Park, Ji Su <i>Korea Institute of Science and Technology</i> ; Yu, Dongyoun <i>Korea Institute of Science and Technology</i> ; Park, Jaehwan <i>KIST</i> ; Choi, Junho* <i>Korea Institute of Science and Technology</i>		
15:30-17:00		ThCT15.11
A Feasibility Study of Depth Image based Intent Recognition for Lower Limb Prostheses		5055-5058
Varol, Huseyin Atakan* <i>Nazarbayev Univ.</i> ; Massalin, Yerzhan <i>Nazarbayev Univ.</i>		
15:30-17:00		ThCT15.12
24 DOF EMG Controlled Hybrid Actuated Prosthetic Hand		5059-5062
Atasoy, Ahmet* <i>Bogazici Univ.</i> ; Kaya, Engin <i>Bogazici Univ.</i> ; Toptas, Ersin <i>Marmara Univ.</i> ; Kaplanoglu, Erkan <i>Marmara Univ.</i> ; Ozkan, Mehmed <i>Bogazici Univ.</i> ; Kuchimov, Shavkat <i>Bogazici Univ.</i>		
15:30-17:00		ThCT15.13
Metabolic Cost of Level-Ground Walking with a Robotic Transtibial Prosthesis Combining Push-Off Power and Nonlinear Damping Behaviors: Preliminary Results		5063-5066
Feng, Yanggang <i>Peking Univ.</i> ; Zhu, Jinying <i>Peking Univ.</i> ; Wang, Qining* <i>Peking Univ.</i>		
15:30-17:00		ThCT15.14
Real-Time Gait Event Detection for Lower Limb Amputees using a Single Wearable Sensor		5067-5070
Maqbool, Hafiz Farhan <i>Univ. of Leeds</i> ; Husman, Muhammad Afif <i>Univ. of Leeds</i> ; Awad, Mohammed Ibrahim <i>Univ. of Leeds</i> ; Abouhossein, Alireza <i>Univ. of Leeds</i> ; Mehryar, Pouyan <i>Univ. of Leeds</i> ; Iqbal, Nadeem <i>Abdul Wali Khan Univ. Mardan Pakistan</i> ; Dehghani-Sanij, Abbas A.* <i>Univ. of Leeds</i>		

15:30-17:00	ThCT15.15
Adaptive Control of Powered Transfemoral Prostheses based on Adaptive Dynamic Programming	5071-5074
Wen, Yue* <i>North Carolina State Univ. and Univ. of North Carolina</i> ; Liu, Ming <i>NC State Univ.</i> ; Si, Jennie <i>Arizona State Univ.</i> ; Huang, He <i>North Carolina State Univ. and Univ. of North Carolina</i>	
15:30-17:00	ThCT15.16
Does the Impedance of Above-Knee Powered Prostheses Need to be Adjusted for Load-Carrying Conditions?	5075-5078
Brandt, Andrea* <i>North Carolina State Univ. and Univ. of North Carolina</i> ; Liu, Ming <i>NC State Univ.</i> ; Huang, He <i>North Carolina State Univ. and Univ. of North Carolina</i>	
15:30-17:00	ThCT15.17
Delaying Ambulation Mode Transitions in a Powered Knee-Ankle Prostheses	5079-5082
Simon, Ann <i>Rehabilitation Institute of Chicago</i> ; Spanias, John <i>Northwestern Univ.</i> ; Ingraham, Kimberly <i>Rehabilitation Institute of Chicago</i> ; Hargrove, Levi* <i>Rehabilitation Institute of Chicago</i>	
15:30-17:00	ThCT15.18
Preliminary Results for an Adaptive Pattern Recognition System for Novel Users using a Powered Lower Limb Prosthesis	5083-5086
Spanias, John* <i>Northwestern Univ.</i> ; Simon, Ann <i>Rehabilitation Institute of Chicago</i> ; Perreault, Eric <i>Northwestern Univ.</i> ; Hargrove, Levi <i>Rehabilitation Institute of Chicago</i>	
15:30-17:00	ThCT15.19
Development of a Snake-Like Dexterous Manipulator for Skull base Surgery	5087-5090
Coemert, Suat* <i>Technical Univ. of Munich</i> ; Gao, Anzhu <i>Univ. of Chinese Academy of Sciences</i> ; Carey, John <i>Johns Hopkins Univ. School of Medicine</i> ; Traeger, Mattias <i>Technical Univ. of Munich</i> ; Taylor, Russell H. <i>The Johns Hopkins Univ.</i> ; Lueth, Tim <i>Technical Univ. of Munich</i> ; Armand, Mehran <i>Johns Hopkins Univ. Applied Physics Laboratory</i>	
15:30-17:00	ThCT15.20
Accuracy Assessment and Kinematic Calibration of Robotic Endoscopic Microsurgical System	5091-5094
Feng, Lihang* <i>The Johns Hopkins Univ., Southeast Univ.</i> ; Wilkening, Paul <i>The Johns Hopkins Univ.</i> ; Sevimli, Yunuscan <i>The Johns Hopkins Univ.</i> ; Balicki, Marcin <i>Johns Hopkins Univ.</i> ; Olds, Kevin <i>The Johns Hopkins Univ.</i> ; Taylor, Russell H. <i>The Johns Hopkins Univ.</i>	
15:30-17:00	ThCT15.21
An Algorithm for Accurate Needle Orientation	5095-5098
Yang, Yifan <i>Tsinghua Univ.</i> ; Ahmed, Amr <i>Univ. of Lincoln</i> ; Yue, Shigang <i>Univ. of Lincoln</i> ; Xie, Xiang* <i>Tsinghua Univ.</i> ; Chen, Hong <i>Tsinghua Univ.</i> ; Wang, Zhihua <i>Tsinghua Univ.</i>	
15:30-17:00	ThCT15.22
Evaluating the Deflection of Dexterous Continuum Manipulators with Unevenly Distributed Compliant Joints	5099-5102
Gao, Anzhu <i>Univ. of Chinese Academy of Sciences</i> ; Murphy, Ryan J. <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; Liu, Hao <i>Shenyang Institute of Automation, Chinese Academy of Sciences</i> ; lordachita, Iulian <i>Johns Hopkins Univ.</i> ; Armand, Mehran* <i>Johns Hopkins Univ. Applied Physics Laboratory</i>	
15:30-17:00	ThCT15.23
Toward Robot-Assisted Hard Osteolytic Lesion Treatment using a Continuum Manipulator	5103-5106
Alambeigi, Farshid* <i>Johns Hopkins Univ.</i> ; Wang, Yu <i>Beihang Univ.</i> ; Murphy, Ryan J. <i>Johns Hopkins Univ. Applied Physics Laboratory</i> ; lordachita, Iulian <i>Johns Hopkins Univ.</i> ; Armand, Mehran <i>Johns Hopkins Univ. Applied Physics Laboratory</i>	
15:30-17:00	ThCT15.24
Robot-Assisted Retinal Vein Cannulation with Force-Based Puncture Detection: Micron vs. the Steady-Hand Eye Robot	5107-5111
Gonenc, Berk* <i>Johns Hopkins Univ.</i> ; Tran, Nhat <i>Johns Hopkins Univ.</i> ; Gehlbach, Peter <i>Johns Hopkins Medical Institute</i> ; Taylor, Russell H. <i>The Johns Hopkins Univ.</i> ; lordachita, Iulian <i>Johns Hopkins Univ.</i>	

15:30-17:00	ThCT15.25
Parameter Optimization of Pseudo-Rigid-Body Models of MRI-Actuated Catheters	5112-5115
Greigarn, Tipakorn* <i>Case Western Reserve Univ.</i> ; Liu, Taoming <i>Case Western Reserve Univ.</i> ; Cavusoglu, M. Cenk <i>Case Western Reserve Univ.</i>	
15:30-17:00	ThCT15.26
Towards Synergistic Control of Hands-On Needle Insertion with Automated Needle Steering for MRI-Guided Prostate Interventions	5116-5119
Wartenberg, Marek* <i>Worcester Polytechnic Institute</i> ; Patel, Niravkumar <i>Worcester Polytechnic Institute</i> ; Li, Gang <i>Worcester Polytechnic Institute</i> ; Fischer, Gregory <i>Worcester Polytechnic Institute</i>	
15:30-17:00	ThCT15.27
Histological Evaluation of Tissue Damage Caused by Rotational Needle Insertion	5120-5123
Tsumura, Ryosuke <i>Waseda Univ.</i> ; Takishita, Yusuke* <i>Waseda Univ.</i> ; Fukushima, Yuta <i>Waseda Univ.</i> ; Iwata, Hiroyasu <i>Waseda Univ.</i>	
15:30-17:00	ThCT15.28
Development of Five Finger Robotic Hand using Master-Slave Control for Hand-Assisted Laparoscopic Surgery	5124-5127
Yoshida, Koki* <i>Yokohama National Univ.</i> ; Yamada, Hiroshi <i>Yokohama National Univ., Kato Laboratory in Graduate School</i> ; Seki, Tatsuya <i>The Univ. of Electro-Communications</i> ; Kato, Ryu <i>Yokohama National Univ.</i> ; Yokoi, Hiroshi <i>Univ. of Tokyo</i> ; Mukai, Masaya <i>Tokai Univ.</i>	
15:30-17:00	ThCT15.29
Hardware Design for a Cable-Free Fully Insertable Wireless Laparoscopic Robotic Camera	5128-5131
Li, Ning* <i>Univ. of Tennessee</i> ; Mancini, Gregory <i>Univ. of Tennessee</i> ; Tan, Jindong <i>Univ. of Tennessee, Knoxville</i>	
15:30-17:00	ThCT15.30
Advanced Sensors Placement for Accurate 3D Needle Shape Reconstruction	5132-5135
Schaefer, Pierre-Loup* <i>Laboratoire TIMC-IMAG</i> ; Chagnon, Grégory <i>Univ. de Grenoble</i> ; Moreau-Gaudry, Alexandre <i>Univ. Joseph Fourier – Grenoble Univ. Hospital</i>	
15:30-17:00	ThCT15.31
Evaluation of a Mixed Controller that Amplifies Spatial Errors while Reducing Timing Errors	5136-5139
Marchal-Crespo, Laura* <i>ETH Zurich</i> ; Baumann, Tanja <i>ETH Zurich</i> ; Fichmann, Daniela <i>ETH Zurich</i> ; Maassen, Steve <i>ETH Zurich</i> ; Duarte, Jaime E. <i>Univ. of California, Irvine</i> ; Riener, Robert <i>ETH and Univ. Zurich</i>	
ThCT16: 15:30-17:00 Fantasia M	
Ignite_Theme 9_Th1 (Ignite Session)	
Chair: Panescu, Dorin <i>Advanced Cardiac Therapeutics</i>	
15:30-17:00	ThCT16.1
Mental Stress Grading based on fNIRS Signals	5140-5143
Al-shargie, Fares <i>Univ. Teknologi Petronas</i> ; Tang, Tong Boon* <i>Univ. Teknologi Petronas</i> ; Kiguchi, Masashi <i>Hitachi, Ltd.</i>	
15:30-17:00	ThCT16.2
Green Lasers are Beyond Power Limits Mandated by Safety Standards	5144-5147
Lee, Matthew Hao <i>RMIT Univ.</i> ; Fox, Kate <i>RMIT Univ.</i> ; Goldwasser, Sam <i>Private Consultant</i> ; Lau, Desmond <i>RMIT Univ.</i> ; Aliahmad, Behzad* <i>RMIT Univ.</i> ; Sarossy, Marc <i>RMIT Univ.</i>	
15:30-17:00	ThCT16.3
Diffuse Reflectance Spectroscopy can Differentiate High Grade and Low Grade Prostatic Carcinoma	5148-5151
Werahera, Priya N.* <i>Univ. of Colorado Anschutz Medical Campus</i> ; Jasion, Edward <i>Precision Biopsy LLC</i> ; Crawford, E. David <i>Univ. of Colorado Anschutz Medical Campus</i> ; Lucia, M. Scott <i>Univ. of Colorado Anschutz Medical Campus</i> ; van Bokhoven, Adrie <i>Univ. of Colorado Anschutz Medical Campus</i> ; Sullivan, Holly T. <i>Univ. of Colorado Anschutz Medical Campus</i> ; Kim, Fernando J <i>Univ. of Colorado and Denver Health</i> ; Maroni, Paul D. <i>Univ. of Colorado Anschutz Medical Campus</i> ; Port, J. David <i>Univ. of Colorado Anschutz Medical Campus</i> ; Daily, John W. <i>Univ. of Colorado Boulder</i> ; G. La Rosa, Francisco <i>Univ. of Colorado</i>	

15:30-17:00		ThCT16.4
ImQuant – An Image based Fluorescence Reader for Quantitative Lateral Flow Immunoassays	5152-5155	
Basak Chowdhury, Kaushik* <i>Indian Institute of Technology Madras</i> ; Joseph, Jayaraj <i>HTIC, Indian Institute of Technology Madras</i> ; Vasan, Jayaraman Kiruthi <i>Healthcare Technology Innovation Center</i> ; Sivaprakasam, Mohanasankar <i>Indian Institute of Technology Madras</i>		
15:30-17:00		ThCT16.5
Robot-Assisted Microsurgical Forceps with Haptic Feedback for Transoral Laser Microsurgery	5156-5159	
Deshpande, Nikhil* <i>Fondazione Istituto Italiano di Tecnologia</i> ; Chauhan, Manish <i>Istituto Italiano di Tecnologia</i> ; Pacchierotti, Claudio <i>Istituto Italiano di Tecnologia</i> ; Prattichizzo, Domenico <i>Univ. of Siena, Istituto Italiano di Tecnologia</i> ; Caldwell, Darwin G. <i>Italian Institute of Technology</i> ; Mattos, Leonardo <i>IIT – Istituto Italiano di Tecnologia</i>		
15:30-17:00		ThCT16.6
Colorimetric Determinations of Lithium Levels in Drop-Volumes of Human Plasma for Monitoring Patients with Bipolar Mood Disorder	5160-5163	
Qassem, Meha* <i>City Univ. London</i> ; Hickey, Michelle <i>City Univ.</i> ; Kyriacou, Panayiotis <i>City Univ. London</i>		
15:30-17:00		ThCT16.7
The Impact of Different Leaf Limited Accelerations on Leaf-Positional Error of a Self-Developed MLC Prototype	5164-5167	
Zhang, Xiang <i>Dept. of Mechanical Engineering, Tsinghua Univ., Beiji</i> ; Ye, Peiqing* <i>Dept. of Mechanical Engineering, Tsinghua Univ., Beiji</i> ; Zhang, Hui <i>Dept. of Mechanical Engineering, Tsinghua Univ., Beiji</i>		
15:30-17:00		ThCT16.8
Investigating an Alternative Ring Design of Transducer Arrays for Tumor Treating Fields (TTFields)	5168-5171	
Macedo, Mário <i>Superior Technical Institute of Lisbon</i> ; Wenger, Cornelia* <i>Faculdade de Ciências, Univ. de Lisboa</i> ; Salvador, Ricardo <i>Institute of Biophysics and Biomedical Engineering (IBEB), Univ.</i> ; Fernandes, Sofia Rita <i>Univ. of Lisbon</i> ; Miranda, Pedro Cavaleiro <i>Faculdade de Ciências, Univ. de Lisboa</i>		
15:30-17:00		ThCT16.9
Initial Experiments of a 128-Channel FPGA and PC-Based Ultrasound Imaging System for Teaching and Research Activities	5172-5175	
Assef, Amauri Amorin* <i>Federal Univ. of Technology-Parana</i> ; Maia, Joaquim Miguel <i>Federal Univ. of Technology-Parana</i> ; Costa, Eduardo Tavares <i>State Univ. of Campinas</i>		
15:30-17:00		ThCT16.10
Multipoint Temperature Monitoring in Liver Undergoing Computed Tomography-Guided Radiofrequency Ablation with Fiber Bragg Grating Probes	5176-5179	
Saccomandi, Paola <i>Univ. Campus Bio-Medico of Rome</i> ; Schena, Emiliano* <i>Univ. of Rome Campus Bio-Medico</i> ; Diana, Michele <i>IRCAD: Research Institute against Cancer of Digestive System, St</i> ; Di Matteo, Francesco Maria <i>Univ. Campus Bio-Medico of Rome</i> ; Costamagna, Guido <i>Unit of Digestive Endoscopy, Univ. Cattolica del Sacro Cuor</i> ; Marescaux, Jacques <i>IRCAD</i>		
15:30-17:00		ThCT16.11
Frameless Stereotactic Radiosurgery (fSRS) End-to-End Test with EBT-XD Gafchromic Film	N/A	
Song, Yulin* <i>Memorial Sloan-Kettering Cancer Ctr</i> ; Obcemea, Ceferino <i>Memorial Sloan-Kettering Cancer Center</i> ; Mueller, Boris <i>Memorial Sloan-Kettering Cancer Center</i> ; Mychalczak, Borys <i>Memorial Sloan-Kettering Cancer Center</i>		
15:30-17:00		ThCT16.12
Illumination and Device Independence for Colorimetric Detection of Urinary Biomarkers with Smartphone	5184-5187	
Karlsen, Haakon <i>Buskerud and Vestfold Univ. College</i> ; Dong, Tao* <i>Dept. of Micro and Nano Systems Technology, Buskerud and Ve</i>		
15:30-17:00		ThCT16.13
Wildcard: A Wearable Virtual Reality Storytelling Tool for Children with Intellectual Developmental Disability	5188-5191	
Gelsomini, Mirko* <i>Politecnico di Milano</i> ; Garzotto, Franca <i>Politecnico di Milano</i> ; Montesano, Daniele <i>Politecnico di Milano</i> ; Occhiuto, Daniele <i>Politecnico di Milano</i>		

15:30-17:00	ThCT16.14
A Mobile Diagnostic Platform for the Automated Detection of Asthma and Chronic Obstructive Pulmonary Disease	5192-5195
Chamberlain, Daniel* <i>Massachusetts Institute of Technology</i> ; Kodgule, Rahul <i>Chest Research Foundation</i> ; Fletcher, Richard Ribon <i>Massachusetts Institute of Technology</i>	
15:30-17:00	ThCT16.15
Wearable Impedance Monitoring System for Dialysis Patients	5196-5199
Bonnet, Stéphane <i>CEA Léti MINATEC</i> ; Bourgerette, Alain <i>CEA</i> ; Gharbi, Sadok <i>CEA/LETI/MINATEC</i> ; Rubeck, Christophe <i>CEA</i> ; Arkouche, Walid <i>AuraLyon</i> ; Massot, Bertrand <i>INSA Lyon</i> ; McAdams, Eric <i>INSA Lyon</i> ; Montalibet, Amalric <i>INL UMR-5270 – INSA Lyon</i> ; Jallon, Pierre* <i>CEA Grenoble</i>	
15:30-17:00	ThCT16.16
Development of Ocular Viscosity Characterization Method	5200-5203
Lu, Shu-Hao <i>Hong Kong Univ. of Science and Technology</i> ; Chen, Guo-Zhen <i>Hong Kong Univ. of Science and Technology</i> ; Leung, Stanley Y.Y. <i>Hong Kong Univ. of Science and Technology</i> ; Lam, David C.C.* <i>Hong Kong Univ. of Science and Technology</i>	
15:30-17:00	ThCT16.17
ARTSENS® Mobile: A Portable Image-Free Platform for Automated Evaluation of Vascular Stiffness	5204-5207
Shah, Malay Ilesh* <i>Healthcare Technology Innovation Center (HTIC), Indian Institute</i> ; Joseph, Jayaraj <i>HTIC, Indian Institute of Technology Madras</i> ; T, Aryasree <i>Healthcare Technology Innovation Centre, IIT Madras</i> ; Sivaprakasam, Mohanasankar <i>Indian Institute of Technology Madras</i>	
15:30-17:00	ThCT16.18
A Novel Wireless Wearable Fluorescence Image-Guided Surgery System	5208-5211
He, Kunshan <i>Key Laboratory of Molecular Imaging, Institute of Chinese Academy</i> ; Yamin, Mao <i>Key Laboratory of Molecular Imaging, Institute of Chinese Academy</i> ; JinZuo, Ye <i>Key Laboratory of Molecular Imaging, Institute of Chinese Academy</i> ; Yu, An <i>The Dept. of Biomedical Engineering, School of Computer and</i> ; ShiXin, Jiang <i>The Dept. of Biomedical Engineering, School of Computer and</i> ; ChongWei, Chi <i>Key Laboratory of Molecular Imaging, Institute of Chinese Academy</i> ; Tian, Jie* <i>Chinese Academy of Sciences</i>	
15:30-17:00	ThCT16.19
Graphical User Interface for a Robotic Workstation in a Surgical Environment	5212-5215
Bielski, Alexander Armin <i>Technische Univ. München</i> ; Lohmann, Chris <i>Klinikum Rechst der isaar, Muenchen</i> ; Maier, Mathias <i>Klinikum Rechst der isaar, Muenchen</i> ; Zapp, Daniel <i>Augen Klinik Rechts der Isar. Technische Univ. Muenchen</i> ; nasseri, M. Ali* <i>Technische Univ. Muenchen</i>	
15:30-17:00	ThCT16.20
Novel Modular 2-DOF Microsurgical Forceps for Transoral Laser Microsurgeries: Ergonomic Design and Preliminary Evaluation	5216-5219
Chauhan, Manish* <i>Istituto Italiano di Tecnologia</i> ; Barresi, Giacinto <i>Istituto Italiano di Tecnologia</i> ; Deshpande, Nikhil <i>Fondazione Istituto Italiano di Tecnologia</i> ; Caldwell, Darwin G. <i>Italian Institute of Technology</i> ; Mattos, Leonardo <i>IIT – Istituto Italiano di Tecnologia</i>	
15:30-17:00	ThCT16.21
Characteristic of a Force Sensing Guide Wire for Minimally Invasive Cardiac Surgery	5220-5223
Stefanova, Nataliya* <i>Technical Univ. of Darmstadt</i> ; Hessinger, Markus <i>Technische Univ. Darmstadt</i> ; Opitz, Thomas <i>Technical Univ. of Darmstadt</i> ; Werthschützky, Roland <i>Technische Univ. Darmstadt</i>	
15:30-17:00	ThCT16.22
Development of a Finger-Like Mechanism of End-Effector for Micro Surgery	5224-5227
Kim, Sangmyung <i>Korea Institute of Science and Technology (KIST)</i> ; Park, Chul Min <i>Korea Institute of Science and Technology (KIST)</i> ; Yoo, Jeonghoon <i>Yonsei Univ.</i> ; Kim, Keri* <i>Korea Institute of Science and Technology</i>	
15:30-17:00	ThCT16.23
Robotic System with Multiplex Power Transmission for MRI-Guided Percutaneous Interventions	5228-5232
Wang, Yang* <i>Johns Hopkins Univ.</i> ; Kim, Sungmin <i>Johns Hopkins Univ.</i> ; Burdette, Everette <i>Acoustic MedSystems, Inc.</i> ; Kazanzides, Peter <i>Johns Hopkins Univ.</i> ; Iordachita, Iulian <i>Johns Hopkins Univ.</i>	

15:30-17:00	ThCT16.24
Muscle Fiber Excitation System	5233-5236
Ezenwa, Bertram* <i>Bezenwa Biomedical Engineering LLC</i> ; Kernozek, Thomas <i>Univ. of Wisconsin-La Crosse</i>	
15:30-17:00	ThCT16.25
Understanding the Cochlear Implant Environment by Mapping Perilymph Proteomes from Different Species	5237-5240
Palmer, Jonathan Clive <i>UNSW</i> ; Lord, Megan <i>UNSW</i> ; Pinyon, Jeremy <i>Univ. of New South Wales</i> ; Wise, Andrew <i>Bionics Institute</i> ; Lovell, Nigel H. <i>Univ. of New South Wales</i> ; Carter, Paul Michael <i>Cochlear Ltd</i> ; Enke, Ya Lang <i>Cochlear Ltd</i> ; Housley, Gary D. <i>Univ. of New South Wales</i> ; Green, Rylie A.* <i>Univ. of New South Wales</i>	
15:30-17:00	ThCT16.26
Current Distribution in Tissues with Conducted Electrical Weapons Operated in Drive-Stun Mode	5241-5245
Panescu, Dorin* <i>Advanced Cardiac Therapeutics</i> ; Kroll, Mark <i>Univ. of Minnesota</i> ; Brave, Michael <i>LAAW International, LLC, Scottsdale, AZ</i>	
15:30-17:00	ThCT16.27
Using Bioimpedance Spectroscopy Parameters as Real-Time Feedback during tDCS	5246-5249
Nejadgholi, Isar* <i>Univ. of Ottawa</i> ; Bolic, Miodrag <i>Univ. of Ottawa</i> ; Caytak, Hershel <i>Univ. of Ottawa</i>	
15:30-17:00	ThCT16.28
Portable Closed-Loop Optogenetic Stimulation Device	5250-5253
Edward, Epsy Shiny <i>Deakin Univ.</i> ; Kouzani, Abbas Z.* <i>Deakin Univ.</i> ; Kale, Rajas <i>Deakin Univ.</i> ; Tye, Susannah <i>Mayo Clinic</i>	
15:30-17:00	ThCT16.29
Implantable Gastric Electric Stimulator with Automatic Daily Activity Compliance Reporting	5254-5257
Takami, Eri <i>San Jose State Univ.</i> ; Sanchez, Javier <i>IntraPace Inc</i> ; Province, Rose* <i>IntraPace</i> ; Torres, Antonio <i>Univ. Complutense Madrid</i>	
15:30-17:00	ThCT16.30
Oscillatory Brain Activity Changes by Anodal tDCS – An ECoG Study on Anesthetized Beagles	5258-5261
Jang, Sehyeon <i>Gwangju Institute of Science and Technology</i> ; Kim, Donghyeon <i>Gwangju Institute of Science and Technology</i> ; Been, Junkil <i>GIST(Gwangju Institute of Science and Technology)</i> ; Cho, Hohyun <i>Gwangju Inst of Science And Tech</i> ; Jun, Sung Chan* <i>Gwangju Institute of Science and Technology</i>	
15:30-17:00	ThCT16.31
Simultaneous Evaluation of Prepulse Inhibition with EMG and EEG using Advanced Artifact Removal Techniques	5262-5265
Fraga, Francisco J.* <i>Univ. Federal do ABC (UFABC)</i> ; Noya, Claudemiro V. <i>Engineering, Modelling and Applied Social Sciences Center (CECS)</i> ; Zimiani, Maria I. <i>Center for Mathematics, Computation and Cognition (CMCC), Univ.</i> ; Avila, Milton A. <i>Ribeirao Preto Medical School (FMRP-USP), Univ. de Sao Pa</i> ; Shuhama, Rosana <i>Ribeirao Preto Medical School (FMRP-USP), Univ. de Sao Pa</i> ; Del-Ben, Cristina M. <i>Ribeirao Preto Medical School (FMRP-USP), Univ. de Sao Pa</i> ; Menezes, Paulo R. <i>Faculdade de Medicina da USP (FM-USP), Univ. de Sao Paulo</i> ; San Martin, Rodrigo <i>Center for Mathematics, Computation and Cognition (CMCC), Univ.</i> ; Salum, Cristiane <i>Center for Mathematics, Computation and Cognition (CMCC), Univ.</i>	
15:30-17:00	ThCT16.32
Predicting Brain Stimulation Treatment Outcomes of Depressed Patients through the Classification of EEG Oscillations	5266-5269
Al-kaysi, Alaa* <i>Univ. of Technology Sydney</i> ; Al-Ani, Ahmed <i>Univ. of Technology, Sydney</i> ; Loo, Colleen <i>School of Psychiatry, Univ. of New South Wales</i> ; Breakspear, Michael <i>QIMR Berghofer Medical Research Institute</i> ; Boonstra, Tjeerd <i>Univ. of New South Wales</i>	

ThCT17: 15:30-17:00	Atlantic A
Ignite_Theme 10_Th1 (Ignite Session)	
Chair: Sun, Ye <i>Michigan Technological Univ.</i>	

15:30-17:00	ThCT17.1
Endurance based Personalized Fitness Planner	5270-5274
Sahoo, Saswata* <i>Samsung R & D Institute, Bangalore, India</i> ; Tiwari, Vijay Narayan <i>Samsung Research India, Bangalore</i> ; Narayanan, Rangavittal <i>Samsung India Software Operations Pvt. Ltd.</i>	

15:30-17:00	ThCT17.2
Prediction of Oral Cancer Recurrence using Dynamic Bayesian Networks	5275-5278
Kourou, Konstantina <i>Unit of Biological Applications and Technology, Univ. of Io</i> ; Rigas, Georgios <i>Univ. of Ioannina</i> ; Exarchos, Konstantinos <i>Univ. of Ioannina</i> ; Papaloukas, Costas <i>Univ. of Ioannina</i> ; Fotiadis, Dimitrios I.* <i>Univ. of Ioannina</i>	
15:30-17:00	ThCT17.3
Heart Rate Reactivity Associated to Positive and Negative Food and Non-Food Visual Stimuli	5279-5282
Kuoppa, Pekka <i>Univ. of Eastern Finland</i> ; Tarvainen, Mika* <i>Univ. of Eastern Finland</i> ; Karhunen, Leila <i>Univ. of Eastern Finland</i> ; Närväinen, Johanna <i>VTT Technical Research Centre of Finland</i>	
15:30-17:00	ThCT17.4
Socioeconomic Status, Age and Heart Rate Variability in a Bangladeshi Community	5283-5285
Trisha, Nishat <i>Charles Sturt Univ.</i> ; Jelinek, Herbert Franz <i>Charles Sturt Univ.</i> ; Tarvainen, Mika* <i>Univ. of Eastern Finland</i> ; Cornforth, David John <i>Univ. of Newcastle</i> ; Alam, Dewan <i>York Univ.</i> ; Smith, Megan <i>Charles Sturt Univ.</i>	
15:30-17:00	ThCT17.5
Evaluation of Lung Ventilation Distribution in Chronic Obstructive Pulmonary Disease Patients using the Global Inhomogeneity Index	5286-5289
Trenk, Felipe <i>Univ. of Coimbra</i> ; Mendes, Luis <i>Univ. of Coimbra</i> ; de Carvalho, Paulo* <i>Univ. of Coimbra – NIF</i> ; Paiva, Rui Pedro <i>Univ. of Coimbra</i> ; Teixeira, César <i>Univ. of Coimbra</i> ; Maglaveras, Nikolaos <i>Aristotle Univ. of Thessaloniki</i> ; Chouvarda, Ioanna <i>Aristotle Univ.</i> ; Tsara, Venetia <i>G.H. G.Papanikolaou, Thessaloniki Greece</i> ; Henriques, Jorge <i>Univ. of Coimbra – NIF</i>	
15:30-17:00	ThCT17.6
Comparing Glucose and Insulin Data from the Two-Hour Oral Glucose Tolerance Test in Metabolic Syndrome Subjects and Marathon Runners	5290-5293
Altuve, Miguel* <i>Pontifical Bolivarian Univ.</i> ; Perpinan, Gilberto <i>USB</i> ; Severeyn Varela, Erika <i>Univ. Simón Bolívar</i> ; Wong C, Sara <i>Univ. Simon Bolivar</i>	
15:30-17:00	ThCT17.7
An Affordable Cuff-Less Blood Pressure Estimation Solution	5294-5297
Jain, Monika <i>Indraprastha Institute of Information Technology, Delhi</i> ; Kumar, Niranjana <i>Indraprastha Institute of Information Technology, Delhi</i> ; Deb, Sujay* <i>Indraprastha Institute of Information Technology, Delhi</i>	
15:30-17:00	ThCT17.8
Skin Mounted Accelerometer System for Measuring Knee Range of Motion	5298-5302
McGinnis, Ryan S. <i>MC10, Inc.</i> ; Patel, Shyamal <i>MC10, Inc.</i> ; Silva, Ikaro <i>Massachusetts Institute of Technology</i> ; Mahadevan, Nikhil <i>MC10, Inc.</i> ; DiCristofaro, Steve <i>MC10, Inc.</i> ; Jortberg, Elise <i>MC10, Inc.</i> ; Ceruolo, Melissa <i>MC10, Inc.</i> ; Aranyosi, AJ* <i>MC10, Inc.</i>	
15:30-17:00	ThCT17.9
Estimation of Muscle Fatigue by Ratio of Mean Frequency to Average Rectified Value from Surface Electromyography	5303-5306
Fernando, Jeffrey Bonar* <i>Panasonic Corporation</i> ; Yoshioka, Mototaka <i>Panasonic Corporation</i> ; Ozawa, Jun <i>Panasonic Corporation</i>	
15:30-17:00	ThCT17.10
Towards Detection of Sleep Apnea Events by Combining Different Non-Contact Measurement Modalities	5307-5310
Javaid, Abdul Qadir* <i>Georgia Institute of Technology</i> ; Noble, Carlo <i>Neurotrials Research</i> ; Rosenberg, Russell <i>Atlanta School of Sleep Medicine and Technology</i> ; Weitnauer, Mary Ann <i>Georgia Institute of Technology</i>	
15:30-17:00	ThCT17.11
Bayesian Gaussian Processes for Identifying the Deteriorating Patient	5311-5314
Colopy, Glen Wright* <i>Univ. of Oxford</i> ; Pimentel, Marco A.F. <i>Univ. of Oxford</i> ; Roberts, Stephen <i>Univ. of Oxford</i> ; Clifton, David <i>Univ. of Oxford</i>	

15:30-17:00	ThCT17.12
Monitoring of Paces and Gaits using Binary PIR Sensors with Rehabilitation Treadmill	5315-5318
Lu, Jiang* <i>Univ. of Houston – Clear Lake</i> ; Zhang, Ting <i>The Univ. of Alabama</i> ; Sun, Qingquan <i>California State Univ. San Bernardino</i> ; Kadiwal, Sanobar <i>Univ. of Houston, clear lake</i> ; Unwala, Ishaq <i>Univ. of Houston – Clear Lake</i> ; Hu, Fei <i>the Univ. of Alabama</i>	
15:30-17:00	ThCT17.13
Detection of Fetal Kicks using Body-Worn Accelerometers during Pregnancy: Trade-Offs between Sensors Number and Positioning	5319-5322
Altini, Marco* <i>Bloom Technologies, USA – ACTLab, Univ. of Passau, DE</i> ; Mullan, Patrick Johannes <i>Digital Sports Group, Pattern Recognition Lab, Friedrich-Alexand</i> ; Rooijackers, Michael Johannes <i>Eindhoven Univ. of Technology</i> ; Gradl, Stefan <i>Friedrich-Alexander Univ. Erlangen-Nürnberg (FAU)</i> ; Penders, Julien <i>Bloom Technologies</i> ; Nele, Geusens <i>Dept. of Future Health, Ziekenhuis Oost-Limburg, Genk, BE</i> ; Grieten, Lars <i>Holst-IMEC</i> ; Eskofier, Bjoern M <i>Friedrich-Alexander-Univ. Erlangen-Nürnberg</i>	
15:30-17:00	ThCT17.14
A Preliminary Study of a Running Speed based Heart Rate Prediction during an Incremental Treadmill Exercise	5323-5326
Jang, Dae-Geun* <i>Samsung Advanced Institute of Technology</i> ; Ko, Byung-Hoon <i>Samsung Advanced Institute of Technology</i> ; Sunoo, Sub <i>Kyung Hee Univ.</i> ; Nam, Sang-Seok <i>Kyunghee Univ.</i> ; Park, Hun-Young <i>Kyung Hee Univ.</i> ; Bae, Sang Kon <i>Samsung Advanced Inst of Tech</i>	
15:30-17:00	ThCT17.15
GPU based Cloud System for High-Performance Arrhythmia Detection with Parallel K-NN Algorithm	5327-5330
Jun, Tae Joon* <i>KAIST</i> ; Park, Hyun Ji <i>KAIST</i> ; Yoo, Hyuck <i>KAIST</i> ; KIM, Young-Hak <i>Asan Medical Center, Univ. of Ulsan College of Medicine</i> ; Kim, Daeyoung <i>KAIST</i>	
15:30-17:00	ThCT17.16
An Efficient ECG Baseline Removal Filter based on Frequency Response Masking Technique for Wearable Applications	5331-5334
Liu, Boxiao <i>Shanghai Jiao Tong Univ.</i> ; Wang, Guoxing <i>Shanghai Jiao Tong Univ.</i> ; Lian, Yong* <i>York Univ.</i>	
15:30-17:00	ThCT17.17
Bivariate Autoregressive State-Space Modeling of Psychophysiological Time Series Data	5335-5338
Smith, Daniel M.* <i>The Univ. of Rhode Island</i> ; Abtahi, Mohammadreza <i>Univ. of Rhode Island</i> ; Amiri, Amir Mohammad <i>Univ. of Rhode Island</i> ; Mankodiya, Kunal <i>Univ. of Rhode Island</i>	
15:30-17:00	ThCT17.18
Heart Activity Monitoring using 3D Hologram based on Smartphone	5339-5342
Thap, Tharoeun <i>Wonkwang Univ. School of Medicine</i> ; Chung, Heewon <i>Wonkwang Univ. School of Medicine</i> ; Lee, Jinseok* <i>Wonkwang Univ. School of Medicine</i>	
15:30-17:00	ThCT17.19
AUDIS Wear: A Smartwatch based Assistive Device for Ubiquitous Awareness of Environmental Sounds	5343-5347
Mielke, Matthias* <i>Univ. of Siegen</i> ; Brück, Rainer <i>Univ. of Siegen</i>	
15:30-17:00	ThCT17.20
A Home Automation based Environmental Sound Alert for People Experiencing Hearing Loss	5348-5351
Mielke, Matthias* <i>Univ. of Siegen</i> ; Brück, Rainer <i>Univ. of Siegen</i>	
15:30-17:00	ThCT17.21
A Telepresence Wheelchair using Cellular Network Infrastructure in Outdoor Environments	5352-5355
Ha, Van Kha Ly* <i>Univ. of Technology, Sydney</i> ; Nguyen, Tuan Nghia <i>Univ. of Technology, Sydney</i> ; Nguyen, Hung T. <i>Univ. of Technology, Sydney</i>	
15:30-17:00	ThCT17.22
Can We Make a Carpet Smart Enough to Detect Falls?	5356-5359
Muheidat, Fadi* <i>Univ. of Missouri</i> ; Tyrer, Harry <i>Univ. of Missouri – Columbia</i>	

15:30-17:00	ThCT17.23
Doorstep: A Doorbell Security System for the Prevention of Doorstep Crime	5360-5363
Ennis, Andrew* <i>Ulster Univ.</i> ; Cleland, Ian <i>Univ. of Ulster</i> ; Patterson, Timothy <i>Univ. of Ulster</i> ; Nugent, Chris <i>Univ. of Ulster</i> ; Cruciani, Federico <i>I+ s.r.l.</i> ; Paggetti, Cristiano <i>Medea</i> ; Morrison, Gareth <i>The Lava Group</i> ; Taylor, Richard <i>ISARC</i>	
15:30-17:00	ThCT17.24
ALZCARE: An Information System for Screening, Management and Tracking of Demented Patients	5364-5367
Protopappas, Vasilios C. <i>Univ. of Patras</i> ; Tsiouris, Kostas <i>Biomedical Engineering Laboratory, School of Electrical and Comp</i> ; Chondrogiorgi, Maria <i>Univ. of Ioannina</i> ; Tsiirwnis, Christos <i>Dept. of Neurology, Medical School, Univ. of Ioannina, Ioan</i> ; Konitsiotis, Spiros <i>Medical School, Univ. of Ioannina</i> ; Fotiadis, Dimitrios I.* <i>Univ. of Ioannina</i>	
15:30-17:00	ThCT17.25
Balance Quality Assessment as an Early Indicator of Physical Frailty in Older People	5368-5371
Chkeir, Aly* <i>Univ. of Technology of Troyes</i> ; Duchêne, Jacques <i>UTT</i> ; Hewson, David J. <i>Univ. de Technologie de Troyes</i> ; Safieddine, Doha <i>UTT</i> ; Novella, Jean-Luc <i>CHU-Reims</i> ; Drame, Moustapha <i>CHU-Reims</i> ; Collart, Michele <i>CH-Troyes</i> ; Bera, D. <i>Prevention Center "Les Arcades"</i>	
15:30-17:00	ThCT17.26
Location-Aware Distributed File Allocation for Low-Delay Access to Electronic Medical Records	5372-5375
Chen, Ziyang* <i>King's College London</i> ; Shikh-Bahaei, Mohammad <i>King's College London</i>	
15:30-17:00	ThCT17.27
GISTeamed: An Online-Based GIS Approach to Epidemiological Analysis in Telemedicine Systems	5376-5379
de Souza Inacio, Andrei* <i>Postgraduate Program in Computer Science, Federal Univ. of</i> ; Savaris, Alexandre <i>Telemedicine Laboratory, Brazilian Institute for Digital Conver</i> ; Alves, Joao Marcus <i>Postgraduate Program in Computer Science, Federal Univ. of</i> ; von Wangenheim, Aldo <i>Postgraduate Program in Computer Science, Federal Univ. of</i>	
15:30-17:00	ThCT17.28
Mobile Teleradiology System Suitable for Mhealth Services Supporting Content and Semantic based Image Retrieval on a Grid Infrastructure	5380-5383
La Cruz, Alexandra* <i>Univ. de Cuenca</i> ; Medina, Rubén <i>Univ. de Cuenca</i> ; Francisco, Vega <i>Univ. de Cuenca</i> ; Pérez, Wilson <i>Univ. de Cuenca</i> ; Ochoa Montoya, Blanca <i>Cruzcaya Univ. Tecnica Particular de Loja</i> ; Saquicela, Victor <i>Univ. de Cuenca</i> ; Espinoza, Mauricio <i>Univ. de Cuenca</i> ; Solano Quinde, Lizandro <i>Univ. de Cuenca</i> ; Vidal, Maria-Esther <i>Univ. Simón Bolívar</i>	
15:30-17:00	ThCT17.29
The Effect of Data Exchange Protocols on Decision Support Systems for Heart Sounds	5384-5387
Gomes, Pedro Tiago* <i>Faculdade de Ciências da Univ. do Porto, Portugal</i> ; Faria, Sérgio <i>Faculdade de Ciências da Univ. do Porto</i> ; Coimbra, Miguel <i>Instituto de Telecomunicações / Univ. do Porto</i>	
15:30-17:00	ThCT17.30
Comparison between Users of a New Methodology for Heart Sound Auscultation	5388-5391
Castro, Ana <i>Univ. do Porto, Faculdade de Engenharia</i> ; Gomes, Pedro Tiago* <i>Faculdade de Ciências da Univ. do Porto, Portugal</i> ; Mattos, Sandra <i>UCMF – Unidade de Cardiologia e Medicina Fetal</i> ; Coimbra, Miguel <i>Instituto de Telecomunicações / Univ. do Porto</i>	
15:30-17:00	ThCT17.31
High Frame Rate Medical Quality Video Compression for Tele-EEG	5392-5396
Lambert, Laurent* <i>LIP6</i> ; Ahmed, Syed Zahid <i>Lip6</i> ; Hachicha, Khalil <i>UPMC</i> ; Pinna, Andrea <i>LIP6 UMR 7606, Univ. Pierre et Marie Curie, CNRS, Paris</i> ; Garda, Patrick <i>Univ. Pierre et Marie Curie – Paris 6</i>	
15:30-17:00	ThCT17.32
Prototyping Context-Aware Nursing Support Mobile System	5397-5400
Esashi, Misa* <i>Kyoto Univ.</i> ; Nakano, Tomohiro <i>Kinki Univ.</i> ; Onose, Nao <i>Kinki Univ.</i> ; Sato, Kikue <i>Kyoto Univ.</i> ; Hikita, Tomoko <i>Kyoto Univ. Hospital</i> ; Houya, Reiko <i>Kyoto Univ. Hospital</i> ; Okamoto, Kazuya <i>Kyoto Univ. Hospital</i> ; Ohboshi, Naoki <i>Kinki Univ.</i> ; Kuroda, Tomohiro <i>Kyoto Univ.</i>	

15:30-17:00	ThCT17.33
A Unified Grid-Based Wandering Pattern Detection Algorithm	5401-5404
Kumar, Ashish* <i>Nanyang Technological Univ.</i> ; Lau, Chiew Tong <i>Nanyang Technological Univ.</i> ; Chan, Syin <i>Nanyang Technological Univ.</i> ; Ma, Maode <i>Nanyang Technological Univ.</i> ; Kearns, William <i>Univ. of South Florida</i>	
15:30-17:00	ThCT17.34
A Hybrid Rule and Machine Learning based Generic Alerting Platform for Smart Environments	5405-5408
Rafferty, Joseph* <i>Univ. of Ulster</i> ; Synnott, Jonathan <i>Univ. of Ulster</i> ; Nugent, Chris <i>Univ. of Ulster</i>	
15:30-17:00	ThCT17.35
Accuracy Evaluation of the Kinect v2 Sensor during Dynamic Movements in a Rehabilitation Scenario	5409-5412
Capecci, Marianna <i>Univ. Politecnica delle Marche</i> ; Ceravolo, Maria Gabriella <i>Dept. of Experimental and Clinical Medicine, Univ. Pol</i> ; Ferracuti, Francesco <i>Univ. Politecnica delle Marche</i> ; Iarlori, Sabrina <i>Univ. Politecnica delle Marche</i> ; Longhi, Sauro <i>Univ. Politecnica delle Marche</i> ; Romeo, Luca* <i>Univ. Politecnica delle Marche</i> ; Russi, Severino Nicola <i>Univ. Politecnica delle Marche</i> ; Verdini, Federica <i>Univ. Politecnica delle Marche</i>	
15:30-17:00	ThCT17.36
Detection of Workplace Sedentary Behavior using Thermal Sensors	5413-5416
Synnott, Jonathan* <i>Univ. of Ulster</i> ; Rafferty, Joseph <i>Univ. of Ulster</i> ; Nugent, Chris <i>Univ. of Ulster</i>	
15:30-17:00	ThCT17.37
Tracking Driver's Heart Rate by Continuous-Wave Doppler Radar	5417-5420
Lee, Kwang Jin <i>Gwangju Institute of Science and Technology (GIST)</i> ; Park, Chanki <i>Gwangju Institute of Science and Technology</i> ; Lee, Boreom* <i>Gwangju Institute of Science and Technology (GIST)</i>	
15:30-17:00	ThCT17.38
Dermatological Tracking of Chronic Acne Treatment Effectiveness	5421-5426
Lucut, Sergiu <i>Univ. of Calgary</i> ; Smith, Michael* <i>Univ. of Calgary</i>	

Friday, 19 August 2016

FrAT1: 08:00-09:30	Fantasia A
Sensory Neuroprostheses (Oral Session)	
Chair: Lovell, Nigel H. <i>Univ. of New South Wales</i>	
Co-Chair: Suaning, Gregg <i>The Univ. of New South Wales</i>	
08:00-08:15	FrAT1.1
Development of Bone-Conduction Mobile Phones: Assessment of Hearing Mechanisms by Measuring Psychological Characteristics and Acoustical Properties in the Outer Ear Canal	5427-5430
Nakagawa, Seiji* <i>Chiba Univ.</i> ; Hotehama, Takuya <i>National Institute of Advanced Industrial Science and Technology</i> ; Ito, Kazuhito <i>National Institute of Advanced Industrial Science and Technology</i> ; Inagaki, Tomohiro <i>Kyocera Corp</i>	
08:15-08:30	FrAT1.2
Tuning Electrical Stimulation for Thalamic Visual Prosthesis: An Autoencoder-Based Approach	5431-5434
Jawwad, Amr <i>Ain Shams Univ.</i> ; Abolfotuh, Hossam H. <i>Ain Shams Univ.</i> ; Abdullah, Bassem <i>Ain Shams Univ.</i> ; Mahdi, Hani <i>Ain Shams Univ.</i> ; Eldawlatly, Seif* <i>Ain Shams Univ.</i>	
08:30-08:45	FrAT1.3
Cortical Responses Following Simultaneous and Sequential Retinal Neurostimulation with Different Return Configurations	5435-5438
Barriga-Rivera, Alejandro <i>Univ. of New South Wales</i> ; Morley, John William <i>Univ. of Western Sydney</i> ; Lovell, Nigel H. <i>Univ. of New South Wales</i> ; Suaning, Gregg* <i>The Univ. of New South Wales</i>	
08:45-09:00	FrAT1.4
Influence of Force Feedback on Grasp Force Modulation in Prosthetic Applications: A Preliminary Study ...	5439-5442
Godfrey, Sasha Blue* <i>Istituto Italiano di Tecnologia</i> ; Bianchi, Matteo <i>Univ. of Pisa</i> ; Bicchi, Antonio <i>Univ. of Pisa</i> ; Santello, Marco <i>Arizona State Univ.</i>	

09:00-09:15 FrAT1.5
Eye Movements as a Marker for Visual Prosthesis Spatial Mapping – A Feasibility Study using a Blind Patient Implanted with the Argus II Retinal Prosthesis 5443-5446
 Caspi, Avi* *JCT – Lev Academic Center, Dorn, Jessy Second Sight Medical Products; Helder, John Johns Hopkins Univ. Applied Physics Laboratory; Katyal, Kapil Johns Hopkins Univ. Applied Physics Laboratory; Roy, Arup Second Sight Medical Products, Inc.*

09:15-09:30 FrAT1.6
A Computational Model of Orientation-Dependent Activation of Retinal Ganglion Cells 5447-5450
 Esler, Timothy Bede* *NeuroEngineering Laboratory, The Univ. of Melbourne; Burkitt, Anthony Neville The Univ. of Melbourne; Grayden, David B. The Univ. of Melbourne; Kerr, Robert IBM Research Australia; Tahayori, Bahman Univ. of Melbourne; Meffin, Hamish National ICT Australia*

FrAT2: 08:00-09:30 Fantasia B
Motor Learning, Neural Control, and Neuromuscular Systems (Oral Session)
 Chair: Mirbagheri, Mehdi *Northwestern Univ./RIC*

08:00-08:15 FrAT2.1
MRI Measures of Fat Infiltration in the Lower Extremities Following Motor Incomplete Spinal Cord Injury: Reliability and Potential Implications for Muscle Activation 5451-5456
 Smith, Andrew Craig* *Northwestern Univ.;* Knikou, Maria *City Univ. of New York College of Staten Island;* Yelick, Katrina *Northwestern Univ.;* Alexander, Abigail *Northwestern Univ.;* Murnane, Margaret *Northwestern Univ.;* Kritselis, Andrew *Northwestern Univ.;* Houmpavlis, Paul *Northwestern Univ.;* McPherson, Jacob *Florida International Univ.;* Wasielewski, Marie *Northwestern Univ.;* Hoggarth, Mark *Northwestern Univ.;* Elliott, James *Northwestern Univ.*

08:15-08:30 FrAT2.2
Classification of Non-Weight Bearing Lower Limb Movements: Towards a Potential Treatment for Phantom Limb Pain based on Myoelectric Pattern Recognition 5457-5460
 Lendaro, Eva* *Chalmers Univ. of Technology; Ortiz-Catalan, Max Chalmers Univ. of Technology*

08:30-08:45 FrAT2.3
Numerical Simulation of Multipolar Configuration and Prepulse Technique to Obtain Spatially Reverse Recruitment Order 5461-5464
 DALI, Melissa* *INRIA, LIRMM, Univ. of Montpellier; Rossel, Olivier LIRMM – UMII/CNRS; Guiraud, David INRIA*

08:45-09:00 FrAT2.4
Can an Anti-Gravity Treadmill Improve Stability of Children with Cerebral Palsy? 5465-5468
 Moradi Birgani, Parmida *Tehran Univ. of Medical Sciences; Ashtiyani, Meghdad Faculty of Medicine, Shahid Beheshti Univ. of Medical Sciences; Rasooli, Amirhossein Tehran Univ. of Medical Sciences; Shahrokhnia, Maryam Noorafshar Hospital, Tehran, Iran; Shahrokhi, Amin Noorafshar Hospital, Tehran, Iran; Mirbagheri, Mehdi* Northwestern Univ./RIC*

09:00-09:15 FrAT2.5
Split-Belt Adaptation in Transtibial Amputees Walking with a Hybrid EMG Controlled Ankle-Foot Prosthesis 5469-5472
 Kannape, Oliver Alan* *Univ. of Central Lancashire; Herr, Hugh MIT*

09:00-09:15 FrAT2.5
The Correlation between Transcranial Magnetic Stimulation Parameters and Neuromuscular Properties in Children with Cerebral Palsy 5473-5476
 Marzbani, Hengameh *Tehran Univ. of Medical Sciences; Parvin, Shokoofeh Tehran Univ. of Medical Sciences; Amiri, Saba Tehran Univ. of Medical Sciences; Lotfian, Mahboube Tehran Univ. of Medical Sciences; Kharazi, Mohamad Reza Islamic Azad Univ., Science and Research Branch; Azizi, Shahla Dept. of Medical Physics and Biomedical Engineering; Mirbagheri, Mehdi* Northwestern Univ./RIC*

08:00-08:15 FrAT3.1
Reconstructing Multivariate Causal Structure between Functional Brain Networks through a Laguerre-Volterra based Granger Causality Approach 5477-5480
 Duggento, Andrea* *Univ. of Rome "Tor Vergata"*; Valenza, Gaetano *Univ. of Pisa-MGH-Harvard Medical School*; Passamonti, Luca *Univ. of Cambridge*; Guerrisi, Maria *Univ. of Rome "Tor Vergata"*; Barbieri, Riccardo *Politecnico di Milano*; Toschi, Nicola *Univ. of Rome "Tor Vergata", Faculty of Medicine*

08:15-08:30 FrAT3.2
Detecting Spatially Highly Resolved Network Modules: A Multi Subject Approach 5481-5484
 Pester, Britta* *Jena Univ. Hospital; Friedrich Schiller Univ. Jena*; de la Cruz, Feliberto *Dept. of Psychiatry, Jena Univ. Hospital, Friedrich Sc*; Bär, Karl-Jürgen *Friedrich-Schiller-Univ. of Jena*; Witte, Herbert *Jena Univ. Hospital Friedrich Schiller Univ.*; Leistritz, Lutz *Jena Univ. Hospital, Friedrich Schiller Univ. Jena*

08:30-08:45 FrAT3.3
A Time Domain Frequency-Selective Multivariate Granger Causality Approach 5485-5488
 Leistritz, Lutz* *Jena Univ. Hospital, Friedrich Schiller Univ. Jena*; Witte, Herbert *Jena Univ. Hospital Friedrich Schiller Univ.*

08:45-09:00 FrAT3.4
Multiscale Analysis of Information Dynamics for Linear Multivariate Processes 5489-5492
 Faes, Luca* *Univ. of Trento*; Montalto, Alessandro *Ghent Univ.*; Stramaglia, Sebastiano *Univ. of Bari, Italy, and INFN Sezione di Bari, Italy*; Nollo, Giandomenico *Univ. of Trento*; Marinazzo, Daniele *Faculty of Psychology and Educational Sciences, Dept. of Da*

09:00-09:15 FrAT3.5
Statistically Significant Time-Varying Neural Connectivity Estimation using Generalized Partial Directed Coherence 5493-5496
 Rodrigues, Pedro Luiz Coelho* *Escola Politécnica USP*; Baccala, Luiz Antonio *Escola Politecnica*

09:15-09:30 FrAT3.6
Brain-Heart Linear and Nonlinear Dynamics during Visual Emotional Elicitation in Healthy Subjects 5497-5500
 Valenza, Gaetano* *Univ. of Pisa-MGH-Harvard Medical School*; Greco, Alberto *Univ. of Pisa*; Gentili, Claudio *Univ. of Pisa*; Lanata, Antonio *Univ. of Pisa*; Toschi, Nicola *Univ. of Rome "Tor Vergata", Faculty of Medicine*; Barbieri, Riccardo *Politecnico di Milano*; Sebastiani, Laura *Univ. of Pisa, Pisa, Italy*; menicucci, danilo *National Research Council (CNR)*; Gemignani, Angelo *Univ. of Pisa*; Scilingo, Enzo Pasquale *Univ. of Pisa*

08:00-08:15 FrAT4.1
Differentiation of Spindle Associated Hippocampal HFOs based on a Correlation Analysis 5501-5504
 Lachner Piza, Daniel* *Univ. Medical Center Freiburg*; Bruder, Jonas C. *Univ. Medical Center Freiburg*; Jacobs, Julia *Montreal Neurological Institute*; Schulze-Bonhage, Andreas *Univ. Hospital Freiburg*; Stieglitz, Thomas *Univ. of Freiburg*; Dümpelmann, Matthias *Univ. Medical Center Freiburg*

08:15-08:30 FrAT4.2
Synchronization of Brain Activity during Induction of Propofol Anesthesia: Comparison of Methods 5505-5508
 Lipping, Tarmo* *Tampere Univ. of Technology*; Olejarczyk, Elzbieta *Polish Academy of Sciences*; Sonkajärvi, Eila *Univ. of Oulu*; Ylinen, Tuomo *Seinäjäki Neuromonitoring Research Group, Seinäjoki Central Hosp*; Jäntti, Ville *Seinäjäki Central Hospital and Tampere Univ. of Technology*; Saareleht, Jaanika *Tallinn Univ. of Technology*

08:30-08:45 FrAT4.3
Feasibility Study for the Assessment of Cardio-Respiratory Coupling in Newborn Infants 5509-5512
 Lucchini, Maristella* *Politecnico di Milano*; Fifer, William P. *Dept. of Psychiatry, Columbia Univ. College of Physici*; Ferrario, Manuela *Politecnico di Milano*; Signorini, Maria G. *Politecnico di Milano*

08:45-09:00 FrAT4.4
Mining Cross-Frequency Coupling Microstates from Resting State MEG: An Application to Mild Traumatic Brain Injury 5513-5516
 Antonakakis, Marios* *Technical Univ. of Crete*; Dimitriadis, Stavros *Aristotle Univ.*; Zervakis, Michalis *Technical Univ. of Crete, Greece*; Papanicolaou, Andrew *Univ. of Texas Medical School*; Zouridakis, George *Univ. of Houston*

09:00-09:15 FrAT4.5
Mining Cross-Frequency Coupling Microstates (CFC_μstates) from EEG Recordings during Resting State and Mental Arithmetic Tasks 5517-5520
 Dimitriadis, Stavros *Aristotle Univ.*; SUN, Yu *National Univ. of Singapore*; Thakor, Nitish *Johns Hopkins Univ.*; Bezerianos, Anastasios* *National Univ. of Singapore*

09:15-09:30 FrAT4.6
Cross-Frequency Coupling during Auditory Perception in Human Cortex 5521-5524
 Malinowska, Urszula* *Johns Hopkins Univ. School of Medicine*; Boatman-Reich, Dana *Johns Hopkins School of Medicine*

FrAT5: 08:00-09:30 Fantasia E
DTI (Oral Session)
Chair: Toschi, Nicola *Univ. of Rome*

08:00-08:15 FrAT5.1
Application of DTI Connectivity in Lateralization of MTL 5525-5528
 Nazem-Zadeh, Mohammad-Reza* *Henry Ford Hospital*; Bowyer, Susan M. *Henry Ford Health System*; Moran, John E *Henry Ford Health System*; Davoodi-Bojd, Esmaeil *Henry Ford Health System*; Zillgitt, Andrew *Henry Ford Health System*; Bagher-Ebadian, Hassan *Henry Ford Hospital, Oakland Univ.*; Mahmoudi, Fariborz *Henry Ford Health System*; Elisevich, Kost V. *Dept. of Clinical Neurosciences, Spectrum Health Medical Gr*; Soltanian-Zadeh, Hamid *Henry Ford Health System*

08:15-08:30 FrAT5.2
Single-Shot Turbo Spin Echo Acquisition for In Vivo Cardiac Diffusion MRI 5529-5532
 Edalati, Masoud* *Cincinnati Children's Hospital*; Lee, Gregory *Cincinnati Children's Hospital Medical Center*; Wang, Hui *Philips Medical Systems*; Taylor, Michael *Cincinnati Children's Hospital*; Li, Yu *Cincinnati Children's Hospital Medical Center*

08:30-08:45 FrAT5.3
Network Effects and Pathways in Deep Brain Stimulation in Parkinson's Disease 5533-5536
 Koirala, Nabin* *Johannes Gutenberg Univ., Dept. of Neurology Mainz*; Vinzenz, Fleischer *Dept. of Neurology, Johannes Gutenberg Univ., Mainz*; Granert, Oliver *Univ. of Kiel*; Gunther, Deuschl *Dept. of Neurology*; Muthuraman, Muthuraman *Christian Albrechts Univ.*; Sergiu, Groppa *Dept. of Neurology*

08:45-09:00 FrAT5.4
Enhanced Dual-Stage Correlated Diffusion Imaging 5537-5540
 Khalvati, Farzad* *Univ. of Toronto*; Zhang, Junjie *Sunnybrook Research Institute*; Haider, Masoom *Univ. of Toronto*; Wong, Alexander *Univ. of Waterloo*

09:00-09:15 FrAT5.5
Distribution-Aware Estimation of the Minimum Achievable Uncertainty in Diffusion-Tensor Imaging (DTI) 5541-5544
 Duggento, Andrea* *Univ. of Rome "Tor Vergata"*; Giannelli, Marco *Unit of Medical Physics, Pisa Univ. Hospital "Azienda Osped"*; Tessa, Carlo *Versilia Hospital, Azienda USL 12 Viareggio*; Lanzafame, Simona *Univ. of Rome "Tor Vergata"*; Guerrisi, Maria *Univ. of Rome "Tor Vergata"*; Toschi, Nicola *Univ. of Rome "Tor Vergata", Faculty of Medicine*

09:15-09:30 FrAT5.6
Short Association Bundle Atlas based on Inter-Subject Clustering from HARDI Data 5545-5549
 Román, Claudio *Univ. de Concepcion*; Guevara, Miguel* *Univ. of Concepcion*; Duclap, Delphine *I2BM, CEA-NeuroSpin*; Lebois, Alice *I2BM, Cea, NeuroSpin*; Poupon, Cyril *CEA I2BM NeuroSpin*; Mangin, Jean-François *CEA I2BM NeuroSpin*; Guevara, Pamela *Univ. of Concepción*

FrAT6: 08:00-09:30 Fantasia F
fMRI I (Oral Session)
Chair: Mitsis, Georgios D. *McGill Univ.*

08:00-08:15 FrAT6.1
Regional Brain Activity that Determines Successful and Unsuccessful Working Memory Formation 5550-5553
Teramoto, Shohei* *Graduate School of Science and Technology, Meiji Univ.*; Inaoka, Tsubasa *Graduate School of Science and Technology, Meiji Univ.*; Ono, Yumie *Meiji Univ.*

08:15-08:30 FrAT6.2
Measures of the Brain Functional Network that Correlate with Alzheimer's Neuropsychological Test Scores: An FMRI and Graph Analysis Study 5554-5557
Golbabaei, Soroosh *Univ. of Tehran*; Dadashi, Amin *Univ. of Tehran*; Soltanian-Zadeh, Hamid* *Univ. of Tehran*

08:30-08:45 FrAT6.3
Identifying the Effects of Visceral Interoception on Human Brain Connectome: A Multivariate Analysis of Covariance of FMRI Data 5558-5562
Jarrahi, Behnaz* *Univ. of California, Los Angeles*; Mantini, Dante *ETH*

08:45-09:00 FrAT6.4
Randomness in Resting State Functional Connectivity Matrices 5563-5566
Vergara, Victor Manuel* *The Mind Research Network*; Calhoun, Vince *The Mind Research Network/Univ. of New Mexico*

09:00-09:15 FrAT6.5
Tracking Intrinsic Connectivity Brain Network Features during Successive (Pseudo-) Resting States and Interoceptive Task FMRI 5567-5570
Jarrahi, Behnaz* *Univ. of California, Los Angeles*; Mantini, Dante *ETH*

09:15-09:30 FrAT6.6
The Chronnectome: Replicability of Dynamic Connectivity Patterns in 7500 Resting FMRI Datasets 5571-5574
Abrol, Anees* *Univ. of New Mexico, The Mind Research Network*; Chaze, Charlotte *The Mind Research Network*; Damaraju, Eswar *The Mind Research Network & LBERI, Albuquerque, New Mexico, USA*; Calhoun, Vince *The Mind Research Network/Univ. of New Mexico*

FrAT8: 08:00-09:30 Fantasia K
Computational Models of Cardiac Function (Oral Session)
Chair: Dokos, Socrates *Univ. of New South Wales*
Co-Chair: Krishnamurthy, Adarsh *Iowa State Univ.*

08:00-08:15 FrAT8.1
Whole Heart Modeling – Spatiotemporal Dynamics of Electrical Wave Conduction and Propagation 5575-5578
Yang, Hui* *The Pennsylvania State Univ.*; Chen, Yun *Univ. of South Florida*; Leonelli, Fabio *Univ. of South Florida and Veterans Administration Hospital*

08:15-08:30 FrAT8.2
Simulating the Effects of Growth and Fiber Dispersion on the Electromechanical Response of a Cardiac Ventricular Wedge Affected from Concentric Hypertrophy 5579-5582
Del Bianco, Fabrizio* *Univ. of Pavia*; Colli Franzone, Piero *Univ. of Pavia*; Scacchi, Simone *Univ. of Milano*; Fassina, Lorenzo *Univ. of Pavia*

08:30-08:45 FrAT8.3
3D Anatomical Reconstruction of Human Cardiac Conduction System and Simulation of Bundle Branch Block after TAVI Procedure 5583-5586
Atkinson, Andrew* *Univ. of Manchester*; Kharche, Sanjay *Univ. of Exeter*; Bateman, Michael *Univ. of Minnesota*; Iazzo, Paul *Univ. of Minnesota*; Dobrzynski, Halina *Univ. of Manchester*

08:45-09:00 FrAT8.4
Propagation of Parametric Uncertainty for the K⁺ Channel Model in Mouse Ventricular Myocytes 5587-5590
Du, Dongping* *Texas Tech Univ.*; Du, Yuncheng *Clarkson Univ.*

09:00-09:15 FrAT8.5
Analysis of a Cardiovascular Model for the Study of the Autonomic Response of Brugada Syndrome Patients 5591-5594
 Calvo, Mireia* *Univ. de Rennes 1*; Le Rolle, Virginie *Univ. of Rennes 1*; Romero Pérez, Daniel *Univ. de Rennes 1*; Béhar, Nathalie *Univ. de Rennes 1*; Gomis, Pedro *Technical Univ. of Catalonia*; Mabo, Philippe *Univ. de Rennes 1*; Hernández, Alfredo I *Univ. of Rennes 1 and INSERM U1099*

09:15-09:30 FrAT8.6
Hybrid Automata Models of Cardiac Ventricular Electrophysiology for Real-Time Computational Applications 5595-5598
 Andalam, Sidartha *Univ. of Auckland*; Ramanna, Harshavardhan *Univ. of Auckland*; Malik, Avinash *Univ. of Auckland*; Roop, Parthasarathi *Univ. of Auckland*; Patel, Nitish *Univ. of Auckland*; Trew, Mark L.* *Univ. of Auckland*

FrAT9: 08:00-09:30	Fantasia L
Decision Support Methods and Systems 1 (Oral Session)	

08:00-08:15 FrAT9.1
Revealing Oral Medication Patterns from Reconstructed Long-Term Medication History of Type 2 Diabetes 5599-5603
 Khotimah, Purnomo Husnul* *Kyoto Univ.*; Sugiyama, Yuichi *Kyoto Univ.*; Yoshikawa, Masatoshi *Kyoto Univ.*; Hamasaki, Akihiro *Tazuke Kofukai Medical Institute Kitano Hospital*; Okamoto, Kazuya *Kyoto Univ. Hospital*; Kuroda, Tomohiro *Kyoto Univ.*

08:15-08:30 FrAT9.2
Impact of Prostate Biopsy Tumor Amount on Imaging based Prognostics Employing Transductive Semi-Supervised Regression 5604-5607
 Khan, Faisal* *Rutgers, The State Univ. of New Jersey*; Kulikowski, Casimir *Rutgers Univ.*

08:30-08:45 FrAT9.3
Measuring the Intuitive Response of Users When Faced with Different Interactive Paradigms to Control a Gastroenterology CAD System 5608-5611
 Abrantes, Diogo José Monteiro Morgado *Instituto de Telecomunicações*; Gomes, Pedro Tiago* *Faculdade de Ciências da Univ. do Porto, Portugal*; Pereira, Daniel *Faculty of Medicine, Univ. of Porto*; Coimbra, Miguel *Instituto de Telecomunicações / Univ. do Porto*

08:45-09:00 FrAT9.4
Predicting Short-Term ICU Outcomes using a Sequential Contrast Motif based Classification Framework 5612-5615
 Ghosh, Shameek* *Advanced Analytics Institute, FEIT, Univ. of Technology Syd*; Nguyen, Hung T. *Univ. of Technology, Sydney*; Li, Jinyan *Univ. of Technology Sydney (UTS), Australia*

09:00-09:15 FrAT9.5
Tooth Separation from Dental Model using Segmentation Field 5616-5619
 Wang, Hao *Huazhong Univ. of Science and Technology*; Li, Zhongyi* *Huazhong Univ. of Science and Technology*

09:15-09:30 FrAT9.6
An Analytics based Clinical Decision Support System for CVD Risk Assessment and Management 5620-5623
 Anand, Shreya *Philips Research India*; Balasheb Patil, Ravindra* *Philips Research India*; Palanisamy, Krishnamoorthy *Philips India Limited*

FrAT10: 08:00-09:30	Fantasia M
Advances through Digital Health Literacy towards the Patient Empowerment (Oral Session)	
Chair: Traver, Vicente <i>ITACA – Univ. Politècnica de València</i>	

08:00-08:15 FrAT10.1
Blood Hero: An Application for Encouraging the Blood Donation by Applying Gamification 5624-5627
 Bezerra Soares, Heliana* *Federal Univ. of Rio Grande do Norte*; Diniz, Anthony *Federal Univ. of Rio Grande do Norte*; Cunha Lima Domingos, Daniela *Federal Univ. of Rio Grande do Norte*; Fonseca Messias, Thiago *Federal Univ. of Rio Grande do Norte*; Soares Gadelha de Lima, Luis Felipe *Federal Univ. of Rio Grande do Norte*; de Lima Feijo, José Vinícius *Federal Univ. of Rio Grande do Norte*

08:15-08:30	FrAT10.2
A Tunable Digital Ishihara Plate for Pre-School Aged Children	5628-5631
Gambino, Orazio* <i>Univ. degli Studi di Palermo</i> ; Minafo, Ester <i>Psicoterapeuta</i> ; Pirrone, Roberto <i>Univ. degli studi di Palermo</i> ; Ardizzone, Edoardo <i>Univ. degli studi di Palermo</i>	
08:30-08:45	FrAT10.3
Support and Rehabilitation of Patients with Pulmonary Expansion Deficit by using Game Therapy	5632-5635
Bezerra Soares, Heliana* <i>Federal Univ. of Rio Grande do Norte</i> ; Diniz, Anthony <i>Federal Univ. of Rio Grande do Norte</i> ; Santana Chacon, Pablo Filipe <i>Federal Univ. of Rio Grande do Norte</i> ; Ferreira Schon, Caroline <i>Federal Univ. of Rio Grande do Norte</i> ; Albuquerque Maia Signoretta, Gabriel Lucas <i>Federal Univ. of Rio Grande do Norte</i> ; Lourenço Acioly Furtado, Victor Hugo <i>Federal Univ. of Rio Grande do Norte</i> ; Pereira de Oliveira, Josiel Patricio <i>Federal Univ. of Rio Grande do Norte</i> ; Ribeiro, Anna Giselle <i>Univ. Federal do Rio Grande do Norte</i> ; D. Vilar Wanderley, Caroline <i>Univ. Federal do Rio Grande do Norte (UFRN)</i>	
08:45-09:00	FrAT10.4
Lessons Learnt from MOOCs about How Social Media can Improve Digital Health Literacy	5636-5639
Atique, Suleman <i>Taipei Medical Univ., Taiwan</i> ; Hosueh, Mowafa <i>Dept. of Health Informatics, College of Public Health and H</i> ; Luque, Luis <i>Qatar Computing Research Institute, Hamad bin Khalifa Univ.</i> ; Gabarron, Elia <i>Norwegian Center for eHealth Research, Univ. Hospital of Nor</i> ; Wan, Marian <i>Taipei Medical Univ., Taiwan</i> ; Singh, Onkar <i>Taipei Medical Univ.</i> ; Traver, Vicente* <i>ITACA – Univ. Politècnica de València</i> ; Li, Jack <i>Taipei Medical Univ., Taiwan</i> ; Shabbir, Syed-Abdul <i>Taipei Medical Univ., Taiwan</i>	
09:00-09:15	FrAT10.5
Addressing Drug-Drug and Drug-Food Interactions through Personalized Empowerment Services for Healthcare	5640-5643
Spanakis, Marios <i>Post Doc</i> ; Spanakis, Emmanouil G.* <i>Foundation for Research and Technology – Hellas (FORTH)</i> ; Kondylakis, Haridimos <i>Foundation for Research and Technology – Hellas</i> ; Sfakianakis, Stelios <i>Foundation for Research and Technology Hellas</i> ; Genitsaridi, Iirini <i>Phd Student</i> ; Sakkalis, Vangelis <i>ICS-FORTH</i> ; Tsiknakis, Manolis <i>ICS-FORTH</i> ; Marias, Kostas <i>Foundation for Res. & Tech. Hellas</i>	
09:15-09:30	FrAT10.6
Experiences of a General Practitioner in the Daily Practice about Digital Health Literacy. the Real Needs	5644-5647
Traver, Manuel <i>ITACA – Univ. Politècnica de València</i> ; Basagoiti, Ignacio <i>ITACA – Univ. Politècnica de València</i> ; Martínez-Millana, Antonio <i>Univ. Politècnica de Valencia</i> ; Fernandez-Llatas, Carlos <i>Univ. Politècnica de Valencia</i> ; Traver, Vicente* <i>ITACA – Univ. Politècnica de València</i>	
FrAT11: 08:00-09:30	Fantasia N
Computer Simulation (Oral Session)	
Chair: Wenger, Cornelia <i>Faculdade de Ciências, Univ. de Lisboa</i>	
Co-Chair: Almekkawy, Mohamed <i>Penn State Univ.</i>	
08:00-08:15	FrAT11.1
Nonlinear 3-D Simulation of High-Intensity Focused Ultrasound Therapy in the Kidney	5648-5651
Suomi, Visa* <i>Univ. of Oxford</i> ; Jaros, Jiri <i>Brno Univ. of Technology</i> ; Treeby, Bradley E. <i>Univ. College London</i> ; Cleveland, Robin <i>Univ. of Oxford</i>	
08:30-08:45	FrAT11.3
An Innovative Therapy for Peri-Implantitis based on Radio Frequency Electric Current: Numerical Simulation Results and Clinical Evidence	5652-5655
Gloria, Cosoli* <i>Univ. Politecnica delle Marche</i> ; Scalise, Lorenzo <i>Univ. Politecnica delle Marche</i> ; Tricarico, Gerardo <i>Univ. del Piemonte Orientale</i> ; Tomasini, Enrico <i>Univ. Politecnica delle Marche</i> ; Cerri, Graziano <i>Univ. Politecnica delle Marche</i>	
08:45-09:00	FrAT11.4
Experimental Validation of Neutron Activation Simulation of a Varian Medical Linear Accelerator	5656-5659
Morató, Sergio <i>Institute for Industrial, Radiophysical and Environmental Safety</i> ; Juste, Belen* <i>Polytechnic Univ. of Valencia</i> ; Miró, Rafael <i>Polytechnic Univ. of Valencia</i> ; Verdú, Gumersindo <i>Polytechnic Univ. of Valencia</i> ; Díez, Sergio <i>Hospital Clínic de València</i>	

09:00-09:15 FrAT11.5
A Numerical and Experimental Study of Acoustic Micromixing in 3D Microchannels for Lab-on-a-Chip Devices 5660-5663
 Catarino, Susana* *Univ. of Minho*; Pinto, Vania *Univ. of Minho*; Sousa, Paulo *Univ. of Minho*; Lima, Rui A. *Univ. of Minho*; Miranda, Joao Mario *Univ. of Minho*; Minas, Graca *Univ. of Minho*

09:15-09:30 FrAT11.6
Simplified Realistic Human Head Model for Simulating Tumor Treating Fields (TTFields) 5664-5667
 Wenger, Cornelia* *Faculdade de Ciências, Univ. de Lisboa*; Bomzon, Ze'ev *Novocure*; Salvador, Ricardo *Institute of Biophysics and Biomedical Engineering (IBEB), Univ.*; Basser, Peter *NIH*; Miranda, Pedro Cavaleiro *Faculdade de Ciências, Univ. de Lisboa*

FrAT12: 08:00-09:30	Fantasia P
Methodologies in Human Movement Analysis – Upper Limb (Oral Session)	

08:00-08:15 FrAT12.1
Estimation of Joint Center and Measurement of Finger Motion by Inertial Sensors 5668-5671
 Kitano, Keisuke* *Doshisha Univ.*; Ito, Akihito *Doshisha Univ.*; Tsujiuchi, Nobutaka *Doshisha Univ.*; Wakida, Shigeru *Tecgihan Co., Ltd.*

08:15-08:30 FrAT12.2
Human-Robot Collaborated Path Planning for Bevel-Tip Needle Steering in Simulated Human Environment 5672-5675
 Xiong, Jing *Shenzhen Institutes of Advanced Technology, Chinese Academy of S*; Xia, Zeyang* *Shenzhen Institutes of Advanced Technology, Chinese Academy of S*; Gan, Yangzhou *Shenzhen Institutes of Advanced Technology, Chinese Academy of S*

08:30-08:45 FrAT12.3
Upper Limb Kinematics of Adults with Cerebral Palsy on Bilateral Functional Tasks 5676-5679
 Lott, Carina *Univ. of Pennsylvania*; Johnson, Michelle* *Univ. of Pennsylvania*

08:45-09:00 FrAT12.4
Classification of Forearm and Finger Motions using Electromyogram and Arm-Shape-Changes 5680-5683
 Kamei, Yuhei* *Kinki Univ.*; Okada, Shima *Faculty of Science and Engineering, Kinki Univ.*

09:00-09:15 FrAT12.5
A Fresh Perspective on Dissecting Action into Discrete Submotions 5684-5688
 Horowitz, Justin* *Univ. of Illinois at Chicago, Rehabilitation Institute of Ch*; Abdel Majeed, Yazan *Univ. of Illinois at Chicago*; Patton, James (Jim) *Rehab Institute of Chicago & U. of Illinois at Chicago*

FrAT13: 08:00-09:30	Fantasia Q
Neural Sensing (Oral Session)	
Chair: Besio, W.G. <i>Univ. of Rhode Island</i>	
Co-Chair: Palmer, Jeffrey <i>MIT Lincoln Laboratory</i>	

08:00-08:15 FrAT13.1
Reference Configurations for Ear-EEG Steady-State Responses 5689-5692
 Kappel, Simon Lind* *Aarhus Univ., Denmark*; Christensen, Christian Bech *Aarhus Univ.*; Mikkelsen, Kaare *Univ. of Aarhus*; Kidmose, Preben *Aarhus Univ., Denmark*

08:15-08:30 FrAT13.2
Developing a One-Channel BCI System using a Dry Claw-Like Electrode 5693-5696
 Guo, Xuhong *Institute of Semiconductors, CAS*; Pei, Weihua *Institute of semiconductors, CAS*; Wang, Yijun* *Institute of Semiconductors, Chinese Academy of Sciences*; Gui, Qiang *Institute of Semiconductors, CAS*; Zhang, He *Institute of Semiconductors, CAS*; Xing, Xiao *Institute of Semiconductors, CAS*; Huang, Yong *Institute of Semiconductors, Chinese Academy of Sciences*; Chen, Hongda *institute of semiconductors, CAS*; Liu, Ruicong *Institute of Semiconductors, CAS*; Liu, Yuanyuan *Institute of Semiconductors, CAS*

08:30-08:45	FrAT13.3
Ear-EEG Allows Extraction of Neural Responses in Challenging Listening Scenarios – A Future Technology for Hearing Aids?	5697-5700
Fiedler, Lorenz <i>Univ. of Lübeck</i> ; Obleser, Jonas <i>Univ. of Lübeck</i> ; Lunner, Thomas <i>Eriksholm Research Centre – part of Oticon</i> ; Graversen, Carina* <i>Aalborg Univ. Hospital, Aalborg, Denmark</i>	
08:45-09:00	FrAT13.4
Novel Dry Electrodes for Recording Electrodermal Activity	5701-5704
Posada-Quintero, Hugo Fernando* <i>Univ. of Connecticut</i> ; Rood, Ryan <i>Univ. of Connecticut</i> ; Noh, Yeon Sik <i>Univ. of Connecticut</i> ; Burnham, Ken <i>FLEXcon Company, Inc.</i> ; Pennace, John <i>FLEXcon Company, Inc.</i> ; Chon, Ki <i>Univ. of Connecticut</i>	
09:00-09:15	FrAT13.5
Modular Multipin Electrodes for Comfortable Dry EEG	5705-5708
Fiedler, Patrique* <i>Ilmenau Univ. of Technology</i> ; Strohmeier, Daniel <i>Ilmenau Univ. of Technology, Institute of Biomedical Engine</i> ; Hunold, Alexander <i>Technische Univ. Ilmenau</i> ; Griebel, Stefan <i>Ilmenau Univ. of Technology, Dept. of Mechanism Techno</i> ; Mühle, Richard <i>Technische Univ. Ilmenau, Institut für Biomedizinische Tec</i> ; Schreiber, Maria <i>Technische Univ. Ilmenau, Institut für Biomedizinische Tec</i> ; Pedrosa, Paulo <i>SEG-CEMUC – Dept. of Mechanical Engineering, Univ. of</i> ; Vasconcelos, Beatriz <i>DEMM, Faculdade de Engenharia, Univ. do Porto</i> ; Fonseca, Carlos <i>Instituto de Engenharia Biomédica and Univ. do Porto, Fac</i> ; Vaz, Filipe <i>Univ. do Minho, Centro de Física</i> ; Haueisen, Jens <i>Technical Univ. Ilmenau</i>	
09:15-09:30	FrAT13.6
A New Soft Material based In-The-Ear EEG Recording Technique	5709-5712
Dong, Hao <i>Imperial College London</i> ; Matthews, Paul <i>Imperial College London, London</i> ; Guo, Yike* <i>Imperial College London</i>	

FrAT14: 08:00-09:30	Sorcerers Apprentice 1
Brain-Computer Interface – III (Oral Session)	

08:00-08:15	FrAT14.1
ECoG Data Analyses to Inform Closed-Loop BCI Experiments for Speech-Based Prosthetic Applications	5713-5716
Pailla, Tejaswy* <i>Univ. of California-San Diego</i> ; Jiang, Werner <i>Univ. of California, San Diego</i> ; Dichter, Benjamin <i>Univ. of California San Francisco</i> ; Chang, Edward <i>UCSF</i> ; Gilja, Vikash <i>Stanford Univ.</i>	
08:15-08:30	FrAT14.2
Decoding Force from Deep Brain Electrodes in Parkinsonian Patients	5717-5720
Shah, Syed Ahmar* <i>Postdoctoral Scientist, Univ. of Oxford</i> ; Tan, Huiling <i>Postdoctoral Research Associate in Nuffield Dept. of Clinic</i> ; Brown, Peter <i>Director of the Medical Research Council Brain Network Dynamics</i>	
08:30-08:45	FrAT14.3
Adaptive Decoding using Local Field Potentials in a Brain-Machine Interface	5721-5724
So, Rosa* <i>Institute for Infocomm Research</i> ; Libedinsky, Camilo A* <i>STAR</i> ; Ang, Kai Keng <i>Institute for Infocomm Research</i> ; Lim, Wee Chiek Clement <i>National Univ. of Singapore</i> ; Toe, Kyaw Kyar <i>Institute for Infocomm Research, A*STAR</i> ; Guan, Cuntai <i>Institute for Infocomm Research</i>	
08:45-09:00	FrAT14.4
Feature Domain-Specific Movement Intention Detection for Stroke Rehabilitation with Brain-Computer Interfaces	5725-5728
Hadsund, Johannes Thorling <i>Center for Sensory-Motor Interaction, Dept. of Health Science</i> ; Cid-Royo, Albert <i>Center for Sensory-Motor Interaction, Dept. of Health Science</i> ; Sørensen, Mathias Brønd <i>Center for Sensory-Motor Interaction, Dept. of Health Science</i> ; Niazi, Imran Khan <i>HST, Aalborg Univ. and Center for Chiropractic Research (CfCR)</i> ; Rovsing, Helene <i>Aalborg Univ., Dept. of Health Science and Technology</i> ; Rovsing, Cecilie <i>Aalborg Univ., Dept. of Health Science and Technology</i> ; Jochumsen, Mads* <i>Center for Sensory-Motor Interaction, Dept. of Health Science</i>	

09:00-09:15 FrAT14.5
Noninvasive EEG Correlates of Overground and Stair Walking 5729-5732
Brantley, Justin* *Univ. of Houston*; Luu, Trieu Phat *Univ. of Houston*; Ozdemir, Recep *Univ. of Houston, Dept. of Health & Human Performance*; Zhu, Fangshi *Univ. of Houston*; Winslow, Anna *North Carolina State Univ. and The Univ. of North Caro*; Huang, He *North Carolina State Univ. and Univ. of North Carolina*; Contreras-Vidal, José *Univ. of Houston*

09:15-09:30 FrAT14.6
Detection of Movement Related Cortical Potential: Effects of Causal vs. Non-Causal Processing 5733-5736
Sani, Omid* *Univ. of Southern California*; Chavarriaga, Ricardo *Ecole Polytechnique Federale de Lausanne*; Shamsollahi, Mohammad Bagher *Sharif Univ. of Technology*; Millán, José del R. *Ecole Polytechnique Federale de Lausanne*

FrAT15: 08:00-09:30 Sorcerers Apprentice 2
Toward Automated Biological Laboratories (Oral Session)
Chair: Ghafar-Zadeh, Ebrahim *York Univ.*
Co-Chair: Rezai, Pouya *York Univ.*

08:00-08:15 FrAT15.1
The Development of Real-Time PCR Micro Device with Optical Sensor for Early Detection of Cancer 5737-5740
Kimura, Yusuke *The Univ. of Tokyo*; Osada, Keigo *The Univ. of Tokyo*; Inoue, Yoshinori *The Univ. of Tokyo*; Ikeuchi, Masashi *The Univ. of Tokyo*; Ikuta, Koji* *The Univ. of Tokyo*

08:15-08:30 FrAT15.2
A 110-Nw In-Channel Sigma-Delta Converter for Large-Scale Neural Recording Implants 5741-5744
Rezaei, Masoud *Univ. Laval*; Maghsoudloo, Esmaeel *Univ. Laval*; Sawan, Mohamad *Polytechnique Montreal*; Gosselin, Benoit* *Laval Univ.*

08:30-08:45 FrAT15.3
Embedded CMOS Basecalling for Nanopore DNA Sequencing 5745-5748
Wang, Chengjie *York Univ.*; Zheng, Junli *York Univ.*; Magierowski, Sebastian* *York Univ.*; Ghafar-Zadeh, Ebrahim *York Univ.*

08:45-09:00 FrAT15.4
Lab-on-Chips for Manipulation of Small-Scale Organisms to Facilitate Imaging of Neurons and Organs 5749-5752
Ardeshiri, Ramtin M. *York Univ.*; Rezai, Pouya* *York Univ.*

09:00-09:15 FrAT15.5
A Wide Range and High Sensitivity Compact Electrochemical Biosensor for Neurotransmitter Detection on a Microfluidic Platform 5753-5756
Ghodsevali, Elnaz *laval Univ.*; Landari, Hamza *Univ. Laval*; Boukadoum, Mounir *Univ. of Quebec at Montréal*; Gosselin, Benoit *Laval Univ.*; Miled, Amine* *Laval Univ.*

09:15-09:30 FrAT15.6
Polyimide-Based Magnetic Microactuators for Biofouling Removal 5757-5760
Yang, Qi* *Purdue Univ.*; Nguyen, Tran *Purdue Univ. – Biomedical Engineering*; Liu, Chunan *Purdue Univ.*; Miller, Jacob *Purdue Univ.*; Rhoads, Jeffrey *Purdue Univ.*; Linnes, Jacqueline Callihan *Purdue Univ.*; Lee, Hyowon *Purdue Univ.*

FrAT16: 08:00-09:30 Sorcerers Apprentice 3
Wearable Sensor Systems I (Oral Session)
Chair: Sazonov, Edward *Univ. of Alabama*
Co-Chair: Jovanov, Emil *Univ. of Alabama in Huntsville*

08:00-08:15 FrAT16.1
Detecting Divisions of the Autonomic Nervous System using Wearables 5761-5764
Natarajan, Annamalai* *Univ. of Massachusetts, Amherst*; Xu, Kevin *Univ. of Toledo*; Eriksson, Brian *Technicolor Research, Los Altos*

08:15-08:30 FrAT16.2
A Wearable Device for Emotional Recognition using Facial Expression and Physiological Response 5765-5768
Kwon, Jangho *Korea Institute of Science and Technology*; Kim, Da-hye *KIST*; Park, Wanjoon *KIST*; Kim, Laehyun* *Korea Institute of Science and Technology*

08:30-08:45 FrAT16.3
Evaluating Respiratory Muscle Activity using a Wireless Sensor Platform 5769-5772
Estrada, Luis *Univ. Politècnica de Catalunya*; Torres, Abel* *Institute for Bioengineering of Catalonia (IBEC) – BarcelonaTech*; Sarlabous, Leonardo *Institute for Bioengineering of Catalonia (IBEC)*; Jané, Raimon *Institut de Bioenginyeria de Catalunya (IBEC)*

08:45-09:00 FrAT16.4
Dual-Modality Arterial Pulse Monitoring System for Continuous Blood Pressure Measurement 5773-5776
Dai, Wenxuan *Chinese Univ. of Hong Kong*; Zhang, Yuan-Ting *The Chinese Univ. of Hong Kong*; Liu, Jing *The Chinese Univ. of Hong Kong*; Ding, Xiao-Rong *The Chinese Univ. of Hong Kong*; Zhao, Ni* *The Chinese Univ. of Hong Kong*

09:00-09:15 FrAT16.5
A Wrist Worn SpO2 Monitor with Custom Finger Probe for Motion Artifact Removal 5777-5780
SP, Preejith* *Healthcare Technology Innovation Center – IITMadras*; Sujatha Ravindran, Akshay *HTIC-IITMadras*; Hajare, Rohan *HTIC – IIT Madras*; Joseph, Jayaraj *HTIC, Indian Institute of Technology Madras*; Sivaprakasam, Mohanasankar *Indian Institute of Technology Madras*

09:15-09:30 FrAT16.6
Smartphone-Based Swallowing Monitoring and Feedback Device for Mealtime Assistance in Nursing Homes 5781-5784
Kuramoto, Naomi* *Univ. of Tsukuba*; Jayatilake, Dushyantha *Univ. of Tsukuba*; Hidaka, Kikue *Univ. of Tsukuba*; Suzuki, Kenji *Univ. of Tsukuba*

FrAT18: 08:00-09:30 Grand Republic B
Diagnostic Systems and Technologies (Oral Session)
Chair: Linte, Cristian A. *Rochester Institute of Technology*

08:00-08:15 FrAT18.1
HIV-1 IIB Capture from Whole Blood on Magnetic Microparticles 5785-5788
Damhorst, Gregory *Univ. of Illinois at Urbana-Champaign*; Kooiman, Jonathan *Univ. of Illinois at Urbana-Champaign*; Bashir, Rashid* *Univ. of Illinois at Urbana-Champaign*

08:15-08:30 FrAT18.2
Real-Time, Autonomous Bladder Event Classification and Closed-Loop Control from Single-Channel Pressure Data 5789-5792
Karam, Robert* *Univ. of Florida*; Bhunia, Swarup *Case Western Reserve Univ.*; Majerus, Steve *APT Center, Cleveland VAMC*; Brose, Steven *FES Center, L. Stokes Cleveland VA Medical Center*; Damaser, Margot S. *Lerner Research Institute, The Cleveland Clinic Foundation*; Bourbeau, Dennis *FES Center, Cleveland VAMC*

08:30-08:45 FrAT18.3
Assessing Subsets of Analytes in Context of Detecting Laboratory Errors 5793-5796
Sourati, Jamshid* *Northeastern Univ.*; Kazmierczak, Steven *Oregon Health & Science Univ.*; Akcakaya, Murat *Univ. of Pittsburgh*; Dy, Jennifer *Northeastern Univ.*; Leen, Todd *Oregon Health & Science Univ.*; Erdogmus, Deniz *Northeastern Univ.*

08:45-09:00 FrAT18.4
A Novel Tool and Procedure for In-Situ Volumetric Calibration of Motion Capture Systems for Breathing Analysis 5797-5800
Massaroni, Carlo* *Univ. Campus Bio-Medico di Roma*; Schena, Emiliano *Univ. of Rome Campus Bio-Medico*; Saccomandi, Paola *Univ. Campus Bio-Medico of Rome*; Silvestri, Sergio *Univ. Campus Bio-Medico di Roma*

09:00-09:15 FrAT18.5
Pose Measurement of Anterior Pelvic Plane based on Inertial Measurement Unit in Total Hip Replacement Surgeries 5801-5804
 Cao, Zhe *Tsinghua Univ.*; Su, Shaojie *Tsinghua Univ.*; Chen, Hong* *Tsinghua Univ.*; Tang, Hao *Beijing Ji Shui Tan hospital*; Zhou, Yixin *Beijing Ji Shui Tan Hospital The 4th Medical College of Peking Un*; Wang, Zhihua *Tsinghua Univ.*

09:15-09:30 FrAT18.6
Development of a Diagnostic Feedback Device to Assess Neonatal Cardiopulmonary Resuscitation Chest Compression Performance 5805-5808
 Lloyd, Debbie Lee *Stellenbosch Univ.*; Van Den Heever, Dawie *Stellenbosch Univ.*; Dellimore, Kiran* *Philips Research*; Smith, Johan *Faculty of Medicine, Stellenbosch Univ.*

FrBT1: 11:00-12:30 Fantasia A
Deep Brain Stimulation (Oral Session)
 Chair: Pesaran, Bijan *New York Univ.*

11:00-11:15 FrBT1.1
An Adaptive Model Approach for Quantitative Wrist Rigidity Evaluation during Deep Brain Stimulation Surgery 5809-5812
 Assis, Ana Sofia* *INESC TEC and Faculdade de Engenharia, Univ. do Porto*; Costa, Pedro *Faculdade de Engenharia da Univ. do Porto*; Rosas, Maria José S. *João Univ. Hospital*; Vaz, Rui S. *João Univ. Hospital*; Cunha, Joao Paulo Silva *INESC TEC, PT*

11:15-11:30 FrBT1.2
Detection of Single Unit Spikes during Orthodromic-High Frequency Stimulation in Rat Hippocampus 5813-5816
 Wang, Zhaoxiang *Zhejiang Univ.*; Feng, Zhouyan* *Zhejiang Univ.*; Yu, Ying *Zhejiang Univ.*; Zhu, Yufang *Zhejiang Univ.*; Guo, Zheshan *Zhejiang Univ.*

11:30-11:45 FrBT1.3
Sinusoidal Stimulation Trains Suppress Epileptiform Spikes Induced by 4-AP in the Rat Hippocampal CA1 Region In-Vivo 5817-5820
 Guo, Zheshan *Zhejiang Univ.*; Feng, Zhouyan* *Zhejiang Univ.*; Yu, Ying *Zhejiang Univ.*; Zhou, Wenjie *Zhejiang Univ.*; Wang, Zhaoxiang *Zhejiang Univ.*; Wei, Xuefeng *The College of New Jersey*

11:45-12:00 FrBT1.4
A Comparative Study of Approaches to Compute the Field Distribution of Deep Brain Stimulation in the Hemiparkinson Rat Model 5821-5824
 Böhme, Andrea* *Univ. of Rostock*; van Rienen, Ursula *Univ. of Rostock*

12:00-12:15 FrBT1.5
Development of Semi-Chronic Microdrive System for Large-Scale Circuit Mapping in Macaque Mesolimbic and Basal Ganglia Systems 5825-5828
 Qiao, Shaoyu *New York Univ.*; Brown, Kevin *Univ. of Chicago*; Orsborn, Amy *Univ. of California Berkeley*; Ferrentino, Breonna *New York Univ.*; Pesaran, Bijan* *New York Univ.*

FrBT2: 11:00-12:30 Fantasia B
Neurorehabilitation – I (Oral Session)
 Chair: Michmizos, Konstantinos *Rutgers Univ.*
 Co-Chair: Tsuji, Toshiaki *Saitama Univ.*

11:00-11:15 FrBT2.1
Multi-Chip Dataflow Architecture for Massive Scale Biophysically Accurate Neuron Simulation 5829-5832
 Hofmann, Jaco *Darmstadt Univ.*; Zjajo, Amir* *Delft Univ. of Technology*; Galuzzi, Carlo *Delft Univ. of Technology*; van Leuken, Rene *Delft Univ. of Technology*

11:15-11:30	FrBT2.2
Exerciser for Rehabilitation of the Arm (ERA): Development and Unique Features of a 3D End-Effector Robot	5833-5836
Milot, Marie-Helene* <i>Univ. de Sherbrooke</i> ; Hamel, Mathieu <i>Institute Univ. de Geriatrie de Sherbrooke</i> ; Provost, Philippe-Olivier <i>Univ. of Sherbrooke</i> ; Bernier-Ouellet, Julien <i>Univ. de Sherbrooke</i> ; Dupuis, Maxime <i>Univ. de Sherbrooke</i> ; Létourneau, Dominic <i>Univ. de Sherbrooke</i> ; Brière, Simon <i>Research Center on Aging CSSS-IUGS</i> ; Michaud, François <i>Univ. de Sherbrooke</i>	
11:30-11:45	FrBT2.3
Progressive Abduction Loading Therapy Targeting Flexion Synergy to Regain Reaching Function in Chronic Stroke: Preliminary Results from an RCT	5837-5840
Ellis, Michael* <i>Northwestern Univ.</i> ; Carmona, Carolina <i>Northwestern Univ.</i> ; Drogos, Justin <i>Northwestern Univ.</i> ; Traxel, Stuart <i>Northwestern Univ.</i> ; Dewald, Julius P. A. <i>Northwestern Univ.</i>	
11:45-12:00	FrBT2.4
Alleviating Freezing of Gait using Phase-Dependent Tactile Biofeedback	5841-5844
Harrington, Will <i>APDM, Inc</i> ; Greenberg, Andrew <i>APDM, Inc</i> ; King, Edward <i>Oregon Health & Science Univ. (OHSU)</i> ; McNames, James <i>Portland State Univ.</i> ; Holmstrom, Lars <i>Portland State Univ.</i> ; Horak, Fay <i>Oregon Health & Science Univ.</i> ; Mancini, Martina* <i>OHSU</i>	
12:00-12:15	FrBT2.5
Exercise System for Eccentric Tibialis Anterior Contraction to Improve Ambulatory Function	5845-5848
Itoh, Shota <i>Saitama Univ.</i> ; Kubota, Keisuke <i>Saitama Univ.</i> ; Ogata, Kunihiro <i>Saitama Univ.</i> ; Tsuji, Toshiaki* <i>Saitama Univ.</i>	
12:15-12:30	FrBT2.6
Virtual Reality for Pediatric Neuro-Rehabilitation: Adaptive Visual Feedback of Movement to Engage the Mirror Neuron System	5849-5852
Kommalapati, Roopeswar <i>Rutgers Univ., New Brunswick</i> ; Michmizos, Konstantinos* <i>Rutgers Univ.</i>	

FrBT3: 11:00-12:30	Fantasia C
Brain Computer Interface (Oral Session)	

11:00-11:15	FrBT3.1
Comparing EEG, Its Time-Derivative and their Joint use as Features in a BCI for 2-D Pointer Control	5853-5856
Andreou, Dimitrios* <i>Brain-Computer Interfaces and Neural Engineering Laboratory, Comp; Poli, Riccardo Univ. of Essex</i>	
11:15-11:30	FrBT3.2
Phase Modulation-Based Response-Inhibition Outcome Prediction in Translational Scenario of Stop-Signal Task	5857-5860
Chikara, Rupesh Kumar <i>National Chiao Tung Univ.</i> ; Ko, Li-Wei* <i>National Chiao-Tung Univ.</i>	
11:30-11:45	FrBT3.3
Investigating Motor Imagery Tasks by their Neural Effects – A Case Study	5861-5864
Nicolae, Irina-Emilia <i>Electronics, Telecommunication and Information Technology Facult; Ștefan, Miruna* Politehnica Univ. of Bucharest</i> ; Hurezeanu, Bogdan <i>Univ. Politehnica of Bucharest</i> ; Taralunga, Dragos-Daniel <i>Politehnica Univ. of Bucharest</i> ; Strungaru, Rodica <i>POLITEHNICA Univ. of Bucharest</i> ; Vasile, Titus Mihai <i>Univ. of Medicine and Pharmacy "Carol Davila"</i> ; Bajenaru, Ovidiu Alexandru <i>Univ. of Medicine and Pharmacy " Carol Davila" Bucharest</i> ; Ungureanu, G. Mihaela <i>Politehnica Univ. of Bucharest</i>	
11:45-12:00	FrBT3.4
Maximum Entropy based Common Spatial Patterns for Motor Imagery Classification	5865-5868
Ali, Syed Salman* <i>Univ. of Regina</i> ; Zhang, Lei <i>Univ. of Regina</i>	
12:00-12:15	FrBT3.5
High Performance Wearable Two-Channel Hybrid BCI System with Eye Closure Assist	5869-5872
Jiang, Yubing <i>Pukyong National Univ.</i> ; Lee, Hyeon Seok <i>Pukyong national Univ.</i> ; Li, Gang <i>Pukyong National Univ.</i> ; Chung, Wan-Young* <i>Pukyong National Univ.</i>	

12:15-12:30 FrBT3.6
Time-Frequency Joint Coding Method for Boosting Information Transfer Rate in an SSVEP based BCI System 5873-5876
 Lin, Ke *Tsinghua Univ.*; Wang, Yijun *Institute of Semiconductors, Chinese Academy of Sciences*; Gao, Xiaorong* *Tsinghua Univ.*

FrBT4: 11:00-12:30 Fantasia D
Adaptive Filtering (Oral Session)

11:00-11:15 FrBT4.1
A Compact Representation for the Auditory Full-Range Response and Its Fast Denoising using an Image Filter based on the Radon Transform 5877-5880
 Kohl, Manuel Christoph* *Saarland Univ., Medical Faculty*; Strauss, Daniel J. *Saarland Univ., Medical Faculty*

11:15-11:30 FrBT4.2
Motion Noise Cancellation in Seismocardiogram of Ambulant Subjects with Dual Sensors 5881-5884
 Yang, Chenxi* *Stevens Institute of Technology*; Tavassolian, Negar *Stevens Institute of Technology*

11:30-11:45 FrBT4.3
Smartphone-Based Real-Time Speech Enhancement for Improving Hearing Aids Speech Perception 5885-5888
 Rao, Yu *The Univ. of Texas at Dallas*; Panahi, Issa* *Univ. of Texas at Dallas*; Hao, Yiya *The Univ. of Texas at Dallas*; Kehtarnavaz, Nasser *Univ. of Texas at Dallas*

11:45-12:00 FrBT4.4
A Kalman Filter to Estimate Altitude Change during a Fall 5889-5892
 Stevens, Michael Charles* *Univ. of New South Wales*; Lu, Wei *Univ. of New South Wales*; Wang, Changhong *UNSW*; Redmond, Stephen James *Univ. of New South Wales*; Lovell, Nigel H. *Univ. of New South Wales*

12:00-12:15 FrBT4.5
Design and Validation of a High-Order Weighted-Frequency Fourier Linear Combiner-Based Kalman Filter for Parkinsonian Tremor Estimation 5893-5896
 Zhou, Yue *Univ. of Western Ontario*; Jenkins, Mary *Univ. of Western Ontario*; Naish, Michael D. *The Univ. of Western Ontario, Lawson Health Research Institute*; Trejos, Ana Luisa* *The Univ. of Western Ontario*

12:15-12:30 FrBT4.6
Non-Linear Dynamic Modeling of Glucose in Type 1 Diabetes with Kernel Adaptive Filters 5897-5900
 Georga, Eleni I. *Univ. of Ioannina*; Principe, Jose *Univ. of Florida*; Polyzos, Demosthenes *Univ. of Patras*; Fotiadis, Dimitrios I.* *Univ. of Ioannina*

FrBT5: 11:00-12:30 Fantasia E
Optical Imaging II (Oral Session)
Chair: Tong, Shanbao *Shanghai Jiao Tong Univ.*

11:00-11:15 FrBT5.1
Fast Submicrometer-Scale Imaging of Whole Zebrafish using the Knife-Edge Scanning Microscope 5901-5904
 Miller, Daniel E. *Texas A&M Univ.*; Shah, Raj *Texas A&M Univ.*; Zhang, Wencong *Texas A&M Univ.*; Yoo, Jaewook* *Texas A&M Univ.*; Kwon, Jaerock *Kettering Univ.*; Mayerich, David *Univ. of Illinois at Urbana-Champaign*; Keyser, John *Texas A&M Univ.*; Abbott, Louise C. *Texas A&M Univ.*; Choe, Yoonsuck *Texas A&M Univ.*

11:15-11:30 FrBT5.2
3D Reconstruction of Cochlea using Optical Coherence Tomography 5905-5908
 Karvonen, Tuukka Matias* *Kyoto Univ.*; Uranishi, Yuki *Osaka Univ.*; Sakamoto, Tatsunori *Kyoto Univ.*; Tona, Yosuke *Kyoto Univ.*; Okamoto, Kazuya *Kyoto Univ. Hospital*; Tamura, Hiroshi *Kyoto Univ.*; Kuroda, Tomohiro *Kyoto Univ.*

11:30-11:45 FrBT5.3
Simultaneous Reconstruction and Segmentation with the Mumford-Shah Functional for Electron Tomography 5909-5912
 Shen, Li* *Peking Univ.*; Quinto, Eric Todd *Tufts Univ.*; Wang, Shiqiang *College of Life Sciences, Peking Univ.*; Ming, Jiang *School of Mathematics School of Mathematics, Peking*

11:45-12:00 FrBT5.4
Multiquadric Spline-Based Interactive Image Segmentation of Vascular Networks 5913-5916
Meena, Sachin* *Univ. of Missouri-Columbia*; Prasath, V. B. Surya *Univ. of Missouri-Columbia*; Kassim, Yasmin
M *Univ. of Missouri-Columbia*; Maude, Richard *Mahidol-Oxford Tropical Medicine Research Unit, Faculty of
Tropi*; Glinskii, Olga *Univ. of Missouri-Columbia*; Glinsky, Vladislav *Univ. of Missouri-Columbia*; Huxley, Virginia
Univ. of Missouri-Columbia; Palaniappan, Kannappan *Univ. of Missouri-Columbia*

12:00-12:15 FrBT5.5
Light Source Depth Estimation in Porcine Skin using Spatially Resolved Diffuse Imaging 5917-5920
Brennan, Kieran* *The Univ. of Auckland*; Ruddy, Bryan *Univ. of Auckland*; Nielsen, Poul *The Univ. of Auckland*;
Taberner, Andrew *The Univ. of Auckland*

12:15-12:30 FrBT5.6
Compensation of Pulsation Artifacts during Optical Imaging with and without Cranial Chamber 5921-5924
Romero Santiago, Alejandro E.* *Saarland Univ.*; Flotho, Philipp *Systems Neuroscience and Neurotechnology
Unit*; Schwerdtfeger, Karsten *Saarland Univ. Hospital*; Szczygielski, Jacek *Saarland Univ. Hospital,
Neurosurgery Dept.*; Hülser, Matthias *Saarland Univ. Hospital*; Haab, Lars *Saarland Univ. Hospital*; Strauss,
Daniel J. *Saarland Univ., Medical Faculty*

FrBT6: 11:00-12:30 Fantasia F
Neuroimaging I (Oral Session)

11:00-11:15 FrBT6.1
Application of MEG Coherence in Lateralization of MTLE 5925-5928
Nazem-Zadeh, Mohammad-Reza* *Henry Ford Hospital*; Bowyer, Susan M. *Henry Ford Health System*; Moran,
John E *Henry Ford Health System*; Davoodi-Bojd, Esmaeil *Henry Ford Health System*; Zillgitt, Andrew *Henry
Ford Health System*; Bagher-Ebadian, Hassan *Henry Ford Hospital, Oakland Univ.*; Mahmoudi, Fariborz *Henry
Ford Health System*; Elisevich, Kost V. *Dept. of Clinical Neurosciences, Spectrum Health Medical Gr*; Soltanian-
Zadeh, Hamid *Henry Ford Health System*

11:15-11:30 FrBT6.2
Classification of ADHD Subgroup with Recursive Feature Elimination for Structural Brain MRI 5929-5932
Qureshi, Muhammad Naveed Iqbal* *Gwangju Institute of Science and Technology, Gwangju*; Lee, Boreom
Gwangju Institute of Science and Technology (GIST)

11:30-11:45 FrBT6.3
**Classification of Brain Disease from Magnetic Resonance Images based on Multi-Level
Brain Partitions** 5933-5936
Li, Tao *Institute of Automation, Chinese Academy of Sciences.*; Zhang, Wensheng* *Institute of Automation,
Chinese Academy of Sciences*

11:45-12:00 FrBT6.4
Effects of High Frequency RTMS on Sleep Deprivation: A Pilot Study 5937-5940
Martínez, Diana Paulina* *Univ. Autónoma Metropolitana*; Azpiroz-leehan, Joaquin *Univ. Autónoma
Metropolitana*; Jimenez-Angeles, Luis *Univ. Autónoma Metropolitana Iztapalapa*; García, Andrea *Univ.
Autónoma Metropolitana-Iztapalapa*; Santana Miranda, Rafael *UNAM*

12:00-12:15 FrBT6.5
Age Estimation using Effective Brain Local Features from T1-Weighted Images 5941-5944
Fujimoto, Ryuichi* *Tohoku Univ.*; Kondo, Chihiro *Tohoku Univ.*; Ito, Koichi *Tohoku Univ.*; Wu, Kai *South China
Univ. of Technology*; Sato, Kazunori *Tohoku Univ.*; Taki, Yasuyuki *Tohoku Univ.*; Fukuda, Hiroshi *Tohoku
Pharmaceutical Univ.*; Aoki, Takafumi *Tohoku Univ.*

12:15-12:30 FrBT6.6
Automatic Segmentation of Multimodal Brain Tumor Images based on Classification of Super-Voxels 5945-5948
Kadkhodaei, Mahsa *Isfahan Univ. of Technology*; Samavi, Shadrokh *McMaster Univ.*; Karimi, Nader *Isfahan
Univ. of Technology*; Mohaghegh, Hoda *Isfahan Univ. of Technology*; Soroushmehr, S.M.Reza* *Univ. of
Michigan, Ann Arbor*; All, Angelo *Johns Hopkins Univ.*; Ward, Kevin *Univ. of Michigan*; Najarian, Kayvan *Univ.
of Michigan – Ann Arbor*

Data- and Image-Driven Systems Modeling (Oral Session)Chair: Elhilali, Mounya *Johns Hopkins Univ.*11:00-11:15 FrBT8.1
A DCE-MRI Imaging-Based Model for Simulation of Vascular Tumour Growth 5949-5952Roque, Thaís* *Univ. of Oxford*; Kersemans, Veerle *Preclinical Imaging Group, Dept. of Engineering, Univ.*;
Smart, Sean *Preclinical Imaging Group, Dept. of Engineering, Univ.*; Allen, Sean *Preclinical Imaging Group,*
Dept. of Engineering, Univ.; Schnabel, Julia *King's College London*; Chappell, Michael *Univ. of Oxford*11:15-11:30 FrBT8.2
Modelling Nutrient Transfer based on 3D Imaging of the Human Placental Microstructure 5953-5956Perazzolo, Simone* *Univ. of Southampton*; Lewis, Rohan M. *Univ. of Southampton*; Sengers, Bram G.
*Univ. of Southampton*11:30-11:45 FrBT8.3
Knife-Edge Scanning Microscopy for in Silico Study of Cerebral Blood Flow: from Biological Imaging
Data to Flow Simulations 5957-5960Nowak, Michael* *Texas A&M Univ.*; Lozovskiy, Alexander *Texas A&M Univ.*; Dobroskok, Dimitri *Texas A&M*
Univ.; Choe, Yoonsuck *Texas A&M Univ.*11:45-12:00 FrBT8.4
Middle and Inner Ear Modelling: From MicroCT Images to 3D Reconstruction and Coupling of Models 5961-5964Tachos, Nikolaos *Unit of Medical Technology and Intelligent Information Systems*; Sakellarios, Antonis *Univ. of*
Ioannina; Rigas, Georgios *Univ. of Ioannina*; Isailovic, Velibor *BiolRC, Research and Development Center for*
Bioengineering, Krag; Guangjian, Ni *ISVR, Univ. of Southampton, UK*; Böhnke, Frank *Technical Univ. of*
Munich; Bibas, Thanos *Univ. of Athens*; Fotiadis, Dimitrios I.* *Univ. of Ioannina*12:00-12:15 FrBT8.5
SiMEA: A Framework for Simulating Neurons on Multi-Electrode Array 5965-5968Andalibi, Vafa *Univ. of Helsinki and Helsinki Univ. Hospital*; Aaltonen, Timo *Tampere Univ. of Technology*;
Christophe, Francois* *Tampere Univ. of Technology*; Mikkonen, Tommi *Tampere Univ. of Technology*12:15-12:30 FrBT8.6
Identifying Disease Network Perturbations through Regression on Gene Expression and Pathway
Topology Analysis 5969-5972Dimitrakopoulos, Georgios *Univ. of Patras*; Balomenos, Panos *Univ. of Patras*; Vrahatis, Aristidis *Univ. of*
Patras; Sgarbas, Kyriakos *Univ. of Patras*; Bezerianos, Anastasios* *National Univ. of Singapore***eHealth** (Oral Session)11:00-11:15 FrBT9.1
Detection of Collaborative Activity with Kinect Depth Cameras 5973-5976Sevrin, Loïc *Univ. de Lyon*; Noury, Norbert* *Univ. Lyon 1*; Abouchi, Nacer *CPE Lyon*; Jumel, Fabrice *CPE Lyon*;
Massot, Bertrand *INSA Lyon*; Saraydaryan, Jacques *CPE Lyon*11:15-11:30 FrBT9.2
Detection of Different Types of Noise in Lung Sounds 5977-5980Leal, Adriana *Univ. of Coimbra*; Couceiro, Ricardo* *Univ. of Coimbra*; Chouvarda, Ioanna *Aristotle Univ.*;
Maglaveras, Nikolaos *Aristotle Univ. of Thessaloniki*; Henriques, Jorge *Univ. of Coimbra – NIF*; Paiva, Rui
Pedro *Univ. of Coimbra*; de Carvalho, Paulo *Univ. of Coimbra – NIF*; Teixeira, César *Univ. of Coimbra*11:30-11:45 FrBT9.3
A Comprehensive Reputation Mechanism for Ubiquitous Healthcare Environment Exploiting
Cloud Model 5981-5984Athnasiou, Georgia* *Univ. of Patras*; Lymberopoulos, Dimitrios *Univ. of Patras*

11:45-12:00 FrBT9.4
Cluster based Architecture and Network Maintenance Protocol for Medical Priority Aware Cognitive Radio based Hospital 5985-5988
Mamoon, Ishtiaq Al* *Presidency Univ., Bangladesh*

12:15-12:30 FrBT9.6
Smart Autism – A Mobile, Interactive and Integrated Framework for Screening and Confirmation of Autism 5989-5992
Mamun, Khondaker A.* *United International Univ.*; Bardhan, Sharmistha *Military Institute of Science & Technology (MIST)*; Anagnostou, Evdokia *Autism Research Center of Holland Bloorview Kids Rehabilitation*; Brian, Jessica *Autism Research Center of Holland Bloorview Kids Rehabilitation*; Ullah, M. Anwar *Jatiyo Protibondhi Unnayan Foundation (JPUF), Ministry of Social*; Akhter, Shaheen *Institute of Paediatric Neurodisorder and Autism (IPNA), Bangaba*; Rabbani, Md. Golam *Autism and NDD Trust and National Institute of Mental Health and*

FrBT10: 11:00-12:30 Fantasia M Wearable and Mobile Technologies (Oral Session) Chair: Dhaher, Yasin <i>Northwestern Univ.</i>

11:00-11:15 FrBT10.1
A Dynamic Data Source Selection System for Smartwatch Platform 5993-5996
Nemati, Ebrahim* *UCLA*; Sideris, Costas *Univ. of California, Los Angeles*; Kalantarian, Haik *Univ. of California, Los Angeles*; Sarrafzadeh, Majid *Univ. of California, Los Angeles*

11:15-11:30 FrBT10.2
A Wearable Computing Platform for Developing Cloud-Based Machine Learning Models for Health Monitoring Applications 5997-6001
Patel, Shyamal *MC10, Inc.*; McGinnis, Ryan S. *MC10, Inc.*; Silva, Ikaro *Massachusetts Institute of Technology*; DiCristofaro, Steve *MC10, Inc.*; Mahadevan, Nikhil *MC10, Inc.*; Jortberg, Elise *MC10, Inc.*; Aranyosi, AJ* *MC10, Inc.*; Ceruolo, Melissa *MC10, Inc.*

11:30-11:45 FrBT10.3
Evaluation of Diabetes Mellitus Compensation after One Year of using Mobiab System 6002-6005
Burda, Václav* *Faculty of Electrical Engineering, Czech Technical Univ. in*; Novák, Daniel *Dept. of Cybernetics, Faculty of Electrical Engineering, Cz*; Schneider, Jakub *Czech Technical Univ. in Prague*

11:45-12:00 FrBT10.4
A Wearable Diagnostic System for Age-Related Macular Degeneration 6006-6009
Mohaghegh, Navid *York Univ.*; Ghafar-Zadeh, Ebrahim* *York Univ.*; Magierowski, Sebastian *York Univ.*

12:00-12:15 FrBT10.5
Toward Personalized and Context-Aware Prompting for Smartphone-Based Intervention 6010-6013
Fallahzadeh, Ramin* *Washington State Univ.*; Aminikhanghahi, Samaneh *Washington State Univ.*; Gibson, Ashley *Washington State Univ.*; Cook, Diane J. *Washington State Univ.*

FrBT11: 11:00-12:30	Fantasia N
Invited Session: Modeling of Modern Devices and Technologies with Computational Human Phantoms – II (Oral Session)	
Chair: Makarov, Sergey <i>Electrical and Computer Engineering, Worcester Polytechnic Institute</i>	
Co-Chair: Horner, Marc <i>ANSYS, Inc.</i>	

11:00-11:15		FrBT11.1
A Framework for Informing Segmentation of in Vivo MRI with Information Derived from Ex Vivo Imaging: Application in the Medial Temporal Lobe 6014-6017		
Yushkevich, Paul* <i>Penn Image Computing and Science Laboratory (PICSL), Dept.</i> ; Wisse, Laura <i>Penn Image Computing and Science Laboratory, Dept. of Radio</i> ; Adler, Daniel <i>Penn Image Computing and Science Laboratory, Dept. of Radio</i> ; Ittyerah, Ranjit <i>Penn Image Computing and Science Laboratory, Dept. of Radio</i> ; Pluta, John <i>Univ. of Pennsylvania</i> ; Robinson, John <i>Center for Neurodegenerative Disease Research (CNDR), Univ.</i> ; Schuck, Theresa <i>Center for Neurodegenerative Disease Research (CNDR), Univ.</i> ; Trojanowski, John <i>Center for Neurodegenerative Disease Research (CNDR), Univ.</i> ; Grossman, Murray <i>Dept. of Neurology, Univ. of Pennsylvania</i> ; Detre, John A. <i>Univ. of Pennsylvania</i> ; Elliott, Mark <i>Dept. of Radiology, Univ. of Pennsylvania</i> ; Toledo, Jon <i>Center for Neurodegenerative Disease Research (CNDR), Univ.</i> ; Liu, Weixia <i>Dept. of Radiology, Univ. of Pennsylvania</i> ; Pickup, Stephen <i>Dept. of Radiology, Univ. of Pennsylvania</i> ; Das, Sandhitsu <i>Dept. of Neurology, Univ. of Pennsylvania</i> ; Wolk, David <i>Dept. of Neurology, Univ. of Pennsylvania</i>		

11:15-11:30		FrBT11.2
Development and Application of Human Breast Phantoms in Microwave Diagnostic and Therapeutic Technologies 6018-6021		
Neira, Luz Maria <i>Univ. of Wisconsin-Madison</i> ; Mays, Rayford Owen <i>Univ. of Wisconsin-Madison</i> ; Hagness, Susan* <i>Univ. of Wisconsin-Madison</i>		

11:30-11:45		FrBT11.3
Development and Validation of THUMS Version 5 with 1D Muscle Models for Active and Passive Automotive Safety Research 6022-6025		
Kimpara, Hideyuki* <i>Toyota Central R&D Labs., Inc.</i> ; Nakahira, Yuko <i>Toyota Central R&D Labs., Inc.</i> ; Iwamoto, Masami <i>Toyota Central R&D Labs., Inc.</i>		

11:45-12:00		FrBT11.4
Bone Composition and Healing: Open Electromagnetic and Biomechanical Problems 6026-6029		
Biggane, Peter <i>Boston Univ.</i> ; Jackson, Xavier Jamel <i>Worcester Polytechnic Institute</i> ; Nazarian, Ara* <i>Harvard Med School</i>		

FrBT12: 11:00-12:30	Fantasia P
Modeling and Simulation in Musculoskeletal Biomechanics (Oral Session)	

11:00-11:15		FrBT12.1
Orthodontic Force Simulation of Tooth-PDL-Bone Complex under Archwire Loading 6030-6033		
Zhou, Xinwen <i>Shanghai Jiao Tong Univ.</i> ; Xia, Zeyang* <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Gan, Yangzhou <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Zhang, Dongxia <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Xiong, Jing <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Fang, Peng <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of S</i> ; Li, Guanglin <i>Shenzhen Institutes of Advanced Technology</i> ; Zhao, Qunfei <i>Shanghai Jiao Tong Univ.</i>		

11:15-11:30		FrBT12.2
Development of an Open-Source Cosimulation Method of the Knee 6034-6037		
Schmitz, Anne* <i>Gannon Univ.</i> ; Piovesan, Davide <i>Gannon Univ.</i>		

11:30-11:45		FrBT12.3
Hip Joint Geometry Effects on Cartilage Contact Stresses during a Gait Cycle 6038-6041		
Wu, Huihui <i>Biomedical Engineering School of Shanghai Jiaotong Univ., a</i> ; Wang, Dong <i>Engineering Research Center of Digital Medicine and Clinical Tra</i> ; Ma, An-bang <i>Biomedical Engineering School of Shanghai Jiaotong Univ., a</i> ; Gu, Dong-Yun* <i>Ninth People's Hospital, Shanghai Jiao Tong Univ. School of</i>		

11:45-12:00	FrBT12.4
Simulating the Activation, Contraction and Movement of Skeletal Muscles using the Bidomain Model	6042-6045
Lopez-Rincon, Alejandro* <i>Institut National de Recherche en Informatique et en Automatique</i> ; Cantú, César <i>Tecnológico de Monterrey</i> ; Soto, Rogelio <i>Tecnológico de Monterrey</i> ; Shimoda, Shingo <i>RIKEN</i>	
12:00-12:15	FrBT12.5
Shape Memory Alloy Smart Knee Spacer to Enhance Knee Functionality: Model Design and Finite Element Analysis	6046-6049
Gautam, Arvind <i>IIT Hyderabad</i> ; Anne, Bhargavi Rani <i>Univ. of Hyderabad</i> ; Callejas, Miguel A. <i>Lirio9 Architecture</i> ; Acharyya, Swati Ghosh <i>UOH Hyderabad</i> ; Acharyya, Amit* <i>Indian Institute of Technology Hyderabad</i> ; Biswas, Dwaipayan <i>Univ. of Southampton</i> ; Bhandari, Vasundhra <i>UOH Hyderabad</i> ; Sharma, Paresh <i>NIAB Hyderabad</i> ; Naik, Ganesh R <i>Univ. of Technology Sydney</i>	
12:15-12:30	FrBT12.6
In-Vitro Identification of Shoulder Joint and Muscle Dynamics based on Motion Capture and Musculoskeletal Computation	6050-6053
Murai, Akihiko* <i>National Institute of Advanced Industrial Science and Technology</i> ; Kawano, Yusuke <i>Keio Univ. Dept. of Orthopedic Surgery</i> ; Ayusawa, Ko <i>National Institute of Advanced Industrial Science and Technology</i> ; Tada, Mitsunori <i>National Institute of Advanced Industrial Science and Technology</i> ; Matsumura, Noboru <i>Keio Univ. School of Medicine</i> ; Nagura, Takeo <i>Keio Univ.</i>	
FrBT13: 11:00-12:30	Fantasia Q
Smart Textiles (Oral Session)	
11:00-11:15	FrBT13.1
Design and Preliminary Assessment of a Smart Textile for Respiratory Monitoring based on an Array of Fiber Bragg Gratings	6054-6057
Massaroni, Carlo <i>Univ. Campus Bio-Medico di Roma</i> ; Ciocchetti, Marco <i>Univ. Campus Bio-Medico di Roma, Rome-Italy</i> ; Di Tomaso, Giulia <i>Feinstein Institute for Medical Research, Northwell Health, 350</i> ; Saccomandi, Paola <i>Univ. Campus Bio-Medico of Rome</i> ; Caponero, Michele Arturo <i>ENEA – Centro Ricerche Frascati</i> ; Polimadei, Andrea <i>ENEA – Centro Ricerche Frascati</i> ; Formica, Domenico <i>Campus Bio-Medico Univ.</i> ; Schena, Emiliano* <i>Univ. of Rome Campus Bio-Medico</i>	
11:15-11:30	FrBT13.2
Investigation of Changes in the Electrical Properties of Novel Knitted Conductive Textiles during Cyclic Loading	6058-6061
Isaia, Cristina* <i>Univ. of Nottingham</i> ; McNally, Donal <i>Univ. of Nottingham</i> ; McMaster, Simon Adair <i>Footfalls and Heartbeats Limited</i> ; Branson, David Thomas <i>Univ. of Nottingham</i>	
11:30-11:45	FrBT13.3
Wearable Embroidered Muscle Activity Sensing Device for the Human Upper Leg	6062-6065
Ribas Manero, Roger Bernat <i>King's College London</i> ; Shafti, Ali* <i>King's College London</i> ; Michael, Brendan <i>King's College London</i> ; Jug-Raj, Grewal <i>King's College London</i> ; Ribas Fernández, Jordi <i>Univ. de Barcelona</i> ; Althoefer, Kaspar <i>King's College London</i> ; Howard, Matthew <i>King's College London</i>	
11:45-12:00	FrBT13.4
Wearable Strain Sensors Fabricated by Silver Nanowire Patterning Method based on Parylene Stencil Technique	6066-6069
Chou, Namsun <i>Gwangju Institute of Science and Technology (GIST)</i> ; Kim, Sohee* <i>Daegu Gyeongbuk Institute of Science and Technology (DGIST)</i>	
12:00-12:15	FrBT13.5
A Fabric Wrist Patch Sensor for Continuous and Comprehensive Monitoring of the Cardiovascular System	6070-6073
Lee, Kwonjoon* <i>K-healthwear</i> ; Song, Kiseok <i>K-healthwear</i> ; Roh, Taehwan <i>K-healthwear</i> ; Yoo, Hoi-Jun <i>KAIST</i>	
12:15-12:30	FrBT13.6
Intarsia-Sensorized Band and Tetrodes for Real-Time Myoelectric Pattern Recognition	6074-6077
Brown, Shannon* <i>Univ. of Borås</i> ; Ortiz-Catalan, Max <i>Chalmers Univ. of Technology</i> ; Peterson, Joel <i>Univ. of Borås</i> ; Rödbj, Kristian <i>School of Technology and Health, KTH Royal Institute of Technology</i> ; Seoane, Fernando <i>KTH-Royal Institute of Technology</i>	

Neurological Disorders – I (Oral Session)**Chair:** Thakor, Nitish *Johns Hopkins Univ.***Co-Chair:** Ghoraani, Behnaz *Rochester Institute of Technology*

11:00-11:15

FrBT14.1

Predicting Rapid Cognitive Decline in Alzheimer's Disease Patients using Quantitative EEG Markers and Neuropsychological Test Scores

6078-6081

Reyes-Coronel, Carmina* *Austrian Institute of Technology*; Waser, Markus *AIT Austrian Institute of Technology GmbH*; Garn, Heinrich *AIT Austrian Institute of Technology GmbH*; Deistler, Manfred *Vienna Univ. of Technology*; Dal-Bianco, Peter *Medical Univ. of Vienna*; Benke, Thomas *Innsbruck Medical Univ.*; Ransmayr, Gerhard *AKh Allgemeines Krankenhaus der Stadt Linz GmbH*; Grossegger, Dieter *B.E.S.T. Medical Systems Dr. Grossegger und Drbal GmbH*; Schmidt, Reinhold *Graz Medical Univ.*

11:15-11:30

FrBT14.2

Automatic Assessment of Medication States of Patients with Parkinson's Disease using Wearable Sensors

6082-6085

Hssayeni, Murtadha Dawood *Rochester Institute of Technology*; Burack, Michelle *Univ. of Rochester*; Ghoraani, Behnaz* *Rochester Institute of Technology*

11:30-11:45

FrBT14.3

Peripheral Sensory Stimulation is Neuroprotective in a Rat Photothrombotic Ischemic Stroke Model

6086-6089

Bandla, Aishwarya* *National Univ. of Singapore*; Chua, Le Teng Sherry *National Univ. of Singapore (NUS), Singapore Institute of N*; Lim, Tingwei Frances *Singapore Institute of Neurotechnology (SINAPSE)*; Chan, Kim Chuan Casey *Singapore Institute of Neurotechnology (SINAPSE)*; Liao, Lun-De *SINAPSE*; Thakor, Nitish *Johns Hopkins Univ.*

11:45-12:00

FrBT14.4

Automated Assessment of Postural Stability System

6090-6093

Napoli, Alessandro* *Temple Univ.*; Ward, Christian *Temple Univ.*; Glass, Stephen *Temple Univ.*; Tucker, Carole *Shriners Hospital for Children*; Obeid, Iyad *Temple Univ.*

12:00-12:15

FrBT14.5

Identifying Montages that Best Detect the Electroencephalogram Power Spectrum Alteration during Freezing of Gait in Parkinson's Disease Patients

6094-6097

Ly, Quynh Tran* *Univ. of Technology Sydney*; Handojoseno, Aluysius Maria Ardi *Univ. of Technology, Sydney*; Gilat, Moran *Parkinson's Disease Research Clinic, Brain and Mind Research Ins*; Nguyen, Tuan Nghia *Univ. of Technology, Sydney*; Chai, Rifai *Univ. of Technology, Sydney*; Tran, Yvonne *Univ. of Technology, Sydney*; Lewis, Simon J.G. *Parkinson's Disease Research Clinic, Brain and Mind Research Ins*; Nguyen, Hung T. *Univ. of Technology, Sydney*

12:15-12:30

FrBT14.6

Impairment of Muscle Force Transmission in Spastic-Paretic Muscles of Stroke Survivors

6098-6101

Hu, Xiaogang* *Univ. of North Carolina-Chapel Hill*; Afsharipour, Babak *Northwestern Univ.*; Rymer, William Zev *Northwest. & Rehab Inst of Chicago*; Suresh, Nina *Rehabilitation Institute of Chicago*

FrCT9: 15:30-17:00

Fantasia L

(Ignite Session)

15:30-17:00

FrCT9.24

The Development of a Detailed Model of Calcium Dynamics at the Postsynaptic Spine of an Excitatory Synapse

6102-6105

Hu, Eric* *Univ. of Southern California*; Bouteiller, Jean-Marie Charles *Univ. of Southern California*; Song, Dong *Univ. of Southern California*; Berger, Theodore *Univ. of Southern California*

15:30-17:00

FrCT9.25

A Potential Function-Based Scalpel Navigation Method that Avoids Blood Vessel Groups during Excision of Cancerous Tissue

6106-6112

Noborio, Hiroshi* *Osaka Electro-Communication Univ.*; Aoki, Kazuma *Osaka Electro-Communication Univ.*; Kunii, Takahiro *Kashina System Co.*; Mizushino, Kiminori *Embedded Wings Co.*

15:30-17:00	FrCT9.26
A Supervised Learning Rule for Classification of Spatiotemporal Spike Patterns	6113-6116
Guo, Lilin* <i>Florida International Univ.</i> ; Wang, Zhenzhong <i>Florida International Univ.</i> ; Adjouadi, Malek <i>Florida International Univ.</i>	
15:30-17:00	FrCT9.27
Initial Comparison of Energy Measures for Neural Stimulation in a Single Conductance Channel	6117-6120
Stahl, John* <i>Western Michigan Univ.</i> ; Miller, Damon <i>Western Michigan Univ.</i>	
15:30-17:00	FrCT9.28
Understanding the Role of Astrocytic GABA in Simulated Neural Networks	6121-6124
Lenk, Kerstin* <i>Tampere Univ. of Technology</i> ; Räisänen, Eero <i>CNR/ISC and Unifi</i> ; Hyttinen, Jari <i>Tampere Univ. of Technology</i>	
15:30-17:00	FrCT9.29
A Boolean Approach to Bacterial Chemotaxis	6125-6129
Deshpande, Anuj <i>Indian Institute of Technology Kharagpur</i> ; Samanta, Sibendu <i>Indian Institute of Technology, Kharagpur</i> ; Das, Haimabati <i>Indian Institute of Technology Kharagpur</i> ; Layek, Ritwik* <i>Indian Institute of Technology Kharagpur</i>	
15:30-17:00	FrCT9.30
Neuromorphic Circuit Modeling Directional Selectivity in the Visual Cortex	6130-6133
Barzegarjalali, Saeid* <i>Univ. of Southern California</i> ; Parker, Alice <i>Univ. of Southern California</i>	
15:30-17:00	FrCT9.31
Development of a Three Dimensional, Lattice-Free Multiscale Model of the Mammary Terminal End Bud	6134-6137
Butner, Joseph <i>Univ. of New Mexico</i> ; Cristini, Vittorio <i>Univ. of New Mexico</i> ; Wang, Zhihui* <i>Univ. of Texas Health Science Center at Houston McGovern Me</i>	
15:30-17:00	FrCT9.32
An Implementation for the Simulation of Cells on Micro-Post Arrays	6138-6141
Truong, Duy Thanh* <i>Univ. of Rostock</i> ; Bahls, Christian Rüdiger <i>Univ. of Rostock, Institute of General Electrical Engineering</i> ; Nebe, Barbara <i>Univ. Medicine of Rostock</i> ; van Rienen, Ursula <i>Univ. of Rostock</i>	
15:30-17:00	FrCT9.33
A Hybrid Discrete-Continuous Model of in Vitro Spheroid Tumor Growth and Drug Response	6142-6145
Tzedakis, Georgios <i>ICS-FORTH</i> ; Liapis, Evangelos <i>Institute of Electronic Structure and Laser, Foundation for Res</i> ; Tzamali, Eleftheria <i>ICS-FORTH</i> ; Zacharakis, Giannis <i>IESL-FORTH</i> ; Sakkalis, Vangelis* <i>ICS-FORTH</i>	

Saturday, 20 August 2016

SaAT1: 08:00-09:30	Fantasia A
Human Performance (Oral Session)	
08:00-08:15	SaAT1.1
Online Learning of Gait Models for Calculation of Gait Parameters	6146-6149
Waugh, Jamie L. S.* <i>Univ. of Waterloo</i> ; Trinh, Anton <i>Univ. of Waterloo</i> ; Mohammed, Ryan R. <i>Univ. of Waterloo</i> ; McIlroy, William E. <i>Univ. of Waterloo</i> ; Kulic, Dana <i>Univ. of Waterloo</i>	
08:15-08:30	SaAT1.2
Automated Classification of Pathological Gait after Stroke using Ubiquitous Sensing Technology	6150-6153
Dolatabadi, Elham* <i>Univ. of Toronto</i> ; Taati, Babak <i>Toronto Rehabilitation Institute and Univ. of Toronto</i> ; Mihailidis, Alex <i>Univ. of Toronto</i>	
08:30-08:45	SaAT1.3
Relationship between Magnitude of Applied Torque in Pre-Swing Phase and Gait Change for Prevention of Trip in Elderly People	6154-6157
Miyake, Tamon* <i>Waseda Univ.</i> ; Tsukune, Mariko <i>Waseda Univ.</i> ; Kobayashi, Yo <i>Waseda Univ.</i> ; Sugano, Shigeki <i>Waseda Univ.</i> ; Fujie, Masakatsu G. <i>Waseda Univ.</i>	

08:45-09:00		SaAT1.4
Development and Pilot Clinical Evaluation of a Haptic-Based Perception-Empathy Biofeedback Device for Gait Rehabilitation	6158-6161	
Saichi, Kenta <i>Waseda Univ.</i> ; Kazuhiro, Yasuda <i>Waseda Univ.</i> ; Kitaji, Yu <i>Tokyo General Hospital</i> ; Kaibuki, Naomi <i>Tokyo General Hospital</i> ; Iwata, Hiroyasu* <i>Waseda Univ.</i>		
09:00-09:15		SaAT1.5
Evaluation of Shoulder Joint Kinematics and Muscle Activity during Geared and Standard Manual Wheelchair Mobility	6162-6165	
Jahanian, Omid* <i>Univ. of Wisconsin Milwaukee</i> ; Schnorenberg, Alyssa <i>Univ. of Wisconsin – Milwaukee</i> ; Slavens, Brooke <i>Univ. of Wisconsin-Milwaukee</i>		
09:15-09:30		SaAT1.6
Longitudinal Wearable Tremor Measurement System with Activity Recognition Algorithms for Upper Limb Tremor	6166-6169	
Kim, Jeonghee* <i>Georgia Institute of Technology</i> ; Parnell, Claire <i>Georgia Institute of Technology, Biomedical Engineering</i> ; Wichmann, Thomas <i>Dept. Neurology, School of Medicine, Emory Univ.</i> ; DeWeerth, Steve <i>Georgia Institute of Technology</i>		
SaAT2: 08:00-09:30		Fantasia B
Tissue-Electrode Interface (Oral Session)		
Chair: Weiland, James <i>Univ. of Southern California</i>		
08:00-08:15		SaAT2.1
Novel Structure of Carbon Nanotube Micro Electrode for High-Resolution Stimulation of Neurons	6170-6173	
Xu, Hua* <i>The Hong Kong Univ. of Science and Technology</i> ; Chan, Leanne <i>LH City Univ. of Hong Kong</i> ; Bermak, Amine <i>Hong Kong Univ. of Science and Technology HK & Hamad Bin Kh</i>		
08:15-08:30		SaAT2.2
In-Vitro Evaluation of the Long-Term Stability of PEDOT:PSS Coated Microelectrodes for Chronic Recording and Electrical Stimulation of Neurons	6174-6177	
Schander, Andreas* <i>Univ. of Bremen</i> ; Teßmann, Tobias <i>Univ. of Bremen</i> ; Stokov, Serge <i>Univ. of Bremen</i> ; Stemmann, Heiko <i>Univ. of Bremen</i> ; Kreiter, Andreas <i>Univ. of Bremen</i> ; Lang, Walter <i>IMSAS, Univ. of Bremen</i>		
08:30-08:45		SaAT2.3
Directionally-Sensitive Peripheral Nerve Recording: Bipolar Nerve Cuff Design	6178-6181	
Sabetian, Parisa* <i>Univ. of Toronto</i> ; Popovic, Milos R. <i>Univ. of Toronto</i> ; Yoo, Paul <i>Univ. of Toronto</i>		
08:45-09:00		SaAT2.4
Evaluation of Effects of Electrical Stimulation in the Retina with Optical Coherence Tomography	6182-6185	
Gonzalez Calle, Alejandra* <i>Univ. of Southern California</i> ; Weiland, James <i>Univ. of Southern California</i>		
09:00-09:15		SaAT2.5
A Sapphire based Monolithic Integrated Optrode	6186-6189	
Zhang, He <i>Institute of Semiconductors, CAS</i> ; Pei, Weihua* <i>Institute of semiconductors, CAS</i> ; Yang, Xiaowei <i>Institute of Semiconductors, CAS</i> ; Guo, Xuhong <i>Institute of Semiconductors, CAS</i> ; Xing, Xiao <i>Institute of Semiconductors, CAS</i> ; Liu, Ruicong <i>Institute of Semiconductors, CAS</i> ; Liu, Yuanyuan <i>Institute of Semiconductors, CAS</i> ; Gui, Qiang <i>Institute of Semiconductors, CAS</i> ; Chen, Hongda <i>institute of semiconductors, CAS</i>		
09:15-09:30		SaAT2.6
A Hybrid Hardware and Software Approach for Cancelling Stimulus Artifacts during Same-Electrode Neural Stimulation and Recording	6190-6193	
Culaclii, Stanislav* <i>Univ. of California, Los Angeles</i> ; Kim, Brian <i>Univ. of California, Los Angeles</i> ; Lo, Yi-Kai <i>Univ. of California, Los Angeles</i> ; Liu, Wentai <i>Univ. of California, Los Angeles</i>		

SaAT3: 08:00-09:30 Fantasia C
Principal Component Analysis (Oral Session)
Chair: Babiloni, Fabio *Univ. of Rome*

08:00-08:15 SaAT3.1
Principal Component Analysis can Decrease Neural Networks Performance for Incipient Falls
Detection: A Preliminary Study with Hands and Feet Accelerations 6194-6197
Artoni, Fiorenzo* *Scuola Superiore Sant'Anna Italy*; Martelli, Dario *The BioRobotics Institute, Scuola Superiore Sant'Anna, Pisa(I)*.; Monaco, Vito *Scuola Superiore Sant'Anna, Pisa*; Micera, Silvestro *Scuola Superiore Sant'Anna*

08:15-08:30 SaAT3.2
A Fast Approximation Method for Principal Component Analysis Applied to ECG Derived Respiration for OSA Detection 6198-6201
Sadr, Nadi* *Univ. of Sydney*; de Chazal, Philip *Univ. of Sydney*

08:30-08:45 SaAT3.3
A Feasibility Study on Age-Related Factors of Wrist Pulse using Principal Component Analysis 6202-6205
Bae, Jang-Han *Korea Institute of Oriental Medicine, KAIST*; Kim, Jaewuk U* *Korean Institute of Oriental Medicine*; Jeon, Youngju *Korean Institute of Oriental Medicine*; Lee, Sanghun *Korea Institute of Oriental Medicine*

09:00-09:15 SaAT3.5
PCA Criterion for SVM (MLP) Classifier for Flavivirus Biomarker from Salivary SERS Spectra at Febrile Stage 6206-6209
Mohd Radzol, Afaf Rozan *Univ. Teknologi MARA*; Lee, Khuan Y.* *Univ. Teknologi MARA*; Mansor, Wahidah *Univ. Teknologi MARA*

09:15-09:30 SaAT3.6
Savitzky-Golay Coupled with Digital Bandpass Filtering as a Pre-Processing Technique in the Quantitative Analysis of Glucose from Near Infrared Spectra 6210-6213
Patchava, Krishna Chaitanya* *The Univ. of Sheffield*; Alrezj, Osamah *Sheffield Univ.*; Benaissa, Mohammed *The Univ. of Sheffield*; Behairy, Hatim *King Abdulaziz City for Science and Technology*

SaAT4: 08:00-09:30 Fantasia D
Nonlinear Dynamic Analysis in Cardiology (Oral Session)

08:00-08:15 SaAT4.1
Detection of Artifacts on Photoplethysmography Signals using Random Distortion Testing 6214-6217
Cherif, Safa* *Institut Telecom; Telecom Bretagne; UMR CNRS 6285 Lab-STICC*; Pastor, Dominique *Institut Telecom; Telecom Bretagne; UMR CNRS 6285 Lab-STICC; Uni*; Nguyen, Quang-Thang *Institut Telecom; Telecom Bretagne; UMR CNRS 6285 Lab-STICC; Uni*; L'Her, Erwan *Medical Intensive Care Unit, CHRU de Brest, INSERM U1101 LATIM U*

08:15-08:30 SaAT4.2
Long-Range Correlations in Amplitude Variability of HF and LF Components of Heart Rate Variability 6218-6221
Miki, Yuki* *Osaka Univ.*; Suzuki, Yasuyuki *Osaka Univ.*; Watanabe, Eiichi *Fujita Health Univ.*; Hayano, Junichiro *Nagoya City Univ.*; Yamamoto, Yoshiharu *The Univ. of Tokyo*; Nomura, Taishin *Osaka Univ.*; Kiyono, Ken *Osaka Univ.*

08:30-08:45 SaAT4.3
Influence of Embedding Dimension on Distribution Entropy in Analyzing Heart Rate Variability 6222-6225
Udhayakumar, Radhagayathri *Univ. of Melbourne*; Karmakar, Chandan* *Deakin Univ.*; Li, Peng *Shandong Univ.*; Palaniswami, Marimuthu *The Univ. of Melbourne*

08:45-09:00 SaAT4.4
Classification of Severity of Mitral Regurgitation Patients using Multifractal Analysis 6226-6229
Thomas, Rijil* *School of Electrical and Electronic Engineering, Nanyang Technology*; Ling, Lieng Hsi *The Heart Institute, National Healthcare Group, Singapore*; Soh, Cheong Boon *Nanyang Technological Univ.*; Gunawan, Erry *Nanyang Technological Univ.*

09:00-09:15 SaAT4.5
Effect of Embedding Dimension on Complexity Measures in Identifying Arrhythmia 6230-6233
 Udhayakumar, Radhagayathri *Univ. of Melbourne*; Karmakar, Chandan* *Deakin Univ.*; Li, Peng *Shandong Univ.*; Palaniswami, Marimuthu *The Univ. of Melbourne*

09:15-09:30 SaAT4.6
Heart Sound Segmentation using Fractal Decomposition 6234-6237
 Thomas, Rijil* *School of Electrical and Electronic Engineering, Nanyang Technology*; Ling, Lieng Hsi *The Heart Institute, National Healthcare Group, Singapore*; Soh, Cheong Boon *Nanyang Technological Univ.*; Gunawan, Erry *Nanyang Technological Univ.*

SaAT5: 08:00-09:30 Fantasia E
MRI Hardware and Coil Technology (Oral Session)

08:00-08:15 SaAT5.1
Radio Frequency Induced Heating of Insulated Wire during Magnetic Resonance Imaging 6238-6241
 Kozlov, Mikhail* *Max Planck Institute for Human Cognitive and Brain Sciences*; Schaefer, Gregor *MR:comp GmbH*

08:15-08:30 SaAT5.2
Effects of Tuning Conditions on Near Field of MRI Transmit Birdcage Coil at 64 MHz 6242-6245
 Kozlov, Mikhail* *Max Planck Institute for Human Cognitive and Brain Sciences*; Angelone, Leonardo M. *US Food and Drug Administration, Center for Devices and Radiology*; Lucano, Elena *Univ. of Rome "Sapienza"*

08:30-08:45 SaAT5.3
Integrated RF-Shim Coil Allowing Two Degrees of Freedom Shim Current 6246-6249
 Zhou, Jiazheng* *Institute of Biomedical Engineering, National Taiwan Univ.*; Chu, Ying-Hua *National Taiwan Univ.*; Hsu, Yi-Cheng *National Taiwan Univ.*; Wu, Pu-Yeh *National Taiwan Univ.*; Stockmann, Jason P. *Athinoula A. Martinos Center for BioMedical Imaging, Dept.*; Lin, Fa-Hsuan *National Taiwan Univ.*

08:45-09:00 SaAT5.4
Effects of Coplanar Shielding for High Field MRI 6250-6253
 Rispoli, Joseph Vincent* *Purdue Univ.*; Wilcox, Matthew *Texas A&M Univ.*; By, Samantha *Vanderbilt Univ.*; Wright, Steven M. *Texas A&M Univ.*; McDougall, Mary *Texas A&M Univ.*

09:00-09:15 SaAT5.5
Magnetic Resonance Imaging Receiver Coil Decoupling using Circumferential Shielding Structures 6254-6257
 Yeh, Jhy-Neng Tasso* *National Taiwan Univ., Taiwan*; Lin, Fa-Hsuan *National Taiwan Univ.*

09:15-09:30 SaAT5.6
A Three-Element 1H-31P Dual-Tuned Array for Magnetic Resonance Spectroscopy at 4.7 T 6258-6261
 Wilcox, Matthew* *Texas A&M Univ.*; Del Bosque, Romina *Texas A&M Univ.*; Parizek, Kurt *Texas A&M Univ. – NMR Lab*; Sia, Jeremy *Texas A&M Univ.*; Eigenbrodt, Edwin *Texas A&M Univ.*; McDougall, Mary *Texas A&M Univ.*

SaAT11: 08:00-09:30 Fantasia Q
Methodologies in Human Movement Analysis – Full Body (Oral Session)
 Chair: Pedotti, Antonio *Politecnico di Milano*

08:00-08:15 SaAT11.1
Unified Phase Variables of Relative Degree Two for Human Locomotion 6262-6267
 Villarreal, Dario Jose* *Univ. of Texas at Dallas*; Gregg, Robert *Univ. of Texas at Dallas*

08:15-08:30 SaAT11.2
An Unsupervised Approach to Detecting and Isolating Athletic Movements 6268-6272
 Um, Terry Taewoong* *Univ. of Waterloo*; Kulic, Dana *Univ. of Waterloo*

08:30-08:45 SaAT11.3
Classification of Squat Quality with Inertial Measurement Units in the Single Leg Squat Mobility Test 6273-6276
 Kianifar, Rezvan* *Univ. of Waterloo*; Lee, Alex *Motion Signature Analysis*; Raina, Sachin *Motion Signature Analysis*; Kulic, Dana *Univ. of Waterloo*

08:45-09:00 SaAT11.4
An Adaptive and Robust Online Method to Predict Gait Events 6277-6281
Schrade, Stefan Oliver* *ETH Zurich*; Bader, Yvonne *ETH Zurich*; Tucker, Michael *ETH Zurich*; Shirota, Camila
Northwestern Univ.; Gassert, Roger *ETH Zurich*

09:00-09:15 SaAT11.5
Analysis of Effective Sit-to-Stand Therapy using Kinematic Synergies 6282-6285
Lao, Bryan* *Nara Institute of Science and Technology*; Tamei, Tomoya *Nara Institute of Science and
Technology*; Ikeda, Kazushi *Nara Institute of Science and Technology*

SaAT13: 08:00-09:30 Grand Republic C
Wireless Body Sensor Networks (Oral Session)
Chair: Jovanov, Emil *Univ. of Alabama in Huntsville*
Co-Chair: Ghasemzadeh, Hassan *Washington State Univ.*

08:00-08:15 SaAT13.1
**Wireless EEG Patch Sensor on Forehead using On-Demand Stretchable Electrode Sheet and
Electrode-Tissue Impedance Scanner** 6286-6289
Yoshimoto, Shusuke* *Osaka Univ.*; Araki, Teppei *Osaka Univ.*; Uemura, Takafumi *Osaka Univ.*; Nezu,
Toshikazu *Osaka Univ.*; Kondo, Masaya *Osaka Univ.*; Sasai, Kenichi *Panasonic Corporation*; Iwase, Masayuki
Mektron; Satake, Hideki *Mektron*; Yoshida, Akio *Mektron*; Kikuchi, Mitsuru *Kanazawa Univ.*; Sekitani, Tsuyoshi
Osaka Univ.

08:15-08:30 SaAT13.2
StayFit: A Wearable Application for Gym based Power Training 6290-6293
Maram, Maheedhar* *Samsung Research Institute*; Gaurav, Aman *Samsung Research Institute, Bangalore*;
Jilla, Vivek *Samsung Research India Bangalore*; Tiwari, Vijay Narayan *Samsung Research India, Bangalore*;
Narayanan, Rangavittal *Samsung India Software Operations Pvt. Ltd.*

08:30-08:45 SaAT13.3
Wrist-Worn Heartbeat Monitoring System based on Bio-Impedance Analysis 6294-6297
Xu, Jia* *Univ. of Hawaii at Manoa*; Gao, Xiaomeng *Univ. of Hawaii at Manoa*; Lee, Alexander *Univ. of Hawaii at
Manoa*; Yamada, Shuhei *Univ. of Hawaii, Manoa*; Yavari, Ehsan *Univ. of Hawaii Manoa*; Lubecke, Victor *Univ.
of Hawaii Manoa*; Boric-Lubecke, Olga *Univ. of Hawaii Manoa*

08:45-09:00 SaAT13.4
Designing and Testing a Wearable, Wireless fNIRS Patch 6298-6301
Abtahi, Mohammadreza* *Univ. of Rhode Island*; Cay, Gozde *Univ. of Rhode Island*; Saikia, Manob Jyoti *Univ. of
Rhode Island*; Mankodiya, Kunal *Univ. of Rhode Island*

09:00-09:15 SaAT13.5
SmartSock: A Wearable Platform for Context-Aware Assessment of Ankle Edema 6302-6306
Fallahzadeh, Ramin* *Washington State Univ.*; Pedram, Mahdi *Washington State Univ.*; Ghasemzadeh, Hassan
Washington State Univ.

09:15-09:30 SaAT13.6
SmartStuff: A Case Study of a Smart Water Bottle 6307-6310
Jovanov, Emil* *Univ. of Alabama in Huntsville*; Nallathimmarreddygari, Vindhya Reddy *Univ. of Alabama In
Huntsville*; Pryor, Jonathan *Univ. of Alabama in Huntsville, NASA Marshall Space Flight*

SaAT14: 08:00-09:30 Grand Republic D
Invited Session: Advanced Implantable Systems for Neural and Rehabilitation Engineering (Oral Session)
Chair: Mohseni, Pedram *Case Western Reserve Univ.*
Co-Chair: Gosselin, Benoit *Laval Univ.*

08:00-08:15 SaAT14.1
**In Vivo Characterization of a Versatile 8-Channel Digital Biopotential Recording System with Sub-
 μV_{RMS} Input Noise** 6311-6314
Cota Monjaras, Oscar Fernando* *Laboratory for Biomedical Microtechnology Dept. of Microsys*; Plachta,
Dennis T.T. *Univ. of Freiburg – IMTEK*; Stieglitz, Thomas *Univ. of Freiburg*; Manoli, Yiannos *Univ. Freiburg*;
Kundumattathil Mohanan, Sarath *Univ. of Freiburg*; Kuhl, Matthias *Univ. of Freiburg*

08:15-08:30 SaAT14.2
A Short-Impulse UWB BPSK Transmitter for Large-Scale Neural Recording Implants 6315-6318
Rezaei, Masoud *Univ. Laval*; Bahrami, Hadi *Laval Univ.*; Mirbozorgi, Seyedabdollah *Laval Univ.*; Rusch, Leslie
Ann Laval Univ.; Gosselin, Benoit* *Laval Univ.*

08:30-08:45 SaAT14.3
CMOS-Based Opto-Electronic Neural Interface Devices for Optogenetics 6319-6322
Tokuda, Takashi* *Nara Institute of Science and Technology*; Noguchi, Satoki *Nara Institute of Science and
Technology*; Iwasaki, Satoru *Nara Institute of Science and Technology*; Takehara, Hiroaki *Nara Institute of
Science and Technology*; Noda, Toshihiko *Nara Institute of Science and Technology*; Sasagawa, Kiyotaka *Nara
Institute of Science and Technology*; Ohta, Jun *Nara Institute of Science and Technology*

08:45-09:00 SaAT14.4
A Wirelessly-Powered Homecage with Animal Behavior Analysis and Closed-Loop Power Control 6323-6326
Jia, Yaoyao *Georgia Institute of Technology*; Wang, Zhenxuan *Georgia Institute of Technology*; Canales, Daniel
Georgia Institute of Technology; Tinkler, Morgan *Georgia Institute of Technology*; Hsu, Chia-Chun Jeffrey
Emory Univ.; Madsen, Teresa *Emory Univ.*; Mirbozorgi, Seyedabdollah *Laval Univ.*; Rainnie, Donald *Emory
Univ.*; Ghovanloo, Maysam* *Georgia Institute of Technology*

09:00-09:15 SaAT14.5
Bidirectional Peripheral Nerve Interface 6327-6330
Thakor, Nitish* *Johns Hopkins Univ.*; Wang, Qihong *Johns Hopkins Univ.*; Greenwald, Elliot *Johns Hopkins Univ.*

09:15-09:30 SaAT14.6
Design Considerations for Neural Amplifiers 6331-6334
Holleman, Jeremy* *Univ. of Tennessee*

SaBT1: 11:00-12:30 Fantasia A
Epilepsy (Oral Session)
Chair: Strauss, Daniel J. *Saarland Univ., Medical Faculty*

11:00-11:15 SaBT1.1
Localizing Seizure Onset Zone by Convolutional Transfer Entropy from leeg 6335-6338
Lin, Kang* *Zhejiang Univ.*; Wang, Yueming *Zhejiang Univ.*; Xu, Kedi *Qiushi Academy for Advanced Studies,
Zhejiang Univ., Hangzhou*; Zhu, Junming *Second Affiliated Hospital, School of Medicine, Zhejiang Univ.*; Zhang,
Jianmin *Second Affiliated Hospital, School of Medicine, Zhejiang Univ.*; Zheng, Xiaoxiang *Zhejiang Univ.,
Qiushi Academy for Advanced Studies*

11:15-11:30 SaBT1.2
**Automated Volumetry for Unilateral Hippocampal Sclerosis Detection in Patients with Temporal
Lobe Epilepsy** 6339-6342
Martins, Cristina *INESC-TEC*; Moreira da Silva, Nádia *INESC TEC, Porto*; Silva, Guilherme *Neuroradiology
Dept., São João Hospital Center*; Rozanski, Verena E. *Univ. of Munich at Marchioninistrasse*; Cunha, Joao
Paulo Silva* *INESC TEC, PT*

11:30-11:45 SaBT1.3
Balancing Accuracy, Delay and Battery Autonomy for Pervasive Seizure Detection 6343-6348
Karapatis, Athanasios* *Erasmus Medical Center*; Seepers, Robert Mark *Erasmus Medical Center*; van Dongen,
Marijn *TU Delft*; Serdijn, Wouter A. *Delft Univ. of Technology*; Strydis, Christos *Erasmus Medical Center*

11:45-12:00 SaBT1.4
Personalization of Extracerebral-Based Seizure Detection Systems 6349-6352
Cogan, Diana *The Univ. of Texas at Dallas*; Heydarzadeh, Mehrdad *The Univ. of Texas at Dallas*; Nourani,
Mehrdad* *Univ. of Texas at Dallas*

12:00-12:15 SaBT1.5
Predicting Seizures from Local Field Potentials Recorded via Intracortical Microelectrode Arrays 6353-6356
Aghagolzadeh, Mehdi* *Brown Univ.*; Hochberg, Leigh *VA / Brown U. / MGH / Harvard Med. School*; Cash,
Sydney *Massachusetts General Hospital*; Truccolo, Wilson *Brown Univ.*

12:15-12:30 SaBT1.6
Cross-Entropy Optimization for Neuromodulation 6357-6360
 Brar, Harleen *Georgia Institute of Technology*; Pan, Yunpeng* *Georgia Institute of Technology*; Mahmoudi, Babak *Univ. of Miami*; Theodorou, Evangelos *Georgia Institute of Technology*

SaBT2: 11:00-12:30 Fantasia B
Motor Neuroprostheses (Oral Session)
Chair: Pons, Jose Luis *Cajal Institute, Spanish Research Council*
Co-Chair: Thakor, Nitish *Johns Hopkins Univ.*

11:00-11:15 SaBT2.1
Multiscale Brain-Machine Interface Decoders 6361-6364
 Hsieh, Han-Lin* *Univ. of Southern California*; Shanechi, Maryam *Univ. of Southern California*

11:15-11:30 SaBT2.2
Real-Time Evaluation of a Myoelectric Control Method for High-Level Upper Limb Amputees based on Homologous Leg Movements 6365-6368
 Lyons, Kenneth* *Univ. of California, Davis*; Joshi, Sanjay *Univ. of California, Davis*

11:30-11:45 SaBT2.3
A Stimulation-Driven Exoskeleton for Walking after Paraplegia 6369-6372
 Chang, Sarah R.* *Case Western Reserve Univ./Advanced Platform Technology Cen*; Nandor, Mark *Case Western Reserve Univ.*; Li, Lu *Case Western Reserve Univ.*; Foglyano, Kevin M. *Cleveland APT Center/Louis Stokes Cleveland VA Medical Center*; Schnellenberger, John *Cleveland APT Center*; Kobetic, Rudi *Louis Stokes Veterans Affairs Medical Center*; Quinn, Roger *Case Western Reserve Univ.*; Triolo, Ronald J. *US Dept of Veterans Affairs/Case Western Reserve*

11:45-12:00 SaBT2.4
Limb-Position Robust Classification of Myoelectric Signals for Prosthesis Control using Sparse Representations 6373-6376
 Betthausen, Joseph* *Johns Hopkins Univ.*; Hunt, Christopher *Johns Hopkins Univ.*; Osborn, Luke *Johns Hopkins Univ.*; Kaliki, Rahul *Univ. of Southern California*; Thakor, Nitish *Johns Hopkins Univ.*

12:00-12:15 SaBT2.5
Effects of Lower Limb Electrical Stimulation on Trunk Stability in Persons with SCI during Walking: A Case Series 6377-6380
 Momeni, Kamyar *Kessler Foundation*; Canton, Stephen *Kessler Foundation*; Ramanujam, Arvind *Kessler Foundation*; Garbarini, Erica *Kessler Foundation*; Forrest, Gail F* *Kessler Foundation*

12:15-12:30 SaBT2.6
Combining a Hybrid Robotic System with a Brain-Machine Interface for the Rehabilitation of Reaching Movements: A Case Study with a Stroke Patient 6381-6384
 Resquín, Francisco* *Spanish Research Council (CSIC)*; Ibáñez, Jaime *Consejo Superior de Investigaciones Científicas CSIC*; Gonzalez, Jose *Chiba Univ.*; Brunetti, Fernando *Centro de Automática y Robótica*; Dimbwadyo, Iris *Occupational Therapy Research Group, Centro Superior de Estudios*; Alves, Susana *Centro de Referencia Estatal de Atención al Daño Cerebral (CEAD)*; Carrasco, Laura *Centro Superior de Estudios Univ. La Salle (UAM)*; Torres, Laura *Centro Superior de Estudios Univ. La Salle (UAM)*; Pons, Jose Luis *Cajal Institute, Spanish Research Council*

SaBT3: 11:00-12:30 Fantasia C
Neural Networks and Support Vector Machines (Oral Session)

11:00-11:15 SaBT3.1
A Feature Exploration Methodology for Learning based Cuffless Blood Pressure Measurement using Photoplethysmography 6385-6388
 Duan, Kefeng* *Shanghai Jiao Tong Univ.*; Qian, Zhiliang *Shanghai Jiao Tong Univ.*; Mohamed, Atef *Shanghai Jiao Tong Univ.*; Wang, Guoxing *Shanghai Jiao Tong Univ.*

11:15-11:30 SaBT3.2
Support Vector Machine Classification of Parkinson's Disease and Essential Tremor Subjects based on Temporal Fluctuation 6389-6392
 Surangsrirat, Decho* *National Electronics and Computer Technology Center, Thanawattano, Chusak National Electronics and Computer Technology Center, Pongthornseri, Ronachai National Electronics and Computer Technology Center, Dumnin, Songphon National Electronics and Computer Technology Center, Anan, Chanawat Chulalongkorn Univ.; Bhidayasiri, Roongroj Chulalongkorn Univ.*

11:30-11:45 SaBT3.3
Improving Odorant Chemical Class Prediction with Multi-Layer Perceptrons using Temporal Odorant Spike Responses from Drosophila Melanogaster Olfactory Receptor Neurons 6393-6396
 Bachtiar, Luqman R* *The Univ. of Auckland*; Newcomb, Richard D *The New Zealand Institute for Plant & Food Research*; Kralicek, Andrew V *The New Zealand Institute of Plant & Food Research*; Unsworth, Charles Peter *Univ. of Auckland*

11:45-12:00 SaBT3.4
Heart Rate Variability as a Biomarker for Sedation Depth Estimation in ICU Patients 6397-6400
 Nagaraj, Sunil Belur* *Massachusetts General Hospital*; Muchukunte Ramaswamy, Sowmya *Massachusetts General Hospital*; Biswal, Siddharth *MGH*; Boyle, Emily *Massachusetts General Hospital*; Zhou, David Wei *Massachusetts General Hospital*; McClain, Lauren M. *Massachusetts General Hospital*; Rosenthal, Eric *MGH*; Purdon, Patrick L *Massachusetts General Hospital*; Westover, Brandon *Massachusetts General Hospital*

12:00-12:15 SaBT3.5
An Adaptive Deep Learning Approach for PPG-Based Identification 6401-6404
 Jindal, Vasu *The Univ. of Texas at Dallas*; Birjandtalab, Javad *Univ. of Texas at Dallas*; Baran Pouyan, Mazyar *Univ. of Texas at Dallas*; Nourani, Mehrdad* *Univ. of Texas at Dallas*

12:15-12:30 SaBT3.6
User Intent Prediction with a Scaled Conjugate Gradient Trained Artificial Neural Network for Lower Limb Amputees using a Powered Prosthesis 6405-6408
 Woodward, Richard* *Northwestern Univ.*; Spanias, John *Northwestern Univ.*; Hargrove, Levi *Rehabilitation Institute of Chicago*

SaBT4: 11:00-12:30 Nonlinear Dynamic Analysis (Oral Session)	Fantasia D
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11:00-11:15 SaBT4.1
Surrogate Analysis of Fractal Dimensions from Seng Sensor Array as a Predictor of Chronic Low Back Pain 6409-6412
 Caza-Szoka, Manouane* *Univ. du Québec à Trois-Rivières*; Massicotte, Daniel *Univ. du Québec à Trois-Rivières*; Nougrou, François *Laval Univ.*; Descarreaux, Martin *Univ. du Québec à Trois-Rivières*

11:15-11:30 SaBT4.2
Modulation of Motor Cortex Excitability by Peripheral Magnetic Stimulation of Different Stimulus Sites and Frequencies 6413-6416
 Sato, Aya* *Tokai Univ.*; Liu Xiangqun, Xiangqun *Graduate School of Systems Life Sciences, Kyushu Univ.*; Torii, Tetsuya *Nihon Institute of Medical Science*; Iwahashi, Masakuni *Tokai Univ.*; Iramina, Keiji *Kyushu Univ., Japan*

11:30-11:45 SaBT4.3
Dispersion Entropy for the Analysis of Resting-State MEG Regularity in Alzheimer's Disease 6417-6420
 Azami, Hamed* *Univ. of Edinburgh*; Rostaghi, Mostafa *Dept. of Mechanical Engineering, Shahid Rajaei Teacher Trai*; Fernandez, Alberto *Univ. Complutense de Madrid*; Escudero, Javier *Univ. of Edinburgh*

11:45-12:00 SaBT4.4
Motor Imagery based Brain Computer Interface using Transform Domain Features 6421-6424
 Elbaz, Ahmed *Systems and Biomedical Engineering, Cairo Univ.*; Ahmed, Ahmed *Faculty of Engineering, Cairo Univ.*; Mohamed, Ayman *Systems and Biomedical Engineering, Cairo Univ.*; Oransa, Mohamed *Systems and Biomedical Engineering, Cairo Univ.*; Sayed, Khaled *Cairo Univ.*; Eldeib, Ayman M.* *Cairo Univ.*

12:00-12:15 SaBT4.5
Assessment of Sedation-Analgesia by Means of Poincaré Analysis of the Electroencephalogram 6425-6428
 Bolaños, José Daniel *Univ. San Buenaventura*; Vallverdu, Montserrat *Univ. Politècnica de Catalunya*; Caminal, Pere *Technical Univ. of Catalonia (UPC)*; Valencia, Daniel Felipe *Univ. San Buenaventura*; Borrat, Xavi *Hospital Clinic de Barcelona*; Gambus, Pedro L *Hospital CLINIC, Univ. de Barcelona*; Valencia Murillo, Jose Fernando* *Univ. San Buenaventura*

12:15-12:30 SaBT4.6
Analysis of the Sleep EEG in the Complexity Domain 6429-6432
 Mariani, Sara* *Brigham and Women's Hospital, Harvard Medical School*; Borges, Ana F. T. *Dept. of Integrative Neurophysiology, Center for Neurogenom*; Henriques, Teresa S. *Wyss Institute for Biologically Inspired Engineering at Harvard*; Thomas, Robert Joseph *Beth Israel Deaconess Medical Center*; Leistedt, Samuel *Sleep Laboratory, Dept. of Psychiatry, Hospital Erasme, Univ.*; Linkowski, Paul *Sleep Laboratory, Dept. of Psychiatry, Hospital Erasme, Univ.*; Lanquart, Jean-Pol *Sleep Laboratory, Dept. of Psychiatry, Hospital Erasme, Univ.*; Goldberger, Ary L. *Wyss Institute for Biologically Inspired Engineering at Harvard*; Costa, Madalena D. *Wyss Institute for Biologically Inspired Engineering at Harvard*

SaBT5: 11:00-12:30 Image Segmentation I (Oral Session) Chair: Amini, Amir <i>Univ. of Louisville</i> Co-Chair: Fujita, Hiroshi <i>Gifu Univ.</i>	Fantasia E
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11:00-11:15 SaBT5.1
3D Small Structure Detection in Medical Image using Texture Analysis 6433-6436
 Gao, Fei *Arizona State Univ.*; Zhang, Min *Mayo Clinic*; Wu, Teresa* *Arizona State Univ.*; Bennett, Kevin *Univ. of Hawaii at Manoa*

11:15-11:30 SaBT5.2
Preliminary Study on the Automated Skull Fracture Detection in CT Images using Black-Hat Transform 6437-6440
 Yamada, Ayumi* *Fujita Health Univ.*; Teramoto, Atsushi *Fujita Health Univ.*; Otsuka, Tomoko *Daido Hospital*; Kohei, Kudo *Daido Hospital*; Hirofumi, Anno *Daido Hospital*; Fujita, Hiroshi *Gifu Univ.*

11:30-11:45 SaBT5.3
A Multi-Criteria Evaluation Platform for Segmentation Algorithms 6441-6444
 Laurent, Pierre* *Laboratoire de Recherche en Imagerie et Orthopédie, ÉTS*; Cresson, Thierry *Ecole de Technologie Supérieure*; Hagemester, Nicola *École de Technologie Supérieure*; Vazquez, Carlos *École de Technologie Supérieure*; de Guise, Jacques A. *École de Technologie Supérieure*

11:45-12:00 SaBT5.4
Automated Neurovascular Tracing and Analysis of the Knife-Edge Scanning Microscope Rat Nissl Data Set using a Computing Cluster 6445-6448
 Lim, Sungjun* *Texas A&M Univ.*; Nowak, Michael *Texas A&M Univ.*; Choe, Yoonsuck *Texas A&M Univ.*

12:00-12:15 SaBT5.5
Incorporating Shape Prior into Active Contours with a Sparse Linear Combination of Training Shapes: Application to Corpus Callosum Segmentation 6449-6452
 Farhangi, Mohammad Mehdi* *Univ. of Louisville*; Frigui, Hichem *Univ. of Louisville*; Bert, Robert *Univ. of Louisville*; Amini, Amir *Univ. of Louisville*

12:15-12:30 SaBT5.6
Liver Segmentation using Location and Intensity Probabilistic Atlases 6453-6456
 Farzaneh, Negar *Univ. of Michigan*; Samavi, Shadrokh *McMaster Univ.*; Soroushmehr, S.M.Reza* *Univ. of Michigan, Ann Arbor*; Patel, Hirenkumar *Univ. of Michigan*; Habbo-Gavin, Samuel *Univ. of Michigan*; Fessell, David *Univ. of Michigan*; Ward, Kevin *Univ. of Michigan*; Najarian, Kayvan *Univ. of Michigan – Ann Arbor*

SaBT11: 11:00-12:30 Fantasia F
Invited Session: Modeling of Modern Devices and Technologies with Computational Human Phantoms – III (Oral Session)
Chair: Makarov, Sergey *Electrical and Computer Engineering, Worcester Polytechnic Institute*
Co-Chair: Horner, Marc *ANSYS, Inc.*

11:00-11:15 SaBT11.1
Computational Models of Non-Invasive Brain and Spinal Cord Stimulation 6457-6460
 Miranda, Pedro Cavaleiro* *Faculdade de Ciências, Univ. de Lisboa*; Salvador, Ricardo *Institute of Biophysics and Biomedical Engineering (IBEB), Univ.*; Wenger, Cornelia *Faculdade de Ciências, Univ. de Lisboa*; Fernandes, Sofia Rita *Univ. of Lisbon*

11:15-11:30 SaBT11.2
Using Computational Phantoms to Improve Delivery of Tumor Treating Fields (TTFields) to Patients 6461-6464
 Bomzon, Ze'ev* *Novocure*; Hershkovich, Hadas Sara *Novocure Ltd., Haifa, Israel*; Urman, Noa *Novocure*; Chaudhry, Aafia *Novocure, New York*; Garcia-Caracedo, Dario *Novocure, New York*; Korshoej, Anders R. *Aarhus Univ.*; Weinberg, Uri *Novocure*; Wenger, Cornelia *Faculdade de Ciências, Univ. de Lisboa*; Miranda, Pedro Cavaleiro *Faculdade de Ciências, Univ. de Lisboa*; Wassermann, Yoram *Novocure Ltd., Haifa, Israel*; Kirson, Eilon David *Novocure*; Palti, Yoram *Novocure*

11:30-11:45 SaBT11.3
MR Conditional Safety Assessment of Implanted Medical Devices: Advantages of Computational Human Phantoms 6465-6468
 Brown, James* *MSEI*; Qiang, Rui *Micro Systems Engineering, Inc.*; Stadnik, Paul *Micro Systems Engineering, Inc.*; Stotts, Larry *Biotronik*; Von Arx, Jeffrey *Micro Systems Engineering, Inc.*

11:45-12:00 SaBT11.4
Modeling and Design of Antennas for Implantable Telemetry Applications 6469-6472
 Venkatasubramanian, Arun* *Cambridge Consultants*; Gifford, Brandon *Cambridge Consultants*

12:00-12:15 SaBT11.5
Modeling Fiber-Like Conductivity Structures via the Boundary Element Method using Thin-Wire Approximation. I Construction of Basis Functions 6473-6476
 Makarov, Sergey* *Electrical and Computer Engineering, Worcester Polytechnic Institute*; Pascual-Leone, Alvaro *Harvard Medical School*; Nummenmaa, Aapo *Massachusetts General Hospital*

SaBT12: 11:00-12:30 Fantasia Q
New Sensing Technologies (Oral Session)
Chair: Leonhardt, Steffen *RWTH Aachen Univ.*
Co-Chair: Muehlsteff, Jens *Philips*

11:00-11:15 SaBT12.1
Development of a High-Sensitivity and Portable Cell using Helmholtz Resonance for Noninvasive Blood Glucose-Level Measurement based on Photoacoustic Spectroscopy 6477-6480
 Tachibana, Kohei* *Meiji Univ.*; Okada, Ko *Meiji Univ.*; Kobayashi, Ryohei *Meiji Univ.*; Ishihara, Yasutoshi *Meiji Univ.*

11:15-11:30 SaBT12.2
Comparison of Pulse Wave Velocity Derived from Accelerometer and Reflective Photo-Plethysmography Signals Placed at the Carotid and Femoral Artery 6481-6484
 Muehlsteff, Jens* *Philips*; Bresch, Erik *Philips*; Schmitt, Lars *Philips*; Bingley, Peter *Philips*

11:30-11:45 SaBT12.3
A Novel Approach for Chewing Detection based on a Wearable PPG Sensor 6485-6488
 Papapanagiotou, Vasileios* *Aristotle Univ. of Thessaloniki*; Diou, Christos *Aristotle Univ. of Thessaloniki*; Zhou, Lingchuan *CSEM SA*; van den Boer, Janet *Wageningen Univ.*; Mars, Monica *Wageningen Univ.*; Delopoulos, Anastasios *Aristotle Univ. of Thessaloniki*

11:45-12:00	SaBT12.4
An Autoclavable Wireless Palpation Instrument for Minimally Invasive Surgery	6489-6492
Naidu, Anish S.* <i>Western Univ.</i> ; Escoto, Abelardo <i>The Univ. of Western Ontario</i> ; Fahmy, Omar <i>Western Univ.</i> ; Patel, Rajni <i>London Health Sciences Centre</i> ; Naish, Michael D. <i>The Univ. of Western Ontario, Lawson Health Research Institute</i>	
12:00-12:15	SaBT12.5
Monitoring of Thermal Treatment by Linearly Chirped Fiber Bragg Grating Sensors: Feasibility Assessment during Laser Ablation on Ex Vivo Liver	6493-6496
Napoleoni, Flavia <i>Univ. Campus Bio-Medico di Roma, Rome-Italy</i> ; Caponero, Michele Arturo <i>ENEA – Centro Ricerche Frascati</i> ; Polimadei, Andrea <i>ENEA – Centro Ricerche Frascati</i> ; Tosi, Daniele <i>Nazarbayev Univ.</i> ; Saccomandi, Paola <i>Univ. Campus Bio-Medico of Rome</i> ; Schena, Emiliano* <i>Univ. of Rome Campus Bio-Medico</i> ; Taffoni, Fabrizio <i>Campus Bio-Medico Univ.</i>	
12:15-12:30	SaBT12.6
Polysilicon based Flexible Temperature Sensor for High Spatial Resolution Brain Temperature Monitoring	6497-6500
Wu, Zhizhen* <i>Univ. of Cincinnati</i> ; Li, Chunyan <i>Feinstein Institute for Medical Research</i> ; Narayan, Raj <i>Feinstein Institute for Medical Research</i> ; Hartings, Jed <i>Univ. of Cincinnati</i> ; Ahn, Chong <i>Univ. of Cincinnati</i>	