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09:55-10:10	Service and Business Model for Technology Enabled and Home-Based Cardiac Rehabilitation Programs	ThA15.2 303-307
	Sarela, Antti* (CSIRO); Whittaker, Frank (CAAIR); Korhonen, Ilkka (VTT)	
10:10-10:25	Author unavailable for presentation Patient Interaction in Homecare Systems to Treat Cardiovascular Diseases in the Long Term	ThA15.3 308-311
	Peinado, Ignacio* (Technical University of Madrid); Arredondo, María Teresa (Technical University of Madrid); Villalba, Elena (Centre for the Development of Industrial Technology); SALVI, DARIO (Technical University of Madrid); Ottaviano, Manuel (Technical University of Madrid)	
10:25-10:40	A Concept to Empower Self-Management of Psychophysiological Wellbeing: Preliminary User Study Experiences	ThA15.4 312-315
	Happonen, Antti* (VTT Technical Research Centre of Finland); Kaipainen, Kirsikka (VTT Technical Research Centre of Finland); Väätänen, Antti (VTT Technical Research centre of Finland); Kinnunen, Marja-Liisa (Unisversity of Jyväskylä); Myllymäki, Tero (University of Jyväskylä); Lappalainen, Päivi (University of Jyväskylä); Tuomela, Henna (University of Jyväskylä); Rusko, Heikki (University of Jyväskylä); Mattila, Elina (VTT); Lappalainen, Raimo (University of Jyväskylä); Korhonen, Ilkka (VTT)	
10:40-10:55	Personal Health Promotion through Personalized Health Technologies – Nuadu Experience	ThA15.5 316-319
	Korhonen, Ilkka* (VTT); Mattila, Elina (VTT); Ahtinen, Aino (Nokia Research Center); Salminen, Jukka (Nokia); Hopsu, Leila (Finnish Institute of Occupational Health); Lappalainen, Raimo (University of Jyväskylä); Leino, Timo (Finnish Institute of Occupational Health)	
10:55-11:10	SPN-Model Based Simulation of a Wearable Health Monitoring System	ThA15.6 320-323
	Pantelopoulos, Alexandros (Wright State University); Bourbakis, Nikolaos* (Wright State University)	

ThBPO1: 11:10-12:30	Grand Ballroom - Salon E, F, G
1.1.3 Time-Frequency and Time-Scale Analysis II (Poster Session)	
11:10-12:30	ThBPO1.1
Morphological Processing of Physiological Signals for Feature Extraction	324-327
Samanta, Biswanath* (Villanova University)	
11:10-12:30	ThBPO1.2
Fuzzy Logic Based Classification and Assessment of Pathological Voice Signals	328-331
Seyed Aghazadeh, Babak (Virginia Commonwealth University); Khadivi Heris, Hossein* (McGill University)	
11:10-12:30 Author unavailable for presentation	ThBPO1.3
Estimation of Instantaneous Power in the EEG to Assess Brain Connectivity with High Temporal Resolution	332-335
Kwon, JungPhil* (University of Florida); Seth, Sohan (University of Florida); Keil, Andreas (University of Florida); Principe, Jose (University of Florida)	
11:10-12:30	ThBPO1.4
Detection Technique of Muscle Activation Intervals for Semg Signals Based on the Empirical Mode Decomposition	336-339
Lee, Junghoon (Yonsei University); Ko, Hyun-Chul (Yonsei university); Lee, SeungHwan (Yonsei University); Lee, Hyunsook (SangJi University); Yoon, Young-ro* (Yonsei University)	
11:10-12:30	ThBPO1.5
Application of Empirical Mode Decomposition in Removing Fidgeting Interference in Doppler Radar Life Signs Monitoring Devices	340-343
Mostafanezhad, Isar* (University of Hawaii at Manoa); Boric-Lubecke, Olga (University of Hawaii Manoa); Lubecke, Victor (University of Hawaii Manoa); Mandic, Danilo (Imperial College)	
11:10-12:30	ThBPO1.6
Fetal R-Wave Detection from Multichannel Abdominal ECG Recordings in Low SNR	344-347
Kharabian, shahrzad* (sharif university of technology(Tehran)); Shamsollahi, Mohammad Bagher (Sharif University of Technology); Sameni, Reza (Shiraz University)	
11:10-12:30	ThBPO1.7
Estimation of Blood Pressure Variability Using Independent Component Analysis of Photoplethysmographic Signal	348-351
Abe, Makoto* (Tohoku University); Yoshizawa, Makoto (Tohoku University); Sugita, Norihiro (Tohoku University); Tanaka, Akira (Fukushima University); Yambe, Tomoyuki (Tohoku Univ)	
11:10-12:30	ThBPO1.8
De-Noising of SPECT Images Via Optimal Thresholding by Wavelets	352-355
Ahmadi Noubari, Hossain* (University of Tehran); Fayazi, Ali (Engineering Faculty, Science and Research Branch, IslamicAzad University,); Babapour, Fashid (2 Engineering Faculty, Science and Research Branch, Islamic Azad University,)	
11:10-12:30	ThBPO1.9
An Improvement of Normogastric Rhythm Extraction from Electrogastrographic (EGG) Signal Using Independent Component Analysis	356-359
Mika, Barbara (Silesian University of Technology); Tkacz, Ewaryst* (Silesian Univ of Tech, Inst of Electron); Kostka, Pawel Stanislaw (Silesian University of Technology); Budzianowski, Zbigniew (Silesian University of Technology, Institute of Electronics)	
11:10-12:30	ThBPO1.10
Testing of Motor Unit Synchronization Model for Localized Muscle Fatigue	360-363
Naik, Ganesh R* (Royal Melbourne University of Tech); Poosapadi Arjunan, Sridhar (RMIT University); Kant Kumar, Dinesh (RMIT university); Wheeler, Katherine (RMIT)	
11:10-12:30	ThBPO1.11
Use of sEMG in Identification of Low Level Muscle Activities: Features Based on ICA and Fractal Dimension	364-367
Naik, Ganesh R* (Royal Melbourne University of Tech); Poosapadi Arjunan, Sridhar (RMIT University)	

11:10-12:30	ThBPO1.12
A New Approach For Frequency Analysis Of Complex Fractionated Atrial Electrograms	368-371
Nguyen, Minh Phuong (Universität Karlsruhe (TH)); Schilling, Christopher* (Universität Karlsruhe (TH)); Doessel, Olaf (University of Karlsruhe)	
11:10-12:30	ThBPO1.13
Use of Frequency Analysis on the ECG for the Prognosis of Low Energy Cardioversion Treatment of Atrial Fibrillation	372-375
Diaz, Jose David* (UNEFM); Escalona, Omar Jacinto (University of Ulster); GLOVER, BEN (RVH); Manoharan, Ganesh (Royal Victoria Hospital)	
11:10-12:30	ThBPO1.14
Evaluating the Efficacy of an Automated Procedure for EEG Artifact Removal	376-379
Tran, Yvonne* (University of Technology, Sydney); Thuraisingham, Ranjit Arulnayagam (University of Technology Sydney); Craig, Ashley (University of Technology, Sydney); Nguyen, Hung T. (University of Technology, Sydney)	
11:10-12:30	ThBPO1.15
Development of the EEG Measurement Method under Exercising.	380-383
DOBASHI, Noriyuki* (Tokai University); Magatani, Kazushige (Tokai Univ.)	
11:10-12:30	ThBPO1.16
A Machine Learning Approach to K-Step Look-Ahead Prediction of Gait Variables from Acceleration Data	384-387
Lai, Daniel* (Victoria University); Shilton, Alistair (The University of Melbourne); Charry, Edgar (The University of Melbourne); Begg, Rezaul (Victoria University); Palaniswami, Marimuthu (The University of Melbourne)	
11:10-12:30	ThBPO1.17
On Arithmetic Misconceptions of Spectral Analysis of Biological Signals, in Particular Respiratory Sounds	388-391
Yadollahi, Azadeh* (University of Manitoba); Moussavi, Zahra (University of Manitoba)	
11:10-12:30	ThBPO1.18
The Noise Influence on Determination Dominant Frequencies of EGG Signal.	392-395
Komorowski, Waldemar* (Silesian University of Technology); Pietraszek, Stanislaw (Silesian University of Technology)	
11:10-12:30	ThBPO1.19
The Simultaneous Recording and Analysis Both EGG and HRV Signals.	396-399
Pietraszek, Stanislaw* (Silesian University of Technology); Komorowski, Waldemar (Silesian University of Technology)	
11:10-12:30	ThBPO1.20
Spectral Analysis of Electroencephalogram and Oximetric Signals in Obstructive Sleep Apnea Diagnosis	400-403
Álvarez, Daniel (University of Valladolid); Hornero, Roberto (University Of Valladolid); Marcos, J. Victor* (University of Valladolid, CIF: Q4718001C); del Campo, Félix (Hospital del Río Hortega); López, Miguel (University of Valladolid)	
11:10-12:30	ThBPO1.21
Correlation of Respiratory Activity of Contralateral Diaphragm Muscles for Evaluation of Recovery Following Hemi-Paresis	404-407
Dow, Douglas E* (Wentworth Institute of Technology); Zhan, Wen-Zhi (Mayo Clinic College of Medicine); Sieck, Gary C (Mayo Clinic College of Medicine); Mantilla, Carlos B (Mayo Clinic College of Medicine)	
11:10-12:30	ThBPO1.22
Mechanomyogram for Identifying Muscle Activity and Fatigue	408-411
Yang, Zhao Feng (RMIT); Kant Kumar, Dinesh (RMIT university); Poosapadi Arjunan, Sridhar* (RMIT University)	
11:10-12:30	ThBPO1.23
Development of the Device to Detect SPO2 in the Field	412-415
KANAEDA, Yoshiaki* (Tokai University); Magatani, Kazushige (Tokai Univ.)	

11:10-12:30	ECG Denoising Using Modulus Maxima of Wavelet Transform	ThBPO1.24 416-419
	Ayat, Mohammad (<i>Biomedical Signal and Image Processing Laboratory (BiSIP),</i>); Shamsollahi, Mohammad Bagher (<i>Sharif University of Technology</i>); Mozaffari, Behrooz (<i>American University of Sharjah</i>); Kharabian, shahrzad* (<i>sharif university of technology(Tehran)</i>)	
11:10-12:30	Improved HRV Characterization Using OCDWT	ThBPO1.25 420-423
	Saini, B. S. (<i>Dr. B. R. Ambedkar National Institute of Technology</i>); Singh, Dilbag (<i>National Institute of Technology</i>); Kumar, Vinod* (<i>IIT Roorkee</i>); Deepak, K. K. (<i>All India Institute of Medical Sciences</i>); Sidhu, Jagroop (<i>PTU</i>)	
11:10-12:30	Wavelet Analysis to Detect Gait Events	ThBPO1.26 424-427
	Forsman, Pia* (<i>Finnish Inst of Occupational Health</i>); Toppila, Esko (<i>Finnish Institute of Occupational Health</i>); Haeggström, Edward (<i>University of Helsinki</i>)	
11:10-12:30	Two-Dimensional Compression of Surface Electromyographic Signals Using Column-Correlation Sorting and Image Encoders	ThBPO1.27 428-431
	Costa, Marcus Vinicius Chaffim (<i>University of Brasilia</i>); Carvalho, Joao Luiz Azevedo de* (<i>University of Brasília</i>); Berger, Pedro (<i>Universidade de Brasília</i>); Zaghetto, Alexandre (<i>University of Brasilia</i>); da Rocha, Adson F. (<i>University of Brasilia</i>); Nascimento, Francisco A. de O. (<i>University of Brasilia</i>)	
ThBPO2: 11:10-12:30	Grand Ballroom - Salon E, F, G	
	2.2.4 Biomedical Acoustic Imaging II (Poster Session)	
11:10-12:30	Calibration of Cross-Sectional Images Measured by an Ultrasound-Based Muscle Evaluation System	ThBPO2.1 432-435
	Fukumoto, Kiyotaka* (<i>Kyushu University</i>); Muraki, Satoshi (<i>Kyushu University</i>); Tsubai, Masayoshi (<i>National Inst of (AIST)</i>); Fukuda, Osamu (<i>National Institute of AIST</i>)	
11:10-12:30	Finite Element Simulation of Ultrasound Propagation in Bone for Quantitative Ultrasound toward the Diagnosis of Osteoporosis	ThBPO2.2 436-439
	Kim, Sang-Hyuk* (<i>Kyung-Hee university</i>); Suh, Hyun Sang (<i>Kyung Hee University</i>); Cho, Min Hyoung (<i>Kyung Hee University</i>); Lee, Soo Yeol (<i>Kyung Hee University</i>); Kim, Tae-Seong (<i>Kyung Hee University</i>)	
11:10-12:30	Refining Enamel Thickness Measurement from B-Mode Ultrasound Images	ThBPO2.3 440-443
	Hua, Jeremy* (<i>University of Washington</i>); Chen, Ssu-Kuang (<i>University of Washington</i>); Kim, Yongmin (<i>University of Washington</i>)	
11:10-12:30	Gradient-Driven Beamforming for Biomedical Ultrasound	ThBPO2.4 444-450
	Khezerloo, Solmaz* (<i>University of Victoria</i>); Rakhamatov, Daler (<i>University of Victoria</i>)	
11:10-12:30	Micro-Ultrasound Biofluid Imaging and Multi-Component Velocity Measurement with Micro Echo Particle Image Velocimetry Technique	ThBPO2.5 451-454
	Qian, Ming (<i>Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences</i>); Niu, Lili (<i>Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences</i>); zheng, Hairong* (<i>Shenzhen Inst of Advanced Tech</i>); Jin, Qiaofeng (<i>Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences</i>); Ling, Tao (<i>Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences</i>)	
11:10-12:30	Texture Characterization of Carotid Atherosclerotic Plaque from B-mode Ultrasound Using Gabor Filters	ThBPO2.6 455-458
	Stoitsis, John (<i>Institute of Communication</i>); Golemati, Spyretta (<i>National Kapodistrian University of Athens</i>); Tsiparas, Nikos* (<i>National Technical University of Athens</i>); Nikita, Konstantina (<i>National Technical University of Athens</i>)	

11:10-12:30	Improved Segmentation of Ultrasound Images for Fetal Biometry Using Morphological Operators	ThBPO2.7 459-462
	SHRIMALI, VIBHAKAR (DEPARTMENT OF TRAINING AND TECHNICAL EDUCATION); ANAND, R.S. (INDIAN INSTITUTE OF TECHNOLOGY); Kumar, Vinod* (IIT Roorkee)	
11:10-12:30	LyP-1 Ultrasonic Microbubbles Targeting to Cancer Cell As Tumor Bio-Acoustics Markers or Drug Carriers: Targeting Efficiency Evaluation in Microfluidic Channels	ThBPO2.8 463-466
	LI, XIANG (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences); Jin, Qiaofeng (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences); Chen, Tan (Shenzhen Institute of Advanced Technology); zhang, baoyue (Shenzhen Institute of Advanced Technology); WANG, ZHANHUI (Shenzhen Institute of Adv Tech); zheng, Hairong* (Shenzhen Inst of Advanced Tech)	
11:10-12:30	Imaging Components for a Robotic Casualty Evaluation System	ThBPO2.9 467-470
	Wong, Ken* (Virginia Tech)	
11:10-12:30	Classification of Blood Regions in IVUS Images Using Three Dimensional Brushlet Expansions	ThBPO2.10 471-474
	Laine, Andrew F.* (Columbia University); Angelini, Elsa (Ecole Nat. Supérieure des Telecom); Katouzian, Amin (University)	
11:10-12:30	Display Pixel-Based Synthetic Aperture Focusing Method for Intravascular Ultrasound Imaging	ThBPO2.11 475-478
	Kim, Seungsoo* (University of Texas at Austin); aglyamov, salavat (University of Texas at Austin); Emelianov, Stanislav (University of Texas at Austin)	
11:10-12:30	Tissue Characterization Using Multiscale Products of Wavelet Transform of Ultrasound Radio Frequency Echoes	ThBPO2.12 479-482
	Aboofazeli, Mohammad* (Queen's University); Abolmaesumi, Purang (Queen's University); Fichtinger, Gabor (Johns Hopkins University); Mousavi, parvin (Queen's University)	
11:10-12:30	3D Ultrasound in Assessment of Growth and Development of Frontal Lobes in Children with Perinatal Brain Injury	ThBPO2.13 483-486
	Liu, Yunfeng (Tsinghua University); wang, hongmei (Peking University First Hospital); tang, zezhong (Peking University First Hospital); Ding, Haiyan* (Tsinghua University); zhou, congle (Peking University First Hospital)	
11:10-12:30	Sub -Pixel Methods for Improving Vector Quality in Echo PIV Flow Imaging Technology	ThBPO2.14 487-490
	Niu, Lili (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences); zheng, Hairong* (Shenzhen Inst of Advanced Tech)	
11:10-12:30	Resolving the Lateral Component of Blood Flow Velocity Based on Ultrasound Speckle Size Change with Scan Direction and Speed	ThBPO2.15 491-494
	Xu, Tiantian* (University of Nebraska-Lincoln); Bashford, Greg (University of Nebraska-Lincoln)	
11:10-12:30	Reducing Registration Error in Cross-Beam Vector Doppler Imaging with Position Sensor	ThBPO2.16 495-498
	Xu, Canxing* (University of Washington); Beach, Kirk (University of Washington); Leotta, Daniel (University of Washington); Stutzman, Edward (University of Washington); Kim, Yongmin (University of Washington)	
11:10-12:30	Real-Time Compounding of Three-Dimensional Transesophageal Echocardiographic Volumes: The Phantom Study	ThBPO2.17 499-502
	Gang, Gao* (University College London); Ma, YingLiang (King's College London); Rhode, Kawal (King's College London)	
11:10-12:30	Objective and Subjective Evaluations of Quality for Speckle Reduced Echocardiography	ThBPO2.18 503-506
	Finn, Sean* (National University of Ireland); Jones, Edward (National University of Ireland); Glavin, Martin (National University of Ireland)	

11:10-12:30	ThBPO02.19
On the Use of Motion-Based Frame Rejection in Temporal Averaging Denoising for Segmentation of Echocardiographic Image Sequences	507-510
Reis, Maria do Carmo dos* (University of Brasília); Carvalho, Joao Luiz Azevedo de (University of Brasília); Macchiavello, Bruno L. (University of Brasília); França Vasconcelos, Daniel (UnB - HUB); da Rocha, Adson F. (University of Brasília); Nascimento, Francisco A. de O. (University of Brasília); Camapum, Juliana Fernandes (Universidade de Brasília)	
11:10-12:30	ThBPO02.20
Improved Segmentation of Echocardiographic Images Using Fusion of Images from Different Cardiac Cycles	511-514
Amorim, Junier Caminha (Universidade de Brasília); Reis, Maria do Carmo dos* (University of Brasília); Carvalho, Joao Luiz Azevedo de (University of Brasília); da Rocha, Adson F. (University of Brasília); Camapum, Juliana Fernandes (Universidade de Brasília)	
11:10-12:30	ThBPO02.21
An Automatic 2D CAD Algorithm for the Segmentation of the IMT in Ultrasound Carotid Artery Images	515-519
Ilea Ghita, Dana Elena* (Dublin City University); Whelan, Paul F (Dublin City University); Brown, Catherine (Royal College of Surgeons in Ireland); Stanton, Alice (Royal College of Surgeons in Ireland)	
ThBPO03: 11:10-12:30	Grand Ballroom - Salon E, F, G
6.4.4 Brain-Machine Interface III (Poster Session)	
11:10-12:30	ThBPO03.1
Brain-Machine Interfaces for Space Applications	520-523
Rossini, Luca* (University Campus Biomedico of Rome); Izzo, Dario (European Space Agency); Summerer, Leopold (European Space Agency)	
11:10-12:30	ThBPO03.2
Single Trial Detection of Human Movement Intentions from SAM-Filtered MEG Signals for a High Performance Two-Dimensional BCI	524-527
Battapady, Harsha* (Virginia Commonwealth University); Lin, Peter (National Institute of Neurological Disorders, National Institutes of Health); Fei, Ding-Yu (Virginia Commonwealth University); Huang, Dandan (Virginia Commonwealth University); Bai, Ou (Virginia Commonwealth University)	
11:10-12:30	ThBPO03.3
Design and Measurements of 64-Channel ASIC for Neural Signal Recording	528-531
KMON, Piotr* (AGH University of Science and Technology); Grybos, Paweł (AGH University of Science and Technology); Szczygiel, Robert (AGH University of Science and Technology); Zoladz, Miroslaw (AGH University of Science and Technology)	
11:10-12:30	ThBPO03.4
Visual Gate for Brain-Computer Interfaces	532-535
Dias, Nuno S.* (University of Minho); Jacinto, Luis (University of Minho); Kamrunnahar, Mst (Kamrun) (The Pennsylvania State University); Mendes, Paulo M. (University of Minho); Correia, Higino (University of Minho)	
11:10-12:30	ThBPO03.5
Flexible Multi Electrode Brain-Machine Interface for Recording in the Cerebellum	536-538
Köhler, Per* (Lund University); Linsmeier, Cecilia (Lund University); Thelin, Jonas (Lund University); Jörntell, Henrik (Experimental Medical Science); Garwicz, Martin (Lund University); Schouenborg, Jens (Lund University); Wallman, Lars (Lund University)	
11:10-12:30	ThBPO03.6
An Independent Brain-Computer Interface Based on Covert Shifts of Non-Spatial Visual Attention	539-542
Maye, Alexander (University Medical Center Hamburg-Eppendorf); Engel, Andreas Karl (University Medical Center Hamburg-Eppendorf); Gao, Shangkai* (Tsinghua University); Gao, Xiaorong (Tsinghua University); Zhang, Dan (Tsinghua University)	
11:10-12:30	ThBPO03.7
An Hybrid Platform Based on EOG and EEG Signals to Restore Communication for Patients Afflicted by Progressive Motor Neurons Diseases	543-546
Babiloni, Fabio* (University of Rome); Uslaki, Ali Bulent (IRCCS Fondazione Santa Lucia)	

11:10-12:30	Fully Integrated Wireless Inductive Tongue Computer Interface for Disabled People	ThBPO3.8 547-550
	<i>Andreasen Struijk, Lotte N. S.* (Aalborg University); Lontis, Eugen Romulus (Center for Sensory Motor Interaction, Aalborg University); Bentsen, Bo (Center for Sensory Motor Interaction, Aalborg University); Christensen, Henrik Vie (CISS, Aalborg University); Caltenco, Hector Alejandro (Aalborg University); Lund, Morten Enemark (Center for Sensory Motor Interaction, Aalborg University)</i>	
11:10-12:30	Character Activation Time Prediction Model for Tongue-Typing: Adaptation of Fitts's Law	ThBPO3.9 551-554
	<i>Caltenco, Hector Alejandro* (Aalborg University); Lontis, Eugen Romulus (Center for Sensory Motor Interaction, Aalborg University); Struijk, Johannes (Aalborg University); Lund, Morten Enemark (Center for Sensory Motor Interaction, Aalborg University); Andreasen Struijk, Lotte N. S. (Aalborg University)</i>	
11:10-12:30	Evaluation of the Tongue Drive System by Individuals with High-Level Spinal Cord Injury	ThBPO3.10 555-558
	<i>Huo, Xueliang* (Georgia Institute of Technology); Cheng, Chih-Wen (Georgia Institute of Technology); Ghovanloo, Maysam (Georgia Institute of Technology)</i>	
11:10-12:30	Spatial Mapping of Electrotactile Sensation Threshold and Intensity Range on the Human Tongue: Initial Results	ThBPO3.11 559-562
	<i>Tyler, Mitchell* (UW-Madison); Braun, Jacqueline (University of Wisconsin, Madison); Danilov, Yuri (Wicab, Inc.)</i>	
11:10-12:30	Towards a Magnetic Localization System for 3-D Tracking of Tongue Movements in Speech-Language Therapy	ThBPO3.12 563-566
	<i>Cheng, Chih-Wen* (Georgia Institute of Technology); Huo, Xueliang (Georgia Institute of Technology); Ghovanloo, Maysam (Georgia Institute of Technology)</i>	
11:10-12:30	Supervised Adaptive Downsampling for P300-Based Brain Computer Interface	ThBPO3.13 567-570
	<i>Sakamoto, Yuya (Toyohashi University of technology); AONO, MASAKI* (Toyohashi University of Technology)</i>	
11:10-12:30	Multi-Class Filter Bank Common Spatial Pattern for Four-Class Motor Imagery BCI	ThBPO3.14 571-574
	<i>Chin, Zheng Yang* (Institute for Infocomm Research, Agency for Science Technology and Research); Ang, Kai Keng (Institute for Infocomm Research); Wang, Chuanchu (Institute for Infocomm Research); Guan, Cuntai (Institute for Infocomm Research); Zhang, Haihong (Institute for Infocomm Research)</i>	
11:10-12:30	A Sensorimotor Rhythm based Goal Selection Brain-Computer Interface	ThBPO3.15 575-577
	<i>Royer, Audrey S* (University of Minnesota); McCullough, Andrew (University of Minnesota); He, Bin (University of Minnesota)</i>	
11:10-12:30	Robust Filter Bank Common Spatial Pattern (RFBCSP) in Motor-Imagery-Based Brain-Computer Interface	ThBPO3.16 578-581
	<i>Ang, Kai Keng* (Institute for Infocomm Research); Chin, Zheng Yang (Institute for Infocomm Research, Agency for Science Technology and Research); Zhang, Haihong (Institute for Infocomm Research); Guan, Cuntai (Institute for Infocomm Research)</i>	
11:10-12:30	Spinal Cord Recordings in Rats During Skilled Reaching Task	ThBPO3.17 582-585
	<i>Prasad, Abhishek* (New Jersey Institute of Technology); Sahin, Mesut (New Jersey Institute of Technology)</i>	

11:10-12:30	ThBPO3.18
Human Motor Cortical Activity Recorded with Micro-ECoG Electrodes During Individual Finger Movements	586-589
Wang, Wei (University of Pittsburgh); Degenhart, Alan (University of Pittsburgh); Collinger, Jennifer (University of Pittsburgh); vinjamuri, ramana (University of Pittsburgh); Sudre, Gustavo (Carnegie Mellon University); Adelson, P. David (Children's Neuroscience Institute, Phoenix Children's Hospital); Holder, Deborah (University of Pittsburgh); Leuthardt, Eric (Washington University in St. Louis); Moran, Daniel (Washington University in St. Louis); Boninger, Michael (University of Pittsburgh); Schwartz, Andrew (University of Pittsburgh); Crammond, Donald (University of Pittsburgh); Tyler-Kabara, Elizabeth (University of Pittsburgh); Weber, Douglas* (University of Pittsburgh)	
11:10-12:30	ThBPO3.19
Estimation of the Direction of Arm Force by Using NIRS Signals	590-593
Sato, Takanobu (Nagaoka University of Technology); Tsubone, Tadashi* (Nagaoka University of Technology); Wada, Yasuhiro (Nagaoka University of Technology)	
11:10-12:30	ThBPO3.20
A NIRS-Based Brain-Computer Interface System during Motor Imagery: System Development and Online Feedback Training	594-597
Kanoh, Shin'ichiro* (Tohoku University); Murayama, Yu-mi (Tohoku University); Miyamoto, Ko-ichiro (Tohoku University); Yoshinobu, Tatsuo (Tohoku University); Kawashima, Ryuta (Tohoku University)	
11:10-12:30	ThBPO3.21
P300-based Brain Computer Interface Experimental Setup	598-601
Arboleda, Carolina (Escuela de Ingeniería de Antioquia); García, Eliana* (School of Engineering of Antioquia, CES University); Posada, Alejandro (School of Engineering of Antioquia, CES University); Torres, Róbinson (Antioquia School of Engineering, CES University)	
11:10-12:30	ThBPO3.22
Portable Single-Channel NIRS-Based BMI System for Motor Disabilities' Communication Tools	602-605
Sagara, Kazuhiko* (Hitachi Ltd.); Kunihiko, Kido (Hitachi Ltd.); Kuniaki, Ozawa (Hitachi Ltd.)	
11:10-12:30	ThBPO3.23
The Strathclyde Brain Computer Interface	606-609
Valsan, Gopal* (University of Strathclyde); Grychtol, Bartłomiej (University of Strathclyde); LAKANY, Heba (University of Strathclyde); Conway, Bernard A (University of Strathclyde)	
ThBPO4: 11:10-12:30	Grand Ballroom - Salon E, F, G
6.11.5 Biomedical Stimulation (Poster Session)	
11:10-12:30	ThBPO4.1
Intraoperative Demonstration of Selective Stimulation of the Common Human Femoral Nerve with a FINE	610-613
Schiefer, Matthew Anthony* (Case Western Reserve University); Polasek, Katharine (Case Western Reserve University); Triolo, Ronald J. (US Department of Veterans Affairs & Case Western Reserve University); Tyler, Dustin (Case Western Reserve University); Pinault, Gilles (Case Western Reserve University)	
11:10-12:30	ThBPO4.2
Counted Cycles Method to Quantify the Onset Activity in High Frequency Peripheral Nerve Block	614-617
Foldes, Emily* (Case Western Reserve University); Ackermann, D. Michael (Case Western Reserve University); Bhadra, Niloy (Case Western Reserve University); Kilgore, Kevin (MetroHealth Medical Center)	
11:10-12:30	ThBPO4.3
Direct Activation of Retinal Ganglion Cells with Subretinal Stimulation	618-621
Tsai, David* (University of New South Wales); Morley, John William (University of Western Sydney); Suaning, Gregg (The University of New South Wales); Lovell, Nigel H (University of New South Wales)	
11:10-12:30	ThBPO4.4
A Method of Nerve Electrical Stimulation by Magnetic Induction	622-625
Zhang, Guanghao (Institute of Electrical Engineering, Chinese Academy of Sciences); Li, Yue (Institute of Electrical Engineering, Chinese Academy of Sciences); Huo, Xiaolin (Chinese Academy of Sciences); Song, Tao* (Chinese Academy of Sciences)	

11:10-12:30	In Vitro Testing of Floating Light Activated Micro-Electrical Stimulators	ThBPO4.5 626-629
	<i>Abdo, Ammar* (NJIT); Unlu, Selim (Boston University); Sahin, Mesut (New Jersey Institute of Technology)</i>	
11:10-12:30	Finite Element Analysis of Electrical Impedance Myography in the Rat Hind Limb	ThBPO4.6 630-633
	<i>Ahad, Mohammad* (Beth Israel Deaconess Medical Center, Harvard Medical School); Rutkove, Seward (Beth Israel Deaconess Medical Center, Harvard Medical School)</i>	
11:10-12:30	Genetic Algorithm Reveals Energy-Efficient Waveforms for Neural Stimulation	ThBPO4.7 634-637
	<i>Wongsampigoon, Amorn* (Duke University); Grill, Warren (Duke University)</i>	
11:10-12:30	Realistic Simulation of Transcranial Direct Current Stimulation via 3-D High-resolution Finite Element Analysis: Effect of Tissue Anisotropy	ThBPO4.8 638-641
	<i>Suh, Hyun Sang* (Kyung Hee University); Kim, Sang-Hyuk (Kyung-Hee university); Lee, Won Hee (Columbia University); Kim, Tae-Seong (Kyung Hee University)</i>	
11:10-12:30	Extracellular Stimulation of Mouse Retinal Ganglion Cells with Non-Rectangular Voltage-Controlled Waveforms	ThBPO4.9 642-645
	<i>Cantrell, Donald Robinson* (Northwestern University); Troy, John (Northwestern University)</i>	
11:10-12:30	Light-Controlled Retinal Stimulation on Rabbit Using CMOS-Based Flexible Multi-Chip Stimulator	ThBPO4.10 646-649
	<i>Tokuda, Takashi* (Nara Inst of Science & Technology); Takeuchi, Yoichi (Nara Institute of Science and Technology); Noda, Toshihiko (Nara Institute of Science and Technology); Sasagawa, Kiyotaka] (Nara Institute of Science and Technology); Nishida, Kentaro (Osaka University); Kitaguchi, Yoshiyuki (Osaka University); Fujikado, Takashi (Osaka University); Tano, Yasuo (Osaka University); Ohta, Jun (Nara Institute of Science and Technology)</i>	
11:10-12:30	Reduction of the Onset Activity in High Frequency Nerve Block with Amplitude Ramps from Non-Zero Amplitudes	ThBPO4.11 650-653
	<i>Bhadra, Niloy (Case Western Reserve University); Foldes, Emily (Case Western Reserve University); Ackermann, D. Michael (Case Western Reserve University); Kilgore, Kevin* (MetroHealth Medical Center)</i>	
11:10-12:30	Electrode Design for High Frequency Block: Effect of Bipolar Separation on Block Thresholds and Onset Activity	ThBPO4.12 654-657
	<i>Ackermann, D. Michael* (Case Western Reserve University); Foldes, Emily (Case Western Reserve University); Bhadra, Niloy (Case Western Reserve University); Kilgore, Kevin (MetroHealth Medical Center)</i>	
11:10-12:30	Charge Storage: Stability Measures in Implantable Electrodes	ThBPO4.13 658-661
	<i>Peixoto, Nathalia* (George Mason University); Jackson, Kassandra (George Mason University); Samiyi, Raamin (George Mason University); Minnikanti, Saugandhika (George Mason University)</i>	
11:10-12:30	Surface Electrical Stimulation to Realize Task Oriented Hand Motion	ThBPO4.14 662-665
	<i>Watanabe, Takuya (Kyusyu Institute of Technology); Tagawa, Yoshihiko* (Kyushu Institute of Technology); Nagasue, Eiichiro (Kyusyu Institute of Technology); Shiba, Naoto (Kurume University Hospital)</i>	
11:10-12:30	A Pelvic Motion Driven Electrical Stimulator for Drop-Foot Treatment	ThBPO4.15 666-669
	<i>Chen, Shih-Wei* (National Taiwan Univ.); Chen, Chiun-fan (National Taiwan University)</i>	
11:10-12:30	Bio-Heat Transfer Model of Transcranial DC Stimulation: Comparison of Conventional Pad versus Ring Electrode	ThBPO4.16 670-673
	<i>Datta, Abhishek* (The City College of the CUNY)</i>	

11:10-12:30	ThBPO4.17
Transcranial Magnetic Stimulation of Small Animals: A Modeling Study of the Influence of Coil Geometry, Size and Orientation	674-677
<i>Salvador, Ricardo* (University of Lisbon); Miranda, Pedro (Faculty of Science, University of Lisbon)</i>	
11:10-12:30	ThBPO4.18
An Investigation on the Effects of Single Pulse Transcranial Magnetic Stimulation in a Modified Maximum Entropy Auditory Stimulation Paradigm	678-681
<i>Low, Yin Fen* (Saarland University Hospital); Schwerdtfeger, Karsten (Saarland University Hospital); Harris, Arief R. (University of Saarland); Strauss, Daniel J. (Comp. Diagn. & Biocyb. Unit)</i>	
11:10-12:30	ThBPO4.19
Effect of Anatomical Variability on Neural Stimulation Strength and Focality in Electroconvulsive Therapy (ECT) and Magnetic Seizure Therapy (MST)	682-688
<i>Deng, Zhi-De* (Columbia University); Lisanby, Sarah (Columbia University / New York State Psychiatric Institute); Peterchev, Angel V (Columbia University)</i>	

ThBPO5: 11:10-12:30	Grand Ballroom - Salon E, F, G
10.1.2 Wireless Technologies (Poster Session)	

11:10-12:30	ThBPO5.1
Modeling for Intra-Body Communication with Bone Effect	693-696
<i>Pun, Sio Hang (University of Macau); Gao, Yue Ming* (Fu zhou University); Mak, Peng Un (University of Macau); du, min (523 Gongye Road, Fuzhou University ,Fuzhou, Fujian, 350002,P.R. CHINA); Vai, Mang I. (University Of Macau)</i>	
11:10-12:30	ThBPO5.2
Simple Electrical Model and Initial Experiments for Intra Body Communications	697-700
<i>Gao, Yue Ming* (Fu zhou University); Pun, Sio Hang (University of Macau); du, min (523 Gongye Road, Fuzhou University ,Fuzhou, Fujian, 350002,P.R. CHINA); Mak, Peng Un (University of Macau); Vai, Mang I. (University Of Macau)</i>	
11:10-12:30	ThBPO5.3
A Biometric Method to Secure Telemedicine Systems	701-704
<i>zhang, guanghe* (Institute of Computing Technology, Chinese Academy of Sciences); Poon, Carmen CY (The Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)</i>	
11:10-12:30	ThBPO5.4
Data Upload Capability of 3G Mobile Phones	705-708
<i>Moon, Jon* (Devicix, LLC); Barden, Charles (Devicix LLC); Wohlers, Erica (Devicix, LLC)</i>	
11:10-12:30	ThBPO5.5
High Speed Intra-Body Communication for Personal Health Care	709-712
<i>Zhu, Hongjie* (The Hong Kong University of Science and Technology); XU, Ruoyu (The Hong Kong University of Science and Technology); Yuan, Jie (The Hong Kong University of Science and Technology)</i>	
11:10-12:30	ThBPO5.6
Legitimate Data in Remote Monitoring	713-716
<i>Schilling, Josh* (Nonin Medical, Inc.)</i>	
11:10-12:30	ThBPO5.7
Provisioning of Medical Quality of Services for HSDPA and Mobile WiMAX in Healthcare Applications	717-720
<i>Istepanian, Robert* (Kingston University London); Philip, Nada (Kingston University)</i>	

11:10-12:30	ThBPO6.1
Factors Affecting the Accuracy of Volume-Oscillometric Blood Pressure Measurement During Partial Pressurization of the Wrist 721-724	
Kim, Jong Pal* (Samsung Advanced Institute of Technology); Kim, Youn Ho (Samsung Advanced Institute of Technology); Bae, Sang Kon (Samsung Advanced Inst of Tech); Kim, Seok (Samsung Advanced Institute of Technology); Shin, Kunsoo (Samsung Advanced Inst of Tech)	
11:10-12:30	ThBPO6.2
Ultrasound Monitoring of Inter-Knee Distances During Gait 725-728	
Lai, Daniel* (Victoria University); Wrigley, Tim V. (University of Melbourne); Palaniswami, Marimuthu (The University of Melbourne)	
11:10-12:30	ThBPO6.3
A New Tool to Assess Mechanical and Dielectric Properties of Tissues 729-732	
Guhr, Glen* (IFW Dresden); Schmidt, Hagen (IFW Dresden); Weihnacht, Manfred (IFW Dresden)	
11:10-12:30	ThBPO6.4
The Development of Therapeutic Ultrasound with Assistance of Robotic Manipulator 733-736	
Huang, Zhihong* (University of Dundee); Qiu, Zhen (University of Dundee); Gao, Jing (University of Dundee); Cochran, Sandy (University of Dundee); corner, george (ninemwells hospital); Song, Charlie (University Of Dundee)	
11:10-12:30	ThBPO6.5
Piezoelectric Self-Sensing System for Tactile Intraoperative Brain Tumor Delineation in Neurosurgery 737-740	
Oliva Uribe, David* (University of Hannover); Wallaschek, Jörg (Leibniz University of Hannover); Stroop, Ralf (University Hospital of Essen)	
11:10-12:30	ThBPO6.6
An Analog Circuit Implementation of a Quadratic Integrate and Fire Neuron 741-744	
Basham, Eric (University of California, Santa Cruz); Parent, David* (San Jose State University)	
11:10-12:30	ThBPO6.7
A Smart Modules Network for Real Time Data Acquisition: Application to Biomedical Research 745-748	
Logier, Regis* (CHRU de Lille); De jonckheere, Julien (CHRU de Lille); Dassonneville, Alain (CHRU de Lille); Chaud, Pascal (CHRU de Lille); Jeanne, Mathieu (CHRU de Lille)	
11:10-12:30	ThBPO6.8
Instantiating a Mechatronic Valve Schedule for a Hydrocephalus Shunt 749-752	
Momani, Lina* (University of Liverpool); Alkharabsheh, Abdel Rahman (University of Liverpool); Al-Zubi, Nayel (University of Liverpool); Al-Nuaimy, Waleed (University of Liverpool)	
11:10-12:30	ThBPO6.9
A Pilot Study on Low Power Pulse Rate Detection Based on Compressive Sampling 753-756	
Huang, Bangyu (Shenzhen Institute of Advanced Technology); Wang, Lei* (Shenzhen Institute of Advanced Technology); Wang, Bo (Shenzhen Institute of Advanced Technology); Lin, Shaojie (Shenzhen Institute of Advanced Technology); Wu, Dan (Shenzhen Institute of Advanced Technology); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	
11:10-12:30	ThBPO6.10
High-Efficiency and Side-Viewing Micro Fiber Optic Probe for In-Vivo Diffuse Reflectance Measurements of Human Epithelial Tissues 757-760	
Garcia-Uribe, Alejandro* (Texas A&M University); Balareddy, Karthik C. (Texas A&M University); Chang, Cheng-Chung (Texas A&M University); Yapici, Murat Kaya (Texas A&M University); Zou, Jun (Texas A & M University); Wang, Lihong (Washington University in St. Louis)	
11:10-12:30	ThBPO6.11
Hybrid System for Magnetic and Acoustic Measurement 761-764	
Bruno, Alexandre Colello (Universidade de São Paulo); Baffa, Oswaldo (FFCLRP-University of Sao Paulo); Carneiro, Antonio Adilton Oliveira* (Universidade de São Paulo)	

11:10-12:30	ThBPO6.12
A Study into Salivary-Based Measurement of Human Stress Subjected to Ellestad Stress Test Protocol	765-768
Lee, Khuan Y.* (Universiti Teknologi MARA); Zaaba, aiman (Universiti Teknologi MARA); Madzhi, Nina Kirlina (Universiti Teknologi MARA); Ahmad, Anuar (Universiti Industri Selangor)	
11:10-12:30	ThBPO6.13
Acoustic Radiation Force and Optical Spectroscopy for Assessing Tumor Vessel Normalization During Anti-Angiogenic Therapy	769-772
Yan, Kaiguo* (Thomas Jefferson University); Wachsberger, Phyllis (Thomas Jefferson University); Yu, Yan (Thomas Jefferson University Hospital)	
11:10-12:30	ThBPO6.14
Pulmonary Disease Management System with Distributed Wearable Sensors	773-776
Fu, Yongji* (Sharp Laboratories of America); Ayyagari, Deepak (Sharp Laboratories of America)	
11:10-12:30	ThBPO6.15
Early Onset of Electrical Activity in Developing Neurons Cultured on Carbon Nanotube Immobilized Microelectrodes	777-780
Khraiche, Massoud* (Arizona state university); Jackson, Nathan (Arizona State University); Muthuswamy, Jit (Arizona State University)	
11:10-12:30	ThBPO6.16
Calibration Tools for PC-Based Vision Assessment	781-784
Rolkosky, David* (Advanced Medical Electronics Corp.); Dagnelie, Gislin (Johns Hopkins Univ); Kramer, Kevin (Advanced Medical Electronics Corp.); Havey, Gary (Advanced Medical Electronics Corp.); Seifert, Gregory John (Advanced Medical Electronics)	
11:10-12:30	ThBPO6.17
Stochastic Resonance-Enhanced Laser-Based Particle Detector	785-787
Dutta, Anirban* (Howard Hughes Medical Institute); Werner, Chris (Howard Hughes Medical Institute)	
11:10-12:30	ThBPO6.18
A Method for Identifying Small Molecule Aggregators Using Photonic Crystal Biosensor Microplates	788-791
Lidstone, Erich* (University of Illinois); Cunningham, Brian (University of Illinois)	
11:10-12:30	ThBPO6.19
Review: Design of Low-Cost Portable Ultrasound Systems	792-795
Baran, Jonathan* (University of Wisconsin-Madison); Webster, John (University of Wisconsin Madison)	
11:10-12:30	ThBPO6.20
Evaluation of Vibro-Acoustography Techniques to Map Absorbed Dose Distribution in Irradiated Phantoms	796-799
Vieira, Sílvio Leão (University of São Paulo); Kinnick, Randy (Mayo Clinic); Baggio, André Luiz (Univerisade de São Paulo); Nicolucci, Patricia (Universidade de São Paulo); Fatemi, Mostafa (Mayo Clinic); Carneiro, Antonio Adilton Oliveira* (Universidade de São Paulo)	
11:10-12:30	ThBPO6.21
Impedance Cardiography for Cuffless and Non-Invasive Measurement of Systolic Blood Pressure	800-802
Wong, Mico Yee Man* (The Chinese University of Hong Kong); MacPherson, Emma (Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	

ThBPO7: 11:10-12:30	Grand Ballroom - Salon E, F, G
9.4.2 Medical Devices (Poster Session)	

11:10-12:30	ThBPO7.1
Laboratory Prototype of Cochlear Implant: Design and Techniques	803-806
Ali, Hussnain* (Center for Advanced Research in Engineering); Ahmad, Talha Jamal (Center for Advanced Research in Engineering); Ajaz, Muhammad Asim (National University of Sciences and Technology); Khan, Shoab (CASE-Center for Advanced Studies)	

11:10-12:30	Objective Real-Time Assessment of Walking and Turning in Elderly Adults	ThBPO7.2 807-810
	<i>Skrba, Zoran* (TRIL Centre and University College Dublin.); O'Mullane, Brian (TRIL Centre and University College Dublin.); Greene, Barry R. (Intel); Ni Scanaill, Cliodhna (Intel); Fan, Chie Wei (St James's hospital); Quigley, Aaron (University College Dublin.); Nixon, Paddy (School of Computer Science & Informatics)</i>	
11:10-12:30	Evaluation of the TheraDrive System for Robot/Computer Assisted Motivating Rehabilitation after Stroke	ThBPO7.3 811-814
	<i>Ruparel, Rohit (Marquette University); Johnson, Michelle* (Medical College of Wisconsin); Strachota, Elaine (Milwaukee Area Technical College); McGuire, John (Medical College of Wisconsin); Tchekanov, Guennady (Medical College of Wisconsin)</i>	
11:10-12:30	A Framework for Mouse and Keyboard Emulation in a Tongue Control System.	ThBPO7.4 815-818
	<i>Lund, Morten Enemark* (Center for Sensory Motor Interaction, Aalborg University); Caltenco, Hector Alejandro (Aalborg University); Lontis, Eugen Romulus (Center for Sensory Motor Interaction, Aalborg University); Christensen, Henrik Vie (CISS, Aalborg University); Bentsen, Bo (Center for Sensory Motor Interaction, Aalborg University); Andreassen Struijk, Lotte N. S. (Aalborg University)</i>	
11:10-12:30	Motor Unit Territories in Juvenile Myoclonic Epilepsy Patients	ThBPO7.5 819-822
	<i>Goker, Imran (Yeditepe University); Baslo, (Istanbul University Istanbul Medical Faculty); Ertas, Mustafa (Anadolu Health Center Hospital, Kocaeli, Turkey); Ulgen, Yekta* (Bogazici University)</i>	
11:10-12:30	Relation between Index Finger Width and Hand Width Anthropometric Measures	ThBPO7.6 823-826
	<i>Komandur, Sashidharan* (University of Washington); Johnson, Peter (University of Washington); Storch, Richard (University of Washington); Yost, Michael (University of Washington)</i>	
11:10-12:30	Developing a Genomic-Based Point-Of-Care Diagnostic System for Rheumatoid Arthritis and Multiple Sclerosis	ThBPO7.7 827-830
	<i>Kalatzis, Fanis (University of Ioannina); Giannakeas, Nikolaos (University of Ioannina); Exarchos, Themis P. (Unit of Medical Tech & Intelligent Info); Leandro, Lorenzelli (Fondazione Bruno Kessler); Adami, Andrea (Fondazione Bruno Kessler); Decarli, Massimiliano (Fondazione Bruno Kessler); Lupoli, Sara (University of Milan); Macciardi, Fabio (University of Milan); Markoula, Sofia (University of Ioannina); Georgiou, Ioannis (University of Ioannina); Fotiadis, Dimitrios I.* (University of Ioannina)</i>	
11:10-12:30	A Navigation System for the Visually Impaired Using Colored Navigation Lines and RFID Tags	ThBPO7.8 831-834
	<i>SETO, Tatsuya* (Tokai University); Magatani, Kazushige (Tokai Univ.)</i>	
11:10-12:30	Evaluation of Activity Monitors to Estimate Energy Expenditure in Manual Wheelchair Users	ThBPO7.9 835-838
	<i>Hiremath, Shivayogi Vishwanath* (University of Pittsburgh); Ding, Dan (University of Pittsburgh)</i>	
11:10-12:30	A Novel Vibration Device for Neuromuscular Stimulation for Sports and Rehabilitation Applications	ThBPO7.10 839-844
	<i>Pujari, Amit Narahar* (University of Aberdeen); Neilson, Richard (University of Aberdeen); Cardinale, Marco (British Olympic Association)</i>	
11:10-12:30	Integrated Real-Time Neurofeedback System to Raise the Frontal Lobe Activity: Design and Implementation	ThBPO7.11 845-848
	<i>GIL, Yeongjoon (Pusan National University); Li, Gang (Pusan National University); Lee, Jungtae* (Pusan National University)</i>	

11:10-12:30	ThBPO7.12
A Preliminary Efficacy Evaluation Performed by Opto-Electronic Plethysmography of Asymmetric Respiratory Rehabilitation	849-852
<i>Bastianini, Flavia* (University Campus Bio-Medico of Rome); Silvestri, Sergio (University Campus Bio-Medico); Magrone, Giovanni (University Campus Bio-Medico of Rome); Gallotta, Emilio (University Campus Bio-Medico of Rome); Sterzi, Silvia (university Campus Bio-Medico of Rome)</i>	
11:10-12:30	ThBPO7.13
Comparison of Two Bioimpedance Spectroscopy Techniques in the Assessment of Body Fluid Volumes	853-856
<i>Neves, Eduardo Borba (Federal University Of Rio de Janeiro); Pino, Alexandre Visintainer* (Federal University of Rio de Janeiro); Souza, Marcio N. (Federal University of Rio de Janeiro)</i>	
11:10-12:30	ThBPO7.14
Recombination of Common Sensory-Motor Impairment Evaluation Techniques using a Committee of Classifiers	857-860
<i>Chalmers, Nathan* (Queen's University); Seaborn, Geoffrey (Queen's University)</i>	
11:10-12:30	ThBPO7.15
An 8-Channel Skin Impedance Measurement System for Acupuncture Research	861-864
<i>Thong, Tran* (Oregon Health & Science University); Colbert, Agatha (National College of Naturopathic Medicine); Larsen, Adrian (Miridia Technology, Inc.)</i>	
11:10-12:30	ThBPO7.16
Static Forces Variation and Pressure Distribution in Laryngoscopy Performed by Straight and Curved Blades	865-868
<i>Cecchini, Stefano* (University Campus Bio-Medico of Rome); Silvestri, Sergio (University Campus Bio-Medico); Carassiti, Massimiliano (University Campus Bio-Medico of Rome); Agrò, Felice (University Campus Bio-Medico of Rome)</i>	
11:10-12:30	ThBPO7.17
Measurements of the Contact Pressure in Human Vocal Folds	869-872
<i>Chen, Li-Jen* (McGill University); Mongeau, Luc (McGill University)</i>	
11:10-12:30	ThBPO7.18
Application of Polarimetry Group Theory for Characterization of Biological Tissues Via Mueller Coherency Matrix Analysis	873-876
<i>Fanjul-Vélez, Félix (University of Cantabria); Ortega-Quijano, Noé (University of Cantabria); Salas-García, Irene (University of Cantabria); Arce-Diego, José L.* (University of Cantabria)</i>	
11:10-12:30 Author unavailable for presentation	ThBPO7.19
Anesthetic Gas Concentration Changes Related to the Temperature and Humidity in High and Low Flow Anesthesia	877-880
<i>SEZDI, MANA* (Istanbul University, Istanbul, Turkey); Akan, Aydin (Istanbul University); Tank, Fatih (Kirikkale University)</i>	
11:10-12:30	ThBPO7.20
Unexplained Overexposures on Physical Dosimetry Reported by Biological Dosimetry	881-884
<i>Montoro, Alegria (Hospital Unievsitario la Fe); Almonacid, Miguel (Hospital Unievsitario la Fe); Villaescusa, Juan Ignacio (Hospital Universitario La Fe); Verdu, Gumersindo* (Polytechnic University of Valencia)</i>	
11:10-12:30	ThBPO7.21
Preliminary Study on the Quick Detection of Acquired Immure Deficiency Syndrome by Saliva Analysis Using Surface Enhanced Raman Spectroscopic Technique	885-887
<i>Wang, Yan (China Capital University of Medical Sciences); Chen, Anyu* (China Capital University of Medical Sciences); Hua, Lin (Capital University of Medical Sciences); Liu, Jinghua (Capital University of Medical Sciences); Qu, Dian (Capital University of Medical Sciences); Jiao, Yi (OptoTrace (Beijing) Technologies, Inc.); Guo, Xun (OptoTrace (Beijing) Technologies, Inc.); Liu, Chunwei (OptoTrace (Beijing) Technologies, Inc.); Huang, Wen (OptoTrace (Beijing) Technologies, Inc.); Wang, Hong (OptoTrace (Beijing) Technologies, Inc.)</i>	

11:10-12:30	ThBPO7.22
Development of New Quantitative Diagnosis Machine to Evaluate the Baroreflex Sensitivity of an Artery for Patients with Hypertension	888-891
Yambe, Tomoyuki* (Tohoku Univ)	
11:10-12:30	ThBPO7.23
Performance Evaluation of the Electrode Configuration in bioelectrical Impedance Analysis for Visceral Fat Measurement	892-895
Kim, Kwangsoo (Yonsei University); Lee, mihee (Yonsei University); Kim, Jungchae (Yonsei University); Jung, Seok Myung (Yonsei University); Jee, Sunha (Yonsei University); Yoo, SK* (Yonsei University)	
11:10-12:30	ThBPO7.24
Calibration System for Pulse Spectrophotometry Using a Double-Layer Pulsation Flow-Cell	896-899
Oura, Mitsuhiro* (Nihon Kohden Corporation); Kobayashi, Naoki (Nihon Kohden Corporation); Yamamori, Shinji (Nihon Kohden Corporation); Takeda, Sunao (Nihon Kohden Corporation); Iwasaki, Kiyotaka (Waseda University); Umezu, Mitsuo (Waseda University Graduate School)	
11:10-12:30	ThBPO7.25
Analysis of the radiological detriment for premenopausal women in a breast early detection program during 2008	900-902
Tortosa, Ricardo (Hospital Universitario la Fe); Ramos, Miguel (Polytechnic University of Valencia); Villaescusa, Juan Ignacio (Hospital Universitario La Fe); Gallardo, Sergio* (Polytechnic University of Valencia); Verdu, Gumersindo (Polytechnic University of Valencia)	
11:10-12:30	ThBPO7.26
Portable Real-Time Support-Vector-Machine-Based Automated Diagnosis and Detection Device of Narcolepsy Episodes	903-906
Gabran, Salam* (University of Waterloo); Moussa, Wafik (University of Waterloo); Salama, Magdy (University of Waterloo); Charles, George (University of Western Ontario)	
11:10-12:30	ThBPO7.27
Contactless Recording of Photoplethysmogram on a Sleeping Bed	907-910
Wong, Mico Yee Man* (The Chinese University of Hong Kong); Leung, Hin Kwong (The Chinese University of Hong Kong); MacPherson, Emma (Chinese University of Hong Kong); GU, Wenbo (The Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	
11:10-12:30	ThBPO7.28
Development of an MR Safe Reach and Grasp Movement Evaluation System to Study Brain Activation Patterns after Stroke	911-914
Xu, Rubing (Marquette University); Johnson, Michelle* (Medical College of Wisconsin); Verber, Matthew (Medical College of Wisconsin); Kamara, Sheku (Milwaukee School of Engineering)	
11:10-12:30	ThBPO7.29
Development of a Portable A-ABR Screener Using a Microprocessor	915-918
Noh, Hyung Wook (Yonsei University); Lee, Tak Hyung (Yonsei University); Kim, Jong Wook (Yonsei University); Yang, Dong In (Yonsei University); Cha, Eun Jong (Chungbuk National University); Kim, Deok Won* (Yonsei University College of Medicine)	
11:10-12:30	ThBPO7.30
Digitally-Bypassed Transducers: Interfacing Digital Mockups to Real-Time Medical Equipment	919-922
Sirowy, Scott* (University of California, Riverside); Vahid, Frank (University of California, Riverside); Givargis, Tony (University of California, Irvine)	
11:10-12:30	ThBPO7.31
Simulative and Experimental Research on Wireless Power Transmission Technique in Implantable Medical Device	923-926
Yu, Yue (Tsinghua University); Hao, Hongwei (Tsinghua University); Wang, Weiming (Tsinghua University); Li, Luming* (Tsinghua University)	
11:10-12:30	ThBPO7.32
Development of Broad-View Camera Unit for Laparoscopic Surgery	927-930
Kawahara, Tomohiro* (Hiroshima University); Takaki, Takeshi (Hiroshima University); Ishii, Idaku (Hiroshima University); Okajima, Masazumi (Hiroshima University)	

11:10-12:30	Battery Power Comparison to Charge Medical Devices in Developing Countries	ThBPO07.33 931-934
	Nimunkar, Amit* (University of Wisconsin-Madison); Casanova, Alesia (University of Wisconsin Madison); Bray, Andrew (University of Wisconsin - Madison); Powers, Taylor (University of Wisconsin - Madison); Webster, John (University of Wisconsin Madison)	
11:10-12:30	Multichannel Real Time Integrated Active Noise Control System for Infant Incubators	ThBPO07.34 935-938
	Liu, Lichuan* (Northern Illinois University); Kuo, Sen M. (Northern Illinois University)	
11:10-12:30	Author unavailable for presentation	ThBPO07.35
	Enhancing Biomedical Design with Design Thinking	939-941
	Dorsa, Ed* (Virginia Tech)	
11:10-12:30	Estimation of Variability of Specific Absorption Rate with Physical Description of Children Exposed to Electromagnetic Field in the VHF Band	ThBPO07.36 942-945
	Nagaoka, Tomoaki* (National Institute Info & Comm Tech); Watanabe, Soichi (Nat'l Inst of Information & Comms Tech)	
ThC01: 13:30-15:00		Conrad B
	1.1.2 Wavelet Analysis of Biosignals (Oral Session)	
	Chair: Hisashi Yoshida, Kinki Univ.	
	Co-Chair: Murtaza Ali, Texas Inst.	
13:30-13:45	Analysis of the QRS Complex for Apnea-Bradycardia Characterization in Preterm Infants	ThC01.1 946-949
	Altuve, Miguel* (Simon Bolivar University and University of Rennes 1 and INSERM U642); Carrault, Guy (Université de Rennes 1); Cruz, Julio (Simon Bolivar University); Beuchée, Alain (Centre Hospitalier Universitaire); Pladys, Patrick (Centre Hospitalier Universitaire); Hernández, Alfredo I (Univ. of Rennes 1 and INSERM U642)	
13:45-14:00	Robust Beat Detector for Ambulatory Cardiac Monitoring	ThC01.2 950-953
	Romero, Iñaki* (IMEC); Grundlehner, Bernard (Holst Centre); Penders, Julien (Stichting IMEC Nederland)	
14:00-14:15	A Wavelet Based Method for Steady-State Detection in Anesthesia	ThC01.3 954-957
	Castro, Ana* (IDMEC - Polo FEUP); Gomes de Almeida, Fernando (Faculdade de Engenharia da Universidade do Porto); Amorim, Pedro (Hospital Geral de Santo António); Nunes, Catarina S (King's College London)	
14:15-14:30	Quantitative Analysis of Heart Sounds and Systolic Heart Murmurs Using Wavelet Transform and AR Modeling	ThC01.4 958-961
	Ning, James* (Dartmouth College); Atanasov, Nikolay (Trinity College); Ning, Taikang (Trinity College)	
14:30-14:45	A Self-Paced BCI Using Stationary Wavelet Packets	ThC01.5 962-965
	Faradji, Farhad* (University of British Columbia); Ward, Rabab (University of British Columbia); Birch, Gary E. (University of British Columbia)	
ThC02: 13:30-15:00		Conrad C
	1.4.2 Biomedical Signal Classification I (Oral Session)	
	Chair: Baikun Wan, Tianjin Univ.	
	Co-Chair: Arun Kumar, Medtronic	
13:30-13:45	Energy Based Evolving Mean Shift Algorithm for Neural Spike Classification	ThC02.1 966-969
	Yang, Zhi* (University of California, Santa Cruz); Zhao, Qi (University of California); Liu, Wentai (University of California, Santa Cruz)	

13:45-14:00		ThC02.2
Cell Tracking in Fluorescence Images of Embryogenesis Processes with Morphological Reconstruction by 4D-Tubular Structuring Elements	970-973	
<i>Pastor, David* (Politchnics University of Madrid); Luengo-Oroz, Miguel Angel (Universidad Politécnica de Madrid); Lombardot, Benoit (Ecole Polytechnique, Paris); Gonzalvez, Irene (Universidad Politecnica de Madrid); Duloquin, Louise (CNRS); Savy, Thierry (Ecole Polytechnique); Bourgine, Paul (Ecole Polytechnique); Peyrieras, Nadine (CNRS); Santos, Andres (Universidad Politecnica Madrid)</i>		

14:00-14:15		ThC02.3
Validation of Motor Unit Potential Trains Using Motor Unit Firing Pattern Information	974-977	

Parsaei, Hossein (University of Waterloo); jahanmiri nezhad, faezeh (aaa); Stashuk, Daniel William (University of Waterloo); Hamilton-Wright, Andrew (University of Guelph)*

14:15-14:30		ThC02.4
VLSI Architecture of NEO Spike Detection with Noise Shaping Filter and Feature Extraction Using Informative Samples	978-981	
<i>Hoang, Linh* (University of California, Santa Cruz); Yang, Zhi (University of California, Santa Cruz); Liu, Wentai (University of California, Santa Cruz)</i>		

14:30-14:45 Author unavailable for presentation		ThC02.5
Visual Acuity Classification Using Single Trial Visual Evoked Potentials	982-985	
<i>Hajipour, Sepideh* (Sharif University of Technology); Shamsollahi, Mohammad Bagher (Sharif University of Technology); Abootalebi, Vahid (Yazd University)</i>		

14:45-15:00 Author unavailable for presentation		ThC02.6
MEG Based Classification of Wrist Movement	986-989	
<i>montazeri, nasim (sharif university of technology); Shamsollahi, Mohammad Bagher (Sharif University of Technology); Hajipour, Sepideh* (Sharif University of Technology)</i>		

ThC03: 13:30-15:00		Grand Ballroom - Salon B
2.4.1 X-ray, CT, PET, and SPECT (Oral Session)		
Chair: Mark Anastasio, <i>Illinois Inst. of Tech.</i>		
Co-Chair: Emil Sidky, <i>Univ. of Chicago</i>		

13:30-13:45		ThC03.1
A CCD Based Approach to Collimated Photon Counting Imaging for Micro-SPECT/CT	990-992	
<i>Eaker, Diane R. (Mayo Foundation); Dzyubak, Bogdan (University of Wisconsin-Madison); Jorgensen, Steven M. (Mayo Clinic College of Medicine); Ritman, Erik L.* (Mayo Clinic College of Medicine)</i>		

13:45-14:00		ThC03.2
Metal Artifact Suppression from Reformatted Projections in Multi-Slice Helical CT Using Dual-Front Active Contours	993-996	
<i>Li, Hua* (Mayo Clinic); Yu, Lifeng (Mayo Clinic); Liu, Xin (Mayo Clinic); McCollough, Cynthia (Mayo Clinic)</i>		

14:00-14:15		ThC03.3
Analysis of Image-Reconstruction Algorithms for Circular, Cone-Beam CT by Hotelling Observer Performance on a Detection Task	997-999	
<i>Sidky, Emil* (University of Chicago); Pan, Xiaochuan (University of Chicago)</i>		

14:15-14:30		ThC03.4
Accelerating X-Ray Fluorescence Computed Tomography	1000-1003	
<i>La Riviere, Patrick* (The University of Chicago); Meng, Ling Jian (University of Illinois); Fu, Geng (University of Illinois); Vargas, Phillip (University of Chicago)</i>		

14:30-14:45		ThC03.5
Quantitative Investigation of Bone Microvascularization from 3D Synchrotron Micro-Computed Tomography in a Rat Model	1004-1007	
<i>Langer, Max* (European Synchrotron Radiation Facility / CREATIS-LRMN CNRS UMR 5220; INSERM U630); Prisby, Rhonda (Université de Lyon, St-Etienne); Peter, Zsolt (University of Paris 10, PST/IUT of Ville d'Avray); Boistel, Renaud (Museum National d'Histoire Naturelle); Lafage-Proust, Marie-Hélène (Université de Lyon, St-Etienne); PEYRIN, Francoise (CREATIS)</i>		

14:45-15:00	ThC03.6
Coupling 2d/3d Registration Method and Statistical Model to Perform 3D Reconstruction from Partial X-Rays Images Data	1008-1011
Cresson, Thierry* (Ecole de Technologie Supérieure); Chav, Ramnada (Ecole de Technologie Supérieure); Branchaud, Dominic (École de technologie supérieure); Humbert, Ludovic (Ecole Nationale Supérieure d'Arts et Métiers); Godbout, benoit (Ecole de Technologie Supérieure); Aubert, Benjamin (Ecole Nationale Supérieure d'Arts et Métiers); Skalli, Wafa (Ecole Nationale Supérieure d'Arts et Métiers); de Guise, Jacques A. (École de technologie supérieure)	

ThC05: 13:30-15:00	Marquette V
2.7.3 Biomedical Image Processing (Oral Session)	
Chair: Christian Roux, TELECOM Bretagne - INSERM Co-Chair: Gudrun Zahlmann, Siemens	

13:30-13:45	ThC05.1
Accurate Estimation of Microtubule Dynamics Using Kymographs and Variable-Rate Particle Filters	1012-1015
Smal, Ihor* (Erasmus MC - University Medical Center Rotterdam); Grigoriev, Ilya (Erasmus MC - University Medical Center Rotterdam); Akhmanova, Anna (Erasmus MC - University Medical Center Rotterdam); Niessen, Wiro (Erasmus MC, University Medical Center Rotterdam); Meijering, Erik (Erasmus MC - University Medical Center Rotterdam)	

13:45-14:00	ThC05.2
Cell Cycle Dependence of Protein Subcellular Location Inferred from Static, Asynchronous Images	1016-1019
Buck, Taráz* (Carnegie Mellon University); Berget, Peter B. (Carnegie Mellon University); Murphy, Robert F. (Carnegie Mellon University)	

14:00-14:15	ThC05.3
Neuron Branch Detection and Description Using Random Walk	1020-1023

Kim, Hee Chang (Université René Descartes Paris 5); Genovesio, Auguste* (Institut Pasteur Korea)	ThC05.4
An Automatic Method to Identify and Extract Information of DNA Bands in Gel Electrophoresis Images	1024-1027
Caridade, Cristina M. R.* (Instituto Superior de Engenharia de Coimbra); Marcal, Andre R. S. (Faculdade de Ciencias, Universidade do Porto); Mendonça, Teresa (Faculdade de Ciencias, Universidade do Porto); Pessoa, Alberto (University of Porto, School of Sciences); Pereira, Susana (Faculty of Sciences, University of Porto)	

14:30-14:45	ThC05.5
Automated Nodule Location and Size Estimation Using a Multi-Scale Laplacian of Gaussian Filtering Approach	1028-1031
Jirapatnakul, Artit* (Cornell University); Fotin, Sergei (Cornell University); Reeves, Anthony (Cornell University); Biancardi, Alberto (Cornell University); Yankelevitz, David (Weill Cornell Medical College); Henschke, Claudia (Weill Cornell Medical College)	

14:45-15:00	ThC05.6
SENSE Reconstruction with Nonlocal TV Regularization	1032-1035
Liang, Dong* (University of Wisconsin, Milwaukee); Wang, Haifeng (University of Wisconsin, Milwaukee); Ying, Lei (Leslie) (University of Wisconsin)	

ThC06: 13:30-15:00	Conrad A
3.3.1 Bioelectric Sensors I (Oral Session)	
Chair: Mehmet Dokmeci, Northeastern University Co-Chair: Igor Efimov, Washington University in St. Louis	

13:30-13:45	ThC06.1
Photonic Crystal Enhanced Cytokine Immunoassay	1036-1038
Mathias, Patrick C.; Ganesh, Nikhil; Cunningham, Brian T.	

13:45-14:00	ThC06.2
Parylene-Based Encapsulated Fluid MEMS Sensors	1039-1041
Meng, Ellis* (University of Southern California); Gutierrez, Christian (University of Southern California)	

14:00-14:15		ThC06.3
Overview of the Optofluidic Ring Resonator: A Versatile Platform for Label-Free Biological and Chemical Sensing	1042-1044	
Suter, Jonathan (University of Missouri); Fan, Xudong* (University of Missouri)		
14:15-14:30		ThC06.4
Wireless Energy Transfer Platform for Medical Sensors and Implantable Devices	1045-1048	
Zhang, Fei (University of Pittsburgh); Hackworth, Steven A. (University of Pittsburgh); Liu, Xiaoyu (University of Pittsburgh); Chen, Haiyan (University of Pittsburgh); Sclabassi, Robert (University of Pittsburgh); Sun, Mingui* (University of Pittsburgh)		
14:30-14:45		ThC06.5
Stretchable Bioelectrodes	1049-1052	
ziae, babak* (Purdue University)		
14:45-15:00		ThC06.6
Adaptive Resolution ADC Array for Neural Implant	1053-1056	
O'Driscoll, Stephen* (Stanford University); Meng, Teresa (Stanford University)		

ThC07: 13:30-15:00		Marquette VII
3.9.1 Microfluidics (Oral Session)		
Chair: Logan Liu, Univ. of Illinois at Urbana-Champaign Co-Chair: Utkan Demirci, Massachusetts Inst. of Tech.		

13:30-13:45		ThC07.1
Microfluidic Point-Of-Care Diagnostics for Resource-Poor Environments	1057-1059	
Laksanasopin, Tassaneewan (Columbia University); Chin, Curtis (Columbia University); Moore, Hannah (Columbia University); Wang, Jennifer (Columbia University); Cheung, Yukkee (Columbia University); Sia, Samuel* (Columbia University)		
13:45-14:00		ThC07.2
Microfluidic Cardiac Circulation Model (μCCM) for Functional Cardiomyocyte Studies	1060-1063	
Sethu, Palaniappan* (University of Louisville)		
14:00-14:15		ThC07.3
The New Role of the Microchemostat in the Bioengineering Revolution	1064-1066	
Balagadde, Frederick* (Lawrence Livermore National Laboratory)		
14:15-14:30		ThC07.4
Differential Gene Expression Using mRNA Isolated on Plastic Microfluidic Chips	1067-1070	
Klapperich, Catherine M.* (Boston University); Bhattacharyya, Arpita (Boston University)		
14:30-14:45		ThC07.5
Integrated Microfluidic Enzyme Reactor Mass Spectrometry Platform for Detection of Anthrax Lethal Factor	1071-1074	
Aravamudhan, Shyam* (Georgia Institute of Technology); Joseph, Paul (Georgia Institute of Technology); Kuklenyik, Zsuzsanna (CDC)		
14:45-15:00		ThC07.6
Micro-Fabricated Fluorescence-Activated Cell Sorter	1075-1078	
Cho, Sung Hwan* (University of California San Diego); Chen, Chun Hao (University of California San Diego); Tsai, Frank S. (University of California at San Diego); Lo, Yu-Hwa (University of California San Diego)		

ThC08: 13:30-15:00		Marquette VIII
11.4.1 History of Biomedical Engineering (Oral Session)		
Chair: Ron Leder, Univ. Nacional Autonoma de Mexico Co-Chair: Willis J. Tompkins, Univ. of Wisconsin - Madison		

13:30-14:00		ThC08.1
Investigation into the past and Future of Women in Science and Engineering	1079-1082	
Frize, Monique* (Carleton University)		

14:00-14:15		ThC08.2
Complex Human Disorders and Molecular System Engineering: Historical Perspective and Potential Impacts	1083-1085	
Emamian, Effat* (ATNT)		
14:15-14:30		ThC08.3
The Natural History of the Engineering in Medicine and Biology Society from a Modern Perspective	1086-1088	
Requena Carrion, Jesus* (Universidad Rey Juan Carlos); Leder, Ron (Universidad Nacional Autonoma de Mexico)		
14:30-14:45		ThC08.4
The Modern Hospital in Historical Context	1089-1091	
VALENTINUZZI, MAX E.* (Universidad de Buenos Aires)		
14:45-15:00		ThC08.5
EMB History to Increase Health Technology Literacy in the General Public	1092-1093	
Leder, Ron* (Universidad Nacional Autonoma de Mexico)		
ThC09: 13:30-15:00		Marquette II
5.5.1 Vascular Reactivity and Mechanics (Oral Session)		
Chair: Craig J. Hartley, Baylor College of Medicine		
Co-Chair: Paul Iaizzo, Univ. of Minnesota		
13:30-13:45		ThC09.1
Coronary Flow Reserve as an Index of Cardiac Function in Mice with Cardiovascular Abnormalities	1094-1097	
Hartley, Craig J.* (Baylor College of Medicine); Reddy, Anilkumar K. (Baylor College of Medicine); Michael, Lloyd H. (Baylor College of Medicine); Entman, Mark L. (Baylor College of Medicine); Taffet, George E. (Baylor College of Medicine)		
13:45-14:00		ThC09.2
The Functional Anatomy of Human Cardiac Valves and Unique Visualization of Transcatheter-Delivered Valves Being Deployed	1098-1099	
Iaizzo, Paul* (University of Minnesota)		
14:00-14:15		ThC09.3
Digital Thermal Monitoring (DTM) of Vascular Reactivity Closely Correlates with Doppler Flow Velocity	1100-1103	
McQuilkin, Gary L.* (Cardiowave, Inc.); Panthagani, David S. (Endothelix, Inc.); Metcalfe, Ralph (University of Houston); Hassan, Haider (Endothelix, Inc.); Yen, Albert A. (Endothelix, Inc.); Naghavi, Morteza (SHAPE (Society for Heart Attack Prevention and Eradication)); Hartley, Craig J. (Baylor College of Medicine)		
14:15-14:30		ThC09.4
Effect of Isoflurane on Aortic Impedance in Mice	1104-1105	
Reddy, Anilkumar K.* (Baylor College of Medicine); Hartley, Craig J. (Baylor College of Medicine); Taffet, George E. (Baylor College of Medicine)		
14:30-14:45		ThC09.5
A Comparison between Fractured Xience-Like and Palmaz-Like Stents Using a Novel Computational Method	1106-1108	
Tambaca, Josip (University of Zagreb); Canic, Suncica* (University of Houston); Paniagua, David (Michael DeBakey Veterans Medical Center)		
14:45-15:00		ThC09.6
Arterial Distensibility in Systemic Lupus Erythematosus	1109-1112	
Greene, Ernest* (NMHU); Lanphere, Rose (NMHU); Sharrar, Janeen (UNMSOM); Roldan, Carlos (UNMSOM)		

ThC10: 13:30-15:00	Grand Ballroom - Salon C
6.9.2 Neural Trauma (Oral Session)	
Chair: Barclay Morrison, <i>Columbia Univ.</i>	

Co-Chair: Michelle LaPlaca, *Georgia Inst. of Tech.*

13:30-13:45	ThC10.1
Plasma Membrane Damage As a Marker of Neuronal Injury	1113-1116
LaPlaca, Michelle* (<i>Georgia Institute of Technology</i>)	
13:45-14:00	ThC10.2
Shear Wave Propagation in Anisotropic Soft Tissues and Gels	1117-1122
Namani, Ravi* (<i>Washington University in St. Louis</i>); Bayly, Philip (<i>Washington University in St. Louis</i>)	
14:00-14:15	ThC10.3
Every Newton Hertz: A Macro to Micro Approach Investigating Brain Injury	1123-1126
Duma, Stefan* (<i>Virginia Tech - Wake Forest</i>); Rowson, Steven (<i>Virginia Tech - Wake Forest</i>)	
14:15-14:30	ThC10.4
Hypoxic-Ischemic Brain Injury in Neonatal Piglets with Different Histological Outcomes: An Amplitude-Integrated EEG Study	1127-1130
Zhang, Dandan (<i>Tsinghua University</i>); Hathi, Manan (<i>Infinite Biomedical Technologies</i>); Yang, Zeng-Jin (<i>Johns Hopkins School of Medicine</i>); Ding, Haiyan* (<i>Tsinghua University</i>); Koehler, Raymond (<i>Johns Hopkins School of Medicine</i>); Thakor, Nitish (<i>Johns Hopkins University</i>)	
14:30-14:45	ThC10.5
Accelerated Detection of Intracranial Space-Occupying Lesions with CUDA Based on Statistical Texture Atlas in Brain HRCT	1131-1134
Liu, Wei* (<i>University of Science and Technology of China</i>); Feng, Huanqing (<i>University of Science and Tech</i>); Li, Chuanfu (<i>University of Science and Technology of China</i>); Huang, Yufeng (<i>University of Science and Technology of China</i>); Wu, Dehuang (<i>University of Science and Technology of China</i>); Tong, Tong (<i>University of Science and Technology of China</i>)	
14:45-15:00	ThC10.6
Quantification of Functional Alterations after in Vitro Traumatic Brain Injury	1135-1138
Yu, Zhe (<i>Columbia University</i>); Elkin, Benjamin (<i>Columbia University</i>); Morrison, Barclay* (<i>Columbia University</i>)	

ThC11: 13:30-15:00	Marquette I
6.10.4 Virtual Reality and Robotics in Rehabilitation (Oral Session)	
Chair: Sergei Adamovich, <i>NJIT</i>	

Co-Chair: Emily Keshner, *Temple University*

13:30-13:45	ThC11.1
Remapping in the Ipsilesional Motor Cortex after VR-Based Training: A Pilot Fmri Study	1139-1142
Tunik, Eugene (<i>University of Medicine and Dentistry of New Jersey (UMDNJ)</i>); Adamovich, Sergei* (<i>NJIT</i>)	
13:45-14:00	ThC11.2
Coordination Changes Demonstrated by Subjects with Hemiparesis Performing Hand–Arm Training Using the NJIT-RAVR Robotically Assisted Virtual Rehabilitation System	1143-1146
Qiu, Qinyin (<i>NJIT</i>); Fluet, Gerard (<i>UMDNJ</i>); Lafond, Ian (<i>New Jersey Institute of Technology</i>); Merians, Alma (<i>UMDNJ</i>); Adamovich, Sergei* (<i>NJIT</i>)	
14:00-14:15	ThC11.3
Visual Field Dependence Influences Balance in Patients with Stroke	1147-1150
Keshner, Emily* (<i>Temple University</i>); Slaboda, Jill (<i>Temple University</i>); barton, joseph (<i>TEMPLE UNIVERSITY</i>); maitin, ian (<i>TEMPLE UNIVERSITY</i>)	
14:15-14:30	ThC11.4
Therapist-Mediated Post-Stroke Rehabilitation Using Haptic/graphic Error Augmentation	1151-1156
Rozario, Sylvester Vijay (<i>U. of Illinois at Chicago, Rehabilitation Institute of Chicago</i>); Housman, Sarah (<i>Rehabilitation Institute of Chicago</i>); Kovic, Mark (<i>Rehabilitation Inst. Chicago</i>); Patton, James (Jim)* (<i>Rehab Institute of Chicago & U. of Illinois at Chicago</i>)	

14:30-14:45		ThC11.5
Linear Vection in Virtual Environments Can Be Strengthened by Discordant Inertial Input	1157-1160	
Wright, W. Geoffrey* (Temple University)		
ThC12: 13:30-15:00		Marquette VI
7.4.1 Biomaterial-Cell Interactions (Oral Session)		
Chair: Padma Rajagopalan, Virginia Tech.		
Co-Chair: Alisa Morss Clyne, Drexel Univ.		
13:30-13:45		ThC12.1
Biomimetic Approaches to Modulating the T Cell Immune Response with Nano and Micro Particles.	1161-1166	
Demento, Stacey (Yale University); Steenblock, Erin Rae (Yale University); Fahmy, Tarek* (Yale University)		
13:45-14:00		ThC12.2
Regulation of Cell Signaling and Function Via Changes in Growth Factor Presentation	1167-1171	
Stefonek-Puccinelli, Tracy (University of Wisconsin); Masters, Kristyn* (University of Wisconsin)		
14:00-14:15		ThC12.3
Engineering Bone Formation with Peptidomimetic Hybrid Biomaterials	1172-1175	
Jabbari, Esmaiel* (University of South Carolina)		
14:15-14:30		ThC12.4
Mechanical Characterization of Mouse Embryonic Stem Cells	1176-1179	
Pillarisetti, Anand (University of Maryland, College Park); Ladjal, Hamid (ENSI de Bourges); Ferreira, Antoine (ENSI de Bourges); Keefer, Carol (University of Maryland, College Park); Desai, Jaydev* (University of Maryland)		
14:30-14:45		ThC12.5
Development of a Versatile Cell Force Transducer Using Moiré Mechanism	1180-1183	
Zheng, Xiaoyu (Rayne)* (Boston University); Xin, Zhang (Boston University)		
ThC13: 13:30-15:00		Conrad D
8.6.1 Computer Assisted Surgery (Oral Session)		
Chair: Arianna Menciassi, Scuola Superiore Sant'Anna		
13:30-13:45		ThC13.1
Dynamic View Expansion for Minimally Invasive Surgery Using Simultaneous Localization and Mapping	1184-1187	
Mountney, Peter* (Imperial College London); Yang, Guang-Zhong (Imperial College)		
13:45-14:00		ThC13.2
Influence of Visual Feedback and Speed on Micromanipulation Accuracy	1188-1191	
Sidarta, Ananda Ekaputera* (Nanyang Technological University); Tun Latt, Win (Nanyang Technological University); Shee, Chengyap (Nanyang Technological University); Burdet, Etienne (Imperial College London); Lim, Thiam Chye (National University Hospital); Ang, Wei Tech (Nanyang Technological University)		
14:00-14:15		ThC13.3
Master and Slave Transluminal Endoscopic Robot (MASTER) for Natural Orifice Transluminal Endoscopic Surgery (NOTES)	1192-1195	
Phee, Louis* (Nanyang Technological University); Low, Soon Chiang (Nanyang Technological University); HUYNH, VAN AN (NANYANG TECHNOLOGICAL UNIVERSITY); Kencana, Andy Prima (Nanyang Technological University); Sun, Zhenglong (Nanyang Technological University); Yang, Kai (Nanyang Technological University)		
14:15-14:30		ThC13.4
Real-Time, Haptics-Enabled Simulator for Probing Ex Vivo Liver Tissue	1196-1199	
Lister, Kevin* (University of Maryland, College Park); Gao, Zhan (University of Maryland, College Park); Desai, Jaydev (University of Maryland)		
14:30-14:45		ThC13.5
Characterization of Pre-Curved Needles for Steering in Tissue	1200-1203	
Wedlick, Thomas* (Johns Hopkins University); Okamura, Allison (Johns Hopkins University)		

14:45-15:00	ThC13.6
Wireless Steering Mechanism with Magnetic Actuation for an Endoscopic Capsule	1204-1207
Menciassi, Arianna* (Scuola Superiore Sant'Anna); Valdastri, Pietro (Scuola Superiore Sant'Anna); quaglia, claudio (Scuola superiore sant'anna); Buselli, Elisa (Scuola Superiore Sant'Anna); Dario, Paolo (Scuola Superiore Sant'Anna)	

ThC14: 13:30-15:00	Marquette III
9.4.1 Continuous Monitoring Systems (Oral Session)	
Chair: Alan Rosenbloom, Carnegie Mellon Univ. Co-Chair: Abraham Lee, Univ. of California, Irvine	

13:30-13:45	ThC14.1
Capacitive On-Line Hematocrit Sensor Design Based on Impedance Spectroscopy for Use in Hemodialysis Machines	1208-1211
Trebbels, Dennis* (HSG-IMIT); Zengerle, Roland (Microfluidics); Hradetzky, David (HSG-IMIT)	

13:45-14:00	ThC14.2
A Flexible Pressure Monitoring System for Pressure Ulcer Prevention	1212-1215
Yip, Marcus* (Massachusetts Institute of Technology); He, David Da (Massachusetts Institute of Technology); Winokur, Eric (Massachusetts Inst. of Tech.); Gaudreau Balderrama, Amanda (Massachusetts Institute of Technology); Sheridan, Robert (Shriner's Hospital for Children Boston); Ma, Hongshen (University of British Columbia)	

14:00-14:15	ThC14.3
The Exploration & Forensic Analysis of Computer Usage Data in the Elderly	1216-1219
Hatt, William J* (Oregon Health & Science University, Central Campus); VanBaak, Edward (Oregon Health & Science University); Jimison, Holly (Oregon Health & Science University); Hagler, Stuart (Oregon Health and Science University); Hayes, Tamara (Oregon Health and Science University); Pavel, Michael (Oregon Health and Science University); Kaye, Jeffrey A. (Oregon Health and Science University)	

14:15-14:30	ThC14.4
Towards a Mobility Diagnostic Tool: Tracking Rollator Users' Leg Pose with a Monocular Vision System	1220-1225
Ng, Samantha* (University of Waterloo); Fakih, Adel (University of Waterloo); Journey, Adam (University of Waterloo); Poupart, Pascal (University of Waterloo); Zelek, John (University of Waterloo)	

14:30-14:45	ThC14.5
Influence of Gas Temperature on the Performances of a Low Dead Space Capillary Type Pneumotachograph for Neonatal Ventilation	1226-1229
Schena, Emiliano* (University of Rome Campus Bio-Medico); Silvestri, Sergio (University Campus Bio-Medico)	

14:45-15:00	ThC14.6
Microdialysis Coupled with an Embedded Systems Controller and CMOS Image Sensor	1230-1233
Subrebost, George (Carnegie Mellon Univ.); Rosenbloom, Alan* (Carnegie Mellon Univ.); Gandhi, Heer (Carnegie Mellon Univ.)	

ThC15: 13:30-15:00	Marquette IX
10.2.3 eHealth, mHealth, Telemedicine Systems (Oral Session)	
Chair: Constantinos Pattichis, Univ. of Cyprus Co-Chair: Sergio Guillen, Inst. Itaca	

13:30-13:45	ThC15.1
The MyHealthService Approach for Chronic Disease Management Based on Free Open Source Software and Low Cost Components	1234-1237
Vognild, Lars K.* (Northern Research Institute Tromsø (Norut)); Burkow, Tatjana M. (University Hospital of North-Norway); Luque, Luis Fernandez (Northern Research Institute Tromsø (Norut))	

13:45-14:00	ThC15.2
Mobile Patient Monitoring: The MobiHealth System	1238-1241
Wac, Katarzyna* (University of Geneva)	

14:00-14:15		ThC15.3
Multi-parametric system for the continuous assessment and monitoring of motor status in Parkinson's disease: an entropy-based gait comparison	1242-1245	
Reynold, Greenlaw (Oxford Computer Consultants); Arredondo, María Teresa (Technical University of Madrid); Estrada, Juan Jacobo* (Polytechnic University of Madrid); Pansera, Mario (Universidad Politecnica de Madrid); Fotiadis, Dimitrios I. (University of Ioannina)		
14:15-14:30		ThC15.4
An Overview of Recent Health Care Support Systems for Eemergency and Mhealth Applications	1246-1249	
Kyriacou, Efthyvoulos (Frederick University Cyprus); Pattichis, Constantinos* (University of Cyprus); Pattichis, Marios (University of New Mexico,)		
14:30-14:45		ThC15.5
Portable Emergency Telemedicine System Over Wireless Broadband and 3G Networks	1250-1253	
Hong, SungHye (Yonsei University); Kim, SangYong (Yonsei University); Kim, Jungchae (Yonsei University); Lim, DongKyu (Yonsei University); Jung, Seok Myung (Yonsei University); Kim, DongKeun (Sangmyung University, Seoul, Korea); Yoo, Sun K.* (Yonsei University Health System)		
14:45-15:00		ThC15.6
TraumaStation: A Portable Telemedicine Station	1254-1257	
Rizou, Despina* (Fraunhofer Institute for Computer Graphics); SACHPAZIDIS, ILIAS (Fraunhofer Institute); Salvatore, Luca (MEDCOM); SAKAS, Georgios (Fraunhofer Institute for Computer Graphics)		
ThC16: 13:30-15:00		Grand Ballroom - Salon A
S 1. Medical Device and Healthcare Industry: Trends and Opportunities I (Special Symposium)		
Chair: Bin He, Univ. of Minnesota		
Co-Chair: Gregory A. Worrell, Mayo Clinic		
13:30-14:00		ThC16.1
Navigating through the opportunities in Neuromodulation to assure a scientific and cost-effectiveness base for best patient care	*	
Kuntz, Richard (Medtronic, Inc. and Medtronic Neuromodulation)		
14:00-14:30		ThC16.2
Neuromodulation: Approaching the 'Tipping Point'	*	
Chavez, Chris (St. Jude Medical Neuromodulation)		
14:30-15:00		ThC16.3
Medical Devices and the Aaudacity of Hope in Healthcare	*	
Smith, Joseph (Johnson & Johnson Science and Technology)		
ThDPo01: 15:00-16:40		Grand Ballroom - Salon E, F, G
1.2.2 Biomedical Signals and Systems II (Poster Session)		
15:00-16:40		ThDPo01.1
Comparison between Voxelized, Volumized and Analytical Phantoms Applied to Radiotherapy Simulation with Monte Carlo	1258-1261	
Abella, Vicente (Politechnical University of Valencia); Miró, Rafael* (Polytechnic University of Valencia); Juste, Belen (Polytechnic University of Valencia); Verdu, Gumersindo (Polytechnic University of Valencia)		
15:00-16:40		ThDPo01.2
Mathematical Modeling of a Tethered Bilayer Sensor Containing Gramicidin A Ion Channels	1262-1265	
Monfared, Sahar* (University of British Columbia); Krishnamurthy, Vikram (University of British Columbia)		
15:00-16:40		ThDPo01.3
Development of Statistical Regression Models for Ventilation Estimation	1266-1269	
Liu, Shaopeng* (University of Connecticut); Gao, Robert X. (University of Massachusetts Amherst); He, Qingbo (University of Connecticut); Staudenmayer, John (University of Massachusetts, Amherst); Freedson, Patty (University of Massachusetts Amherst)		

15:00-16:40	Efficient Algorithm Development of CIS Speech Processing Strategy for Cochlear Implants	ThDPo01.4 1270-1273
	Ahmad, Talha Jamal* (Center for Advanced Research in Engineering); Ali, Hussnain (Center for Advanced Research in Engineering); Ajaz, Muhammad Asim (National University of Sciences and Technology); Khan, Shoab (CASE-Center for Advanced Studies)	
15:00-16:40	A Survival Prediction Model of Hemorrhagic Shock in Rats Using a Logistic Regression Equation.	ThDPo01.5 1274-1277
	Lee, Tak Hyung (Yonsei University); Lee, Ju Hyung (Yonsei University); Chung, Sang Won (Kwandong University); Noh, Hyung Wook (Yonsei University); Shim, Young Woo (Yonsei University); Kim, Deok Won* (Yonsei University College of Medicine)	
15:00-16:40	Author unavailable for presentation	ThDPo01.6
	Frequency Dependence in Acupuncture Manipulations	1278-1281
	Si, Wenjie (Tianjin University); Wang, Jiang* (Tianjin University); Che, Yanqiu (Tianjin University); wei, xile (Tianjin University); Dong, Feng (tianjin University)	
15:00-16:40	A New Time-Frequency Approach to Estimate Single Joint Upper Limb Impedance	ThDPo01.7 1282-1285
	Piovesan, Davide* (Northwestern University); DiZio, Paul (Brandeis University); Lackner, James R. (Brandeis University)	
15:00-16:40	Automated Control of Blood Glucose in the OR and Surgical ICU	ThDPo01.8 1286-1289
	Lee, Amy (Johns Hopkins University); Wang, Joseph (Johns Hopkins University); Hsu, Jason* (Johns Hopkins University)	
15:00-16:40	Signal Processing System to Extract Serum Bilirubin Concentration from Diffuse Reflectance Spectrum of Human Skin	ThDPo01.9 1290-1293
	Beyette, Fred R* (University of cincinnati); Beyette, Fred R (University of cincinnati); Clark, Joseph F (University of cincinnati)	
15:00-16:40	Image and Signal Correlations of Electric-Field Induced Charged Fibrous Viruses (fd)	ThDPo01.10 1294-1297
	Kang, Kyongok* (Forschungszentrum Juelich)	
15:00-16:40	Arteriovenous Fistula Stenosis Detection Using Wavelets and Support Vector Machines	ThDPo01.11 1298-1301
	Vásquez, Pablo* (Lunds University); Munguia M., Marco (National University of Engineering); Mandersson, Bengt (Lund University)	
15:00-16:40	Detailed Measurements of Gastric Electrical Activity and Their Implications on Inverse Solutions	ThDPo01.12 1302-1305
	Cheng, Leo K* (The University of Auckland); O'Grady, Greg (The University of Auckland); Du, Peng (The University of Auckland); Egbuji, John (The University of Auckland); Windsor, John (The University of Auckland); Pullan, Andrew (University of Auckland)	
15:00-16:40	Real-Time Quantification of Resting Tremor in the Parkinson's Disease	ThDPo01.13 1306-1309
	Rigas, Georgios (University of Ioannina); Tzallas, Alexandros (University of Ioannina); Tsalikakis, Dimitrios (University of Ioannina); Konitsiotis, Spiros (Medical School, University of Ioannina); Fotiadis, Dimitrios I.* (University of Ioannina)	
15:00-16:40	Isokinetic Work-To-Surface Electromyographic Signal Energy Ratios As a Muscular Fatigue Indicator	ThDPo01.14 1310-1313
	Schwartz, Fabiano* (University of Brasilia); Souza Celes, Rodrigo (University of Brasilia); Bottaro, Martim (University of Brasilia); Nascimento, Francisco A. de O. (University of Brasilia)	
15:00-16:40	Comparison of Load Cells and Wrist-Actigraphy for Unobtrusive Monitoring of Sleep Movements	ThDPo01.15 1314-1317
	Adami, Adriana Miorelli (University of Caxias do Sul); Hayes, Tamara* (Oregon Health and Science University); Pavel, Michael (Oregon Health and Science University); Adami, Andre (Universidade de Caxias do Sul)	

15:00-16:41	ThDPo01.16
A New Improved Model-Based Seizure Detection Using Statistically Optimal Null Filter	1318-1322
Yadav, Rajeev* (Concordia University); Agarwal, Rajeev (Concordia University); Swamy, M.N.S. (Concordia University)	
15:00-16:40	ThDPo01.17
Emotion Classification Based on Gamma-Band EEG	1323-1326
Li, Mu (Shanghai Jiao Tong University); Lu, Bao-Liang* (Shanghai Jiao Tong University)	
15:00-16:40	ThDPo01.18
A Strategy for Minimizing the Effect of Misclassifications During Real Time Pattern Recognition Myoelectric Control	1327-1330
Simon, Ann* (Rehabilitation Institute of Chicago); Hargrove, Levi (Rehabilitation Institute of Chicago); Lock, Blair (Rehabilitation Institute of Chicago); Kuiken, Todd (Rehabilitation Institute of Chicago)	
15:00-16:40	ThDPo01.19
A Technique for Optimizing Electrode Placement for Electromyographic Control of Prostheses	1331-1334
Walbran, Scott* (University of Auckland); Anderson, Iain (University of Auckland, New Zealand); Calius, Emilio Patricio (Industrial Research); Dunlop, G. Reg (University of Auckland)	
15:00-16:40	ThDPo01.20
An ECG Signal Processing Algorithm Based on Removal of Wave Deflections in Time Domain	1335-1338
Kim, Jungkuk* (Myongji University); Kim, Minkyu (Myongji University); Won, Injae (Myongji University); Yang, Seungyul (Tongwon College); Lee, Kiyoung (Kwandong University); Huh, Woong (Myongji University)	
15:00-16:40	ThDPo01.21
Model-Based Feature Extraction of Electrocardiogram Using Mean Shift	1339-1342
Yan, Jingyu* (The Chinese University of Hong Kong); Lu, Yan (The Chinese University of Hong Kong); Liu, Jia (Shenzhen Institute of Advanced Technology); Wu, Xinyu (Shenzhen Institute of Advanced Technology); Xu, Yangsheng (The Chinese University of Hong Kong)	
15:00-16:40	ThDPo01.22
Life Signal Extraction in Through-The-Wall Surveillance	1343-1346
wang, qiang (Shenzhen Institute of Advanced Technology); Li, Ye (Shenzhen Institute of Advanced Technology); Wu, Jing* (Shenzhen Institutes of Advanced Technology, Chinese Academy of Science); Zhang, Taiyi (Xi'an Jiaotong University)	
15:00-16:40	ThDPo01.23
Computer-Assisted Method for Quantifying Sleep Eye Movements That Reflects Medication Effects	1347-1350
Shokrollahi, Peyman* (Ryerson University); Krishnan, Sridhar (Ryerson University); Umapathy, Karthikeyan (Ryerson University); McConville, Kristiina (Ryerson University); Boulos, Mark I. (Sunnybrook Health Science Centre); Jewell, Dana (Sunnybrook Health Sciences Center, University of Toronto); Murray, Brian (Sunnybrook Health Sciences Center, University of Toronto)	
15:00-16:40	ThDPo01.24
Effects of Maximal Oxygen Uptake Test and Prolonged Cycle Ergometer Exercise on Sway Density Plot of Postural Control	1351-1354
Mello, Roger Gomes Tavares de (Federal University of Rio de Janeiro); Oliveira, Liliam Fernandes de (Federal University of Rio de Janeiro); Nadal, Jurandir* (Federal University of Rio de Janeiro)	
15:00-16:40	ThDPo01.25
Detecting Electroporation by Assessing the Time Constants in the Exponential Response of Human Skin to Voltage Controlled Impulse Electrical Stimulation	1355-1358
Birlea, Sinziana Iulia* (National University of Ireland, Galway); Birlea, Nicolae Marius (Technical University of Cluj-Napoca); Breen, Paul (National University of Ireland Galway); OLaighin, Gearoid (National University of Ireland Galway)	
15:00-16:40	ThDPo01.26
Effect of Transcranial Magnetic Stimulation on P300 of Event-Related Potential	1359-1362
Iwahashi, Masakuni* (Kyushu University); Katayama, Yoshinori (Graduate School of ISEE, Kyushu University); Ueno, Shoogo (Kyushu University); Iramina, Keiji (Kyushu University)	

15:00-16:40		ThDPo01.27
A Feasibility Study for Measuring Accurate Tendon Displacements Using an Audio-Based Fourier Analysis of Pulsed-Wave Doppler Ultrasound Signals	1363-1366	
Stegman, Kelly J* (University of Victoria); Podhorodeski, Ronald P (University of Victoria); Park, Edward J. (University of Victoria)		
15:00-16:40		ThDPo01.28
Assessment of Quality Control Parameters for an X-Ray Tube Using the Monte Carlo Method and Unfolding Techniques	1367-1370	
Gallardo, Sergio* (Polytechnic University of Valencia); Rodenas Diago, Jose (Polytechnic University of Valencia); Verdu, Gumersindo (Polytechnic University of Valencia); Querol, Andrea (Polytechnic University of Valencia)		
15:00-16:40		ThDPo01.29
Real-Time, Low-Complexity, Low-Memory Solution to ECG-Based Heart Rate Detection	1371-1374	
Ravindran, Sourabh* (Texas Instruments Inc.); Dunbar, Steven (Texas Instruments Inc); Nisarga, Bhargavi (Texas Instruments Inc.)		
15:00-16:40 Author unavailable for presentation		ThDPo01.30
Monitoring Blood Oxygenation Changes Due to Acute Pain Stimuli Using Functional Near-Infrared Spectroscopy (fNIRS)	1375-1379	
Akbarian Azar, Arezou* (Drexel University); Akhbardeh, Alireza (Johns Hopkins University)		
15:00-16:40		ThDPo01.31
Time dependence of stimulation/recording-artifact transfer function estimates for neural interface systems	1380-1383	
Chernyy, Nick* (Pennsylvania State University); Schiff, Steven (Pennsylvania State University); Gluckman, Bruce (Pennsylvania State University)		
15:00-16:40		ThDPo01.32
An Energy-Based Detection Algorithm of Epileptic Seizures in EEG Records	1384-1387	
Garces, M Agustina (Universidad Nacional de San Juan); Laciari, Eric (Universidad Nacional de San Juan); OROSCO, LORENA (UNIVERSIDAD NACIONAL DE SAN JUAN); Gómez, María Eugenia (Universidad Nacional de San Juan); Otoya, Raúl (Hospital H. Notti); Jané, Raimon* (Universitat Politècnica de Catalunya)		
15:00-16:40		ThDPo01.33
Real Time Control of a CPG Based Model of Human Trunk Activity in Different Walking Conditions	1388-1391	
Ceccato, Jean-Charles* (CNRS UMR 5227); Azevedo-Coste, Christine (DEMAR INRIA/LIRMM); Cazalets, Jean-René (CNRS UMR 5227)		
15:00-16:40 Author unavailable for presentation		ThDPo01.34
Establishing Telemedicine System to Support Urgent Incidents Around the Borderline of Greece: Implemented Architecture and Evaluation	1392-1395	
Mandelllos, George (University of Patras); Koutelakis, George (University of Patras); Panagiotakopoulos, Theodor (University of Patras); Koukias, Andreas (University of Patras); Mouzourakis, Nomikos (University of Patras); Koukias, Michael (University of Patras); Lymeropoulos, Dimitrios* (University of Patras)		
15:00-16:40		ThDPo01.35
Single Molecule Diffusion Coefficient Estimation by Image Analysis of Simulated CCD Images to Aid High-Throughput Screening	1396-1399	
Song, Pengfei* (University of Nebraska-Lincoln); Davis, Lloyd M (University of Tennessee Space Institute); Bashford, Greg (University of Nebraska-Lincoln)		

ThDPo02: 15:00-16:40	Grand Ballroom - Salon E, F, G
2.3.4 Biomedical Optical Imaging II (Poster Session)	

15:00-16:40		ThDPo02.1
Interactions of Nanoparticles with Lipid Vesicles: A Population Based Computer Aided Image Analysis Approach	1400-1403	
Zupanc, Jernej* (Faculty of Computer and Information Science); Valant, Janez (Biotechnical Faculty Ljubljana); Iglic, Aleš (Faculty of Electrical Engineering); Iglic, Veronika (Faculty of Medicine); Dobnikar, Andrej (Faculty of Computer and Information Science); Drobne, Damjana (Biotechnical Faculty Ljubljana)		

15:00-16:40	Fluorescence Molecular Tomography with Optimal Radon Transform Based Surface Reconstruction	ThDPo02.2
	<i>Liu, Xin* (Tsinghua University); Wang, Daifa (Tsinghua University); Bai, Jing (Tsinghua University)</i>	
15:00-16:40	Intramural Spatial Variation of Optical Tissue Properties Measured with Fluorescence Microsphere Images of Porcine Cardiac Tissue	ThDPo02.3
	<i>Goyal, Ayush* (University of Oxford)</i>	1408-1411
15:00-16:40	Deriving a Blood-Mimicking Fluid for Particle Image Velocimetry in Sylgard-184 Vascular Models	ThDPo02.4
	<i>Yousif, Majid* (University of Western Ontario); Holdsworth, David (University of Western Ontario); Poepping, Tamie (Univeristy of Western Ontario)</i>	1412-1415
15:00-16:40	Characterization of Lung Tissues Using Liquid-Crystal Tunable Filter and Hyperspectral Imaging System	ThDPo02.5
	<i>Lee, Jong-Ha (Temple University); Won, Chang-Hee* (Temple University)</i>	1416-1419
15:00-16:40	Smoothness Processing of Infrared Image Based on AMSS	ThDPo02.6
	<i>Li, Ying* (Hebei University of Technology); Sun, Yunyan (Hebei University of Technology); He, Renjie (Univ of Texas Medical Sch at Houston); Rao, Liyun (Methodist Hospital Resrch Institute); peng, chuan (Univercity); Xu, Guizhi (Hebei University of Technology); Guo, Lei (Hebei University of Technology); Shen, Xueqin (Hebei University of Technology); Yan, Weili (Hebei University of Technology)</i>	1420-1423
15:00-16:40	Cell Segmentation in Time-Lapse Fluorescence Microscopy with Temporally Varying Sub-Cellular Fusion Protein Patterns	ThDPo02.7
	<i>Bunyak, Filiz* (University of Missouri Columbia); Palaniappan, Kannappan (University of Missouri-Columbia); Chagin, Vadim (Darmstadt University of Technology); Cardoso, Cristina (Darmstadt University of Technology)</i>	1424-1428
15:00-16:40	Mechanical Vibration Compensation Method for 3D+t Multi-Particle Tracking in Microscopic Volumes	ThDPo02.8
	<i>Corkidi, Gabriel* (Instituto de Biotecnología, UNAM); Pimentel, Arturo (Universidad Nacional Autónoma de México)</i>	1429-1432
15:00-16:40	Computer-Aided Prognosis of Neuroblastoma: Detection of Mitosis and Karyorrhexis Cells in Digitized Histological Images	ThDPo02.9
	<i>Sertel, Olcay* (The Ohio State University); Catalyurek, Umit V. (The Ohio State University); Shimada, Hiroyuki (Los Angeles Children's Hospital); Gurcan, Metin (The Ohio State University)</i>	1433-1436
15:00-16:40	Multi-Space Clustering for Segmentation of Exudates in Retinal Color Photographs	ThDPo02.10
	<i>Ram, Keerthi (International Institute of Information Technology-Hyderabad); Sivaswamy, Jayanthi* (International Institute of Information Technology-Hyderabad)</i>	1437-1440
15:00-16:40	Convex Hull Based Neuro-Retinal Optic Cup Ellipse Optimization in Glaucoma Diagnosis	ThDPo02.11
	<i>Zhang, Zhuo* (A*STAR); Sun, Ying (National University of Singapore); Liu, Jiang (Inst for Infocomm Resrch, A STAR); Cherian, Neetu Sara (National University of Singapore); Lim, Joo Hwee (Institute for Infocomm Research); Wong, Damon (Institute for Infocomm Research); Tan, Ngan Meng (A*STAR, Institute for Infocomm Research); Lu, Shijian (Inst for Infocomm Research, A STAR); Li, Huiqi (Institute for Infocomm Research); Wong, Tien Yin (National University of Singapore)</i>	1441-1444
15:00-16:40	3D Polarization-Sensitive Optical Coherence Tomography of Canine Meniscus Based on a 2D High-Fill-Factor Microelectromechanical Mirror	ThDPo02.12
	<i>Guo, Shuguang (University of Florida); Pozzi, Antonio (University of Florida); Ling, Hang-yin (University of Florida); Sun, Jingjing* (University of Florida); Wu, Lei (University of Florida); Liu, Lin (University of Florida); Xie, Huikai (University of Florida)</i>	1445-1448

15:00-16:40	ThDPo02.13
Speckle Reduction and Lesion Segmentation of OCT Tooth Images for Early Caries Detection	1449-1452
Li, Jialin* (University of Manitoba); Bowman, Christopher (National Research Council); Fazel-Rezai, Reza (University of North Dakota); Hewko, Mark (National Research Council); Choo-Smith, Lin-P'ing (National Research Council)	
15:00-16:40	ThDPo02.14
Automatic Fundus Image Classification for Computer-Aided Diagnosis	1453-1456
Lu, Shijian* (Inst for Infocomm Research, A STAR); Liu, Jiang (Inst for Infocomm Resrch, A STAR); Lim, Joo Hwee (Institute for Infocomm Research); Zhang, Zhuo (A*STAR); Tan, Ngan Meng (A*STAR, Institute for Infocomm Research); Wong, Damon (Institute for Infocomm Research); Li, Huiqi (Institute for Infocomm Research); Wong, Tien Yin (National University of Singapore)	
15:00-16:40	ThDPo02.15
Spatial Sensitivity in Near-Infrared Spectroscopic Brain Imaging Based on Three-Dimensional Monte Carlo Modeling	1457-1460
Mansouri, Chemseddine* (Arts et Métiers-ParisTech Angers); Kashou, Nasser (Nationwide Children's Hospital)	
15:00-16:40	ThDPo02.16
Blood Vessel Detection and Artery-Vein Differentiation Using Hyperspectral Imaging	1461-1464
Akbari, Hamed* (Tokyo Institute of Technology); Kosugi, Yukio (Tokyo Institute of Technology); Kojima, Kazuyuki (Tokyo Medical and Dental University); Tanaka, Naofumi (Tokyo Medical and Dental University)	
15:00-16:40	ThDPo02.17
Tracking Variable Number of Multiple Subcellular Structures in 3D	1465-1468
Wen, Quan* (The University of Texas at Arlington); Gao, Jean (Univeristy of Texas); Luby-Phelps, Kate (The University of Texas Southwestern Medical Center)	
15:00-16:40	ThDPo02.18
An Automatic Quantification and Registration Strategy to Create a Gene Expression Atlas of Zebrafish Embryogenesis	1469-1472
Castro Gonzalez, Carlos* (Universidad Politécnica de Madrid); Luengo-Oroz, Miguel Angel (Universidad Politécnica de Madrid); Desnoulez, Sophie (CNRS); Duloquin, Louise (CNRS); Fernández-de-Manuel, Laura (Universidad Politécnica de Madrid); Montagna, Sara (Universita di Bologna); Ledesma-Carbayo, Maria J. (Universidad Politécnica de Madri); Bourgine, Paul (Ecole Polytechnique); Peyrieras, Nadine (CNRS); Santos, Andres (Universidad Politecnica Madrid)	
ThDPo03: 15:00-16:40	Grand Ballroom - Salon E, F, G
3.2.2 Optical Sensors II (Poster Session)	
15:00-16:40	ThDPo03.1
OFSETH: Smart Medical Textile for Continuous Monitoring of Respiratory Motions under Magnetic Resonance Imaging	1473-1476
De jonckheere, Julien (CHRU de Lille); Narbonneau, François (Multitel); Jeanne, Mathieu (CHRU de Lille); Kinet, Damien (Multitel); Paquet, Bernard (Centexbel); Depré, Annick (Elasta); Logier, Regis* (CHRU de Lille)	
15:00-16:40	ThDPo03.2
A Multicentre Study of an Enhanced Optical Method for Measuring Concentration of Uric Acid Removed During Dialysis	1477-1480
Jerotskaja, Jana* (Tallinn University of Technology); Fridolin, Ivo (Centre of Biomedical Engineering); Tanner, Risto (National Institute of Chemical Physics and Biophysics); Lauri, Kai (Tallinn University of Technology); Uhlin, Fredrik (University Hospital, Linköping); Luman, Merike (North-Estonian Regional Hospital)	
15:00-16:40	ThDPo03.3
Plasmonic Nanohole Arrays for Label-Free Kinetic Biosensing in a Lipid Membrane Environment	1481-1484
Lesuffleur, Antoine (University of Minnesota); Lim, Kwan Seop (University of Minnesota); Lindquist, Nathan (University of Minnesota); Im, Hyunsoon* (University of Minnesota); Oh, Sang-Hyun (University of Minnesota); Warrington, Arthur (Mayo Clinic); Rodriguez, Moses (Mayo Clinic)	

15:00-16:40	ThDPo03.4
Attempt of a Novel Calibration Method of Pulse Oximetry Using Support Vector Machines Regression	1485-1488
Ogawa, Mitsuhiro* (yu.sys Corp.); Yamakoshi, Yasuhiro (yusys Co., Ltd.); Nogawa, Masamichi (Kanazawa University); Yamakoshi, Takehiro (Kanazawa University); Motoi, Kosuke (Kanazawa University); Tanaka, Shinobu (Kanazawa University); Yamakoshi, Ken-ichi (Kanazawa University)	
15:00-16:40	ThDPo03.5
A Novel Non-Invasive Trans-Reflectance Photoplethysmographic Probe for Use in Cases of Low Peripheral Blood Perfusion	1489-1492
Muhammad, Shafique (City University London); Phillips, Justin (City University); Kyriacou, Panayiotis* (City University)	
15:00-16:40	ThDPo03.6
Investigation of Photoplethysmographic Changes Using a Static Compression Model of Spinal Cord Injury	1493-1496
Phillips, Justin* (City University); George, Kuriakose Joshi (Queen Mary, University of London); Kyriacou, Panayiotis (City University); Langford, Richard (St Bartholomew's Hospital)	
15:00-16:40	ThDPo03.7
Protein a for Human IgG Oriented Immobilization on Silicon Surface for an Imaging Ellipsometry Biosensor	1497-1500
Meng, Yanli* (Northeast Normal University); Chen, Bo (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences)	
15:00-16:40	ThDPo03.8
A Fibre-Optic Catheter-Tip Force Sensor with MRI Compatibility: A Feasibility Study	1501-1504
polygerinos, panagiotis* (King's College London); Seneviratne, Lakmal (King's College London); Althoefer, Kaspar (King's College London); Schaeffter, Tobias (King's College London)	
15:00-16:40	ThDPo03.9
In-Vivo Evaluation of a Fiber-Optic Splanchnic Photoplethysmographic Sensor During Open Laparotomy	1505-1508
Hickey, Michelle (City University); Samuels, Neal (St Bartholomew's Hospital); Randive, Nilesh (St Bartholomew's Hospital); Langford, Richard (St Bartholomew's Hospital); Kyriacou, Panayiotis* (City University)	
15:00-16:40	ThDPo03.10
Evaluation of a Fiber-Optic Esophageal Pulse Oximeter	1509-1512
Phillips, Justin* (City University); Langford, Richard (St Bartholomew's Hospital); Chang, Serene (St Bartholomew's Hospital); Maney, Kishore (St Bartholomew's Hospital); Kyriacou, Panayiotis (City University); Jones, Deric (City University)	
15:00-16:40	ThDPo03.11
Measurements of Cerebral Arterial Oxygen Saturation Using a Fiber-Optic Pulse Oximeter	1513-1516
Phillips, Justin* (City University); Langford, Richard (St Bartholomew's Hospital); Chang, Serene (St Bartholomew's Hospital); Maney, Kishore (St Bartholomew's Hospital); Kyriacou, Panayiotis (City University); Jones, Deric (City University)	
15:00-16:40	ThDPo03.12
Development of an Accuracy Assessment Phantom for Surgical Navigators	1517-1520
Koivukangas, Tapani* (University of Oulu); Katisko, Jani Petri Antton (Oulu University Hospital); Nevala, Kalervo (University of Oulu); Louhisalmi, Yrjö (University of Oulu); Koivukangas, John Pertti (Oulu University Hospital)	

ThDPo04: 15:00-16:40	Grand Ballroom - Salon E, F, G
6.7.1 Neural Circuits and Mechanisms (Poster Session)	

15:00-16:40	ThDPo04.1
Noise Induced Oscillations in Recurrent Neural Networks	1521-1524
Sekine, Makoto (Kanto-Gakuin University); Mino, Hiroyuki* (Kanto Gakuin University); Durand, Dominique (Case Western Reserve University)	

15:00-16:40	Channel Noise Enhances Signal Detectability in a Model of Acoustic Neuron through the Stochastic Resonance Paradigm	ThDPo04.2 1525-1528
	<i>Liberti, Micaela (ICEMB@La Sapienza Univ Rome); Paffi, Alessandra (ICEmb@La Sapienza Univ Rome); Maggio, Fernando* (ICEMB@La Sapienza University Rome); De Angelis, Annalisa (ICEMB@La Sapienza University Rome); Apollonio, Francesca (ICEmb@La Sapienza Univ Rome); D'Inzeo, Guglielmo (ICEmb@"La Sapienza" University Rome)</i>	
15:00-16:40	Using an Open-Loop Inverse Control Strategy to Regulate CA1 Nonlinear Dynamics for an in Vitro Hippocampal Prosthesis Model	ThDPo04.3 1529-1532
	<i>Hsiao, Min-Chi* (University of Southern California); Song, Dong (University of Southern California); Berger, Theodore (University of Southern California)</i>	
15:00-16:40	The Thalamocortical Circuit and the Generation of Epileptic Spikes in Rat Models of Focal Epilepsy	ThDPo04.4 1533-1536
	<i>Freestone, Dean Robert* (The University of Melbourne); Grayden, David B. (The University of Melbourne); Lai, Alan (Bionic Technologies Australia); Nelson, Timothy Scott (Bionic Technologies Australia); Halliday, Amy Jean (St Vincent's Hospital); Burkitt, Anthony Neville (The University of Melbourne); Cook, Mark (St. Vincent's Hospital)</i>	
15:00-16:40	Curve Fitting of Spikes in Neural Signals	ThDPo04.5 1537-1540
	<i>Chen, Dong (Southeast University); Lü, Xiaoying* (Southeast University); Wang, Zhigong (Southeast University)</i>	
15:00-16:40	Linear Control of Neuronal Spike Timing Using Phase Response Curves	ThDPo04.6 1541-1544
	<i>Stigen, Tyler* (University of Minnesota); Netoff, Tay (University of Minnesota)</i>	
ThDPo05: 15:00-16:40	Grand Ballroom - Salon E, F, G	
6.11.4 Rehabilitation II (Poster Session)		
15:00-16:40	Comparison of Neuronal Network Models for Tinnitus Management by Sound Therapy	ThDPo05.1 1545-1548
	<i>Nagashino, Hirofumi* (The University of Tokushima); Kinouchi, Yohsuke (The University of Tokushima); Danesh, Ali A. (Florida Atlantic University); Pandya, Abhijit S. (Florida Atlantic University)</i>	
15:00-16:40	Evaluation of Sonomyography (SMG) for Control Compared with Electromyography (EMG) in Terms of Accuracy	ThDPo05.2 1549-1552
	<i>Guo, Jing-Yi* (The Hong Kong Polytechnic University); Xie, Hong-Bo (The Hong Kong Polytechnic University); Zheng, Yongping (The Hong Kong Polytechnic University)</i>	
15:00-16:40	Measurement of Upper Limb Kinematics and Joint Angle Patterns During Deep Brain Stimulation for Parkinson's Disease	ThDPo05.3 1553-1556
	<i>Khandwala, Vivek* (University of Rochester); Burack, Michelle (University of Rochester); Mink, Jonathan (University of Rochester); Gdowski, Martha Johnson (University of Rochester); Gdowski, Greg (University of Rochester)</i>	
15:00-16:40	Nerve Cuff Stimulation and the Effect of Fascicular Organization for Hand Grasp in Nonhuman Primates	ThDPo05.4 1557-1560
	<i>Brill, Natalie* (Case Western Reserve University); Polasek, Katharine (Case Western Reserve University); Miller, Lee (Northwestern University); Oby, Emily (Northwestern University); Tyler, Dustin (Case Western Reserve University)</i>	
15:00-16:40	An ASK Demodulator for Data Telemetry in Biomedical Application	ThDPo05.5 1561-1564
	<i>Liang, Bin* (University of California, Santa Cruz); Yang, Zhi (University of California, Santa Cruz); Liu, Wentai (University of California, Santa Cruz)</i>	

15:00-16:40	Tremor Suppression Orthoses for Parkinson's Patients: A Frequency Range Perspective	ThDPo05.6 1565-1568
	<i>Rahimi, Fariborz* (University of Waterloo); almeida, Quincy (Wilfrid Laurier University); Wang, David (University of Waterloo); Janabi-Sharifi, Farrokh (Ryerson University)</i>	
15:00-16:40	An FES Cycling Control System Based on CPG	ThDPo05.7 1569-1572
	<i>Hou, Zeng-Guang* (Chinese Academy of Sciences); Li, Pengfeng (Institute of Automation, Chinese Academy of Sciences); Zhang, Feng (Chinese Academy of Sciences)</i>	
15:00-16:40	Design and Evaluation of a Hybrid Passive and Active Gravity Neutral Orthosis (GNO)	ThDPo05.8 1573-1576
	<i>Koo, Benjamin (Columbia University Medical Center); Montes, Jacqueline (Columbia University); Gamarnik, Viktor (Columbia University); Yeager, Keith (Columbia University); Marra, Jonathan (Columbia University); Dunaway, Sally (Columbia University Medical Center); Montgomery, Megan (Columbia University); De Vivo, Darryl (Columbia University); Strauss, Nancy E. (Columbia University); Konofagou, Elisa (Columbia University); Kaufmann, Petra (Columbia University); Morrison, Barclay* (Columbia University)</i>	
15:00-16:40	Design and Analysis of Ultrasonic Monaural Audio Guiding Device for the Visually Impaired	ThDPo05.9 1577-1580
	<i>Kim, Keonwook* (Dongguk University); Kim, Hyunjai (IESystems Co.); Yun, Gihun (Dongguk University); Kim, Myungsoo (Dongguk University)</i>	
15:00-16:40	The Effects of Asymmetric Tonic Neck Reflex During Reaching Movements Following Stroke: Preliminary Results	ThDPo05.10 1581-1584
	<i>Lee, Song Joo* (Northwestern University); Yao, Jun (Northwestern University); Acosta, Anamaria (Northwestern University); Dewald, Julius P. A. (Northwestern University)</i>	
15:00-16:40	Electro-Tactile Preference Identification Using Fuzzy Logic	ThDPo05.11 1585-1588
	<i>Fadali, M. Sami (University of Nevada, Reno); Shen, Yantao* (University of Nevada, Reno); Jafarzadeh, Saeed (University of Nevada, Reno); Yi, Jingang (Rutgers University)</i>	
15:00-16:40	Phantom Limb Pain Treated by Far Infrared Ray	ThDPo05.12 1589-1591
	<i>Huang, Chi-Yu* (National Taiwan University); Yang, Rong-Sen (College of Medicine, National Taiwan University); Kuo, Te-son (National Taiwan University); Hsu, Kai-Hsiung (National Ilan University)</i>	
ThDPo06: 15:00-16:40	Grand Ballroom - Salon E, F, G	
6.2.3 Neural Microsystems III (Poster Session)		
15:00-16:40	Highly Programmable Digital Controller for High-Density Epi-Retinal Prosthesis	ThDPo06.1 1592-1595
	<i>Chen, Kuanfu* (University of California, Santa Cruz); Liu, Wentai (University of California, Santa Cruz)</i>	
15:00-16:40	Comparing different electrode configurations using the 10-10 international system in tDCS: a finite element model analysis	ThDPo06.2 1596-1599
	<i>Faria, Paula Cristina* (University of Lisbon); Leal, Alberto (AL); Miranda, Pedro (Faculty of Science, University of Lisbon)</i>	
15:00-16:40	A Flexible Microelectrode for Mouse EEG	ThDPo06.3 1600-1603
	<i>Choi, Jee Hyun* (Korea Institute of Science and Technology, University of Science and Technology); Koch, Klaus-Peter (Fraunhofer Institut für Biomedizinische Technik); Poppendieck, Wigand (Fraunhofer Institut für Biomedizinische Technik); Lee, Mina (Korea Institute of Science and Technology, University of Science and Technology)</i>	
15:00-16:40	Common Median Referencing for Improved Action Potential Detection with Multielectrode Arrays	ThDPo06.4 1604-1607
	<i>Rolston, John* (Emory University School of Medicine); Gross, Robert (Emory University); Potter, Steve (Georgia Institute of Technology)</i>	

15:00-16:40	In Vivo Testing of a Low Noise 32-Channel Wireless Neural Recording System	ThDPo06.5 1608-1611
	<i>Yin, Ming (North Carolina State University); Lee, Seung Bae (Georgia Institute of Technology); Ghovanloo, Maysam* (Georgia Institute of Technology)</i>	
15:00-16:40	Stretchable Tracks for Laser-Machined Neural Electrode Arrays	ThDPo06.6 1612-1615
	<i>Schuettler, Martin* (University of Freiburg); Pfau, Damir (University of Freiburg, Laboratory for Biomedical Microtechnology); Ordonez, Juan Sebastian (University of Freiburg); Henle, Christian (University of Freiburg); Woias, Peter (University); Stieglitz, Thomas (University of Freiburg)</i>	
15:00-16:40	Insertion of a Three Dimensional Silicon Microelectrode Assembly through a Thick Meningeal Membrane	ThDPo06.7 1616-1618
	<i>Escamilla - Mackert, Taneev (University of Michigan); Langhals, Nicholas B.* (University of Michigan); Kozai, Takashi D. Y. (University of Michigan); Kipke, Daryl (University of Michigan)</i>	
15:00-16:40	Implementation of Integratable PDMS-Based Conformable Microelectrode Arrays Using a Multilayer Wiring Interconnect Technology	ThDPo06.8 1619-1622
	<i>Guo, Liang* (Georgia Institute of Technology); DeWeerth, Stephen P. (Georgia Tech/Emory University)</i>	
15:00-16:40	PDMS-Based Conformable Microelectrode Arrays with Selectable Novel 3-D Microelectrode Geometries for Surface Stimulation and Recording	ThDPo06.9 1623-1626
	<i>Guo, Liang* (Georgia Institute of Technology); DeWeerth, Stephen P. (Georgia Tech/Emory University)</i>	
15:00-16:40	Six-Channel Neural Signal Regeneration Integrated Circuit	ThDPo06.10 1627-1630
	<i>Li, Wenyuan* (Southeast University); Wang, Fei (Southeast University); Wang, Zhigong (Southeast University); Lü, Xiaoying (Southeast University); SHEN, Xiaoyan (Southeast University)</i>	
15:00-16:40	A 1μW 85nV/\sqrt{Hz} Pseudo Open-Loop Preamplifier with Programmable Band-Pass Filter for Neural Interface System	ThDPo06.11 1631-1634
	<i>Chang, Sun-II* (University of Michigan); Yoon, Euisik (University of Michigan)</i>	
15:00-16:40	Pulse-Clamp Technique for Single Neuron Stimulation Electrode Characterization	ThDPo06.12 1635-1638
	<i>van Ooyen, André* (RWTH Aachen University); Zagolla, Volker G. (RWTH Aachen University); Ulrich, Christian (RWTH Aachen University); Schnakenberg, Uwe (RWTH Aachen University)</i>	
15:00-16:40	Integrated Electronics for Peripheral Nerve Recording and Signal Processing	ThDPo06.13 1639-1642
	<i>Limnuson, Kanokwan (Case Western Reserve University); Tyler, Dustin (Case Western Reserve University); Mohseni, Pedram* (Case Western Reserve University)</i>	
15:00-16:40	A Fully Flexible Stimulator using 65 nm CMOS Process for 1024-electrode Epi-retinal Prosthesis	ThDPo06.14 1643-1646
	<i>Tran, Nhan* (The University of Melbourne); Yang, Jiawei (The University of Melbourne); Bai, Shun (The University of Melbourne); Ng, David (NICTA Victoria Research Lab); Halpern, Mark Edward (NICTA Victoria Res. Lab.); Grayden, David B. (The University of Melbourne); Skafidas, Stan (NICTA Victoria Research Lab); Mareels, Iven (Melbourne University, Australia)</i>	
15:00-16:40	A Low-Power Area-Efficient 8 Bit SAR ADC Using Dual Capacitor Arrays for Neural Microsystems	ThDPo06.15 1647-1650
	<i>Chang, Sun-II* (University of Michigan); Yoon, Euisik (University of Michigan)</i>	
15:00-16:40	A Carbon Nanotube Cortical Neuron with Spike-Timing-Dependent Plasticity	ThDPo06.16 1651-1654
	<i>Joshi, Jonathan* (University of Southern California); Parker, Alice. C (University of Southern California); Hsu, Chih-Chieh (University of Southern California)</i>	

15:00-16:40	ThDPo06.17
Dual Compartment Neurofluidic System for Electrophysiological Measurements in Physically Isolated Neuronal Cell Cultures	1655-1658
Kanagasabapathi, Thirukumaran T. (Philips Research Laboratories Eindhoven); Wang, Ke* (Philips Research); Mellace, Marco (Philips Research Laboratories Eindhoven,); Ramakers, Ger J. A. (University of Amsterdam); Decré, Michel (Philips Research)	
ThDPo07: 15:00-16:40	Grand Ballroom - Salon E, F, G
10.7.2 Healthcare Information Systems (Poster Session)	
15:00-16:40	ThDPo07.1
Lifetime Estimation of Wireless Body Area Sensor Networks for Patient Health Monitoring	1659-1662
Agyei-Ntim, Frank* (University of Denver); Newman, Kimberly (University of Denver)	
15:00-16:40	ThDPo07.2
Implementation and Performance Evaluation of Mobile Ad Hoc Network for Emergency Telemedicine System in Disaster Areas	1663-1666
Kim, Jungchae (Yonsei University); Kim, Doyoon (University of Yonsei); Jung, Seok Myung (Yonsei University); Lee, mihee (Yonsei University); Kim, Kwangsoo (Yonsei University); Lee, ChungK (Yonsei University); Nah, Ji Young (Yonsei University); LEE, SU HO (Yonsei University College of Medicine); Kim, JuHyun (Yonsei University); Choi, WooJin (Yonsei univ); Yoo, Sun K.* (Yonsei University Health System)	
15:00-16:40	ThDPo07.3
Service oriented architecture for the integration of clinical and physiological data for real-time event stream processing	1667-1670
Kamaleswaran, Rishikesan* (University of Ontario Institute of Technology); McGregor, Carolyn (Univ of Ontario Inst of Technology); Percival, Jennifer (Univ of Ontario Institute of Tech)	
15:00-16:40	ThDPo07.4
Web-Based Sharing of Electrocardiogram: A Framework for Information Publishing	1671-1674
Yuan, Shizhong* (University of Aizu); Wei, Daming (University of Aizu); Xu, Weimin (Shanghai University); Shen, Wenfeng (Shanghai University)	
15:00-16:40	ThDPo07.5
Fast Matching of Sensor Data with Manual Observations	1675-1678
Biswas, Jit (Institute for Infocomm Research); Maniyeri, Jayachandran* (Institute for Infocomm Research); Shue, Louis (Institute for Infocomm Research); Yap, Philip (Alexandra Hospital)	
15:00-16:40	ThDPo07.6
Implementation Experiences of ISO/IEEE11073 Standard Applied to New Use Cases for E-Health Environments	1679-1682
Martinez Ruiz, Ignacio (University of Zaragoza); Escayola, Javier (University of Zaragoza); Martinez-Espronceda, Miguel* (Public University of Navarra); Serrano, Luis (Public University of Navarra); Trigo, Jesus (University of Zaragoza); Led, Santiago (Public University of Navarra); Garcia Moros, Jose (University of Zaragoza)	
15:00-16:40	ThDPo07.7
Cross-Layer Fault Tolerant Data Aggregation for Improved Network Delay in Healthcare Management Applications	1683-1686
Yuan, Xiaojing* (University of Houston); Liu, Haoying (University of Houston)	
15:00-16:40	ThDPo07.8
Information Exchange Protocol for Mobile Heart Monitoring System	1687-1690
Ho, Thomas Chee Tat (Institute for Infocomm Research); Chen, Xiang* (Institute for Infocomm Research)	
15:00-16:40	ThDPo07.9
An XML Based Middleware for ECG Format Conversion	1691-1694
Li, Xuchen (RMIT University); Fang, Qiang (RMIT University); Vojisavljevic, Vuk* (RMIT University)	
15:00-16:40	ThDPo07.10
A Design of the u-Health Monitoring System using a Nintendo DS Game Machine	1695-1698
Lee, SangJoon* (Yonsei University); Kim, Jinkwon (Yonsei Univ.); Kim, Jungkuk (Myongji University); Lee, Myoungho (Yonsei University)	

15:00-16:40	ThDPo07.11
DiNAR: Health Monitoring of IT Systems in Emergency Response	1699-1702
Deshpande, Kartik* (University of Massachusetts, Amherst); Ganz, Aura (University of Massachusetts, Amherst)	
15:00-16:40	ThDPo07.12
Real Time Localization of Victims at an Emergency Site: Architecture, Algorithms and Experimentation	1703-1706
Vemula, Dhruva Tej* (University of Massachusetts, Amherst); Ganz, Aura (University of Massachusetts, Amherst)	
15:00-16:40 Author unavailable for presentation	ThDPo07.13
"Smart Pharmacy" Master Blends Integrated Supply Chains with Patient Care to Uphold Regulatory Compliances	1707-1709
Bhinder, Prabhjot* (UNICEF (United Nations Fund for Children), National Institute for Communicable Diseases (NICD), Delhi); oberoi, mandeep s (Capgemini USA LLC)	
15:00-16:40	ThDPo07.14
Web Based Tool for Resource Allocation in Multiple Mass Casualty Incidents	1710-1713
Inampudi, Venkata Srihari* (University of Massachusetts, Amherst); Ganz, Aura (University of Massachusetts, Amherst)	
15:00-16:40	ThDPo07.15
Distributed Visual Analytics for Collaborative Emergency Response Management	1714-1717
Natarajan, Sriram* (University of Massachusetts, Amherst); Ganz, Aura (University of Massachusetts, Amherst)	
15:00-16:40	ThDPo07.16
A Flexible System to Capture Sample Vials in a Storage Box – the Box Vial Scanner	1718-1721
Nowakowski, E* (Mayo Clinic)	
15:00-16:40	ThDPo07.17
Patient Centric Identification and Association	1722-1725
Frisch, Paul* (Memorial Sloan-Kettering Cancer Ctr); Miodownik, Saul (Memorial Sloan Kettering Cancer Ctr); Booth, Paul (Memorial Sloan Kettering Cancer Ctr); carriage, Patrick (Memorial Sloan-Kettering Cancer Center); dowling, Mary (Memorial Sloan-Kettering Cancer Center); Lui, Wei (Memorial Sloan Kettering Cancer Ctr)	
15:00-16:40	ThDPo07.18
Interoperability of Personal Health Records	1726-1729
Lähteenmäki, Jaakko* (VTT Technical Research Centre of Finland); Leppänen, Juha (VTT); Kaijanranta, Hannu (VTT)	
15:00-16:40	ThDPo07.19
Electronic Medical Record Systems in Developing Countries: A Review	1730-1733
Kalogriopoulos, Nicholas (University of Wisconsin - Madison); Baran, Jonathan* (University of Wisconsin-Madison); Nimunkar, Amit (University of Wisconsin-Madison); Webster, John (University of Wisconsin Madison)	
15:00-16:40	ThDPo07.20
A New Bed-Exiting Alarm System for Welfare Facility Residents	1734-1737
Ogawa, Hidekuni* (Hiroshima Institute of Technology); Yonezawa, Yoshiharu (Hiroshima Institute of Technology); Maki, Hiromichi (Hiroshima Institute of Technology); Caldwell, Morton (Caldwell Biomedical Electronics)	
15:00-16:40	ThDPo07.21
Successive ECG Telemetry Monitoring for Preventing Sudden Cardiac Death	1738-1741
Fang, Zuxiang (Fudan University); Lai, Dakun (University of Minnesota); Ge, Xin* (Fudan University); Wu, Xiaomei (Fudan University)	
15:00-16:40	ThDPo07.22
Medication Dispenser Design for Narcotic Rehabilitation Patients	1742-1745
Ho, Vien (University of Tasmania); Gale, Timothy John* (University of Tasmania)	

5.8.2 Cardiovascular Signal Processing II (Poster Session)

15:00-16:40	ThDPo08.1
Noninvasive Cardiac Output Estimation Using a Novel Photoplethysmogram Index	1746-1749
Wang, Ling* (The Chinese University of Hong Kong); MacPherson, Emma (Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	
15:00-16:40	ThDPo08.2
Analysis of QRS Loop Changes in the Beat-To-Beat Vectocardiogram of Ischemic Patients Undergoing PTCA	1750-1753
Correa, Raúl (Universidad Nacional de San Juan (San Juan-Argentina)); Laciár, Eric* (Universidad Nacional de San Juan); Arini, Pedro David (CONICET); Jané, Raimon (Universitat Politècnica de Catalunya)	
15:00-16:40	ThDPo08.3
New Vectorcardiographic Non-Planarity Measure of T-Wave Loop Improves Separation between Healthy Subjects and Myocardial Infarction Patients	1754-1757
Karsikas, Mari* (University of Oulu); Noponen, Kai (University of Oulu); Huikuri, Heikki (University of Oulu); Seppänen, Tapio (University of Oulu)	
15:00-16:40	ThDPo08.4
Model-Based Heart Rate Prediction During Lokomat Walking	1758-1761
Koenig, Alexander* (ETH Zurich); Somaini, Luca (ETH Zurich); Pulfer, Michael (ETH Zurich); Holenstein, Thomas (ETH Zurich); Omlin, Ximena (ETH Zurich); Wieser, Martin (ETH Zurich); Riener, Robert (ETH and University Zurich)	
15:00-16:40	ThDPo08.5
Time-Frequency Representation of Cardiovascular Signals During Handgrip Exercise	1762-1765
Tiinanen, Suvi* (University of Oulu); Kiviniemi, Antti (Verve); Tulppo, Mikko (Verve); Seppänen, Tapio (University of Oulu)	
15:00-16:40	ThDPo08.6
Cardiac Action Potential Wavefront Tracking Using Optical Mapping	1766-1769
Ashraf, Abtin (University of Calgary); Nygren, Anders* (University of Calgary)	
15:00-16:40	ThDPo08.7
Optimised Design of the Front-End Analogue High-Pass Filter for a Diagnostic Quality ECG Monitoring System	1770-1773
Dozio, Roberta* (Trinity College Dublin); Burke, Martin J. (Trinity College Dublin)	
15:00-16:40	ThDPo08.8
Amplifier Input Impedance in Dry Electrode ECG Recording	1774-1777
Assambo, Cedric* (Trinity College Dublin); Burke, Martin J. (Trinity College Dublin)	
15:00-16:40	ThDPo08.9
Cardiac Source Localization by Means of a Single Moving Dipole Solution During Endocardial Pacing in an Animal Model	1778-1780
Lai, Dakun* (University of Minnesota); Liu, Chenguang (University of Minnesota); Eggen, Michael (University of Minnesota); Iaizzo, Paul (University of Minnesota); He, Bin (University of Minnesota)	
15:00-16:40	ThDPo08.10
Spectral Analysis of Heart Period and Pulse Transit Time Derived from Electrocardiogram and Photoplethysmogram in Sepsis Patients	1781-1784
Tang, Collin Howe Hing* (University of New South Wales); Chan, Gregory S H (The University of New South Wales); Middleton, Paul MacConachie (University of New South Wales); Savkin, Andrey (University of New South Wales); Lovell, Nigel H (University of New South Wales)	
15:00-16:40	ThDPo08.11
Pulse Transit Time-Based Blood Pressure Estimation Using Hilbert-Huang Transform	1785-1788
Shi, Yang* (University of Saskatchewan); Zhang, Qiao (University of Saskatchewan)	

15:00-16:40	ThDPo08.12
A Novel Method for Assessing Arterial Stiffness by a Hydrostatic Approach	1789-1791
Liu, Yinbo* (The Chinese University of Hong Kong); Poon, Carmen CY (The Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	
15:00-16:40 Author unavailable for presentation	
Effect of Upper Arm Cuff Pressure on Pulse Morphology Using Photoplethysmography	1792-1795
Lakshmanan, Suganthi (IIT Madras); M, Manivannan* (Indian Institute of Technology Madras)	
15:00-16:40	ThDPo08.14
Determination of Wave Speed and Distensibility of Flexible Tubes Using Diameter and Velocity	1796-1799
Li, Ye* (Brunel University); Khir, Ashraf (Brunel University)	
15:00-16:40	ThDPo08.15
Reactive Hyperemia-Related Changes in Carotid-Radial Pulse Wave Velocity As a Potential Tool to Characterize the Endothelial Dynamics	1800-1803
Torrado, Juan (School of Medicine, Republic University); Bia, Daniel* (School of Medicine, Republic University); Zócalo, Yanina (School of Medicine, Republic University); Valls, Gabriela (School of Medicine, Republic University); Lluberas, Sebastian (School of Medicine); Craiem, Damian (Favaloro University); Armentano, Ricardo (Favaloro University)	
15:00-16:40	ThDPo08.16
Environmental Stress: Approximate Entropy Approach Revisited	1804-1807
Loncar-Turukalo, Tatjana (University of Novi Sad); Bajic, Dragana* (University of Novi Sad); Sarenac, Olivera (School of Medicine, University of Belgrade); Japundzic-Zigon, Nina (University of Belgrade); Boskovic, Aleksandar (Elektrovojvodina)	
15:00-16:40	ThDPo08.17
Multifractal Characterization of the Autonomous Nervous System During Prolonged Coronary Artery Occlusion	1808-1811
Magrans, Rudys* (Universitat Politècnica de Catalunya); Gomis, Pedro (Technical University of Catalonia); Caminal, Pere (Technical University of Catalonia (UPC)); Wagner, Galen (Duke University Medical Center)	
15:00-16:40	ThDPo08.18
Discrimination of Endocardial Electrogram Disorganization Using a Signal Regularity Analysis	1812-1815
Novak, Daniel* (Czech Technical University in Prague); Kremen, Vaclav (Faculty of Electrical Engineering, Czech Technical University in Prague.); Cuesta-Frau, David (Politechnic University of Valencia); Schmidt, Karel (Czech Technical University); Chudacek, Vaclav (Czech Technical University in Prague); Lhotska, Lenka (Czech Technical University in Prague)	
15:00-16:40	ThDPo08.19
Spontaneous Variability Analysis for Characterizing Cardiovascular Responses to Water Ingestion	1816-1819
Nozawa, Masaki (Hosei University); Yana, Kazuo* (Hosei University); Kaeriyama, Kaoru (Hosei University); Mizuta, Hirohisa (Josai University); Ono, Takuya (Nippon Medical School)	
15:00-16:40	ThDPo08.20
Orthogonal Basis Expansion Based Atrial Activity Reconstruction for Atrial Fibrillation Electrocardiogram Analysis	1820-1823
Kodituwakku, Sandun* (RSISE, Australian National University); Abhayapala, Thushara Dheemantha (Australian National University); Kennedy, Rodney Andrew (The Australian National University)	
15:00-16:40	ThDPo08.21
Time-Frequency Analysis of HRV Data from Locally Anesthetized Patients	1824-1827
Shafqat, Kamran* (City University); Kyriacou, Panayiotis (City University); Pal, Sandip (Broomfield Hospital); Kumari, Santhi (Broomfield Hospital)	
15:00-16:40	ThDPo08.22
COI-Wiz: An Interactive Computer Wizard for Analyzing Cardiac Optical Signals	1828-1831
Yuan, Xiaojing* (University of Houston); UYANIK, ILYAS (UNIVERSITY OF HOUSTON); Situ, Ning (University of Houston)	

15:00-16:40	ThDPo08.23
Development of Semi-Separated Co-Culture System of Sympathetic Neuron and Cardiomyocyte	1832-1835
Takeuchi, Akimasa* (The University of Tokyo); Moriguchi, Hiroyuki (University of Tokyo); Kotani, Kiyoshi (University of Tokyo); Miwa, Keiko (Nagoya University); Lee, Jong-Kook (Nagoya University); Noshiro, Makoto (Kitasato University); Jimbo, Yasuhiko (University of Tokyo)	
15:00-16:40	ThDPo08.24
Mental Workload Classification Using Heart Rate Metrics	1836-1839
Henelius, Andreas* (Finnish Institute of Occupational Health); Hirvonen, Kati (Finnish Institute of Occupational Health); Holm, Anu (Finnish Institute of Occupational Health); Korpela, Jussi (Finnish Institute of Occupational Health); Müller, Kiti (Finnish Institute of Occupational Health, Helsinki)	
15:00-16:40	ThDPo08.25
Validation of a Graphic Measurement of Heart Rate Variability to Assess Analgesia/nociception Balance During General Anesthesia	1840-1843
Jeanne, Mathieu (CHRU de Lille); Logier, Regis (CHRU de Lille); De jonckheere, Julien* (CHRU de Lille); Tavernier, Benoit (CHRU de Lille)	
15:00-16:40	ThDPo08.26
Cardiovascular Impact of Manual and Automated Turns in ICU	1844-1847
Padhye, Nikhil* (Univ of Texas Health Science Center); Hamlin, Shannan (The Methodist Hospital); Brazdeikis, Audrius (University of Houston); Hanneman, Sandra (The University of Texas Health Science Center at Houston)	
15:00-16:40	ThDPo08.27
Transfer Function Analysis of Baroreflex Function in a Rabbit Model of Endotoxic Shock	1848-1851
Tang, Collin Howe Hing* (University of New South Wales); Chan, Gregory S H (The University of New South Wales); Middleton, Paul MacConachie (University of New South Wales); Cave, Grant (University of Otago); Harvey, Martyn (Waikato Hospital); Savkin, Andrey (University of New South Wales); Lovell, Nigel H (University of New South Wales)	
15:00-16:40	ThDPo08.28
Pilot Canine Investigation of the Cardiopulmonary Baroreflex Control of Ventricular Contractility	1852-1855
Sala-Mercado, Javier (Wayne State University School of Medicine); Chen, Xiaoxiao* (Michigan State University); Hammond, Robert (Wayne State University School of Medicine); Ichinose, Masashi (Wayne State University School of Medicine); O'Leary, Donal (Wayne State University School of Medicine); Mukkamala, Ramakrishna (Michigan State University)	
15:00-16:40	ThDPo08.29
Sleeping ECG and Body Position Monitoring System	1856-1859
Yang, Chang-Ming* (Ming Yang Biomedical Corp.)	

ThE01: 16:40-18:10	Conrad B
1.2.1 EEG Signal Processing I (Oral Session)	
Chair: Reza Fazel-Rezai, Univ. of North Dakota Co-Chair: Richard D. Jones, Van der Veer Inst.	

16:40-16:55	ThE01.1
Seizure Detection in Intracranial EEG Using a Fuzzy Inference System	1860-1863
Aarabi, Ardalan* (University of Manitoba); Fazel-Rezai, Reza (University of North Dakota); Aghakhani, Yahya (University of Manitoba)	
16:55-17:10	ThE01.2
EEG Seizure Prediction: Measures and Challenges	1864-1867
Aarabi, Ardalan* (University of Manitoba); Fazel-Rezai, Reza (University of North Dakota); Aghakhani, Yahya (University of Manitoba)	
17:10-17:25	ThE01.3
EEG Source Extraction by Autoregressive Source Separation Reveals Abnormal Synchronization in Parkinson's Disease	1868-1872
Chiang, Joyce Hsien yin (University of British Columbia); Wang, Z. Jane (University of British Columbia); McKeown, Martin* (University of British Columbia)	

17:25-17:40	ThE01.4
Partial Directed Coherence-Based Information Flow in Parkinson's Disease Patients Performing a Visually-Guided Motor Task	1873-1878
Tropini, Giorgia (University of British Columbia); Chiang, Joyce Hsien yin (University of British Columbia); Wang, Z. Jane (University of British Columbia); McKeown, Martin* (University of British Columbia)	
17:40-17:55	ThE01.5
Human Performance Evaluation Based on EEG Signal Analysis: A Prospective Review	1879-1882
Rabbi, Ahmed Fazle* (University of North Dakota); Ivanka, Kevin (University of North Dakota); Putnam, Ashley (University of North Dakota); Musa, Ahmed (University of North Dakota); Thaden, Courtney (University of North Dakota); Fazel-Rezai, Reza (University of North Dakota)	
ThE02: 16:40-18:10	Conrad C
1.4.3 Biomedical Signal Classification II (Oral Session)	
Chair: Kazuo Yana, Hosei Univ.	
Co-Chair: Vinod Kumar, IIT Roorkee	
16:40-16:55	ThE02.1
A Personalized Classification System for Holter Registers	1883-1888
Kiranyaz, Serkan* (Tampere University of Technology); Ince, Turker (Izmir University of Economics); Pulkkinen, Jenni (Tampere University of Technology); Gabbouj, Moncef Gabbouj (Tampere University of Technology)	
16:55-17:10	ThE02.2
A Biomedical Signal Segmentation Algorithm for Event Detection Based on Slope Tracing	1889-1892
Kim, Jungkuk* (Myongji University); Kim, Minkyu (Myongji University); Won, Injae (Myongji University); Yang, Seungyul (Tongwon College); Lee, Kiyoung (Kwandong University); Huh, Woong (Myongji University)	
17:10-17:25	ThE02.3
Electrocardiogram Signals Identification for Cardiac Arrhythmias Using Prony's Method and Neural Network	1893-1896
Bani-Hasan, Moustafa* (Cairo University); Kadah, Yasser M. (Cairo University); Rasmy, Mohamed (Cairo University); hefnawi, fatma (Electronics Research Institute)	
17:25-17:40	ThE02.4
A Fast and Accurate Method for Arrhythmia Detection	1897-1900
Tavakoli, Vahid (University of Louisville); Sahba, Nima (Islamic Azad University); Hajebi, Nima* (Shahed University)	
17:40-17:55	ThE02.5
Efficacy of Noncontact Mapping in Detecting Epicardial Activation	1901-1904
Shokrollahi, Elnaz* (Ryerson University); Krishnan, Sridhar (Ryerson University); Masse, Stephane (THCFM Lab, Toronto General Hospital); Umapathy, Karthikeyan (Ryerson University); Soucie, Luc (St. Jude Medical Canada); Farid, Talha (THCFM Lab, Toronto General Hospital); Nanthakumar, Kumaraswamy (THCFM Lab, Toronto General Hospital)	
17:55-18:10	ThE02.6
Segmentation of Respiratory Signals by Evidence Theory	1905-1908
BELGHITH, Akram* (University of Strasbourg); COLLET, Christophe (University of Strasbourg)	
ThE03: 16:40-18:10	Grand Ballroom - Salon B
2.1.2 Minisymposium: Medical Imaging – New Biomarkers and Clinical Perspective II	
Chair: Yi Wang, Cornell Univ.	
16:40-17:10	ThE03.1
CT Clinical Perspective: Challenges and the Impact of Future Technology Developments	1909-1912
Vannier, Michael* (University of Chicago)	
17:10-17:40	ThE03.2
A Family of Intracardiac Ultrasound Imaging Devices Designed for Guidance of Electrophysiology Ablation Procedures	1913-1917
Sahn, David J.* (Oregon Health & Science University)	

17:40-18:10		ThE03.3
Towards Cardiovascular Risk Stratification Using Imaging Data	1918-1921	
<i>Kakadiaris, Ioannis* (University of Houston)</i>		

ThE04: 16:40-18:10	Duluth Room
2.5.2 Electrical Source Imaging (Oral Session)	
Chair: Lei Ding, <i>Univ. of Oklahoma</i>	

16:40-16:55	ThE04.1
L1-Norm and L2-Norm Neuroimaging Methods in Reconstructing Extended Cortical Sources from EEG	1922-1925
<i>Ding, Lei* (University of Oklahoma)</i>	

16:55-17:10	ThE04.2
Multimodal Functional Imaging Using Fmri-Informed Regional EEG/MEG Source Estimation	1926-1929
<i>Ou, Wanmei* (Massachusetts Institute of Technology); Golland, Polina (Massachusetts Institute of Technology); Nummenmaa, Aapo (Massachusetts General Hospital); Hamalainen, Matti (Massachusetts General Hospital)</i>	

17:10-17:25	ThE04.3
Interictal ECoG Spikes As Reflected in MEG	1930-1933
<i>Huiskamp, Geertjan* (University Medical Center Utrecht); Agirre-Arrizubieta, Zaloa (University Medical Center Utrecht)</i>	

17:25-17:40	ThE04.4
Electrophysiological Neuroimaging: Cortical Correlates of Alpha Rhythm Modulation	1934-1936
<i>Yang, Lin* (University of Minnesota); Liu, Zhongming (National Institute of Neurological Disorders and Stroke, National Institutes of Health); Rios, Cristina (University of Minnesota); Yuan, Han (University of Minnesota); He, Bin (University of Minnesota)</i>	

17:40-17:55	ThE04.5
Estimation of the Cortical Activity from Simultaneous Multi-Subject Recordings During the Prisoner's Dilemma	1937-1939
<i>Astolfi, Laura* (University of Rome); Babiloni, Fabio (University of Rome); Salinari, Serenella (La Sapienza University); Wilke, Christopher (University of Minnesota); Yuan, Han (University of Minnesota); He, Bin (University of Minnesota)</i>	

17:55-18:10	ThE04.6
Neuromagnetic Source Imaging of Abnormal Spontaneous Activity in Tinnitus Patient Modulated by Electrical Cortical Stimulation	1940-1944
<i>Ramirez, Rey* (Medical College of Wisconsin); Kopell, Brian Harris (Medical College of Wisconsin); Butson, Christopher (Medical College of Wisconsin); Gaggl, Wolfgang (Medical College of Wisconsin); Friedland, David (Medical College of Wisconsin); Baillet, Sylvain (Medical College of Wisconsin)</i>	

ThE05: 16:40-18:10	Marquette V
2.2.3 Ultrasound Imaging II (Oral Session)	
Chair: Elisa Konofagou, <i>Columbia Univ.</i>	
Co-Chair: K. Kirk Shung, <i>Univ. of Southern California</i>	

16:40-16:55	ThE05.1
A 2D Post-Beamforming Filter for Contrast Restoration in Medical Ultrasound: In Vivo Results	1945-1948
<i>Wan, Yayun* (University of Minnesota); Ebbini, Emad (University of Minnesota)</i>	

16:55-17:10		ThE05.2
Characterization of Pancreatic Cancer and Intra-Abdominal Lymph Node Malignancy Using Spectrum Analysis of Endoscopic Ultrasound Imaging	1949-1952	
Kumon, Ronald* (University of Michigan); Pollack, Michael (University Hospitals Case Medical Center and Case Western Reserve University); Faulk, Ashley (University Hospitals Case Medical Center and Case Western Reserve University); Olowe, Kayode (University Hospitals Case Medical Center and Case Western Reserve University); Farooq, Farees (University Hospitals Case Medical Center and Case Western Reserve University); Chen, Victor (University Hospitals Case Medical Center and Case Western Reserve University); Zhou, Yun (University of Michigan); Wong, Richard (University Hospitals Case Medical Center and Case Western Reserve University); Isenberg, Gerard (University Hospitals Case Medical Center and Case Western Reserve University); Sivak, Michael (University Hospitals Case Medical Center and Case Western Reserve University); Amitabh, Chak (University Hospitals Case Medical Center and Case Western Reserve University); Deng, Cheri (University of Michigan)		
17:10-17:25		ThE05.3
High Frequency Ultrasound: A New Frontier for Ultrasound	1953-1955	
Shung, K. Kirk* (University of Southern California)		
17:25-17:40		ThE05.4
Improved Diagnostics through Quantitative Ultrasound Imaging	1956-1959	
Hruska, David (University of Illinois at Urbana-Champaign); Sanchez, Jose (University of Illinois at Urbana-Champaign); Oelze, Michael* (University of Illinois at Urbana-Champaign)		
17:40-17:55		ThE05.5
Characterization of the Stress-Strain Relationship of the Abdominal Aortic Wall in Vivo	1960-1963	
Danpinid, Asawinee (Chiang Mai University); Luo, Jianwen (Columbia University); Vappou, Jonathan (Columbia University); Terdtoon, Pradit (Chiang Mai University); Konofagou, Elisa* (Columbia University)		
17:55-18:10		ThE05.6
Measurement of the Attenuation Coefficient of Monodisperse Populations of Ultrasound Contrast Agent	1964-1966	
Porter, Tyrone* (Boston University)		
ThE06: 16:40-18:10		Conrad A
3.1.1 Acoustic, Mechanical, and Thermal Sensors (Oral Session)		
Chair: Stanislav Emelianov, Univ. of Texas at Austin		
Co-Chair: Michael Kolios, Ryerson Univ.		
16:40-16:55		ThE06.1
Elastic Nonlinearity Imaging	1967-1970	
Hall, Timothy J.* (University of Wisconsin); Oberai, Assad (Rensselaer Polytechnic Institute); Barbone, Paul (Boston University); Sommer, Amy (University of Wisconsin); Gokhale, Nachiket (Boston University); Goenezen, Sevan (Rensselaer Polytechnic Institute); Jiang, Jingfeng (University of Wisconsin)		
16:55-17:10		ThE06.2
Real-Time Two-Dimensional Temperature Imaging Using Ultrasound	1971-1974	
LIU, DALONG* (University of Minnesota); Ebbini, Emad (University of Minnesota)		
17:10-17:25		ThE06.3
Mechanical Imaging in Medical Applications	1975-1978	
Sarvazyan, Armen (Artann Laboratories); Egorov, Vladimir* (Artann Laboratories)		
17:25-17:40		ThE06.4
Nanoparticle Enhanced Thermal Therapies	1979-1982	
Shenoi, Mithun (University of Minnesota); Anderson, Kyle (University of Minnesota); Bischof, John* (University of Minnesota)		
17:40-17:55		ThE06.5
Photoacoustic Imaging Endoscope	1983-1986	
Sheaff, Clay (University of Minnesota); Lau, Nathan (University of Minnesota); Patel, Heena (University of Minnesota); Huang, Shengwen (University of Michigan); Ashkenazi, Shai* (University of Minnesota)		

17:55-18:10		ThE06.6
Doppler-Derived Trigger Signals for High-Frame-Rate Mouse Cardiovascular Imaging	1987-1990	
Aristizabal, Orlando (Riverside Research Institute); Mamou, Jonathan (Riverside Research Institute); Turnbull, Daniel H. (New York University School of Medicine); Ketterling, Jeffrey A.* (Riverside Research Institute)		
ThE07: 16:40-18:10		Marquette VII
12.1.2 Recent Advances in Translational Biophotonics and Nanophotonic Imaging Technologies (Oral Session)		
Chair: Ilko Ilev, US FDA		
Co-Chair: Vadim Backman, Northwestern Univ.		
16:40-17:10		ThE07.1
Diffuse Optics for Monitoring Brain Hemodynamics	1991-1993	
Yodh, Arjun* (University of Pennsylvania)		
17:10-17:25		ThE07.2
Sensitivity of Hemoglobin Concentration on Optical Probe Positioning in Image-Guided Near Infrared Spectroscopy	1994-1996	
Srinivasan, Subhadra* (Dartmouth College); Carpenter, Colin (Dartmouth College); Pogue, Brian (Dartmouth College)		
17:25-17:40		ThE07.3
Diagnostic Imaging of Esophageal Epithelium with Clinical Endoscopic Polarized Scanning Spectroscopy Instrument	1997-2000	
Qiu, Le (Beth Israel Deaconess Medical Center, Harvard Medical School); Chuttani, Ram (Beth Israel Deaconess Medical Center, Harvard Medical School); Zhang, Songhua (Beth Israel Deaconess Medical Center, Harvard Medical School); Feng, Jun (Beth Israel Deaconess Medical Center, Harvard Medical School); Itani, Sara (Beth Israel Deaconess Medical Center, Harvard Medical School); Fang, Hui (Beth Israel Deaconess Medical Center, Harvard Medical School); Pleskow, Douglas (Beth Israel Deaconess Medical Center, Harvard Medical School); Mandeep, Sawhney (Beth Israel Deaconess Medical Center, Harvard Medical School); Salahuddin, Saira (Beth Israel Deaconess Medical Center, Harvard Medical School); Modell, Mark (Beth Israel Deaconess Medical Center, Harvard Medical School); Vitkin, Edward (Beth Israel Deaconess Medical Center, Harvard Medical School); Hanlon, Eugene (U. S. Department of Veterans Affairs); Itzkan, Irving (Beth Israel Deaconess Medical Center, Harvard Medical School); Perelman, Lev* (Beth Israel Deaconess Medical Center, Harvard Medical School)		
17:40-17:55		ThE07.4
First-In-Human Clinical Trials of Imaging Devices: An Example from Optical Imaging	2001-2004	
Gibbs-Strauss, Summer* (Beth Israel Deaconess Medical Center); Rosenberg, Mireille (Gumiane Associates LLC); Clough, Barbara (Beth Israel Deaconess Medical Center); Troyan, Susan (Beth Israel Deaconess Medical Center); John, Frangioni (Beth Israel Deaconess Medical Center)		
17:55-18:10		ThE07.5
Cancer Imaging and Therapy with Metal Nanoparticles	2005-2007	
Sokolov, Konstantin* (The UT M.D. Anderson Cancer Center)		
ThE08: 16:40-18:10		Marquette VIII
11.2.1 Biomedical Engineering Education (Oral Session)		
Chair: Jorge E. Monzon, Univ. Nacional del Nordeste		
Co-Chair: Willis J. Tompkins, Univ. of Wisconsin - Madison		
16:40-17:10		ThE08.1
Software for Biomedical Engineering Signal Processing Laboratory Experiments	2008-2010	
Tompkins, Willis J.* (University of Wisconsin - Madison); Wilson, J. Adam (University of Wisconsin-Madison)		
17:10-17:25		ThE08.2
Ethics and Biomedical Engineering Education: The Continual Defiance	2011-2014	
Monzon, Jorge E.* (Universidad Nacional del Nordeste); Monzon-Wyngaard, Alvaro (Universidad Nacional del Nordeste)		
17:25-17:40		ThE08.3
Honors Biomedical Instrumentation – a Course Model for Accelerated Design	2015-2018	
Madhok, Jai* (Johns Hopkins School of Medicine); Smith, Ryan J (The Johns Hopkins University); Thakor, Nitish (Johns Hopkins University)		

17:40-17:55	ThE08.4
Real-Time Development of Data Acquisition and Analysis Software for Hands-On Physiology Education in Neuroscience: G-PRIME	2019-2021
Lott, Gus* (Howard Hughes Medical Institute); Bonow, Robert (Cornell University); land, bruce (cornell univ); Johnson, Bruce (Cornell University)	
17:55-18:10	ThE08.5
Global Engineering Education Initiative through Student Organization	2022-2024
Sagstetter, Ann* (University of Wisconsin-Madison); Vitzthum, Lucas (University of Wisconsin); Meyer, Jonathan (University of Wisconsin-Madison); Nimunkar, Amit (University of Wisconsin-Madison); Webster, John (University of Wisconsin Madison)	
ThE09: 16:40-18:10	Marquette II
5.9.1 Heart-Brain Connections (Oral Session)	
Chair: Kenji Sunagawa, Kyushu University	
Co-Chair: Maneesh Shrivastav, Medtronic / Univ. of Minnesota	
16:40-16:55	ThE09.1
Effects of Electrical Stimulation of the Carotid Sinus Baroreflex Using the Rheos® Device on Ventricular-Vascular Coupling and Myocardial Efficiency Assessed by Pressure-Volume Relations in Non-Vagotomized Anesthetized Dogs	2025-2029
Georgakopoulos, Dimitrios* (CVRx Inc.); Wagner, Darrell (CVRx Inc.); Cates, Adam (CVRx Inc.); Irwin, Eric (CVRx Inc); Lovett, Eric (CVRx)	
16:55-17:10	ThE09.2
Feedback Control of Multiple Hemodynamic Variables with Multiple Cardiovascular Drugs	2030-2032
Sugimachi, Masaru* (Natl Cardio Center Research Inst); UEMURA, KAZUNORI (National Cardio. Center Research Inst); Kamiya, Atsunori (National Cardiovascular Center Research Institute); Shimizu, Shuji (National Cardiovascular Center Research Institute); Shishido, Toshiaki (National Cardiovascular Center Research Institute)	
17:10-17:25	ThE09.3
Spinal Cord Stimulation for Complex Regional Pain Syndrome	2033-2036
Shrivastav, Maneesh* (Medtronic / University of Minnesota); Musley, Shailesh (Medtronic)	
17:25-17:40	ThE09.4
Chronic Vagal Stimulation in Patients with Congestive Heart Failure	2037-2039
De Ferrari, Gaetano M.* (Fondazione IRCCS Policlinico San Matteo); Sanzo, Antonio (Fondazione IRCCS Policlinico San Matteo and University of Pavia); Schwartz, Peter J. (Fondazione IRCCS Policlinico San Matteo and UniversityofPavia)	
17:40-17:55	ThE09.5
Mechanisms of Blood Pressure Reduction by Prolonged Activation of the Baroreflex	2040-2042
Iliescu, Radu* (University of Mississippi Medical Center); Lohmeier, Thomas E. (University of Mississippi Medical Center)	
17:55-18:10	ThE09.6
Bionic Autonomic Neuromodulation Revolutionizes Cardiology in the 21st Century	2043-2045
Sunagawa, Kenji* (Kyushu University)	
ThE10: 16:40-18:10	Grand Ballroom - Salon C
6.2.2 Neural Microsystems II (Oral Session)	
Chair: Robert Butera, Georgia Inst. of Tech.	
Co-Chair: Arthur Erdman, Univ. of Minnesota	
16:40-16:55	ThE10.1
A Microelectrode Array Incorporating An Optical Waveguide Device for Stimulation and Spatiotemporal Electrical Recording of Neural Activity	2046-2049
Zhang, Jiayi (Brown University); Laiwalla, Farah* (Brown University); Kim, Jennifer (Brown University); URABE, HAYATO (Brown University); Van Wagenen, Rick (Blackrock Microsystems); Song, Yoon-Kyu (Brown University); Connors, Barry W (Brown University); Nurmikko, Arto (Brown University)	

16:55-17:10	ThE10.2
Exploiting the 1/f Structure of Neural Signals for the Design of Integrated Neural Amplifiers	2050-2053
Venkatraman, Subramaniam* (University of California, Berkeley); Patten, Craig (Plexon Inc); Carmena, Jose M. (University of California, Berkeley)	
17:10-17:25	ThE10.3
IBCOM (Intra-Brain Communication) Microsystem: Wireless Transmission of Neural Signals within the Brain	2054-2057
Al-Ashmouny, Khaled* (University of Michigan); Boldt, Chris (University of Minnesota); Ferguson, John (University of Minnesota); Erdman, Arthur (University of Minnesota); Redish, A. David (University of Minnesota); Yoon, Euisik (University of Michigan)	
17:25-17:40	ThE10.4
Aerial and Terrestrial Locomotion Control of Lift Assisted Insect Biobots	2058-2061
Bozkurt, Alper* (Cornell University); Lal, Amit (Cornell University); Gilmour, Robert (Cornell University)	
17:40-17:55	ThE10.5
Titanium-Based Multi-Channel, Micro-Electrode Array for Recording Neural Signals	2062-2065
McCarthy, Patrick* (Purdue University)	
17:55-18:10	ThE10.6
Validation of a Novel Three-Dimensional Electrode Array within Auditory Cortex	2066-2069
Langhals, Nicholas B.* (University of Michigan); Kipke, Daryl (University of Michigan)	

ThE11: 16:40-18:10	Marquette I
6.12.1 Evoked Potentials (Oral Session)	
Chair: Daniel J. Strauss, Comp. Diagn. & Biocyb. Unit Co-Chair: Yukio Kosugi, Tokyo Inst. of Tech.	

16:40-16:55	ThE11.1
Activity Detection and Causal Interaction Analysis among Independent EEG Components from Memory Related Tasks	2070-2073
Michalopoulos, Kostas (Technical University of Crete); Sakkalis, Vangelis* (ICS-FORTH); Iordanidou, Vasiliki (Technical University of Crete); Zervakis, Michalis (Technical University of Crete, Greece)	
16:55-17:10	ThE11.2
A Series of Notched-Noise Embedded Chirps for Objective Frequency Specific Hearing Examinations	2074-2077
Corona-Strauss, Farah I.* (Saarland University Hospital); Delb, Wolfgang (Saarland University Hospital); Schick, Bernhard (Saarland University Hospital); Strauss, Daniel J. (Comp. Diagn. & Biocyb. Unit)	
17:10-17:25	ThE11.3
On the Cognitive Neurodynamics of Listening Effort: A Phase Clustering Analysis of Large-Scale Neural Correlates	2078-2081
Strauss, Daniel J.* (Comp. Diagn. & Biocyb. Unit); Corona-Strauss, Farah I. (Saarland University Hospital); Bernardino, Corinna (Computational Diagnostics & Biocybernetics Unit); Latzel, Matthias (SIEMENS Audiology); Froehlich, Matthias (CDB-Unit)	
17:25-17:40	ThE11.4
Real-Time Somatosensory Evoked Potential Monitoring Using FPGA-Based Adaptive Filter	2082-2085
zhang, Yuqi (The University of Hong Kong); Cui, Hongyan (Chinese Academy of Medical Sciences); Zhang, Zhiguo (The University of Hong Kong); Xie, XB (Institute of Biomedical Engineering, Chinese Academy Of Medical Sciences and Peking Union Medical College); Hu, Yong* (The University of Hong Kong)	
17:40-17:55	ThE11.5
A Comparative Study of Recording Procedures for Motor Evoked Potential Signals	2086-2089
Agrawal, Gracee* (Johns Hopkins University); Iyer, Shrivats (Johns Hopkins University); All, Angelo (Johns Hopkins University),	

ThE12: 16:40-18:10	Marquette VI
7.1.1 Tissue Engineering (Oral Session)	
Chair: Wei Shen, <i>Univ. of Minnesota</i>	

16:40-16:55	ThE12.1
Controlling Cellular Biomechanics of Human Mesenchymal Stem Cells	2090-2093
<i>Titushkin, Igor* (University of Illinois at Chicago); Cho, Michael (University of Illinois)</i>	
16:55-17:10	ThE12.2
Tuning Hydrogel Properties for Applications in Tissue Engineering	2094-2096
<i>Burdick, Jason* (University of Pennsylvania)</i>	
17:10-17:25	ThE12.3
Device for the Control of Oxygen Concentration in Multiwell Cell Culture Plates	2097-2100
<i>Oppegard, Shawn (University of Illinois at Chicago); Eddington, David* (University of Illinois at Chicago)</i>	
17:25-17:40	ThE12.4
Designer Protein-Based Scaffolds for Neural Tissue Engineering	2101-2102
<i>Straley, Karin (Stanford University); Heilshorn, Sarah* (Stanford University)</i>	
17:40-17:55	ThE12.5
Temporal and Spatial Control Over Soluble Protein Signaling for Musculoskeletal Tissue Engineering	2103-2105
<i>Murphy, William* (University of Wisconsin)</i>	
17:55-18:10	ThE12.6
Upstream Mechanotaxis Behavior of Endothelial Cells	2106-2110
<i>Song, Sukhyun (Korea Advanced Institute of Science and Technology); Kim, Minah (Korea Advanced Institute of Science and Technology); Shin, Jennifer Hyunjong* (KAIST)</i>	

ThE13: 16:40-18:10	Conrad D
8.5.1 Interactive Control of Powered Lower Limb Prostheses (Oral Session)	
Chair: Eric Perreault, <i>Northwestern Univ.</i>	

16:40-16:55	ThE13.1
Toward the Development of a Neural Interface for Lower Limb Prostheses Control	2111-2114
<i>Hargrove, Levi* (Rehabilitation Institute of Chicago); Huang, He (University of Rhode Island); Schultz, Aimee (Rehabilitation Institute of Chicago); Lock, Blair (Rehabilitation Institute of Chicago); Lipschutz, Robert (Rehabilitation Institute of Chicago); Kuiken, Todd (Rehabilitation Institute of Chicago)</i>	
16:55-17:10	ThE13.2
Control Strategy for Stabilizing Force with Goal-Equivalent Joint Torques Is Frequency-Dependent During Human Hopping	2115-2118
<i>Yen, Jasper (Georgia Institute of Technology); Chang, Young-Hui* (Georgia Institute of Technology)</i>	
17:10-17:25	ThE13.3
Robotic Lower Limb Exoskeletons Using Proportional Myoelectric Control	2119-2124
<i>Ferris, Daniel* (University of Michigan); Lewis, Cara (University of Michigan)</i>	
17:25-17:40	ThE13.4
Phase-Based Control of the Central Pattern Generator for Locomotion	2125-2128
<i>Vogelstein, R. Jacob* (Johns Hopkins University); Etienne-Cummings, Ralph (Johns Hopkins University); Cohen, Avis (University of Maryland College Park)</i>	
17:40-17:55	ThE13.5
Slacking by the Human Motor System: Computational Models and Implications for Robotic Orthoses	2129-2132
<i>Reinkensmeyer, David* (University of California); Akoner, Mine (University of California at Irvine); Ferris, Daniel (University of Michigan); Gordon, Keith (Rehabilitation Institute of Chicago)</i>	

ThE14: 16:40-18:10	Marquette III
9.1.1 Muscle and Nerve Stimulation (Oral Session)	
Chair: George O'Clock, <i>Univ. of Minnesota</i> Co-Chair: David Guiraud, <i>INRIA</i>	

16:40-16:55	ThE14.1
Electrotherapeutic Device/Protocol Design Considerations for Visual Disease Applications	2133-2136
O'Clock, George* (University of Minnesota); Jarding, John (Acuity Medical Inc.)	
16:55-17:10	ThE14.2
Neuro-Muscular Electrical Stimulation Training Enhances Maximal Aerobic Capacity in Healthy Physically Active Adults	2137-2140
Cognale, Domenico (University College Dublin); Crowe, Louis (University College Dublin); devito, giuseppe (University College Dublin); Minogue, Conor M (Biomedical Research Ltd); Caulfield, Brian* (UCD)	
17:10-17:25	ThE14.3
Low Intensity Pulsed Ultrasound Increases the Mechanical Properties of the Healing Tissues at Bone-Tendon Junction	2141-2144
Lu, Tracy Minhua* (Shenzhen University); Zheng, Yongping (The Hong Kong Polytechnic University); Huang, Qinghua (South China University of Technology); Lu, Hong Bin (The Chinese University of Hong Kong); Qin, Ling (The Chinese University of Hong Kong)	
17:25-17:40	ThE14.4
Development of a Multi – Electrode Electrical Stimulation Device to Improve Chronic Wound Healing	2145-2148
Weber, Sonja* (University of Ulster); Vonhoff, Philipp Alexis (University of Ulster); Owens, Frank (University of Ulster); Byrne, John Anthony (University of Ulster); McAdams, Eric (University of Ulster)	
17:40-17:55	ThE14.5
A Hemodynamic Study of Popliteal Vein Blood Flow: The Effect of Bed Rest and Electrically Elicited Calf Muscle Contractions	2149-2152
Broderick, Barry* (National University of Ireland Galway); O'Briain, David E. (Department of Surgery, National University of Ireland, Galway, University Road, Galway, Ireland and Galway University Hospitals.); Breen, Paul (National University of Ireland Galway); Kearns, Stephen R. (National University of Ireland, Galway, University Road, Galway, Ireland and Galway University Hospitals, Galway, Ireland.); OLaighin, Gearoid (National University of Ireland Galway)	
17:55-18:10	ThE14.6
Design and Analysis of a Transcutaneous Telemetry Device for Brain Stimulator	2153-2156
Wang, Weiming (Tsinghua University); Hao, Hongwei* (Tsinghua University); Ma, Bozhi (Tsinghua University); Liu, FangJun (Tsinghua University); Hu, Chunhua (Tsinghua University); Li, Luming (Tsinghua University)	

ThE15: 16:40-18:10	Marquette IX
10.3.1 Enterprise-Wide Image Management (Oral Session)	
Chair: Seong Mun, <i>Virginia Tech.</i> Co-Chair: Elliot B. Sloane, <i>CHIRP</i>	

16:40-16:55	ThE15.1
Potential Impact of HITECH Security Regulations on Medical Imaging	2157-2160
Prior, Fred* (Washington University School of Medicine); Ingeholm, Mary Lou (Georgetown University); Levine, Betty (Georgetown University); Tarbox, Lawrence (Washington University in St. Louis, School of Medicine)	
16:55-17:10	ThE15.2
Conversion to Use of Digital Chest Images for Surveillance of Coal Workers' Pneumoconiosis (Black Lung)	2161-2163
Levine, Betty (Georgetown University); Ingeholm, Mary Lou (Georgetown University); Prior, Fred (Washington University School of Medicine); Mun, Seong* (Virginia Tech); Freedman, Matthew Thomas (Georgetown University Medical Center); Weissman, David (National Institute for Occupational Safety and Health); Attfield, Michael (National Institute for Occupational Safety and Health Mailing); Wolfe, Anita (NIOSH); Petsonk, Edward (West Virginia University School of Medicine)	

17:10-17:25	ThE15.3
Network Collaborative Environment Supporting 3D Medicine	2164-2167
Krsek, Premysl* (Brno University of Technology, Faculty of Information Technology)	
17:25-17:40	ThE15.4
EIR: Enterprise Imaging Repository, an Alternative Imaging Archiving and Communication System	2168-2171
Bian, Jiang* (University of Arkansas for Medical Sciences); Topaloglu, Umit (University of Arkansas for Medical Sciences); Lane, Cheryl (University of Arkansas for Medical Sciences)	
17:40-17:55	ThE15.5
Comparison of Some Reversible Watermarking Methods in Application to Medical Images	2172-2175
Pan, Wei (Telecom Bretagne); Coatrieux, Gouenou* (ENST Bretagne - Inserm); Montagner, Julien (INSERM ; GET ENST Bretagne); Cuppens, Nora (Telecom Bretagne); Cuppens, Frédéric (Telecom Bretagne); Roux, Christian (TELECOM Bretagne - INSERM)	
17:55-18:10	ThE15.6
Agitation and Pain Assessment Using Digital Imaging	2176-2179
Gholami, Behnood* (Georgia Institute of Technology); Haddad, Wassim (Georgia Institute of Technology); Tannenbaum, Allen (Georgia Institute of Technology)	
ThE16: 16:40-18:10	Grand Ballroom - Salon A
S 1. Medical Device and Healthcare Industry: Trends and Opportunities II (Special Symposium)	
Chair: Robert Tranquillo, Univ. of Minnesota	
Co-Chair: Bin He, Univ. of Minnesota	
16:40-17:10	ThE16.1
Strategic Choices in Remote Patient Monitoring Platforms	*
LaLonde, John (Boston Scientific Cardiac Rhythm Management)	
17:10-17:40	ThE16.2
Creating Healthier Hearts: The Future of Cardiovascular Device Therapies	*
Bergman, Rebecca M. (Medtronic CRDM)	
17:40-18:10	ThE16.3
The FDA: Regulators Leading Safety and Innovation	*
Sackner-Bernstein, Jonathan (Center for Devices and Radiologic Health, FDA)	
ThE18: 16:40-18:10	Marquette IV
1.2.7 Neural Signal Processing (Oral Session)	
Chair: Nitish Thakor, Johns Hopkins Univ.	
Co-Chair: Justin Dauwels, MIT	
16:40-16:55	ThE18.1
Localization of Seizure Onset Area from Intracranial Non-Seizure EEG by Exploiting Locally Enhanced Synchrony	2180-2183
Dauwels, Justin* (MIT); Cash, Sydney (Massachusetts General Hospital); Eskandar, Emad (Massachusetts General Hospital)	
16:55-17:10	ThE18.2
A Robust Spike and Wave Algorithm for Detecting Seizures in a Genetic Absence Seizure Model	2184-2187
Xanthopoulos, Petros (University of Florida); Liu, Chang-Chia (Johns Hopkins University); Zhang, Jicong* (University of Florida); Nair, Sandeep (University of Florida); Pardalos, Panos (University of Florida); Uthman, Basim M. (University of Florida)	
17:10-17:25	ThE18.3
Directed Information Measure for Quantifying the Information Flow in the Brain	2188-2191
Liu, Ying* (Michigan State University); Aviyente, Selin (Michigan State University)	

17:25-17:40	ThE18.4
Scaling Exponents of EEG Are Related to the Temporal Process of the Therapeutic Hypothermia Following Ischemic Brain Injury	2192-2195
Jiang, Dineng (Shanghai Jiao Tong University); Wu, Wenqing (Shanghai Jiao Tong University); Jia, Xiaofeng (Johns Hopkins School of Medicine); Qiu, Yihong* (Shanghai Jiao Tong University); Zhu, Yisheng (Shanghai Jiaotong University); Thakor, Nitish (Johns Hopkins University); Tong, Shanbao (Shanghai Jiao Tong University)	
17:40-17:55	ThE18.5
Long-Term Assessment of Post-Cardiac-Arrest Neurological Outcomes with Somatosensory Evoked Potential in Rats	2196-2199
Kang, Xiaoxu (Johns Hopkins University); Koenig, Matthew (Johns Hopkins School of Medicine); Xiong, Wei (Johns Hopkins University); Puttgen, Hans Adrian (Johns Hopkins University); Jia, Xiaofeng (Johns Hopkins School of Medicine); Geocadin, Romergrzyko (Johns Hopkins University); Thakor, Nitish* (Johns Hopkins University)	
17:55-18:10	ThE18.6
Automatic Recognition of Postures and Activities in Stroke Patients	2200-2203
Sazonov, Edward* (Clarkson University); Fulk, George (Clarkson University); Sazonova, Nadezhda (Clarkson University); Schuckers, Stephanie (Clarkson University)	
ThBPL1: 19:40-20:10	Grand Ballroom
Plenary Lecture II	
Chair: Bin He, Univ. of Minnesota	
19:40-20:10	ThBPL1.1
The History of Short-Term and Long-Term Pacing	*
Bakken, Earl* (Medtronic, Inc.)	
Friday, 4 September 2009	
FrPL1: 08:30-09:30	Grand Ballroom - Salon D
Conference Keynote Lecture	
Chair: Yongmin Kim, Univ. of Washington	
08:30-09:30	FrPL1.1
Use of New Nanotechnology-based DNA Sequencing Technologies to Illuminate Cellular Regulation and Defense	*
Fire, Andrew Zachary* (Stanford University School of Medicine)	
FrKN2L: 09:40-11:10	Grand Ballroom - Salon A
Theme Keynote II	
Chair: Xiaochuan Pan, Univ. of Chicago	
09:40-10:25	FrKN2L.1
Imaging and Optical Biopsy Using Optical Coherence Tomography	*
Fujimoto, James G.* (Massachusetts Institute of Technology)	
10:25-11:10	FrKN2L.2
Photoacoustic Tomography: High-resolution <i>in vivo</i> Imaging of Optical Contrast at New Depths	*
Wang, Lihong* (Washington University in St. Louis)	
FrA01: 09:40-11:10	Conrad B
1.8.1 Coupling and Synchronizations (Oral Session)	
Chair: Shangkai Gao, Tsinghua Univ.	
Co-Chair: Fabio Babiloni, Univ. of Rome	
09:40-09:55	FrA01.1
Analysis of the Connection Redundancy in Functional Networks from High-Resolution EEG: A Preliminary Study	2204-2207
Babiloni, Fabio* (University of Rome); De Vico Fallani, Fabrizio (Universita' La Sapienza); Astolfi, Laura (University of Rome); Vecchiato, Giovanni (University of Rome Sapienza); Salinari, Serenella (La Sapienza University); Mattia, Donatella (Fondazione Santa Lucia IRCCS)	

09:55-10:10		FrA01.2
Study of the Time-Varying Cortical Connectivity Changes During the Attempt of Foot Movements by Spinal Cord Injured and Healthy Subjects	2208-2211	
Astolfi, Laura* (University of Rome); De Vico Fallani, Fabrizio (Universita' La Sapienza); Salinari, Serenella (La Sapienza University); Witte, Herbert (Friedrich Schiller University); Babiloni, Fabio (University of Rome)		
10:10-10:25		FrA01.3
Default Network and Intelligence Difference	2212-2215	
Song, Ming (chinese academy of sciences); Liu, Yong (chinese academy of sciences); Zhou, Yuan (chinese academy of sciences); Wang, Kun (chinese academy of sciences); Yu, Chunshui (Xuanwu hospital of capital medical university); Jiang, Tianzi* (Institute of Automation)		
10:25-10:40		FrA01.4
Influences of Bilateral Ischemic Stroke on the Cortical Synchronization	2216-2219	
Wu, Wenqing (Shanghai Jiao Tong University); Jin, Zheng (the 5th People's Hospital of Shanghai); Qiu, Yihong (Shanghai Jiao Tong University); Zhu, Yisheng (Shanghai Jiaotong University); Li, YingJie* (Shanghai University); Tong, Shanbao (Shanghai Jiao Tong University)		
10:40-10:55		FrA01.5
Analysis of Epileptogenic Network Properties During Ictal Activity	2220-2223	
Wilke, Christopher* (University of Minnesota); Worrell, Gregory A. (Mayo Clinic); He, Bin (University of Minnesota)		
10:55-11:10		FrA01.6
EEG Synchrony Analysis for Early Diagnosis of Alzheimer's Disease: A Study with Several Synchrony Measures and EEG Data Sets	2224-2227	
Dauwels, Justin* (MIT); Vialatte, Francois (RIKEN Brain Science Institute); Cichocki, Andrzej (BSI RIKEN); Jeong, Jaeseung (KAIST); Latchoumane, Charles (KAIST)		
FrA02: 09:40-11:10 1.4.6 Biomedical Signal Classification V (Oral Session) Chair: Olivier Meste, UNSA-CNRS	Conrad C	
09:40-09:55		FrA02.1
Midpoint-Based Empirical Decomposition for Nonlinear Trend Estimation	2228-2231	
He, Qingbo* (University of Connecticut); Gao, Robert X. (University of Massachusetts Amherst); Freedson, Patty (University of Massachusetts Amherst)		
09:55-10:10		FrA02.2
Mu Rhythm Desynchronization Detection Based on Empirical Mode Decomposition	2232-2235	
Wan, Bai-kun (Tianjin University); Ming, Dong* (Tianjin University)		
10:10-10:25		FrA02.3
Empirical Mode Decomposition to Assess Baroreflex Gain from Spontaneous Variability During Exercise in Humans	2236-2239	
Magagnin, Valentina* (Istituto Ortopedico IRCCS Galeazzi); Bassani, Tito (Politecnico di Milano); Lucini, Daniela (Università degli studi di Milano); Pagani, Massimo (Università degli studi di Milano); Caiani, Enrico (Polytechnic of Milan); Cerutti, Sergio (Politecnico di Milano); Porta, Alberto (Università degli Studi di Milano)		
10:25-10:40		FrA02.4
Cardiogenic Oscillations Extraction in Inductive Plethysmography: Ensemble Empirical Mode Decomposition	2240-2243	
Abdulhay, Enas* (Université Joseph Fourier); Gumery, Pierre-Yves (université joseph fourier); Fontecave Jallon, Julie (Université Joseph Fourier); Baconnier, Pierre (Université Joseph Fourier)		
10:40-10:55		FrA02.5
Empirical Mode Decomposition (EMD) Analysis of HRV Data from Locally Anesthetized Patients	2244-2247	
Shafqat, Kamran* (City University); Kyriacou, Panayiotis (City University); Kumari, Santhi (Broomfield Hospital); Pal, Sandip (Broomfield Hospital)		

10:55-11:10	FrA02.6
Complexity Analysis of Pathological Voices by Means of Hidden Markov Entropy Measurements	2248-2251
Arias-Londoño, Julián David* (Universidad Nacional de Colombia sede Manizales); Godino-Llorente, Juan Ignacio (Universidad Politécnica de Madrid); Castellanos-Dominguez, Germán (Universidad Nacional de Colombia); Sáenz-Lechón, Nicolás (Universidad Politécnica de Madrid); Osma-Ruiz, Víctor (Universidad Politécnica de Madrid)	

FrA03: 09:40-11:10	Grand Ballroom - Salon B
2.2.1 Biomedical Acoustic Imaging I (Oral Session)	
Chair: Emad Ebbini, Univ. of Minnesota	

09:40-09:55	FrA03.1
Liver Elasticity and Viscosity Quantification Using Shearwave Dispersion Ultrasound	
Vibrometry (SDUV)	2252-2255
Chen, Shigao* (Mayo Clinic College of Medicine); Urban, Matthew (Mayo Clinic College of Medicine); pislaru, Cristina (Mayo Clinic College of Medicine); Kinnick, Randy (Mayo Clinic); Greenleaf, James (Mayo Clinic)	
09:55-10:10	FrA03.2
A Reduced Multiplier Beamformer Architecture for Ultrasound Imaging Systems	2256-2259
Magee, David* (Texas Instruments); Ali, Murtaza (Texas Instruments)	
10:10-10:25	FrA03.3
Experimental Characterization of a Vector Doppler System Based on a Clinical Ultrasound Scanner	2260-2263
Erranki, Avinash* (George Mason University); Sikdar, Siddhartha (George Mason University)	
10:25-10:40	FrA03.4
Optimization of Doppler Velocity Echocardiographic Measurements Using an Automatic Contour Detection Method	2264-2267
Gaillard, Emmanuel* (IRCM); Kadem, Lyes (Concordia University); Pibarot, Philippe (Laval University); Durand, Louis-Gilles (IRCM)	
10:40-10:55	FrA03.5
Estimating Vascular Volume Fraction in a Network of Small Blood Vessels with High-Frequency Power Doppler Ultrasound	2268-2271
Pinter, Stephen Z.* (University of Western Ontario); Lacefield, James C. (University of Western Ontario)	
10:55-11:10	FrA03.6
Tissue Vibration Pulsatility for Arterial Bleeding Detection Using Doppler Ultrasound	2272-2275
Xie, Zhiyong (University of Washington); Kim, Eung-Hun (University of Washington); Kim, Yongmin* (University of Washington)	

FrA04: 09:40-11:10	Duluth Room
2.5.4 Electrical Source and Impedance Imaging (Oral Session)	
Chair: Eung Je Woo, Kyung Hee Univ.	

09:40-09:55	FrA04.1
Magnetic Flux Density Measurement with Balanced Steady State Free Precession Pulse Sequence for MREIT: A Simulation Study	2276-2278
Woo, Eung Je* (Kyung Hee University); Lee, Soo Yeol (Kyung Hee University); Minhas, Atul S. (Kyung Hee University)	
09:55-10:10	FrA04.2
Experimental Setup for Developing Acousto-Electric Interaction Imaging	2279-2283
Gendron, Mathieu* (Ecole Polytechnique de Montréal); Guardo, Robert (Ecole Polytechnique de Montréal); Bertrand, Michel (Ecole Polytechnique)	
10:10-10:25	FrA04.3
Implementation of a Fast Reconfigurable Array for Tissue Impedance Characterization	2284-2287
Habibi, Mohammad (University of Wisconsin - Milwaukee); Klemer, David* (University of Wisconsin - Milwaukee); Raicu, Valerica (University of Wisconsin - Milwaukee)	

10:25-10:40	An Ultra-Wideband Microwave Tomography System: Preliminary Results	FrA04.4 2288-2291
	Gilmore, Colin* (University of Manitoba); Mojabi, Puyan (University of Manitoba); Zakaria, Amer (University of Manitoba); Ostadrahimi, Majid (University of Manitoba); Kaye, Cameron (University of Manitoba); Noghanian, Sima (University of North Dakota); Shafai, Lotfollah (University of Manitoba); Pistorius, Stephen (CancerCare Manitoba / University of Manitoba); LoVetri, Joe (University of Manitoba)	
10:40-10:55	Electromagnetic Forward and Inverse Problems of Non-Rotating Magnetoacoustic Tomography with Magnetic Induction	FrA04.5 2292-2295
	zhang, yang* (Electrical Engineering Institute of Chinese AcademyofSciences); Liu, Guoqiang (Chinese Acamedy of Sciences)	
10:55-11:10	Development of a Realistic Head Model for EEG Event-Detection and Source Localization in Newborn Infants	FrA04.6 2296-2299
	Despotovic, Ivana* (Gent University)	
FrA05: 09:40-11:10	SS 7. Stimulus Funding – and the Impact on the Medical and Biological Engineering Enterprise (Special Session)	Marquette IV & V
	Chair: Benjamin Corb, American Inst. for Medical and Biological Engrg	
FrA06: 09:40-11:10	3.1.2 Acoustic, Mechanical and Bioelectrical Sensors (Oral Session)	Conrad A
	Chair: Victor Lubecke, Univ. of Hawaii Manoa	
	Co-Chair: Mike McShane, Texas A&M Univ.	
09:40-09:55	Experimental Validation of a Tactile Sensor Model for a Robotic Hand	FrA06.1 2300-2303
	Yahud, Shuhaida* (UNSW); Dokos, Socrates (University of New South Wales); Morley, John William (University of Western Sydney); Lovell, Nigel H (University of New South Wales)	
09:55-10:10	Investigation of Acoustic Radiation Force for Radio-Protecting Normal Tissues During Radiation Therapy	FrA06.2 2304-2307
	Yan, Kaiguo* (Thomas Jefferson University); Wachsberger, Phyllis (Thomas Jefferson University); Yu, Yan (Thomas Jefferson University Hospital)	
10:10-10:25	Characterization of the Sensitivity of a TCB Laplacian Sensor for Surface EEnG Recordings	FrA06.3 2308-2311
	Garcia-Casado, Javier* (Universidad Politécnica de Valencia); Prats-Boluda, Gema (Centro de investigación e Innovación en Bioingeniería); Perez, Juan J (Polytechnic University of Valencia); Martinez-de-Juan, Jose Luis (Cntrro de investigación e Innovación); Ye Lin, Yiyao (Universidad Politécnica de Valencia)	
10:25-10:40	Pulse Wave Sensor for Non-Intrusive Driver's Drowsiness Detection	FrA06.4 2312-2315
	Hu, Shan* (University of Minnesota Duluth); Bowlds, Ryan (University of Minnesota Duluth); Gu, Ye (University of Minnesota Duluth); Yu, Xun (University of Minnesota Duluth)	
10:40-10:55	A 1.0 V 78 μ W Reconfigurable ASIC Embedded in an Intelligent Electrode for Continuous Remote ECG Applications	FrA06.5 2316-2319
	Yang, Geng* (KTH); Chen, Jian (KTH); Jonsson, Fredrik (KTH); Tenhunen, Hannu (KTH); Zheng, Li-Rong (KTH)	

10:55-11:10	FrA06.6
Objective Skill Analysis and Assessment in Neurosurgery by Using an Ultra-Miniaturized Inertial Measurement Unit WB-3 - Pilot Tests - 2320-2323	
<i>Lin, Zhuohua* (Waseda University); Zecca, Massimiliano (Waseda University); Sessa, Salvatore (Waseda University); Sasaki, Tomoya (Waseda University); Suzuki, Takashi (Tokyo Women's Medical University); Itoh, Kazuko (Waseda University); Iseki, Hiroshi (Tokyo Women's Medical University); Takanishi, Atsuo (Waseda University)</i>	

FrA08: 09:40-11:10	Marquette VIII
4.1.1 Structural Bioinformatics and Computational Proteomics (Oral Session)	
Chair: Pengyu Ren, <i>University of Texas at Austin</i>	
Co-Chair: Jie Liang, <i>University of Illinois at Chicago</i>	

09:40-09:55	FrA08.1
Geometry of Protein Shape and Its Evolutionary Pattern for Function Prediction and Characterization 2324-2327	
<i>Liang, Jie* (University of Illinois at Chicago)</i>	
09:55-10:10	FrA08.2
Trypsin-Ligand Binding Free Energy Calculation with AMOEBA 2328-2331	
<i>Shi, Yue (University of Texas at Austin); Jiao, Dian (University of Texas at Austin); Schnieders, Michael (Stanford University School of Medicine); Ren, Pengyu* (University of Texas at Austin)</i>	
10:10-10:25	FrA08.3
LOOS: An Extensible Platform for the Structural Analysis of Simulations 2332-2335	
<i>Romo, Tod (University of Rochester Medical and Dental School); Grossfield, Alan* (University of Rochester Medical Center)</i>	
10:25-10:40	FrA08.4
Mapping Drug-Target Interaction Networks 2336-2339	
<i>Tian, Longzhang (The University of Texas M. D. Anderson Cancer Center); Zhang, Shuxing* (UT MD Anderson Cancer Center)</i>	
10:40-10:55	FrA08.5
Elucidating membrane protein function through long-timescale molecular dynamics simulation 2340-2342	
<i>Dror, Ron O.* (D. E. Shaw Research); Jensen, Morten Ø. (D. E. Shaw Research); Shaw, David E. (D. E. Shaw Research and Columbia University)</i>	
10:55-11:10	FrA08.6
A Method for Analysis of Simultaneous Equations in Cell Models 2343-2346	
<i>Shimayoshi, Takao* (ASTEM Research Institute of Kyoto); Amano, Akira (Ritsumeikan University); Matsuda, Tetsuya (Kyoto University)</i>	

FrA09: 09:40-11:10	Marquette II
5.6.2 Cardiovascular Pulmonary Modeling (Computational) (Oral Session)	
Chair: Masaru Sugimachi, <i>Natl Cardio Center Research Inst</i>	
Co-Chair: John K-J. Li, <i>Rutgers Univ.</i>	

09:40-09:55	FrA09.1
Large-Scale Integrated Model Is Useful for Understanding Heart Mechanisms and Developments in Medical Therapy 2347-2350	
<i>Washio, Takumi* (University of Tokyo); Okada, Jun-ichi (University of Tokyo); Sugiura, Seiryo (University of Tokyo); Hisada, Toshiaki (University of Tokyo)</i>	
09:55-10:10	FrA09.2
Hemodynamic Models of Cerebral Aneurysms for Assessment of Effect of Vessel Geometry on Risk of Rupture 2351-2353	
<i>Avolio, Alberto* (Macquarie University); Farnoush, Azadeh (Macquarie University); Morgan, Michael (Macquarie University); Qian, Yi (Macquarie University)</i>	

10:10-10:25		FrA09.3
Solution of the 'Inverse Problem of Diastole' Via Kinematic Modeling Allows Determination of Ventricular Properties and Provides Mechanistic Insights into Diastolic Heart Failure	2354-2357	
Kovács, Sándor J* (Washington University in St Louis)		
10:25-10:40		FrA09.4
Simulation of Erythrocyte Deformation in a High Shear Flow	2358-2361	
Nakamura, Masanori* (Osaka University); Bessho, Sadao (Osaka University); Wada, Shigeo (Osaka University)		
10:40-10:55		FrA09.5
Estimation of the Aortic Pressure Waveform from a Radial Artery Pressure Waveform Via an Adaptive Transfer Function: Feasibility Demonstration in Swine	2362-2364	
Swamy, Gokul (Michigan State University); Xu, Da (Michigan State University); Mukkamala, Ramakrishna* (Michigan State University)		
10:55-11:10		FrA09.6
Macroscopic Two-Pump Two-Vasculature Cardiovascular Model to Support Treatment of Acute Heart Failure	2365-2368	
Sugimachi, Masaru* (Natl Cardio Center Research Inst); Sunagawa, Kenji (Kyushu University); UEMURA, KAZUNORI (National Cardio. Center Research Inst); Kamiya, Atsunori (National Cardiovascular Center Research Institute); Shimizu, Shuji (National Cardiovascular Center Research Institute); Shishido, Toshiaki (National Cardiovascular Center Research Institute)		
FrA10: 09:40-11:10		Grand Ballroom - Salon C
6.3.3 Minisymposium: Neuromodulation		
Chair: Dominique Durand, Case Western Res. Univ.		
09:40-10:10		FrA10.1
Electrical Stimulation for Control of Bladder Function	2369-2370	
Grill, Warren* (Duke University)		
10:10-10:40		FrA10.2
Clinical and Experimental Aspects of Deep Brain Stimulation	2371-2374	
Kiss, Zelma* (University of Calgary)		
10:40-11:10		FrA10.3
Control of Seizure Activity by Electrical Stimulation: Effect of Frequency	2375	
Durand, Dominique* (Case Western Reserve University)		
FrA11: 09:40-11:10		Marquette I
6.10.2 Virtual Reality in Rehabilitation (Oral Session)		
Chair: Paolo Bonato, Harvard Medical School		
Co-Chair: Emily Keshner, Temple Univ.		
09:40-09:55		FrA11.1
Real-Time Myoelectric Decoding of Individual Finger Movements for a Virtual Target Task	2376-2379	
Smith, Ryan J* (The Johns Hopkins University); Huberdeau, David (The Johns Hopkins University); Tenore, Francesco (Johns Hopkins University); Thakor, Nitish (Johns Hopkins University)		
09:55-10:10		FrA11.2
Inductive Pointing Device for Tongue Control System for Computers and Assistive Devices	2380-2383	
Lontis, Eugen Romulus* (Center for Sensory Motor Interaction, Aalborg University); Caltenco, Hector Alejandro (Aalborg University); Bentsen, Bo (Center for Sensory Motor Interaction, Aalborg University); Christensen, Henrik Vie (CISS, Aalborg University); Lund, Morten Enemark (Center for Sensory Motor Interaction, Aalborg University); Andreasen Struijk, Lotte N. S. (Aalborg University)		
10:10-10:25		FrA11.3
Dynamic Control of a Moving Platform Using the CAREN System to Optimize Walking Invirtual Reality Environments	2384-2387	
EI Makssoud, Hassan* (Laval University); Richards, Carol (Laval University); Comeau, François (CIRRIS)		

10:25-10:40		FrA11.4
An Acceleration-Based Control Framework for Interactive Gaming	2388-2391	
Wen, Tiexiang (Shenzhen Institute of Advanced Technology, Chinese AcademyOf Sciences); Wang, Lei (Shenzhen Institute of Advanced Technology); Gu, Jia* (Shenzhen Institute of Advanced Technology, ChineseAcademyOf Sciences); Huang, Bangyu (Shenzhen Institute of Advanced Technology)		
10:40-10:55		FrA11.5
Sensor Evaluation for Tracking Upper Extremity Prosthesis Movements in a Virtual Environment	2392-2395	
Dinh, Anh* (University of Saskatchewan); Churko, Jonathan (University of Saskatchewan); Linassi, Angelo Gary (University of Saskatchewan)		
10:55-11:10		FrA11.6
Development and Verification of a VR Platform to Evaluate the Wayfinding Abilities	2396-2399	
Jiang, Ching-Fen* (I-Shou University)		
FrA12: 09:40-11:10		Marquette VI
7.3.1 Biomaterials (Oral Session)		
Chair: Chun Wang, Univ. of Minnesota		
Co-Chair: Shuming Nie, Emory Univ.		
09:40-09:55		FrA12.1
Controlled Formulation of Doxorubicin-Poly(lactide) Nanoconjugates for Cancer Drug Delivery	2400-2402	
Cheng, Jianjun* (University of Illinois at Urbana-Champaign)		
09:55-10:10		FrA12.2
Nanoparticles for Tumor-Specific Intracellular Drug Delivery	2403-2405	
Yeo, Yoon* (Purdue University); Xu, Peisheng (Purdue University)		
10:10-10:25		FrA12.3
Injectable Myocardial Matrix As a Scaffold for Myocardial Tissue Engineering	2406-2408	
Singelyn, Jennifer (University of California, San Diego); DeQuach, Jessica (University of California, San Diego); Christman, Karen* (University of California, San Diego)		
10:25-10:40		FrA12.4
Novel Nano-Composite Biomaterials That Respond to Light	2409-2411	
Burdick, Jason* (University of Pennsylvania)		
10:40-10:55		FrA12.5
Degradable Polymers for Gene Delivery	2412-2415	
Sunshine, Joel (Johns Hopkins University School of Medicine); Bhise, Nupura (Johns Hopkins University School of Medicine); Green, Jordan* (Johns Hopkins University)		
10:55-11:10		FrA12.6
Biomaterial Considerations for Drug-Eluting Stents	2416-2417	
Parsonage, Ed (Boston Scientific); Girton, Tim (Boston Scientific); Knapp, David* (Boston Scientific)		
FrA13: 09:40-11:10		Conrad D
8.1.1 Therapeutic Robotics for Restoration of Function: Upper Extremity (Oral Session)		
Chair: James Patton, Rehab Inst. of Chicago & U. of Illinois at Chicago		
Co-Chair: Eugenio Guglielmelli, Campus Bio-Medico Univ.		
09:40-09:55		FrA13.1
Desirable Features of a “Humanoid” Robot-Therapist	2418-2421	
Morasso, Pietro* (University of Genoa); casadio, maura (Northwestern University); Giannoni, Psiche (ART Education and Rehabilitation Department srl); masia, lorenzo (italian institute of technology); Sanguineti, Vittorio (University of Genoa); Squeri, Valentina (University of Genoa); Vergaro, Elena (University of Genoa)		
09:55-10:10		FrA13.2
Design and Implementation of a Home Stroke Telerehabilitation System	2422-2425	
Durfee, William* (University of Minnesota)		

10:10-10:25	FrA13.3
Preliminary Results of Training with Gravity Compensation of the Arm in Chronic Stroke Patients 2426-2429	
van der kooij, herman* (universtiy of twente)	
10:25-10:40	FrA13.4
The Neuro-Robotics Paradigm: NEURARM, NEUROExos, HANDEXOS 2430-2433	
Lenzi, Tommaso (Scuola Superiore Sant'Anna); De Rossi, Stefano Marco Maria (Scuola Superiore Sant'Anna); Vitiello, Nicola (Scuola Superiore Sant'Anna); Chiri, Azzurra (Scuola Superiore sant'Anna); Roccella, Stefano (Scuola Superiore Sant'Anna); Giovacchini, Francesco (Scuola Superiore Sant'Anna); Vecchi, Fabrizio (Scuola Superiore Sant'Anna); Carrozza, Maria Chiara* (Scuola Superiore Sant'Anna)	
10:40-10:55	FrA13.5
Use of a Pneumatic Glove for Hand Rehabilitation Following Stroke 2434-2437	
Connelly, Lauri (Rehabilitation Institute of Chicago); Stoykov, Mary Ellen (Rehabilitation Institute of Chicago); Jia, Yicheng (Rehabilitation Institute of Chicago); Toro, Maria (Escuela de Ingenieria de Antioquia); Kenyon, Robert (University of Illinois at Chicago); Kamper, Derek* (Rehabilitation Institute of Chicago and Illinois Institute of Technology)	
10:55-11:10	FrA13.6
Do Robotic and Non-Robotic Arm Movement Training Drive Motor Recovery after Stroke by a Common Neural Mechanism?: Experimental Evidence and a Computational Model 2438-2441	
Reinkensmeyer, David* (University of California); Maier, Marc (UMR 7060 CNRS); Guigou, Emmanuel (UMR 7222 CNRS); Chan, Vicky (University of California in Irvine); Akoner, Mine (University of California at Irvine); Wolbrecht, Eric (University of California, Irvine); Cramer, Steven (University of California, Irvine); Bobrow, James (Univ of Calif, Irvine)	

FrA14: 09:40-11:10	Marquette III
S 3. Benefits and Pitfalls of University - Industry Collaborations (Special Symposium)	
Chair: Deiter Haemmerich, Medical Univ. of South Carolina Co-Chair: Wayne McDaniel, Univ. of Missouri	

09:40-09:55	FrA14.1
Academic Entrepreneurs - Taking Research from Bench to Bedside	*
Thakor, Nitish (Johns Hopkins University)	
09:55-10:10	FrA14.2
Bridging the Philosophical and Patent Gaps	*
Kroll, Mark (Newcardio, Inc.)	
10:10-10:25	FrA14.3
Academic / Industrial Partnerships: Issues and Strategies	*
Pearce, John (University of Texas at Austin)	
10:25-10:40	FrA14.4
A comparison of large and small company collaborations with academia - the long and the short of it	*
Keimel, John (Medtronic Neuromodulation)	
10:40-10:55	FrA14.5
Joys and Tribulations of Translational Research in Academia	*
Kim, Yongmin (University of Washington at Seattle)	

FrA15: 09:40-11:10	Marquette IX
10.1.1 Body Sensor Networks (Oral Session)	
Chair: Yuan-Ting Zhang, The Chinese Univ. of Hong Kong Co-Chair: Harry Tyre, Univ. of Missouri - Columbia	

09:40-09:55	FrA15.1
Low-Power Secure Body Area Network for Vital Sensors toward IEEE802.15.6	2442-2445
kuroda, Masahiro* (National Inst of Information & Comm); Tochikubo, Osamu (Yokohama City University); Qiu, Shuye (Dairix corp.)	

09:55-10:10		FrA15.2
A Low-Complexity Medium Access Control Framework for Body Sensor Networks	2446-2449	
Wang, Bo* (Shenzhen Institute of Advanced Technology); Wang, Lei (Shenzhen Institute of Advanced Technology); Huang, Bangyu (Shenzhen Institute of Advanced Technology); Wu, Dan (Shenzhen Institute of Advanced Technology); Lin, Shaojie (Shenzhen Institute of Advanced Technology); Zhang, Yuan-Ting (The Chinese University of Hong Kong); Chen, Wei (Wuhan University of Technology)		
10:10-10:25		FrA15.3
Packet Loss Mitigation for Biomedical Signals in Healthcare Telemetry	2450-2453	
Garudadri, Harinath* (Qualcomm); Baheti, Pawan (Qualcomm)		
10:25-10:40		FrA15.4
Motion-Based Wake-Up Scheme for Ambulatory Monitoring in Wireless Body Sensor Networks	2454-2457	
Pek, Isaac (Institute for Infocomm Research); Waluyo, Agustinus Borgy (Institute for Infocomm Research); Yeoh, Wee Soon (Institute for Infocomm Research); Chen, Xiang* (Institute for Infocomm Research)		
10:40-10:55		FrA15.5
Biometrics Based Novel Key Distribution Solution for Body Sensor Networks	2458-2461	
Miao, Fen (Shenzhen Institute of Advanced Technology); Li, Ye* (Shenzhen Institute of Advanced Technology); Jiang, Lei (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences); Zhang, Yuan-Ting (The Chinese University of Hong Kong)		
10:55-11:10		FrA15.6
Avatar – A Multi-Sensory System for Real Time Body Position Monitoring	2462-2465	
Jovanov, Emil* (University of Alabama in Huntsville); Hanish, Nathan (Northrop Grumman Information Systems); Courson, Victor (Northrop Grumman); Stidham, Jonathan (University of Alabama in Huntsville); Stinson, Hunter (University of Alabama in Huntsville); Webb, Christopher (University of Alabama in Huntsville); Kevin Denny, Kevin (UAH)		

FrA17: 09:40-11:10	Directors Row 4
SS 2. How to Effectively Deliver an Oral Presentation (Special Session)	
Chair: Christopher James, Univ. of Southampton	
Co-Chair: Cristian A. Linte, Robarts Res. Inst.	

FrBPo01: 11:10-12:30	Grand Ballroom - Salon E, F, G
1.4.4 Biomedical Signal Classification III (Poster Session)	
11:10-12:30	FrBPo01.1
Detection system of motor epileptic seizures through motion analysis with 3D accelerometers	
Jallon, Pierre* (CEA Grenoble); Bonnet, Stéphane (CEA Léti MINATEC); Antonakios, Michel (CEA Léti Minatec); Guillemaud, Regis (CEA Léti MINATEC)	2466-2469
11:10-12:30	FrBPo01.2
Robust Common Spatial Filters with a Maxmin Approach	
Kawanabe, Motoaki (Fraunhofer FIRST); Vidaurre, Carmen (Fraunhofer Institute); Scholler, Simon* (Fraunhofer FIRST); Muller, Klaus-Robert (Fraunhofer FIRST)	2470-2473
11:10-12:30	FrBPo01.3
Integrated Speech Enhancement for Functional MRI Environment	
Pathak, Nishank* (UT Dallas); Milani, Ali (University of Texas at Dallas); Panahi, Issa (University of Texas at Dallas); Briggs, Richard (UT Southwestern Medical Center at Dallas)	2474-2477
11:10-12:30	FrBPo01.4
A New Approach for ICD Rhythm Classification Based on Support Vector Machines	
Kamousi, Baharan* (Stanford University/ U of Minnesota); Tewfik, Ahmed (University of Minnesota); wang, Paul (Stanford University)	2478-2481

11:10-12:30	Classification of Single Trial EEG During Imagined Hand Movement by Rhythmic Component Extraction	FrBPo01.5 2482-2485
	<i>Higashi, Hiroshi (Tokyo University of Agriculture and Technology); Tanaka, Toshihisa* (Tokyo University of Agriculture and Technology); Funase, Arao (Naogya Institute of Technology)</i>	
11:10-12:30	Nonlinear Dimensionality Reduction of Electroencephalogram (EEG) for Brain Computer Interfaces	FrBPo01.6 2486-2489
	<i>Teli, Mohammad Nayeem* (Colorado State University); Anderson, Chuck (Colorado State University)</i>	
11:10-12:30	Using Rapid Visually Evoked EEG Activity for Person Identification	FrBPo01.7 2490-2493
	<i>Das, Koel* (University of California, Santa Barbara); Zhang, Sheng (University of California, Santa Barbara); giesbrecht, barry (University of California, Santa Barbara); Eckstein, Miguel (University of California, Santa Barbara)</i>	
11:10-12:30	ERP Based Decision Fusion for AD Diagnosis across Cohorts	FrBPo01.8 2494-2497
	<i>Ahiskali, Metin (Rowan University); Green, Deborah (Drexel University); Kounios, John (Drexel University); Clark, Christopher (University of Pennsylvania); Polikar, Robi* (Rowan University)</i>	
11:10-12:30	Preliminary Study on the Detection of Cardiac Arrhythmias based on Multiple Simultaneous Electrograms	FrBPo01.9 2498-2501
	<i>Sugai, Telma Keiko* (Tohoku University); Yoshizawa, Makoto (Tohoku University); Abe, Makoto (Tohoku University); Inagaki, Masashi (National Cardiovascular Research Inst.); Sugimachi, Masaru (Natl Cardio Center Research Inst); Shimizu, Kazuo (Olympus Corporation); Sunagawa, Kenji (Kyushu University)</i>	
11:10-12:30	Comparison of Several Classifiers to Evaluate Endocardial Electrograms Fractionation in Human	FrBPo01.10 2502-2505
	<i>Kremen, Vaclav* (Faculty of Electrical Engineering, Czech Technical University in Prague.); Kordik, Pavel (Czech Technical University, Prague); Lhotska, Lenka (Czech Technical University in Prague)</i>	
11:10-12:30	Sleep Stage Classification with Low Complexity and Low Bit Rate	FrBPo01.11 2506-2509
	<i>Virkkala, Jussi* (Finnish Inst of Occupational Health); Väri, Alpo (Tampere University of Technology); Hasan, Joel (Pirkanmaa Hospital District); Himanen, Sari-Leena (irkanaa Hospital District); Müller, Kiti (Finnish Institute of Occupational Health, Helsinki)</i>	
11:10-12:30	Estimation of Sleep Stage in the Falling Asleep Period Using a Lorenz Plot of ECG RR Intervals	FrBPo01.12 2510-2513
	<i>HAGIWARA, HIROSHI* (Ritsumeikan University)</i>	
11:10-12:30	Using Modulation Spectra for Voice Pathology Detection and Classification	FrBPo01.13 2514-2517
	<i>Markaki, Maria* (University of Crete); Stylianou, Yannis (Univeristy of Crete)</i>	
11:10-12:30	Child Vocalization Composition As Discriminant Information for Automatic Autism Detection	FrBPo01.14 2518-2522
	<i>Xu, Dongxin* (LENA Foundation); Gilkerson, Jill (LENA Foundation); Richards, Jeff (LENA Foundation); Yapanel, Umit (LENA Foundation); Gray, Sharmi (LENA Foundation)</i>	
11:10-12:30	Detecting Changes in Respiratory Patterns in High Frequency Chest Compression Therapy by Single-Channel Blind Source Separation	FrBPo01.15 2523-2526
	<i>Zhu, Xiaoming (University of Minnesota); Parhi, Keshab* (University of Minnesota); Warwick, Warren J. (University of Minnesota)</i>	
11:10-12:30	Automated Detection of Gastric Slow Wave Events and Estimation of Propagation Velocity Vector Fields from Serosal High-Resolution Mapping	FrBPo01.16 2527-2530
	<i>Du, Peng* (The University of Auckland); Qiao, Wenlian (The University of Auckland); O'Grady, Greg (The University of Auckland); Egbuji, John (The University of Auckland); Lammers, Wim (United Arab Emirates University); Cheng, Leo K (The University of Auckland); Pullan, Andrew (University of Auckland)</i>	

11:10-12:30	Active Noise Control for Infant Incubators	FrBPo01.17 2531-2534
	<i>Yu, Xun (University of Minnesota Duluth); Gujjula, Shruthi (NIU); Kuo, Sen M.* (Northern Illinois University)</i>	
11:10-12:30	Ischemia Detection in the Context of a Cardiovascular Status Assessment Tool	FrBPo01.18 2535-2538
	<i>Rocha, Teresa* (Inst Superior de Eng de Coimbra); Paredes, Simão (Instituto Superior de Engenharia de Coimbra); Carvalho, Paulo (University of Coimbra); Henriques, Jorge (University of Coimbra); Harris, Matthew (Philips Research); Morais, João (Hospital de Santo André, Leiria)</i>	
11:10-12:30	Classification of Heart Murmurs using Cepstral Features and Support Vector Machines	FrBPo01.19 2539-2542
	<i>Vepa, Jithendra* (Philips Electronics India Ltd.)</i>	
11:10-12:30	Estimation of Drowsiness Level Based on Eyelid Closure and Heart Rate Variability	FrBPo01.20 2543-2546
	<i>Tsuchida, Ayumi* (Aichi Prefectural University); Bhuiyan, Shoaib (Suzuka University of Medical Science); Oguri, Koji (Aichi Prefectural University)</i>	
11:10-12:30	Audio Based Surveillance for Cognitive Assistance Using a CMT Microphone within Socially Assistive Technology	FrBPo01.21 2547-2550
	<i>Rougui, Jamal Eddine* (ESIGETEL, Ecole supérieur d'ingénieur); Istrate, Dan (ESIGETEL); Soudene, Wided (ESIGETEL, Ecole supérieur d'ingénieur); Opitz, Martin (AKG Acoustics GmbH); Riemann, Marco (AKG Acoustics GmbH)</i>	
11:10-12:30	MUP Shape-Based Validation of a Motor Unit Potential Train	FrBPo01.22 2551-2554
	<i>Parsaei, Hossein* (University of Waterloo); Stashuk, Daniel William (University of Waterloo)</i>	
11:10-12:30	Reach and Throw Movement Analysis with Support Vector Machines in Early Diagnosis of Autism.	FrBPo01.23 2555-2558
	<i>Perego, Paolo* (IRCCS "E. Medea"); Forti, Sara (IRCCS "E. Medea"); Crippa, Alessandro (IRCCS "E. Medea"); Valli, Angela (IRCCS "E. Medea"); Reni, Gianluigi (IRCCS)</i>	
11:10-12:30	A Low Power Biomedical Signal Processor ASIC Based on Hardware Software Codesign	FrBPo01.24 2559-2562
	<i>Nie, Zedong (Shenzhen Institute of Advanced Technology); Wang, Lei* (Shenzhen Institute of Advanced Technology); chen, wangang (Shenzhen Institute of Advanced Technology); zhang, tao (Shenzhen Institute of Advanced Technology); Zhang, Yuan-Ting (The Chinese University of Hong Kong)</i>	
11:10-12:30	Formant Analysis of Breath and Snore Sounds	FrBPo01.25 2563-2566
	<i>Moussavi, Zahra* (University of Manitoba); Yadollahi, Azadeh (University of Manitoba)</i>	
11:10-12:30	A Comparative Study of a New Cardiotocography Analysis Program	FrBPo01.26 2567-2570
	<i>Chen, Chen-Yu (National Taiwan University); Yu, Chun* (National Taiwan University); Lin, Chii-Wann (National Taiwan University)</i>	
11:10-12:30	Unsupervised Feature Selection in Cardiac Arrhythmias Analysis	FrBPo01.27 2571-2574
	<i>Rodríguez-Sotelo, Jose-Luis (Universidad Nacional de Colombia sede Manizales); Cuesta-Frau, David* (Politechnic University of Valencia); Peluffo-Ordóñez, Diego Hernán (National University, Colombia - Manizales); Castellanos-Dominguez, Germán (Universidad Nacional de Colombia)</i>	
11:10-12:30	Central-Tendency Estimation and Nearest-Estimate Classification of Multi-Channel Evoked Potentials	FrBPo01.28 2575-2578
	<i>Kota, Srinivas* (Southern Illinois University); Yarlagadda, Phani Srinivas (Southern Illinois University); Gupta, Lalit (Southern Illinois University); Molfese, Dennis (University of Louisville)</i>	

11:10-12:30	FrBPO1.29
Application of the Empirical Mode Decomposition to the Extraction of Features from EEG Signals for Mental Task Classification	2579-2582
Diez, Pablo Federico (<i>Universidad Nacional de San Juan</i>); Mut, Vicente (<i>Universidad Nacional de San Juan</i>); Laciár, Eric (<i>Universidad Nacional de San Juan</i>); Torres, Abel* (<i>Universitat Politècnica de Catalunya (UPC), Institute for Bioengineering of Catalonia (IBEC) and CIBER de Bioingeniería, Biomate</i>); Avila Perona, Enrique Mario (<i>National University of San Juan</i>)	
11:10-12:30	FrBPO1.30
Monte Carlo Method for Evaluating the Effect of Surface EMG Measurement Placement on Motion Recognition Accuracy	2583-2586
Nagata, Kentaro* (<i>Kanagawa Rehabilitation Institute</i>); Yamada, Masafumi (<i>Kanagawa Rehabilitation Center</i>); Magatani, Kazushige (<i>TOKAI University</i>)	
11:10-12:30	FrBPO1.31
Self-Organized Clustering Approach for Motion Discrimination Using EMG Signal	2587-2590
Kita, Kahori* (<i>The University of Tokyo</i>); Kato, Ryu (<i>The University of Tokyo</i>); Yokoi, Hiroshi (<i>University of Tokyo</i>)	
11:10-12:30	FrBPO1.32
Multi-Modal Intelligent Seizure Acquisition (MISA) System - a New Approach towards Seizure Detection Based on Full Body Motion Measures	2591-2595
Conradsen, Isa* (<i>Technical University of Denmark</i>); Beniczky, Sandor (<i>Danish Epilepsy Centre</i>); Wolf, Peter (<i>Danish Epilepsy Centre</i>); Terney, Daniella (<i>Danish Epilepsy Centre</i>); Sams, Thomas (<i>Technical University of Denmark</i>); Sorensen, Helge (<i>Technical University of Denmark</i>)	
11:10-12:30	FrBPO1.33
An Automatic Sleep Spindle Detector Based on Wavelets and the Teager Energy Operator	2596-2599
Ahmed, Beena* (<i>Texas A&M University at Qatar</i>); Redissi, Amira (<i>Texas A&M University at Qatar</i>); Tafreshi, Reza (<i>Texas A&M University</i>)	
11:10-12:30	FrBPO1.34
Adaptive Schemes Applied to Online SVM for BCI Data Classification	2600-2603
Asghari Oskoei, Mohammadreza* (<i>University of Essex</i>); Gan, John Q. (<i>University of Essex, UK</i>); Hu, Huosheng (<i>University of Essex</i>)	
11:10-12:30	FrBPO1.35
An Electrooculogram-Based Binary Saccade Sequence Classification Technique for Augmentative Communication and Control	2604-2607
Keegan, Johnalan* (<i>Dublin Institute of Technology</i>); Burke, Edward (<i>Dublin Institute of Technology</i>); Condron, James (<i>Dublin Institute of Technology</i>)	
11:10-12:30 Author unavailable for presentation	FrBPO1.36
Assessment of Laryngeal Dysfunctions of Dysarthric Speakers	2608-2611
Vijayaraghavan, Surabhi* (<i>SSN College of Engineering (Anna University)</i>); Parthasarathy, Vijayalakshmi (<i>SSN College of Engineering (Anna University)</i>); Tagore, Steffina Lily (<i>SSN College of Engineering (Anna University)</i>); Ra. V. Jayanthan (<i>SSN College of Engineering (Anna University)</i>)	
11:10-12:30	FrBPO1.37
Feature Extraction of Linear Predictors at Spectral Bands of Interest	2612-2616
Leondopoulos, Stathis* (<i>Rutgers University</i>); Chaovallitwongse, W. Art (<i>Rutgers, The State University of New Jersey</i>); Micheli-Tzanakou, Evangelia (<i>Rutgers University</i>); Wu, Brenda (<i>UMDNJ-Robert Wood Johnson Medical School</i>)	
11:10-12:30	FrBPO1.38
Classification of Respiratory Signals by Linear Analysis	2617-2620
Aydore, Sergui* (<i>Bogazici University</i>); Sen, Ipek (<i>Bogazici University</i>); Mihcak, M. Kivanc (<i>Bogazici University</i>); Kahya, Yasemin P. (<i>Bogazici University</i>)	
11:10-12:30	FrBPO1.39
Combining Predictive Capabilities of Transcranial Doppler with Electrocardiogram to Predict Hemorrhagic Shock	2621-2624
Najarian, Kayvan* (<i>Virginia Commonwealth University</i>); Hakimzadeh, Roya (<i>University of North Carolina at Charlotte</i>); Ward, Kevin (<i>Virginia Commonwealth University</i>); Ji, Soo-Yeon (<i>Virginia Commonwealth University</i>)	

11:10-12:30		FrBPo01.40
Identification of Food Spoilage in the Smart Home Based on Neural and Fuzzy Processing of Odour Sensor Responses	2625-2628	
Green, Geoffrey* (Carleton University); Chan, Adrian (Carleton University); Goubran, Rafik A. (Carleton University)		
11:10-12:30		FrBPo01.41
A Preliminary Study for Investigating Idiopathic Normal Pressure Hydrocephalus by Means of Statistical Parameters Classification of Intracranial Pressure Recordings	2629-2632	
Calisto, Andrea* (University of Messina); Bramanti, Alessia (University of Messina); Galeano, Massimiliano (University of Messina); Angileri, Flavio Filippo (University of Messina); Campobello, Giuseppe (University of Messina); Serrano, Salvatore (University of Messina); Azzerboni, Bruno (University of Messina)		
11:10-12:30		FrBPo01.42
Classification of Localized Muscle Fatigue with Genetic Programming on Semg During Isometric Contraction	2633-2638	
Al-mulla, Mohammed* (Essex university)		
11:10-12:30 Author unavailable for presentation		FrBPo01.43
Pulse Rate Variability and Gastric Electric Power in Fasting and Postprandial Conditions	2639-2642	
Mohamed Yacin, Sikkandar (IIT Madras); M, Manivannan* (Indian Institute of Technology Madras); Chakravarthy, V. Srinivas (IIT Madras)		
11:10-12:30		FrBPo01.44
An SVM-Based System and Its Performance for Detection of Seizures in Neonates	2643-2646	
Temko, Andriy* (University College Cork); Thomas, Eoin (University College Cork); Boylan, Geraldine (University College Cork); Marnane, Liam (University College Cork); Lightbody, Gordon (University College Cork)		
11:10-12:30		FrBPo01.45
Comparison of experts and non-experts in throwing darts based on optimization criteria	2647-2650	
Obayashi, Chihiro* (Nara Institute of Science and Technology); Shibata, Tomohiro (Nara Institute of Science and Technology); Tamei, Tomoya (Nara Institute of Science and Technology); Imai, Akira (Nara Institute of Science and Technology)		
11:10-12:30		FrBPo01.46
An Epileptic Seizures Detection Algorithm Based on the Empirical Mode Decomposition of EEG	2651-2654	
OROSCO, LORENA (UNIVERSIDAD NACIONAL DE SAN JUAN); Laciari, Eric* (Universidad Nacional de San Juan); Garces, M Agustina (Universidad Nacional de San Juan); Torres, Abel (Universitat Politècnica de Catalunya (UPC), Institute for Bioengineering of Catalonia (IBEC) and CIBER de Bioingeniería, Biomate); Graffigna, Juan Pablo (Universidad Nacional de San Juan)		
11:10-12:30		FrBPo01.47
Application of Least Square Method for Muscular Strength Estimation in Hand Motion Recognition Using Surface EMG	2655-2658	
Nakano, Takemi* (Tokai University); Nagata, Kentaro (Kanagawa Rehabilitation Institute); Yamada, Masafumi (Kanagawa Rehabilitation Center); Magatani, Kazushige (TOKAI University)		
11:10-12:30		FrBPo01.48
Analysis of the Electromyogram of Rapid Eye Movement Sleep Using Wavelet Techniques	2659-2662	
Shokrollahi, Mehrnaz* (Ryerson University); Krishnan, Sridhar (Ryerson University); Jewell, Dana (Sunnybrook Health Sciences Center, University of Toronto); Murray, Brian (Sunnybrook Health Sciences Center, University of Toronto)		
11:10-12:30		FrBPo01.49
Estimation of Human Finger Tapping Forces Based on a Fingerpad-Stiffness Model	2663-2667	
Shima, Keisuke* (Hiroshima University)		
11:10-12:30 Author unavailable for presentation		FrBPo01.50
Stimulus Level Estimation using Functional Near-Infra-Red Data and Neural Network	2668-2671	
Akbarian Azar, Arezou* (Drexel University); Akhbardeh, Alireza (Johns Hopkins University)		

FrBPo02: 11:10-12:30	Grand Ballroom - Salon E, F, G
2.1.3 MR Acquisition and Reconstruction (Poster Session)	
11:10-12:30	FrBPo02.1
Pseudo 2D Random Sampling for Compressed Sensing MRI	2672-2675
Wang, Haifeng (University of Wisconsin, Milwaukee); Liang, Dong* (University of Wisconsin, Milwaukee); Ying, Lei (Leslie) (University of Wisconsin)	
11:10-12:30	FrBPo02.2
Improved Reconstruction of Non-Cartesian Magnetic Resonance Imaging Data through Total Variation Minimization and POCS Optimization	2676-2679
Feng, Yanqiu (Southern Medical University); Liu, Ping (Southern Medical University); Li, Benxing (Southern Medical University); Yu, Lihong (Southern Medical University); Chen, Wufan* (Southern Medical University)	
11:10-12:30	FrBPo02.3
Affine Motion Compensation with Improved Reconstruction in PROPELLER MRI	2680-2683
Feng, Yanqiu (Southern Medical University); Liu, Xiaowu (southern medical university); Ma, Jianhua (southern medical university); Lu, Zhentai (southern medical university); Chen, Wufan* (Southern Medical University)	
11:10-12:30	FrBPo02.4
Compressed Sensing MRI with Multi-Channel Data Using Multi-Core Processors	2684-2687
Chang, Ching-Hua (Texas A&M University); Ji, Jim Xiuquan* (Texas A&M University)	
11:10-12:30	FrBPo02.5
Implementation of Wavelet Encoding Spectroscopic Imaging Technique on a 3 Tesla Whole Body MR Scanner: In Vitro Results.	2688-2691
Fu, Yao* (National Research Council of Canada; University of Manitoba); Ijare, Omkar (National Research Council of Canada); Thomas, Gabriel (University of Manitoba); Fazel-Rezai, Reza (University of North Dakota); serrai, hacene (Institute for Biodiagnostics - National Research Council Canada)	
11:10-12:30	FrBPo02.6
Cramer-Rao Bound Analysis of Echo Time Selection for 1H-MR Spectroscopy	2692-2695
Nguyen, Hien* (University of Illinois at Urbana-Champaign); Gahvari, Zhubin (University of Illinois at Urbana-Champaign); Haldar, Justin (Univ of Illinois at Urbana-Champaign); Do, Minh (University of Illinois at Urbana-Champaign); Liang, Zhi-Pei (University of Illinois at Urbana-Champaign)	
11:10-12:30	FrBPo02.7
Effect of Peripheral Nerve Action Currents on Magnetic Resonance Imaging	2696-2698
Wijesinghe, Ranjith S.* (Ball State University); Roth, Bradley (Oakland University)	
FrBPo03: 11:10-12:30	Grand Ballroom - Salon E, F, G
2.1.4 MR Diffusion Imaging (Poster Session)	
11:10-12:30	FrBPo03.1
Atlas-Based vs. Individual-Based Deterministic Tractography of Corpus Callosum in Multiple Sclerosis	2699-2702
Lagana, Marcella* (IRCCS S.Maria Nascente, Fondazione Don Carlo Gnocchi ONLUS); Rovaris, Marco (IRCCS S Maria Nascente, Fondazione Don Carlo Gnocchi ONLUS); Ceccarelli, Antonia (IRCCS S Maria Nascente, Fondazione Don Carlo Gnocchi ONLUS); Venturelli, Chiara (Politecnico Milano); Caputo, Domenico (IRCCS S Maria Nascente, Fondazione Don Carlo Gnocchi ONLUS); Cecconi, Pietro (Fondazione Don Gnocchi ONLUS – IRCCS S. Maria Nascente, Milano); Baselli, Giuseppe (Politecnico di Milano)	
11:10-12:30	FrBPo03.2
Theoretical and Experimental Analysis of Imaging Gradients in DTI	2703-2706
Ozcan, Alpay* (Washington University in Saint Louis)	
11:10-12:30	FrBPo03.3
Decoupling of Imaging and Diffusion Gradients in DTI	2707-2710
Ozcan, Alpay* (Washington University in Saint Louis)	

11:10-12:30		FrBPO3.4
The Effects of Hypercapnia on DTI Quantification in Anesthetized Rat Brain	2711-2714	
Ding, Abby Y. (The University of Hong Kong); Hui, Edward S. (The University of Hong Kong); Wu, Ed X.* (The University of Hong Kong)		
11:10-12:30		FrBPO3.5
In Vivo Diffusion Tensor Imaging of Chronic Spinal Cord Compression in Rat Model	2715-2718	
Cheung, Matthew M. (The University of Hong Kong); Li, Ting Hung Darrell (The University of Hong Kong); Hui, Edward S. (The University of Hong Kong); Fan, Shu Juan (The University of Hong Kong); Ding, Abby Y. (The University of Hong Kong); Hu, Yong (The University of Hong Kong); Wu, Ed X.* (The University of Hong Kong)		
11:10-12:30		FrBPO3.6
Classification in DTI Using Shapes of White Matter Tracts	2719-2722	
Adluru, Nagesh* (University of Wisconsin-Madison); Hinrichs, Chris (University of Wisconsin-Madison); Chung, Moo K. (University of Wisconsin-Madison); Lee, Jee Eun (University of Wisconsin-Madison); Singh, Vikas (University of Wisconsin-Madison); Bigler, Erin D. (Brigham Young University); Lange, Nicholas (Harvard University); Lainhart, J.E. (University of Utah); Alexander, Andrew (University of Wisconsin)		

FrBPO4: 11:10-12:30	Grand Ballroom - Salon E, F, G
2.5.5 Biomedical Microwave Imaging (Poster Session)	

11:10-12:30		FrBPO4.1
Development of Non-Uniform Breast Phantom and Its Microwave Imaging for Tumor Detection by CP-MCT	2723-2726	
Miyakawa, Michio (Niigata University); Takata, Sadaki (SHISEIDO CO., Ltd.); Inotsume, Kenta* (Graduate School of Science & Technology , Niigata University)		
11:10-12:30		FrBPO4.2
A Heterogeneous Breast Phantom for Microwave Breast Imaging	2727-2730	
Ostadrahimi, Majid (University of Manitoba); Reopelle, Ryan (University of North Dakota); Noghanian, Sima* (University of North Dakota); Pistorius, Stephen (CancerCare Manitoba / University of Manitoba); Vahedi, Arman (University of Manitoba); Safari, Faezeh (University of Manitoba)		

11:10-12:30		FrBPO4.3
A Comparison of Data-Independent Microwave Beamforming Algorithms for the Early Detection of Breast Cancer	2731-2734	
Byrne, Dallan* (NUI Galway); Jones, Edward (National University of Ireland); Glavin, Martin (National University of Ireland); O'Halloran, Martin (National University of Ireland, Galway)		
11:10-12:30		FrBPO4.4
A Comparison of Interpolation Methods for Breast Microwave Radar Imaging.	2735-2738	
Flores-Tapia, Daniel* (CancerCare Manitoba); Thomas, Gabriel (University of Manitoba); Pistorius, Stephen (CancerCare Manitoba / University of Manitoba)		

FrBPO5: 11:10-12:30	Grand Ballroom - Salon E, F, G
3.6.2 Micro- and Nanotechnologies (Poster Session)	

11:10-12:30		FrBPO5.1
Molecular Mechanism for Conformation Mobility of the Active Center of Glucose Oxidase Adsorbed on Single Wall Carbon Nanotubes	2739-2743	
Liu, Feng* (Zhejiang University); Ye, Xuesong (Zhejiang University); Liu, Jun (Zhejiang University)		
11:10-12:30		FrBPO5.2
Packaging and Characterization of Mechanically Actuated Micropipettes for Biomedical Applications	2744-2747	
Wester, Brock* (Georgia Institute of Technology); Ross, James (Georgia Institute of Technology); Rajaraman, Swami (Georgia Institute of Technology); Allen, Mark (Georgia Institute of Technology)		
11:10-12:30		FrBPO5.3
Evaluation of Sensitivity of Stiffness Sensitive Electret Microphones	2748-2751	
Sivaramakrishnan, Shyam (University of Minnesota); Rajamani, Rajesh* (University of Minnesota)		

11:10-12:30	Body Motion for Powering Biomedical Devices	FrBPO5.4 2752-2755
	<i>Romero, Edwar* (Michigan Technological University); Warrington, Robert O. (Michigan Technological University); Neuman, Michael (Michigan Technological University)</i>	
11:10-12:30	Local Electrical Stimulation of Single Adherent Cells Using Three-Dimensional Electrode Arrays with Small Interelectrode Distances	FrBPO5.5 2756-2759
	<i>Braeken, Dries* (IMEC); Huys, Roeland (IMEC); Jans, Danny (IMEC); Loo, Josine (IMEC); Severi, Simone (IMEC); Vleugels, Franks (IMEC); Borghs, Gustaaf (IMEC); Callewaert, Geert (KU Leuven Campus Kortrijk); Bartic, Carmen (IMEC)</i>	
11:10-12:30	Label-Free Analysis of DNA Methylation Using Optofluidic Ring Resonators	FrBPO5.6 2760-2762
	<i>Suter, Jonathan (University of Missouri); Howard, Daniel (University of Missouri); Shi, Huidong (Medical College of Georgia Cancer Center); Caldwell, Charles (University of Missouri); Fan, Xudong* (University of Missouri)</i>	
11:10-12:30	Selective Micro Preconcentration of Propofol for Anesthetic Depth Monitoring by Using Seedless Electroplated Gold as Adsorbent	FrBPO5.7 2763-2766
	<i>Alfeeli, Bassam* (Virginia Polytechnic Institute and State University); zareian-jahromi, mohammad (university); Agah, Masoud (Virginia Tech)</i>	
11:10-12:30	Breathing Detection with a Portable Impedance Measurement System: First Measurements	FrBPO5.8 2767-2770
	<i>Cordes, Axel* (RWTH Aachen); Jerome, Foussier (RWTH Aachen); Leonhardt, Steffen (RWTH Aachen University)</i>	
11:10-12:30	Size-Dependent PCR Inhibitory Effect Induced by Gold Nanoparticles	FrBPO5.9 2771-2774
	<i>Wan, Weijie (University of Waterloo); Yeow, John Tze-Wei* (University of Waterloo); Van Dyke, Michele I. (University of Waterloo)</i>	
11:10-12:30	Development of a Piezoelectric Immunosensor for Matrix Metalloproteinase-1 Detection	FrBPO5.10 2775-2778
	<i>Caneva Soumetz, Federico (University of Genova); Pastorino, Laura (University of Genova); Ruggiero, Carmelina* (University of Genova)</i>	
11:10-12:30	Molding Single DNA Molecules in Metals and Sample Preparation for Electronic Sequencing	FrBPO5.11 2779-2782
	<i>Lund, John* (University of Washington); Parviz, Babak (University of Washington)</i>	
11:10-12:30	Author unavailable for presentation	FrBPO5.12
	Optimized bzip2 Compression for Reducing Diffraction Effects in Protein-based Computing: A Study of Feasibility	2783-2786
	<i>Rajasekaran, Sanguthevar (Univ. of Connecticut); Trinca, Dragos* (Univ. of Connecticut)</i>	

FrBPO6: 11:10-12:30	Grand Ballroom - Salon E, F, G
4.3.3 Multiscale Biomedical Modeling (Poster Session)	

11:10-12:30	Tetrahedral and Polyhedral Mesh Evaluation for Cerebral Hemodynamic Simulation - a Comparison	FrBPO6.1 2787-2790
	<i>Spiegel, Martin* (Friedrich-Alexander University of Erlangen-Nuremberg, Siemens AG Healthcare Sector, Erlangen Graduate School in Advanced Optical); Redel, Thomas (Siemens AG Healthcare Sector); Zhang, Jonathon (The Methodist Hospital); Struffert, Tobias (Friedrich-Alexander University Erlangen-Nuremberg); Hornegger, Joachim (Friedrich-Alexander University Erlangen-Nuremberg); Grossman, Robert (The Methodist Hospital); Doerfler, Arnd (Friedrich-Alexander University Erlangen-Nuremberg); Karmonik, Christof (The Methodist Hospital Neurological Inst)</i>	

11:10-12:30		FrBPO6.2
Composite Annotations: Requirements for Mapping Multiscale Data and Models to Biomedical Ontologies	2791-2794	
Cook, Daniel L.* (University of Washington); Mejino, Jose L. V. (University of Washington); Neal, Maxwell L (University of Washington); Gennari, John H. (University of Washington)		
11:10-12:30		FrBPO6.3
Strong Scaling and Speedup to 16, 384 Processors in Cardiac Electro – Mechanical Simulations	2795-2798	
Reumann, Matthias* (IBM T. J. Watson Research Center); Fitch, Blake G (IBM T. J. Watson Research Center); Rayshubskiy, Alex (IBM); Keller, David Urs Josef (Universitaet Karlsruhe (TH)); Seemann, Gunnar (Universitaet Karlsruhe (TH)); Doessel, Olaf (University of Karlsruhe); Pitman, Michael C (IBM T. J. Watson Research Center); Rice, John J (IBM T. J Watson Research Center)		
11:10-12:30		FrBPO6.4
Orthogonal Recursive Bisection Data Decomposition for High Performance Computing in Cardiac Model Simulations: Dependence on Anatomical Geometry	2799-2802	
Reumann, Matthias* (IBM T. J. Watson Research Center); Fitch, Blake G (IBM T. J. Watson Research Center); Rayshubskiy, Alex (IBM); Keller, David Urs Josef (Universitaet Karlsruhe (TH)); Seemann, Gunnar (Universitaet Karlsruhe (TH)); Doessel, Olaf (University of Karlsruhe); Pitman, Michael C (IBM T. J. Watson Research Center); Rice, John J (IBM T. J Watson Research Center)		
11:10-12:30		FrBPO6.5
A Platform for in Silico Modeling of Physiological Systems III	2803-2806	
Suzuki, Yasuyuki* (Osaka University); Asai, Yoshiyuki (Osaka University); Kido, Yoshiyuki (Osaka University); Oka, Hideki (Fujitsu Ltd); Heien, Eric (Osaka University); Urai, Takahito (Intasect Communications); Okamoto, Tatsuhide (Osaka University); Yumikura, Yosuke (Osaka University); Tominaga, Keisuke (Osaka University); Nakanishi, Masao (Osaka University); Hagiwara, Kenichi (Osaka University); Kurachi, Yoshihisa (Osaka University); Nomura, Taishin (Osaka University)		
11:10-12:30		FrBPO6.6
A Complete Mathematical Study of a 3D Model of Heterogeneous and Anisotropic Glioma Evolution	2807-2810	
Roniotis, Alexandros* (FORTH & Technical University of Crete); Marias, Kostas (Foundation for Res. & Tech. Hellas); Sakkalis, Vangelis (ICS-FORTH); Tsibidis, George (FORTH); Zervakis, Michalis (Technical University of Crete, Greece)		
11:10-12:30		FrBPO6.7
Metadata and Annotations for Multi-Scale Electrophysiological Data	2811-2814	
Bower, Mark* (Mayo Clinic); Stead, Matt (Mayo Clinic); Brinkmann, Benjamin (Mayo Foundation); Dufendach, Kevin (Mayo Clinic); Worrell, Gregory A. (Mayo Clinic)		
11:10-12:30		FrBPO6.8
Computerized Optimization of Biventricular Pacing Using Body Surface Potential Map	2815-2818	
Miri, Raz* (University of Karlsruhe); Doessel, Olaf (University of Karlsruhe)		
11:10-12:30		FrBPO6.9
Electrophysiological Substrate for a Dominant Reentrant Source During Atrial Fibrillation	2819-2822	
Aslanidi, Oleg* (University of Manchester); Robinson, Robert (University of Manchester); Cheverton, Deborah (University of Manchester); Boyett, Mark Richard (University of Manchester); Zhang, Henggui (University of Manchester)		
11:10-12:30		FrBPO6.10
Influence of Channel Blockers on Cardiac Alternans	2823-2826	
Xia, Henian (University of Tennessee); Zhao, Xiaopeng* (University of Tennessee); Bains, Jujhar (University of Tennessee, Medical Center); Wortham, Dale (University of Tennessee, Medical Center)		
11:10-12:30		FrBPO6.11
Computational Modeling of Cardiac Dual Calcium-Voltage Optical Mapping	2827-2830	
Walton, Richard David (University of Leeds); Bernus, Olivier* (University of Leeds)		

11:10-12:30

FrBPo07.1

Estimation of Central Aortic Forces in the Ballistocardiogram under Rest and Exercise Conditions 2831-2834

Wiard, Richard M.* (Stanford University); Kim, Hyun Jin (Stanford University); Figueroa, C. Alberto (Stanford University); Kovacs, Gregory T.A. (Stanford University); Taylor, Charles A. (Stanford University); Giovangrandi, Laurent (Stanford University)

11:10-12:30

FrBPo07.2

Evaluation of Biaxial Mechanical Properties of Soft Tubes and Arteries Using Sonometry 2835-2838

Bernal, Miguel* (Mayo Clinic College of Medicine); Urban, Matthew (Mayo Clinic College of Medicine); Rosario, Daniel (Cornell University); Aquino, Wilkins (Cornell University); Greenleaf, James (Mayo Clinic)

11:10-12:30

FrBPo07.3

Biomechanics of the Ergometric Stress Tests: Regional and Local Effects on Elastic, Transitional and Muscular Human Arteries 2839-2842

Bia, Daniel* (School of Medicine, Republic University); Zócalo, Yanina (School of Medicine, Republic University); Torrado, Juan (School of Medicine, Republic University); Valls, Gabriela (School of Medicine, Republic University); Lluberas, Sebastian (School of Medicine); Craiem, Damian (Favaloro University); Armentano, Ricardo (Favaloro University)

11:10-12:30

FrBPo07.4

Cardiac Resynchronization Results in Aortic Blood Flow-Associated Changes in the Arterial Load Components: Basal Biomechanical Conditions Determine the Load Changes 2843-2846

Zócalo, Yanina (School of Medicine, Republic University); Bia, Daniel (School of Medicine, Republic University); González-Moreno, Juan Bautista (Sanatorio Casa de Galicia); Torrado, Juan (School of Medicine, Republic University); Varela-Canavaro, Gonzalo (Sanatorio Casa de Galicia); Calleriza, Fernando (Sanatorio Casa de Galicia); Craiem, Damian (Favaloro University); Reyes-Caorsi, Walter (Sanatorio Casa de Galicia); Armentano, Ricardo* (Favaloro University)

11:10-12:30

FrBPo07.5

Assessment of Pulsatile Wall Shear Stress in Compliant Arteries: Numerical Model, Validation and Experimental Data 2847-2850

Salvucci, Fernando* (Favaloro University); Barra, Juan (Favaloro University); Armentano, Ricardo (Favaloro University); Perazzo, Carlos (Favaloro University)

11:10-12:30

FrBPo07.6

Comparative Analysis of Seismocardiogram Waves with the Ultra-Low Frequency Ballistocardiogram .. 2851-2854

Ngai, Brandon (Simon Fraser University); Tavakolian, Kouhyar* (Simon Fraser University); Akhbardeh, Alireza (Johns Hopkins University); Kaminska, Bozena (SIMON FRASER UNIVERSITY)

11:10-12:30

FrBPo07.7

Noninvasive Deadbeat Control of an Implantable Rotary Blood Pump: A Simulation Study 2855-2858

Lim, Einly (UNSW); Alomari, Abdul-Hakeem H (University of New South Wales); Savkin, Andrey (University of New South Wales); Lovell, Nigel H* (University of New South Wales)

11:10-12:30

FrBPo07.8

Gender Related Differences in Cerebral Autoregulation in Older Healthy Subjects 2859-2862

Deegan, Brian Michael Thomas* (National University of Ireland, Galway); Sorond, Farzaneh A. (Brigham and Womens Hospital); Lipsitz, Lewis A. (Institute for Aging Research); OLaighin, Gearoid (National University of Ireland Galway); Serrador, Jorge Manuel (Beth Israel Deaconess Medical Center)

11:10-12:30

FrBPo07.9

A Mechanical Model of Soft Biological Tissue: An Application to Lung Parenchyma 2863-2866

De Geeter, Nele* (University of Ghent, Faculty of Engineering); Ionescu, Clara-Mihaela (Ghent University); De Keyser, Robin (Ghent University)

11:10-12:30

FrBPo07.10

CFD Modeling of Turbulent Flow and Particle Deposition in Human Lungs 2867-2870

Radhakrishnan, Harikrishnan* (University of Cyprus); Kassinos, Stavros (University of Cyprus)

11:10-12:30	FrBPO7.11
Comparative Analysis of Phase Difference Estimation Methods Quantifying Asynchronies between Compartmental Chest Wall Volume Signals	2871-2874
Golemati, Spyretta* (National Kapodistrian University of Athens); Moupagiatzis, Ioannis (University of Central Greece); Athanasopoulos, Dimitrios (National Kapodistrian University of Athens); Vasilopoulou, Maroula (National Kapodistrian University of Athens); Roussos, Charalambos (National Kapodistrian University of Athens); Vogiatzis, Ioannis (National Kapodistrian University of Athens)	
11:10-12:30	FrBPO7.12
A Study of IOS Data Using the aRIC+Ip Model of Respiratory Impedance	2875-2878
Nguyen, Thuc-Uyen (Texas Christian University); Diong, Bill* (Texas Christian University); Goldman, Michael David (University of California Los Angeles)	
11:10-12:30	FrBPO7.13
A Comparison of Linear Respiratory System Models Based on Parameter Estimates from PRN Forced Oscillation Data	2879-2882
Diong, Bill* (Texas Christian University); Grainger, Jaci (Texas Christian University); Goldman, Michael David (University of California Los Angeles); Nazeran, Homayoun (The University of Texas at El Paso)	
11:10-12:30	FrBPO7.14
Determination of Early Diastolic LV Vortex Formation Time (T*) Via the PDF Formalism: A Kinematic Model of Filling	2883-2886
Ghosh, Erina (Washington University in St. Louis); Shmuylovich, Leonid* (Washington University in St Louis); Kovács, Sándor J (Washington University in St Louis)	
11:10-12:30	FrBPO7.15
The Influence of Left-Ventricular Shape on End-Diastolic Fiber Stress and Strain.	2887-2890
Choi, Hon Fai* (KULeuven); D'hooge, Jan (KULeuven); Rademakers, Frank E (KULeuven); Claus, Piet (Catholic University Leuven)	
11:10-12:30	FrBPO7.16
Shearwave Dispersion Ultrasound Vibrometry Applied to In Vivo Myocardium	2891-2894
Pislaru, Cristina* (Mayo Clinic College of Medicine); Urban, Matthew (Mayo Clinic College of Medicine); Nenadic, Ivan (Mayo Clinic College of Medicine); Greenleaf, James (Mayo Clinic)	
11:10-12:30	FrBPO7.17
Ex Vivo Measurements of Myocardial Viscoelasticity Using Shearwave Dispersion Ultrasound Vibrometry (SDUV)	2895-2898
Nenadic, Ivan* (Mayo Clinic College of Medicine); Urban, Matthew (Mayo Clinic College of Medicine); Greenleaf, James (Mayo Clinic)	
11:10-12:30	FrBPO7.18
Comparative Analysis of Three Different Modalities for Characterization of the Seismocardiogram	2899-2903
Akhbardeh, Alireza (Johns Hopkins University); Tavakolian, Kouhyar* (Simon Fraser University); Gurev, Viatcheslav (Tulane University); New, William (Stanford University); Kaminska, Bozena (SIMON FRASER UNIVERSITY); Trayanova, Natalia (Johns Hopkins University)	
11:10-12:30	FrBPO7.19
Decay of Postextrasystolic Potentiation in the Left and Right Ventricles of Intact Canine Hearts	2904-2906
Black, Adam J* (Medtronic); Mulligan, Lawrence (Medtronic, Inc.)	
11:10-12:30	FrBPO7.20
Estimation of Volumetric Myocardial Apparent Conductivity from Endocardial Electro-Anatomical Mapping	2907-2910
Chinchapatnam, Phani* (University College London); Rhode, Kawa (King's College London); Ginks, Matthew (King's College London); Mansi, Tommaso (INRIA Sophia-Antipolis); Peyrat, Jean-Marc (INRIA Sophia-Antipolis); Lambiase, Pier (University College London Hospital); Rinaldi, Aldo (King's College London); Razavi, Reza (King's College London); Arridge, Simon (University College London); Sermesant, Maxime (INRIA Sophia-Antipolis)	

FrBPo08: 11:10-12:30	Grand Ballroom - Salon E, F, G
6.8.1 Localization & Connectivity (Poster Session)	
11:10-12:30	FrBPo08.1
BrainNetVis: Analysis and Visualization of Brain Functional Networks	2911-2914
<i>Tsiaras, Vassilis* (University of Crete); Andreou, Dimitrios (ICS FORTH); Tollis, Ioannis (University of Crete)</i>	
11:10-12:30	FrBPo08.2
Magnetoencephalographic Imaging of Deep Corticostriatal Network Activity During a Rewards Paradigm	2915-2918
<i>Kanal, Eliezer* (University of Pittsburgh); Sun, Mingui (University of Pittsburgh); Ozkurt, Tolga Esat (University of Pittsburgh); Jia, Wenyan (University of Pittsburgh); Sclabassi, Robert (University of Pittsburgh)</i>	
11:10-12:30	FrBPo08.3
fMRI Correlates of Behavioural Microsleeps During a Continuous Visuomotor Task	2919-2922
<i>Poudel, Govinda* (Dept of Medicine, Univ of Otago); Jones, Richard D. (Van der Veer Institute); nnes, Carrie R. H. (Canterbury District Health Board); Watts, Richard (University of Canterbury); Signal, T. L. (Massey University); Bones, P. J. (University of Canterbury)</i>	
11:10-12:30	FrBPo08.4
Influence of White Matter Anisotropy on EEG Source Localization: An Experimental Study	2923-2925
<i>Lee, Won Hee (Columbia University); Liu, Zhongming (National Institute of Neurological Disorders and Stroke, National Institutes of Health); He, Bin* (University of Minnesota)</i>	
11:10-12:30	FrBPo08.5
Estimation and Visualization of Neuronal Functional Connectivity in Motor Tasks	2926-2929
<i>Li, Lin* (University of Florida); Seth, Sohan (University of Florida); Park, Il (University of Florida); Sanchez, Justin C. (University of Florida); Principe, Jose (University of Florida)</i>	
11:10-12:30	FrBPo08.6
Patch-basis electrocortical source imaging in epilepsy	2930-2933
<i>Akalin Acar, Zeynep (University of California, San Diego); Worrell, Gregory A. (Mayo Clinic); Makeig, Scott* (University of California San Diego)</i>	
11:10-12:30	FrBPo08.7
Simultaneous Recording of Brain Activity and Functional Connectivity in the Mouse Brain	2934-2936
<i>Lee, Mina* (Korea Institute of Science and Technology, University of Science and Technology); Choi, Jee Hyun (Korea Institute of Science and Technology, University of Science and Technology)</i>	
11:10-12:30	FrBPo08.8
Signal Characteristics of Cerebellar Activity Recorded with 2D Micro-Electrode Arrays	2937-2939
<i>Groth, Jonathan* (New Jersey Institute of Technology, Newark); Sahin, Mesut (New Jersey Institute of Technology)</i>	
11:10-12:30	FrBPo08.9
In Vivo Localization of Fascicular Activity	2940-2942
<i>Wodlinger, Brian* (Case Western Reserve University); Durand, Dominique (Case Western Reserve University)</i>	
11:10-12:30	FrBPo08.10
Somatosensory Evoked Potential Components with and without Contact Cold Stimulus	2943-2946
<i>Xie, XB (Institute of Biomedical Engineering, Chinese Academy Of Medical Sciences and Peking Union Medical College); Hu, Li (The University of Hong Kong); Cui, Hongyan (Chinese Academy of Medical Sciences); Hu, Yong* (The University of Hong Kong)</i>	

FrBPo09: 11:10-12:30	Grand Ballroom - Salon E, F, G
6.8.3 EMG and Neuromuscular Systems (Poster Session)	
11:10-12:30	FrBPo09.1
Mechanical Perturbations Applied During Impending Movement Evoke Startle-Like Responses	2947-2950
<i>Ravichandran, Venkateswaran* (Northwestern University); Shemmell, Jonathan (Northwestern University); Perreault, Eric (Northwestern University)</i>	

11:10-12:30	Classification of the Mechanomyogram: Its Potential As a Multifunction Access Pathway	FrBPO9.2 2951-2954
	Alves, Natasha* (University of Toronto); Chau, Tom (University of Toronto)	
11:10-12:30	Contraction-Based Variations in Upper Limb EMG-Force Models under Isometric Conditions	FrBPO9.3 2955-2959
	Mountjoy, Katherine* (Queen's University); Morin, Evelyn (Queen's University); Hashtrudi-Zaad, Keyvan (Queen's University)	
11:10-12:30	Analysis of Surface EMG-Force Relation of the First Dorsal Interosseous Muscle	FrBPO9.4 2960-2962
	Murali, Karthik (Northwestern University); Suresh, Nina (Rehabilitation Institute of Chicago); Stiller, Robin (Northwestern University McCormick School of Engineering); Rymer, William Zev (Northwest. & Rehab Inst of Chicago); Zhou, Ping* (Northwestern University & Rehab Inst of Chicago)	
11:10-12:30	Measurement of Rectus Femoris Muscle Velocities During Patellar Tendon Jerk Using Vector Tissue Doppler Imaging	FrBPO9.5 2963-2966
	Sikdar, Siddhartha* (George Mason University); Lebiedowska, Maria (National Institutes of Health); Eranki, Avinash (George Mason University); Garmirian, Lindsay (National Institutes of Health); Damiano, Diane (National Institutes of Health)	
11:10-12:30	Estimation of Joint Stiffness with a Compliant Load	FrBPO9.6 2967-2970
	Ludvig, Daniel* (McGill University); Kearney, Robert Edward (McGill University)	
11:10-12:30	Detection of synchrony in biosignals using cross fuzzy entropy	FrBPO9.7 2971-2974
	Xie, Hong-Bo* (The Hong Kong Polytechnic University)	
11:10-12:30	Quantitative Estimation of Muscle Fatigue Using Surface Electromyography During Static Muscle Contraction	FrBPO9.8 2975-2978
	Soo, Yewguan* (The University of Tokyo); Sugi, Masao (The University of Tokyo); NISHINO, Masataka (The University of Tokyo); Yokoi, Hiroshi (University of Tokyo); Arai, Tamio (The University of Tokyo); Kato, Ryu (The University of Tokyo); Nakamura, Tatsuhiro (The University of Tokyo); Ota, Jun (The University of Tokyo)	
11:10-12:30	Towards a Genioglossus Surface EMG Model of Obstructive Sleep Apnea	FrBPO9.9 2979-2982
	Chua, Eric Chern-Pin* (University College Dublin); McSharry, David (St Vincent's University Hospital); Mc Nicholas, Walter (St. Vincent's University Hospital); Lowery, Madeleine (University College Dublin)	
11:10-12:30	Feasibility of Building Robust Surface Electromyography-Based Gesture Interfaces	FrBPO9.10 2983-2986
	Chen, Xiang* (University of Science & Technology of China); Lantz, Vuokko (Nokia); Wang, Kong-qiao (Nokia); Zhao, Zhang-yan (University of Science & Technology of China); Zhang, Xu (University of Science & Technology of China); Yang, Jihai (University of Science and Technology of China)	
11:10-12:30	Optimal Electrode Configurations for Finger Movement Classification Using EMG	FrBPO9.11 2987-2990
	Andrews, Alex* (Queen's University); Morin, Evelyn (Queen's University); McLean, Linda (Queen's University)	
11:10-12:30	Robust Motion Discrimination Based on Human Forearm Myoelectric Potential by Adaptive Fuzzy Inference Considering Muscle Fatigue	FrBPO9.12 2991-2995
	Kiso, Atsushi* (Chiba Institute of Technology); Seki, Hirokazu (Chiba Institute of Technology)	
11:10-12:30	Filtering of Intended Motion in Real-Time Tremor Compensation for Human Upper Limb Using Surface Electromyography	FrBPO9.13 2996-2999
	Widjaja, Ferdinand* (Nanyang Technological University); Shee, Chengyap (Nanyang Technological University); POIGNET, Philippe (LIRMM, UMR CNRS 5506, University of Montpellier II); Ang, Wei Tech (Nanyang Technological University)	

11:10-12:30		FrBPO9.14
EMG-Biofeedback and Load Sharing Problem in Assistive and Rehabilitation Orthotic Devices	3000-3003	
<i>Rahimi, Fariborz* (University of Waterloo); Callaghan, Jack (University of Waterloo); Janabi-Sharifi, Farrokh (Ryerson University); Wang, David (University of Waterloo)</i>		
11:10-12:30		FrBPO9.15
Development of a Myoelectric Control Scheme Based on a Time Delayed Neural Network	3004-3007	
<i>Smith, Alan* (Rochester Institute of Technology); Nanda, Pooja (Rochester Institute of Technology); Brown, Edward (Rochester Institute of Technology)</i>		
FrBPO10: 11:10-12:30	Grand Ballroom - Salon E, F, G	
9.1.3 Internally Applied Therapeutic Devices II (Poster Session)		
11:10-12:30		FrBPO10.1
A Precision ECG Signal Generator Providing Full Lead II QRS Amplitude Variability and an Accurate Timing Profile.	3008-3011	
<i>Shorten, Gavin* (Trinity College Dublin); Burke, Martin J. (Trinity College Dublin)</i>		
11:10-12:30		FrBPO10.2
Defibrillator Synchronization Tester	3012-3015	
<i>Krajnak, Michael* (GE Healthcare); Demirbilek, Fatma (GE Healthcare); Stolarczyk, George (GE Healthcare)</i>		
11:10-12:30		FrBPO10.3
Heart Sounds Based Measures of Cardiac Status for Heart Failure Patient Management	3016-3019	
<i>Patangay, Abhilash* (Boston Scientific Corporation); Siejko, Kris (Boston Scientific Corporation); Wariar, Ramesh (Boston Scientific Corporation); DeLurgio, David (Emory Crawford Long Hospital); Leon, Angel (Emory Crawford Long Hospital)</i>		
11:10-12:30		FrBPO10.4
Predicting Charge-Times of Implantable Cardioverter Defibrillators	3020-3023	
<i>Gomadam, PARTHASARATHY* (Medtronic Inc); Brown, Jason (Medtronic Inc); Scott, Erik (Medtronic Inc); Schmidt, Craig (Medtronic Inc)</i>		
11:10-12:30		FrBPO10.5
Optimization of Antitachycardia Pacing Protocols Applied to Atrial Fibrillation: Insights from a Biophysical Model	3024-3027	
<i>Uldry, Laurent* (Swiss Federal Institute of Technology Lausanne (EPFL)); Virag, Nathalie (Medtronic Europe); Kappenberger, Lukas (University Hospital CHUV); Vesin, Jean-Marc (EPFL)</i>		
11:10-12:30		FrBPO10.6
Investigating Brain Hemodynamics of ADHD Patients by Functional Near Infrared Spectroscopy	3028-3030	
<i>Serap, Sinem* (Bogazici University)</i>		
11:10-12:30		FrBPO10.7
Automated Method for Calculation of a Load-Independent Index of Isovolumic Pressure Decay from Left Ventricular Pressure Data	3031-3034	
<i>Shmuylovich, Leonid* (Washington University in St Louis); Kovács, Sándor J (Washington University in St Louis)</i>		
11:10-12:30		FrBPO10.8
Endothelium Function Assessment with Radial Pulse Wave Signals	3035-3038	
<i>Wu, Hsien-Tsai* (National Dong Hwa University); Lee, Chun-Ho (National Dong Hwa University); Wu, Tsang-Chin (National Dong Hwa University); Liu, An-Bang (Buddhist Tzu Chi General Hospital)</i>		
11:10-12:30		FrBPO10.9
Dynamic Model-Inversion Techniques for Breath-By-Breath Measurement of Carbon Dioxide from Low-Bandwidth Sensors	3039-3042	
<i>Sivaramakrishnan, Shyam* (University of Minnesota); Rajamani, Rajesh (University of Minnesota); Johnson, Bruce (Mayo Clinic)</i>		
11:10-12:30		FrBPO10.10
Comparison of Conductance to Volume Equations: The Gain Coefficient ?	3043-3046	
<i>Porterfield, John* (The University of Texas at Austin); Pearce, John Anthony (University of Texas at Austin)</i>		

11:10-12:30	FrBPO10.11
Assessment of Synchronization Measures for Effective Ventricular Support by Using the Shape Memory Alloy Fibred Artificial Myocardium in Goats	3047-3050
Shiraishi, Yasuyuki* (Tohoku University); Yambe, Tomoyuki (Tohoku Univ); Sugai, Telma Keiko (Tohoku University)	
11:10-12:30	FrBPO10.12
Popliteal blood flow and plantar flexion force due to neuromuscular electrical stimulation (NMES) of the calf muscle pump are strongly associated with NMES intensity.	3051-3054
Corley, Gavin* (National University of Ireland Galway); Birlea, Sinziana Iulia (National University of Ireland, Galway); OLaighin, Gearoid (National University of Ireland Galway)	
11:10-12:30	FrBPO10.13
Preliminary Optimization of Non-Destructive High Intensity Focused Ultrasound Exposures for Hyperthermia Applications	3055-3059
Wang, Shutao (The George Washington University); Frenkel, Victor (NIH); Zderic, Vesna* (The George Washington University)	
11:10-12:30	FrBPO10.14
Geant4 Estimation Model of High Z Atom Concentration for Tumor Vessel Ablation	3060-3063
Huang, Ke* (Thomas Jefferson University Hospital); Pradhan, Anil (The Ohio State University); Nahar, Sultana (The Ohio State University); Montenegro, Maximiliano (The Ohio State University); Yan, Kaiguo (Thomas Jefferson University); Yu, Yan (Thomas Jefferson University Hospital)	
11:10-12:30	FrBPO10.15
Heating Properties of the Re-Entrant Type Cavity Applicator for Brain Tumor with Several Resonant Frequencies	3064-3067
Suzuki, Masataka* (Meiji University); Kato, Kazuo (Meiji University); Hirashima, Taku (Meiji University); Shindo, Yasuhiro (Meiji university)	
11:10-12:30	FrBPO10.16
Heating Properties of Needle Type Applicator Made of Shape Memory Alloy by 3-D Anatomical Human Head Model	3068-3071
Mimoto, Naoki* (Meiji University); Kato, Kazuo (Meiji University); Shindo, Yasuhiro (Meiji university)	
11:10-12:30	FrBPO10.17
Improvement of the Matching Speed of AIMS for Development of an Automatic Totally Tuning System for Hyperthermia Treatment Using a Resonant Cavity Applicator	3072-3075
Shindo, Yasuhiro* (Meiji university); Kato, Kazuo (Meiji University); Hirashima, Taku (Meiji University); Suzuki, Masataka (Meiji University)	
11:10-12:30	FrBPO10.18
Electromagnetic Measurement and Modeling Techniques for Microwave Ablation Probes	3076-3078
Brannan, Joseph* (Covidien, Energy-based Devices)	
11:10-12:30	FrBPO10.19
Evaluation of Three Automatic Oxygen Therapy Control Algorithms on Ventilated Low Birth Weight Neonates	3079-3082
Morozoff, Edmund* (Medtronic Inc.); Smyth, John (Children's and Womens Health Centre of British Columbia)	
11:10-12:30	FrBPO10.20
Fuzzy Control for Closed-Loop, Patient-Specific Hypnosis in Intraoperative Patients: A Simulation Study	3083-3086
Moore, Brett* (Texas Tech University); Doufas, Anthony (Stanford University); Pyeatt, Larry (Texas Tech University)	
11:10-12:30	FrBPO10.21
Mathematical Modeling of Triamcinolone Acetonide Drug Release from the I-Vation™ Intravitreal Implant (A Controlled Release Platform)	3087-3090
Barnett, Peter* (SurModics)	
11:10-12:30	FrBPO10.22
Primary Experimental Study on Safety of Deep Brain Stimulation in RF Electromagnetic Field	3091-3094
Xu, Jun (Tsinghua University); Li, Luming* (Tsinghua University); Hao, Hongwei (Tsinghua University)	

11:10-12:30	Construction of Modular Novel Bioartificial Liver Support System	FrBPO10.23 3095-3098
	<i>Liu, Jianfeng (Institute of Electrical Engineering, Chinese Academy of Sciences); Song, Tao* (Chinese Academy of Sciences); Jiang, Wei (Institute of Electrical Engineering, Chinese Academy of Sciences); Yimin, Zhang (Zhejiang University); Lanjuan, Li (Zhejiang University)</i>	
11:10-12:30	Direct Current Ablation Destroys Multi-Stage Fibrosarcomas in Rats	FrBPO10.24 3099-3104
	<i>Schroepel, Edward (OncoStim, Inc.); Kroll, Kai (OncoStim, Inc.); Damon, Michael (OncoStim, Inc.); Kroll, Ashford* (OncoStim, Inc.)</i>	
FrKN3L: 13:30-15:00		Grand Ballroom - Salon A
Theme Keynote III		
Chair: Zhi-Pei Liang, <i>Univ. of Illinois at Urbana-Champaign</i>		
Co-Chair: Gregory A. Worrell, <i>Mayo Clinic</i>		
13:30-14:15	Frontiers in Biomedical Imaging with Ultrahigh Magnetic Fields	FrKN3L.1 *
	<i>Ugurbil, Kamil* (University of Minnesota)</i>	
14:15-15:00	Magnetic Resonance Elastography	FrKN3L.2 *
	<i>Ehman, Richard L.* (Mayo Clinic)</i>	
FrC01: 13:30-15:00		Conrad B
1.2.3 Heart Sound Analysis (Oral Session)		
Chair: Todd R. Reed, <i>Univ. of Hawaii, Manoa</i>		
Co-Chair: Paulo Carvalho, <i>Univ. of Coimbra</i>		
13:30-13:45	A Computational Model of Cardiovascular Physiology and Heart Sound Generation	FrC01.1 3105-3110
	<i>Watrous, Raymond L.* (Zargis Medical Corporation)</i>	
13:45-14:00	A Portable Graphical Representation Tool for Phonocardiograms	FrC01.2 3111-3114
	<i>Reed, Nancy E.* (University of Hawaii); Nie, Yanhan (University of Hawaii); Mahnke, Christopher (TRIPLER ARMY MEDICAL CENTER)</i>	
14:00-14:15	Automated Heartsound Analysis/Computer-Aided Auscultation: A Cardiologist's Perspective and Suggestions for Future Development	FrC01.3 3115-3118
	<i>Mahnke, Christopher* (TRIPLER ARMY MEDICAL CENTER)</i>	
14:15-14:30	Noise Detection During Heart Sound Recording	FrC01.4 3119-3123
	<i>Kumar, Dinesh* (University of Coimbra); Carvalho, Paulo (University of Coimbra); Antunes, Manual (University of Coimbra); Henriques, Jorge (University of Coimbra)</i>	
14:30-14:45	Assessing Systolic Time-Intervals from Heart Sound: A Feasibility Study	FrC01.5 3124-3128
	<i>Carvalho, Paulo* (University of Coimbra); Paiva, Rui Pedro (University of Coimbra); Couceiro, Ricardo (University of Coimbra); Henriques, Jorge (University of Coimbra); Quintal, Isabel (Centro Hospitalar de Coimbra); Muehlsteff, Jens (Philips); Aubert, Xavier (Philips Research Laboratories Europe, Aachen, GERMANY); Antunes, Manual (University of Coimbra)</i>	
14:45-15:00	Assessing PEP and LVET from Heart Sounds: Algorithms and Evaluation	FrC01.6 3129-3133
	<i>Paiva, Rui Pedro* (University of Coimbra); Carvalho, Paulo (University of Coimbra); Aubert, Xavier (Philips Research Laboratories Europe, Aachen, GERMANY); Muehlsteff, Jens (Philips); Henriques, Jorge (University of Coimbra); Antunes, Manual (University of Coimbra)</i>	

FrC02: 13:30-15:00	Conrad C
1.5.1 Principal Component Analysis and Independent Component Analysis (Oral Session)	
Chair: Christopher James, <i>Univ. of Southampton</i>	

13:30-13:45	FrC02.1
Overcoming Measurement Time Variability in Brain Machine Interface	3134-3137
Gowreesunker, B. Vikrham* (University of Minnesota Twin Cities); Tewfik, Ahmed (University of Minnesota); Tadipatri, Vijay Aditya (University of Minnesota); Ince, Nuri Firat (University of Minnesota); Ashe, James (University of Minnesota); Pellizzer, Giuseppe (VA Medical Center)	
13:45-14:00	FrC02.2
An Optimal Spatial Filtering Electrode for Brain Computer Interface	3138-3141
Besio, W. G.* (University of Rhode Island); Kay, Steven (University of Rhode Island); Liu, Xiang (University of Rhode Island)	
14:00-14:15	FrC02.3
A Graph-Laplacian-Based Feature Extraction Algorithm for Neural Spike Sorting	3142-3145
Ghanbari, Yasser* (Southern Methodist University); Spence, Larry (Plexon Inc); Papamichalis, Panos (Southern Methodist University)	
14:15-14:30	FrC02.4
A Motion Sequence Fusion Technique Based on PCA for Activity Analysis in Body Sensor Networks	3146-3149
Ghasemzadeh, Hassan (University of Texas at Dallas); Guenterberg, Eric (University of California, Los Angeles); Ostadabbas, Sarah (University of Texas at Dallas); Jafari, Roozbeh* (University of Texas at Dallas)	
14:30-14:45	FrC02.5
Selective-Tap Blind Signal Processing for Speech Separation	3150-3153
Kokkinakis, Kostas (University of Texas at Dallas); Loizou, Philipos* (University of Texas at Dallas)	
14:45-15:00	FrC02.6
On Spatio-Temporal Component Selection in Space-Time Independent Component Analysis: An Application to Ictal EEG	3154-3157
James, Christopher* (University of Southampton); Demanuele, Charmaine (University of Southampton)	

FrC03: 13:30-15:00	Grand Ballroom - Salon B
2.5.3 Electrical Impedance Imaging (Oral Session)	
Chair: Ryan Halter, <i>Dartmouth Coll.</i>	

13:30-13:45	FrC03.1
Electrical Conductivity Imaging Using MRI Measurement of the Magnetic Field Vector	3158-3161
Joy, Michael L.G.* (University of Toronto); Nachman, Adrian I. (University of Toronto); DeMonte, Tim P. (Field Metrica Inc.); Wang, Dinghui (University of Toronto); Ma, Weijing (University of Toronto)	
13:45-14:00	FrC03.2
Electrical Conductivity Imaging Using Magnetic Resonance Tomography	3162-3164
Katscher, Ulrich* (Philips Research Europe - Hamburg); Voigt, Tobias (Philips Research Europe - Hamburg); Findeklee, Christian (Philips Research Europe - Hamburg)	
14:00-14:15	FrC03.3
Animal and Human Imaging Experiments in Magnetic Resonance Electrical Impedance Tomography (MREIT)	3165-3168
Woo, Eung Je* (Kyung Hee University)	
14:15-14:30	FrC03.4
Detection of Intraventricular Blood Using EIT in a Neonatal Piglet Model	3169-3172
Sadleir, Rosalind* (University of Florida); Tang, Te (University of Florida); Tucker, Aaron (University of Florida); Borum, Peggy (University of Florida); Weiss, Michael D. (University of Florida)	

14:30-14:45		FrC03.5
Magnetoacoustic Tomography with Magnetic Induction (MAT-MI) for Electrical Conductivity Imaging ... 3173-3176		
Li, Xu* (University of Minnesota); He, Bin (University of Minnesota)		
14:45-15:00		FrC03.6
In-Vivo Measurement of Relationship between Applied Current Amplitude and Current Density Magnitude from 10 Ma to 110 Ma	3177-3180	
DeMonte, Tim P.* (Field Metrica Inc.); Wang, Dinghui (University of Toronto); Ma, Angela W. (University of Toronto); Gao, Jia-Hong (University of Chicago); Joy, Michael L.G. (University of Toronto)		
FrC05: 13:30-15:00		Marquette IV & V
9.2.1 Neuromuscular Incapacitation Devices (Oral Session)		
Chair: Dorin Panescu, NewCardio, Inc.		
Co-Chair: Wayne McDaniel, Univ. of Missouri		
13:30-13:45		FrC05.1
Human Research Review of the Taser® Electronic Control Device	3181-3183	
Ho, Jeffrey* (University of MN-Hennepin Co Medical Center)		
13:45-14:00		FrC05.2
Electrical Parameters of Projectile Stun Guns	3184-3187	
McDaniel, Wayne* (University of Missouri)		
14:00-14:15		FrC05.3
Theoretical Comparisons of Nerve and Muscle Activation by Neuromuscular Incapacitation Devices 3188-3190		
Sweeney, James* (Florida Gulf Coast University)		
14:15-14:30		FrC05.4
Medical Safety of TASER Conducted Energy Weapon in a Hybrid 3-Point Deployment Mode	3191-3194	
Panescu, Dorin* (NewCardio, Inc.); Kroll, Mark (University of Minnesota); Stratbucker, Robert (Stratbucker & Associates)		
14:30-14:45		FrC05.5
Cardiac Effects of Varying Pulse Charge and Polarity of TASER® Conducted Electrical Weapons	3195-3198	
Kroll, Mark* (University of Minnesota); Panescu, Dorin (NewCardio, Inc.); Carver, Matthew (TASER International); Kroll, Ryan M (Medical Univ. of South Carolina); Hinz, Andrew (TASER International)		
14:45-15:00		FrC05.6
TASER Conducted Electrical Weapons and Implanted Pacemakers and Defibrillators	3199-3204	
Vanga, Subba Reddy (University of Kansas City Hospitals); Bommana, Sudha Rani (University of Kansas Hospitals); Kroll, Mark (University of Minnesota); Swerdlow, Charles (University of California Los Angeles); Lakkireddy, Dhanunjaya* (University of Kansas Hospitals)		
FrC06: 13:30-15:00		Conrad A
3.5.1 Wireless Sensors and Telemetry (Oral Session)		
Chair: Sameer Sonkusale, Tufts Univ.		
Co-Chair: Maysam Ghovanloo, Georgia Inst. of Tech.		
13:30-13:45		FrC06.1
Ultra-Low-Power Wearable Biopotential Sensor Nodes	3205-3208	
Yazicioglu, Refet Fırat (IMEC); Torfs, Tom (IMEC); Penders, Julien (Stichting IMEC Nederland); Romero, Iñaki (IMEC); Kim, Hyejung (KAIST); Merken, Patrick (IMEC); Gyselinckx, Bert (Stichting IMEC-NL); Yoo, Hoi-Jun (KAIST); Van Hoof, Chris* (IMEC)		
13:45-14:00		FrC06.2
Low Energy Wearable Body-Sensor-Network	3209-3212	
Yoo, Hoi-Jun* (KAIST); Cho, Namjun (KAIST); Yoo, Jerald (KAIST)		

14:00-14:15		FrC06.3
Circuit Techniques for Wireless Brain Interfaces	3213-3216	
Otis, Brian* (University of Washington); Moritz, Chet (University of Washington); Holleman, Jeremy (University of Washington); Mishra, Apurva (University of Washington); Pandey, Jagdish (University of Washington); Rai, Shailesh (UW); Yeager, Dan (UW); Zhang, Fan (UW)		
14:15-14:30		FrC06.4
Miniaturization of Implantable Wireless Power Receiver	3217-3220	
Poon, Ada S Y* (Stanford University)		
14:30-14:45		FrC06.5
Wireless Powering and Data Telemetry for Biomedical Implants	3221-3224	
Young, Darrin* (Case Western Reserve University)		
14:45-15:00		FrC06.6
Evaluation of the Autonomic Nervous System for Fall Detection	3225-3228	
Nocua Cifuentes, Ronald* (Université Joseph Fourier); Noury, Norbert (Université Claude Bernard Lyon 1); Gehin, Claudine (INSA Lyon); Dittmar, Andre (INSA Lyon); McAdams, Eric (University of Ulster)		

FrC07: 13:30-15:00	Marquette VII
12.1.3 Recent Advances in Novel Optical Imaging Technologies (Oral Session)	
Chair: Xingde Li, Johns Hopkins Univ.	
Co-Chair: Lev Perelman, Beth Israel Deaconess Medical Center, Harvard Medical School	

13:30-13:45	FrC07.1
Widefield Fluorescence Sectioning with HiLo Microscopy	3229-3230
Mertz, Jerome* (Boston University); Lim, Daryl (Boston University); Chu, Kengyeh K. (Boston University); Bozinovic, Nenad (Boston University); Ford, Timothy (Boston University)	
13:45-14:00	FrC07.2
Confocal Microscopy of Skin Cancers: Translational Advances Toward Clinical Utility	3231-3233
Rajadhyaksha, Milind* (Memorial Sloan-Kettering Cancer Center)	
14:00-14:15	FrC07.3
Depth Resolved Wide Field Illumination for Biomedical Imaging and Fabrication	3234-3235
So, Peter* (MIT); Kim, Daekeun (Massachusetts Institute of Technology)	
14:15-14:30	FrC07.4
Model Based Reconstruction for Simultaneously Imaging Cerebral Blood Flow and De-Oxygen Hemoglobin Distribution	3236-3239
Miao, Peng* (Shanghai Jiao Tong University); Li, Nan (Johns Hopkins University); Tong, Shanbao (Shanghai Jiao Tong University); Thakor, Nitish (Johns Hopkins University)	
14:30-14:45	FrC07.5
Characteristics of Motion Artifacts in Cardiac Optical Mapping Studies	3240-3243
Svrcek, Martin* (Brno University of Technology); Rutherford, Sally (University of Auckland); Chen, Andy (University of Auckland); Provaznik, Ivo (Brno University Of Technology); Smail, Bruce (University of Auckland)	
14:45-15:00	FrC07.6
Functional Imaging of Neoadjuvant Chemotherapy Response in Women with Locally Advanced Breast Cancer Using Diffuse Optical Spectroscopy	3244-3246
Soliman, Hany (University of Toronto, Sunnybrook Health Sciences Centre); Yaffe, Martin (University of Toronto); Czarnota, Gregory* (University of Toronto, Sunnybrook Health Sciences Centre)	

FrC08: 13:30-15:00	Marquette VIII
4.3.2 Model Identification and Parameter Estimation (Oral Session)	
Chair: May Dongmei Wang, Georgia Tech. and Emory Univ.	

13:30-13:45	FrC08.1
A Cell-Electrode Interface Noise Model for High-Density Microelectrode Arrays	3247-3250
Joye, Neil* (EPFL); Schmid, Alexandre (EPFL); Leblebici, Yusuf (EPFL)	

13:45-14:00		FrC08.2
Optimisation on the Least Squares Identification of Dynamical Systems with Application to Hemodynamic Modelling	3251-3254	
Pan, Yi* (University of Sheffield); Zheng, Ying (University of Sheffield); Harris, Sam (University of Sheffield); Coca, Danial (University of Sheffield); Johnston, David (University of Sheffield); Mayhew, John (university of Sheffield); Billings, Stephen (University of Sheffield)		

14:00-14:15		FrC08.3
Free-Knot Spline Model for Analysis of Pulmonary Function	3255-3258	
Lee, Yong Wan* (University of Minnesota); Lee, Jongwon (UNIVERSITY OF MINNESOTA); Yoo, Wha (Physical Medicine and Rehabilitation Science Department, University of Minnesota, Minneapolis); Yoo, Hyeong (School of Computer Science and Engineering, Inha University, Incheon, 402-751 Korea); Warwick, Warren J. (University of Minnesota)		

14:15-14:30		FrC08.4
Fitting rVOR Responses Using Current Models	3259-3262	
Bertolini, Giovanni* (University of Pavia); Palla, Antonella (Zürich University Hospital); Ramat, Stefano (Università di Pavia)		

14:30-14:45		FrC08.5
Parameter Estimation in Rational Models of Molecular Biological Systems	3263-3266	
Wu, FangXiang* (University of Saskatchewan)		

14:45-15:00		FrC08.6
Modeling of Segmentation Clock Mechanism in Presomitic Mesoderm	3267-3270	
Kazama, Akihiro (Tohoku University); Karashima, Akihiro (Tohoku University); Katayama, Norihiro (Tohoku univ); Nakao, Mitsuyuki* (Tohoku University)		

FrC09: 13:30-15:00		Marquette II
5.3.2 Cardiac Electrophysiology (Mapping, CRT, ICD, Ablation, Arrhythmias) (Oral Session)		
Chair: Nick Skadsberg, Medtronic, Inc. Co-Chair: Guanglin Li, Chinese Acad. of Sciences		

13:30-13:45		FrC09.1
Noninvasive Three-Dimensional Cardiac Activation Imaging on a Rabbit Model	3271-3273	
Han, Chengzong* (University of Minnesota); Liu, Chenguang (University of Minnesota); Pogwizd, Steven (University of Illinois at Chicago); He, Bin (University of Minnesota)		

13:45-14:00		FrC09.2
Electrocardiographic Inverse Problem: Spatial Characterization of the Left Ventricle Potential	3274-3277	
Stenroos, Matti* (Helsinki University of Technology); Toivonen, Lauri (Helsinki University Central Hospital)		

14:00-14:15		FrC09.3
A Computer Study of the Effects of Branching Dimension on Safety Factor Distribution and Propagation in a Cardiac Conduction Network	3278-3281	
Zhao, Jichao* (University of Auckland); Smaill, Bruce (University of Auckland); Pullan, Andrew (University of Auckland)		

14:15-14:30		FrC09.4
Exit vs. Entrance Block Testing for Cardiac Lesion Assessment	3282-3285	
Ahlberg, Sarah* (Medtronic, Inc.); Hong, Jinback (Medtronic); Stewart, Mark (Medtronic CardioVascular); Francischelli, David (Medtronic, Inc.); Kress, David C (Aurora St. Luke's Medical Center)		

14:30-14:45		FrC09.5
Computer Simulation Comparison of Tripolar, Bipolar, and Spline Laplacian Electrocardiogram Estimators	3286-3289	
Chen, Ting (Louisiana Tech University); Besio, W. G.* (University of Rhode Island); Dai, Weizhong (Louisiana Tech University)		

14:45-15:00		FrC09.6
Near-Realtime Simulations of Bioelectric Activity in Small Mammalian Hearts Using Graphical Processing Units	3290-3293	
Vigmond, Edward (University of Calgary); Boyle, Patrick M.* (University of Calgary); Leon, Josh (Dalhousie University); Plank, Gernot (Medical University of Graz)		

FrC10: 13:30-15:00		Grand Ballroom - Salon C
6.7.2 Deep Brain Stimulation I (Oral Session)		
Chair: Kendall Lee, Mayo Clinic		
Co-Chair: David Mogul, Illinois Inst. of Tech.		

13:30-13:45		FrC10.1
Microthalamotomy Effect During Deep Brain Stimulation: Potential Involvement of Adenosine and Glutamate Efflux	3294-3297	
Chang, Su-Youn (Mayo Clinic); Shon, Young-Min (Mayo Clinic); Agnesi, Filippo (Mayo Clinic); Lee, Kendall* (Mayo Clinic)		

13:45-14:00		FrC10.2
High Efficiency Electrodes for Deep Brain Stimulation	3298-3301	
Grill, Warren* (Duke University); Wei, Xuefeng F. (Duke University)		

14:00-14:15		FrC10.3
Neuronal Pathways Involved in Deep Brain Stimulation of the Subthalamic Nucleus for Treatment of Parkinson's Disease	3302-3305	
Lester, Deranda (University of Memphis); Rogers, Tiffany (University of Memphis); Blaha, Charles* (University of Memphis)		

14:15-14:30		FrC10.4
Using Fast-Scan Cyclic Voltammetry to Evaluate Striatal Dopamine Release Elicited by Subthalamic Nucleus Stimulation	3306-3309	
Covey, Daniel (Mayo Clinic); Garris, Paul* (Mayo Clinic)		

14:30-14:45		FrC10.5
Modulation of Instantaneous Synchrony During Seizures by Deep Brain Stimulation	3310-3313	
Fine, Ananda (University of Illinois at Chicago); Nicholls, David (University of Illinois at Chicago); Mogul, David* (Illinois Institute of Technology)		

14:45-15:00		FrC10.6
Modulation of Arousal Regulation with Central Thalamic Deep Brain Stimulation	3314-3317	
Shah, Sudhin A* (Weill Cornell Graduate School of Biomedical Sciences); Baker, Jonathan (Weill Cornell Medical College); Ryou, Jae-Wook (Weill Cornell Medical College); Purpura, Keith (Weill Cornell Graduate School of Biomedical Sciences); Schiff, Nicholas (Weill Cornell Medical College)		

FrC11: 13:30-15:00		Marquette I
6.1.1 Neural Modeling and Computing I (Oral Session)		
Chair: John White, University of Utah		
Co-Chair: Tay Netoff, Univ. of Minnesota		

13:30-14:00		FrC11.1
Kalman Meets Neuron: The Emerging Intersection of Control Theory with Neuroscience	3318-3321	
Schiff, Steven* (Pennsylvania State University)		

14:00-14:15		FrC11.2
Seizure Prediction Using Support Vector Machine	3322-3325	
Netoff, Tay* (University of Minnesota)		

14:15-14:30		FrC11.3
Models of the Peripheral Nerves for Detection and Control of Neural Activity	3326-3329	
Durand, Dominique* (Case Western Reserve University); Wodlinger, Brian (Case Western Reserve University); Park, Hyunjoo (Case Western Reserve University)		

14:30-14:45		FrC11.4
Nonlinear Model of Single Hippocampal Neurons with Dynamical Thresholds	3330-3334	
Lu, Ude* (University of Southern California); Song, Dong (University of Southern California); Berger, Theodore (University of Southern California)		
14:45-15:00		FrC11.5
Biophysical Synaptic Dynamics in an Analog VLSI Network of Hodgkin-Huxley Neurons	3335-3338	
Yu, Theodore* (UCSD); Cauwenberghs, Gert (University of California San Diego)		
FrC12: 13:30-15:00		Marquette VI
7.6.1 Cellular Force Transduction (Oral Session)		
Chair: Nathan Sniadecki, University of Washington		
Co-Chair: Kris Noel Dahl, Carnegie Mellon University		
13:30-14:00		FrC12.1
Traction Forces and Rigidity Sensing of Adherent Cells	3339-3340	
Wang, Yu-li* (Carnegie Mellon University)		
14:00-14:15		FrC12.2
The Foldome in Cellular Force Transduction	3341-3342	
Discher, Dennis* (University of Pennsylvania)		
14:15-14:30		FrC12.3
The Effects of Substrate Elasticity on Endothelial Cell Network Formation and Traction Force Generation	3343-3345	
Califano, Joseph P. (Cornell University); Reinhart-King, Cynthia A.* (Cornell University)		
14:30-14:45		FrC12.4
Distribution of Traction Forces Associated with Shape Changes During Amoeboid Cell Migration	3346-3349	
Lasheras, Juan C.* (University of California San Diego)		
14:45-15:00		FrC12.5
Cell-Matrix Mechanobiology: Applications to Brain Tumors and Design of Tissue Engineering Scaffolds	3350-3352	
Kumar, Sanjay* (University of California, Berkeley)		
FrC13: 13:30-15:00		Conrad D
8.4.1 Human-Robot Interaction I (Oral Session)		
Chair: José del R. Millán, Swiss Federal Inst. of Tech. Lausanne		
Co-Chair: Jose M. Carmena, Univ. of California, Berkeley		
13:30-13:45		FrC13.1
Non-Invasive Control of Neuroprostheses for the Upper Extremity: Temporal Coding of Brain Patterns	3353-3356	
Müller-Putz, Gernot* (Graz University of Technology); Scherer, Reinhold (Graz University of Technology); Neuper, Christa (Graz University of Technology); Pfurtscheller, Gert (Graz University of Technology); Rupp, Rüdiger (Heidelberg University)		
13:45-14:00		FrC13.2
Knowing When to Assist: Developmental Issues in Lifelong Assistive Robotics	3357-3360	
Demiris, Yiannis* (Imperial College London)		
14:00-14:15		FrC13.3
Asynchronous Non-Invasive Brain-Actuated Control of an Intelligent Wheelchair	3361-3364	
Millán, José del R.* (Swiss Federal Institute of Technology, Lausanne)		
14:15-14:30		FrC13.4
An Actor-Critic Architecture and Simulator for Goal-Directed Brain-Machine Interfaces	3365-3368	
Mahmoudi, Babak* (University of Florida); Principe, Jose (University of Florida); Sanchez, Justin C. (University of Florida)		

14:30-14:45		FrC13.5
Neural Prosthetic Systems: Current Problems and Future Directions	3369-3375	
Chestek, Cynthia* (Stanford University); Cunningham, John Patrick (Stanford University); Gilja, Vikash (Stanford University); Nuyujukian, Paul (Stanford University); Ryu, Stephen (Stanford University); Shenoy, Krishna (Stanford University)		

14:45-15:00		FrC13.6
Toward a Biomimetic, Bidirectional, Brain Machine Interface	3376-3380	
Fagg, Andrew (University of Oklahoma); Hatsopoulos, Nicholas (University of Chicago); London, Brian (Northwestern University); Reimer, Jacob (University of Chicago); Solla, Sara A. (Feinberg School of Medicine, Northwestern University); Wang, Di (University of Oklahoma); Miller, Lee* (Northwestern University)		

FrC14: 13:30-15:00		Marquette III
9.1.2 Ablation Therapies (Oral Session)		
Chair: Timothy Bigelow, Iowa State Univ. Co-Chair: John Anthony Pearce, Univ. of Texas at Austin		

13:30-13:45		FrC14.1
Cardiac Ablation Via Electroporation	3381-3384	
Hong, Jinback* (Medtronic); Stewart, Mark (Medtronic CardioVascular); Cheek, Daniel (Medtronic); Francischelli, David (Medtronic, Inc.); Kirchhof, Nicole (Medtronic)		

13:45-14:00		FrC14.2
1-D Steady State Analysis of a Two-Equation Coupled System for Determination of Tissue Temperature in Liver During Radio Frequency Ablation	3385-3388	
Peng, Tingying* (University of Oxford); O'Neill, David Patrick (University of Oxford); Payne, Stephen John (University of Oxford)		

14:00-14:15		FrC14.3
Heating Properties of Non-Invasive Hyperthermia Treatment for Abdominal Deep Tumors by 3-D FEM	3389-3392	
Morita, Emi* (Meiji University); Kato, Kazuo (Meiji University); Ono, Shintaro (Meiji University); Shindo, Yasuhiro (Meiji university)		

14:15-14:30		FrC14.4
Improved Heating Efficiency with High-Intensity Focused Ultrasound Using a New Ultrasound Source Excitation	3393-3396	
Bigelow, Timothy* (Iowa State University)		

14:30-14:45		FrC14.5
Quantification and Controllability Study of Minimally Invasive Exothermic Chemo-Ablation Therapy for Tumor Ablation	3397-3400	
Liu, Ran* (Tsinghua University); Liu, Jing (Tsinghua University)		

14:45-15:00		Author unavailable for presentation
The Development of a Novel Radiation Treatment Modality– Volumetric Modulated Arc Therapy	3401-3404	
Song, Yulin* (Memorial Sloan-Kettering Cancer Ctr); Zhang, Pengpeng (Memorial Sloan-Kettering Cancer Center); Wang, Ping (Memorial Sloan-Kettering Cancer Center); Obcemea, Ceferino (Memorial Sloan-Kettering Cancer Center); Mueller, Boris (Memorial Sloan-Kettering Cancer Center); Burman, Chandra (Memorial Sloan-Kettering Cancer Center); Mychalczak, Borys (Memorial Sloan-Kettering Cancer Center)		

FrC15: 13:30-15:00		Marquette IX
10.5.1 Computer-Aided Decision Making I (Oral Session)		
Chair: Donna L. Hudson, Univ. of California, San Francisco Co-Chair: Raouf Naguib, Coventry Univ.		

13:30-13:45		FrC15.1
Multidimensional Medical Decision Making	3405-3408	
Hudson, Donna L* (University of California, San Francisco); Cohen, Maurice (University of California San Francisco)		

13:45-14:00		FrC15.2
Fuzzy Naive Bayesian Model for Medical Diagnostic Decision Support	3409-3412	
Wagholicar, Kavishwar* (University of Pune); Vijayraghavan, Sundararajan (Center for Development of Advanced Computing (CDAC)); Deshpande, Ashok (University of California,)		
14:00-14:15		FrC15.3
Piecewise-Linear Trend Detection in Longitudinal Physiological Measurements	3413-3416	
Redmond, Stephen James* (University of New South Wales); Basilakis, Jim (University of NSW); Celler, Branko George (University of New South Wales); Lovell, Nigel H (University of New South Wales)		
14:15-14:30		FrC15.4
A Platform for Testing and Comparing of Real-Time Decision-Support Algorithms in Mobile Environments	3417-3420	
Khitrov, Maxim* (U.S. Army Medical Res. and Materiel Command); Rutishauser, Matthew (Intelesense Technologies, Inc.); Montgomery, Kevin (Intelesense Technologies); Reisner, Andrew (Massachusetts General Hospital); Reifman, Jaques (U.S. Army Medical Research)		
14:30-14:45		FrC15.5
REFEROCOD: A Probabilistic Method to Medical Coding Support	3421-3424	
Lecornu, Laurent* (GET ENST Bretagne); THILLAY, Gregoire (Institut Telecom, telecom Bretagne); Le Guillou, Clara (University Hospital); Garreau, Pierre Jean (University Hospital (CHU)); SALIOU, Philippe (University Hospital (CHU)); JANTZEM, Hélène (University Hospital (CHU)); Puentes, John (TELECOM Bretagne - INSERM); Cauvin, Jean-Michel (University Hospital (CHU))		
14:45-15:00		FrC15.6
Decision Support System for Resource Allocation in Emergency Management	3425-3428	
Kondaveti, Russell* (University of Massachusetts, Amherst); Ganz, Aura (University of Massachusetts, Amherst)		

FrC17: 13:30-15:00	Directors Row 4
SS 1. Meet the Editors (Special Session)	
Chair: Andrew Laine, Columbia Univ.	
Co-Chair: Bruce Wheeler, Univ. of Florida	

FrDPo01: 15:00-16:40	Grand Ballroom - Salon E, F, G
1.3.4 Biomedical Nonlinear Dynamics (Poster Session)	
15:00-16:40	FrDPo01.1
Fractal, Entropic and Chaotic Approaches to Complex Physiological Time Series Analysis: A Critical Appraisal	3429-3432
Li, Cheng (Fudan University); Ding, Guang-Hong (Fudan University); Wu, Guoqiang (Fudan University); Poon, Chi-Sang* (Massachusetts Institute of Technology)	
15:00-16:40 Author unavailable for presentation	FrDPo01.2
Bifurcations in Morris-Lecar Model Exposed to DC Electric Field	3433-3436
Che, Yanqiu (Tianjin University); Wang, Jiang* (Tianjin University); Li, Huiyan (Tianjin Univ of Technology & Ed); wei, xile (Tianjin University); Deng, Bin (Tianjin Universiy); Dong, Feng (tianjin University)	
15:00-16:40	FrDPo01.3
A Comparison of Linear and Chaotic Measures for Rat Hippocampal EEG during Different Vigilance States	3437-3440
Ning, Taikang* (Trinity College); Grare, Adam (Trinity College); Ning, James (Dartmouth College)	
15:00-16:40	FrDPo01.4
Detrended Fluctuation Analysis of EEG in Detecting Cross Modal Plasticity in Brain for Blind	3441-3444
Manickam, Kalaivani* (Jerusalem College of Engineering,); Gurubharan, Ravindaran (Anna University)	

15:00-16:40	FrDPo01.5
Somatosensory-Evoked Potentials and Cortical Activities Evoked by Magnetic Stimulation on Acupoint in Human	3445-3448
Yu, Hongli* (Hebei University of Technology); Xu, Guizhi (Hebei University of Technology); Yang, Ruiyuan (Hebei University of Technology); Yang, Shuo (Hebei University of Technology); Geng, Yuehua (Hebei University of Technology); Li, Ying (Hebei University of Technology); Dong, Guoya (Hebei University of Technology)	
15:00-16:40	FrDPo01.6
Modeling of the Steady-State Disturbance Term in Isometric Force Using Components of the Power Spectrum.	3449-3452
Stitt, Joseph* (Pennsylvania State University); Newell, Karl (Pennsylvania State University)	
15:00-16:40	FrDPo01.7
Analysis of RR Intervals Time Series of Congestive Heart Failure Patients with Higuchi's Fractal Dimension	3453-3456
Muñoz-Diosdado, Alejandro* (Instituto Politécnico Nacional México); Gálvez-Coyt, Gonzalo (UPIBI, Instituto Politécnico Nacional MEXICO); Arellanes, Jazmin (UPIBI-IPN); Perez Uribe, Brenda Magdalena (UPIBI-IPN)	
15:00-16:40 Author unavailable for presentation	FrDPo01.8
Robust Complete Synchronization of Electrical Coupling Neurons under Uncertain Heterogeneous Disturbances Using Adaptive Internal Model	3457-3460
wei, xile (Tianjin University); Wang, Jiang* (Tianjin University); Che, Yanqiu (Tianjin University); Deng, Bin (Tianjin University); Dong, Feng (Tianjin University)	
15:00-16:40	FrDPo01.9
Measuring Body Temperature Time Series Regularity Using Approximate Entropy and Sample Entropy	3461-3464
Cuesta-Frau, David* (Polytechnic University of Valencia); Miró i Martínez, Pau (Universidad Politécnica de Valencia); Oltra Crespo, Sandra (Universidad Politécnica de Valencia); varela, manuel (hospital de mostoles); Aboy, Mateo (Oregon Institute of Technology); Novak, Daniel (Czech Technical University in Prague); Austin, Daniel (University of Southern California)	
15:00-16:40	FrDPo01.10
Screening of Patients with Obstructive Sleep Apnea Syndrome Using C4.5 Algorithm Based on Non Linear Analysis of Respiratory Signals During Sleep	3465-3469
Kaimakamis, Evangelos* (Aristotle University of Thessaloniki); Bratsas, Charalampos (Aristotle University of Thessaloniki); Sichletidis, Lazaros (Aristotle University of Thessaloniki); Karvounis, Charalampos (AHEPA Hospital Aristotle University of Thessaloniki); Maglaveras, Nikolaos (Aristotle University of Thessaloniki)	
15:00-16:40	FrDPo01.11
Analysis of Epicardial Mapping Electrogram of Sustained Atrial Fibrillation Based on Shannon Entropy	3470-3472
Zhou, Tuo* (Fudan University of China); LIN, Dudu (FUDAN UNIVERSITY); Yang, Cuiwei (Fudan University); Wu, Xiaomei (Fudan University); Fang, Zuxiang (Fudan University)	
15:00-16:40	FrDPo01.12
Automatic Identification of Various Nuclei in the Basal Ganglia for Parkinson's Disease Neurosurgery	3473-3476
Pinzon Morales, Ruben Dario* (Universidad Tecnologica de Pereira); Garcés-Arboleda, Maribel (Universidad Tecnológica de Pereira); Orozco, Alvaro (Universidad Tecnológica de Pereira)	
15:00-16:40	FrDPo01.13
Nonlinearity Testing in the Case of Non Gaussian Surrogates, Applied to Improving Analysis of Synchronicity in Uterine Contraction	3477-3480
TERRIEN, Jeremy* (Reykjavik University); HASSAN, Mahmoud (UTC-France); GERMAIN, Guy (CEA-INSERM); Marque, Catherine (University of technology of compiegne); Karlsson, Brynjar (Reykjavik University)	
15:00-16:40	FrDPo01.14
Radial Basis Function Neural Network-based PID Model for Functional Electrical Stimulation System Control	3481-3484
Cheng, Longlong (Tianjin University); Wan, Bai-kun (Tianjin University); Qi, Hongzhi (Tianjin University); Ming, Dong* (Tianjin University)	

15:00-16:40		FrDPo01.15
Study of the MEG Background Activity in Alzheimer's Disease Patients with Scaling Analysis Methods	3485-3488	
Gomez, Carlos (University of Valladolid, CIF: Q4718001C); Hornero, Roberto* (University Of Valladolid); Abásolo, Daniel (University of Valladolid); Fernandez, Alberto (Universidad Complutense de Madrid); Poza, Jesús (University of Valladolid)		

FrDPo02: 15:00-16:40	Grand Ballroom - Salon E, F, G
1.9.3 Pattern Recognition Methods for Data Mining (Poster Session)	

15:00-16:40		FrDPo02.1
Optimal Sensor Location for Body Sensor Network to Detect Self-Stimulatory Behaviors of Children with Autism Spectrum Disorder	3489-3492	
Min, Cheol-Hong* (University of Minnesota); Tewfik, Ahmed (University of Minnesota); Kim, Youngchun (University of Minnesota); Menard, Rigel (University of Minnesota)		

15:00-16:40		FrDPo02.2
Detection and Prediction of Concentrations of Neurotransmitters Using Voltammetry and Pattern Recognition	3493-3496	
Sazonova, Nadezhda* (Clarkson University); Njagi, John I. (Clarkson University); Marchese, Zachary (Clarkson University); Ball, Michael (Clarkson University); Andreeescu, Silvana (Clarkson University); Schuckers, Stephanie (Clarkson University)		

15:00-16:40		FrDPo02.3
A Multi-Level Parcellation Approach for Brain Functional Connectivity Analysis	3497-3500	
Karkar, Slim* (Université de Strasbourg); Faisan, Sylvain (LSIIT); Thoraval, Laurent (Strasbourg University); Foucher, Jack R (INSERM)		

15:00-16:40		FrDPo02.4
Audio Sound Event Identification for Distress Situations and Context Awareness	3501-3504	
Rougui, Jamal Eddine* (ESIGETEL, Ecole supérieur d'ingénieur); Istrate, Dan (ESIGETEL); Soudene, Wieded (ESIGETEL, Ecole supérieur d'ingéneieur)		

15:00-16:40		FrDPo02.5
Acoustic Fall Detection Using One-Class Classifiers	3505-3508	
Popescu, Mihail* (University of Missouri); Mahnot, Abhishek (University of Missouri)		

15:00-16:40 Author unavailable for presentation		FrDPo02.6
Integrity Mechanism for eHealth Tele-monitoring System in Smart Home Environment	3509-3512	
Mantas, Georgios (University of Patras); Lymberopoulos, Dimitrios (University of Patras); Komninos, Nikos* (Athens Information Technology)		

FrDPo03: 15:00-16:40	Grand Ballroom - Salon E, F, G
2.4.2 X-ray CT (Poster Session)	

15:00-16:40		FrDPo03.1
X-Ray Elastography: A Feasibility Study	3513-3516	
Kim, Gyu Won (Kyung Hee University); Choi, J. M. (Kyung Hee University); Han, Byung Hee (Kyung Hee University); Cho, Min Hyoung (Kyung Hee University); Lee, Soo Yeol* (Kyung Hee University)		

15:00-16:40		FrDPo03.2
Detection of the Root Canal's Centerline from Dental Micro-CT Records	3517-3520	
Benyo, Balazs Istvan (Szechenyi Istvan University); Szilagyi, Laszlo (Budapest Univ of Tech & Economics); Haidegger, Tamas* (Budapest University of Technology and Economics/Dept. of Control Engineering and Information Technology (BME - IIT)); Kovacs, Levente (Budapest Univ of Tech & Economics); Dobó-Nagy, Csaba (Semmelweis University)		

15:00-16:40		FrDPo03.3
A Personalized and Optimal Approach for Dosing Contrast Material at Coronary Computed Tomography Angiography	3521-3524	
Kalafut, John* (MEDRAD Inc); Kemper, Corey (MEDRAD Inc); Suranyi, Pal (Medica University of South Carolina); Schoepf, U Joseph (Medical University of South Carolina)		

15:00-16:40		FrDPo03.4
Long Term Three Dimensional Tracking of Orthodontic Patients Using Registered Data from CBCT and Photogrammetry	3525-3528	
<i>Boulanger, Pierre* (University of Alberta); Flores-Mir, Carlos (University of Alberta); Ramirez, Juan (National University of Colombia); Mesa, Elizabeth (National University of Colombia); Branch, John (National University of Colombia)</i>		
15:00-16:40		FrDPo03.5
Comparative Study of Two Image Space Noise Reduction Methods for Computed Tomography: Bilateral Filter and Nonlocal Means	3529-3532	
<i>Ramirez Giraldo, Juan Carlos* (Mayo Graduate School, Mayo Clinic); Kelm, Zachary (Mayo Clinic); Guimaraes, Luis (Mayo Clinic); Yu, Lifeng (Mayo Clinic); Fletcher, Joel (Mayo Clinic); Erickson, Bradley (Mayo Clinic); McCollough, Cynthia (Mayo Clinic)</i>		
15:00-16:40		FrDPo03.6
Hierarchical Object Recognition in Pelvic CT Images	3533-3536	
<i>Vasilache, Simina* (Virginia Commonwealth University); Chen, Wenan (Virginia Commonwealth University); Najarian, Kayvan (Virginia Commonwealth University)</i>		
15:00-16:40		FrDPo03.7
A Study on Using Texture Analysis Methods for Identifying Lobar Fissure Regions in Isotropic CT Images	3537-3540	
<i>Wei, Qiao (University of Calgary); Hu, Yaoping* (The University of Calgary)</i>		
15:00-16:40 Author unavailable for presentation		FrDPo03.8
4D CT Image Simulation Using B-Spline Deformable Model and Cosine Interpolation of Deformation Field	3541-3544	
<i>Tian, Zhen (Tsinghua University); Yuan, Kehong* (Tsinghua University); Bai, Yanling (Tumor Hospital, Harbin Medical University)</i>		
15:00-16:40		FrDPo03.9
Image Analysis for Cystic Fibrosis: Automatic Lung Airway Wall and Vessel Measurement on CT Images	3545-3548	
<i>Mumcuoglu, Erkan* (The Ohio State University); Prescott, Jeffrey William (Ohio State University); Baker, Brian (Ohio State University); Clifford, Bronte (Nationwide Children's Hospital); Frederick, Long R. (Children's Hospital); Castile, Robert G. (Ohio State University School of Medicine and Public Health); Gurcan, Metin (The Ohio State University)</i>		
15:00-16:40		FrDPo03.10
Dental Identification System Based on Unwrapped CT Image	3549-3552	
<i>Tohnak, Sirilawan* (The University of Queensland); Mehnert, Andrew James Heinrich (The University of Queensland); Mahoney, Michael (The University of Queensland); Crozier, Stuart (The University of Queensland)</i>		
15:00-16:40		FrDPo03.11
Automated Segmentation for Patella from Lateral Knee X-Ray Images	3553-3556	
<i>Chen, Hsin-Chen (National Cheng Kung University); Wu, Chia-Hsing (National Cheng Kung University); Lin, Chii-Jeng (National Cheng Kung Medical Center); Liu, Yuh-Hwan (Chia Nan Univ of Pharmacy & Science); Sun, Yung-Nien* (National Cheng Kung University)</i>		
15:00-16:40		FrDPo03.12
Automated Recognition of the Psoas Major Muscles on X-Ray CT Images	3557-3560	
<i>Kamiya, Naoki* (Graduate School of Medicine, Gifu University); Zhou, Xiangrong (Gifu University); Chen, Huayue (Graduate School of Medicine, Gifu University); Hara, Takeshi (Gifu Univ Graduate Sch of Medicine); Fujita, Hiroshi (Gifu University); Yokoyama, Ryujiro (Gifu University); kanematsu, massayuki (gifu univ); Hoshi, Hiroaki (Gifu University)</i>		
15:00-16:40		FrDPo03.13
Gradient Vector Flow Based Active Shape Model for Lung Field Segmentation in Chest Radiographs	3561-3564	
<i>Xu, Tao (University of Alberta); Mandal, Mrinal (University of Alberta); Long, Richard (University of Alberta); Basu, Anup* (University of Alberta)</i>		

15:00-16:40		FrDPo03.14
Automated Liver Segmentation for Whole-Body Low-Contrast CT Images from PET/CT Scanners	3565-3568	
Wang, Xiu Ying (The University of Sydney); Li, Changyang* (University of Sydney); Eberl, Stefan (Royal Prince Alfred Hospital); Feng, Dagan (The University of Sydney)		
15:00-16:40		FrDPo03.15
Automatic Delineation of the Inner Thoracic Region in Non-Contrast CT Data	3569-3572	
Chittajallu, Deepak Roy (University of Houston); balanca, paul (University of Houston); Kakadiaris, Ioannis* (University of Houston)		
15:00-16:40		FrDPo03.16
Automated Measurement of Bone-Mineral-Density (BMD) Values of Vertebral Bones Based on X-Ray Torso CT Images	3573-3576	
Zhou, Xiangrong* (Gifu University); Hayashi, Tatsuro (Gifu University); Chen, Huayue (Graduate School of Medicine, Gifu University); Hara, Takeshi (Gifu Univ Graduate Sch of Medicine); Fujita, Hiroshi (Gifu University); Yokoyama, Ryujiro (Gifu University); kanematsu, massayuki (gifu univ); Hoshi, Hiroaki (Gifu University)		
15:00-16:40		FrDPo03.17
Precision of Syndesmophyte Volume Measurement for Ankylosing Spondylitis: A Phantom Study Using High Resolution CT	3577-3580	
Tan, Sovira* (NIH); Yao, Jianhua (National Institutes of Health); Yao, Lawrence (NIH); Ward, Michael (NIH)		

15:00-16:40		FrDPo03.18
A Method for Automatic Detection and Classification of Stroke from Brain CT Images	3581-3584	
Chawla, Mayank (International Institute of Information Technology, Hyderabad); Sharma, Saurabh (International Institute of Information Technology, Hyderabad); Sivaswamy, Jayanthi* (International Institute of Information Technology-Hyderabad); LT, Kishore (Care Hospital)		

FrDPo04: 15:00-16:40		Grand Ballroom - Salon E, F, G
2.7.4 Biomedical Image Analysis and Processing (Poster Session)		

15:00-16:40		FrDPo04.1
Detection of the Temporal Arcade in Fundus Images of the Retina Using the Hough Transform	3585-3588	
Oloumi, Faraz* (University of Calgary); Rangayyan, Raj (University of Calgary)		
15:00-16:40		FrDPo04.2
Exploiting the Multiplicative Nature of Fluoroscopic Image Stochastic Noise to Enhance Calcium Imaging Recording Quality	3589-3592	
Esposti, Federico (Politecnico di Milano); Ripamonti, Maddalena (Università Vita e Salute San Raffaele); Signorini, Maria G.* (Politecnico di Milano)		
15:00-16:40		FrDPo04.3
Sharpening of Neurite Morphology Using Complex Coherence Enhanced Diffusion	3593-3596	
Mustaffa, Izadora* (Saarland Univ Hospital); Trenado, Carlos (Saarland University Hospital); Abdul Rahim, Hazli Rafis (Saarland University Hospital); Schaefer, Karl-Herbert (University of Applied Sciences Kaiserslautern); Strauss, Daniel J. (Comp. Diagn. & Biocyb. Unit)		
15:00-16:40		FrDPo04.4
Automatic Analysis of Local Nasal Features in 22q11.2DS Affected Individuals	3597-3600	
Wu, Jia (University of Washington); Wilamowska, Katarzyna* (University of Washington); Shapiro, Linda G. (University of Washington); Heike, Carrie (University of Washington)		
15:00-16:40		FrDPo04.5
Enhancement of the Classification of Multichannel Chromosome Images Using Support Vector Machines	3601-3604	
Karvelis, Petros* (University of Ioannina); Fotiadis, Dimitrios I. (University of Ioannina); Georgiou, Ioannis (University of Ioannina)		
15:00-16:40		FrDPo04.6
Quantification of SPIO Nanoparticles Using Phase Gradient Mapping	3605-3608	
Langley, Jason* (University of Georgia); Zhao, Qun (University of Georgia)		

15:00-16:40	Automatic Detection of Pathological Myopia Using Variational Level Set	FrDPo04.7 3609-3612
	Tan, Ngan Meng* (A*STAR, Institute for Infocomm Research); Liu, Jiang (Inst for Infocomm Resrch, A STAR); Wong, Damon (Institute for Infocomm Research); Lim, Joo Hwee (Institute for Infocomm Research); Zhang, Zhuo (A*STAR); Lu, Shijian (Inst for Infocomm Research, A STAR); Li, Huiqi (Institute for Infocomm Research); Saw, Seang Mei (National University of Singapore); Tong, Louis (Singapore National Eye Centre); Wong, Tien Yin (National University of Singapore)	
15:00-16:40	Unsupervised Segmentation of the Prostate Using MR Images Based on Level Set with a Shape Prior	FrDPo04.8 3613-3616
	Liu, Xin* (Illinois Institute of Technology); Langer, Deanna Lyn (University of Toronto); Haider, Masoom (University of Toronto); van der Kwast, Theodorus (Princess Margaret Hospital); Evans, Andrew (Toronto General Hospital); Wernick, Miles (Illinois Institute of Technology); Yetik, Imam Samil (Illinois Institute of Technology)	
15:00-16:40	Linear Measurement of Polyps in CT Colonography Using Level Sets on 3D Surfaces	FrDPo04.9 3617-3620
	Tan, Sovira* (NIH); Yao, Jianhua (National Institutes of Health); Ward, Michael (NIH); Summers, Ronald (National Institutes of Health)	
15:00-16:40	Streaming Level Set Algorithm for 3D Segmentation of Confocal Microscopy Images	FrDPo04.10 3621-3624
	Gouaillard, Alexandre* (Harvard Medical School); Mosaliganti, Kishore (Harvard Medical School); Obholzer, Nikolaus (Harvard Medical School); Megason, Sean (Harvard Medical School)	
15:00-16:40	3D Liver Segmentation in Preoperative CT Images Using a Level-Sets Active Surface Method	FrDPo04.11 3625-3628
	Fernández-de-Manuel, Laura* (Universidad Politécnica de Madrid); Rubio-Guivernau, Jose Luis (Universidad Politécnica de Madrid); Ledesma-Carbayo, María J. (Universidad Politécnica de Madrid); Pascau, Javier (Hospital General Universitario Gregorio Marañón); Tellado, José M. (Hospital General Universitario Gregorio Marañón); Ramón, Enrique (Hospital General Universitario Gregorio Marañón); Desco, Manuel (Hospital General Universitario Gregorio Marañón); Santos, Andres (Universidad Politecnica Madrid)	
15:00-16:40	Microarray Image Segmentation Using Chan-Vese Active Contour Model and Level Set Method	FrDPo04.12 3629-3632
	Mendhurwar, Kaustubha (Concordia University); Kakumanu, Rajasekhar (Concordia University); Devabhaktuni, Vijay* (University of Toledo)	
15:00-16:40	Fast and Automatic LV Mass Calculation from Echocardiographic Images Via B-Spline Snake Model and Markov Random Fields	FrDPo04.13 3633-3636
	marsousi, mahdi (K.N. Toosi university of technology); Eftekhari, Armin (K.N. Toosi University of Technology); Alirezaie, Javad (Ryerson University, Univ of Waterloo); Kocharian, Armen (Tehran University of Medical Science); Sharifahmadian, Ershad* (Tehran University)	
15:00-16:40	A New Model-Based Estimation of Ellipses for Object Representation	FrDPo04.14 3637-3640
	Kong, Jun* (Emory University); Boyer, Kim (Rensselaer Polytechnic Institute); Saltz, Joel (Emory University); Huang, Kun (Ohio State University)	
15:00-16:40	Feasibility of Regional and Global Left Ventricular Shape Analysis from Real-Time 3d Echocardiography	FrDPo04.15 3641-3644
	Maffessanti, Francesco* (Politecnico di Milano); Sugeng, Lissa (University of Chicago); Takeuchi, Masaaki (University of Occupational and Environmental Health); Weinert, Lynn (University of Chicago); Mor-Avi, Victor (University of Chicago); Lang, Roberto (University of Chicago); Caiani, Enrico (Polytechnic of Milan)	
15:00-16:40	Towards a New Image Guidance System for Assisting Transapical Minimally Invasive Aortic Valve Implantation	FrDPo04.16 3645-3648
	Karar, Mohamed Esmail* (University of Leipzig); Gessat, Michael (University of Leipzig); Walther, Thomas (Heart Center, Leipzig); Falk, Volkmar (Universitätsspital Zürich, Klinik für Herz- und Gefäßchirurgie); Burgert, Oliver (University of Leipzig)	

15:00-16:40	FrDPo04.17
Computational Hemodynamic Modeling based on Transesophageal Echocardiographic Imaging	3649-3652
<i>Sprouse, Chad (Johns Hopkins University); Yuh, David (Johns Hopkins University); Abraham, Theodore (Johns Hopkins Medical School); Burlina, Philippe* (Johns Hopkins University)</i>	
15:00-16:40	FrDPo04.18
Mammographic Images Segmentation Using Texture Descriptors	3653-3656
<i>Mascaro, Angelica (Federal University of Pernambuco); Mello, Carlos (University of Pernambuco); dos Santos, Wellington* (Universidade de Pernambuco); Cavalcanti, George (Federal University of Pernambuco)</i>	
15:00-16:40	FrDPo04.19
Motion-Compensated Temporal Summation of Cardiac Gated SPECT Images Using a Deformable Mesh Model	3657-3660
<i>Marin, Thibault* (Illinois Institute of Technology); Wernick, Miles (Illinois Institute of Technology); Yang, Yongyi (Illinois Institute of Technology); Brankov, Jovan G (Illinois Institute of Technology)</i>	
15:00-16:40	FrDPo04.20
Temporal Compounding of Cardiac Ultrasound Data: Improving Image Quality and Clinical Measurement Repeatability.	3661-3664
<i>Perperidis, Antonios* (University of Edinburgh); Cusack, David (Western General Hospital,); McDicken, Norman (University of Edinburgh); MacGillivray, Thomas (University Of Edinburgh); Anderson, Tom (University of Edinburgh)</i>	
15:00-16:40	FrDPo04.21
Development of an Automatic Quantification Method for Cancer Tissue Microarray Study	3665-3668
<i>Sanders, Teresa (Georgia Institute of Technology); Stokes, Todd* (Georgia Institute of Technology); Moffitt, Richard A. (Georgia Institute of Technology); Chaudry, Qaiser (Georgia Institute of Technology); Parry, R. Mitchell (Georgia Institute of Technology); Wang, May Dongmei (Georgia Tech and Emory University)</i>	
15:00-16:40	FrDPo04.22
Detection of Tissue Folds in Whole Slide Images	3669-3672
<i>Bautista, Pinky* (Harvard medical school); Yagi, Yukako (Massachusetts General Hospital)</i>	
15:00-16:40	FrDPo04.23
Variance Stabilizing Transformations in Patch-based Bilateral Filters for Poisson Noise Image Denoising	3673-3676
<i>De Decker, Arnaud* (Universite Catholique de Louvain (UCL)); Lee, John Aldo (Universite Catholique de Louvain (UCL)); Verleysen, Michel (Universite Catholique de Louvain - UCL)</i>	
15:00-16:40	FrDPo04.24
Evaluation of Spatial Interpolation Strategies for the Removal of Comb-Structure in Fiber-Optic Images	3677-3680
<i>Rupp, Stephan (Fraunhofer Institute (IIS)); Winter, Christian* (Fraunhofer IIS); Elter, Matthias (Fraunhofer Institute for Integrated Circuits (IIS))</i>	
15:00-16:40	FrDPo04.25
Mammogram Enhancement Using Alpha Weighted Quadratic Filter	3681-3684
<i>Zhou, Yicong* (Tufts University); Panetta, Karen (Tufts University); Agaian, Sos (University of Texas at San Antonio)</i>	
15:00-16:40	FrDPo04.26
Extraction of Color Features in the Spectral Domain to Recognize Centroblasts in Histopathology	3685-3688
<i>Belkacem-Boussaid, Kamel* (Ohio State University); Sertel, Olcay (The Ohio State University); Lozanski, Gerard (The Ohio State University, Medical Center); Shana'ah, Arwa (Ohio State University Medical Center); Gurcan, Metin (The Ohio State University)</i>	
15:00-16:40	FrDPo04.27
Noise-Resilient Edge Detection Algorithm for Brain MRI Images	3689-3692
<i>Agaian, Sos (University of Texas at San Antonio); Almuntashri, Ali* (University of Texas at San Antonio)</i>	

15:00-16:40		FrDPo04.28
An Automatic Diagnosis System of Nuclear Cataract Using Slit-Lamp Images	3693-3696	
Li, Huiqi* (Institute for Infocomm Research); Lim, Joo Hwee (Institute for Infocomm Research); Liu, Jiang (Inst for Infocomm Resrch, A STAR); Wong, Damon (Institute for Infocomm Research); Tan, Ngan Meng (A*STAR, Institute for Infocomm Research); Lu, Shijian (Inst for Infocomm Research, A STAR); Zhang, Zhuo (A*STAR); Wong, Tien Yin (National University of Singapore)		
15:00-16:40		FrDPo04.29
A Cognitive Virtual Microscopic Framework for Knowledge-Based Exploration of Large Microscopic Images in Breast Cancer Histopathology	3697-3702	
Roux, Ludovic* (Université Joseph Fourier); Tutac, Adina (Politehnica University of Timisoara); Veillard, Antoine (National University of Singapore / IPAL); Lomenie, Nicolas (University Paris Descartes); Racoceanu, Daniel (French National Research Center); Leow, Wee Kheng (National University of Singapore); Klossa, Jacques (TRIBVN Company); Putti, Thomas (National University Hospital)		
15:00-16:40		FrDPo04.30
Multiscale Data Reduction with Flexible Saliency Criterion for Biological Image Analysis	3703-3706	
Bosl, William* (Harvard Medical School / Children's Hospital Boston)		
15:00-16:40		FrDPo04.31
A Lossless Encryption Method for Medical Images Using Edge Maps	3707-3710	
Zhou, Yicong* (Tufts University); Panetta, Karen (Tufts University); Agaian, Sos (University of Texas at San Antonio)		
15:00-16:40		FrDPo04.32
Capsule Endoscope Localization Based on Computer Vision Technique	3711-3714	
Liu, Li (Shenzhen Institute of Advanced Integration Technology, Chinese Academy of Sciences); Hu, Chao* (Shenzhen Institute of Advanced Technology); Cai, Wentao (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Meng, Max Q.-H. (The Chinese University of Hong Kong)		
15:00-16:40		FrDPo04.33
A Public Image Database to Support Research in Computer Aided Diagnosis	3715-3718	
Reeves, Anthony* (Cornell University); Biancardi, Alberto (Cornell University); Yankelevitz, David (Weill Cornell Medical College); Fotin, Sergei (Cornell University); Keller, Brad (Cornell University); Jirapatnakul, Artit (Cornell University); Lee, Jaesung (Cornell University)		
15:00-16:40		FrDPo04.34
Content Based Sub-Image Retrieval System for High Resolution Pathology Images Using Salient Interest Points	3719-3722	
Alomari, Raja' (University at Buffalo, SUNY); Chaudhary, Vipin (Wayne State University); Sabata, Bikash (Biolmagene); Mehta, Neville* (University At Buffalo)		
15:00-16:40		FrDPo04.35
Video-Based Detection of Clinical Depression in Adolescents	3723-3726	
Maddage, Namunu* (Royal Melbourne Institute of Technology University); Senaratne, Rajinda (None); Low, Alex (RMIT University Melbourne); Lech, Margaret (RMIT)		
15:00-16:40		FrDPo04.36
Low-Complexity Video Compression for Capsule Endoscope Based on Compressed Sensing Theory	3727-3730	
Wu, Jing* (Shenzhen Institutes of Advanced Technology, Chinese Academy of Science); Li, Ye (Shenzhen Institute of Advanced Technology)		
15:00-16:40		FrDPo04.37
A Comparative Study of Shape Features for Polyp Detection in Wireless Capsule Endoscopy Images	3731-3734	
Li, Baopu* (The Chinese University of Hong Kong); Meng, Max Q.-H. (The Chinese University of Hong Kong); Xu, Lisheng (Northeastern University)		
15:00-16:40		FrDPo04.38
Texture-Based Computer-Assisted Diagnosis for Fiberscopic Images	3735-3738	
Münzenmayer, Christian* (Fraunhofer IIS); Winter, Christian (Fraunhofer IIS); Rupp, Stephan (Fraunhofer Institute (IIS)); Kage, Andreas (Fraunhofer IIS); Wittenberg, Thomas (Fraunhofer Institute for Integrated Circuits (IIS))		

15:00-16:40		FrDPo04.39
Singular Value Decomposition-Based Analysis on Fluorescence Molecular Tomography in the Mouse Atlas	3739-3742	
Xu, Zhun (School of Medicine, Tsinghua University); Song, Xiaolei (Tsinghua University); Bai, Jing* (Tsinghua University)		
15:00-16:40		FrDPo04.40
Dosimetric Capabilities of the Iview GT Portal Imager Using MCNP5 Monte Carlo Simulations	3743-3746	
Juste, Belen (Polytechnic University of Valencia); Miró, Rafael* (Polytechnic University of Valencia); Díez, Sergio (Hospital Clínic de València); Campayo, Juan Manuel (Hospital Clínic de València); Verdu, Gumerindo (Polytechnic University of Valencia)		
15:00-16:40		FrDPo04.41
Parameterized Computational Imaging: Data Driven Computational Modeling for Image Extension	3747-3750	
Evans, Daniel* (University of Idaho); Manwaring, Mark (University of Idaho); Soule, Terence (University of Idaho)		
15:00-16:40		FrDPo04.42
SORTEO: Monte Carlo-Based Simulator with List-Mode Capabilities	3751-3754	
McLennan, Andrew* (University of Oxford); Reilhac, Anthonin (Biospective); Brady, Michael (University of Oxford)		
15:00-16:40		FrDPo04.43
Computer Oriented Image Acquisition of the Liver: Toward a Better Numerical Model for Radiofrequency Ablation	3755-3758	
Muehl, Judith* (Technical University of Graz); Kainz, Bernhard (Graz University of Technology); Portugaller, Horst Rupert (Medical University of Graz); Stiegler, Philipp (Medical University of Graz)		
15:00-16:40		FrDPo04.44
DoctorEye: A Multifunctional Open Platform for Fast Annotation and Visualization of Tumors in Medical Images	3759-3762	
Skounakis, Emmanouil (Brunel University); Sakkalis, Vangelis (ICS-FORTH); Marias, Kostas (Foundation for Res. & Tech. Hellas); Banitsas, Konstantinos* (Brunel University); Graf, Norbert (University Hospital of the Saarland)		
15:00-16:40		FrDPo04.45
Stability Analysis and Breast Tumor Classification from 2D ARMA Models of Ultrasound Images	3763-3766	
AbdulSadda, Ahmad (University of Arkansas at Little Rock); Iqbal, Kamran (University of Arkansas at Little Rock); Bouaynaya, Nidhal* (University of Arkansas at Little Rock)		

FrDPo05: 15:00-16:40	Grand Ballroom - Salon E, F, G
3.3.2 Bioelectric Sensors II (Poster Session)	

15:00-16:40		FrDPo05.1
Novel Muscle Activation Sensors for Estimating Upper Limb Motion Intention	3767-3770	
Han, Hyonyoung (KAIST); Kim, Jung* (Korea Advanced Institute of Science and Technology)		
15:00-16:40		FrDPo05.2
Development of an Arterial Tonometer Sensor	3771-3774	
Kim, Eun Geun (Korea Electrotechnology Research Inst); Heo, Hyun (Korea Electrotechnology Resrch Inst); Nam, Ki Chang (Korea Electrotech Resrch Institute); Huh, Young* (Korea Electrotechnology Resrch Inst)		
15:00-16:40		FrDPo05.3
A Portable Device for Real Time Drowsiness Detection Using Novel Active Dry Electrode System	3775-3778	
Tsai, Pai-Yuan (Chung Yuan Christian University); Hu, Wei-Chih (Chung Yuan Christian University); Kuo, Terry B.J. (National Yang-Ming University); Shyu, Liang-Yu* (Chung Yuan Christian University)		
15:00-16:40		FrDPo05.4
Cole Equation and Parameter Estimation from Electrical Bioimpedance Spectroscopy Measurements - A Comparative Study	3779-3782	
Ayllon, David (University of Boras); Seoane, Fernando* (University College of Borås); Gil Pita, Roberto (University of Alcala)		

15:00-16:40	Method to Quantify the Effect of Passivation Layer in Bio-Impedance Sensors	FrDPo05.5 3783-3786
	<i>Sreedharan Nair, Shree Narayanan* (Virginia Tech); Nikkhah, Mehdi (Virginia Tech); Strobl, Jeannine (Edward Via Virginia College of Osteopathic Medicine); Agah, Masoud (Virginia Tech)</i>	
15:00-16:40	Analysis of Interstitial Concentrations of ATP from Rat Soleus Muscle Using Microdialysis Combined with Ion-Pairing High Performance Liquid Chromatography (HPLC)	FrDPo05.6 3787-3789
	<i>TU, Jie* (Chinese Academy of Sciences, Shenzhen Institute of Advanced Technology); Yang, Fan (Chinese Academy of Sciences, Shenzhen Institute of Advanced Technology Chinese Academy of Sciences); Wang, Liping (Chinese Academy of Sciences, Shenzhen Institute of Advanced Technology)</i>	
15:00-16:40	Instrumentation for Small-Animal Capnometry	FrDPo05.7 3790-3793
	<i>Sultan, Firas (University of Wisconsin - Milwaukee); Klemer, David* (University of Wisconsin - Milwaukee); Oaks, Katie (University of Wisconsin - Milwaukee)</i>	
15:00-16:40	An Ultra-Sensitive Δ R/R Measurement System for Biochemical Sensors Using Piezoresistive Micro-Cantilevers	FrDPo05.8 3794-3797
	<i>Nag, Sudip* (Indian Institute of Technology Bombay); Kale, Nitin (Indian Institute of Technology Bombay); Rao, Ramgopal (Indian Institute of Technology Bombay); Sharma, Dinesh (Indian Institute of Technology Bombay)</i>	
15:00-16:40	New Electrode Layout for Internal Selectivity of Nerves	FrDPo05.9 3798-3801
	<i>Rossel, Olivier* (LIRMM - UMII/CNRS); Soulier, Fabien (Univ. Montpellier II); Bernard, Serge (CNRS); Cathébras, Guy (Univ. Montpellier II)</i>	
15:00-16:40	A Low Power Wearable Tranceiver for Human Body Comunication	FrDPo05.10 3802-3805
	<i>huang, jin (Shenzhen Institutes of Advance Technology Chinese Academyof Sciences); Wang, Lei* (Shenzhen Institute of Advanced Technology)</i>	
15:00-16:40	A Low-Noise Low-Power Amplifier for Implantable Device for Neural Signal Acquisition	FrDPo05.11 3806-3809
	<i>Li, Ming-Ze* (National Tsing Hua University); Tang, Kea Tiong (National Tsing Hua University)</i>	
15:00-16:40	Exploiting Sub-Threshold and Above-Threshold Characteristics in a Silver-Enhanced Gold Nanoparticle Based Biochip	FrDPo05.12 3810-3813
	<i>Liu, Yang* (Michigan State University); Alocilja, Evangelyn (Michigan State University); Chakrabarty, Shantanu (Michigan State University)</i>	
15:00-16:40	Design of a CMOS-Based Multichannel Integrated Biosensor Chip for Bioelectronic Interface with Neurons	FrDPo05.13 3814-3817
	<i>Zhang, Xin* (University of California, Irvine); Wong, Wai Man (University of California, Irvine); Zhang, Yulong (Xiamen University); Zhang, Yandong (Beijing CRX Science & Technology LLC); Gao, Fei (Beijing CRX Science & Technology LLC); Nelson, Richard (University of California, Irvine); LaRue, John (University of California, Irvine)</i>	

FrDPo06: 15:00-16:40	Grand Ballroom - Salon E, F, G
3.5.3 Wireless Sensors and Systems (Poster Session)	

15:00-16:40	Effect of a Magnetic Core in the Receiver Coil of a Biomedical Inductive Power System	FrDPo06.1 3818-3821
	<i>Noor, Furqan* (National University of Ireland Galway); Duffy, Maeve (NUI Galway)</i>	
15:00-16:40	Real-Time Detection of Nocturnal Hypoglycemic Episodes Using a Novel Non-Invasive Hypoglycemia Monitor	FrDPo06.2 3822-3825
	<i>Nguyen, Hung T.* (University of Technology, Sydney); Ghevondian, Nejhdeh (AlMedics Pty Ltd); Jones, Timothy (Princess Margaret Hospital for Children)</i>	

15:00-16:40	SHIMMER: A New Tool for Temporal Gait Analysis	FrDPo06.3 3826-3829
	O'Donovan, Karol (Intel Corporation); Greene, Barry R. (Intel); McGrath, Denise (University College Dublin); O'Neill, Ross (National University of Ireland Maynooth); Burns, Adrian (Intel); Caulfield, Brian* (UCD)	
15:00-16:40	A Wireless System for the Objective Assessment of Dyskinesia	FrDPo06.4 3830-3832
	Riehle, Timothy* (Koronis Biomed. Technologies Corp.); Lichter, Patrick (Koronis Biomedical Technologies); Anderson, Shane (Koronis Biomedical Technologies)	
15:00-16:40	Low Cost Wireless Neural Recording System and Software	FrDPo06.5 3833-3836
	Gregory, Jeffrey* (University of Michigan); Borna, Amir (Graduate Student Research Assistant); Roy, Sabyasachi (Johns Hopkins University); Schmidt, Marc (University of Pennsylvania); Lewandowski, Brian (University of Pennsylvania); Wang, Xiaoqin (Johns Hopkins University School of Medicine); Najafi, Khalil (University of Michigan)	
15:00-16:40	Respiratory Monitoring Using a Doppler Radar with Passive Harmonic Tags to Reduce Interference from Environmental Clutter	FrDPo06.6 3837-3840
	Singh, Aditya* (University of Hawaii at Manoa); Lubecke, Victor (University of Hawaii Manoa)	
15:00-16:40	A Closed Loop Wireless Power Transmission System Using a Commercial RFID Transceiver for Biomedical Applications	FrDPo06.7 3841-3844
	Kiani, Mehdi* (Georgia Institute of Technology); Ghovanloo, Maysam (Georgia Institute of Technology)	
FrDPo07: 15:00-16:40	Grand Ballroom - Salon E, F, G	
4.2.2 Algorithms and Tools for Genomics and Proteomics (Poster Session)		
15:00-16:40	An Efficient and High Performance Linear Recursive Variable Expansion Implementation of the Smith-Waterman Algorithm	FrDPo07.1 3845-3848
	Hasan, Laiq* (TU Delft); Al-Ars, Zaid (TU Delft)	
15:00-16:40	Visual Exploration of Genetic Association with Voxel-Based Imaging Phenotypes in an MCI/AD Study	FrDPo07.2 3849-3852
	Kim, Sungeun (Indiana University School of Medicine); Shen, Li* (Indiana University); Saykin, Andrew (Indiana University); West, John (Indiana University)	
15:00-16:40	Effect of Mutations on the Detection of Translational Signals Based on a Communications Theory Approach	FrDPo07.3 3853-3856
	Al Bataineh, Mohammad* (University); Alonso, Maria (Illinois Institute of Technology (IIT)); Huang, Lun (Illinois Institute of Technology (IIT)); Atkin, Guillermo (Illinois Institute of Technology (IIT)); Menhart, Nick (Illinois Institute of Technology (IIT))	
15:00-16:40	A Novel Gene Detection Method Based on Period-3 Property	FrDPo07.4 3857-3860
	Huang, Lun* (Illinois Institute of Technology (IIT)); Al Bataineh, Mohammad (University); Atkin, Guillermo (Illinois Institute of Technology (IIT)); Wang, Siyun (Illinois Institute of Technology (IIT)); Zhang, Wei (Illinois Institute of Technology (IIT))	
15:00-16:40	Use of Average Mutual Information for Studying Changes in HIV Populations	FrDPo07.5 3861-3864
	Sayood, Khalid* (University of Nebraska-Lincoln); Hoffman, Federico (ICC-Fiocruz); Wood, Charles (University of Nebraska Lincoln)	
15:00-16:40	A New Validity Measure for a Correlation-Based Fuzzy C-Means Clustering Algorithm	FrDPo07.6 3865-3868
	Zhang, Mingrui* (Winona State University); Zhang, Wei (Winona State University); Sicotte, Hugues (Mayo Clinic); Yang, Ping (Mayo Clinic)	

15:00-16:40	Comparison and Unification of Genomic Signatures in Breast Cancer	FrDPo07.7 3869-3872
	<i>Blazadonakis, Michalis (Technical University of Crete); Zervakis, Michalis* (Technical University of Crete, Greece)</i>	
15:00-16:40	An Asymmetric Approach to Modeling Ion Channels Using Finite Element Analysis	FrDPo07.8 3873-3876
	<i>Siksik, May* (University of British Columbia); Krishnamurthy, Vikram (University of British Columbia)</i>	
FrDPo08: 15:00-16:40	Grand Ballroom - Salon E, F, G	
	4.3.4 Physiological Modeling and Algorithms for Physiome (Poster Session)	
15:00-16:40	Simulation of a Presynaptic Nerve Terminal with a Tethered Particle System Model	FrDPo08.1 3877-3880
	<i>Goldstein, Rhys* (Carleton University); Wainer, Gabriel (Carleton University)</i>	
15:00-16:40	Extensible Biosignal Metadata -- a Model for Physiological Time-Series Data	FrDPo08.2 3881-3884
	<i>Brooks, David* (University of Auckland)</i>	
15:00-16:40	Evaluation of Cardiac Oxygen Consumption under Hypoxia with Tissue Model Integrating Microcirculation Model and Cell Model	FrDPo08.3 3885-3888
	<i>Amano, Akira* (Ritsumeikan University); Kubota, Yuuta (Kyoto University); Shimayoshi, Takao (ASTEM Research Institute of Kyoto); Matsuda, Tetsuya (Kyoto University)</i>	
15:00-16:40	Enhancement of the Immune Response to Chronic Myeloid Leukaemia Via Controlled Treatment Scheduling	FrDPo08.4 3889-3892
	<i>Chang, Hyeygeon* (Imperial College London); Astolfi, Alessandro (Imperial College London and University of Rome)</i>	
15:00-16:40	A Two-Equation Coupled System Model for Determination of Liver Tissue Temperature During Radio Frequency Ablation	FrDPo08.5 3893-3896
	<i>O'Neill, David Patrick* (University of Oxford); Peng, Tingying (University of Oxford); Payne, Stephen John (University of Oxford)</i>	
15:00-16:40	A Shooting Algorithm for Complex Immunodominance Control Problems	FrDPo08.6 3897-3900
	<i>Zhao, Xiaopeng* (University of Tennessee); Yang, Ruoting (The University of Tennessee); Zhang, Mingjun (The University of Tennessee)</i>	
15:00-16:40	Numerical Analysis of a Comprehensive in Silico Subcutaneous Insulin Absorption Compartmental Model	FrDPo08.7 3901-3904
	<i>Sebald, Daniel* (Hospira); Ruchti, Timothy (Hospira)</i>	
15:00-16:40	Modeling Electrical Activities of a Growing Breast Cancerous Cell Based on a Semiconductor Approach	FrDPo08.8 3905-3908
	<i>Hassan, Ahmed* (University of Arkansas); El-Shenawee, Magda (University of Arkansas)</i>	
15:00-16:40	A Model of Pathological Oscillations in the Basal Ganglia and Deep Brain Stimulation in Parkinson's Disease.	FrDPo08.9 3909-3912
	<i>Kang, Guiyeom* (University College Dublin)</i>	

FrDPo09: 15:00-16:40	Grand Ballroom - Salon E, F, G
5.4.1 Respiratory Function (Poster Session)	

15:00-16:40	FrDPo09.1
Optimal Tissue Types in the Thoracic Electrical Impedance Model for Thoracic Electrical Bioimpedance (TEB) Studies	3913-3916
Akhand, Mohammad Shafiq Haque (<i>The University of Queensland</i>); Trakic, Adnan (<i>The University of Queensland</i>); Terrill, Philip Ian* (<i>University of Queensland</i>); Liu, Feng (<i>The University of Queensland</i>); Wilson, Stephen (<i>University of Queensland</i>); Crozier, Stuart (<i>The University of Queensland</i>)	
15:00-16:40	FrDPo09.2
Simulated Central Apnea Detection Using the Pressure Variance	3917-3920
Townsend, Daphne* (<i>Carleton University</i>); Holtzman, Megan (<i>Carleton University</i>); Goubran, Rafik A. (<i>Carleton University</i>); Frize, Monique (<i>Carleton University</i>); Knoefel, Frank-Dietrich (<i>SCO Health Service</i>)	
15:00-16:40	FrDPo09.3
Classification of Breathing Events Using Load Cells under the Bed	3921-3924
Beattie, Zachary Todd* (<i>Oregon Health & Science University</i>); Hagen, Chad (<i>Oregon Health & Science University</i>); Pavel, Michael (<i>Oregon Health and Science University</i>); Hayes, Tamara (<i>Oregon Health and Science University</i>)	
15:00-16:40	FrDPo09.4
Evaluation of the Respiratory Muscular Function by Means of Diaphragmatic Mechanomyographic Signals in COPD Patients	3925-3928
Sarlabous, Leonardo* (<i>Universitat Politècnica de Catalunya (UPC)</i>); Torres, Abel (<i>Universitat Politècnica de Catalunya (UPC), Institute for Bioengineering of Catalonia (IBEC) and CIBER de Bioingeniería, Biomate</i>); Fiz Fernandez, José Antonio (<i>Navarra Hospital</i>); Gea, Joaquim (<i>IMIM- Hospital del Mar, UPF, CIBERES</i>); Martínez-Llorens, Juana M. (<i>IMIM- Hospital del Mar, UPF, CIBERES</i>); Jané, Raimon (<i>Universitat Politècnica de Catalunya</i>)	

FrDPo10: 15:00-16:40	Grand Ballroom - Salon E, F, G
5.6.1 Cardiovascular Modeling (Poster Session)	

15:00-16:40	FrDPo10.1
On the Ill-Conditioned Nature of the Intracardiac Inverse Problem	3929-3931
Bates, Jason H T* (<i>University of Vermont, College of Medicine</i>); Spector, Peter (<i>University of Vermont and Fletcher Allen Health Care</i>)	
15:00-16:40	FrDPo10.2
Simulation of AV Hysteresis Pacing Using an Integrated Dual Chamber Heart and Pacer Model	3932-3935
Lian, Jie* (<i>Micro Systems Engineering, Inc.</i>); Garner, Garth (<i>Micro Systems Engineering Inc</i>); Kraetschmer, Hannes (<i>Micro Systems Engineering Inc</i>); Muessig, Dirk (<i>Micro Systems Engineering, Inc.</i>)	
15:00-16:40	FrDPo10.3
Effects of Elevated Homocysteine Hormone on Electrical Activity in the Human Atrium: A Simulation Study	3936-3939
Law, Phillip R* (<i>The University of Manchester</i>); Kharche, Sanjay (<i>University of Manchester</i>); Stott, Jonathan (<i>The University of Manchester</i>); Zhang, Henggui (<i>University of Manchester</i>)	
15:00-16:40	FrDPo10.4
The Pressure Recovery Ratio: The Invasive Index of LV Relaxation During Filling. Model-Based Prediction with In-Vivo Validation	3940-3943
Zhang, Wei (<i>Washington University</i>); Shmuylovich, Leonid (<i>Washington University in St Louis</i>); Kovács, Sándor J* (<i>Washington University in St Louis</i>)	
15:00-16:40	FrDPo10.5
The Effects of Non-Linearities on Shear Stress in Periodic Flow in Axi-Symmetric Vessels	3944-3947
Park, Chang Sub* (<i>University of Oxford</i>); Payne, Stephen John (<i>University of Oxford</i>)	
15:00-16:40	FrDPo10.6
Shock Induced Electrical Activation in Structurally Detailed Models of Pig Left-Ventricular Tissue	3948-3951
Trew, Mark L.* (<i>University of Auckland</i>); Ashton, Jesse L (<i>University of Auckland</i>); Caldwell, Bryan (<i>University of Auckland</i>); Smaill, Bruce (<i>University of Auckland</i>)	

FrDPo11: 15:00-16:40	Grand Ballroom - Salon E, F, G
6.11.6 Human Performance (Poster Session)	
15:00-16:40	FrDPo11.1
Neurophysiology Study of Early Visual Processing of Face and Non-Face Recognition under Simulated Prosthetic Vision	3952-3955
YANG, YUAN (<i>Shanghai Jiao Tong University</i>); Guo, Hong (<i>Shanghai Jiao Tong University</i>); Tong, Shanbao (<i>Shanghai Jiao Tong University</i>); Zhu, Yisheng (<i>Shanghai Jiaotong University</i>); Qiu, Yihong* (<i>Shanghai Jiao Tong University</i>)	
15:00-16:40	FrDPo11.2
Impaired Lower Limb Muscle Synergies Post-Stroke	3956-3959
Cruz, Theresa* (<i>Northwestern University</i>); Dhaher, Yasin (<i>Northwestern University</i>)	
15:00-16:40	FrDPo11.3
Micromanipulation Accuracy in Pointing and Tracing Investigated with a Contact-Free Measurement System	3960-3963
Su, Eileen Lee Ming* (<i>Imperial College London</i>); Tun Latt, Win (<i>Nanyang Technological University</i>); Ang, Wei Tech (<i>Nanyang Technological University</i>); Lim, Thiam Chye (<i>National University Hospital</i>); Teo, Chee Leong (<i>National University of Singapore</i>); Burdet, Etienne (<i>Imperial College London</i>)	
15:00-16:40	FrDPo11.4
Novel Algorithm for the Hemiplegic Gait Evaluation using a Single 3-axis Accelerometer	3964-3966
Lee, Hyo Ki (<i>Yonsei University</i>); Hwang, Sung-Jae (<i>Yonsei University</i>); Cho, Sung Pil (<i>Yonsei University</i>); Lee, Dong-Ryul (<i>Wonju City Medical Center</i>); You, Joshua H. (<i>Yonsei University</i>); Lee, Kyoung Joung* (<i>Yonsei University</i>); Kim, Young Ho (<i>Yonsei University</i>); Choi, Ho Seon (<i>Daewon University College</i>)	
15:00-16:40	FrDPo11.5
Human Brain Performance in Learning Complex Temporal Patterns	3967-3970
Samadani, Ali-Akbar* (<i>University of Manitoba</i>); Moussavi, Zahra (<i>University of Manitoba</i>)	
15:00-16:40	FrDPo11.6
Evaluation of Applied Forces and EMG of the Young, Aged & Stroke Population in a 3D Arm Workspace	3971-3974
Hazra, Promita* (<i>Marquette University</i>); Myklebust, Joel (<i>Center for Devices and Radiological Health, FDA</i>); Winters, Jack (<i>Marquette University</i>)	
15:00-16:40	FrDPo11.7
Assessment of Aversive Stimuli Dependent Attentional Binding by the N170 VEP Component	3975-3978
Busse, Michael* (<i>Saarland University Hospital</i>); Haab, Lars (<i>Saarland University Hospital</i>); Mohamed Aminuddin, Mai Mariam (<i>Saarland Univ Hospital</i>); Krick, Christoph (<i>Saarland University Hospital</i>); Weis, Tina (<i>Saarland University Hospital</i>); Reith, Wolfgang (<i>Saarland University Hospital</i>); Strauss, Daniel J. (<i>Comp. Diagn. & Biocyb. Unit</i>)	
15:00-16:40	FrDPo11.8
A Low-Cost Video-Based Tool for Clinical Gait Analysis	3979-3982
Soda, Paolo (<i>Università CAMPUS Bio-Medico</i>); Carta, Alfonso (<i>Università Campus Bio-Medico di Roma</i>); Formica, Domenico* (<i>Campus Bio-Medico University</i>); Guglielmelli, Eugenio (<i>Campus Bio-Medico University</i>)	
15:00-16:40	FrDPo11.9
Real-Time Identification and Visualization of Human Segment Parameters	3983-3986
Venture, Gentiane* (<i>Tokyo University of Agriculture and Technology</i>); Ayusawa, Ko (<i>University of Tokyo</i>); Nakamura, Yoshihiko (<i>University of Tokyo</i>)	
15:00-16:40	FrDPo11.10
Muscle Activation Patterns During Force Generation of the Index Finger	3987-3990
Qiu, Dan* (<i>Illinois Institute of Technology</i>); Fischer, Heidi (<i>Rehabilitation Institute of Chicago</i>); Kamper, Derek (<i>Rehabilitation Institute of Chicago and Illinois Institute of Technology</i>)	
15:00-16:40	FrDPo11.11
Relation between NIRS Signal and Motor Capability	3991-3994
Morihiro, Masamichi* (<i>Nagaoka University of Technology</i>); Tsubone, Tadashi (<i>Nagaoka University of Technology</i>); Wada, Yasuhiro (<i>Nagaoka University of Technology</i>)	

15:00-16:40

FrDPo11.12

Performance Evaluation of an Algorithm for the Identification of Time-Varying Joint Stiffness 3995-3998

Starret Visser, Tanya* (McGill University); Ludvig, Daniel (McGill University);
Kearney, Robert Edward (McGill University)

FrE01: 16:40-18:10

Conrad B

1.2.4 Signal Processing and Physiological System Modeling (Oral Session)

Chair: Zahra Moussavi, Univ. of Manitoba

16:40-16:55

FrE01.1

Changes in the Spectral Powers of Finger Photoplethysmographic Waveform Variability in Hemodialysis Patients 3999-4002

Javed, Faizan* (University of New South Wales); Chan, Gregory S H (The University of New South Wales);
Middleton, Paul MacConachie (University of New South Wales); Malouf, Philip (Prince of Wales Hospital, Sydney);
Steel, Elizabeth (Prince of Wales Hospital Sydney); Savkin, Andrey (University of New South Wales);
Mackie, James (Prince of Wales Hospital, Sydney); Lovell, Nigel H (University of New South Wales)

16:55-17:10

FrE01.2

3D Numerical Simulation of Coronary Blood Flow and Its Effect on Endothelial Cell Activation 4003-4006

Yin, Wei* (Oklahoma State University); Shanmugavelayudam, Saravan Kumar (Oklahoma State University);
Rubenstein, David (Oklahoma State University)

17:10-17:25

FrE01.3

Time-Varying Respiratory Pattern Characterization in Chronic Heart Failure Patients and Healthy Subjects 4007-4010

Garde, Ainara (Universitat Politècnica de Catalunya); Giraldo, Beatriz* (Universitat Politècnica de Catalunya);
Jané, Raimon (Universitat Politècnica de Catalunya); Sornmo, Leif (Lund University)

17:25-17:40

FrE01.4

Detecting Changes in Motion Characteristics During Sports Training 4011-4014

Kulic, Dana* (University of Waterloo); Venture, Gentiane (Tokyo University of Agriculture and Technology);
Nakamura, Yoshihiko (University of Tokyo)

17:40-17:55

FrE01.5

Detection and Prediction of Drowsiness by Reflexive Eye Movements 4015-4018

Hirata, Yutaka* (Chubu University, College of Eng); Nishiyama, Junpei (Chubu University College of Eng);
Kinoshita, Shinichi (Chubu University College of Eng)

FrE02: 16:40-18:10

Conrad C

1.5.2 Independent Component Analysis (Oral Session)

Chair: Metin Akay, Arizona State Univ.

Co-Chair: Jose Principe, Univ. of Florida

16:40-16:55

FrE02.1

Multi-Neuron Action Potentials Recorded with Tetrode Are Not Instantaneous Mixtures of Single Neuronal Action Potentials 4019-4022

Shiraishi, Yasushi* (Graduate school of information sciences); Katayama, Norihiro (Tohoku Univ); Takahashi, Tetsuya (Tohoku University); Karashima, Akihiro (Tohoku University); Nakao, Mitsuyuki (Tohoku University)

16:55-17:10

FrE02.2

Improved Separability of Dipole Sources by Tripolar versus Conventional Disk Electrodes: A Modeling Study Using Independent Component Analysis 4023-4026

Cao, Hongbao (Louisiana Tech University); Besio, W. G.* (University of Rhode Island);
Jones, Steven A (Louisiana Tech University); Medvedev, Andrei (Georgetown University)

17:10-17:25

FrE02.3

Focal Artifact Removal from Ongoing EEG - A Hybrid Approach Based on Spatially-Constrained ICA and Wavelet De-Noising 4027-4030

Akhtar, Muhammad Tahir* (The University of Electro-Communications);
James, Christopher (University of Southampton)

17:25-17:40		FrE02.4
Extraction of P300 Using Constrained Independent Component Analysis	4031-4034	
Khan, Ozair Idris (Kyung Hee University); Kim, Sang-Hyuk* (Kyung-Hee university); Raheed, Tahir (Kyung Hee University); Khan, Adil Mehmood (Kyung Hee University); Kim, Tae-Seong (Kyung Hee University)		
17:40-17:55		FrE02.5
Single Trial Independent Component Analysis for BCI System	4035-4038	
Li, Kun (University of South Florida); Sankar, Ravi* (University of South Florida); Arbel, Yael (University of South Florida); Donchin, Emanuel (University of South Florida)		
17:55-18:10		FrE02.6
Independent Component Analysis Applied to Pulse Oximetry in the Estimation of the Arterial Oxygen Saturation (SpO2) - a Comparative Study	4039-4044	
Jensen, Thomas (Technical University of Denmark); Duun, Sune (Technical University of Denmark); Larsen, Jan* (Technical University of Denmark); Haahr, Rasmus G (Technical University of Denmark); Toft, Mette (University of Copenhagen); Belhage, Bo (University of Copenhagen); Thomsen, Erik V (Technical University of Denmark)		
FrE03: 16:40-18:10		Grand Ballroom - Salon B
2.1.5 Magnetic Resonance Imaging (Oral Session)		
Chair: Ed X. Wu, <i>The Univ. of Hong Kong</i>		
Co-Chair: Jim Xiuquan Ji, <i>Texas A&M Univ.</i>		
16:40-16:55		FrE03.1
Channel Reduction in Massive Array Parallel MRI	4045-4048	
FENG, SHUO (Texas A&M University); Ji, Jim Xiuquan* (Texas A&M University)		
16:55-17:10		FrE03.2
Gas-Filled Microbubbles – a Novel Susceptibility Contrast Agent for Brain and Liver MRI	4049-4052	
Chow, April M. (<i>The University of Hong Kong</i>); Cheung, Jerry S. (<i>The University of Hong Kong</i>); Wu, Ed X.* (<i>The University of Hong Kong</i>)		
17:10-17:25		FrE03.3
Highly Parallel Transmit/Receive Systems for Dynamic MRI	4053-4056	
Wright, Steven M.* (Texas A&M University)		
17:25-17:40		FrE03.4
Rapid Comprehensive Evaluation of Luminography and Hemodynamic Function with 3D Radially Undersampled Phase Contrast Imaging MRI	4057-4060	
Johnson, Kevin M. (<i>University of Wisconsin-Madison</i>); Francois, Chris (<i>University of Wisconsin-Madison</i>); Lum, Darren (<i>University of Wisconsin-Madison</i>); Bley, Thorsten (<i>University of Wisconsin-Madison</i>); Nett, Elisabeth (<i>University of Wisconsin-Madison</i>); Landgraf, Benjamin (<i>University of Wisconsin-Madison</i>); Reeder, Scott B. (<i>University of Wisconsin-Madison</i>); Grist, Thomas M (<i>University of Wisconsin-Madison</i>); Wieben, Oliver* (<i>University of Wisconsin-Madison</i>)		
17:40-17:55		FrE03.5
Functional MRI Study of Brain Function under Resting and Activated States	4061-4063	
Chen, Wei* (<i>University of Minnesota</i>); Liu, Xiao (<i>University of Minnesota</i>); Zhu, Xiao-Hong (<i>University of Minnesota</i>); Zhang, Nanyin (<i>University of Massachusetts</i>)		
17:55-18:10		FrE03.6
Perturbation Analysis of the Effects of B1+ Errors on Parallel Excitation in MRI	4064-4066	
Ma, Chao* (<i>University of Illinois at Urbana-Champaign</i>); Xu, Dan (<i>Univ of Illinois, Urbana-Champaign</i>); King, Kevin (<i>GE Healthcare</i>); Liang, Zhi-Pei (<i>University of Illinois at Urbana-Champaign</i>)		
FrE04: 16:40-18:10		Duluth Room
2.3.1 Optical Imaging, Microscopy, and Infrared Imaging I (Oral Session)		
Chair: Taner Akkin, <i>Univ. of Minnesota</i>		
Co-Chair: Hao Zhang, <i>Univ. of Wisconsin-Milwaukee</i>		
16:40-16:55		FrE04.1
Optical Coherence Tomography Imaging for Cancer Diagnosis and Therapy Guidance	4067-4069	
Iftimia, Nicusor* (<i>Physical Sciences</i>)		

16:55-17:10		FrE04.2
Mapping the Human Brain at Rest with Diffuse Optical Tomography	4070-4072	
White, Brian (Washington Univ. in St. Louis); Snyder, Abraham (Washington Univ. in St. Louis); Cohen, L. (Washington Univ. in St. Louis); Petersen, Steven E. (Washington Univ. in St. Louis); Raichle, Marcus E. (Washington Univ. in St. Louis); Schlaggar, Bradley L. (Washington Univ. in St. Louis); Culver, Joseph* (Washington University School of Medicine)		
17:10-17:25		FrE04.3
Methods to Enhance Laser Speckle Imaging of High-Flow and Low-Flow Vasculature	4073-4076	
Choi, Bernard* (University of California, Irvine)		
17:25-17:40		FrE04.4
Nonlinear Optical Microscopy and Computational Analysis of Intrinsic Signatures in Breast Cancer	4077-4080	
Rueden, Curtis (University of Wisconsin at Madison); Conklin, Matthew (University of Wisconsin at Madison); Provenzano, Paolo (University of Wisconsin at Madison); Keely, Patricia (University of Wisconsin at Madison); Eliceiri, Kevin* (University of Wisconsin at Madison)		
17:40-17:55		FrE04.5
Bio-Inspired Fluidic Lens Surgical Camera for MIS	4081-4084	
Tsai, Frank S.* (University of California at San Diego); Johnson, Daniel (University of California at San Diego); Cho, Sung Hwan (University of California San Diego); Qiao, Wen (University of California, San Diego); Arianpour, Ashkan (University of California at San Diego); Lo, Yu-Hwa (University of California San Diego)		
17:55-18:10		FrE04.6
Analysis of Fixed Point FFT for Fourier Domain Optical Coherence Tomography Systems	4085-4088	
Ali, Murtaza* (Texas Instruments); Parlapalli, Renuka (Texas Instruments); Magee, David (Texas Instruments); Dasgupta, Udayan (Texas Instruments Inc.)		
FrE05: 16:40-18:10 3.8.1 BioNano Technology (Oral Session) Chair: Jordan Green, Johns Hopkins Univ. Co-Chair: Ilko Ilev, US FDA	Marquette IV & V	
16:40-16:55		FrE05.1
Quantum Dots in Molecular Detection of Disease	4089-4092	
Wang, Tza-Huei* (Johns Hopkins University)		
16:55-17:10		FrE05.2
Traceable siRNA Delivery with Quantum Dots	4093-4094	
Gao, Xiaohu* (University of Washington)		
17:10-17:25		FrE05.3
Off-Resonance Saturation Magnetic Resonance Imaging of Superparamagnetic Polymeric Micelles	4095-4097	
Khemtong, Chalermchai (The University of Texas Southwestern Medical Center); Kessinger, Chase W. (The University of Texas Southwestern Medical Center); Togao, Osamu (The University of Texas Southwestern Medical Center); Ren, Jimin (The University of Texas Southwestern Medical Center); Takahashi, Masaya (The University of Texas Southwestern Medical Center); Sherry, A. Dean (The University of Texas Southwestern Medical Center); Gao, Jinming* (The University of Texas Southwestern Medical Center)		
17:25-17:40		FrE05.4
Dissolved Core Alginate Microspheres As "Smart-Tattoo" Glucose Sensors	4098-4101	
Chaudhary, Ayesha* (Indian Institute of Technology Bombay); Raina, Monica (Indian Institute of Technology Bombay); McShane, Mike (Texas A&M University); Srivastava, Rohit (Indian Institute of Technology Bombay)		
17:40-17:55		FrE05.5
Single-Walled Carbon Nanotube Based Ph Sensors on a Flexible Parylene-C Substrate	4102-4105	
Yang, Chih Feng (Northeastern University); Chen, Chia-Ling (Northeastern University); Busnaina, Ahmed (Northeastern University); Dokmeci, Mehmet R.* (Northeastern University)		
17:55-18:10		FrE05.6
Molecular Therapeutic Agents for Noninvasive Photoacoustic Image-Guided Photothermal Therapy	4106-4109	
Chen, Yun-Sheng* (University of Texas at Austin); Joshi, Pratixa P. (University of Texas at Austin); Kim, Seungsoo (University of Texas at Austin); Shah, Jignesh (Volcano Inc.); Emelianov, Stanislav (University of Texas at Austin)		

FrE06: 16:40-18:10	Conrad A
3.11.1 Wearable Technologies I (Oral Session)	
Chair: Maysam Ghovaloo, Georgia Inst. of Tech.	

16:40-16:55	FrE06.1
Development of Data Communication System with Ultra High Frequency Radio Wave for Implantable Artificial Hearts	4110-4115
Tsujimura, Shinichi* (University of Tsukuba); Yamagishi, Hiroto (University of Tsukuba); Sankai, Yoshiyuki (University of Tsukuba)	
16:55-17:10	FrE06.2
Development of CNT-Based Inductors for Integrated Biosensors	4116-4119
Kim, Bruce* (University of Alabama)	
17:10-17:25	FrE06.3
Design and Validation of an Ambulatory System for the Measurement of the Microcirculation in the Capillaries: μHematron Device	4120-4123
TOUMI, DAREEN (INSA Lyon); Gehin, Claudine* (INSA Lyon); Dittmar, Andre (INSA Lyon); McAdams, Eric (University of Ulster)	
17:25-17:40	FrE06.4
Stretchable Interconnections for Flexible Electronic Systems	4124-4127
Lin, Jianhui* (Tsinghua University); YAN, Bing (Tsinghua University); WU, Xiaoming (Tsinghua University); REN, Tianling (Tsinghua University); LIU, Litian (Tsinghua University)	
17:40-17:55	FrE06.5
Thermal Parameters Measurement on Fire Fighter During Intense Fire Exposition	4128-4131
Oliveira, Aurélien* (INSA Lyon); Gehin, Claudine (INSA Lyon); DELHOMME, Georges (INSA Lyon); Dittmar, Andre (INSA Lyon); McAdams, Eric (University of Ulster)	
17:55-18:10	FrE06.6
Design, Simulation and Fabrication of a Low Cost Capacitive Tactile Shear Sensor for a Robotic Hand	4132-4135
Shashank, Arridh* (University of New South Wales and Sydney Medical School.); Tiwana, Mohsin I. (University of New South Wales); Redmond, Stephen James (University of New South Wales); Lovell, Nigel H (University of New South Wales)	

FrE07: 16:40-18:10	Marquette VII
3.4.1 Biological and Chemical Sensors (Oral Session)	
Chair: Ruikang Wang, Oregon Health & Science Univ.	

16:40-16:55	FrE07.1
Skin Characteristics by Laser Generated Surface Waves	4136-4139
Huang, Zhihong* (University of Dundee); L'Etang, Adele J (University Of Dundee)	
16:55-17:10	FrE07.2
A Comparison of Retinal Prosthesis Electrode Array Substrate Materials	4140-4143
Weiland, James* (University of Southern California); Humayun, Mark (University of Southern California); Eckhardt, Helmut (Premitec, Inc.); Ufer, Stefan (Premitec Inc.); LAUDE, Lucien (USC); Basinger, Brooke (University of Southern California); Tai, Yu-Chong (California Institute of Technology)	
17:10-17:25	FrE07.3
Combining Microfluidics and Electrochemical Detection	4144-4146
Ferrigno, Rosaria* (Université Claude Bernard Lyon 1); Pittet, Patrick (Université Claude Bernard Lyon 1); STEPHAN, Khaled (Université Claude Bernard Lyon 1); Leca-Bouvier, Béatrice (Université Claude Bernard Lyon 1); Galvan, Jean-Marc (CPE); Renaud, Louis (Université Claude Bernard Lyon 1); Morin, Pierre (Université Lyon1 Claude Bernard)	

17:25-17:40		FrE07.4
Microfluidic Cellular and Molecular Detection for Lab-On-A-Chip Applications	4147-4149	
Lee, Abraham* (University of California, Irvine)		
17:40-17:55		FrE07.5
Novel Laser Therapy and Diagnosis Using Mid-Infrared Laser	4150-4153	
Awazu, Kunio* (Osaka University); Ishii, Katsunori (Osaka University); Hazama, Hisanao (Osaka University)		
17:55-18:10		FrE07.6
Fluorescence Biosensing in Nanopores	4154-4157	
Karolin, Jan Olof* (University of Strathclyde); Birch, David (University of Strathclyde)		
FrE08: 16:40-18:10		Marquette VIII
4.7.1 Emerging Topics in Computational Bioinformatics and Systems Biology (Oral Session)		
Chair: May Dongmei Wang, Georgia Tech and Emory University		
Co-Chair: Daniel A. Beard, Medical Coll. of Wisconsin		
16:40-16:55		FrE08.1
Ontologies for Cancer Nanotechnology Research	4158-4161	
Thomas, Dennis George* (Washington University in St. Louis); Pappu, Rohit (Washington University in St. Louis); Baker, Nathan (Washington University in St. Louis)		
16:55-17:10		FrE08.2
Emerging Translational Bioinformatics: Knowledge-Guided Biomarker Identification for Cancer Diagnostics	4162-4165	
Phan, John H.* (Georgia Institute of Technology); Yin-Goen, Qiqin (Emory University); Young, Andrew N (Emory University); Wang, May Dongmei (Georgia Tech and Emory University)		
17:10-17:25		FrE08.3
Structure of Brain Functional Networks	4166-4170	
Kuchalev, Oleksii (University of California, Irvine); Wang, Po T (University of California Irvine); Nenadic, Zoran* (UC Irvine); Przulj, Natasa (University of California Irvine)		
17:25-17:40		FrE08.4
Design of Experiments for Identification of Complex Biochemical Systems with Applications to Mitochondrial Bioenergetics	4171-4174	
Vinnakota, Kalyan* (Medical College of Wisconsin); Beard, Daniel A. (Medical College of Wisconsin); Dash, Ranjan (Medical College of Wisconsin)		
17:40-17:55		FrE08.5
Visual Annotation of the Gene Database	4175-4177	
Wen, Jing (University of Illinois At Chicago); Wang, Xishu (University of Illinois At Chicago); Kibbe, Warren (Northwestern University); Lin, Simon (Northwestern University); Lu, Hui* (University of Illinois at Chicago)		
17:55-18:10		FrE08.6
SimpleVisGrid: Grid Services for Visualization of Diverse Biomedical Knowledge and Molecular Systems Data	4178-4181	
Stokes, Todd* (Georgia Institute of Technology); Wang, May Dongmei (Georgia Tech and Emory University)		
FrE09: 16:40-18:10		Marquette II
5.11.1 Nonlinear Dynamics in Cardiac Electrophysiology (Oral Session)		
Chair: Alena Talkachova, University of Minnesota		
16:40-17:10		FrE09.1
Effects of Hypocalcemia on Electrical Restitution and Ventricular Fibrillation	4182-4185	
Riccio, Mark (Cornell University); Hua, Fei (Cornell University); Lomonte, Dina (Cornell University); Venator, Kurt (Cornell University); Cerdá-González, Sophia (Cornell University); Gilmour, Robert* (Cornell University)		
17:10-17:25		FrE09.2
Spatial Heterogeneity of Restitution Properties and the Onset of Alternans	4186-4189	
Dobrovolny, Hana Maria* (Ryerson University); Berger, Carolyn (Duke University Physics Department); Brown, Ninita H. (Duke University); Neu, Wanda Krassowska (Duke University); Gauthier, Daniel J (Duke University)		

17:25-17:40		FrE09.3
Electrotomic Effects on Action Potential Duration in Perfused Rat Hearts	4190-4193	
Walton, Richard David (University of Leeds); Bernus, Olivier* (University of Leeds)		
17:40-17:55		FrE09.4
Monitoring Intramyocardial Reentry Using Alternating Transillumination	4194-4197	
Mitre, Bogdan G* (SUNY Upstate Medical University); Wellner, Marcel (SUNY Upstate Medical University); Pertsov, Arkady M. (SUNY Upstate Medical University)		
17:55-18:10		FrE09.5
Measures of Cardiac Contractility Variability During Ischemia	4198-4201	
Patangay, Abhilash* (Boston Scientific Corporation); Zhang, Yi (Boston Scientific Corporation); Lewicke, Aaron (Boston Scientific)		
FrE10: 16:40-18:10		Grand Ballroom - Salon C
6.5.1 Neural Sensing and Applications (Oral Session)		
Chair: Pedram Mohseni, Case Western Reserve University		
Co-Chair: Dustin Tyler, Case Western Res. Univ.		
16:40-16:55		FrE10.1
A Micropower Support Vector Machine Based Seizure Detection Architecture for Embedded Medical Devices	4202-4205	
Shoeb, Ali (Massachusetts Institute of Technology); Carlson, David* (Medtronic); Panken, Eric (Medtronic); Denison, Timothy (Medtronic)		
16:55-17:10		FrE10.2
Improved Decoding of Limb-State Feedback from Natural Sensors	4206-4209	
Wagenaar, Joost (University of Pittsburgh); Ventura, Valerie (Carnegie Mellon University); Weber, Douglas* (University of Pittsburgh)		
17:10-17:25		FrE10.3
Neural Sensing of Electrical Activity with Stretchable Microelectrode Arrays	4210-4213	
Yu, Zhe (Columbia University); Graudejus, Oliver (Princeton University); Lacour, Stéphanie (University of Cambridge); Wagner, Sigurd (Princeton University); Morrison, Barclay* (Columbia University)		
17:25-17:40		FrE10.4
A Biomimetic Adaptive Algorithm and Low-Power Architecture for Implantable Neural Decoders	4214-4217	
Rapoport, Benjamin Isaac* (Massachusetts Institute of Technology); Wattanapanitch, Woradorn (Massachusetts Institute of Technology); Penagos, Hector L. (Massachusetts Institute of Technology); Musallam, Sam (Caltech); Anderson, Richard A. (Caltech); Sarapeshkar, Rahul (Massachusetts Institute of Technology)		
17:40-17:55		FrE10.5
Micropower Non-Contact EEG Electrode with Active Common-Mode Noise Suppression and Input Capacitance Cancellation	4218-4221	
Chi, Yu* (UCSD); Cauwenberghs, Gert (University of California San Diego)		
17:55-18:10		FrE10.6
A Configurable IC for Wireless Real-Time In Vivo Monitoring of Chemical and Electrical Neural Activity	4222-4225	
Roham, Masoud (Case Western Reserve University); Blaha, Charles (University of Memphis); Garris, Paul (Mayo Clinic); Lee, Kendall (Mayo Clinic); Mohseni, Pedram* (Case Western Reserve University)		
FrE11: 16:40-18:10		Marquette I
6.1.2 Neural Modeling and Computing II (Oral Session)		
Chair: John White, University of Utah		
Co-Chair: Dominique Durand, Case Western Res. Univ.		
16:40-17:10		FrE11.1
Mechanisms of Coherent Activity in Hippocampus and Entorhinal Cortex	4226-4227	
White, John* (University of Utah); Fernandez, Fernando (University of Utah); Kispersky, Tilman (Boston University)		

17:10-17:25		FrE11.2
Customizing Deep Brain Stimulation to the Patient Using Computational Models	4228-4229	
McIntyre, Cameron* (Cleveland Clinic Foundation)		
17:25-17:40		FrE11.3
Deep Brain Stimulation That Abolishes Parkinsonian Activity in Basal Ganglia Improves Thalamic Relay Fidelity in a Computational Circuit	4230-4233	
Dorval, Alan* (University of Utah); Panjwani, Neil (Duke University); Qi, Rosa (Duke University); Grill, Warren (Duke University)		
17:40-17:55		FrE11.4
Modeling Limbic Influences on Habituation Deficits in Chronic Tinnitus Aurium	4234-4237	
Haab, Lars* (Saarland University Hospital); Wallhäuser-Franke, Elisabeth (Zentralinstitut für seelische Gesundheit); Trenado, Carlos (Saarland University Hospital); Strauss, Daniel J. (Comp. Diagn. & Biocyb. Unit)		
17:55-18:10		FrE11.5
simEngine: A Low-Cost, High-Performance Platform for Embedded Biophysical Simulations	4238-4241	
Weinstein, Randy* (Simatra Modeling Technologies); Church, Christopher (Simatra Modeling Technologies); Lebsack, Carl (Simatra Modeling Technologies); Cook, Joshua E (Simatra Modeling Technologies); Sorensen, Michael (Georgia Institute of Technology)		
FrE12: 16:40-18:10		Marquette VI
7.8.1 Cellular Therapies and Regenerative Medicine (Oral Session)		
Chair: Bradley E. Layton, Drexel Univ.		
Co-Chair: Chun Wang, Univ. of Minnesota		
16:40-16:55		FrE12.1
Characterizing the Effects of Aligned Collagen Fibers and Ascorbic Acid Derivatives on Behavior of Rabbit Corneal Fibroblasts	4242-4245	
Phu, Donna* (Harvey Mudd College); Orwin, Elizabeth (Harvey Mudd College)		
16:55-17:10		FrE12.2
Thermoresponsive Hydrogel with Embedded Magnetic Nanoparticles for the Implementation of Shrinkable Medical Microrobots and for Targeting and Drug Delivery Applications	4246-4249	
Lapointe, Jacinthe* (Ecole Polytechnique de Montreal); Martel, Sylvain (Ecole Polytechnique de Montreal)		
17:10-17:25		FrE12.3
Conduction Analysis in Mixed Cardiomyocytes-Fibroblasts Cultures Using Microelectrode Arrays	4250-4253	
Roy, Shilpi* (Stanford University); Chen, Michael Q. (Stanford University); Kovacs, Gregory T.A. (Stanford University); Giovangrandi, Laurent (Stanford University)		
17:25-17:40		FrE12.4
Multidisciplinary Approach for In-Deep Assessment of Joint Prosthesis Failure	4254-4257	
Tessarolo, Francesco* (University of Trento); Caola, Iole (Azienda Provinciale per i Servizi Sanitari); Piccoli, Federico (Azienda Provinciale per i Servizi Sanitari); Dorigotti, Paolo (Azienda Provinciale per i Servizi Sanitari); Demattè, Ettore (Azienda Provinciale per i Servizi Sanitari); Molinari, Marco (Azienda Provinciale per i Servizi Sanitari); Malavolta, Michele (Azienda Provinciale per i Servizi Sanitari); Barbareschi, Mattia (Azienda Provinciale per i Servizi Sanitari); Caciagli, Patrizio (Azienda Provinciale per i Servizi Sanitari); Nollo, Giandomenico (University of Trento)		
17:40-17:55		FrE12.5
Association between Mechanics and Structure in Arteries and Veins: Theoretical Approach to Vascular Graft Confection	4258-4261	
Salvucci, Fernando* (Favaloro University); Armentano, Ricardo (Favaloro University); Bia, Daniel (School of Medicine, Republic University); Barra, Juan (Favaloro University); Zócalo, Yanina (School of Medicine, Republic University); Craiem, Damian (Favaloro University); Atienza, Jose (Technical University of Madrid); Rojo, Francisco (Technical University of Madrid); Guinea, Gustavo (Technical University of Madrid); Baguer, Federico (Universidad Favaloro); Fernandez, Juan (Universidad de la República)		

17:55-18:10	FrE12.6
Ultrasound Elastography to Determine the Layered Mechanical Properties of Articular Cartilage and the Importance of Such Structural Characteristics under Load	4262-4265
<i>McCredie, Alexandra Jane* (University College London); Stride, Eleanor (University College, London); Saffari, Nader (University College London)</i>	

FrE13: 16:40-18:10	Conrad D
8.8.1 Multiscale Biomechanics (Oral Session)	
Chair: Vicente Grau, <i>Univ. of Oxford</i>	
Co-Chair: Victor Barocas, <i>Univ. of Minnesota</i>	

16:40-16:55	FrE13.1
Coarse-Grained Red Blood Cell Model with Accurate Mechanical Properties, Rheology and Dynamics	4266-4269
<i>Fedorov, Dmitry A.* (Brown University); Caswell, Bruce (Brown University); Karniadakis, George Em (Brown University)</i>	

16:55-17:10	FrE13.2
Image-Based Multiscale Structural Models of Fibrous Engineered Tissues	4270-4272
<i>Sander, Ed (University of Minnesota); Barocas, Victor* (University of Minnesota)</i>	

17:10-17:25	FrE13.3
Developing a Hybrid Computational Model of AFM Indentation for Analysis of Mechanically Heterogeneous Samples	4273-4276
<i>Azeloglu, Evren U. (Mount Sinai School of Medicine); Kaushik, Gaurav (Columbia University); Costa, Kevin D.* (Mount Sinai School of Medicine)</i>	

17:25-17:40	FrE13.4
Multiscale Finite Element Modeling of the Lamina Cribrosa Microarchitecture in the Eye	4277-4280
<i>Downs, J. Crawford* (Devers Eye Institute); Roberts, Michael (Devers Eye Institute); Hart, Richard (The Ohio State University); Burgoyne, Claude (Devers Eye Institute Discoveries in Sight Research Laboratories)</i>	

17:40-17:55	FrE13.5
Multi-Scale Modeling of Excitation-Contraction Coupling in the Normal and Failing Heart	4281-4282
<i>Kerckhoffs, Roy* (University of California San Diego); Campbell, Stuart (University of California San Diego); Flaim, Sarah (Oxford University); Howard, Elliot (University of California San Diego); Aguado-Sierra, Jazmin (University of California, San Diego); Mulligan, Lawrence (Medtronic, Inc.); McCulloch, Andrew (University of California, San Diego)</i>	

FrE14: 16:40-18:10	Marquette III
9.3.1 Image-Guided Therapies (Oral Session)	
Chair: Dieter Haemmerich, <i>Medical Univ. of South Carolina</i>	
Co-Chair: John Bischof, <i>Univ. of Minnesota</i>	

16:40-16:55	FrE14.1
Monitoring and Guidance of Minimally-Invasive Thermal Therapy Using Diagnostic Ultrasound	4283-4286
<i>Ebbini, Emad* (University of Minnesota); Bischof, John (University of Minnesota)</i>	

16:55-17:10	FrE14.2
Sequential Activation of Ground Pads Reduces Skin Heating During Radiofrequency Ablation: Initial In Vivo Porcine Results	4287-4290
<i>Schutt, David J. (Medical University of South Carolina); Swindle, M. Michael (Medical University of South Carolina); Bastarrika, Gorka (Medical University of South Carolina); Haemmerich, Dieter* (Medical University of South Carolina)</i>	

17:10-17:25	FrE14.3
Image-Guided Thermochemical Ablation: Theoretical and Practical Considerations	4291-4294
<i>Cressman, Erik* (University of Minnesota)</i>	

17:25-17:40	FrE14.4
Differential and Directional Effects of Perfusion on Electrical and Thermal Conductivities in Liver	4295-4298
<i>Podhajsky, Ronald* (Convidien / Energy-based Devices); Yi, Ming (Virginia Tech); Mahajan, Roop (Virginia Tech)</i>	

17:40-17:55		FrE14.5
Periodic Contrast-Enhanced Computed Tomography for Thermal Ablation Monitoring: A Feasibility Study	4299-4302	
Brace, Christopher* (University of Wisconsin); Mistretta, Charles (University of Wisconsin); Hinshaw, J Louis (University of Wisconsin); Lee, Fred (University of Wisconsin)		
17:55-18:10		FrE14.6
Numerical Models of Laser Fusion of Intestinal Tissues	4303-4306	
Pearce, John Anthony* (University of Texas at Austin)		
FrE15: 16:40-18:10		Marquette IX
10.4.2 Ambient Assisted Living, Smart Homes for the Elderly with Chronic Diseases (Oral Session)		
Chair: Toshiyo Tamura, Chiba Univ.		
Co-Chair: Majd Alwan, AAHSA		
16:40-16:55		FrE15.1
Passive In-Home Health and Wellness Monitoring: Overview, Value and Examples	4307-4310	
Alwan, Majd* (American Association of Homes and Services for the Aging(AAHSA))		
16:55-17:10		FrE15.2
Privacy and Social Implications of Distinct Sensing Approaches to Implementing Smart Homes for Older Adults	4311-4314	
Demiris, George* (University of Washington)		
17:10-17:25		FrE15.3
How Do Health Care Providers Perceive Technologies for Monitoring Older Adults?	4315-4318	
Thompson, Hilaire* (University of Washington); Thielke, Stephen (University of Washington)		
17:25-17:40		FrE15.4
Sleep Assessment Using a Passive Ballistocardiography-Based System: Preliminary Validation	4319-4322	
Mack, David* (WellAWAKE Systems); Patrie, James (University of Virginia); Felder, Robin (The University of Virginia); Suratt, Paul (University of Virginia Medical School); Alwan, Majd (American Association of Homes and Services for the Aging(AAHSA))		
17:40-17:55		FrE15.5
A Fully Automated Health-Care Monitoring at Home without Attachment of Any Biological Sensors and Its Clinical Evaluation	4323-4326	
Motoi, Kosuke* (Kanazawa University); Ueno, Hiroshi (Imizu City Hospital); Kuwae, Yutaka (Fujimoto Hayasuzu Hospital); Ikarashi, Akira (Ishikawa Sunrise Industries Creation); Yuji, Tadahiko (Fujimoto Hayasuzu Hospital); Higashi, Yuji (Fujimoto Hayasuzu Hospital); Tanaka, Shinobu (Kanazawa University); Fujimoto, Toshiro (Fujimoto Hayasuzu Hospital); Asano, Hidetsugu (Imizu City Hospital); Yamakoshi, Ken-ichi (Kanazawa University)		
17:55-18:10		FrE15.6
Recreation Activity Monitoring System Using Proximity Sensors	4327-4330	
Tsukamoto, Sosuke* (Tokyo Denki University); Tsumagari, Yuko (Fujimoto Hayasuzu Hospital); Hoshino, Hiroshi (Tokyo Denki University); Tamura, Toshiyo (Chiba University)		
FrE16: 16:40-18:10		Grand Ballroom - Salon A
S 2. Federal Funding in Biomedical Engineering (Special Symposium)		
Chair: Bin He, Univ. of Minnesota		
Co-Chair: Semahat Demir, National Science Foundation		
16:40-17:00		FrE16.1
Cohen, Zohara (National Institute of Biomedical Imaging and Bioengineering, NIH)		
17:00-17:20		FrE16.2
Demir, Semahat (National Science Foundation)		
17:20-17:40		FrE16.3
Charles, John B. (NASA Johnson Space Center)		

17:40-18:00

FrE16.4

Xu, Guo Feng (*National Institutes of Health*)

FrE17: 16:40-18:10

Directors Row 4

SS 3. Writing Scientific Articles (Special Session)
Chair: Matthias Reumann, *IBM T. J. Watson Res. Center*
Co-Chair: Cristian A. Linte, *Robarts Res. Inst.*

Saturday, 5 September 2009

SaPL1: 08:30-09:30

Grand Ballroom - Salon D

Plenary Lecture III
Chair: Xiaochuan Pan, *Univ. of Chicago*

08:30-09:30

SaPL1.1

Biological Engineering & Systems Biology – New Opportunities for Engineers in Biotech/Pharma Industry
*Lauffenburger, Douglas** (*Massachusetts Institute of Technology*)

*

SaKN4L: 09:40-11:10

Grand Ballroom - Salon A

Theme Keynote IV
Chair: Bruce Wheeler, *Univ. of Florida*

09:40-11:10

SaKN4L.1

Molecular Imaging with PET, A Revolution in Biological Research and Practice of Medicine
*Alavi, Abass** (*University of Pennsylvania School of Medicine*)

*

SaA01: 09:40-11:10

Conrad B

1.2.8 Biomedical Modelling (Oral Session)

Chair: Dong Ming, *Tianjin Univ.*

Co-Chair: Daniel A. Beard, *Medical Coll. of Wisconsin*

09:40-09:55

SaA01.1

Forecasting Intracranial Pressure Elevation Using Pulse Waveform Morphology **4331-4334**
*Hamilton, Robert** (*University of California, Los Angeles*); *Xu, Peng* (*University of California, Los Angeles*);
Vespa, Paul (*University of California, Los Angeles*); *Bergsneider, Marvin* (*University of California, Los Angeles*);
Hu, Xiao (*University of California, Los Angeles*)

09:55-10:10

SaA01.2

Enhanced EMG Signal Processing for Simultaneous and Proportional Myoelectric Control **4335-4338**
*Nielsen, Johnny Luther Gredal** (*Aalborg University*); *Holmgaard, Steffen* (*Aalborg University*); *Jiang, Ning* (*Aalborg University*); *Farina, Dario* (*Aalborg University*); *parker, philip* (*university of new brunswick*);
Englehart, Kevin (*University of New Brunswick*)

10:10-10:25

SaA01.3

A Fuzzy Logic Model for Hand Posture Control Using Human Cortical Activity Recorded by Micro-ECoG Electrodes **4339-4342**
*vinjamuri, ramana** (*Univ. of Pittsburgh*); *Weber, Douglas* (*Univ. of Pittsburgh*); *Degenhart, Alan* (*Univ. of Pittsburgh*); *Collinger, Jennifer* (*Univ. of Pittsburgh*); *Sudre, Gustavo* (*Carnegie Mellon Univ.*); *Adelson, P. David* (*Children's Neuroscience Institute, Phoenix Children's Hospital*); *Holder, Deborah* (*Univ. of Pittsburgh*);
Boninger, Michael (*Univ. of Pittsburgh*); *Schwartz, Andrew* (*Univ. of Pittsburgh*); *Crammond, Donald* (*Univ. of Pittsburgh*); *Tyler-Kabara, Elizabeth* (*Univ. of Pittsburgh*); *Wang, Wei* (*Univ. of Pittsburgh*)

10:25-10:40

SaA01.4

Data Mining of Patients on Weaning Trials from Mechanical Ventilation Using Cluster Analysis and Neural Networks **4343-4346**
Arizmendi, Carlos (*Technical University of Catalonia (UPC)*); *Romero, Enrique* (*Technical University of Catalonia (UPC)*); *Alquezar, René* (*Technical University of Catalonia (UPC)*); *Caminal, Pere* (*Technical University of Catalonia (UPC)*); *Diaz, Ivan* (*Hospital de la Santa Creu i Sant Pau*); *Benito, Salvador* (*Hospital de la Santa Creu i Sant Pau*); *Giraldo, Beatriz** (*Universitat Politècnica de Catalunya*)

10:40-10:55	SaA01.5
Electroencephalograph (EEG) Signal Processing Method of Motor Imaginary Potential for Attention Level Classification	4347-4351
Ming, Dong* (Tianjin University)	
10:55-11:10	SaA01.6
RBF Kernel Based Support Vector Regression to Estimate the Blood Volume and Heart Rate Responses During Hemodialysis	4352-4355
Javed, Faizan* (University of New South Wales); Chan, Gregory S H (The University of New South Wales); Savkin, Andrey (University of New South Wales); Middleton, Paul MacConachie (University of New South Wales); Malouf, Philip (Prince of Wales Hospital, Sydney); Steel, Elizabeth (Prince of Wales Hospital Sydney); Mackie, James (Prince of Wales Hospital, Sydney); Lovell, Nigel H (University of New South Wales)	
SaA02: 09:40-11:10	Conrad C
1.3.1 Nonlinear Dynamic Analysis of Biomedical Signals (Oral Session)	
Chair: David Westwick, Univ. of Calgary	
Co-Chair: Robert Edward Kearney, McGill Univ.	
09:40-09:55	SaA02.1
Monitoring Cardiac Output and Left Atrial Pressure by Analysis of the Right Ventricular Pressure Waveform Based on Missing Output Identification	4356-4359
Xu, Da (Michigan State University); Olivier, Bari (Michigan State University); Mukkamala, Ramakrishna* (Michigan State University)	
09:55-10:10	SaA02.2
Nonlinear, Data-Driven Modeling of Cardiorespiratory Control Mechanisms	4360-4366
Mitsis, Georgios D.* (University of Cyprus)	
10:10-10:25	SaA02.3
Identification of Hammerstein Systems Using Subspace Methods with Applications to Ankle Joint Stiffness	4367-4370
Zhao, Yong (McGill University); Kearney, Robert Edward* (McGill University)	
10:25-10:40	SaA02.4
Nonlinear Modeling and Identification of Stretch Reflex Dynamics Using Support Vector Machines	4371-4374
Westwick, David* (University of Calgary); Al Dhaifallah, Mujahed (University of Calgary)	
10:40-10:55	SaA02.5
Multistate Lempel-Ziv Index Interpretation As a Measure of Amplitude and Complexity Changes	4375-4378
Sarlabous, Leonardo* (Universitat Politècnica de Catalunya (UPC)); Torres, Abel (Universitat Politècnica de Catalunya (UPC), Institute for Bioengineering of Catalonia (IBEC) and CIBER de Bioingeniería, Biomate); Fiz Fernandez, José Antonio (Navarra Hospital); Gea, Joaquim (IMIM- Hospital del Mar, UPF, CIBERES); Galdiz, Juan Bautista (Hospital Cruces); Jané, Raimon (Universitat Politècnica de Catalunya)	
10:55-11:10	SaA02.6
Detection of Chaos in Human Fatigue Mechanomyography Signals	4379-4382
Xie, Hong-Bo* (The Hong Kong Polytechnic University)	
SaA03: 09:40-11:10	Grand Ballroom - Salon B
2.1.6 MR Cardiovascular Imaging (Oral Session)	
Chair: Jim Xiuquan Ji, Texas A&M Univ.	
Co-Chair: Yi Wang, Cornell Univ.	
09:40-09:55	SaA03.1
Real-Time Cardiac MRI Using Prior Spatial-Spectral Information	4383-4386
Brinegar, Cornelius* (Univ of Illinois at Urbana-Champaign); Zhang, Haosen (Pittsburgh NMR Center for Biomedical Research); Wu, Yijen L. (Carnegie Mellon University); Foley, Lesley (Carnegie Mellon University); Hitchens, T. Kevin (Carnegie Mellon University); Ye, Qing (Carnegie Mellon University); Poccia, Darren (University Of Illinois at Urbana-Champaign); Lam, Fan (University of Illinois at Urbana Champaign); Ho, Chien (Carnegie Mellon University); Liang, Zhi-Pei (University of Illinois at Urbana-Champaign)	

09:55-10:10	SaA03.2
A MRI Myocardial Perfusion Analysis Tool	4387-4390
Née, Guillaume* (Greyc CNRS 6072 - Université de Caen - Ensicaen); Jehan-Besson, Stéphanie (Laboratoire LIMOS); Brun, Luc (Greyc CNRS 6072 - Université de Caen - Ensicaen); Revenu, Marinette (Greyc CNRS 6072 - Université de Caen - Ensicaen); Hamon, Michèle (CHU Caen); Hamon, Martial (CHU Caen); Perrin, Muriel (GE)	
10:10-10:25	SaA03.3
An Image Processing Algorithm for the In-Vivo Quantification and Visualization of Septum Motion in Type III B - Aortic Dissections with Cine Magnetic Resonance Imaging	4391-4394
Karmonik, Christof* (The Methodist Hospital Neurological Inst); Bismuth, Jean (The Methodist Hospital DeBakey Heart and Vascular Center); Davies, Mark (The Methodist DeBakey Heart and Vascular Center); Younes, Houssam (The Methodist DeBakey Heart and Vascular Center); Lumsden, Alan (The Methodist DeBakey Heart and Vascular Center)	
10:25-10:40	SaA03.4
MR Investigation of the Coupling between Myocardial Fiber Architecture and Cardiac Contraction	4395-4398
Wu, Yin* (Shenzhen Institute of Advanced Technology); Wu, Ed X. (The University of Hong Kong)	
10:40-10:55	SaA03.5
Segmentation and Length Measurement of the Abdominal Blood Vessels in 3D MRI Images	4399-4402
Babin, Danilo* (Ghent University)	
10:55-11:10	SaA03.6
An Automated Quantification of the Transmural Myocardial Infarct Extent Using Cardiac DE-MR Images	4403-4406
EL-Berbari, Racha* (INSERM); Kachenoura, Nadjia (INSERM); FROUIN, Frédérique (INSERM); Herment, Alain (INSERM); Mousseaux, Elie (HEGP); Bloch, Isabelle (Télécom ParisTech - CNRS UMR 5141 LTCI)	
<p>SaA04: 09:40-11:10 Duluth Room</p> <p>2.2.2 Ultrasound Imaging I (Oral Session)</p> <p>Chair: Elisa Konofagou, Columbia Univ.</p> <p>Co-Chair: Andrew Laine, Columbia Univ.</p>	
09:40-09:55	SaA04.1
Key Parameters for Precise Lateral Displacement Estimation in Ultrasound Elastography	4407-4410
Luo, Jianwen (Columbia University); Konofagou, Elisa* (Columbia University)	
09:55-10:10	SaA04.2
Measurement of Tissue Mechanical Properties with Shear Wave Dispersion Ultrasound Vibrometry (SDUV)	4411-4414
Greenleaf, James* (Mayo Clinic); Urban, Matthew (Mayo Clinic College of Medicine); Chen, Shigao (Mayo Clinic College of Medicine)	
10:10-10:25	SaA04.3
Vibro-Acoustography Imaging Applications for the Prostate	4415-4419
Fatemi, Mostafa (Mayo Clinic); Mitri, Farid G.* (Mayo Clinic)	
10:25-10:40	SaA04.4
Screening of Thyroid Nodules by Ultrasound Elastography Using Diastolic Strain Variation	4420-4423
Luo, Si* (University of Washington); Kim, Eung-Hun (University of Washington); Dighe, Manjiri (University of Washington); Kim, Yongmin (University of Washington)	
10:40-10:55	SaA04.5
Ultrasonic Viscoelasticity Imaging of Nonpalpable Breast Lesions	4424-4427
Qiu, Yupeng* (University of Illinois at Urbana-Champaign); Insana, Michael F. (University of Illinois)	
10:55-11:10	SaA04.6
In Vitro Renal Cortex Elasticity and Viscosity Measurements with Shearwave Dispersion Ultrasound Vibrometry (SDUV) on Swine Kidney	4428-4431
Amador, Carolina* (Mayo Clinic College of Medicine); Urban, Matthew (Mayo Clinic College of Medicine); Warner, Lizette (Mayo Clinic); Greenleaf, James (Mayo Clinic)	

SaA05: 09:40-11:10	Marquette V
2.9.2 Neuroimaging I (Oral Session)	
Chair: Bradley Roth, <i>Oakland Univ.</i>	
Co-Chair: Michael L.G. Joy, <i>Univ. of Toronto</i>	

09:40-09:55	SaA05.1
Magnetic Resonance Electric Property Imaging of Brain Tissues	4432-4435
Zhang, Xiaotong* (<i>University of Minnesota</i>); Zhu, Shanan (<i>Zhejiang University</i>); He, Bin (<i>University of Minnesota</i>)	
09:55-10:10	SaA05.2
Functional MRI of Postnatal Visual Development in Normal Rat Superior Colliculi	4436-4439
Chan, Kevin C. (<i>The University of Hong Kong</i>); Xing, Kai (<i>The University of Hong Kong</i>); Cheung, Matthew M. (<i>The University of Hong Kong</i>); Zhou, Iris Yuwen (<i>The University of Hong Kong</i>); Wu, Ed X.* (<i>The University of Hong Kong</i>)	
10:10-10:25	SaA05.3
Extended Time-Frequency Granger Causality for Evaluation of Functional Network Connectivity in Event-Related fMRI Data	4440-4443
Havlicek, Martin (<i>Brno University of Technology</i>); Jan, Jiri* (<i>Brno University of Technology</i>); Calhoun, Vince (<i>The Mind Research Network/University of New Mexico</i>); Brazdil, Milan (<i>Masaryk University Brno</i>)	
10:25-10:40	SaA05.4
A Bayesian Spatio - Temporal Approach for the Analysis of fMRI Data with Non - Stationary Noise	4444-4448
Oikonomou, Vangelis (<i>University of Ioannina</i>); Tripoliti, Evangelia* (<i>University of Ioannina</i>); Fotiadis, Dimitrios I. (<i>University of Ioannina</i>)	
10:40-10:55	SaA05.5
Effect on BOLD Sensitivity Due to Susceptibility-Induced Echo Time Shift in Spiral-In Based Functional MRI	4449-4452
Zhuo, Yue* (<i>University of Illinois at Urbana-Champaign</i>); Sutton, Bradley P. (<i>University of Illinois at Urbana-Champaign</i>)	

SaA06: 09:40-11:10	Conrad A
3.1.3 Sensor Technology (Oral Session)	
Chair: Gang Yao, <i>Univ. of Missouri</i>	
Co-Chair: Lei Wang, <i>Shenzhen Inst. of Advanced Tech.</i>	

09:40-09:55	SaA06.1
Accelerometer Based Measurement for the Mapping of Neck Surface Vibrations During Vocalized Speech	4453-4456
Nolan, Mark* (<i>Dublin Institute of Technology</i>); Madden, Brian (<i>Dublin Institute of Technology</i>); Burke, Edward (<i>Dublin Institute of Technology</i>)	
09:55-10:10	SaA06.2
Intervention of Cardiomyocyte Death Based on the Impedance-Sensing Technique of Monitoring Cell Adhesion	4457-4460
Qiu, Yiling (<i>Boston University</i>); Liao, Ronglih (<i>Brigham and Women's Hospital, Harvard Medical School</i>); Xin, Zhang* (<i>Boston University</i>)	
10:10-10:25	SaA06.3
Validation of Human Skin Models in the MHz Region.	4461-4464
Huclova, Sonja* (<i>ETH Zurich</i>); Froehlich, Juerg (<i>Swiss Federal Institute of Technology Zurich (ETH)</i>); Falco, Lisa (<i>Solianis Monitoring AG</i>); Dewarrat, Francois (<i>Solianis Monitoring AG</i>); Talary, Mark S. (<i>Solianis Monitoring AG</i>); Vahldieck, Ruediger (<i>ETH Zurich</i>)	
10:25-10:40	SaA06.4
Monitoring Change of Body Fluids During Physical Exercise Using Bioimpedance Spectroscopy	4465-4468
Beckmann, Lisa* (<i>RWTH Aachen University</i>); Hahne, Sebastian (<i>RWTH Aachen University</i>); Medrano, Guillermo (<i>Aachen University</i>); Kim, Saim (<i>RWTH Aachen University</i>); Walter, Marian (<i>RWTH Aachen University</i>); Leonhardt, Steffen (<i>RWTH Aachen University</i>)	

10:40-10:55	SaA06.5
A Sensing Tube with an Integrated Piezoelectric Flow Sensor for Liver Transplantation	4469-4472
Jung, Wooseok* (<i>University of Cincinnati</i>)	
10:55-11:10	SaA06.6
A Low-Offset Analogue Front-End IC for Multi-Channel Physiological Signal Acquisition	4473-4476
ZHANG, Jinyong (<i>Shenzhen Institutes of Advanced Technology</i>); Wang, Lei* (<i>Shenzhen Institute of Advanced Technology</i>); YU, Li (<i>Shenzhen Institutes of Advanced Technology</i>); YANG, Yabei (<i>Shenzhen Institutes of Advanced Technology</i>); Zhang, Yuan-Ting (<i>The Chinese University of Hong Kong</i>); Li, Bin (<i>South China University of Technology</i>)	
SaA07: 09:40-11:10	Marquette VII
3.10.1 Minisymposium: Frontier of Nano Magnetic Materials, Devices and Systems in Biomedical Applications	
Chair: Jianping Wang, <i>Univ. of Minnesota</i>	
Co-Chair: Michael Neuman, <i>Michigan Tech. Univ.</i>	
09:40-10:10	SaA07.1
Plasmonic Magnetic Nanoparticles for Biomedicine	4477-4478
Lim, JitKang (<i>Carnegie Mellon University</i>); Tilton, Robert D. (<i>Carnegie Mellon University</i>); Majetich, Sara* (<i>Carnegie Mellon University</i>)	
10:10-10:40	SaA07.2
Microfabricated Multispectral MRI Agents: A Brief Overview	4479-4482
Zabow, Gary* (<i>NIST</i>)	
10:40-11:10	SaA07.3
High-Magnetic-Moment Nanoparticles for Biomedicine	4483-4486
Jing, Ying (<i>University of Minnesota</i>); He, Shihai (<i>University of Minnesota</i>); Kline, Timothy (<i>University of Minnesota</i>); Wang, Jian-Ping* (<i>University of Minnesota</i>)	
SaA08: 09:40-11:10	Marquette VIII
4.3.1 Algorithm for Physiome and Physiological Modeling (Oral Session)	
Chair: Peter Hunter, <i>Univ. of Auckland</i>	
Co-Chair: Daniel A. Beard, <i>Medical College of Wisconsin</i>	
09:40-09:55	SaA08.1
Creatine and Phosphate Pools Are Maintained at Energetically Optimal Levels in the Heart During Hypertrophic Remodeling and Heart Failure	4487-4490
Beard, Daniel A.* (<i>Medical College of Wisconsin</i>)	
09:55-10:10	SaA08.2
Functional Requirements of a Mathematical Model of the Heart	4491-4494
Palladino, Joseph* (<i>Trinity College</i>); Noordergraaf, Abraham (<i>University of Pennsylvania</i>)	
10:10-10:25	SaA08.3
Modelling Heart Beat Initiation and Propagation Using the MML Framework	4495-4498
Chang, David* (<i>University of New South Wales</i>); Dokos, Socrates (<i>University of New South Wales</i>); Lovell, Nigel H (<i>University of New South Wales</i>)	
10:25-10:40	SaA08.4
A Univariate Model of Calcium Release in the Dyadic Cleft of Cardiac Myocytes	4499-4503
Fan, Junjie (<i>University of Wisconsin-Milwaukee</i>); Yu, Zeyun* (<i>University of Wisconsin-Milwaukee</i>)	
10:40-10:55	SaA08.5
Spontaneous Termination of Atrial Fibrillation: Study of the Effect of Atrial Geometry in a Biophysical Model	4504-4507
Uldry, Laurent (<i>Swiss Federal Institute of Technology Lausanne (EPFL)</i>); Virag, Nathalie* (<i>Medtronic Europe</i>); Jacquemet, Vincent (<i>Duke University</i>); Vesin, Jean-Marc (<i>EPFL</i>); Kappenberger, Lukas (<i>University Hospital CHUV</i>)	

10:55-11:10	SaA08.6
Skin-Electrode Circuit Model for Use in Optimizing Energy Transfer in Volume Conduction Systems 4508-4511	
Hackworth, Steven A. (University of Pittsburgh); Sun, Mingui* (University of Pittsburgh); Sclabassi, Robert (University of Pittsburgh)	

SaA09: 09:40-11:10	Marquette II
5.3.1 Cardiac Electrophysiology (Oral Session)	
Chair: Lu Fei, Univ. of Minnesota	

Co-Chair: Abhijit Patwardhan, Univ. of Kentucky

09:40-09:55	SaA09.1
A Morphologically Realistic Shell Model of Atrial Propagation and Ablation	4512-4515
Al Abed, Amr (University of New South Wales); Dokos, Socrates* (University of New South Wales); Lovell, Nigel H (University of New South Wales)	

09:55-10:10	SaA09.2
A New Approach to Measure the Contribution of Restitution to Repolarization Alternans	4516-4518

Agarwal, Anuj* (University of Kentucky); Patwardhan, Abhijit (University of Kentucky)

10:10-10:25	SaA09.3
Variability of Action Potential Duration in Pharmacologically Induced Long QT Syndrome Type 1	4519-4522
Ring, Caroline* (Duke University); Idriss, Salim F. (Duke University Medical Center); Neu, Wanda Krassowska (Duke University)	

10:25-10:40	SaA09.4
A Novel Near-Infrared Voltage-Sensitive Dye Reveals the Action Potential Wavefront Orientation at Increased Depths of Cardiac Tissue	4523-4526
Walton, Richard David* (University of Leeds); Mitrea, Bogdan G (SUNY Upstate Medical University); Pertsov, Arkady M. (SUNY Upstate Medical University); Bernus, Olivier (University of Leeds)	

10:40-10:55	SaA09.5
Enhanced Susceptibility to Alternans in a Rabbit Model of Chronic Myocardial Infarction	4527-4530
Lou, Qing* (Washington University in St. Louis); Efimov, Igor (Washington University in St. Louis)	

SaA10: 09:40-11:10	Grand Ballroom - Salon C
6.4.3 Brain-Computer Interface (Oral Session)	
Chair: Han Yuan, University of Minnesota	

Co-Chair: Cuntai Guan, Inst. for Infocomm Res.

09:40-09:55	SaA10.1
Adaptive Active Auditory Brain Computer Interface	4531-4534
Hong, Bo* (Tsinghua university); Lou, Bin (Tsinghua University); Guo, Jing (Tsinghua University); Gao, Shangkai (Tsinghua University)	

09:55-10:10	SaA10.2
Cortical Decoding of Individual Finger and Wrist Kinematics for an Upper-Limb Neuroprosthesis	4535-4538
Aggarwal, Vikram* (Johns Hopkins University); Tenore, Francesco (Johns Hopkins University); Acharya, Soumyadipta (Johns Hopkins University); Schieber, Marc (University of Rochester); Thakor, Nitish (Johns Hopkins University)	

10:10-10:25	SaA10.3
Cortical Imaging of Sensorimotor Rhythms for BCI Applications	4539-4542
Yuan, Han* (University of Minnesota); He, Bin (University of Minnesota)	

10:25-10:40	SaA10.4
Comparison of Designs towards a Subject-Independent Brain-Computer Interface Based on Motor Imagery	4543-4546
Lotte, Fabien* (Institute for Infocomm Research); Guan, Cuntai (Institute for Infocomm Research); Ang, Kai Keng (Institute for Infocomm Research)	

10:40-10:55	SaA10.5
EEG-Based Online Two-Dimensional Cursor Control	4547-4550
<i>Huang, Dandan* (Virginia Commonwealth University); Lin, Peter (National Institute of Neurological Disorders, National Institutes of Health); Fei, Ding-Yu (Virginia Commonwealth University); Chen, Xuedong (Huazhong University); Bai, Ou (Virginia Commonwealth University)</i>	
10:55-11:10	SaA10.6
Learning to Use a Brain-Machine Interface: Model, Simulation and Analysis	4551-4554
<i>Jimenez, Jessica (University of California Berkeley); Héliot, Rodolphe (UC Berkeley); Carmena, Jose M.* (University of California, Berkeley)</i>	
SaA11: 09:40-11:10	Marquette I
6.3.1 Neural Prostheses I (Oral Session)	
Chair: James Weiland, <i>University of Southern California</i>	
Co-Chair: Bradley Greger, <i>Univ. of Utah</i>	
09:40-09:55	SaA11.1
Sparse Generalized Laguerre-Volterra Model of Neural Population Dynamics	4555-4558
<i>Song, Dong* (University of Southern California); Chan, Rosa H. M. (University of Southern California); Marmarelis, Vasilis (University of Southern California); Hampson, Robert (Wake Forest University); Deadwyler, Sam (Wake Forest University); Berger, Theodore (University of Southern California)</i>	
09:55-10:10	SaA11.2
Nonstationary Modeling of Neural Population Dynamics	4559-4562
<i>Chan, Rosa H. M.* (University of Southern California); Song, Dong (University of Southern California); Berger, Theodore (University of Southern California)</i>	
10:10-10:25	SaA11.3
Microfluidic Neurotransmitter-Based Neural Interfaces for Retinal Prosthesis	4563-4565
<i>Iezzi, Raymond* (Mayo Clinic)</i>	
10:25-10:40	SaA11.4
Preliminary 6 Month Results from the ArgusTM II Epiretinal Prosthesis Feasibility Study	4566-4568
<i>Humayun, Mark (University of Southern California); Dorn, Jessy (Second Sight Medical Products); Humayun, Mark* (USC / Doheny Eye Institute); Caspi, Avi (Second Sight); Filley, Eugene (Retina Foundation of the Southwest); Dagnelie, Gislin (Johns Hopkins Univ); Salzmann, Joel (Geneva University Hospitals); Santos, Arturo (Universidad de Guadalajara); Duncan, Jacque (UCSF); da Cruz, Lyndon (Moorfields Eye Hospital); Mohand Said, Saddek (Centre Hospitalier Universitaire des XV XX); Elliott, Dean (University of Southern California Keck School of Medicine); Greenberg, Robert (Second Sight Medical Products, Inc.); McMahon, Matthew J. (Second Sight Medical Products Inc)</i>	
10:40-10:55	SaA11.5
Biomimetic Image Processing for Retinal Prosthesis – Simulated Vision Experiments	4569-4572
<i>Parikh, Neha (University of Southern California); McIntosh, Ben (University of Southern California); Tanguay, Armand (University of Southern California); Humayun, Mark (University of Southern California); Weiland, James* (University of Southern California)</i>	
10:55-11:10	SaA11.6
Multi-Scale Recordings for Neuroprosthetic Control of Finger Movements	4573-4577
<i>Baker, Justin* (University of Utah); Bishop, William (Johns Hopkins Applied Physics Lab); Kellis, Spencer (University of Utah); Levy, Todd (Johns Hopkins University); House, Paul (University of Utah); Greger, Bradley (University of Utah)</i>	
SaA12: 09:40-11:10	Marquette VI
7.2.1 Minisymposium: Bionanotechnology	
Chair: John Bischof, <i>Univ. of Minnesota</i>	
Co-Chair: Carston R. Wagner, <i>Univ. of Minnesota</i>	
09:40-10:10	SaA12.1
Biomedical Nanotechnology for Molecular Imaging, Diagnostics, and Targeted Therapy	4578-4579
<i>Nie, Shuming* (Emory University)</i>	

10:10-10:40	SaA12.2
Imaging Nanoparticle Stability and Activation in Vivo	4580-4581
Ferrara, Katherine* (UC Davis)	
10:40-11:10	SaA12.3
Satellite Nanoscope and Cellular BioASICs for Quantitative Biomedicine	4582-4585
Lee, Luke* (UC Berkeley)	
 SaA13: 09:40-11:10	 Conrad D
8.4.2 Human-Robot Interaction II (Oral Session)	
Chair: Silvestro Micera, Scuola Superiore Sant'Anna	
Co-Chair: José del R. Millán, Swiss Federal Inst. of Tech. Lausanne	
09:40-09:55	SaA13.1
On the Control of a Robot Hand by Extracting Neural Signals from the PNS: Preliminary Results from a Human Implantation	4586-4589
Micera, Silvestro* (Scuola Superiore Sant'Anna); Rigosa, Jacopo (Scuola Superiore Sant'Anna); Carpaneto, Jacopo (Scuola Superiore Sant'Anna); Citi, Luca (Institute for Advanced Studies on Biorobotic Engineering); Raspopovic, Stanisa (scuola Superiore Sant'Anna); Guglielmelli, Eugenio (Campus Bio-Medico University); Benvenuto, Antonella (Campus Biomedico University); Rossini, Luca (University Campus Biomedico of Rome); Di Pino, Giovanni (campus Biomedico University); Cavallo, Giuseppe (Campus Bio-Medico University); Carrozza, Maria Chiara (Scuola Superiore Sant'Anna); Dario, Paolo (Scuola Superiore Sant'Anna); Rossini, Paolo Maria (Campus Biomedico University)	
09:55-10:10	SaA13.2
Startle Stimuli Reduce the Internal Model Control in Discrete Movements	4590-4594
Wright, Zachary (University of Illinois at Chicago); MacKinnon, Colum (Northwestern University); Rogers, Mark (University of Maryland School of Medicine); Patton, James (Jim)* (Rehab Institute of Chicago & U. of Illinois at Chicago)	
10:10-10:25	SaA13.3
Inclusion Detection with Haptic-Palpation System for Medical Telediagnosis	4595-4598
Kim, Jungsik (Korea Advanced Institute of Science and Technology); An, Bummo (Korea Advanced Institute of Science and Technology); Kim, Yeongjin (Korea Advanced Institute of Science and Technology); Kim, Jung* (Korea Advanced Institute of Science and Technology)	
10:25-10:40	SaA13.4
Flexion-Extension Motion Assistance Using an Upper Limb Motion-Assist Robot Based on Trajectory Estimation of Reaching Movement	4599-4602
Yano, Kenichi* (Gifu University); Hashimura, Joji (Gifu University); Aoki, Takaaki (Gifu University); Nishimoto, Yutaka (Gifu University School of Medicine)	
10:40-10:55	SaA13.5
An Assisted Navigation Training Framework Based on Judgment Theory Using Sparse and Discrete Human-Machine Interfaces	4603-4606
Lopes, Ana* (University of Coimbra); Nunes, Urbano (University of Coimbra)	
10:55-11:10	SaA13.6
Functional Reorganization of Upper-Body Movements for Wheelchair Control	4607-4610
casadio, maura (Northwestern University); Pressman, Assaf* (Rehabilitation Institute of Chicago); Danziger, Zachary (Northwestern University); Hsiang-Yi, Tseng (Rehabilitation Institute of Chicago); fishbach, alon (Rehabilitation Institute of Chicago); Mussa-Ivaldi, Ferdinando (Rehabilitation Institute of Chicago)	
 SaA14: 09:40-11:10	 Marquette III
9.1.5 Internally Applied Therapeutic Devices I (Oral Session)	
Chair: Doug Hettrick, Medtronic, Inc.	
Co-Chair: Robert P. Patterson, Univ. of Minnesota	
09:40-09:55	SaA14.1
Human Feasibility Study of Hemodynamic Monitoring Via Continuous Intrathoracic Impedance Monitoring	4611-4614
Hettrick, Doug* (Medtronic, Inc.)	

09:55-10:10	SaA14.2
Implantable Functional Gastrointestinal Neurostimulation	4615-4618
Jurkov, Alexander (<i>University of Calgary</i>); Arriagada, Alvaro (<i>University of Calgary</i>); Mintchev, Martin* (<i>University of Calgary</i>)	
10:10-10:25	SaA14.3
Modeling Current Pathways for Therapeutic Electrical Applications	4619-4622
Patterson, Robert P.* (<i>University of Minnesota</i>); Yang, Fei (<i>University of Minnesota</i>)	
10:25-10:40	SaA14.4
Medium Voltage Therapy for Preventing and Treating Asystole and PEA in ICDs	4623-4625
Gilman, Byron* (<i>Galvani, Ltd.</i>); Kroll, Mark (<i>University of Minnesota</i>); Brewer, James (<i>Galvani, Ltd.</i>)	
10:40-10:55	SaA14.5
Chronic Baroreflex Activation by the Rheos® System: An Overview of Results from European and North American Feasibility Studies	4626-4630
Lovett, Eric* (<i>CVRx</i>); Schafer, Jill (<i>CVRx, Inc.</i>); Kaufman, Christopher (<i>CVRx, Inc.</i>)	
10:55-11:10	SaA14.6
Vagus Nerve Stimulation: A Proven Therapy for Treatment of Epilepsy Strives to Improve Efficacy and Expand Applications	4631-4634
Terry, Reese* (<i>Cyberonics, Inc.</i>)	
<hr/>	
SaA15: 09:40-11:10	Marquette IX
10.7.1 Health Information Integration (Oral Session)	
Chair: Emil Jovanov, <i>Univ. of Alabama in Huntsville</i>	
09:40-09:55	SaA15.1
Standard-Compliant Real-Time Transmission of ECGs: Harmonization of ISO/IEEE 11073-PHD and SCP-ECG	4635-4638
Trigo, Jesus* (<i>University of Zaragoza</i>); Chiarugi, Franco (<i>Foundation for Research and Technology - Hellas (FORTH)</i>); Alesanco, Alvaro (<i>University of Zaragoza</i>); Martinez-Espronceda, Miguel (<i>Public University of Navarra</i>); Chronaki, Catherine (<i>Foundation for Research & Technology Hellas</i>); Escayola, Javier (<i>University of Zaragoza</i>); Martinez Ruiz, Ignacio (<i>University of Zaragoza</i>); Garcia Moros, Jose (<i>University of Zaragoza</i>)	
09:55-10:10	SaA15.2
Integration Proposal through Standard-Based Design of an End-To-End Platform for P-Health Environments	4639-4642
Martinez Ruiz, Ignacio (<i>University of Zaragoza</i>); Trigo, Jesus* (<i>University of Zaragoza</i>); Martinez-Espronceda, Miguel (<i>Public University of Navarra</i>); Escayola, Javier (<i>University of Zaragoza</i>); Muñoz, Plli (<i>University of Zaragoza (UZ)</i>); Serrano, Luis (<i>Public University of Navarra</i>); Garcia Moros, Jose (<i>University of Zaragoza</i>)	
10:10-10:25	SaA15.3
D-ATM, A Working Example of Health Care Interoperability: From Dirt Path to Gravel Road.	4643-4645
DeClaris, John-William* (<i>Hephaistus</i>)	
10:25-10:40	SaA15.4
Integrating Health Information Technology into Clinical Guidelines	4646-4649
MacDougall, Candice Elizabeth* (<i>University of Ontario Institute of Technology</i>); McGregor, Carolyn (<i>Univ of Ontario Inst of Technology</i>); Percival, Jennifer (<i>Univ of Ontario Institute of Tech</i>)	
10:40-10:55	SaA15.5
Telemetry-Based Vital Sign Monitoring for Ambulatory Hospital Patients	4650-4653
Orphanidou, Christina* (<i>University of Oxford</i>); Clifton, David (<i>University of Oxford</i>); Smith, Marc (<i>Oxford BioSignals</i>); Feldmar, Jacques (<i>Oxford Biosignals</i>); Tarassenko, Lionel (<i>University of Oxford</i>)	
10:55-11:10	SaA15.6
Biomedical Data Integration – Capturing Similarities While Preserving Disparities	4654-4657
Bianchi, Stefano (<i>Softeco Sismat S.p.A., Via</i>); Burla, Anna (<i>IBM Ressearch Lab in Haifa</i>); Conti, Costanza (<i>IMS-Istituto di Management Sanitario SRL</i>); Farkash, Ariel* (<i>IBM Research Lab in Haifa</i>); Kent, Carmel (<i>IBM Ressearch Lab in Haifa</i>); Maman, Yonatan (<i>IBM Ressearch Lab in Haifa</i>); Shabo (Shvo), Amnon (<i>IBM Research Lab in Haifa</i>)	

SaA17: 09:40-11:10	Directors Row 4
SS 5. Negotiating your First Bioengineering Job: Academia, Private Sector or Government (Special Session)	
Chair: Cristian A. Linte, <i>Robarts Res. Inst.</i>	

SaA18: 09:40-11:10	Marquette IV
S 4. Clinical Data: From Medical Institutions to Industrial Research – IP Protection Approaches (Special Symposium)	
Chair: Nicolas Chbat, <i>Philips Res. North America</i>	

09:40-09:55	SaA18.1
<i>Dennis, Charles (Medtronic)</i>	
09:55-10:10	SaA18.2
<i>Herasevich, Vitaly (Mayo Clinic)</i>	
10:10-10:25	SaA18.3
<i>Kettelberger, Denise (Faegre & Benson, LLP)</i>	
10:25-10:40	SaA18.4
<i>Leonard, Robert (Faegre & Benson, LLP)</i>	
10:40-10:55	SaA18.5
<i>Mark, Roger (Massachusetts Institute of Technology)</i>	
10:55-11:10	SaA18.6
<i>Zaleski, John (Philips Research North America)</i>	

SaBPO01: 11:10-12:30	Grand Ballroom - Salon E, F, G
1.2.11 Biomedical Signal Processing (Poster Session)	

11:10-12:30	SaBPO01.1
A Probabilistic Framework for Learning Robust Common Spatial Patterns	4658-4661
<i>Wu, Wei* (Massachusetts Institute of Technology); Chen, Zhe (Harvard Medical School/MIT); Gao, Shangkai (Tsinghua University); Brown, Emery N (MGH-Harvard Medical School-MIT)</i>	
11:10-12:30	SaBPO01.2
Multiparameter Analysis of Heart Rate Variability Signal for the Investigation of High Risk Fetuses	4662-4665
<i>Ferrario, Manuela (Politecnico di Milano); Magenes, Giovanni (University of Pavia); Campanile, Marta (Università Federico II di Napoli); Carbone, Imma Floriana (Università Federico II di Napoli); Di Lieto, Andrea (Università Federico II di Napoli); Signorini, Maria G.* (Politecnico di Milano)</i>	
11:10-12:30	SaBPO01.3
Adaptive Rule Based Fetal QRS Complex Detection Using Hilbert Transform	4666-4669
<i>Ulusar, Umit Deniz (University of Arkansas at Little Rock); Govindan, Rathinaswamy* (UAMS); Wilson, James (University of Arkansas at Little Rock); Lowery, Curtis (University of Arkansas for Medical Sciences); Preissl, Hubert (University of Tübingen); Eswaran, Hari (Univ of Arkansas for Medical Sci)</i>	
11:10-12:30	SaBPO01.4
Multivariate Analysis of Intracranial Pressure (ICP) Signal Using Principal Component Analysis	4670-4673
<i>Al-Zubi, Nayel* (University of Liverpool); Momani, Lina (University of Liverpool); Alkharabsheh, Abdel Rahman (University of Liverpool); Al-Nuaimy, Waleed (University of Liverpool)</i>	
11:10-12:30	SaBPO01.5
Auditory MEG Responses to Removal of a Tpone in C Major Scale Measured in a Pair of Reciprocal Oddball Schemes	4674-4677
<i>Nemoto, Iku* (Tokyo Denki University)</i>	

11:10-12:30	SaBPO1.6
Energy-Efficient Multihypothesis Activity-Detection for Health-Monitoring Applications	4678-4681
Thatte, Gautam* (University of Southern California); Li, Ming (University of Southern California); Emken, Adar (University of Southern California); Mitra, Urbashi (University of Southern California); Narayanan, Shrikanth (University of Southern California); Annavaram, Murali (University of Southern California); Spruijt-Metz, Donna (University of Southern California)	
11:10-12:30	SaBPO1.7
Detection of Cardiac Activity Using a 5.8 GHz Radio Frequency Sensor	4682-4686
Vasu, Vishalini* (Queen's University Belfast); Fox, Niall (BiancaMed); Brabetz, Thorsten (Queen's University Belfast); Heneghan, Conor (BiancaMed); Wren, Michael (NovaUCD); Sezer, Sakir (Queen's University Belfast)	
11:10-12:30	SaBPO1.8
Correntropy-Based Analysis of Respiratory Patterns in Patients with Chronic Heart Failure	4687-4690
Garde, Ainara* (Universitat Politècnica de Catalunya); Sornmo, Leif (Lund University); Jané, Raimon (Universitat Politècnica de Catalunya); Giraldo, Beatriz (Universitat Politècnica de Catalunya)	
11:10-12:30	SaBPO1.9
Rules Extraction in SVM and Neural Network Classifiers of Atrial Fibrillation Patients with Matched Wavelets As a Feature Generator	4691-4694
Kostka, Paweł Stanisław* (Silesian University of Technology); Tkacz, Ewaryst (Silesian Univ of Tech, Inst of Electron)	
11:10-12:30	SaBPO1.10
Neonatal Heart Rate Prediction	4695-4698
AbdelRahman, Yumna* (McMaster University); Jeremic, Aleksandar (McMaster University); Tan, Kenneth (McMaster University)	
11:10-12:30	SaBPO1.11
Normalized Power Transmission between ABP and ICP in TBI	4699-4703
Shahsavari, Sima* (Chalmers University of Technology); McKelvey, Tomas (Chalmers University of Technology)	
11:10-12:30	SaBPO1.12
Full Dimensional Computer Simulations to Study Pulsatile Blood Flow in Vessels, Aortic Arch and Bifurcated Veins: Investigation of Blood Viscosity and Turbulent Effects	4704-4710
Sultanov, Renat* (St. Cloud State University); Guster, Dennis (St. Cloud State University)	
11:10-12:30	SaBPO1.13
Long Term Cardiovascular Risk Models'Combination - a New Approach	4711-4714
Paredes, Simão* (Instituto Superior de Engenharia de Coimbra); Rocha, Teresa (Inst Superior de Eng de Coimbra); Carvalho, Paulo (University of Coimbra); Henriques, Jorge (University of Coimbra); Harris, Matthew (Philips Research); Morais, João (Hospital de Santo André, Leiria)	
11:10-12:30	SaBPO1.14
Multiresolution Entropy Measure for Neuronal Multiunit Activity	4715-4718
Choi, Young-Seok* (Johns Hopkins University School of medicine); Koenig, Matthew (Johns Hopkins School of Medicine); Jia, Xiaofeng (Johns Hopkins School of Medicine); Thakor, Nitish (Johns Hopkins University)	
11:10-12:30	SaBPO1.15
Estimation of Brain State Changes Associated with Behavior, Stimulation and Epilepsy	4719-4722
Stamoulis, Catherine* (Harvard Medical School); Praeg, Elke (Beth Israel Deaconess Medical Center); Bashir, Shahid (Beth Israel Deaconess Medical Center); Chang, Bernard (Harvard Medical School); Pascual-Leone, Alvaro (Harvard Medical School)	
11:10-12:30	SaBPO1.16
Sleep Apnea Detection Based on Spectral Analysis of Three ECG - Derived Respiratory Signals	4723-4726
Correa, Lorena (Universidad Nacional de San Juan); Laciár, Eric (Universidad Nacional de San Juan); Mut, Vicente (Universidad Nacional de San Juan); Torres, Abel* (Universitat Politècnica de Catalunya (UPC), Institute for Bioengineering of Catalonia (IBEC) and CIBER de Bioingeniería, Biomate); Jané, Raimon (Universitat Politècnica de Catalunya)	

11:10-12:30	SaBPo01.17
Cardiac Arrhythmia Classification Using Wavelets and Hidden Markov Models - a Comparative Approach	4727-4730
Reis Gomes, Pedro Miguel Pinto* (Lusiada University); Soares, Filomena (University of Minho); Correia, Higino (University of Minho); Lima, Carlos Manuel Gregorio Santos (University of Minho)	
11:10-12:30	SaBPo01.18
A New Approach to Revealing Functional Residues from Analysis of Protein Primary Structure	4731-4734
Vojisavljevic, Vuk* (RMIT University); Pirogova, Elena (RMIT University); Davidovic, Dragomir (Vinca Institute of Nuclear Sciences); Cosic, Irena (RMIT University)	
11:10-12:30	SaBPo01.19
Independent Component Analysis Using Clustering on Motor Imaginary EEG	4735-4738
Qi, Hongzhi (Tianjin University); Ming, Dong* (Tianjin University)	
11:10-12:30	SaBPo01.20
Inferring Effective Connectivity in the Brain from EEG Time Series Using Dynamic Bayesian Networks .	4739-4742
Mutlu, Ali Yener* (Michigan State University); Aviyente, Selin (Michigan State University)	
11:10-12:30	SaBPo01.21
Regression-Based Analysis of Synchronization in Multichannel EEG in Epilepsy	4743-4746
Graef, Andreas* (AIT Austrian Institute of Technology GmbH); Hartmann, Manfred (AIT Austrian Institute of Technology GmbH); Deistler, Manfred (Vienna University of Technology); Kluge, Tilmann (Austrian Institute of Technology)	
11:10-12:30	SaBPo01.22
Evaluating OPTIAS, a Visual Method to Analyse Sleep Apnea Syndromes	4747-4750
Ugon, Adrien (Hopital Tenon); Philippe, Carole (Hopital tenon); Ganascia, Jean-Gabriel (Pierre et Marie Curie University-Paris6); Boire, Jean Yves (Faculty of Medicine); Levy, Pierre* (University of Paris)	
11:10-12:30	SaBPo01.23
An Automatic Calibration Procedure for Remote Eye-Gaze Tracking Systems	4751-4754
Model, Dmitri* (University of Toronto); Guestrin, Elias Daniel (University of Toronto); Eizenman, Moshe (University of Toronto)	
11:10-12:30	SaBPo01.24
Fusion of Electromyographic Signals with Proprioceptive Sensor Data in Myoelectric Pattern Recognition for Control of Active Transfemoral Leg Prostheses	4755-4758
Delis, Alberto (Universidade de Brasilia); Carvalho, Joao Luiz Azevedo de* (University of Brasilia); Borges, Geovany Araujo (University of Brasilia); Rodrigues, Suélia de Siqueira (UnB-Gama Faculty, University of Brasilia); da Rocha, Adson F. (University of Brasilia)	
11:10-12:30	SaBPo01.25
Predicting Defibrillation Outcome Based on Phase of Ventricular Activity During ICD Implantation	4759-4762
Suzuki, Go* (University of Calgary); Leon, Josh (Dalhousie University); Kimber, Shane (University of Alberta Hospital); Vigmond, Edward (University of Calgary)	

SaBPo02: 11:10-12:30	Grand Ballroom - Salon E, F, G
2.10.2 Photo-Acoustic and Magneto-Acoustic Imaging (Poster Session)	
11:10-12:30	SaBPo02.1
Combined Photoacoustic and Magneto-Acoustic Imaging	4763-4766
Qu, Min* (University of Texas at Austin); Mallidi, Srivalleesha (University of Texas at Austin); Mehrmohammadi, Mohammad (University of Texas at Austin); Ma, Li Leo (University of Texas at Austin); Johnston, Keith (University of Texas at Austin); Emelianov, Stanislav (University of Texas at Austin)	
11:10-12:30	SaBPo02.2
On the Possibility to Detect Lipid in Atherosclerotic Plaques Using Intravascular Photoacoustic Imaging	4767-4770
Wang, Bo* (University of Texas at Austin); Su, Jimmy (University of Texas at Austin); Amirian, James (University of Texas Medical School at Houston); Litovsky, Silvio Hector (University of Alabama Birmingham); Smalling, Richard (University of Texas Medical School at Houston); Emelianov, Stanislav (University of Texas at Austin)	

11:10-12:30	SaBPo02.3
Pulsed Magneto-Acoustic Imaging	4771-4774
<i>Mehrmohammadi, Mohammad* (University of Texas at Austin); Oh, Junghwan (Pukyong National University); aglyamov, salavat (University of Texas at Austin); Andrei, Karpouik (University of Texas at Austin); Emelianov, Stanislav (University of Texas at Austin)</i>	

SaBPo03: 11:10-12:30	Grand Ballroom - Salon E, F, G
2.9.3 Neuroimaging II (Poster Session)	

11:10-12:30	SaBPo03.1
Manganese-Enhanced MRI of Hypoxic-Ischemic Brain Injuries Using Mn-DPD	

Yang, Jian (Xi'an Jiaotong University); Wu, Ed X. (The University of Hong Kong)*

11:10-12:30	SaBPo03.2
Development of NTU Standard Chinese Brain Template: Morphologic and Functional Comparison with MNI Template Using Magnetic Resonance Imaging	

Jao, Tun (National Taiwan University); Chang, Chun-Yuan (National Taiwan University); Lee, Chia-Wei (National Taiwan University); Wu, Edzer (National Taiwan University); Ho, Chien Chang (National Taiwan University); Tsou, Chi-Hsuan (National Taiwan University); Chen, Der-Yow (National Taiwan University); Wu, Changwei (National Taiwan University); Chen, Jyh-Horng (National Taiwan University)*

11:10-12:30	SaBPo03.3
Accurate Activation Map Detection Using Bootstrap Resampling of Single Fmri Data	

Darki, Fahimeh (Tehran University of Medical Sciences); Oghabian, Mohammad Ali (Tehran University of Medical Sciences)*

11:10-12:30	SaBPo03.4
A Hybrid Approach for Compressive Neural Activity Detection with Functional MR Images	

Li, Chuan (the University of Alabama); hao, qi (the University of Alabama); guo, weihong (Case Western Reserved University); Hu, Fei (the University of Alabama)*

11:10-12:30	SaBPo03.5
Parameter Estimation in Arterial Spin Labeling MRI: Comparing the Four Phase Model and the Buxton Model with Fourier Transform	

Pham, Vincent (Texas A&M University); Xiaoping, Zhu (University of Manchester); Li, Ka-Loh (University of California); Ji, Jim Xiuquan (Texas A&M University)*

11:10-12:30	SaBPo03.6
On Clustering fMRI Using Potts and Mixture Regression Models	

Xia, Jing (University of Illinois at Urbana-Champaign); Liang, Feng (University of Illinois at Urbana-Champaign); Wang, Yongmei Michelle (University of Illinois at Urbana-Champaign)*

11:10-12:30	SaBPo03.7
The Relationship between Conductivity Uncertainties and EEG Source Localization Accuracy	

Wang, Gang (University of Minnesota); Yang, Lin (University of Minnesota); Worrell, Gregory A. (Mayo Clinic); He, Bin (University of Minnesota)*

SaBPo04: 11:10-12:30	Grand Ballroom - Salon E, F, G
3.11.2 Wearable Technologies II (Poster Session)	

11:10-12:30	SaBPo04.1
I-NET: Interactive Neuro-Educational Technology to Accelerate Skill Learning	

Raphael, Giby (Advanced Brain Monitoring Inc); Berka, Chris (Advanced Brain Monitoring)*

11:10-12:30	SaBPo04.2
Radar Cross Section of Human Cardiopulmonary Activity for Recumbent Subject	

Kiriazi, John (University of Hawaii at Manoa); Boric-Lubecke, Olga (University of Hawaii Manoa); Lubecke, Victor (University of Hawaii Manoa)*

11:10-12:30	Non-Contact Respiratory Rate Measurement Validation for Hospitalized Patients	SaBPO4.3 4812-4815
	Park, Byung-Kwon (University of Hawaii at Manoa); Droitcour, Amy (Kai Sensors); Yamada, Shuhei (University of Hawaii, Manoa); Vergara, Alexander (University of Hawaii at Manoa); Seto, Todd (University of Hawaii); Shing, Tommy (Kai Sensors); El Hourani, Charles (Kai Sensors); Yuen, Andrea (Kai Sensors); Boric-Lubecke, Olga* (University of Hawaii Manoa); Lubecke, Victor (University of Hawaii Manoa)	
11:10-12:30	Textile Electrodes in Electrical Bioimpedance Measurements – a Comparison with Conventional Ag/AgCl Electrodes	SaBPO4.4 4816-4819
	Márquez Ruiz, Juan Carlos* (Chalmers university of technology); Seoane, Fernando (University College of Borås); Välimäki, Elina (University of Borås); Lindecrantz, Kaj (University College of Borås)	
11:10-12:30	LifeShirt® Acquisition System to Monitor ECG from Ambulatory Swine and the Implementation of an Arrhythmia Detection Algorithm	SaBPO4.5 4820-4823
	Kyle, Aaron* (Indiana University School of Medicine); Rogers, Pamela (Indiana University School of Medicine); Han, Seongwook (Indiana University School of Medicine); Chen, Peng-Sheng (Indiana University School of Medicine); March, Keith (Indiana University School of Medicine)	
11:10-12:30	Author unavailable for presentation	SaBPO4.6
	A Study on Band-Pass Filtering for Calculating Foot Displacements from Accelerometer and Gyroscope Sensors	4824-4827
	Charry, Edgar* (The University of Melbourne); Lai, Daniel (Victoria University); Begg, Rezaul (Victoria University); Palaniswami, Marimuthu (The University of Melbourne)	
11:10-12:30	BioLogger: A Wireless Physiological Sensing and Logging System with Applications in Poultry Science	SaBPO4.7 4828-4831
	Hu, Sheng* (Michigan Technological University); Tan, Jindong (Michigan Technological University)	
11:10-12:30	Microwave Non-Invasive Sensing of Respiratory Tidal Volume	SaBPO4.8 4832-4835
	Massagram, Wansuree (Naresuan University); Lubecke, Victor (University of Hawaii Manoa); Boric-Lubecke, Olga* (University of Hawaii Manoa)	
11:10-12:30	Verification of a Non-Contact Vital Sign Monitoring System Using an Infant Simulator	SaBPO4.9 4836-4839
	Yan, Yan* (University of Florida); Li, Changzhi (University of Florida); Yu, Xiaogang (University of Florida); Weiss, Michael D. (University of Florida); Lin, Jenshan (University)	
11:10-12:30	A Low-Power Noncoherent BPSK Demodulator and Clock Recovery Circuit for High-Data-Rate Biomedical Applications	SaBPO4.10 4840-4843
	Asgarian, Farzad* (K.N.Toosi University of Technology); Sodagar, Amir M. (University of Michigan)	
11:10-12:30	A Wearable Respiration Monitoring System Based on Digital Respiratory Inductive Plethysmography	SaBPO4.11 4844-4847
	Wu, Dan* (Shenzhen Institute of Advanced Technology); Wang, Lei (Shenzhen Institute of Advanced Technology); Zhang, Yuan-Ting (The Chinese University of Hong Kong); Huang, Bangyu (Shenzhen Institute of Advanced Technology); Wang, Bo (Shenzhen Institute of Advanced Technology); Lin, Shaojie (Shenzhen Institute of Advanced Technology); Xu, Xiao-Wen (Central South University)	
11:10-12:30	Performance Assessment Techniques for Doppler Radar Physiological Sensors	SaBPO4.12 4848-4851
	Hafner, Noah* (University of Hawaii); Lubecke, Victor (University of Hawaii Manoa)	
11:10-12:30	A Wearable, Low-Power, Health-Monitoring Instrumentation Based on a Programmable System-On-Chip	SaBPO4.13 4852-4855
	Massot, Bertrand* (INSA Lyon); Gehin, Claudine (INSA Lyon); Nocua Cifuentes, Ronald (Université Joseph Fourier); McAdams, Eric (University of Ulster); Dittmar, Andre (INSA Lyon)	

SaBPo05: 11:10-12:30	Grand Ballroom - Salon E, F, G
3.12.2 Implantable Technologies (Poster Session)	

11:10-12:30	SaBPo05.1
Wireless Instantaneous Neurotransmitter Concentration Sensing System (WINCS) for Intraoperative Neurochemical Monitoring	4856-4859
Kimble, Christopher* (Mayo Clinic); Johnson, David (Mayo Clinic); Winter, Bruce (Mayo Clinic); Whitlock, Sidney (Mayo Foundation); Kressin, Ken (Mayo Clinic); Horne, April (Mayo Clinic); Robinson, Justin (Mayo Clinic); Bledsoe, Jonathan (Mayo Clinic); Tye, Susannah (Mayo Clinic); Chang, Su-Youne (Mayo Clinic); Agnesi, Filippo (Mayo Clinic); Griessenauer, Christoph (Mayo Clinic); Covey, Daniel (Mayo Clinic); Shon, Young-Min (Mayo Clinic); Bennet, Kevin E (Mayo Clinic); Garris, Paul (Mayo Clinic); Lee, Kendall (Mayo Clinic)	
11:10-12:30	SaBPo05.2
Energetic Analysis for Self-Powered Cochlear Implants	4860-4863
Accoto, Dino (Scuola Superiore Sant'Anna); Calvano, Marta* (University Campus Bio-Medico Rome); Campolo, Domenico (Campus Bio-Medico University); Salvinelli, Fabrizio (Università CAMPUS Bio-Medico); Guglielmelli, Eugenio (Campus Bio-Medico University)	
11:10-12:30	SaBPo05.3
Design and Fabrication of a Low Cost Implantable Bladder Pressure Monitor	4864-4867
Axisa, Fabrice* (IMEC); Jourand, Philippe (Katholieke Universiteit Leuven); Lippens, Evi (Ghent University); Rymarczyk-Machal, Monika (Ghent University); De Smet, Nele (Ugent); Schacht, Etienne (Ghent University); Vanfleteren, Jan (IMEC / Ghent University); Puers, Robert (Catholic University of Leuven); cornelissen, ria (Gent University)	
11:10-12:30	SaBPo05.4
Implantable Bioimpedance Monitor Using ZigBee	4868-4871
Bogonez Franco, Paco* (Technical University of Catalonia (UPC)); Bragos, Ramon (Technical University of Catalonia (UPC)); Bayes-Genis, Antoni (Hospital de la Santa Creu i Sant Pau); Rosell, Javier (Technical University of Catalonia)	
11:10-12:30	SaBPo05.5
A Wireless Batteryless In Vivo EKG and Core Body Temperature Sensing Microsystem with 60 Hz Suppression Technique for Untethered Genetically Engineered Mice Real-Time Monitoring	4872-4875
Chaimanonart, Nattapon* (Case Western Reserve University); Young, Darrin (Case Western Reserve University)	
11:10-12:30	SaBPo05.6
Energy-Quality System Design for In-Body Communication	4876-4879
Zhang, Yuwei (Shenzhen Institute of Advanced Technology); Li, Ye* (Shenzhen Institute of Advanced Technology); Qiao, Dengyu (Shenzhen Institute of Advanced Technology); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	
11:10-12:30	SaBPo05.7
In Vitro Cytotoxicity Testing and the Application of Elastic Interconnection Technology for Short-Term Implantable Electronics	4880-4883
Brosteaux, Dominique* (Ghent University); Lippens, Evi (Ghent University); cornelissen, ria (Gent University); Carta, Riccardo (Catholic University of Leuven (K.U.Leuven)); Jourand, Philippe (Katholieke Universiteit Leuven); Puers, Robert (Catholic University of Leuven); Axisa, Fabrice (IMEC); Vervust, Thomas (UGent); Bossuyt, Frederick (TFCG IMEC Ghent); Vanfleteren, Jan (IMEC / Ghent University); Schacht, Etienne (Ghent University)	

SaBPo06: 11:10-12:30	Grand Ballroom - Salon E, F, G
4.7.2 Biomedical Modeling and Simulation (Poster Session)	

11:10-12:30	SaBPo06.1
Combining Boolean Method with Delay Times for Determining Behaviors of Biological Networks	4884-4887
Lyu, SuPing* (Medtronic, Inc.)	

11:10-12:30	E-Health in China, Our Practice and Exploration	SaBPo06.2 4888-4893
	Junping, Zhao* (PLA General Hospital of China); Zhenjiang, Zhang (PLA General Hospital of China); Huayuan, Guo (PLA General Hospital of China); Yi, Li (PLA General Hospital of China); Wanguo, Xue (PLA General Hospital of China); Yunqi, Chen (PLA General Hospital of China)	
11:10-12:30 Author unavailable for presentation		SaBPo06.3
	Study on the Binding Mode of the Integrase with DNA Via Steered Molecular Dynamics Simulation	4894-4897
	Wang, Cun Xin* (Beijing University of Technology); Liu, Ming (Beijing University of Technology); Li, Ping (Beijing University of Technology); Cong, Xiao Jing (Beijing University of Technology); Tan, Jian Jun (Beijing University of Technology); Chen, Wei Zu (Beijing University of Technology)	
11:10-12:30	Identification of Critical Molecules Via Fault Diagnosis Engineering	SaBPo06.4 4898-4901
	Abdi, Ali (New Jersey Institute of Technology); Tahoori, Mehdi (Northeastern University); Emamian, Effat* (ATNT)	
11:10-12:30	A Preliminary Study on Estimation of Energy Expenditure at Different Locations of Acceleration Sensor During Submaximal Exercise	SaBPo06.5 4902-4905
	Kim, Taekyun (Yonsei University); Kim, Yonghyun (Yonsei University); Yoon, Hyungro (Yonsei University); Shin, Taemin* (Yonsei University)	
11:10-12:30	Metamorphism in Potential Function While Maintaining Upright Posture During Exposure to a Three-Dimensional Movie on a Head-Mounted Display	SaBPo06.6 4906-4912
	Takada, Hiroki* (Gifu University of Medical Science); Fujikake, Kazuhiro (Nagoya University); Miyao, Masaru (Nagoya University)	
11:10-12:30	Gaussian Process Modelling of Blood Glucose Response to Free-Living Physical Activity Data in People with Type 1 Diabetes	SaBPo06.7 4913-4916
	Valletta, John Joseph* (University of Southampton); Chipperfield, Andrew John (University of Southampton); Byrne, Christopher (University of Southampton)	
11:10-12:30	A Three-State Non-Linear Model of Vascular Nitric Oxide Transport	SaBPo06.8 4917-4920
	Abatay, Hasan (University of Oxford); Payne, Stephen John* (University of Oxford)	
11:10-12:30	A Two Phase Model of Oxygen Transport in Cerebral Tissue	SaBPo06.9 4921-4924
	SU, SHEN-WEI (University of Oxford); Payne, Stephen John* (University of Oxford)	
11:10-12:30	Optimized Numerical Pharmacokinetics Model for Optical Molecular Probes Based on Diffusion Coefficients in Matrigel Measured Using Fluorescence Imaging	SaBPo06.10 4925-4928
	Ciocan, Eugenia (Lassel College,); Ciocan, Razvan* (Newport Corporation)	
11:10-12:30	Volume Conductor Effects on Simulated Magnetogastrograms	SaBPo06.11 4929-4932
	Qiao, Wenlian* (The University of Auckland); Komuro, Rie (The University of Auckland); Pullan, Andrew (University of Auckland); Cheng, Leo K (The University of Auckland)	
11:10-12:30	A Method of Biological Pathway Similarity Search Using High Performance Computing	SaBPo06.12 4933-4936
	Jiang, Keyuan* (Purdue University Calumet); Huang, Yingmeng (Purdue University Calumet); Robertson, Joseph (Purdue University)	
11:10-12:30 Author unavailable for presentation		SaBPo06.13
	Toward Automatic Behavioral Screen: A Computational Model for Analyzing Caenorhabditis elegans Locomotion	4937-4940
	Zhou, Baitao* (Korea Aerospace University); Baek, JoongHwan (Korea Aerospace University)	

11:10-12:30	Classification of Hyperactivated Spermatozoa Using a Robust Minimum Bounding Square Ratio Algorithm	SaBPo06.14 4941-4944
	<i>Kaula, Norbert* (University of Denver); Andrews, Anneliese (University of Denver); Durso, Catherine (University of Denver); Dixon, Christopher (New York Medical College); Graham, James (Colorado State University)</i>	
11:10-12:30	A Pipeline for Automated Analysis of Flow Cytometry Data: Preliminary Results on Lymphoma Sub-Type Diagnosis	SaBPo06.15 4945-4948
	<i>Bashashati, Ali* (British Columbia Cancer Research Center); Lo, Kenneth (University of British Columbia); Gottardo, Raphael (Clinical Research Institute of Montreal (IRCM)); Gascoyne, Randy (British Columbia Cancer Agency); Weng, Andrew (British Columbia Cancer Research Center); Brinkman, Ryan (British Columbia Cancer Research Center)</i>	
11:10-12:30	On-Line Hierarchy of General Linear Models for Selecting and Ranking the Best Predicted Protein Structures	SaBPo06.16 4949-4953
	<i>Girgis, Hani Zakaria* (The Johns Hopkins University); Corso, Jason J. (SUNY at Buffalo)</i>	
<hr/> SaBPo07: 11:10-12:30 6.1.3 Computational Modeling of Neuromuscular Systems (Poster Session)		Grand Ballroom - Salon E, F, G
11:10-12:30	Simulation and Classification of the Efferent Activity in Brachial Nerves	SaBPo07.1 4954-4957
	<i>Zhou, Rui* (Shenzhen Institute of Advanced Tech., Chinese Academy of Sciences); Jiang, Ning (Aalborg University); Englehart, Kevin (University of New Brunswick); parker, philip (university of new brunswick)</i>	
11:10-12:30	A Hybrid Extended Least Squares Method (HybELS) for Vestibulo Ocular Reflex Identification	SaBPo07.2 4958-4961
	<i>Ghoreyshi, Atiyeh* (McGill University); Galiana, Henrietta L. (McGill University)</i>	
11:10-12:30	Optimization of Input Parameters of an EMG-Force Model in Constant and Sinusoidal Force Contractions	SaBPo07.3 4962-4965
	<i>Cao, Hua* (Univ de Technologie de Compiègne); Boudaoud, Sofiane (University of Technology of Compiègne (UTC)); MARIN, Frédéric (Université de Technologie de Compiègne); Marque, Catherine (University of technology of compiegne)</i>	
11:10-12:30	A Toolchain to Simulate and Investigate Selective Stimulation Strategies for FES	SaBPo07.4 4966-4969
	<i>Laforet, Jeremy (University Montpellier 2); Guiraud, David* (INRIA); Clerc, Maureen (ENPC, ENS, INRIA)</i>	
11:10-12:30	Exploring the Role of Sensor Noise in Movement Variability	SaBPo07.5 4970-4973
	<i>Shi, Ying (Arizona State University); Buneo, Christopher* (Arizona State University)</i>	
<hr/> SaBPo08: 11:10-12:30 6.6.2 Neural Signal Processing II (Poster Session)		Grand Ballroom - Salon E, F, G
11:10-12:30	Estimating Transition Point of Anesthetic-Induced Loss of Consciousness in Mice by Detecting Motion in Response to Forced Movement	SaBPo08.1 4974-4977
	<i>Choi, Jee Hyun* (Korea Institute of Science and Technology, University of Science and Technology); Hwang, Eunjin (Pohang University of Science & Technology)</i>	
11:10-12:30	Spatio-Spectral Feature Selection Based on Robust Mutual Information Estimate for Brain Computer Interfaces	SaBPo08.2 4978-4981
	<i>Zhang, Haihong* (Institute for Infocomm Research); Guan, Cuntai (Institute for Infocomm Research); Wang, Chuanchu (Institute for Infocomm Research); Ang, Kai Keng (Institute for Infocomm Research)</i>	

11:10-12:30	SaBPO8.3
Using Microstate Intensity for the Analysis of Spontaneous EEG: Tracking Changes from Alert to the Fatigue State	4982-4985
Thuraisingham, Ranjit Arulnayagam (University of Technology Sydney); Tran, Yvonne* (University of Technology, Sydney); Craig, Ashley (University of Technology, Sydney); Wijesuriya, Nirupama (The University of Sydney); Nguyen, Hung T. (University of Technology, Sydney)	
11:10-12:30	SaBPO8.4
Surface EMG Signal Decomposition Using Empirically Sustainable BioSignal Separation Principles	4986-4989
Nawab, Syed Hamid* (Boston University); De Luca, Carlo J. (Boston University); Chang, Shey-Sheen (Boston University)	
11:10-12:30	SaBPO8.5
Information Theoretical Assessment of Neural Spiking Activity with Temperature Modulation	4990-4993
Madhok, Jai* (Johns Hopkins School of Medicine); Jia, Xiaofeng (Johns Hopkins School of Medicine); Choi, Young-Seok (Johns Hopkins University School of medicine); Zhang, Dandan (Tsinghua University); Thakor, Nitish (Johns Hopkins University)	
11:10-12:30	SaBPO8.6
Effect of Remifentanil on the Nonlinear Electroencephalographic Entropy Parameters in Propofol Anesthesia	4994-4997
Kortelainen, Jukka Johannes* (University of Oulu); Koskinen, Miika (Helsinki University of Technology); Mustola, Seppo Tapani (South Karelia Central Hospital); Seppänen, Tapio (University of Oulu)	
11:10-12:30	SaBPO8.7
Research for the Characteristics of Alzheimer's Disease Using EEG	4998-5001
Ueda, Taishi* (Tokyo Institute of Technology); Yagi, Tohru (Tokyo Institute of Technology)	
11:10-12:30	SaBPO8.8
A Modification to the Group Delay and Simulated Annealing Technique for Characterization of Peripheral Nerve Fiber Size Distributions for Non-Deterministic Sampled Data	5002-5005
Szlavik, Robert* (California Polytechnic State University)	
11:10-12:30	SaBPO8.9
A Regularized Point Process Generalized Linear Model for Assessing the Functional Connectivity in the Cat Motor Cortex	5006-5009
Chen, Zhe* (Harvard Medical School/MIT); Putrino, David (Massachusetts General Hospital, Harvard Medical School); Ba, Demba (MIT); Ghosh, Soumya (University of Western Australia); Barbieri, Riccardo (MGH-Harvard Medical School-MIT); Brown, Emery N (MGH-Harvard Medical School-MIT)	
11:10-12:30	SaBPO8.10
Decoding Three-Dimensional Hand Kinematics from Electroencephalographic Signals	5010-5013
Bradberry, Trent* (University of Maryland); Gentili, Rodolphe (University of Maryland); Contreras-Vidal, José (University of Maryland)	
11:10-12:30	SaBPO8.11
Correlation of Sleep EEG Frequency Bands and Heart Rate Variability	5014-5017
Abdullah, Haslaile (RMIT University); Holland, Gerard (St. Luke's Hospital); Cosic, Irena (RMIT University); Cvetkovic, Dean* (RMIT University)	
11:10-12:30	SaBPO8.12
Emotion-Induced Higher Wavelet Entropy in the EEG with Depression During a Cognitive Task	5018-5021
wei, ling (Shanghai University); Li, YingJie* (Shanghai University); Ye, jiping (Shanghai University); Yang, Xiaoli (Purdue University Calumet); Wang, Jijun (Shanghai Mental Health Center, Shanghai Jiaotong University School of Medicine)	

SaBPO9: 11:10-12:30	Grand Ballroom - Salon E, F, G
8.1.3 Rehabilitation Robotics (Poster Session)	

11:10-12:30	SaBPO9.1
Bio-Inspired Controller for a Dexterous Prosthetic Hand Based on Principal Components Analysis	5022-5025
Matrone, Giulia* (University of Pavia); Cipriani, Christian (Scuola Superiore Sant'Anna); Secco, Emanuele Lindo (Eucentre); Carrozza, Maria Chiara (Scuola Superiore Sant'Anna); Magenes, Giovanni (University of Pavia)	

11:10-12:30	Design and Development of a Hand Robotic Rehabilitation Device for Post Stroke Patients	SaBPO9.2 5026-5029
	<i>Rashedi, Ehsan (Sharif University of Technology); Mirbagheri, Alireza (Research Center for Science and Technology In Medicine); Taheri, Behzad (Sharif University of Technology); Vossoughi, Gholamreza (Sharif University of Technology); Farahmand, Farzam* (Sharif University of Technology)</i>	
11:10-12:30	A Bio-Robotic Leg Orthosis for Rehabilitation and Mobility Enhancement	SaBPO9.3 5030-5033
	<i>Horst, Robert W.* (Tibion Corporation)</i>	
11:10-12:30	An Artificial Gastrocnemius for a Transitibial Prosthesis	SaBPO9.4 5034-5037
	<i>Endo, Ken* (MIT); Herr, Hugh (MIT)</i>	
11:10-12:30	Development of Single Leg Version of HAL for Hemiplegia	SaBPO9.5 5038-5043
	<i>Kawamoto, Hiroaki* (University of Tsukuba); Hayashi, Tomohiro (University of Tsukuba); Sakurai, Takeru (University of Tsukuba); Eguchi, Kiyoshi (University of Tsukuba); Sankai, Yoshiyuki (University of Tsukuba)</i>	
11:10-12:30	Control Strategy for a Myoelectric Hand: Measuring Acceptable Time Delay in Human Intention Discrimination	SaBPO9.6 5044-5047
	<i>Nakamura, Tatsuhiko* (The University of Tokyo); Kita, Kahori (The University of Tokyo); Kato, Ryu (The University of Tokyo); Yokoi, Hiroshi (University of Tokyo)</i>	
11:10-12:30	Development of Prosthetic Arm with Pneumatic Prosthetic Hand and Tendon-Driven Wrist	SaBPO9.7 5048-5051
	<i>Takeda, Hiroyuki* (Doshisha University); Tsujiuchi, Nobutaka (Doshisha University); Koizumi, Takayuki (Doshisha University); Kan, Hiroto (Doshisha University); Hirano, Masanori (SQUEE Inc.); Nakamura, Yoichiro (SQUEE Inc.)</i>	
11:10-12:30	Automatic Actuator Control by Leg Load Signal of Active AFO for Achilles Tendon Rupture	SaBPO9.8 5052-5055
	<i>Yoshizawa, Nobuyuki* (Nippon Institute of Technology)</i>	
11:10-12:30	A Hybrid Adaptive Control Strategy for a Smart Prosthetic Hand	SaBPO9.9 5056-5059
	<i>Chen, Cheng-Hung* (Idaho State University); Naidu, D Subbaram (Idaho State University); Perez, Alba (Idaho State University); Schoen, Marco P. (Idaho State University)</i>	
11:10-12:30	Effects of Dielectric Values of Human Body on Specific Absorption Rate (SAR) Following 800 MHz Radio Frequency Exposure to Ingestible Wireless Device	SaBPO9.10 5060-5063
	<i>Xu, Lisheng (Northeastern University); Meng, Max Q.-H. (The Chinese University of Hong Kong); Li, Baopu* (The Chinese University of Hong Kong)</i>	
11:10-12:30	Robot-Assisted Light Dose Evaluation for Endoscopically Guided Photodynamic Therapy: A Preliminary Study	SaBPO9.11 5064-5067
	<i>Dongwen, Zhang (Shenzhen Institute of Advanced Technology, Chinese Academy Of Sciences); Wang, Lei (Shenzhen Institute of Advanced Technology); Gu, Jia* (Shenzhen Institute of Advanced Technology, Chinese Academy Of Sciences)</i>	
11:10-12:30	Semi-Autonomous Wheelchair System Using Stereoscopic Cameras	SaBPO9.12 5068-5071
	<i>Nguyen, Jordan Son* (University of Tehcnology, Sydney); Nguyen, Thanh Hai (University of Technology, Sydney); Nguyen, Hung T. (University of Technology, Sydney)</i>	
11:10-12:30	Applications of Simple Robots to Encourage Social Receptiveness of Adolescents with Autism	SaBPO9.13 5072-5075
	<i>Costa, Sandra* (University of Minho); Resende, Jorge (University of Minho); Soares, Filomena (University of Minho); Ferreira, Manuel Joao (University of Minho); Santos, Cristina (University of Minho); Moreira, Fatima (APPACDM)</i>	

SaBPo10: 11:10-12:30	Grand Ballroom - Salon E, F, G
8.3.3 Robotic and Image-Guided Surgery II (Poster Session)	

- 11:10-12:30 SaBPo10.1
Robotic Patch-Stabilizer Using Wire Driven Mechanism for Minimally Invasive Fetal Surgery 5076-5079
Zhang, Bo (WASEDA University); Kobayashi, Yo (Waseda University); Chiba, Toshio (National Center for Child Health and Development); Fujie, Masakatsu G. (Waseda University)*
- 11:10-12:30 SaBPo10.2
Autonomous Avoidance Based on Motion Delay of Master Slave Surgical Robot 5080-5083
Inoue, Shintaro (Waseda University); Toyoda, Kazutaka (Waseda University); Kobayashi, Yo (Waseda University); Fujie, Masakatsu G. (Waseda University)*
- 11:10-12:30 SaBPo10.3
Model Based Stabilization of Soft Tissue Targets in Needle Insertion Procedures 5084-5087
Smolen, Jerzy (McMaster University); Patriciu, Alexandru (McMaster University)*
- 11:10-12:30 SaBPo10.4
The Study of Fiducial Localization Error of Image in Point-Based Registration 5088-5091
Liu, Wenbo (Tsinghua University); Ding, Hui (Tsinghua University); Han, Hongyan (Tsinghua University); Xue, Qinghua (C249,school of medicine Tsinghua University); Sun, Zhaohui (Tsinghua University); Wang, Guangzhi (Tsinghua University)*
- 11:10-12:30 SaBPo10.5
A High Performance Graphic and Haptic Curvilinear Capsulorrhesis Simulation System 5092-5095
Liang, Shun (University of Illinois at Chicago); Banerjee, P. Pat (Univ of Illinois at Chicago); Edward, Deepak (Summa)*
- 11:10-12:30 SaBPo10.6
Minimally Invasive Localization of Light Source in Tissue with an Equidistant Measurement 5096-5099
zheng, zhen (IBHE, Siat)*
- 11:10-12:30 SaBPo10.7
Modeling the Temperature Dependence of Thermophysical Properties: Study on the Effect of Temperature Dependence for RFA 5100-5105
Watanabe, Hiroki (Waseda University); Kobayashi, Yo (Waseda University); Fujie, Masakatsu G. (Waseda University)*
- 11:10-12:30 SaBPo10.8
Operability Evaluation Using an Simulation System for Gripping Motion in Robotic Tele-Surgery 5106-5109
Kawamura, Kazuya (Waseda University); Kobayashi, Yo (Waseda University); Fujie, Masakatsu G. (Waseda University)*
- 11:10-12:30 SaBPo10.9
Ultrasound Guided Robotic Biopsy Using Augmented Reality and Human-Robot Cooperative Control 5110-5113
Freschi, Cinzia (University of Pisa); Troia, Elena (University of Pisa); Ferrari, Vincenzo (Università di Pisa); Megali, Giuseppe (University of Pisa); Pietrabissa, Andrea (University of Pisa); Mosca, Franco (University of Pisa)*
- 11:10-12:30 SaBPo10.10
A Novel Non-model-based 6-DOF Electromagnetic Tracking Method Using Non-iterative Algorithm 5114-5117
Ge, Xin (Fudan University); Lai, Dakun (University of Minnesota); Wu, Xiaomei (Fudan University); Fang, Zuxiang (Fudan University)*
- 11:10-12:30 SaBPo10.11
MRI-Compatible Micromanipulator, Positioning Repeatability Tests and Kinematic Calibration 5118-5121
koseki, yoshihiko (AIST); Tanikawa, Tamio (Natl Inst of Adv Industrial Science); Chinzei, Kiyoyuki (National Institute of Advanced Industrial Science and Technology)*
- 11:10-12:30 SaBPo10.12
Soft-Tissue Modeling and Image-Guided Control of Steerable Needles 5122-5125
Sadati, Nasser (The University of British Columbia); Torabi, Meysam (Sharif University of Technology); Vaziri, Reza (Sharif University of Technology); Dehestani-Ardekani, Reza (Sharif University of Technology)*

11:10-12:30	SaBPo10.13
Development of a robotic endoscope that locomotes in the colon with flexible helical fins	5126-5129
Shikanai, Masaki* (Waseda University); Murai, Natsuki (Waseda University); Takanishi, Atsuo (Waseda University); Itoh, Kazuko (Waseda University); Ishii, Hiroyuki (Waseda University); Hashizume, Makoto (Kyushu University); Tanoue, Kazuo (Kyusyu University Hospital); Ieiri, Satoshi (Kyusyu University Hospital); Konishi, Kozo (Kyusyu University Hospital)	

SaBPo11: 11:10-12:30	Grand Ballroom - Salon E, F, G
10.2.2 eHealth (Poster Session)	

11:10-12:30	SaBPo11.1
Technical and Compliance Considerations for Mobile-Health Self Monitoring of Glucose and Blood Pressure for Patients with Diabetes	5130-5133
Istepanian, Robert* (Kingston University London); Sungoor, Ala (Kingston University London)	
11:10-12:30	SaBPo11.2
Wireless Physiological Monitoring System for Psychiatric Patients	5134-5137
Rademeyer, Andre (Stellenbosch University); Blanckenberg, Mike (Stellenbosch University); Scheffer, Cornie* (Stellenbosch University)	
11:10-12:30	SaBPo11.3
Lessons Learned from Building the iMed Intelligent Medical Search Engine	5138-5142
Luo, Gang* (IBM)	
11:10-12:30	SaBPo11.4
Robust and Efficient Ultrasound Video Coding in Noisy Channels Using H.264	5143-5146
Panayides, Andreas (University of Cyprus); Pattichis, Marios* (University of New Mexico,); Pattichis, Constantinos (University of Cyprus); Loizou, Christos (Intercollege); Pantziaris, Marios (The Cyprus Institute of Neurology and Genetics); Pitsillides, Andreas (University of Cyprus)	
11:10-12:30	SaBPo11.5
Design of a Context-Aware Model to Enhance Medication Adherence	5147-5150
Lim, Myungeun* (ETRI); Choi, Jaehun (Electronics and Telecom. Resrch Inst); Bang, SunLee (Electronics & Telecom Research Inst); kim, dae hee (ETRI); Park, Soo-Jun (Electr & Telecomm Research Inst)	
11:10-12:30	SaBPo11.6
deFOG – a Real Time System for Detection and Unfreezing of Gait of Parkinson’s Patients	5151-5154
Jovanov, Emil* (University of Alabama in Huntsville); Wang, Emily (Rush University Medical Center); Verhagen, Leo (Rush University); Fredrickson, Matthew (University of Alabama in Huntsville); Fratangelo, Robert C. (The University of Alabama in Huntsville)	
11:10-12:30	SaBPo11.7
Footpaths: Fusion of Mobile OuTdoor Personal Advisor for Walking Route and Health Fitness	5155-5158
Waluyo, Agustinus Borgy* (Institute for Infocomm Research); Pek, Isaac (Institute for Infocomm Research); Yeoh, Wee Soon (Institute for Infocomm Research); Chen, Xiang (Institute for Infocomm Research)	
11:10-12:30	SaBPo11.8
Long-Distance Monitoring of Physiological and Environmental Parameters for Emergency Operators	5159-5162
Magenes, Giovanni* (University of Pavia); Curone, Davide (Università degli Studi di Pavia); Lanati, Matteo (EUCENTRE); Secco, Emanuele Lindo (Eucentre)	
11:10-12:30	SaBPo11.9
Assessing the Feasibility of Classifying Toe-Walking Severity in Children with Cerebral Palsy Using a Sensorized Shoe	5163-5166
Chiara, Mancinelli (Harvard Medical School); Patel, Shyamal (Harvard Medical School); Lynn, Deming (Harvard Medical School); Schmid, Maurizio (University Roma TRE); Patritti, Ben (Harvard Medical School); Jeffrey, Chu (Simbex); Jonathan, Beckwith (Simbex); Greenwald, Richard (Simbex); Healey, Jennifer (Intel); Bonato, Paolo* (Harvard Medical School)	

11:10-12:30	SaBPo11.10
Rich Internet Application System for Patient-Centric Healthcare Data Management Using Handheld Devices	5167-5170
Constantinescu, Liviu* (University of Sydney); Pradana, Ramanandha (University of Sydney); Kim, Jinman (University of Sydney); Gong, Peng (The University of Sydney); Fulham, Michael (Royal Prince Alfred Hospital); Feng, Dagan (The University of Sydney)	
11:10-12:30	SaBPo11.11
A Reliable Wireless Monitoring of Periodic Vital Signals using a Novel Joint Source-Channel Coding	5171-5174
Watanabe, Katsuhiro* (Meiji University); Takizawa, Kenichi (NICT); Ikegami, Tetsushi (Meiji University)	
11:10-12:30	SaBPo11.12
Automated Discrimination Method for Measuring the Thickness of Muscular and Subcutaneous Fat Layers Based on Tissue Elasticity	5175-5178
Inoue, Masahiro* (Saga University); Fukuda, Osamu (National Institute of AIST); Tsubai, Masayoshi (National Inst of (AIST)); Muraki, Satoshi (Kyushu University); Okumura, Hiroshi (Saga University); Arai, Kohei (Saga University)	
11:10-12:30	SaBPo11.13
A Wireless Breathing-Training Support System for Kinesitherapy	5179-5182
Tawa, Hiroki* (Hiroshima Institute of Technology); Yonezawa, Yoshiharu (Hiroshima Institute of Technology); Maki, Hiromichi (Hiroshima Institute of Technology); Ogawa, Hidekuni (Hiroshima Institute of Technology); Ninomiya, Ishio (Hiroshima International University); Sata, Koji (Shakaihoken Shimonoseki Kousei Hospital); Hamada, Shingo (Shakaihoken Shimonoseki Kousei Hospital); Caldwell, Morton (Caldwell Biomedical Electronics)	
11:10-12:30	SaBPo11.14
Smart Phones Are Useful for Food Intake and Physical Activity Questionnaires	5183-5186
Wohlers, Erica* (Devicix, LLC); Sirard, John (University of Minnesota); Barden, Charles (Devicix LLC); Moon, Jon (Devicix, LLC)	
11:10-12:30	SaBPo11.15
Off-The-Shelf Mobile Handset Environments for Deploying Accelerometer Based Gait and Activity Analysis Algorithms	5187-5190
Hynes, Martin* (NUIG); Wang, Han (NUIG); Kilmartin, Liam (NUIG)	
11:10-12:30	SaBPo11.16
A Remote Monitor of Bed Patient Cardiac Vibration, Respiration and Movement	5191-5194
Mukai, Koji* (Hiroshima Institute of Technology); Yonezawa, Yoshiharu (Hiroshima Institute of Technology); Ogawa, Hidekuni (Hiroshima Institute of Technology); Maki, Hiromichi (Hiroshima Institute of Technology); Caldwell, Morton (Caldwell Biomedical Electronics)	
11:10-12:30	SaBPo11.17
Time-Series Data Analysis of Blood-Sugar Level of a Diabetic in Relationship to Lifestyle Events	5195-5198
Takeuchi, Hiroshi* (Takasaki University of Health and Welfare); Kodama, Naoki (Takasaki University of Health and Welfare); Tsurumi, Katsunori (Takasaki University of Health and Welfare)	
11:10-12:30	SaBPo11.18
Mobile Health Monitoring Systems	5199-5202
Bhatia, Dinesh* (The University of Texas at Dallas); Walker, William (University of Texas at Dallas); Aroul, Antoine Lourdes Praveen (University of Texas at Dallas)	
11:10-12:30	SaBPo11.19
Automatic Fall Detection Using Wearable Biomedical Signal Measurement Terminal	5203-5206
Lee, Tae Soo* (Chungbuk National University); Nguyen, Thuy Trang (Chungbuk National University); Cho, Myeong-Chan (Chungbuk National University)	
11:10-12:30	SaBPo11.20
Implementation of a Real-Time Multi-Channel Gateway Server in Ubiquitous Integrated Biotelemetry System for Emergency Care (UIBSEC)	5207-5210
Cheon, Gyeongwoo (Interdisciplinary Program, Bioengineering Major, Graduate); Shin, Il Hyung (Seoul National University); Jung, Min Yang (Seoul National University); Kim, Hee Chan* (Seoul National University)	

11:10-12:30	SaBPO11.21
Experience of a Real-Time Tele-EEG Service	5211-5214
Lasierra Beamonte, Nelia* (University of Zaragoza); Alesanco, Alvaro (University of Zaragoza); Campos López, Carmen (San Pedro Hospital (Logroño)); Caudevilla, Eva (Calahorra Hospital Foundation); Fernández Navajas, Julián (Aragon Institute for Engineering Research (3A), University of Zaragoza.); Garcia Moros, Jose (University of Zaragoza)	
11:10-12:30	SaBPO11.22
Design of a Web Services Based System for Remote Hearing Diagnosis	5215-5218
Yao, Jianchu* (East Carolina University); WAN, YONGBO (SHAANXI UNIVERSITY OF SCIENCE AND TECHNOLOGY); Givens, Gregg (East Carolina University)	
11:10-12:30	SaBPO11.23
A Framework for Wireless Monitoring of Mental Health Conditions	5219-5222
Varshney, Upkar* (Georgia State University)	
11:10-12:30	SaBPO11.24
Custom Active RFId Solution for Children Tracking and Identifying in a Resuscitation Ward.	5223-5226
Iadanza, Ernesto* (Università degli Studi di Firenze); Dori, Fabrizio (Università di Firenze)	
SaBPO12: 11:10-12:30	Grand Ballroom - Salon E, F, G
8.8.3 Biomechanical Modeling and Simulation II (Poster Session)	
11:10-12:30	SaBPO12.1
Four-Dimensional Quantitative Analysis of the Gait of Mutant Mice Using Coarse-Grained Motion Capture	5227-5230
Oota, Satoshi* (RIKEN Bioresource Center); Mekada, Kazuyuki (RIKEN Bioresource Center); Fujita, Yoshihiko (NAC Image Technology, Inc.); Humphries, Julian (The University of Texas at Austin); Fukami-Kobayashi, Kaoru (RIKEN Bioresource Center); Obata, Yuichi (RIKEN Bioresource Center); Rowe, Timothy (The University of Texas at Austin); Yoshiki, Atsushi (RIKEN Bioresource Center)	
11:10-12:30	SaBPO12.2
Biomechanical Analysis of Subjective Pinching Effort Based on Tendon-Skeletal Model	5231-5234
Kurita, Yuichi* (Nara Inst of Science & Technology); Onoue, Takehiro (Nara Institute of Science and Technology); Ikeda, Atsutoshi (Nara Institute of Science and Technology); Ogasawara, Tsukasa (Nara Institute of Science and Technology)	
11:10-12:30 Author unavailable for presentation	SaBPO12.3
Biomechanical Study of the Subsequent Injury Induced by MCL Rapture	5235-5238
Yao, Jie (Beihang University); Fan, Yubo* (Beihang University); Zhang, Ming (The Hong Kong Polytechnic University)	
11:10-12:30	SaBPO12.4
Development of a Patient-Specific Femoral Component for Unicompartmental Knee Replacement	5239-5242
Van Den Heever, Dawie (Stellenbosch University); Scheffer, Cornie* (Stellenbosch University); Erasmus, PJ (Stellenbosch Medi-clinic); Dillon, Edwin (Stellenbosch Medi-clinic)	
11:10-12:30	SaBPO12.5
Characterization of Postural Stability in a Simulated Environment of an Earthquake Using In-Shoe Plantar Pressure Measurement	5243-5246
Abu-Faraj, Ziad* (American University of Science & Technology); Abou-Assi, Fadi (American University of Science and Technology); Jaber, Rawad (American University of Science and Technology); Khalifeh, Hassan (American University of Science and Technology)	
11:10-12:30	SaBPO12.6
Monitoring the Segment Parameters During Long Term Physical Training from Motion Capture Data	5247-5250
Venture, Gentiane* (Tokyo University of Agriculture and Technology); Ayusawa, Ko (University of Tokyo); Kulic, Dana (University of Waterloo); Nakamura, Yoshihiko (University of Tokyo)	
11:10-12:30	SaBPO12.7
Sensitivity of the Anthropometrical and Geometrical Parameters of the Bones and Muscles on a Musculoskeletal Model of the Lower Limbs	5251-5254
DAO, Tien-Tuan* (Univ de Technologie de Compiègne); MARIN, Frédéric (Université de Technologie de Compiègne); HO BA THO, Marie-Christine (Université de Technologie de Compiègne)	

11:10-12:30	SaBPO12.8
Tension and Motion Measurement for Extended Trochanteric Osteotomy with Different Fixation Methods	5255-5258
Zhu, Zhonglin (Tsinghua University); Ding, Hui (Tsinghua University); Dang, Xiao (Tsinghua University); Shao, Hongyi (the 4th Medical College of Peiking University); Zhou, Yixin (Beijing Ji Shui Tan hospital the 4th Medical College of Peking University); Wang, Guangzhi* (Tsinghua University)	
11:10-12:30	SaBPO12.9
The in Vivo Mechanical Properties of Muscular Bulk Tissue	5259-5262
Aritan, Serdar* (Hacettepe University); Oyadiji, Olutunde (University of Manchester); Bartlett, Roger (University of Otago)	
11:10-12:30	SaBPO12.10
A Biomechanical Model of the Female Reproductive System and the Fetus for the Realization of a Childbirth Virtual Simulator	5263-5266
Buttin, Romain* (Université Lyon 1); Shariat, Behzad (université Lyon 1); Redarce, Tanneguy (Institut National des Sciences Appliquées (INSA de Lyon)); Zara, Florence (LIRIS - Université Claude Bernard Lyon 1)	
11:10-12:30	SaBPO12.11
Biomechanical Model to Assess Injury Reduction During Impact	5267-5270
Meyer, Andrew (Marquette University); Fritz, Jessica* (Marquette University); Harris, Gerald (Marquette University)	
11:10-12:30	SaBPO12.12
Finite Element Analysis of Forearm Crutches During Gait in Children with Myelomeningocele	5271-5273
Slavens, Brooke* (Marquette University); Guan, Yabo (Medical College of Wisconsin); Harris, Gerald (Marquette University)	
11:10-12:30	SaBPO12.13
Modeling of Friction Force Based on Relative Velocity between Liver Tissue and Needle for Needle Insertion Simulation	5274-5278
Kobayashi, Yo* (Waseda University); Sato, Takahiro (Waseda University); Fujie, Masakatsu G. (Waseda University)	

SaBPO13: 11:10-12:30	Grand Ballroom - Salon E, F, G
6.13.2 Diagnostic & Evaluation Techniques for Neurological Disorders II (Poster Session)	

11:10-12:30	SaBPO13.1
New Methodology for Identifying Hierarchical Relationships among Performance Measures: Concepts and Demonstration in Parkinson's Disease	5279-5282
Kondraske, George* (University of Texas at Arlington); Stewart, R. Malcolm (Texas Health Presbyterian Dallas)	
11:10-12:30	SaBPO13.2
Wireless Accelerometer Reflex Quantification System Characterizing Response and Latency	5283-5286
LeMoyne, Robert* (UCLA); Coroian, Cristian (UCLA); Mastroianni, Timothy (Cognition Engineering)	
11:10-12:30	SaBPO13.3
Changes of Calf Muscle-Tendon Properties Due to Stretching and Active Movement of Children with Cerebral Palsy – a Pilot Study	5287-5290
Zhao, Heng (Rehabilitation Institute of Chicago, Northwestern University); Liu, Jie (Northwestern University, Huazhong Agricultural University); Ren, Yupeng (Rehabilitation Institute of Chicago); Zhang, Liqun* (Northwestern University)	
11:10-12:30	SaBPO13.4
Field Deployable EEG Monitor for Nerve Agent Casualties	5291-5293
McDonnell, Daniel (Ripple, LLC); Hiatt, Scott (Ripple LLC); Yatsenko, Dimitri (University of Utah); Guillory, Kenneth Shane* (Ripple LLC)	
11:10-12:30	SaBPO13.5
Preliminary Trial of Symmetry-Based Resistance in Individuals with Post-Stroke Hemiparesis	5294-5299
Simon, Ann (Rehabilitation Institute of Chicago); Ferris, Daniel* (University of Michigan); Kelly, Brian (University of Michigan)	

11:10-12:30

SaBPO13.6

A New Method for Reflex Threshold Estimation in Spastic Muscles**5300-5303**

Chardon, Matthieu (Rehabilitation Institute of Chicago); Suresh, Nina (Rehabilitation Institute of Chicago); Rymer, William Zev (Northwest. & Rehab Inst of Chicago)*

SaKN5L: 13:30-15:00

Grand Ballroom - Salon A

Theme Keynote V

Chair: John W. Clark, *Rice Univ.*

13:30-14:15

SaKN5L.1

Towards A Completely Biological Living Heart Valve Replacement*****

Tranquillo, Robert (University of Minnesota)*

14:15-15:00

SaKN5L.2

The VPH/Physiome Project: A Role for EMBS?*****

Hunter, Peter (University of Auckland)*

SaC01: 13:30-15:00

Conrad B

1.2.9 Biomedical Modelling and Simulation III (Oral Session)

Chair: Giovanni Magenes, *Univ. of Pavia*

Co-Chair: Mingui Sun, *Univ. of Pittsburgh*

13:30-13:45

SaC01.1

Implicit Wiener Series Analysis of Epileptic Seizure Recordings**5304-5307**

Barbero, Álvaro (Universidad Autónoma de Madrid); Franz, Matthias O. (HTWG Konstanz); van Drongelen, Wim (The University of Chicago); Dorronsoro, José R. (Universidad Autónoma de Madrid); Schölkopf, Bernhard (MPI for Biological Cybernetics); Grosse-Wentrup, Moritz (Max Planck Institute for Biological Cybernetics)*

13:45-14:00

SaC01.2

Identification of Small World Topologies in Neural Functional Connections Quantified by Phase**Synchrony Measures****5308-5311**

Bolanos, Marcos (Michigan State University); Bernat, Edward (University of Minnesota); Aviyente, Selin (Michigan State University)*

14:00-14:15

SaC01.3

Quantizing and Characterizing the Variance of Hand Postures in a Novel Transformation Task**5312-5315**

vinjamuri, ramana (University of Pittsburgh); Crammond, Donald (University of Pittsburgh); Mao, Zhi-Hong (University of Pittsburgh)*

14:15-14:30

SaC01.4

EEG Dynamics During Music Appreciation**5316-5319**

Lin, Yuan-Pin (National Taiwan University); Jung, Tzyy-Ping (University of California San Diego); Chen, Jyh-Horng (National Taiwan University)*

14:30-14:45 Author unavailable for presentation

SaC01.5

The Mechanism of Synchronization of Chemical Coupled Neurons**5320-5323**

Chen, Yingyuan (Tianjin University); Wang, Jiang (Tianjin University); Che, Yanqiu (Tianjin University); wei, xile (Tianjin University); Dong, Feng (tianjin University)*

14:45-15:00

SaC01.6

Automated Detection of Asynchrony in Patient-Ventilator Interaction**5324-5327**

Mulqueeny, Qestra Camille (University of New South Wales); Redmond, Stephen James (University of New South Wales); Lovell, Nigel H (University of New South Wales)*

SaC02: 13:30-15:00	Conrad C
1.3.2 Biomedical Modelling and Simulation II (Oral Session)	
Chair: Ramakrishna Mukkamala, Michigan State Univ.	
Co-Chair: Riccardo Barbieri, MGH-Harvard Medical School-MIT	
13:30-13:45	SaC02.1
Dynamic Control of Maximal Ventricular Elastance in Conscious Dogs before and after Pacing-Induced Heart Failure	5328-5331
Chen, Xiaoxiao* (Michigan State University); Mukkamala, Ramakrishna (Michigan State University); Salamero, Javier (Wayne State University School of Medicine); Hammond, Robert (Wayne State University School of Medicine); Ichinose, Masashi (Wayne State University School of Medicine); Soltani, Soroor (Michigan State University); O'Leary, Donal (Wayne State University School of Medicine)	
13:45-14:00	SaC02.2
Identification of Vascular Responses to Exercise and Orthostatic Stress in Bed Rest-Induced Cardiovascular Deconditioning	5332-5335
Aletti, Federico* (Politecnico di Milano); Ferrario, Manuela (Politecnico di Milano); Tam, Enrico (Università degli studi di Bologna); Cautero, Michela (Università degli Studi di Verona); Cerutti, Sergio (Politecnico di Milano); Capelli, Carlo (Università di Verona); Baselli, Giuseppe (Politecnico di Milano)	
14:00-14:15	SaC02.3
Linear and Nonlinear Quantification of Respiratory Sinus Arrhythmia During Propofol General Anesthesia	5336-5339
Chen, Zhe* (Harvard Medical School/MIT); Purdon, Patrick L (Massachusetts General Hospital); Pierce, Eric (MGH / Harvard Medical School); Harrell, Priscilla Grace (MGH-Harvard Medical School); Walsh, John (Massachusetts General Hospital); Salazar, Andres F. (Massachusetts General Hospital); Tavares, Casie (Massachusetts General Hospital); Brown, Emery N (MGH-Harvard Medical School-MIT); Barbieri, Riccardo (MGH-Harvard Medical School-MIT)	
14:15-14:30	SaC02.4
Low-Complexity Autoregressive Modeling of the Fast and Slow QT Adaptation to Heart Rate Changes	5340-5343
Cabasson, Aline* (University of Nice Sophia Antipolis); Meste, Olivier (UNSA-CNRS)	
14:30-14:45	SaC02.5
Novel Methods for Estimating the Ballistocardiogram Signal Using a Simultaneously Acquired Electrocardiogram	5344-5347
Inan, Omer* (Stanford University); Etemadi, Mozziyar (Stanford University); Wiard, Richard M. (Stanford University); Kovacs, Gregory T.A. (Stanford University); Giovangrandi, Laurent (Stanford University)	
14:45-15:00	SaC02.6
Subclinical Atherosclerosis Modeling: Integration of Coronary Artery Calcium Score to Framingham Equation	5348-5351
Pessana, Franco (FICEN, Favaloro University); Armentano, Ricardo* (Favaloro University); Chironi, Gilles (Hôpital Européen Georges Pompidou); Megnien, Jean Louis (Hôpital Européen Georges Pompidou); Mousseaux, Elie (HEGP); Simon, Alain (Hôpital Européen Georges Pompidou)	
SaC03: 13:30-15:00	Grand Ballroom - Salon B
2.3.3 Biomedical Optical Imaging I (Oral Session)	
Chair: Atam Dhawan, New Jersey Inst. of Tech.	
Co-Chair: Jing Bai, Tsinghua Univ.	
13:30-13:45	SaC03.1
Multispectral Optical Imaging of Skin-Lesions for Detection of Malignant Melanomas	5352-5355
Dhawan, Atam* (New Jersey Institute of Technology); D'Alessandro, Brian (New Jersey Institute of Technology); Patwardhan, Sachin (Washington University/Medicine)	

13:45-14:00	SaC03.2
Model-Based Approach for Tracking Embryogenesis in <i>Caenorhabditis Elegans</i> Fluorescence Microscopy Data	5356-5359
Dzyubachyk, Oleh* (Erasmus MC - University Medical Center Rotterdam); Jelier, Rob (Centre for Genomic Regulation); Lenher, Ben (Centre for Genomic Regulation); Niessen, Wiro (Erasmus MC, University Medical Center Rotterdam); Meijering, Erik (Erasmus MC - University Medical Center Rotterdam)	
14:00-14:15	SaC03.3
Improved Infrared Thermography Based Image Construction for Biomedical Applications Using Markov Chain Monte Carlo Method	5360-5363
Venkatappa, Umadevi* (Indian Institute of Technology Madras); Suresh, Santhosh (IIT Madras); Serugudi Venkataraman, Raghavan (Indian Institute of Technology Madras)	
14:15-14:30	SaC03.4
Macroscopic Fluorescent Lifetime Imaging in Turbid Media Using Angular Filter Arrays	5364-5368
Najiminaini, Mohamadreza (Simon Fraser University); Vasefi, Fartash* (SIMON FRASER UNIVERSITY); Kaminska, Bozena (SIMON FRASER UNIVERSITY); Chapman, Glenn H. (SIMON FRASER UNIVERSITY); Carson, Jeffrey J.L. (University of Western Ontario)	
14:30-14:45	SaC03.5
Design and Characterization of a Miniaturized Epi-Illuminated Microscope	5369-5372
Murari, Kartikeya* (Johns Hopkins University); Greenwald, Elliot (Johns Hopkins University); Etienne-Cummings, Ralph (Johns Hopkins University); Cauwenberghs, Gert (University of California San Diego); Thakor, Nitish (Johns Hopkins University)	
14:45-15:00	SaC03.6
Investigation on DOT Guided FMT: Whether the FMT Image Quality is Robust to the Priori DOT Information?	5373-5376
Wang, Daifa (Tsinghua University); Bai, Jing* (Tsinghua University)	
<hr/>	
SaC05: 13:30-15:00	Marquette V
2.9.1 Functional Biomedical Imaging (Oral Session)	
Chair: Hae-Jeong Park, Yonsei Univ.	
Co-Chair: Stephen LaConte, Baylor Coll. of Medicine	
13:30-13:45	SaC05.1
Neurofeedback of Two Motor Functions Using Supervised Learning-Based Real-Time Functional Magnetic Resonance Imaging	5377-5380
Papageorgiou, Dorina (Baylor College of Medicine); Curtis, William (Case Western Reserve University); McHenry, Monica (University of Houston); LaConte, Stephen* (Baylor College of Medicine)	
13:45-14:00	SaC05.2
Support vector machine classification of complex fMRI data	5381-5384
Peltier, Scott James* (University of Michigan); Lisinski, Maximilian (Baylor College of Medicine); Noll, Douglas C. (University of Michigan); LaConte, Stephen (Baylor College of Medicine)	
14:00-14:15	SaC05.3
EEG-Based Real-Time Dynamic Neuroimaging	5385-5388
Im, Chang-Hwan* (Yonsei University); Hwang, Han-Jeong (Yonsei University)	
14:15-14:30	SaC05.4
Real-Time Functional MRI for Patient Monitoring During a Language Task	5389-5392
Park, Hae-Jeong* (Yonsei University); Park, Bumhee (Yonsei University); Kim, Dae-Jin (Yonsei University)	
14:30-14:45	SaC05.5
Toward Functional Neurobehavioral Assessment of Mood and Anxiety	5393-5396
Lindsey, LaRaun (Baylor College of Medicine); King-Casas, Brooks (Baylor College of Medicine); Brovko, Julie (Baylor College of Medicine); Chiu, Pearl* (Baylor College of Medicine)	

14:45-15:00	SaC05.6
fMRI Activation Pattern Recognition: A Novel Application of PCA in Language Network of Pediatric Localization Related Epilepsy	5397-5400
You, Xiaozhen (Florida International University); Guillen, Magno (Florida International University); Bernal, Byron (Miami Children's Hospital); Gaillard, William (Children's National Medical Center); Adjouadi, Malek* (Florida International University)	

SaC06: 13:30-15:00	Conrad A
3.5.2 Wireless Sensors (Oral Session)	
Chair: Sameer Sonkusale, Tufts Univ.	
Co-Chair: Bruce Towe, Arizona State Univ.	

13:30-13:45	SaC06.1
Near-Field Wireless Magnetic Link for an Ingestible Cattle Health Monitoring Pill	5401-5404
You, Xiaozhen (Florida International University); Guillen, Magno (Florida International University); Bernal, Byron (Miami Children's Hospital); Gaillard, William (Children's National Medical Center); Adjouadi, Malek* (Florida International University)	
13:45-14:00	SaC06.2
Ambulatory Device for Urinary Incontinence Detection in Females	5405-5408
Dan, Wang* (University of Minnesota); Timm, Gerald W. (University of Minnesota); Erdman, Arthur (University of Minnesota); Tewfik, Ahmed (University of Minnesota)	
14:00-14:15	SaC06.3
An Integrated Circuit for Wireless Ambulatory Arrhythmia Monitoring Systems	5409-5412
Kim, Hyejung* (KAIST); Yazicioglu, Refet Firat (IMEC); Torfs, Tom (IMEC); Merken, Patrick (IMEC); Van Hoof, Chris (IMEC); Yoo, Hoi-Jun (KAIST)	
14:15-14:30	SaC06.4
A Small, Light-Weight, Low-Power, Multichannel Wireless Neural Recording Microsystem	5413-5416
Borna, Amir* (Graduate Student Research Assistant); Marzullo, Timothy (University of Michigan); Gage, Gregory J. (University of Michigan); Najafi, Khalil (University of Michigan)	
14:30-14:45	SaC06.5
An Accuracy Aware Low Power Wireless EEG Unit with Information Content Based Adaptive Data Compression	5417-5420
Tolbert, Jeremy* (Georgia Institute of Technology); Kabali, Pratik (Georgia Institute of Technology); Brar, Simeranjit (Georgia Institute of Technology); Mukhopadhyay, Saibal (Georgia Institute of Technology)	
14:45-15:00	SaC06.6
Wireless Ultrasound-Powered Biotelemetry for Implants	5421-5424
Towe, Bruce* (Arizona State University); Larson, Patrick (Arizona State University); Gulick, Daniel (Arizona State University)	

SaC07: 13:30-15:00	Marquette VII
3.10.2 Magnetic Sensors (Oral Session)	
Chair: Jian-Ping Wang, Univ. of Minnesota	
Co-Chair: Keat Ghee Ong, Michigan Tech. Univ.	

13:30-13:45	SaC07.1
Evolution of a Magnetic-Based Biomolecular Detection System	5425-5427
Tamanaha, Cy* (Naval Research Laboratory); Mulvaney, Shawn P. (Naval Research Laboratory); Rife, Jack (Naval Research Laboratory)	
13:45-14:00	SaC07.2
Microfluidic Package Design for Magnetoresistive Biosensors	5428-5431
Tondra, Mark* (Diagnostic Biosensors, LLC); Bardell, Ron (Microplumbers Microsciences LLC); Datta, Proyag (Louisiana State University)	

14:00-14:15	SaC07.3
Biomarkers Identification and Detection Based on GMR Sensor and Sub 13 Nm Magnetic Nanoparticles	5432-5435
Li, Yuanpeng (University of Minnesota); Jing, Ying (University of Minnesota); Yao, Xiaofeng (University of Minnesota); Srinivasan, Balasubramanian (University of Minnesota); Xing, Chengguo (University of Minnesota); Wang, Jian-Ping* (University of Minnesota)	
14:15-14:30	SaC07.4
Wireless, Magnetic-Based Sensors for Biomedical Applications	5436-5439
Ong, Keat Ghee* (Michigan Techonlogical University)	
14:30-14:45	SaC07.5
Respiration Triggered Magnetic Drug Targeting in the Lungs	5440-5443
Dahmani, Chihebeddine* (Technical University of Munich); Goetz, Stefan (TU Muenchen); Weyh, Thomas (TU Muenchen); Renner, Riitta (TU Muenchen); Rosenecker, Michaela (Ludwig-Maximilians-University); Rudolph, Carsten (Ludwig-Maximilians-University)	
14:45-15:00	SaC07.6
Intracellular Patterning of Internalized Magnetic Fluorescent Nanoparticles	5444-5447
Tseng, Peter* (University of California, Los Angeles); Judy, Jack (UCLA); Di Carlo, Dino (UCLA)	
<hr/>	
SaC08: 13:30-15:00	Marquette VIII
4.5.1 Current Progress in Modeling Regulatory, Metabolic, and Proteomic Networks (Oral Session)	
Chair: Edmund Crampin, University of Auckland	
Co-Chair: Jason Papin, University of Virginia	
13:30-13:45	SaC08.1
The Inferelator 2.0: A Scalable Framework for Reconstruction of Dynamic Regulatory Network Models	5448-5451
Madar, Aviv (New York University); Greenfield, Alex (NYU); Ostrer, Harry (New York University Langone Medical Center); Vanden-Eijnden, Eric (New York University); Bonneau, Richard* (New York University)	
13:45-14:00	SaC08.2
A Multipathway Phosphoproteomic Signaling Network Model of Idiosyncratic Drug and Inflammatory Cytokine-Induced Toxicity in Human Hepatocytes	5452-5455
Cosgrove, Benjamin* (Stanford University); Alexopoulos, Leonidas (Harvard Medical School); Saez-Rodriguez, Julio (Harvard Medical School); Griffith, Linda G. (MIT); Lauffenburger, Douglas (Massachusetts Institute of Technology)	
14:00-14:15	SaC08.3
Relative Expression Analysis for Identifying Perturbed Pathways	5456-5459
Eddy, James (University of Illinois); Geman, Donald (Clark Hall 302A); Price, Nathan* (University of Illinois)	
14:15-14:30	SaC08.4
Descriptive and Predictive Applications of Constraint-Based Metabolic Models	5460-5463
Reed, Jennifer* (University of Wisconsin- Madison)	
14:30-14:45	SaC08.5
A Scalable Systems Analysis Approach for Regulated Metabolic Networks	5464-5465
Jensen, Paul (University of Virginia); Papin, Jason* (University of Virginia)	
14:45-15:00	SaC08.6
Discovering Genetic Polymorphism Associated with Gene Expression Levels across the Whole Genome	5466-5469
Antoniades, Athos* (University of Cyprus); Pattichis, Constantinos (University of Cyprus); Kalvari, Ioanna (University of Cyprus); Jones, Neil (Glaxosmithkline); Matthews, Paul (Glaxo Smith Kline); Domenici, Enrico (GSK Medicines Research Centre); Muglia, Pierandrea (GlaxoSmithKline)	

SaC09: 13:30-15:00	Marquette II
5.4.2 Cardiovascular Pulmonary Regulation (Neurohumoral, HRV) (Oral Session)	
Chair: Nicolas Chbat, <i>Philips Res. North America</i>	

13:30-13:45	SaC09.1
Modeling Cerebral Blood Flow and Regulation	5470-5473
<i>Aoi, Mikio* (North Carolina State University); Gremaud, Pierre (North Carolina State University); Tran, Hien (Department of Mathematics, North Carolina State University); Novak, Vera (Beth Isreal Deaconess Medical Center/Harvard Medical School); Olufsen, Mette (North Carolina State University)</i>	
13:45-14:00	SaC09.2
A Comprehensive Cardiopulmonary Simulation Model for the Analysis of Hypercapnic Respiratory Failure	5474-5477
<i>Chbat, Nicolas* (Philips Research North America); Giannessi, Massimo (University of Bologna); Albanese, Antonio (University of Bologna); Ursino, Mauro (University of Bologna)</i>	
14:00-14:15	SaC09.3
Electrode Structures for Acquisition and Neural Stimulation Controlling the Cardiovascular System	5478-5481
<i>Steltenkamp, Siegfried* (Fraunhofer Institut - IBMT); Becher, Kai (Fraunhofer IBMT); Doerge, Thomas (Fraunhofer Institute for Biomedical Engineering); Ruff, Roman (Fraunhofer Institut für Biomedizinische Technik); Hoffmann, Klaus-Peter (Fraunhofer Institut)</i>	
14:15-14:30	SaC09.4
One-Dimensional Modelling of Pulse Wave Propagation in Human Airway Bifurcations in Space-Time Variables	5482-5485
<i>Clavica, Francesco* (Brunel University); Alastruey, Jordi (Imperial College London); Sherwin, Spencer (Imperial college London); Khir, Ashraf (Brunel University)</i>	
14:30-14:45	SaC09.5
Induced Respiratory System Modeling by High Frequency Chest Compression Using Lumped System Identification Method	5486-5489
<i>Lee, Jongwon* (UNIVERSITY OF MINNESOTA); Lee, Yong Wan (University of Minnesota); O'Clock, George (University of Minnesota); Zhu, Xiaoming (University of Minnesota); Parhi, Keshab (University of Minnesota); Warwick, Warren J. (University of Minnesota)</i>	
14:45-15:00	SaC09.6
Pulse Rate Analysis in Case of Central Sleep Apnea: A New Algorithm for Cardiac Rate Estimation	5490-5493
<i>NGUYEN, Quang Vinh* (École Nationale Supérieure des Sciences Appliquées et de); LE PAGE, Ronan (École Nationale Supérieure des Sciences Appliquées et de Technologie (ENSSAT)); GOUJON, Jean-Marc (École Nationale Supérieure des Sciences Appliquées et de Technologie (ENSSAT)); GUYADER, Patrick (École Nationale Supérieure des Sciences Appliquées et de Technologie (ENSSAT)); BILLON, Michel (École Nationale Supérieure des Sciences Appliquées et de Technologie (ENSSAT))</i>	

SaC10: 13:30-15:00	Grand Ballroom - Salon C
6.4.1 Brain-Machine Interface I (Oral Session)	
Chair: Daniel Moran, <i>Washington University in St. Louis</i>	

13:30-13:45	SaC10.1
An Implantable Bi-Directional Brain-Machine Interface System for Chronic Neuroprosthesis Research	5494-5497
<i>Stanslaski, Scott (Medtronic); cong, peng (Medtronic); Carlson, David (Medtronic); santa, wesley (Medtronic); Jensen, Randy (Medtronic); Molnar, Greg (Medtronic); Marks, William (Univ Ca Sf Sch Of Med); Shafquat, Afsah (Medtronic); Denison, Timothy* (Medtronic)</i>	
13:45-14:00	SaC10.2
Effective Brain-Computer Interfacing Using BCI2000	5498-5501
<i>Schalk, Gerwin* (Wadsworth Center, New York State Department of Health)</i>	

14:00-14:15	SaC10.3
Ipsilateral Directional Encoding of Joystick Movements in Human Cortex	5502-5505
Sharma, Mohit (<i>Washington University</i>); Gaona, Charles (<i>Washington University</i>); roland, jarod (<i>Washington University</i>); Anderson, Nicholas (<i>Washington University</i>); freudenberg, Zachary (<i>Washington University</i>); Leuthardt, Eric* (<i>Washington University in St. Louis</i>)	
14:15-14:30	SaC10.4
Flexible Thin Film Electrode Arrays for Minimally-Invasive Neurological Monitoring	5506-5509
Kim, Jiwan (<i>University of Wisconsin-Madison</i>); Richner, Tom (<i>University of Wisconsin-Madison</i>); Thongpang, Sanitta (<i>University of Wisconsin- Madison</i>); Sillay, Karl (<i>University of Wisconsin-Madison</i>); Niemann, David (<i>University of Wisconsin-Madison</i>); Ahmed, Azam (<i>University of Wisconsin-Madison</i>); Krugner-Higby, Lisa (<i>University of Wisconsin-Madison</i>); Williams, Justin* (<i>University of Wisconsin</i>)	
14:30-14:45	SaC10.5
Evaluation of Micro-Electrocorticographic Electrodes for Electrostimulation	5510-5513
Wilks, Seth (<i>Purdue University</i>); Koivuniemi, Andrew (<i>Purdue University</i>); Thongpang, Sanitta (<i>University of Wisconsin- Madison</i>); Williams, Justin (<i>University of Wisconsin</i>); Otto, Kevin* (<i>Purdue University</i>)	
14:45-15:00	SaC10.6
Neural Adaptation of Epidural Electrocorticographic (EECoG) Signals During Closed-Loop Brain Computer Interface (BCI) Tasks	5514-5517
Rouse, Adam (<i>Washington University</i>); Moran, Daniel* (<i>Washington University in St. Louis</i>)	
<hr/>	
SaC11: 13:30-15:00	Marquette I
6.2.1 Neural Microsystems I (Oral Session)	
Chair: Patrick Wolf, <i>Duke University</i>	
Co-Chair: Maysam Ghovanloo, <i>Georgia Inst. of Tech.</i>	
13:30-13:45	SaC11.1
Recent Advances in Charge Balancing for Functional Electrical Stimulation	5518-5521
Sooksood, Kriangkrai* (<i>University of Ulm</i>); Stieglitz, Thomas (<i>University of Freiburg</i>); Ortmanns, Maurits (<i>University of Ulm</i>)	
13:45-14:00	SaC11.2
An Optical Microsystem for Wireless Neural Recording	5522-5524
ziaie, babak* (<i>Purdue University</i>); Wei, Pinghung (<i>Purdue University</i>)	
14:00-14:15	SaC11.3
A System-Level View of Optimizing High-Channel-Count Wireless Biosignal Telemetry	5525-5530
Chandler, Rodney James* (<i>UCLA</i>); Gibson, Sarah (<i>UCLA</i>); Kakare, Vaihbav (<i>UCLA</i>); Farshchi, Shahin (<i>University of California, Los Angeles</i>); Markovic, Dejan (<i>UCLA</i>); Judy, Jack (<i>UCLA</i>)	
14:15-14:30	SaC11.4
Wireless, High-Bandwidth Recordings from Non-Human Primate Motor Cortex Using a Scalable 16-Ch Implantable Microsystem	5531-5534
Borton, David* (<i>Brown University</i>); Song, Yoon-Kyu (<i>Brown University</i>); Patterson, William (<i>Brown University</i>); Bull, Christopher (<i>Brown University</i>); Park, Sunmee (<i>Brown University</i>); Laiwalla, Farah (<i>Brown University</i>); Donoghue, John (<i>Brown University</i>); Nurmikko, Arto (<i>Brown University</i>)	
14:30-14:45	SaC11.5
Design of Advanced Neuroscience Platform	5535-5538
Liu, Wentai (<i>University of California, Santa Cruz</i>); Chae, Moo Sung (<i>University of California, Santa Cruz</i>); Yang, Zhi* (<i>University of California, Santa Cruz</i>); Kim, Hyunchul (<i>University of California Santa Cruz</i>)	

SaC12: 13:30-15:00	Marquette VI
1.4.5 Biomedical Signal Classification IV (Oral Session)	
Chair: Khosrow Behbehani, Univ. of Texas at Arlington	

13:30-13:45	SaC12.1
A Continuous Evaluation of the Awake Sleep State Using Fuzzy Reasoning 5539-5542	
Fernandez-Pastoriza, Jose Maria (University of A Coruña); Álvarez-Estévez, Diego* (University of A Coruña); Moret-Bonillo, Vicente (A Coruña University)	
13:45-14:00	SaC12.2
A New Measure to Quantify Sleepiness Using Higher Order Statistical Analysis of EEG 5543-5546	
Abeyratne, Udantha R* (University of Queensland); Swarnkar, Vinayak (University of Queensland); Hukins, Craig (Prince Alexandra Hospital)	
14:00-14:15	SaC12.3
A Classification Algorithm Based on Spectral Features from Nocturnal Oximetry and Support Vector Machines to Assist in the Diagnosis of Obstructive Sleep Apnea 5547-5550	
Marcos, J. Victor* (University of Valladolid, CIF: Q4718001C); Hornero, Roberto (University Of Valladolid); Álvarez, Daniel (University of Valladolid); del Campo, Félix (Hospital del Río Hortega); Zamarrón, Carlos (Hospital Clínico Universitario)	
14:15-14:30	SaC12.4
Normal Probability Testing of Snore Signals for Diagnosis of Obstructive Sleep Apnea 5551-5554	
Ghaemmaghami, Houman (The University of Queensland); Abeyratne, Udantha R* (University of Queensland); Hukins, Craig (Prince Alexandra Hospital)	
14:30-14:45	SaC12.5
Automatic Detection of Sleep Macrostructure Based on Bed Sensors 5555-5558	
Mendez, Martin Oswaldo (politecnico di Milano); Matteucci, Matteo (Politecnico di Milano); Cerutti, Sergio* (Politecnico di Milano); Bianchi, Anna Maria (Politecnico di Milano); Kortelainen, Juha Matti (VTT)	
14:45-15:00	SaC12.6
Detection of Obstructive Sleep Apnea in ECG Recordings Using Time-Frequency Distributions and Dynamic Features 5559-5562	
Quiceno-Manrique, Andrés Felipe (Universidad Nacional de Colombia, Sede Manizales); Alonso-Hernández, Jesús Bernardino (Universidad de Las Palmas de Gran Canaria); Travieso-González, Carlos (Universidad de Las Palmas de Gran Canaria); Ferrer-Ballester, Miguel Ángel (Universidad de Las Palmas de Gran Canaria); Castellanos-Domínguez, Germán* (Universidad Nacional de Colombia)	

SaC13: 13:30-15:00	Conrad D
8.3.2 Robotic and Image-Guided Surgery I (Oral Session)	
Chair: Cameron Riviere, Carnegie Mellon Univ.	

13:30-13:45	SaC13.1
Patient Motion Tracking in the Presence of Measurement Errors 5563-5566	
Haidegger, Tamas* (Budapest University of Technology and Economics/Dept. of Control Engineering and Information Technology (BME - IIT)); Benyo, Zoltan (Budapest Univ of Tech & Economics); Kazanzides, Peter (Johns Hopkins University)	
13:45-14:00	SaC13.2
Catheter Localization in the Left Atrium Using an Outdated Anatomic Reference for Guidance 5567-5570	
Koolwal, Aditya* (Stanford University); Barbagli, Federico (Stanford University); Carlson, Christopher (Hansen Medical, Inc.); Liang, David (Stanford University)	
14:00-14:15	SaC13.3
Comparison of Visual Tracking Algorithms on in Vivo Sequences for Robot-Assisted Flexible Endoscopic Surgery 5571-5576	
Masson, Norbert (University of Strasbourg); Nageotte, Florent* (University of Strasbourg); Zanne, Philippe (University of Strasbourg); Marescaux, Jacques (IRCAD); de Mathelin, Michel (University of Strasbourg)	

14:15-14:30	SaC13.4
Design of a Telemanipulated System for Transluminal Surgery	5577-5582
Bardou, Berengere* (University of Strasbourg); Nageotte, Florent (University of Strasbourg); Zanne, Philippe (University of Strasbourg); de Mathelin, Michel (University of Strasbourg)	
14:30-14:45	SaC13.5
Hybrid Attitude Estimation for Laparoscopic Surgical Tools: A Preliminary Study	5583-5586
REN, Hongliang* (The Johns Hopkins University); Kazanzides, Peter (Johns Hopkins University)	
14:45-15:00	SaC13.6
Active Guidance for Laser Retinal Surgery with a Handheld Instrument	5587-5590
RoblesValdivieso, Cristina (Carnegie Mellon University); Becker, Brian* (Carnegie Mellon University); Biswas, Joydeep (Carnegie Mellon University); Lobes, Louis A. (University of Pittsburgh Medical Center); Riviere, Cameron (Carnegie Mellon University)	

SaC14: 13:30-15:00	Marquette III
9.5.1 Medical Device Design and Human Factors (Oral Session)	
Chair: Mary Beth Privitera, University of Cincinnati Co-Chair: Robert Hitchcock, University of Utah	

13:30-13:45	SaC14.1
Medical Device Development	5591-5594
Panescu, Dorin* (NewCardio, Inc.)	
13:45-14:00	SaC14.2
Interconnections of Basic Science Research and Product Development in Medical Device Design	5595-5598
Privitera, Mary Beth* (University of Cincinnati)	
14:00-14:15	SaC14.3
Opportunity is Hidden in Plain Sight	5599-5601
Johnson, Royce* (Kinetic Concepts, Inc.)	
14:15-14:30	SaC14.4
Towards Sustainable Design for Single-Use Medical Devices	5602-5605
Hanson, Jacob Joseph (University of Utah); Hitchcock, Robert* (University of Utah)	
14:30-14:45	SaC14.5
Applied Ergonomics: Determining User Needs in Medical Device Design	5606-5608
Privitera, Mary Beth* (University of Cincinnati)	
14:45-15:00	SaC14.6
Medical Device Design Process	5609-5612
Gilman, Byron* (Galvani, Ltd.); Brewer, James (Galvani, Ltd.); Kroll, Mark (University of Minnesota)	

SaC15: 13:30-15:00	Marquette IX
10.5.3 Data Mining, Knowledge Discovery, Personalized Decision Support (Oral Session)	
Chair: Dimitrios I. Fotiadis, Univ. of Ioannina Co-Chair: Ronald Summers, Loughborough Univ.	

13:30-13:45	SaC15.1
Semantic Subgroup Discovery: Using Ontologies in Microarray Data Analysis	5613-5616
Lavrac, Nada* (Jozef Stefan Institute); Kralj Novak, Petra (Jozef Stefan Institute); Mozetic, Igor (Jozef Stefan Institute); Podpecan, Vid (Jozef Stefan Institute); Motaln, Helena (National Institute of Biology); Petek, Marko (National Institute of Biology); Gruden, Kristina (National Institute of Biology)	
13:45-14:00	SaC15.2
Neighborhood Graph and Learning Discriminative Distance Functions for Clinical Decision Support	5617-5620
Tsymbal, Alexey* (Siemens AG); Huber, Martin (Siemens AG); Zhou, Shaohua Kevin (Siemens Corporate Research)	

14:00-14:15	SaC15.3
Innovation for Personalization: A Healthcare Case Study	5621-5624
Summers, Ronald* (Loughborough University); Hu, Sijung (Loughborough University); Echiadis, Angelos (Loughborough University); Azorin Peris, Vicente (Loughborough University); Chouliaras, Vassilos (Loughborough University)	
14:15-14:30	SaC15.4
A Semantically Aware Platform for the Authoring and Secure Enactment of Bioinformatics Workflows	5625-5628
Tsiknakis, Manolis* (ICS-FORTH); Sfakianakis, Stelios (Foundation for Research and Technology Hellas); Zacharioudakis, George (Foundation for Research and Technology Hellas); Koumakis, Lefteris (Foundation for Research and Technology Hellas); Kanterakis, Alexandros (Foundation for Research and Technology Hellas); Potamias, George (Foundation for Research and Technology - Hellas); Kafetzopoulos, Dimitris (FORTH)	
14:30-14:45	SaC15.5
Methods and Tools for Mining Multivariate Temporal Data in Clinical and Biomedical Applications	5629-5632
Bellazzi, Riccardo* (University of Pavia); Sacchi, Lucia (University of Pavia); Stefano, Concaro (University of Pavia)	
14:45-15:00	SaC15.6
Data Mining for Blood Glucose Prediction and Knowledge Discovery in Diabetic Patients: The METABO Diabetes Modeling and Management System	5633-5636
Georga, Eleni* (University of Ioannina); Protopappas, Vasilios (University of Patras); Guillen, Alejandra (CRDM in Medtronic Spain); Fico, Giuseppe (Technical University of Madrid); Ardigo, Diego (University of Parma); Arredondo, María Teresa (Technical University of Madrid); Exarchos, Themis P. (Unit of Medical Tech & Intelligent Info); Polyzos, Demosthenes (University of Patras); Fotiadis, Dimitrios I. (University of Ioannina)	
SaC17: 13:30-15:00	Directors Row 4
SS 6. Women in Biomedical Engineering and Health Informatics: Careers, Diversity and Trends (Special Session)	
Chair: Carolyn McGregor, Univ. of Ontario Inst. of Tech	
Co-Chair: Monique Frize, Carleton Univ.	
SaC18: 13:30-15:00	Marquette IV
2.7.1 Biomedical Image Analysis (Oral Session)	
Chair: Ioannis Kakadiaris, Univ. of Houston	
Co-Chair: Shishir Shah, Univ. of Houston	
13:30-13:45	SaC18.1
MRI-Guided Robotics at the U of Houston: Evolving Methodologies for Interventions and Surgeries	5637-5640
Tsekos, Nikolaos* (University of Houston)	
13:45-14:00	SaC18.2
Multidimensional AM-FM Models and Methods for Biomedical Image Computing	5641-5644
Pattichis, Marios* (University of New Mexico,)	
14:00-14:15	SaC18.3
Multispectral Microscopy and Cell Segmentation for Analysis of Thyroid Fine Needle Aspiration Cytology Smears	5645-5648
Shah, Shishir* (University of Houston)	
14:15-14:30	SaC18.4
Image-Guided Preparation of the Calot's Triangle in Laparoscopic Cholecystectomy	5649-5652
Akbari, Hamed* (Tokyo Institute of Technology); Kosugi, Yukio (Tokyo Institute of Technology); Khorgami, Zhamak (Tehran University of Medical Sciences)	
14:30-14:45	SaC18.5
An Experimental Evaluation of Diffusion Tensor Image Segmentation Using Graph-Cuts	5653-5656
Han, Deok* (University of Wisconsin-Madison)	

SaDPo01: 15:00-16:40

Grand Ballroom - Salon E, F, G

1.5.3 Principal Component Analysis (Poster Session)

15:00-16:40	SaDPo01.1
3D Point Correspondence by Minimum Description Length with 2DPCA	5657-5660
Chen, Jiun-Hung* (University of Washington); Shapiro, Linda G. (University of Washington)	
15:00-16:40	SaDPo01.2
Characterisation of Arteriovenous Fistula's Sound Recordings Using Principal Component Analysis	5661-5664
Munguia M., Marco* (National University of Engineering); Vásquez, Pablo (Lunds University); Mandersson, Bengt (Lund University)	
15:00-16:40	SaDPo01.3
TFR-Based Feature Extraction Using PCA Approaches for Iscrimination of Heart Murmurs	5665-5668
Avendaño-Valencia, Luis David (Universidad Nacional de Colombia); Martínez-Tabares, Fernando (Universidad Nacional de Colombia, Sede Manizales); Acosta-Medina, Carlos Daniel (Universidad Nacional de Colombia); Godino-Llorente, Juan Ignacio (Universidad Politécnica de Madrid); Castellanos-Dominguez, Germán* (Universidad Nacional de Colombia)	
15:00-16:40	SaDPo01.4
Fast PCA Via UTV Decomposition and Application on EEG Analysis	5669-5672
Wongsawat, Yodchanan* (Mahidol University)	
15:00-16:40	SaDPo01.5
Assessment of the Effects of Subthalamic Stimulation in Parkinson Disease Patients by Artificial Neural Network	5673-5676
Muniz, Adriane Mara de Souza (Federal University of Rio de Janeiro); Liu, Wen (University of Kansas Medical Center); Liu, Hongzeng (University of Missouri-Kansas City); Lyons, Kelly E. (University of Kansas Medical Center); Pahwa, Rajesh (University of Kansas Medical Center); Nobre, Flavio Fonseca (Federal University of Rio de Janeiro); Nadal, Jurandir* (Federal University of Rio de Janeiro)	
15:00-16:40	SaDPo01.6
Performance Evaluation of a Three-axial Accelerometry-based Respiration Monitoring for Ambient Assisted Living	5677-5680
Jin, Anmin (Eindhoven University of Technology); Yin, Bin (Philips Research); Morren, Geert (Philips); Duric, Haris* (Philips Research); Aarts, Ronald M. (Philips)	

SaDPo02: 15:00-16:40

Grand Ballroom - Salon E, F, G

1.6.2 Biomedical Adaptive Filtering II (Poster Session)

15:00-16:40	SaDPo02.1
Real-Time Estimation of the ECG-Derived Respiration (EDR) Signal Using a New Algorithm for Baseline Wander Noise Removal	5681-5684
Poigai Arunachalam, Shivaram* (South Dakota State University); Brown, Lewis (South Dakota State University)	
15:00-16:40 Author unavailable for presentation	SaDPo02.2
Detection of Respiratory Rhythm from Photoplethysmographic Signal by Adaptive Morphological Filter	5685-5688
Li, Jin* (Xi'an Jiaotong University); Jin, Jie (Xi'an Jiaotong University); Sun, Weixin (Xi'an Jiaotong University)	
15:00-16:40	SaDPo02.3
Automated Beat Onset and Peak Detection Algorithm for Field-Collected Photoplethysmograms	5689-5692
Chen, Liangyou* (US Army Med Research & Matl Cmd); Reisner, Andrew (Massachusetts General Hospital); Reifman, Jaques (U.S. Army Medical Research)	
15:00-16:40	SaDPo02.4
Adjustment of Adaptive Sum Comb Filter for PPG Signals	5693-5696
Pilt, Kristjan* (Technical University of Tallinn); Meigas, Kalju (Tallinn University of Technology); Ferenets, Rain (Tallinn University of Technology); Kaik, Jüri (Tallinn University of Technology)	

15:00-16:40	SaDPo02.5
Detecting Regional Lung Properties Using Audio Transfer Functions of the Respiratory System	5697-5700
<i>Mulligan, Kyle* (Carleton University); Adler, Andy (Carleton University); Goubran, Rafik A. (Carleton University)</i>	
15:00-16:40	SaDPo02.6
Using A-Weighting for Psychoacoustic Active Noise Control	5701-5704
<i>Bao, Hua* (University of Texas at Dallas); Panahi, Issa (University of Texas at Dallas)</i>	
15:00-16:40	SaDPo02.7
Bayesian Auxiliary Particle Filters for Estimating Neural Tuning Parameters	5705-5708
<i>Mountney, John* (Temple University); Sobel, Marcus (Temple University); Obeid, Iyad (Temple University)</i>	
15:00-16:40	SaDPo02.8
Kalman Smoother Based Time-Varying Spectrum Estimation of EEG During Single Agent Propofol Anesthesia	5709-5712
<i>Georgiadis, Stefanos (University of Kuopio); Tarvainen, Mika* (University of Kuopio); Kaskinoro, Kimmo (Turku University Hospital); Maksimow, Anu (Turku University Hospital); Kärki, Tarmo (Turku University Hospital); Jääskeläinen, Satu (Turku University Hospital); Scheinin, Harry (Turku University Hospital); Karjalainen, A (University of Kuopio)</i>	
15:00-16:40 Author unavailable for presentation	SaDPo02.9
Pulse Pressure Variation Estimation Using a Sequential Monte Carlo Method	5713-5716
<i>Kim, Sungahn* (Portland State University); Aboy, Mateo (Oregon Institute of Technology); McNames, James (Portland State University)</i>	
15:00-16:40	SaDPo02.10
Adaptive Signal Processing Algorithm for Remote Detection of Heart Rate (HR) Using Ultra-Wideband Waveforms Based on Principal Component Analysis	5717-5720
<i>Sharifahmadian, Ershad* (Tehran University); Ahmadian, Alireza (Tehran University of Medical Sciences)</i>	

SaDPo03: 15:00-16:40	Grand Ballroom - Salon E, F, G
2.6.2 Biomedical Image Reconstruction and Visualization (Poster Session)	

15:00-16:40	SaDPo03.1
Iterative Image Reconstruction Model Including Susceptibility Gradients Combined with Z-Shimming Gradients in Fmri	5721-5724
<i>Zhuo, Yue* (University of Illinois at Urbana-Champaign); Sutton, Bradley P. (University of Illinois at Urbana-Champaign)</i>	
15:00-16:40	SaDPo03.2
An Improved Wavefront Reconstruction Method for Breast Microwave Imaging.	5725-5728
<i>Flores-Tapia, Daniel* (CancerCare Manitoba); Thomas, Gabriel (University of Manitoba); Pistorius, Stephen (CancerCare Manitoba / University of Manitoba)</i>	
15:00-16:40	SaDPo03.3
Evaluation of a 4D Cone-Beam CT Reconstruction Approach Using a Simulation Framework	5729-5732
<i>Hartl, Alexander (Technische Universität München); Yaniv, Ziv* (Georgetown University)</i>	
15:00-16:40	SaDPo03.4
Simultaneous reconstruction and registration algorithm for limited view transmission tomography using a multiple cluster approximation to the joint histogram with an anatomical prior	5733-5736
<i>Van de Sompel, Dominique* (University of Oxford); Brady, Michael (University of Oxford)</i>	
15:00-16:40 Author unavailable for presentation	SaDPo03.5
Generalized Gibbs Priors Based Positron Emission Tomography Reconstruction	5737-5740
<i>Ma, Jianhua* (Southern Medical University); Chen, Wufan (Southern Medical University); Huang, Jing (Southern Medical University)</i>	

15:00-16:40	SaDPo03.6
Three-Dimensional High-Resolution Optical Coherence Tomography (OCT) Imaging of Human Kidney	5741-5743
<i>Li, Qian* (University of Maryland); Chen, Yu (University of Maryland); Onozato, Maristela (Georgetown University); Paek, Andrew (University of Maryland, College Park); Duttaroy, Anik (University of Maryland); Jiang, James (Thorlabs); Shirmohammadi, Bobak (University of Maryland: College Park)</i>	
15:00-16:40	SaDPo03.7
Stereo 3D Mouse (S3D-Mouse): Measuring Ground Truth for Medical Data in a Virtual 3D Space	5744-5747
<i>Azari, Hossein (University of Alberta); Cheng, Irene (University of Alberta); Basu, Anup* (University of Alberta)</i>	
15:00-16:40	SaDPo03.8
Stereo Endoscopy As a 3-D Measurement Tool	5748-5751
<i>Field, Matthew* (University of Kentucky); Clarke, Duncan (Fremont Associates, LLC); Strup, Stephen (University of Kentucky); Seales, William Brent (University of Kentucky)</i>	
SaDPo04: 15:00-16:40	Grand Ballroom - Salon E, F, G
2.7.7 Image Registration, Segmentation and Fusion (Poster Session)	
15:00-16:40	SaDPo04.1
MRI Segmentation Using Dialectical Optimization	5752-5755
<i>dos Santos, Wellington* (Universidade de Pernambuco); de Assis, Francisco Marcos (Universidade Federal de Campina Grande); Souza, Ricardo (Universidade Federal de Pernambuco)</i>	
15:00-16:40	SaDPo04.2
Glottal Space Segmentation from Motion Estimation and Gabor Filtering	5756-5759
<i>Méndez, Amaia* (University of deusto); Ismaili Alaoui, E.M. (Faculty of Sciences University Mohamed V Rabat Agdal Morocco & with National Institute of Post and Telecommunications Rabat-Moro); García, Begoña (University of deusto); Ibn-Elhaj, Elhassane (National Institute of Post and Telecommunications); Ruiz, Ibon (University of deusto)</i>	
15:00-16:40	SaDPo04.3
Mass Auto-Detection in Mammogram Based on Wavelet Transform Modulus Maximum	5760-5763
<i>Ke, Li* (Shenyang University of Technology); He, Wei (Shenyang University of Technology); Kang, Yan (Northeastern University)</i>	
15:00-16:40	SaDPo04.4
A Method for Morphological Characterization of Dural Ectasia in Marfan Syndrome	5764-5767
<i>Iacono, Maria Ida* (Politecnico di Milano); Passera, Katia (Politecnico di Milano); Magrassi, Lorenzo (Fondazione IRCCS Policlinico S. Matteo); Dore, Roberto (Fondazione IRCCS Policlinico S. Matteo); Lago, Paolo (Fondazione IRCCS Policlinico S. Matteo); Arbustini, Eloisa (Fondazione IRCCS Policlinico San Matteo); Mainardi, Luca (Politecnico di Milano)</i>	
15:00-16:40	SaDPo04.5
Quantifying the astrocytoma cell response to candidate pharmaceutical from F-ACTIN image analysis	5768-5771
<i>Cui, Chi* (University of Maryland, College Park); JaJa, Joseph (University of Maryland, College Park); Turbyville, Thomas (SAIC-Frederick); Beutler, John (National Cancer Institute); Lockett, Stephen (SAIC-Frederick)</i>	
15:00-16:40	SaDPo04.6
Serial Reconstruction and Montaging from Large-Field Electron Microscope Tomograms	5772-5776
<i>Phan, Sebastien* (UCSD); Terada, Masako (UCSD); Lawrence, Albert F. (UCSD)</i>	
15:00-16:40	SaDPo04.7
Intelligent Fusion of Cup-To-Disc Ratio Determination Methods for Glaucoma Detection in ARGALI	5777-5780
<i>Wong, Damon* (Institute for Infocomm Research); Liu, Jiang (Inst for Infocomm Resrch, A STAR); Lim, Joo Hwee (Institute for Infocomm Research); Tan, Ngan Meng (A*STAR, Institute for Infocomm Research); Zhang, Zhuo (A*STAR); Lu, Shijian (Inst for Infocomm Research, A STAR); Li, Huiqi (Institute for Infocomm Research); Teo, Meng Hwee (Nanyang Technological University); Chan, Kap Luk (Nanyang Technological University); Wong, Tien Yin (National University of Singapore)</i>	

15:00-16:40	SaDPo04.8
Shape-Aided Kidney Extraction in MR Urography	5781-5784
Yang, Tang* (University of Southern California, childrens hospital los angeles); Hollie, Jackson (University of Southern California and Keck School of Medicine, childrens hospital los angeles); susan, lee (University of Southern California and Keck School ofMedicine, childrens hospital los angeles); Nelson, Marvin (University of Southern California and Keck School of Medicine, childrens hospital los angeles); moats, rex (University of Southern California and Keck School ofMedicine, childrens hospital los angeles)	
15:00-16:40	SaDPo04.9
Quantitative Comparison of Segmentation Methods for In-Body Images	5785-5788
Riaz, Farhan* (Universidade do Porto); Coimbra, Miguel (Instituto de Telecomunicações / Universidade do Porto); Ribeiro, Mario Dinis (Universidade do Porto)	
15:00-16:40	SaDPo04.10
Variability in Human and Automatic Segmentation of Melanocytic Lesions	5789-5792
Silletti, Alberto* (University of Padova); Peserico, Enoch (University of Padova); Mantovan, Alessandra (University of Padova); Zattra, Edoardo (University of Padova); Peserico, Andrea (University of Padova); Belloni Fortina, Anna (University of Padova)	
15:00-16:40	SaDPo04.11
Non-Rigid Image Registration Using Local Histogram-Based Features	5793-5796
Iuo, yishan* (the hong kong university of science and technology); Chung, Albert C. S. (The Hong Kong Univ of Sci & Tech)	
15:00-16:40	SaDPo04.12
Multi-Structure Whole Brain Registration and Population Average	5797-5800
Khan, Ali R.* (Simon Fraser University); Beg, Mirza Faisal (Simon Fraser University)	
15:00-16:40	SaDPo04.13
Multi-Image Registration for Evaluating the 99mTc-TRODAT-1 of Parkinson's Rat Model	5801-5804
Lee, Jiann-Der* (Chang Gung University)	
15:00-16:40	SaDPo04.14
Automated PET/CT Brain Registration for Accurate Attenuation Correction	5805-5808
Khurshid, Khawar* (Michigan State University); McGough, Robert (Michigan State University); Berger, Kevin (Michigan State University)	
15:00-16:40	SaDPo04.15
Estimation of Anatomical Locations Using Standard Frame of Reference in Chest CT Scans	5809-5812
Lee, Jaesung (Cornell University); Biancardi, Alberto (Cornell University); Reeves, Anthony* (Cornell University); Yankelevitz, David (Weill Cornell Medical College); Henschke, Claudia (Weill Cornell Medical College)	
15:00-16:40	SaDPo04.16
Medical Image Fusion Scheme Using Complex Contourlet Transform Based on PCA	5813-5816
Al-Azzawi, Nemir (Universiti sains Malaysia); Mat Sakim, Harsa Amylia* (University Sains Malaysia); Wan Abdullah, Wan Ahmad Kamil (Universiti Sains Malaysia); Ibrahim, Haidi (Universiti Sains Malaysia)	
15:00-16:40	SaDPo04.17
An Anatomical Mouse Model for Multimodal Molecular Imaging	5817-5820
Zhang, Xing (Institute of Automation, Chinese Academy of Sciences); Tian, Jie* (Chinese Academy of Sciences); Feng, Jinchao (Beijing University of Technology); Zhu, Shouping (Institute of Automation, Chinese Academy of Sciences); Yan, Guorui (Chinese Academy of Science)	
15:00-16:40	SaDPo04.18
A New Multi-Modal Similarity Measure for Fast Gradient-Based 2D-3D Image Registration	5821-5824
Pickering, Mark* (The University of New South Wales); Abdullah Al, Muhit (The University of New South Wales); Scarvell, Jennie (The Canberra Hospital); Smith, Paul (The Canberra Hospital)	
15:00-16:40	SaDPo04.19
Parallel Registration of Multi-Modal Medical Image Triples Having Unknown Inter-Image Geometry	5825-5828
Papp, Laszlo* (Research Unit of Medical Image Processing); Zsoter, Norbert (Mediso Medical Imaging Systems); Szabo, Gergely (Mediso Medical Imaging Systems); Bejan, Csaba (Mediso Medical Imaging Systems); Szimjanovszki, Emil (Mediso Medical Imaging Systems); Henze, Eberhard (UK-SH Campus Kiel, Germany)	

15:00-16:40	SaDPo04.20
Evaluation of a Robotic Arm for Echocardiography to X-Ray Image Registration During Cardiac Catheterization Procedures	5829-5832
Ma, YingLiang* (King's College London); Penney, Graeme P. (King's College London); Bos, Dennis (Philips Applied Technologies); Frissen, Peter (Philips Applied Technologies); Fockert, George (Philips Applied Technologies); King, Andy (King's College London); Gang, Gao (University College London); Yao, Cheng (King's College London); Totman, John (King's College London); Ginks, Matthew (King's College London); Rinaldi, Aldo (King's College London); Razavi, Reza (King's College London); Rhode, Kawa (King's College London)	
15:00-16:40	SaDPo04.21
Imaging of Forearm-Muscle Activities by CP-MCT and TR-DOT	5833-5837
Miyakawa, Michio (Niigata University); Nagai, Daisuke* (Graduate School of Science & Technology, Niigata University)	
15:00-16:40	SaDPo04.22
PCA vs. Tensor-Based Dimension Reduction Methods: An Empirical Comparison on Active Shape Models of Organs	5838-5841
Chen, Jiun-Hung* (University of Washington); Shapiro, Linda G. (University of Washington)	
SaDPo05: 15:00-16:40	Grand Ballroom - Salon E, F, G
11.2.2 Instruction and Learning (Poster Session)	
15:00-16:40	SaDPo05.1
Interactive Computer Program for Learning Genetic Principles of Segregation and Independent Assortment through Meiosis	5842-5845
Yang, Xiaoli* (Purdue University Calumet); Ge, Rong (Purdue University Calumet); Yang, yufei (Purdue University Calumet); shen, hao (Purdue University Calumet); Li, YingJie (Shanghai University); Tseng, Charles (Purdue University Calumet)	
15:00-16:40	SaDPo05.2
Biomedical Learning Experiences for Middle School Girls Sponsored by the Kansas State University Student Chapter of the IEEE EMBS	5846-5849
Gruber, Lucinda (Kansas State University); Griffith, Connor (Kansas State University); Young, Ethan (Kansas State University); Sullivan, Adriann (Kansas State University); Schuler, Jeff (Kansas State University); Arnold Christian, Susan (Kansas State University); Warren, Steve* (Kansas State University)	
15:00-16:40	SaDPo05.3
Hands-On Curriculum Teaches Biomedical Engineering Concepts to Home Schooled Students	5850-5853
Sagstetter, Ann* (University of Wisconsin-Madison); Nimunkar, Amit (University of Wisconsin-Madison); Tompkins, Willis J. (University of Wisconsin - Madison)	
15:00-16:40	SaDPo05.4
Evaluation of Medical Gestures Based on a Global Performance Index	5854-5857
Moreau, Richard* (INSA-Lyon); Ochoa, Victor (University of Alberta); Pham, Minh Tu (Institut National des Sciences Appliquées (INSA de Lyon)); Boulanger, Pierre (University of Alberta); Dupuis, Olivier (Hospices Civils de Lyon)	
15:00-16:40	SaDPo05.5
A Collaborative Biomedical Engineering Undergraduate Work: An Automatic System for Blood Glucose Regulation	5858-5861
Minas, Graca* (University of Minho); Soares, Filomena (University of Minho)	
15:00-16:40	SaDPo05.6
Recent Developments in Biomedical Engineering Education and Research in Brazil	5862-5865
Gehlot, Narpat Singh* (Faculdade de Ciências e Tecnologia - Facitech)	
SaDPo06: 15:00-16:40	Grand Ballroom - Salon E, F, G
3.8.2 Advances in Sensing Technology (Poster Session)	
15:00-16:40	SaDPo06.1
Towards Circuit Integration on Fully Flexible Parylene Substrates	5866-5869
Wang, Ke* (Philips Research); van Deurzen, Marice (Philips Research); Kooyman, Nico (Philips Research); Decré, Michel (Philips Research)	

15:00-16:40	SaDPo06.2
Three Dimensional Electrochemical System for Neurobiological Studies	5870-5874
Vazquez, Patricia* (Technical University of Denmark); Dimaki, Maria (Technical University of Denmark); Svendsen, Winnie (Technical University of Denmark)	
15:00-16:40	SaDPo06.3
Hafnium Transistor Process Design for Neural Interfacing	5875-5878
Parent, David* (San Jose State University); Basham, Eric (University of California, Santa Cruz)	
15:00-16:40	SaDPo06.4
Biological Microdevice with Fluidic Acoustic Streaming for Measuring Uric Acid in Human Saliva	5879-5882
Cardoso, Vanessa* (University of Minho); Catarino, Susana (University of Minho); Martins, Pedro (University of Minho); Rebouta, Luís (University of Minho); Lanceros-Méndez, Senentxu (University of Minho); Minas, Graca (University of Minho)	
15:00-16:40	SaDPo06.5
High Frequency Optoacoustic Microscopy	5883-5886
Bost, Wolfgang (Fraunhofer Institute for Biomedical Engineering); Stracke, Frank (Fraunhofer Institute for Biomedical Engineering); Weiß, Eike (Kibero GmbH); Narasimhan, Sankar (Ryerson University); Kolios, Michael* (Ryerson University); Lemor, R (Fraunhofer Institute)	
15:00-16:40	SaDPo06.6
A Multimodal Sensing Device for Fluorescence Imaging and Electrical Potential Measurement of Neural Activities in a Mouse Deep Brain	5887-5890
Ohta, Jun* (Nara Institute of Science and Technology); Tagawa, Ayato (Nara Institute of Science and Technology); Minami, Hiroki (Nara Institute of Science and Technology); Noda, Toshihiko (Nara Institute of Science and Technology); Sasagawa, Kiyotaka] (Nara Institute of Science and Technology); Tokuda, Takashi (Nara Inst of Science & Technology); Hatanaka, Yumiko (Nara Institute of Science and Technology); Ishikawa, Yasuyuki (Nara Institute of Science and Technology); Tamura, Hideki (Nara Institute of Science and Technology); Shiosaka, Sadao (Nara Institute of Science and Technology)	
15:00-16:40	SaDPo06.7
Optical Measurement of Blood Hematocrit on Medical Tubing with Dual Wavelength and Detector Model	5891-5896
Oshima, Shiori* (University of Tsukuba); Sankai, Yoshiyuki (University of Tsukuba)	

SaDPo07: 15:00-16:40	Grand Ballroom - Salon E, F, G
4.6.2 Biomedical Data Management and Tools for Bioinformatics (Poster Session)	
15:00-16:40	SaDPo07.1
Cardiac Electrophysiology Numerical Models Using Symmetric Multiprocessing (SMP)	5897-5900
Petsios, Stefanos - Konstantinos (University); Fotiadis, Dimitrios I.* (University of Ioannina)	
15:00-16:40	SaDPo07.2
State Estimation of Walking Phase and Functional Electrical Stimulation by Wearable Device	5901-5904
Obinata, Goro (Nagoya University); Ogisu, Takuma (Nagoya University); Hase, Kazunori (Nagoya University); Kim, Youngwoo* (Nagoya University); Genda, Eiichi (Rosai Rehabilitation Engineering Center)	
15:00-16:40	SaDPo07.3
Automatic Segmentation of Clinical Texts	5905-5908
Apostolova, Emilia* (DePaul University); Channin, David Samuel (Northwestern University); Demner-Fushman, Dina (National Library of Medicine); Furst, Jacob D. (DePaul University); Lytinen, Steven (DePaul University); Raicu, Daniela S. (DePaul University)	
15:00-16:40	SaDPo07.4
A List-Based Method for Fast Generation of Molecular Surfaces	5909-5912
Yu, Zeyun* (University of Wisconsin-Milwaukee)	
15:00-16:40	SaDPo07.5
Development of a Kernel Function for Clinical Data	5913-5917
Daemen, Anneleen* (Katholieke Universiteit Leuven); De Moor, Bart (Katholieke Universiteit Leuven)	

15:00-16:40	SaDPo07.6
Combining Sea Urchin Embryo Cell Lineages by Error-Tolerant Graph Matching	5918-5921
Rubio-Guivernau, Jose Luis* (Universidad Politécnica de Madrid); Luengo-Oroz, Miguel Angel (Universidad Politécnica de Madrid); Duloquin, Louise (CNRS); Savy, Thierry (Ecole Polytechnique); Peyrieras, Nadine (CNRS); Bourgine, Paul (Ecole Polytechnique); Santos, Andres (Universidad Politecnica Madrid)	

SaDPo08: 15:00-16:40	Grand Ballroom - Salon E, F, G
6.8.2 Learning and Adaption in Neuromuscular Systems (Poster Session)	

15:00-16:40	SaDPo08.1
Multiple Interactions between Hemispheres of the Brain Modulating Coupling of Bilateral Movements	5922-5925
Sakurada, Takeshi* (Tokyo Institute of Technology); Gomi, Hiroaki (Nippon Telegraph and Telephone); ito, koji (Tokyo Institute of Technology)	

15:00-16:40	SaDPo08.2
Influence of Motor Imagery on Learning under Complex External Dynamics	5926-5929
Anwar, Muhammad Nabeel* (Tokyo Institute of Technology); Tomi, Naoki (Tokyo Institute of Technology); ito, koji (Tokyo Institute of Technology)	

15:00-16:40	SaDPo08.3
Brain Biomarkers of Motor Adaptation Using Phase Synchronization	5930-5933
Gentili, Rodolphe (University of Maryland); Bradberry, Trent* (University of Maryland); Hatfield, Bradley (University of Maryland); Contreras-Vidal, José (University of Maryland)	

15:00-16:40	SaDPo08.4
Reach to Grasp Kinematics and EMG Analysis of C6 Quadriplegic Subjects	5934-5937
Jacquier-Bret, Julien* (Université du Sud - Toulon - Var); Rezzoug, Nasser (Université du Sud Toulon-Var); Vallier, Jean-Marc (Université du Sud Toulon Var); Tournebise, Hubert (Hopital Renée Sabran); Gorce, Philippe (Université du Sud Toulon Var)	

15:00-16:40	SaDPo08.5
Effects of Environmental Instabilities on Endpoint Stiffness During the Maintenance of Human Arm Posture	5938-5941
Krutky, Matthew (Northwestern University); Trumbower, Randy (Northwestern University); Perreault, Eric* (Northwestern University)	

SaDPo09: 15:00-16:40	Grand Ballroom - Salon E, F, G
6.9.1 Neural Trauma and Regeneration (Poster Session)	

15:00-16:40	SaDPo09.1
Developmental Effects of Low Frequency Magnetic Fields on P19-Derived Neuronal Cells	5942-5945
Saito, Atsushi* (University of Tokyo); Takayama, Yuzo (University of Tokyo); Moriguchi, Hiroyuki (University of Tokyo); Kotani, Kiyoshi (University of Tokyo); Jimbo, Yasuhiko (University of Tokyo)	

15:00-16:40	SaDPo09.2
Neural Signals in Cortex and Thalamus During Brain Injury from Cardiac Arrest in Rats	5946-5949
Zhang, Dandan (Tsinghua University); Choi, Young-Seok* (Johns Hopkins University School of medicine); Madhok, Jai (Johns Hopkins School of Medicine); Jia, Xiaofeng (Johns Hopkins School of Medicine); Koenig, Matthew (Johns Hopkins School of Medicine); Thakor, Nitish (Johns Hopkins University)	

15:00-16:40 Author unavailable for presentation	SaDPo09.3
Microfluidic in Vivo Screen Identifies Compounds Enhancing Neural Regeneration	5950-5952
Rohde, Christopher* (Massachusetts Institute of Technology); Gilleland, Cody (Massachusetts Institute of Technology); Samara, Chrysanthi (MIT); Yanik, Mehmet Fatih (MIT)	

15:00-16:40	SaDPo09.4
Neural Signal Sensing, Transmission and Functional Regeneration on Different Toads' Bodies	5953-5956
SHEN, Xiaoyan (Southeast University); Wang, Zhigong* (Southeast University); Lü, Xiaoying (Southeast University); Jiang, Zhenglin (Nantong University); Li, Wenyuan (Southeast University); ZHAO, Xintai (Southeast University); HUANG, Zonghao (Southeast University)	

SaDPo10: 15:00-16:40	Grand Ballroom - Salon E, F, G
6.10.3 Robotics in Rehabilitation II (Poster Session)	

15:00-16:40	SaDPo10.1
Design of an Exoskeleton for Index Finger Rehabilitation	5957-5960
Wang, Ju* (Beihang University); Li, Jiting (Beihang University); Zhang, Yuru (Beihang University); Wang, Shuang (Beihang University)	
15:00-16:40	SaDPo10.2
Training Stroke Patients with Continuous Tracking Movements: Evaluating the Improvement of Voluntary Control	5961-5964
casadio, maura (Northwestern University); Giannoni, Psiche (ART Education and Rehabilitation Department srl); Morasso, Pietro* (University of Genova); Sanguineti, Vittorio (University of Genoa); Squeri, Valentina (University of Genova); Vergaro, Elena (University of Genoa)	
15:00-16:40	SaDPo10.3
Development and Feasibility Study of a Sensory-Enhanced Robot-Aided Motor Training in Stroke Rehabilitation	5965-5968
Liu, Wen* (University of Kansas Medical Center)	
15:00-16:40	SaDPo10.4
Development of a Skin for Intuitive Interaction with an Assistive Robot	5969-5972
Markham, Heather* (University of Pittsburgh); Brewer, Bambi (Univ of Pittsburgh)	
15:00-16:40	SaDPo10.5
Development of an Interactive Upper Extremity Gestural Robotic Feedback System: From Bench to Reality	5973-5976
Coleman Wood, Krista* (Mayo Clinic Rochester); Lathan, Corinna (AnthroTronix, Inc.); Kaufman, Kenton (Mayo Clinic)	
15:00-16:40	SaDPo10.6
Kinematic Walking Analysis on a New Vehicle “Tread-Walk” with Active Velocity Control of Treadmill Belt	5977-5980
Ando, Takeshi* (Waseda University); Nihei, Misato (University of Tokyo); Ohki, Eiichi (Waseda University); Nakashima, YASUTAKA (Waseda University); Kobayashi, Yo (Waseda University); Fujie, Masakatsu G. (Waseda University)	
15:00-16:40	SaDPo10.7
A Clinical Study of Motor Imagery Brain-Computer Interface-Based Upper Limb Robotic Rehabilitation for Stroke	5981-5984
Ang, Kai Keng* (Institute for Infocomm Research); Guan, Cuntai (Institute for Infocomm Research); Chua, Karen Sui Geok (Tan Tock Seng Hospital Rehabilitation Centre); Ang, Beng Ti (National Neuroscience Institute); Kuah, Christopher Wee Keong (Tan Tock Seng Hospital Rehabilitation Centre); Wang, Chuanchu (Institute for Infocomm Research); Phua, Koksoon (Institute for Infocomm Research); Chin, Zheng Yang (Institute for Infocomm Research, Agency for Science Technology and Research); Zhang, Haihong (Institute for Infocomm Research)	

SaDPo11: 15:00-16:40	Grand Ballroom - Salon E, F, G
7.2.2 Cellular and Tissue Engineering, and Biomaterials (Poster Session)	

15:00-16:40	SaDPo11.1
Engineering Analysis and Development of the Spheroid Reservoir Bioartificial Liver	5985-5988
McIntosh, Malcolm* (Mayo Clinic); Corner, Stephen (Mayo Clinic); Amiot, Bruce (Brami Biomedical, Inc.); Nyberg, Scott (Mayo Clinic)	
15:00-16:40	SaDPo11.2

15:00-16:40	SaDPo11.4
Theoretical Study for the Treatment of Pancreatic Cancer Using Electric Pulses	5997-6000
Arena, Christopher* (Virginia Tech); Rylander, Marissa Nichole (Virginia Tech - Wake Forest University); Davalos, Rafael (Virginia Tech)	
15:00-16:40	SaDPo11.5
Design and Implementation of a Two-Dimensional Inkjet Bioprinter	6001-6005
Pepper, Matthew* (Clemson University); Parzel, Cheryl (Clemson University); Burg, Timothy (Clemson University); Boland, Thomas (Clemson University); Burg, Karen (Clemson University); Groff, Richard E (Clemson University)	
15:00-16:40	SaDPo11.6
Effect of the Coating Morphology on the Drug Release from Engineered Drug-Polymer Nanocomposites	6006-6009
Dong, Jinping* (University of Minnesota); Frethem, Chris (University of Minnesota); Haugstad, Greg (University of Minnesota); Hoerr, Robert (Nanocopoeia, Inc.); Foley, John (Nanocopoeia, Inc); Matuszewski, Michael (Nanocopoeia, Inc); Puskas, Judit (The University of Akron)	
15:00-16:40	SaDPo11.7
In Vivo Characterization of Skin Using a Weiner Nonlinear Stochastic System Identification Method	6010-6013
Chen, Yi* (MIT); Hunter, Ian (Massachusetts Institute of Technology)	
15:00-16:40	SaDPo11.8
Modeling Conduction in Host-Graft Interactions between Stem Cell Grafts and Cardiomyocytes	6014-6017
Chen, Michael Q.* (Stanford University); Yu, Jin (Stanford University); Whittington, R. Hollis (Micro Systems Engineering); Wu, Joseph (Stanford University); Kovacs, Gregory T.A. (Stanford University); Giovangrandi, Laurent (Stanford University)	
15:00-16:40	SaDPo11.9
In Vitro Adhesion Measurements between Skin and Micropatterned Poly(dimethylsiloxane) Surfaces	6018-6021
De Souza, Emerson Jose* (INM Leibniz Institute for New Materials); Kamperman, Marleen (INM Leibniz Institute for New Materials); Castellanos, Graciela (INM Leibniz-Institute for New Materials); Kroner, Elmar (INM Leibniz-Institute for New Materials); Armbrüster, Vivienne (Klinik und Poliklinik für HNO, Universität des Saarlandes); Romann, Marie-Sophie (Klinik und Poliklinik für HNO, Universität des Saarlandes); Schick, Bernhard (Klinik und Poliklinik für HNO, Universität des Saarlandes); Arzt, Eduard (INM Leibniz Institute for New Materials)	
15:00-16:40	SaDPo11.10
Differentiation of Pluripotent Stem Cells on Multiwalled Carbon Nanotubes	6022-6025
Holy, Jon (University of Minnesota School of Medicine-Duluth); Perkins, Edward (Mercer University School of Medicine, Savannah Campus); Yu, Xun* (University of Minnesota Duluth)	
15:00-16:40	SaDPo11.11
Embedding Evolutionary Game Theory into an Optimal Control Framework for Drug Dosage Design	6026-6029
Bewick, Sharon (The University of Tennessee, Knoxville); Yang, Ruoting (The University of Tennessee); Zhang, Mingjun* (The University of Tennessee)	
15:00-16:40	SaDPo11.12
Cell Proliferation Following Non-Thermal Plasma Is Related to Reactive Oxygen Species Induced Fibroblast Growth Factor-2 Release.	6030-6033
Kalghatgi, Sameer (Drexel University); Friedman, Gennady (Drexel University); Fridman, Alexander (Drexel University); Morss Clyne, Alisa* (Drexel University)	
15:00-16:40	SaDPo11.13
Fabrication of Microfluidic System for the Assessment of Cell Migration on 3D Micropatterned Substrates	6034-6037
Lee, Eun-Joong (College of Health Science, Korea University.); Hwang, ChangMo (Korea University); Baek, Dong-Hyun (Korea University); Lee, Sang hun* (College of Medicine Korea University)	
15:00-16:40	SaDPo11.14
Temporal and Spatial Analysis of Astrocyte Calcium Waves	6038-6041
Fanelli, Andrea (Politecnico di Milano); Esposti, Federico (Politecnico di Milano); Ripamonti, Maddalena (Università Vita e Salute San Raffaele); Signorini, Maria G.* (Politecnico di Milano)	

15:00-16:40	SaDPo11.15
Measuring the Mechanical Properties of Cells Using Acoustic Microscopy	6042-6045
Strohm, Eric* (Ryerson University); Kolios, Michael (Ryerson University)	
15:00-16:40	SaDPo11.16
A Carbon Nanotube Gas Sensor Fabricated by Dielectrophoresis and Its Application for NH3 Detection	6046-6049
Wang, Renhui (Zhejiang University); Li, Hongtao (Zhejiang University); Pan, Min* (Zhejiang University)	
SaDPo12: 15:00-16:40	Grand Ballroom - Salon E, F, G
8.4.3 Human-Robot Interaction III (Poster Session)	
15:00-16:40	SaDPo12.1
The Chewing Robot: A New Biologically-Inspired Way to Evaluate Dental Restorative Materials	6050-6053
Raabe, Daniel* (University of Bristol); Alemzadeh, Kazem (University of Bristol); Harrison, Andrew Joseph Lawrence (University of Bristol); Ireland, Anthony John (Bristol Dental Hospital)	
15:00-16:40	SaDPo12.2
Design and Implementation of Series Elastic Actuators for a Haptic Laparoscopic Device	6054-6057
Basafa, Ehsan (Johns Hopkins University); Sheikholeslami, Majid (McGill University); Mirbagheri, Alireza (Research Center for Science and Technology In Medicine); Vossoughi, Gholamreza (Sharif University of Technology); Farahmand, Farzam* (Sharif University of Technology)	
15:00-16:40	SaDPo12.3
A Study of the Effect of the Femoral Head Diameter on Prosthetic Hip Dislocation Using a Hip-Joint Motion Simulator	6058-6061
Kiguchi, Kazuo* (Saga University); Horie, Toru (Saga University); Yamashita, Akira (Saga University); Ueno, Masaru (Japan Medical Materials Corporation); kobayashi, Tsuneyuki (Japan Medical Materials Corporation); Mawatari, Masaaki (Saga University); Hotokebuchi, Takao (Saga University)	
15:00-16:40	SaDPo12.4
Capacitor Regenerative Braking System of Electric Wheelchair for Senior Citizen Based on Variable Frequency Chopper Control	6062-6067
Takahashi, Yoshiaki* (Chiba Institute of Technology); Seki, Hirokazu (Chiba Institute of Technology)	
15:00-16:40	SaDPo12.5
Magnetic Navigation of an Untethered Micro Device Using Four Stationary Coils	6068-6071
Ha, Yong Hyun (Kyung Hee University); Choi, Kyung Moo (Kyung Hee University); Han, Byung Hee (Kyung Hee University); Cho, Min Hyoung (Kyung Hee University); Lee, Soo Yeol* (Kyung Hee University)	
15:00-16:40	SaDPo12.6
MRI Compatibility Evaluation of a Piezoelectric Actuator System for a Neural Interventional Robot	6072-6075
WANG, YI (Worcester Polytechnic Institute); Cole, Gregory* (Worcester Polytechnic Institute); Su, Hao (Worcester Polytechnic Institute); Pilitsis, Julie (Umass Memorial Medical Center); Fischer, Gregory (Worcester Polytechnic Institute)	
15:00-16:40	SaDPo12.7
Improvement of Locomotive Performance of Capsular Microrobot Moving in GI Tract Using Position Based Feedback Control	6076-6079
Park, Kitae (University of Science & Technology, Korea); Yang, Sungwook (Korear Inst of Science & Technology); Kim, Jinseok (Korea Institute of Science and Tech); Kim, Tae Song (Korea Institute of Science & Tech); Yoon, Eui-Sung* (Korea Institute of Science & Tech)	
SaDPo13: 15:00-16:40	Grand Ballroom - Salon E, F, G
10.4.3 Technologies for Home Care (Poster Session)	
15:00-16:40	SaDPo13.1
Development of the Irregular Pulse Detection Method in Daily Life Using Wearable Photoplethysmographic Sensor	6080-6083
Suzuki, Takuji* (Toshiba Corporation); Kameyama, Ken-ichi (Toshiba); Tamura, Toshiyo (Chiba University)	

15:00-16:40	SaDPo13.2
A Novel Method for the Contactless and Continuous Measurement of Arterial Blood Pressure on a Sleeping Bed	6084-6086
GU, Wenbo* (The Chinese University of Hong Kong); Poon, Carmen CY (The Chinese University of Hong Kong); Leung, Hin Kwong (The Chinese University of Hong Kong); Sy, Ming (The Chinese University of Hong Kong); Wong, Mico Yee Man (The Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	
15:00-16:40	SaDPo13.3
Sleeping Patterns Observation for Bedsores and Bed-Side Falls Prevention	6087-6090
Aung Aung, Phyoe Wai (Institute for Infocomm Research); Koh, Yuan-Wei (National University of Singapore); Foo, Siang Fook Victor* (Institute for Infocomm Research); Maniyeri, Jayachandran (Institute for Infocomm Research); Biswas, Jit (Institute for Infocomm Research); cabibhian, John-John (National University of Singapore)	
15:00-16:40 Author unavailable for presentation	SaDPo13.4
Design and Implementation of Home Automated Telemanagement System for Patients with Multiple Sclerosis	6091-6094
Finkelstein, Joseph* (Johns Hopkins University); Wood, Jeffrey (Johns Hopkins University)	
15:00-16:40	SaDPo13.5
The Development and Evaluation of the Citizen Telehealth Care Service System: Case Study in Taipei	6095-6098
Yu, Chun* (National Taiwan University); Yang, Jhih-Jyun (National Taiwan University); Ju-Chen, Chen (National Taiwan University); Liu, Chien-Sheng (National Taiwan University); Chen, Chien-Cheng (National Taiwan University); Lin, Mu-Lien (National Taiwan University); Liu, Pei-Ling (National Taiwan University); Yao, Grace (National Taiwan University); Lin, Chii-Wann (National Taiwan University)	
15:00-16:40	SaDPo13.6
Supervised Classification of Activities of Daily Living in Health Smart Homes Using SVM	6099-6102
Fleury, Anthony* (Université Joseph Fourier); Noury, Norbert (Université Claude Bernard Lyon 1); Vacher, Michel (CNRS)	
15:00-16:40	SaDPo13.7
Development of 3D Space-Sharing Interface Using Augmented Reality Technology for Domestic Tele-Echography	6103-6106
Yoshinaga, Takashi* (Tokyo University of Agriculture & Technology); Horiguchi, Tomohiro (Tokyo University of Agriculture & Technology); Miyazaki, Wataru (Tokyo University of Agriculture & Technology); Masuda, Kohji (Tokyo Univ. A&T)	
15:00-16:40	SaDPo13.8
Single-Accelerometer-Based Daily Physical Activity Classification	6107-6110
Long, Xi* (Eindhoven University of Technology); Yin, Bin (Philips Research); Aarts, Ronald M. (Philips)	
15:00-16:40	SaDPo13.9
Falls Event Detection Using Triaxial Accelerometry and Barometric Pressure Measurement	6111-6114
Bianchi, Federico (Politecnico di Milano); Redmond, Stephen James (University of New South Wales); Narayanan, Michael Ravi (University of New South Wales); Cerutti, Sergio (Politecnico di Milano); Celler, Branko George (University of New South Wales); Lovell, Nigel H* (University of New South Wales)	
15:00-16:40	SaDPo13.10
A Real-Time System for In-Home Activity Monitoring of Elders	6115-6118
Zhou, Zhongna* (University of Missouri, Columbia, MO, 65211, USA); Dai, Wenqing (University of Missouri); Eggert, Jay (University of Missouri - Columbia); Giger, Jarod (University of Missouri); Keller, James M (University of Missouri); Rantz, Marilyn (University of Missouri); He, Zhihai (University of Missouri)	
15:00-16:40	SaDPo13.11
iFall: An Android Application for Fall Monitoring and Response	6119-6122
Sposaro, Frank* (Florida State University); Tyson, Gary (Florida State University)	

15:00-16:40	SaDPo13.12
Action Tremor Analysis from Ordinary Video Sequence	6123-6126
Uhrikova, Zdenka* (Czech Technical University in Prague); Šprdlík, Otakar (Faculty of Electrical Engineering, Czech Technical University in Prague); Hlaváč, Václav (Faculty of Electrical Engineering, Czech Technical University in Prague); Ružic(ka, Evžen (1st Faculty of Medicine, Charles University in Prague)	
15:00-16:40	SaDPo13.13
Gait Analysis and Validation Using Voxel Data	6127-6130
Wang, Fang* (University of Missouri); Stone, Erik (University of Missouri); Dai, Wenqing (University of Missouri); Keller, James M (University of Missouri); Skubic, Marjorie (University of Missouri)	
15:00-16:40	SaDPo13.14
Analysis and Comparison of Sleeping Posture Classification Methods Using Pressure Sensitive Bed System	6131-6134
Hsia, Chi-Chun (Industrial Technology Research Institute); Liou, Koujuch (Industrial Technology Research Institute); Aung Aung, Phyto Wai (Institute for Infocomm Research); Foo, Siang Fook Victor* (Institute for Infocomm Research); Huang, Weimin (Institute for Infocomm Research, Agency for Science Technology and Research); Biswas, Jit (Institute for Infocomm Research)	
15:00-16:40	SaDPo13.15
Preliminary Results on the Effect of Sensor Position on Unobtrusive Rollover Detection for Sleep Monitoring in Smart Homes	6135-6138
Townsend, Daphne* (Carleton University); Goubran, Rafik A. (Carleton University); Frize, Monique (Carleton University); Knoefel, Frank-Dietrich (SCO Health Service)	
15:00-16:40	SaDPo13.16
Investigation of Gait Features for Stability and Risk Identification in Elders	6139-6142
Liang, Jun* (University of Missouri); Abbott, Carmen (University of Missouri); Skubic, Marjorie (University of Missouri); Keller, James M (University of Missouri)	
15:00-16:40	SaDPo13.17
Using Elements of Game Engine Architecture to Simulate Sensor Networks for ElderCare	6143-6146
Godsey, Chad* (University of Missouri); Skubic, Marjorie (University of Missouri)	
15:00-16:40	SaDPo13.18
Testing an In-Home Gait Assessment Tool for Older Adults	6147-6150
Wang, Fang* (University of Missouri); Banerjee, Tanvi (University of Missouri); Dai, Wenqing (University of Missouri); Stone, Erik (University of Missouri); Giger, Jarod (University of Missouri); Krampe, Jean (University of Missouri); Rantz, Marilyn (University of Missouri); Skubic, Marjorie (University of Missouri)	
15:00-16:40	SaDPo13.19
Arrays of Pressure Sensors Based on Organic Field Effect : A New Perspective for Non Invasive Monitoring	6151-6154
Cossetdu, Piero (University of Cagliari); Bonfiglio, Annalisa (University of Cagliari); Neelgund, Rohan (University of Missouri, Columbia); Tyrer, Harry* (University of Missouri - Columbia)	
15:00-16:40	SaDPo13.20
Analysis of Commode Grab Bar Usage for the Monitoring of Older Adults in the Smart Home Environment	6155-6158
Arcelus, Amaya* (Carleton University); Holtzman, Megan (Carleton University); Goubran, Rafik A. (Carleton University); Sveistrup, Heidi (University of Ottawa); Guitard, Paulette (University of Ottawa); Knoefel, Frank-Dietrich (SCO Health Service)	
15:00-16:40	SaDPo13.21
Using Sensor Technology to Augment Traditional Healthcare	6159-6162
Rantz, Marilyn* (University of Missouri); Skubic, Marjorie (University of Missouri); Miller, Steven (University of Missouri)	
15:00-16:40	SaDPo13.22
Dosing Monitoring System Using Imec and Ubiquitous Sensors	6163-6166
Suzuki, Takuo* (University of Tsukuba); Nakauchi, Yasushi (University of Tsukuba)	

15:00-16:40	SaDPo13.23
Signal Scavenging for Passive Monitoring in Eldercare Technology	6167-6170
Tyler, Harry* (University of Missouri - Columbia); Neelgund, Rohan (University of Missouri, Columbia); Mohammed, Ashrafuddin (University of Missouri); Shriniwar, Uday (University)	
15:00-16:40	SaDPo13.24
Home E-Health System Integration in the Smart Home through a Common Media Server	6171-6174
Pau, Iván* (Universidad Politécnica de Madrid); Seoane, Fernando (University College of Borås); Lindecrantz, Kaj (University College of Borås); Valero, Miguel Ángel (Universidad Politécnica de Madrid); Carracedo, Justo (Universidad Politécnica de Madrid)	
15:00-16:40	SaDPo13.25
Dynamic Activity Classification Based on Automatic Adaptation of Postural Orientation	6175-6178
Song, Sa-kwang* (Electronics & Telecommunications Research Institute); Jang, Jaewon (Electronics & Telecom Research Inst); Park, Soo-Jun (Electr & Telecomm Research Inst)	
15:00-16:40	SaDPo13.26
Evaluation of Functional Deficits and Falls Risk in the Elderly – Methods for Preventing Falls	6179-6182
Narayanan, Michael Ravi* (University of New South Wales); Scalzi, Maria Elena (Politecnico di Milano); Redmond, Stephen James (University of New South Wales); Lord, Stephen (University of New South Wales); Celler, Branko George (University of New South Wales); Lovell, Nigel H (University of New South Wales)	
15:00-16:40	SaDPo13.27
Context-Aware Life-Logging for Persons with Mild Dementia	6183-6186
Kikhia, Basel* (Luleå University of Technology); Hallberg, Josef (Luleå University of Technology); Synnes, Kåre (University); ul Hussain Sani, Zaheer (Luleå University of Technology)	
15:00-16:40	SaDPo13.28
Fuzzy Inference Based Non-Daily Behavior Pattern Detection for Elderly People Monitoring System	6187-6192
Seki, Hirokazu* (Chiba Institute of Technology)	
15:00-16:40	SaDPo13.29
Development of Pointing Device Using DC-Coupled Electrooculogram	6193-6196
Uchitomi, Hirotaka* (Niigata University); Hori, Junichi (Niigata University)	
15:00-16:40	SaDPo13.30
Unsupervised Monitoring of Sitting Behavior	6197-6200
Tessendorf, Bernd* (ETH Zurich); Arnrich, Bert (Swiss Federal Institute of Technology Zurich); Schumm, Johannes (ETH Zurich); Setz, Cornelia (ETH Zurich); Troster, Gerhard (ETH Zurich)	

SaDPo14: 15:00-16:40	Grand Ballroom - Salon E, F, G
10.5.2 Computer-aided Decision Making II (Poster Session)	

15:00-16:40	SaDPo14.1
A Numerical Model to study Auscultation Sounds under Pneumothorax conditions	6201-6204
Ramakrishnan, Sridhar* (Michigan State University); Udpa, Satish (Michigan State University); Udpa, Lalita (Michigan State University)	
15:00-16:40	SaDPo14.2
Practical Considerations for Optic Nerve Location in Telemedicine	6205-6209
Karnowski, Thomas* (Oak Ridge National Laboratory); Aykac, Deniz (Oak Ridge National Laboratory); Chaum, Edward (Univ of Tennessee Hamilton Eye Inst); Giancardo, Luca (University of Burgundy - Oak Ridge National Lab); Li, Yaqin (University of Tennessee Health Science Center); Tobin, Kenneth (Oak Ridge National Laboratory); Abramoff, Michael David (University of Iowa)	
15:00-16:40	SaDPo14.3
Reference-Free Automatic Quality Assessment of Tracheoesophageal Speech	6210-6213
Huang, Andy (Queen's University); Falk, Tiago (Queen's University); Chan, Wai-Yip* (Queen's University); Parsa, Vijay (University of Western Ontario); Doyle, Philip (University of Western Ontario)	

15:00-16:40	SaDPo14.4
A Frequency Based Encoding Technique for Transformation of Categorical Variables in Mixed IVF Dataset	6214-6217
Uyar, Asli* (Bogazici University); Bener, Ayse (Bogazici University); Ciray, H. Nadir (Bahceci Women Health Care Centre); Bahceci, Mustafa (Bahceci Women Health Care Centre)	
15:00-16:40	SaDPo14.5
Porting a Cancer Treatment Prediction to a Mobile Device	6218-6221
Gegg-Harrison, Timothy Scott (Winona State University); Zhang, Mingrui* (Winona State University); Meng, Nan (Winona State University); Sun, Zhifu (Mayo Clinic); Yang, Ping (Mayo Clinic)	
15:00-16:40	SaDPo14.6
Automated Risk Assessment Tool for Pregnancy Care	6222-6225
Gorthi, Aparna (Philips Electronics India Ltd.); Firtion, Celine (Philips Electronics India Ltd); Vepa, Jithendra* (Philips Electronics India Ltd.)	
15:00-16:40	SaDPo14.7
Diagnosis Support Using Fuzzy Cognitive Maps Combined with Genetic Algorithms	6226-6229
Georgopoulos, Voula* (Technological Educational Inst of Patras); Stylios, Chrysostomos (TEI of Epirus)	
15:00-16:40	SaDPo14.8
Clinical Validated Computer-Aided Decision System to the Clubfeet Deformities	6230-6233
DAO, Tien-Tuan* (Univ de Technologie de Compiègne); MARIN, Frédéric (Université de Technologie de Compiègne); HO BA THO, Marie-Christine (Université de Technologie de Compiègne)	
15:00-16:40	SaDPo14.9
Target Controlled Infusion Algorithms for Anesthesia: Theory vs Practical Implementation	6234-6237
Bressan, Nadja* (Hospital Geral de Santo Antonio); Moreira, António paulo (University of Porto - Faculty of Engineering); Amorim, Pedro (Hospital Geral de Santo António); Nunes, Catarina S (King's College London)	
15:00-16:40	SaDPo14.10
Association Rule Analysis for the Assessment of the Risk of Coronary Heart Events	6238-6241
Karaolis, Minas (University of Cyprus); Moutiris, Joseph (Paphos Hospital); Papaconstantinou, Loucia (University of Cyprus); Pattichis, Constantinos* (University of Cyprus)	
15:00-16:40	SaDPo14.11
Identifying Relative Cut-Off Scores with Neural Networks for Interpretation of the Minnesota Living with Heart Failure Questionnaire	6242-6246
Behlouli, Hassan* (McGill); Feldman, Deborah E. (Université de Montréal); Ducharme, Anique (Projet Accès Clinic); Frenette, Marc (Cardiology, Saint Eustache Hospital); Giannetti, Nadia (McGill University); Grondin, François (Hôpital Hôtel Dieu de Lévis); Michel, Caroline (Jewish General Hospital); Sheppard, Richard (Jewish General Hospital); Pilote, Louise (Royal Victoria Hospital (MUHC))	
15:00-16:40	SaDPo14.12
Divided Attention in Computer Game Play: Analysis Utilizing Unobtrusive Health Monitoring	6247-6250
McKenna, James* (Oregon Health & Science University); Jimison, Holly (Oregon Health & Science University); Pavel, Michael (Oregon Health and Science University)	
15:00-16:40	SaDPo14.13
Revisiting the Video Stethoscope: An Application of Digital Signal Processing Software (Goldwave ®) to Monitoring Ventilation in Intubated Patients	6251-6254
Doyle, Daniel John* (Cleveland Clinic); Nair, Bala (Cleveland Clinic)	
15:00-16:40	SaDPo14.14
A Feasibility Study on Image-Based Control of Surgical Robot Using a 60-GHz Wireless Communication	6255-6258
Takizawa, Kenichi* (NICT)	

SaE01: 16:40-18:10	Conrad B
1.2.10 Biomedical Signals and Systems I (Oral Session)	
Chair: Ozcan Ozdamar, <i>Univ. of Miami</i>	
Co-Chair: Gian Domenico Pinna, <i>S. Maugeri Foundation, IRCCS</i>	
16:40-16:55	SaE01.1
Myometrium Electromechanical Modeling for Internal Uterine Pressure Estimation by Electrohysterography	6259-6262
Rabotti, Chiara* (<i>Eindhoven University of Technology</i>); Mischi, Massimo (<i>Eindhoven University of Technology</i>); van Laar, O. E. H. Judith (<i>Veldhoven Maxima Medical Center</i>); Oei, S. Guid (<i>Maxima Medisch Centrum, Veldhoven</i>); Bergmans, Johannes Wilhelmus Maria (<i>Eindhoven University of Technology</i>)	
16:55-17:10	SaE01.2
High Resolution System for Improved Transient-Evoked Otoacoustic Emission Acquisition	6263-6266
Bennett, Christopher* (<i>University of Miami</i>); Ozdamar, Ozcan (<i>University of Miami</i>)	
17:10-17:25	SaE01.3
Rate Estimation for the Monitoring of Rehabilitation Exercises	6267-6270
WENG, Kaili* (<i>UTS</i>); Nguyen, Tuan Nghia (<i>University of Technology, Sydney</i>); Nguyen, Hung T. (<i>University of Technology, Sydney</i>); Su, Steven Weidong (<i>University of Technology, Sydney</i>)	
17:25-17:40	SaE01.4
Evaluating Indices of Age-Related Muscle Performance by Using Surface Electromyography	6271-6275
Takada, Hiroki* (<i>Gifu University of Medical Science</i>); Shiozawa, Tomoki (<i>Aoyama Gakuin University</i>); Takada, Masumi (<i>Aichi Medical University School of Medicine</i>); Iwase, Satoshi (<i>Aichi Medical University School of Medicine</i>); Miyao, Masaru (<i>Nagoya University</i>)	
17:40-17:55	SaE01.5
Relationship between Ventilatory Oscillations and Fractal Dimension of the EEG During Daytime Periodic Breathing in Heart Failure Patients	6276-6279
Maestri, Roberto (<i>S. Maugeri Foundation, IRCCS</i>); La Rovere, Maria Teresa (<i>S. Maugeri Foundation, IRCCS</i>); Robbi, Elena (<i>S. Maugeri Foundation, IRCCS</i>); Pinna, Gian Domenico* (<i>S. Maugeri Foundation, IRCCS</i>)	
17:55-18:10	SaE01.6
Surrogate Data Approaches to Assess the Significance of Directed Coherence: Application to EEG Activity Propagation	6280-6283
Faes, Luca* (<i>University of Trento</i>); Porta, Alberto (<i>Universita' degli Studi di Milano</i>); Nollo, Giandomenico (<i>University of Trento</i>)	
SaE02: 16:40-18:10	Conrad C
1.3.3 Nonlinear Dynamics and Analysis (Oral Session)	
Chair: Elena Tolkacheva, <i>Univ. of Minnesota</i>	
Co-Chair: Yihong Qiu, <i>Shanghai Jiao Tong Univ.</i>	
16:40-16:55	SaE02.1
Characterising Infant Inter-Breath Interval Patterns During Active and Quiet Sleep Using Recurrence Plot Analysis	6284-6287
Terrill, Philip Ian* (<i>University of Queensland</i>); Wilson, Stephen (<i>University of Queensland</i>); Suresh, Sadasivam (<i>Mater Children's Hospital</i>); Cooper, David (<i>Mater Misericordiae Children's Hospital</i>)	
16:55-17:10	SaE02.2
Changes in Decibel Scale Wavelength Properties of EEG with Alertness Levels While Performing Sustained Attention Tasks	6288-6291
Poosapadi Arjunan, Sridhar* (<i>RMIT University</i>); Kant Kumar, Dinesh (<i>RMIT university</i>); Jung, Tzyy-Ping (<i>University of California San Diego</i>)	
17:10-17:25	SaE02.3
Detecting Complexity Abnormalities in Dyslexia Measuring Approximate Entropy of Electroencephalographic Signals	6292-6295
Andreadis, Ioannis* (<i>Biomedical Simulations and Imaging Laboratory</i>); Giannakakis, Giorgos (<i>Biomed Simulations & Imaging Lab</i>); Papageorgiou, Charalabos (<i>Eginition Hospital, Medical School, University of Athens</i>); Nikita, Konstantina (<i>National Technical University of Athens</i>)	

17:25-17:40	SaE02.4
Spatial Analysis of Uterine EMG Signals: Evidence of Increased in Synchronization with Term	6296-6299
HASSAN, Mahmoud* (UTC-France); TERRIEN, Jeremy (Reykjavik University); Karlsson, Brynjar (Reykjavik University); Marque, Catherine (University of technology of compiegne)	
17:40-17:55	SaE02.5
Stochastic Resonance in Brain Activity Elicited by Auditory Stimuli	6300-6303
Tanaka, Keita* (Tokyo Denki University); Nemoto, Iku (Tokyo Denki University); Kawakatsu, Masaki (Tokyo Denki University); UCHIKAWA, Yoshinori (Tokyo Denki University)	
 SaE03: 16:40-18:10	
2.3.2 Optical Imaging, Microscopy, and Infrared Imaging II (Oral Session)	Grand Ballroom - Salon B
Chair: Hao Zhang, Univ. of Wisconsin-Milwaukee	
Co-Chair: Taner Akkin, Univ. of Minnesota	
16:40-16:55	SaE03.1
Real-Time Confocal Raman Imaging of a Drug Delivery System on Cardiac Leads	6304-6306
Dong, Jinping* (University of Minnesota); Polkinghorne, Jeannette (Boston Scientific); Heil, Ronald (Boston Scientific); Kemp, Ruth (University of Minnesota)	
16:55-17:10	SaE03.2
Probing Phase Segregation in Porphyrin-Polymer Blends with Multidimensional IR Spectroscopy	6307-6310
Massari, Aaron* (University of Minnesota, Twin Cities); Eigner, Audrey (University of Minnesota, Twin Cities)	
17:10-17:25	SaE03.3
Multiphoton Autofluorescence Microscopy and Second Harmonic Generation Microscopy of Oral Epithelial Neoplasms	6311-6313
Vargas, Gracie* (University of Texas Medical Branch); Shilagard, Tuya (University of Texas Medical Branch); Ho, Ki-Hong (University of Texas Medical Branch); McCammon, Susan (University of Texas Medical Branch)	
17:25-17:40	SaE03.4
Multi-Color Raman Nanotags for Tumor Cell Biomarker Detection	6314-6317
Nyagilo, James (University of Texas at Arlington); Xiao, Ming (The university of Texas Southwestern Medical Center at Dallas); Sun, Xiankai (University of Texas Southwestern Medical Center at Dallas); Dave, Digant* (The University of Texas at Arlington)	
17:40-17:55	SaE03.5
Low Coherence Interferometer for Sensing Retardance Change During Neural Activity	6318-6320
Al-Kaisi, Muhammad* (University of Minnesota, Twin Cities); Akkin, Taner (University of Minnesota)	
17:55-18:10	SaE03.6
Optical Mapping of Electrical Heterogeneities in the Heart During Global Ischemia	6321-6324
Matiukas, Arvydas (SUNY Upstate Medical University); Pertsov, Arkady M. (SUNY Upstate Medical University); KOTHARI, PARTH (University of Minnesota - Twin Cities); Tolkacheva, Elena* (University of Minnesota)	
 SaE04: 16:40-18:10	
2.10.1 Molecular Imaging (Oral Session)	Duluth Room
Chair: Andreas Hielscher, Columbia Univ.	
Co-Chair: Patrick La Riviere, The Univ. of Chicago	
16:40-17:10	SaE04.1
Detecting Alterations in Cell Ultrastructure with Optical Imaging	6325-6326
Backman, Vadim* (Northwestern University); Taflove, Allen (Northwestern University)	
17:10-17:25	SaE04.2
Bioluminescence Tomography with CT/MRI Co-Registration	6327-6330
Klose, Alexander* (Columbia University)	
17:25-17:40	SaE04.3
Complete Angle Small Animal Fluorescence Imaging with Early-Arriving Photons	6331-6334
Niedre, Mark* (Northeastern Universtiyy); Ntziachristos, Vasilis (Harvard University HMS/MGH)	

17:40-17:55	SaE04.4
Diffuse Optical Tomography & Spectroscopy in Breast Cancer Characterization & Therapy Monitoring at UPENN	6335-6337
Choe, Regine* (University of Pennsylvania)	
17:55-18:10	SaE04.5
On Sensitivity of Molecular Specific Photoacoustic Imaging Using Plasmonic Gold Nanoparticles	6338-6340
Mallidi, Srivalleesha* (University of Texas at Austin); Joshi, Pratixa P. (University of Texas at Austin); Sokolov, Konstantin (The UT M.D. Anderson Cancer Center); Emelianov, Stanislav (University of Texas at Austin)	
 SaE05: 16:40-18:10	 Marquette V
2.7.6 Biomedical Image Segmentation (Oral Session)	
Chair: Jie Tian, Chinese Acad. of Sciences	
Co-Chair: Steven M. Wright, Texas A&M Univ.	
16:40-16:55	SaE05.1
GPU Accelerated Fuzzy Connected Image Segmentation by Using CUDA	6341-6344
Zhuge, Ying* (National Cancer Institute, NIH); Cao, Yong (Virginia Polytechnic Institute and State University); Miller, Robert (National Cancer Institute, NIH)	
16:55-17:10	SaE05.2
An Articulated Statistical Shape Model for Accurate Hip Joint Segmentation	6345-6351
Kainmueller, Dagmar* (Zuse Institute Berlin); Lamecker, Hans (INRIA Sophia Antipolis); Zachow, Stefan (Zuse Institute Berlin (ZIB))	
17:10-17:25	SaE05.3
Speckle-Initialized Dynamic Segmentation of the Prostate	6352-6355
Besseling, René* (Eindhoven University of Technology); Zinger, Svitlana (Eindhoven University of Technology); Wijkstra, Hessel (Academic Medical Center, University of Amsterdam); Hendrikx, Ad (Catharina hospital Eindhoven); Mischi, Massimo (Eindhoven University of Technology)	
17:25-17:40	SaE05.4
Spine Curve Modeling for Quantitative Analysis of Spinal Curvature	6356-6359
Hay, Ori* (Tel Aviv University); Rivlin, Ehud (Technion-Israel Institute of Technology); Hershkovitz, Israel (Faculty of Medicine, Tel Aviv University)	
17:40-17:55	SaE05.5
An Automated Method to Detect Interstitial Adipose Tissue in Thigh Muscles for Patients with Osteoarthritis	6360-6363
Prescott, Jeffrey William* (Ohio State University); Priddy, Michael (Ohio State University); Best, Thomas (Ohio State University Medical Center); Pennell, Michael (The Ohio State University Medical Center); Swanson, Mark (OSU); Haq, Furqan (Ohio State University Medical Center); Jackson, Rebecca D (The Ohio State University); Gurcan, Metin (The Ohio State University)	
17:55-18:10	SaE05.6
An Automated Method to Segment the Femur for Osteoarthritis Research	6364-6367
Prescott, Jeffrey William* (Ohio State University); Pennell, Michael (The Ohio State University Medical Center); Best, Thomas (Ohio State University Medical Center); Swanson, Mark (OSU); Haq, Furqan (Ohio State University Medical Center); Jackson, Rebecca D (The Ohio State University); Gurcan, Metin (The Ohio State University)	
 SaE06: 16:40-18:10	 Conrad A
3.6.1 Nano- and Micro-sensors (Oral Session)	
Chair: Samuel Sia, Columbia Univ.	
Co-Chair: Ilko Ilev, US FDA	
16:40-16:55	SaE06.1
High-Speed Spinning-Disk Interferometry on the BioCD for Human Diagnostic Applications	6368-6371
Nolte, David* (Purdue University)	
16:55-17:10	SaE06.2
QD Barcodes for Biosensing and Detection	6372-6373
Gao, Xiaohu* (University of Washington)	

17:10-17:25	SaE06.3
Microfluidics Cell Culture with Sensing and SqueezeFluidics	6374-6375
Takayama, Shuichi* (University of Michigan)	
17:25-17:40	SaE06.4
Lensless Imaging for Point-Of-Care Testing	6376-6379
SangJun, Moon (BWH); Keles, Hasan (Brigham and Woman's Hospital); Yun-Gon, Kim (Brigham and Woman's Hospital); Daniel, Kuritzkes (Brigham and Woman's Hospital); Demirci, Utkan* (Harvard-MIT/HST)	
17:40-17:55	SaE06.5
Label-Free Microfluidic Characterization of Temperature-Dependent Biomolecular Binding	6380-6382
Nguyen, ThaiHuu* (Columbia University); Lin, Qiao (Columbia University)	
SaE07: 16:40-18:10	Marquette VII
3.12.1 Implantable Systems (Oral Session)	
Chair: Mehmet R. Dokmeci, Northeastern Univ.	
Co-Chair: Sang hun Lee, Coll. of Medicine Korea Univ.	
16:40-16:55	SaE07.1
A Preferential Design Approach for Energy-Efficient and Robust Implantable Neural Signal Processing Hardware	6383-6386
Narasimhan, Seetharam* (Case Western Reserve University); Chiel, Hillel (Case Western Reserve University); Bhunia, Swarup (Case Western Reserve University)	
16:55-17:10	SaE07.2
Modeling and Optimization of Printed Spiral Coils in Air and Muscle Tissue Environments	6387-6390
Jow, Uei-Ming (Georgia Institute of Technology); Ghovanloo, Maysam* (Georgia Institute of Technology)	
17:10-17:25	SaE07.3
An Embedded PDMS Nanocomposite Strain Sensor toward Biomedical Applications	6391-6394
Liu, Chao-Xuan* (Louisiana State University); Choi, Jin-Woo (Louisiana State University)	
17:25-17:40	SaE07.4
Micro Package of Short Term Wireless Implantable Microfabricated Systems	6395-6399
Bu, Leping (Huazhong University of Science & Technology); cong, peng (Case Western Reserve Univ.); Kuo, Hung-I (Case Western Reserve University); Ye, Xuesong (Zhejiang University); Ko, Wen* (Case Western Reserve University)	
17:40-17:55	SaE07.5
Design and Fabrication of Neural Implant with Thick MicroChannels Based on Flexible Polymeric Materials	6400-6403
Benmerah, Samia* (University of Birmingham); Lacour, Stéphanie (University of Cambridge); Tarte, Edward (University of Birmingham)	
17:55-18:10	SaE07.6
Locomotive Micro-Implant with Active Electromagnetic Propulsion	6404-6407
Pivonka, Daniel* (Stanford); Poon, Ada S Y (Stanford University); Meng, Teresa (Stanford University)	
SaE08: 16:40-18:10	Marquette VIII
4.4.1 Advances in Theory and Clinical Applications of Biological Network Studies (Oral Session)	
Chair: Ioannis Androulakis, Rutgers University	
Co-Chair: Qing Nie, University of California at Irvine	
16:40-16:55	SaE08.1
Multiscale Models for Synthetic Biology	6408-6411
Kaznessis, Yiannis* (University of Minnesota)	
16:55-17:10	SaE08.2
Nonlinear Bionetwork Structure Inference Using the Random Sampling-High Dimensional Model Representation (RS-HDMR) Algorithm	6412-6415
Miller, Miles (MIT); Feng, Xiaojiang (Princeton University); Li, Genyuan (Princeton University); Rabitz, Herschel* (Princeton University)	

17:10-17:25	SaE08.3
Disease Gene-Fishing in Molecular Interaction Networks: A Case Study in Colorectal Cancer	6416-6419
<i>Huang, Hui (Indiana University); Li, Jiao (Tsinghua University); Chen, Jake* (Indiana University)</i>	
17:25-17:40	SaE08.4
A Unified Multiscale Field/Network/Agent Based Modeling Framework for Human and Ecological Health Risk Analysis	6420-6423
<i>Georgopoulos, Panos* (University of Medicine and Dentistry of NJ); Isukapalli, Sastry (University of Medicine and Dentistry of NJ)</i>	
17:40-17:55 Author unavailable for presentation	SaE08.5
Drug-Like and Non Drug-Like Pattern Classification Based on Simple Topology Descriptor Using Hybrid Neural Network	6424-6427
<i>Wan Mamat, Wan Mohd Fahmi (Universiti Sains Malaysia); Mat Isa, Nor Ashidi* (University Sains Malaysia); Wahab, Habibah A. (Universiti Sains Malaysia); Wan Mamat, Wan Mohd Fairuz (Universiti Teknologi Mara)</i>	
17:55-18:10	SaE08.6
A Paradigm for Epileptic Seizure Prediction Using a Coupled Oscillator Model of the Brain	6428-6431
<i>O'Sullivan-Greene, Elma* (The University of Melbourne); Mareels, Iven (Melbourne University, Australia); Freestone, Dean Robert (The University of Melbourne); Kuhlmann, Levin (University of Melbourne); Burkitt, Anthony Neville (The University of Melbourne)</i>	
<hr/>	
SaE09: 16:40-18:10	Marquette II
5.8.1 Cardiovascular Signal Processing and Telemedicine (Oral Session)	
Chair: Stanley Finkelstein, Univ. of Minnesota	
Co-Chair: Jie Lian, Micro Systems Engineering, Inc.	
16:40-16:55	SaE09.1
Independence and Shared Decision Making: The Role of Smart Home Technology in Empowering Older Adults	6432-6436
<i>Demiris, George* (University of Washington)</i>	
16:55-17:10	SaE09.2
A Robotic Home Telehealth Platform System for Treatment Adherence, Social Assistance and Companionship - an Overview	6437-6440
<i>Oddsson, Lars* (Sister Kenny Rehabilitation Institute, Allina Hospitals & Clinics); Radomski, Mary (Sister Kenny Rehabilitation Institute); White, Matthew (Sister Kenny Research Center); Nilsson, Daniel (Sister Kenny Rehabilitation Institute, Allina Hospitals & Clinics)</i>	
17:10-17:25	SaE09.3
Benefits & Barriers to Adoption of Health IT in an Elderly Low-Income, Minority Community-Based Environment	6441-6443
<i>Tran, Binh Q.* (The Catholic University of America); Buckley, Kathleen M. (The Catholic University of America); Bertera, Elizabeth M. (Howard University)</i>	
17:25-17:40	SaE09.4
Implementation of MP3 Player for Music Therapy on Hypertension	6444-6447
<i>Yu, Jianye (Shenzhen Institute of Advanced Technology); Huang, Dunfeng (Shenzhen Institute of Advanced Technology); Li, Ye* (Shenzhen Institute of Advanced Technology); Zhang, Yuan-Ting (The Chinese University of Hong Kong)</i>	
17:40-17:55	SaE09.5
Mobile Tools for Home-Based Cardiac Rehabilitation Based on Heart Rate and Movement Activity Analysis	6448-6452
<i>Mattila, Jussi Jaakko Olavi (VTT); Ding, Hang* (CSIRO); Mattila, Elina (VTT); Sarela, Antti (CSIRO)</i>	
17:55-18:10	SaE09.6
Open Loop Linear Parametric Modeling of the QT Variability	6453-6456
<i>Porta, Alberto* (Universita' degli Studi di Milano); Tobaldini, Eleonora (Universita' degli Studi di Milano); Magagnin, Valentina (Istituto Ortopedico IRCCS Galeazzi); Bassani, Tito (Politecnico di Milano); Gnechi-Ruscone, Tomaso (Ospedale S.L. Mandic); Montano, Nicola (Universita' degli Studi di Milano)</i>	

SaE10: 16:40-18:10	Grand Ballroom - Salon C
6.4.2 Brain-Machine Interface II (Oral Session)	
Chair: Gerwin Schalk, Wadsworth Center, New York State Department of Health	

16:40-16:55	SaE10.1
Application of Support Vector Machines to Reliability-Based Automatic Repeat Request for Brain-Computer Interfaces	6457-6460
Takahashi, Hiromu* (Nagoya University); Yoshikawa, Tomohiro (Nagoya University); Furuhashi, Takeshi (Nagoya University)	
16:55-17:10	SaE10.2
A Half-Field Stimulation Pattern for SSVEP-based Brain-computer Interface	6461-6464
Yan, Zheng (Tsinghua University); Gao, Xiaorong (Tsinghua University); Bin, guangyu (Tsinghua University); Hong, Bo (Tsinghua university); Gao, Shangkai* (Tsinghua University)	
17:10-17:25	SaE10.3
Detection of Spontaneous Class-Specific Visual Stimuli with High Temporal Accuracy in Human Electrocorticography	6465-6468
Miller, Kai J* (University of Washington); Hermes, Dora (University Medical Center Utrecht); Schalk, Gerwin (Wadsworth Center, New York State Department of Health); Ramsey, Nick (University Medical Center Utrecht); Jagadeesh, Bharathi (University of Washington); denNijs, Marcel (University of Washington); Ojemann, Jeffrey G (University of Washington); Rao, Rajesh PN (University of Washington)	
17:25-17:40	SaE10.4
Motion Classification Using Epidural Electrodes for Low-Invasive Brain-Machine Interface	6469-6472
Uejima, Takeshi* (Ministry of Defense); Kita, Kahori (The University of Tokyo); Kato, Ryu (The University of Tokyo); Yokoi, Hiroshi (University of Tokyo)	
17:40-17:55	SaE10.5
Impact of Time-Frequency Representation to the Generalization Ability of Synthesized Time-Frequency Spatial Patterns Algorithm in Brain Computer Interface	6473-6476
Yao, Jun* (Northwestern University); Dewald, Julius P. A. (Northwestern University)	
17:55-18:10	SaE10.6
Optimization of Electrode Channels in Brain Computer Interfaces	6477-6480
Kamrunnahar, Mst (Kamrun)* (The Pennsylvania State University); Dias, Nuno S. (University of Minho); Schiff, Steven (Pennsylvania State University)	

SaE11: 16:40-18:10	Marquette I
6.7.3 Deep Brain Stimulation II (Oral Session)	
Chair: Greg Molnar, Medtronic	

16:40-16:55	SaE11.1
One-Dimensional Representation of a Neuron in a Uniform Electric Field	6481-6484
Radman, Thomas (City College CUNY); Datta, Abhishek* (The City College of the CUNY); Bikson, Marom (The City College of New York)	
16:55-17:10	SaE11.2
Finite Difference Time Domain (FDTD) Modeling of Implanted Deep Brain Stimulation Electrodes and Brain Tissue	6485-6488
Gabran, Salam* (University of Waterloo); Saad, John (University of Waterloo); Salama, Magdy (University of Waterloo); Mansour, Raafat (University of Waterloo)	
17:10-17:25	SaE11.3
NeuroRighter: Closed-Loop Multielectrode Stimulation and Recording for Freely Moving Animals and Cell Cultures	6489-6492
Rolston, John* (Emory University School of Medicine); Gross, Robert (Emory University); Potter, Steve (Georgia Institute of Technology)	

17:25-17:40	SaE11.4
3-D Microfabricated Electrodes for Targeted Deep Brain Stimulation	6493-6496
Laotaveerungrueng, Noppasit* (Case Western Reserve University); Lin, Chia-Hua (Case Western Reserve University); McCallum, Grant (Case Western Reserve University); Rajgopal, Srihari (Case Western Reserve Univ.); Steiner, Charles P. (Cleveland Clinic Foundation); Rezai, Ali R. (Cleveland Clinic Foundation); Mehregany, Mehran (Case Western Reserve University)	
17:40-17:55	SaE11.5
Effects of the electrical double layer and dispersive tissue properties in a volume conduction model of deep brain stimulation	6497-6500
Grant, Peadar* (University College Dublin); Lowery, Madeleine (University College Dublin)	
17:55-18:10	SaE11.6
Influence of Coil Current Configuration in Magnetic Stimulation of a Nerve Fiber in Inhomogeneous and Anisotropic Conducting Media	6501-6504
Hyodo, Akira* (Kyushu University); Iramina, Keiji (Kyushu University); Ueno, Shoogo (Kyushu University)	
SaE12: 16:40-18:10	Marquette VI
7.7.1 Electrical Fields at the Cell and Protein Scale (Oral Session)	
Chair: Rafael Davalos, Virginia Tech	
Co-Chair: Raphael Lee, University of Chicago	
16:40-16:55	SaE12.1
In Silico Estimates of Cell Electroporation by Electrical Incapacitation Waveforms	6505-6508
Gowrishankar, Thiruvallur* (Massachusetts Institute of Technology); Esser, Axel (Massachusetts Institute of Technology); Smith, Kyle (Massachusetts Institute of Technology); Burns, Stephen (Massachusetts Institute of Technology); Weaver, James (Massachusetts Institute of Technology)	
16:55-17:10	SaE12.2
Non-Ionizing Radiation with Nanosecond Pulsed Electric Fields As a Cancer Treatment: In Vitro Studies	6509-6512
Beebe, Stephen* (Old Dominion University); Ford, Wentia (Old Dominion University); Ren, Wei (Old Dominion University); Chen, Xinhua (Old Dominion University); Schoenbach, Karl (Old Dominion University)	
17:10-17:25	SaE12.3
Pilot Study of Irreversible Electroporation for Intracranial Surgery	6513-6516
Garcia, A.* (Virginia Tech - Wake Forest University); Rossmeisl, John H. (Virginia-Maryland Regional College of Veterinary Medicine); Robertson, John (Virginia-Maryland Regional College of Veterinary Medicine); Ellis, Thomas L. (Wake Forest School of Medicine); Davalos, Rafael (Virginia Tech)	
17:25-17:40	SaE12.4
Alignment and Elongation of Human Adipose-Derived Stem Cells in Response to Direct-Current Electrical Stimulation	6517-6521
Tandon, Nina* (Columbia University); goh, Brian (Louisiana State University); Marsano, Anna (Columbia University); Chao, Pen-hsiu Grace (College of Engineering and College of Medicine, National Taiwan University); Montouri-Sorrentino, Christina (The Cooper Union for the Advancement of Science and Art); Jeffrey, Gimble (Louisiana State University); Vunjak-Novakovic, Gordana (Columbia University)	
17:40-17:55	SaE12.5
A Study of Long Term Symptomatology Reported in Non-Head-Involved Low Voltage Electrical Contacts	6522-6525
Morse, Michael* (University of San Diego)	
17:55-18:10	SaE12.6
Whole Organ Decellularization - a Tool for Bioscaffold Fabrication and Organ Bioengineering	6526-6529
Baptista, Pedro M. (Wake Forest University Health Sciences); Orlando, Giuseppe (Wake Forest University Health Sciences); Mirmalek-Sani, Sayed-Hadi (Wake Forest University Health Sciences); Sidiqqui, Mohummad M. (Wake Forest University Health Sciences); Atala, Anthony (Wake Forest University Health Sciences); Soker, Shay* (Wake Forest University Health Sciences)	

SaE13: 16:40-18:10	Conrad D
8.9.1 Orthopaedic and Musculoskeletal Biomechanics (Oral Session)	
Chair: Yoshihiko Nakamura, Univ. of Tokyo	

Co-Chair: Mitsuhiro Hayashibe, INRIA

16:40-16:55	SaE13.1
EMG-Based Neuromuscular Modeling with Full Physiological Dynamics and Its Comparison with Modified Hill Model	6530-6533
Hayashibe, Mitsuhiro* (INRIA); Guiraud, David (INRIA); POIGNET, Philippe (LIRMM, UMR CNRS 5506, University of Montpellier II)	
16:55-17:10	SaE13.2
Reconstruction and EMG-Informed Control, Simulation and Analysis of Human Movement for Athletics: Performance Improvement and Injury Prevention	6534-6537
Demircan, Emel* (Stanford University); Khatib, Oussama (Stanford University); Wheeler, Jason (Sandia National Laboratories); Delp, Scott (Stanford University)	
17:10-17:25	SaE13.3
Identification and Validation of FES Physiological Musculoskeletal Model in Paraplegic Subjects	6538-6541
Benoussaad, Mourad* (INRIA); Hayashibe, Mitsuhiro (INRIA); Fattal, Charles (PROPARA); POIGNET, Philippe (LIRMM, UMR CNRS 5506, University of Montpellier II); Guiraud, David (INRIA)	
17:25-17:40	SaE13.4
Characterization of Motor Skill Based on Musculoskeletal Model	6542-6545
Murai, Akihiko* (The University of Tokyo); Katsu, Yamane (University of Tokyo); Nakamura, Yoshihiko (University of Tokyo)	
17:40-17:55	SaE13.5
Computationally Fast Estimation of Muscle Tension for Realtime Bio-feedback	6546-6549
Murai, Akihiko* (The University of Tokyo); Kuroasaki, Kosuke (The University of Tokyo); Katsu, Yamane (University of Tokyo); Nakamura, Yoshihiko (University of Tokyo)	

SaE14: 16:40-18:10	Marquette III
9.4.3 Diagnostic Devices and Instrumentation (Oral Session)	
Chair: Mike McShane, Texas A&M Univ.	

Co-Chair: Steven Johnson, EMBS Buenaventura Chapter

16:40-16:55	SaE14.1
Development of Effective Photoplethysmographic Measurement Techniques: From Contact to Non-Contact and from Point to Imaging	6550-6553
Hu, Sijung* (Loughborough University); Azorin Peris, Vicente (Loughborough University); Echiadis, Angelos (Loughborough University); Zheng, Jia (Loughborough University); Shi, Ping (Loughborough University)	
16:55-17:10	SaE14.2
Quantitative Spectral Reflectance Imaging Device for Intraoperative Breast Tumor Margin Assessment	6554-6556
Ramanujam, Nimmi* (Duke University)	
17:10-17:25	SaE14.3
Spatial Mapping of Real-Time Quantitative Shear Stress with Vascular Oxidative Stress	6557-6559
Ai, Lisong* (University of Southern California); Hsiao, John T. K. (USC)	
17:25-17:40	SaE14.4
Digital Microfluidic Chips for Chemical and Biological Applications	6560-6564
Fair, Richard* (Duke University)	
17:40-17:55	SaE14.5
Development of a Multispectral Tissue Characterization System for Optimization of an Implantable Perfusion Status Monitor for Transplanted Liver	6565-6568
Baba, Justin S.* (Oak Ridge National Laboratory); Letzen, Brian S. (Oak Ridge National Laboratory); Ericson, Nance (Oak Ridge National Laboratory); Coté, Gerard L. (Texas A&M); Xu, Weijian (VA Pittsburgh Healthcare System); Wilson, Mark A. (VA Pittsburgh Healthcare System)	

SaE15: 16:40-18:10	Marquette IX
10.6.1 Wireless Biomedical and Health Technologies (Oral Session)	
Chair: Emil Jovanov, <i>Univ. of Alabama in Huntsville</i>	

16:40-16:55	SaE15.1
Potential and Challenges of Body Area Networks for Personal Health	6569-6572
Penders, Julien* (<i>Stichting IMEC Nederland</i>); van de Molengraft, Jef (<i>Holst Centre</i>); Brown, Lindsay (<i>Stichting IMEC Nederland</i>); Grundlehner, Bernard (<i>Holst Centre</i>); Gyselinckx, Bert (<i>Stichting IMEC-NL</i>); Van Hoof, Chris (<i>IMEC</i>)	
16:55-17:10	SaE15.2
Nonintrusive Measurement of Biological Signals for Ubiquitous Healthcare	6573-6575
Park, Kwang S.* (<i>Seoul National University</i>)	
17:10-17:25	SaE15.3
Sensium: An Ultra-Low-Power Wireless Body Sensor Network Platform: Design & Application Challenges	6576-6579
Wong, Alan Chi Wai* (<i>Toumaz Technology Ltd.</i>); McDonagh, Declan (<i>Toumaz Technology Ltd.</i>); Omeni, Okundu (<i>Toumaz Technology Ltd.</i>); Nunn, Chris (<i>Toumaz Technology Ltd.</i>); Silveira, Miguel (<i>Toumaz Technology Ltd.</i>); Burdett, Alison (<i>Toumaz Technology Ltd.</i>)	
17:25-17:40	SaE15.4
Clinical Applications of Wearable Technology	6580-6583
Bonato, Paolo* (<i>Harvard Medical School</i>)	
17:40-17:55	SaE15.5
UK and Canadian Perspectives of the Effectiveness of Mobile Diabetes Management Systems	6584-6587
Istepanian, Robert (<i>Kingston University London</i>); Cafazzo, Joseph (<i>University Health Network</i>); Seto, Emily* (<i>University Health Network</i>); Logan, Alexander (<i>Mount Sinai Hospital</i>); Sungoor, Ala (<i>Kingston University London</i>)	

SaE16: 16:40-18:10	Grand Ballroom - Salon A
11.4.2 Minisymposium: People, Places and Companies Involved in the Early History of Biomedical Devices and Instrumentation	
Chair: Robert P. Patterson, <i>Univ. of Minnesota</i>	
Co-Chair: Ron Leder, <i>Univ. Nacional Autonoma de Mexico</i>	

16:40-17:10	SaE16.1
Medical Alley: The Rise of the Medical Device Industry in Minnesota	6588-6589
Rhees, David* (<i>Bakken Museum</i>)	
17:10-17:40	SaE16.2
Evolution of Microcomputer-Based Medical Instrumentation	6590-6593
Tompkins, Willis J.* (<i>University of Wisconsin - Madison</i>)	
17:40-18:10	SaE16.3
Otto Schmitt's Contributions to Basic and Applied Biomedical Engineering and to the Profession	6594
Patterson, Robert P.* (<i>University of Minnesota</i>)	

SaE17: 16:40-18:10	Directors Row 4
SS 4. Pathways to Success in Biomedical Engineering: Early Career Development (Special Session)	
Chair: Kaustubh Patil, <i>Medtronic, Inc.</i>	

Sunday, 6 September 2009

SuA01: 08:30-10:00	Conrad B
1.2.6 EEG Signal Processing II (Oral Session)	
Chair: Chang-Hwan Im, Yonsei Univ.	
Co-Chair: Yingchun Zhang, Univ. of Minnesota	

08:30-08:45 Author unavailable for presentation	SuA01.1
A New Method for Spatiotemporal Identification of Event-Related Potential Subcomponents 6595-6598	
Mohseni, Hamid* (Cardiff University); Sanei, Saeid (Cardiff University)	
08:45-09:00	SuA01.2
Regularized Common Spatial Patterns with Generic Learning for EEG Signal Classification 6599-6602	
Lu, Haiping* (University of Toronto); Plataniotis, Konstantinos (University of Toronto); Venetsanopoulos, Anastasios (Ryerson University)	
09:00-09:15	SuA01.3
Automated Epilepsy Diagnosis Using Interictal Scalp EEG 6603-6607	
Bao, Forrest S.* (Texas Tech University); Gao, Jue-Ming (Jiangsu Provincial Hospital of Chinese Medicine); Hu, Jing (Jiangsu Provincial Hospital of Chinese Medicine); Lie, Donald (Texas Tech University); Zhang, Yuanlin (Texas Tech University); Oommen, K. J. (Texas Tech University Health Sciences Center)	
09:15-09:30	SuA01.4
Detection of Nocturnal Frontal Lobe Seizures in Pediatric Patients by Means of Accelerometers: A First Study 6608-6611	
Cuppens, Kris* (Katholieke Hogeschool Kempen); Lagae, Lieven (University Hospital of Leuven); Ceulemans, Berthen (University Hospital of Antwerp); Van Huffel, Sabine (Katholieke Universiteit Leuven); Vanrumste, Bart (Katholieke Universiteit Leuven)	
09:30-09:45	SuA01.5
Age-Independent Seizure Detection 6612-6615	
Faul, Stephen* (University College Cork); Temko, Andriy (University College Cork); Marnane, Liam (University College Cork)	

09:45-10:00	SuA01.6
Localizing the Neonatal and Fetal Spontaneous Brain Activity by Hilbert Phase Analysis 6616-6619	
Govindan, Rathinaswamy* (UAMS); Vairavan, Srinivasan (University of Arkansas at Little Rock); Haddad, Naim (UAMS); Wilson, James (University of Arkansas at Little Rock); Preissl, Hubert (University of Tübingen); Eswaran, Hari (Univ of Arkansas for Medical Sci)	

SuA02: 08:30-10:00	Conrad C
1.9.1 Data Mining and Biomedical Signal Processing (Oral Session)	
Chair: Konstantina Nikita, National Tech. Univ. of Athens	
Co-Chair: Kazuo Yana, Hosei Univ.	

08:30-08:45	SuA02.1
Spatial Feature Extraction Techniques for the Analysis of Ductal Tree Structures 6620-6623	
Skoura, Aggeliki (University of Patras); Barnathan, Michael (Temple University); Megalooikonomou, Vasileios* (University of Patras)	
08:45-09:00	SuA02.2
Characterization of Patient Specific Signaling Via Augmentation of Bayesian Networks with Disease and Patient State Nodes 6624-6627	
Sachs, Karen* (University of Stanford)	
09:00-09:15	SuA02.3
Biomedical Image Analysis Using Markov Random Fields & Efficient Linear Programming 6628-6631	
komodakis, Nikos (University of Crete); Besbes, Ahmed (Ecole Centrale de Paris); Glocker, Ben (Technische Universität München); Paragios, Nikos* (Ecole Centrale de Paris/INRIA Saclay, Ile-de-France)	

09:15-09:30 Author unavailable for presentation	SuA02.4
Leveraging Dynamic User Profiles for the Assistance of Anxiety Disorders' Treatment Using Inferential Rules	6632-6635
Panagiotakopoulos, Theodor (University of Patras); Lyras, Dimitris (University of Patras); Manolessos, George (St. Andreas Hospital of Patras); Lymberopoulos, Dimitrios* (University of Patras); Sgarbas, Kyriakos (University of Patras)	
09:30-09:45	SuA02.5
A Data Mining Algorithmic Approach for Processing Wireless Capsule Endoscopy Data Sets	6636-6639
Karargyris, Alexandros (Wright State University); Bourbakis, Nikolaos* (Wright State University)	
09:45-10:00	SuA02.6
Novel MEMS Stiffness Sensor for In-Vivo Tissue Characterization Measurement	6640-6643
Peng, Peng* (University of Minnesota); Rajamani, Rajesh (University of Minnesota); Sezen, A. Serdar (St. Cloud State University); Erdman, Arthur (University of Minnesota)	
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SuA03: 08:30-10:00	Grand Ballroom - Salon B
2.6.1 Biomedical Image Reconstruction and Retrieval (Oral Session)	
Chair: Jong Chul Ye, Korea Advanced Inst. of Science & Tech.	
Co-Chair: Mark Anastasio, Illinois Inst. of Tech.	
08:30-08:45	SuA03.1
Efficient Parametric Encoding Scheme for White Matter Fiber Bundles	6644-6647
Chung, Moo K.* (University of Wisconsin-Madison); Adluru, Nagesh (University of Wisconsin-Madison); Lee, Jee Eun (University of Wisconsin-Madison); Lazar, Mariana (New York university school of medicine); Lainhart, J.E. (University of Utah); Alexander, Andrew (University of Wisconsin)	
08:45-09:00	SuA03.2
Statistical Properties of X-Ray Phase-Contrast Tomography	6648-6650
Chou, Cheng-Ying (National Taiwan University); Anastasio, Mark* (Illinois Institute of Technology)	
09:00-09:15	SuA03.3
Dynamic Imaging of Speech and Swallowing with MRI	6651-6654
Sutton, Bradley P.* (University of Illinois at Urbana-Champaign); Conway, Charles A. (University of Illinois at Urbana-Champaign); Bae, Youkyung (University of Illinois at Urbana-Champaign); Brinegar, Cornelius (Univ of Illinois at Urbana-Champaign); Liang, Zhi-Pei (University of Illinois at Urbana-Champaign); Kuehn, David P. (University of Illinois at Urbana-Champaign)	
09:15-09:30	SuA03.4
Multimodal Optical Molecular Image Reconstruction with Frequency Domain Measurements	6655-6658
Bartels, Marc (Baylor College of Medicine); Chen, Wenxue (Baylor College of Medicine); Bardhan, Rizia (Rice University); Ke, Shi (UT M. D. Anderson Cancer Center); Halas, Naomi J. (Rice University); Wareing, Todd A. (Transpire Inc.); McGhee, John (Transpire Inc.); Joshi, Amit* (Baylor College of Medicine)	
09:30-09:45	SuA03.5
Single Channel Exact 3-D Blind Image Deconvolution from Cylindrically Symmetric Blur Kernel	6659-6662
Jang, Kwang Eun (Korean Advanced Institute of Science and Technology); Ye, Jong Chul* (Korea Advanced Inst of Science & Tech)	
09:45-10:00	SuA03.6
Spatial Spectral Modeling for Robust MRSI	6663-6666
Eslami, Ramin (University of Rochester); Mathews, Jacob* (University of Rochester)	

SuA05: 08:30-10:00	Marquette V
2.7.8 Tumor Image Analysis (Oral Session)	
Chair: Raj Rangayyan, <i>Univ. of Calgary</i>	

08:30-08:45	SuA05.1
Detection of Architectural Distortion in Prior Mammograms of Interval-Cancer Cases with Neural Networks	6667-6670
Banik, Shantanu* (<i>Schulich</i>); Rangayyan, Raj (<i>University of Calgary</i>); Desautels, J. E. Leo (<i>University of Calgary</i>)	
08:45-09:00	SuA05.2
Classification of Low Resolution Virtual Slides from Breast Tumor Sections: Comparison between Global and Local Analysis	6671-6674
Oger, Myriam* (<i>François Baclesse Cancer Center - University of Caen</i>); Belhomme, Philippe (<i>University of Caen</i>); Gurcan, Metin (<i>The Ohio State University</i>)	
09:00-09:15 Author unavailable for presentation	SuA05.3
Identification of Different Types of Lymphoblasts in Acute Lymphoblastic Leukemia Using Relevance Vector Machines	6675-6678
Gupta, Lalit* (<i>Philips Electronics India Ltd.</i>); Jayavanth, Sanjay (<i>Philips Research Asia - Bangalore</i>); Ramaiah, Aruna (<i>Philips Research Asia - Bangalore</i>)	
09:15-09:30	SuA05.4
Computer-Aided Renal Cancer Quantification and Classification Via Histograms of Curvature-Related Features	6679-6682
Linguraru, Marius George* (<i>National Institutes of Health</i>); Wang, Shijun (<i>National Institutes of Health</i>); Shah, Furhawn (<i>National Institutes of Health</i>); Gautam, Rabindra (<i>National Institutes of Health</i>); Peterson, James (<i>National Institutes of Health</i>); Linehan, W. Marston (<i>National Cancer Institutes</i>); Summers, Ronald (<i>National Institutes of Health</i>)	
09:30-09:45	SuA05.5
Automatic Detection of Small Bowel Tumors in Capsule Endoscopy Based in Color Curvelet Covariance Statistical Texture Descriptors	6683-6686
Barbosa, Daniel (<i>University of Minho</i>); Ramos, Jaime (<i>Hospital dos Capuchos</i>); Correia, Higino (<i>University of Minho</i>); Lima, Carlos Manuel Gregorio Santos* (<i>University of Minho</i>)	
09:45-10:00	SuA05.6
Automated Classification of Renal Cell Carcinoma Subtypes Using Scale Invariant Feature Transform .	6687-6690
Raza, Syed Hussain (<i>Georgia Institute of Technology</i>); Sharma, Yachna (<i>Georgia Institute of Technology</i>); Chaudry, Qaiser (<i>Georgia Institute of Technology</i>); Young, Andrew N (<i>Emory University</i>); Wang, May Dongmei* (<i>Georgia Tech and Emory University</i>)	

SuA06: 08:30-10:00	Conrad A
3.7.1 BioMEMS (Oral Session)	
Chair: Jun Zou, <i>Texas A & M Univ.</i>	
Co-Chair: Shuichi Takayama, <i>Univ. of Michigan</i>	

08:30-09:00	SuA06.1
Hybrid Micro-Technologies for Medical Applications	6691-6692
Gianchandani, Yogesh* (<i>University of Michigan</i>)	
09:00-09:15	SuA06.2
A Nano Grating Tunable MEMS Optical Filter for High-Speed On-Chip Multispectral Fluorescent Detection	6693-6695
Truxal, Steven (<i>University of Michigan</i>); Huang, Nien-Tsu (<i>University of Michigan</i>); Kurabayashi, Katsuo* (<i>University of Michigan</i>)	

09:15-09:30	Implantable MEMS Drug Delivery Pumps for Small Animal Research	SuA06.3 6696-6698
	<i>Meng, Ellis* (University of Southern California); Li, Po-Ying (University of Southern California); Lo, Ronalee (University of Southern California); Sheybani, Roya (University of Southern California); Gutierrez, Christian (University of Southern California)</i>	
09:30-09:45	Aptamer-Encoded Nanopore for Ultrasensitive Detection of Bioterrorist Agent Ricin at Single-Molecule Resolution	SuA06.4 6699-6702
	<i>Gu, Li-Qun* (University of Missouri)</i>	
09:45-10:00	MEMS-Based 3D Optical Microendoscopy	SuA06.5 6703-6705
	<i>Xie, Huikai* (University of Florida)</i>	
SuA07: 08:30-10:00	2.7.2 Cellular and Molecular Image Processing (Oral Session)	Marquette VII
	Chair: David Odde, Univ. of Minnesota	
	Co-Chair: Baowei Fei, Case Western Res. Univ.	
08:30-08:45	Extraction of Informative Cell Features by Segmentation of Densely Clustered Tissue Images	SuA07.1 6706-6709
	<i>Kothari, Sonal (Georgia Institute of Technology); Chaudry, Qaiser (Georgia Institute of Technology); Wang, May Dongmei* (Georgia Tech and Emory University)</i>	
08:45-09:00	Automatic Detection of Molecular Markers in Digital Images	SuA07.2 6710-6713
	<i>Marcal, Andre R. S. (Faculdade de Ciencias, Universidade do Porto); Caridade, Cristina M. R.* (Instituto Superior de Engenharia de Coimbra); Albuquerque, Pedro Miguel da Silva (IBMC - Instituto de Biologia Molecular e Celular); Mendes, Marta V. (IBMC - Institute for Molecular and Cell Biology); Tavares, Fernando (Institute for Molecular and Cell Biology)</i>	
09:00-09:15	A New Algorithm for Segmenting and Counting Aedes Aegypti Eggs in Ovitraps	SuA07.3 6714-6717
	<i>Portela, Nara (University of Pernambuco); Mello, Carlos (University of Pernambuco); dos Santos, Wellington* (Universidade de Pernambuco); Candeias, Ana Lucia (Federal University of Pernambuco); Gusmao, Cristine (University of Pernambuco); Machado, Saulo (University of Pernambuco); Rodrigues, Marco Aurélio Benedetti (Federal University of Pernambuco)</i>	
09:15-09:30	Automatic Nuclei Segmentation and Spatial FISH Analysis for Cancer Detection	SuA07.4 6718-6721
	<i>Nandy, Kaustav* (SAIC-Frederick, National Cancer Institute); Gudla, Prabhakar R (National Cancer Institute-Frederick/SAIC-Frederick, Inc.); Meaburn, Karen (National Cancer Institute, National Institutes of Health); Misteli, Tom (National Cancer Institute, National Institutes of Health); Lockett, Stephen (SAIC-Frederick)</i>	
09:30-09:45	Motion Detection for Subcellular Structure Trafficking	SuA07.5 6722-6725
	<i>Gao, Jean* (University of Texas)</i>	
09:45-10:00	Registration-Based Segmentation of Nerve Cells in Microscopy Images	SuA07.6 6726-6729
	<i>Wang, Yi-Ying (National Cheng Kung University); Sun, Yung-Nien* (National Cheng Kung University); Lin, Chou-Ching (National Cheng Kung University)</i>	
SuA08: 08:30-10:00	4.2.1 Bioinformatics Algorithms for Genomics, Proteomics, Metabolomics, and Lipidomics (Oral Session)	Marquette VIII
	Chair: Jiayu Liao, University of California, Riverside	
08:30-08:45	Analysis of Epigenetic Modifications by Next Generation Sequencing	SuA08.1 6730
	<i>Liang, Shoudan* (MD Anderson Cancer Center)</i>	

08:45-09:00	SuA08.2
Deblurring Molecular Images Using Desorption Electrospray Ionization Mass Spectrometry	6731-6734
Parry, R. Mitchell* (Georgia Institute of Technology); Galhena, Asiri (Georgia Institute of Technology); Fernandez, Facundo (Georgia Institute of Technology); Wang, May Dongmei (Georgia Tech and Emory University)	
09:00-09:15	SuA08.3
Structural Feature Extraction Protocol for Classifying Reversible Membrane Binding Protein Domains	6735-6738
Kallberg, Morten (University of Illinois at Chicago); Lu, Hui* (University of Illinois at Chicago)	
09:15-09:30	SuA08.4
Quality Control of Highly Multiplexed Proteomic Immunostaining with Quantum Dots: Correcting for Crosstalk	6739-6742
Moffitt, Richard A.* (Georgia Institute of Technology); Caldwell, Matthew (Georgia Institute of Technology); Liu, Tao (Emory University); Liu, Jian (Emory University); Nie, Shuming (Emory University); Wang, May Dongmei (Georgia Tech and Emory University)	
09:30-09:45	SuA08.5
A Bayesian Based Functional Mixed-Effects Model for Analysis of LC-MS Data	6743-6746
Befekadu, Getachew (Georgetown University); Tadesse, Mahlet (Georgetown University); Ressom, Habtom* (Georgetown University)	
09:45-10:00	SuA08.6
Model Based Clustering for Tandem Mass Spectrum Quality Assessment	6747-6750
Ding, Jiarui (University of Saskatchewan); Wu, FangXiang* (University of Saskatchewan)	
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SuA09: 08:30-10:00	Marquette II
5.1.2 Cardiovascular Diagnostics & Therapeutics (Oral Session)	
Chair: Mark Kroll, Univ. of Minnesota	
Co-Chair: Hairong zheng, Shenzhen Inst. of Advanced Tech.	
08:30-08:45	SuA09.1
Visual3Dx: Algorithms for Quantitative Three-Dimensional Analysis of ECG Signals	6751-6754
Bojovic, Bosko (NewCardio, Inc); Ljupco, Hadzievski (NewCardio, Inc); Panescu, Dorin* (NewCardio, Inc.); George, Samuel (NewCardio, Inc); Gussak, Ihor (NewCardio, Inc); Vajdic, Branislav (NewCardio, Inc); Shvilkin, Alexei (Beth Israel Deaconess Medical Center; Harvard Medical School); Vukcevic, Vladan (Clinical Center of Serbia)	
08:45-09:00	SuA09.2
System to Improve AED Resuscitation Using Interactive CPR Coaching	6755-6760
Lichter, Patrick* (Koronis Biomedical Technologies); North, Robert (Human Centered Strategies); Andre, Anthony (Interface Analysis Associates); Riehle, Timothy (Koronis Biomed. Technologies Corp.); Anderson, Shane (Koronis Biomedical Technologies)	
09:00-09:15	SuA09.3
Optimizing Cardiac Resuscitation Outcomes Using Wavelet Analysis	6761-6764
Umapathy, Karthikeyan* (Ryerson University); Krishnan, Sridhar (Ryerson University); Masse, Stephane (THCFM Lab, Toronto General Hospital); Xudong, Hu (St. Michael's Hospital); Dorian, Paul (St. Michael's Hospital); Nanthakumar, Kumaraswamy (THCFM Lab, Toronto General Hospital)	
09:15-09:30	SuA09.4
Cuffless Blood Pressure Estimation by Error-Correcting Output Coding Method Based on an Aggregation of AdaBoost with a Photoplethysmograph Sensor	6765-6768
Suzuki, Satomi* (Aichi Prefectural University); Oguri, Koji (Aichi Prefectural University)	
09:30-09:45	SuA09.5
An Active Cardiac Stabilizer Based on Gyroscopic Effect	6769-6772
Gagne, Julien* (Université de Strasbourg); Laroche, Edouard (Strasbourg University); Piccin, Olivier (INSA); Gangloff, Jacques (University of Strasbourg)	

09:45-10:00	Non-Invasive Assessment of Cardiac Contractility on a Weighing Scale	SuA09.6 6773-6776
	<i>Etemadi, Mozziyar* (Stanford University); Inan, Omer (Stanford University); Wiard, Richard M. (Stanford University); Giovangrandi, Laurent (Stanford University); Kovacs, Gregory T.A. (Stanford University)</i>	

SuA10: 08:30-10:00	6.11.1 Functional Electrical Stimulation (FES) (Oral Session)	Grand Ballroom - Salon C
	Chair: Dominique Durand, Case Western Res. Univ.	

08:30-08:45	Computational Modeling of Peripheral Nerve Stimulation	SuA10.1 6777-6780
	<i>Tracey, Brian* (NEUROMetrix, Inc); Krastev, Plamen (Neurometrix, Inc); Han, Zhixiu (Neurometrix Inc); Williams, Michael (Neurometrix, Inc)</i>	

08:45-09:00	Intraurethral Activation of Excitatory Bladder Reflexes in Persons with Spinal Cord Injury	SuA10.2 6781-6784
	<i>Yoo, Paul* (Duke University); Horvath, Eric (Duke University); Amundsen, Cindy (Duke University Medical Center); Webster, George (Duke University Medical Center); Grill, Warren (Duke University)</i>	

09:00-09:15	Muscle Fatigue of Quadriceps in Paraplegics: Comparison between Single vs. Multi-Pad Electrode Surface Stimulation	SuA10.3 6785-6788
	<i>Malešević, Nebojša (Faculty of Electrical Engineering, University of Belgrade); Popović, Lana* (Faculty of Electrical Engineering, University of Belgrade)</i>	

09:15-09:30	Motion Control of the Rabbit Ankle Joint Using a Flat Interface Nerve Electrode	SuA10.4 6789-6792
	<i>Park, Hyunjoo* (Case Western Reserve University); Durand, Dominique (Case Western Reserve University)</i>	

09:30-09:45	Development of an Implanted Intramuscular EMG-Triggered FES System for Ambulation after Incomplete Spinal Cord Injury	SuA10.5 6793-6797
	<i>Dutta, Anirban* (Howard Hughes Medical Institute); Kobetic, Rudi (Louis Stokes Veterans Affairs Medical Center); Triolo, Ronald J. (US Department of Veterans Affairs & Case Western Reserve University)</i>	

09:45-10:00	Single Channel Hybrid FES Gait System Using an Energy Storing Orthosis: Preliminary Design	SuA10.6 6798-6801
	<i>Durfee, William* (University of Minnesota)</i>	

SuA11: 08:30-10:00	6.6.1 Neural Signal Processing I (Oral Session)	Marquette I
	Chair: Shanbao Tong, Shanghai Jiao Tong University	
	Co-Chair: Anastasios Bezerianos, PATRAS	

08:30-09:00	Predicting Perceptual Suppression from Local Field Potential in Visual Cortex	SuA11.1 6802-6805
	<i>Zhang, Hongmiao* (Drexel University); Logothetis, Nikos K. (MPI for Biological Cybernetics); Liang, Hualou (Drexel University)</i>	

09:00-09:15	Stochastic Resonance Can Enhance Information Transmission of Supra-Threshold Neural Signals	SuA11.2 6806-6809
	<i>Kawaguchi, Minato* (Waseda University); Mino, Hiroyuki (Kanto Gakuin University); Momose, Keiko (Waseda University); Durand, Dominique (Case Western Reserve University)</i>	

09:15-09:30	Correlation between Visual Stimulus Eccentricity and Multiscale Neuronal Activity in the Lateral Geniculate Nucleus	SuA11.3 6810-6813
	<i>Farkas, Agnes (University of Szeged); Tsarouchas, Nikolaos (UNIVERSITY OF PATRAS); Gombkoto, Peter (University of Szeged); Nagy, Attila (University of Szeged); Benedek, Gyorgi (University of Szeged); BEZERIANOS, Anastasios (UNIVERSITY OF PATRAS); Berenyi, Antal* (University of Szeged)</i>	

09:30-09:45	SuA11.4
Statistical Analysis and Modeling of Variance in the SA-I Mechanoreceptor Response to Sustained Indentation	6814-6817
Lesniak, Daine (University of Virginia); Wellnitz, Scott (Baylor College of Medicine); Gerling, Gregory* (University of Virginia); Lumpkin, Ellen (Baylor College of Medicine)	
09:45-10:00	SuA11.5
Influence of Subcortical Ischemic Stroke on Cortical Neural Network	6818-6821
Zhu, Chengyu (Shanghai Jiao Tong University); Guo, Xiaoli (Shanghai Jiao Tong University); Wu, Wenqing (Shanghai Jiao Tong University); Jin, Zheng (the 5th People's Hospital of Shanghai); Qiu, Yihong (Shanghai Jiao Tong University); Zhu, Yisheng (Shanghai Jiaotong University); Tong, Shanbao* (Shanghai Jiao Tong University)	
SuA12: 08:30-10:00	Marquette VI
7.9.1 Hybrid Organic Synthetic Biomaterials for Sensing and Actuation (Oral Session)	
Chair: John David Wyndham Madden, <i>University of British Columbia</i>	
Co-Chair: John Bischof, <i>Univ. of Minnesota</i>	
08:30-09:00	SuA12.1
Artificial Muscle Actuators in Biorobotic Fish Fins	6822-6825
Phelan, Chris (Drexel University); MacDonald, Robert (Shearwater scientific); Tangorra, James* (Drexel University)	
09:00-09:15	SuA12.2
Artificial Muscles Based on Synthetic Dielectric Elastomers	6826-6829
Pei, Qibing* (UCLA)	
09:15-09:30	SuA12.3
Wearable Kinesthetic Systems and Emerging Technologies in Actuation for Upperlimb Neurorehabilitation	6830-6833
De Rossi, Danilo* (University of Pisa); Carpi, Federico (University of Pisa); Iorussi, federico (University of Pisa); Scilingo, Enzo Pasquale (University of Pisa); Tognetti, alessandro (University of Pisa)	
09:30-09:45	SuA12.4
Thermo-Mechanical Characterization of Polypyrrole Compliance Using Stochastic System Identification.	6834-6837
Pillai, Priam* (Massachusetts Institute of Technology); Hunter, Ian (Massachusetts Institute of Technology)	
09:45-10:00 Author unavailable for presentation	SuA12.5
Potential/Charge Induced Nanoporous Metal Actuators	6838-6841
RAGHAVAN NADAR, VISWANATH* (Forschungszentrum Karlsruhe,)	
SuA13: 08:30-10:00	Conrad D
8.1.2 Minisymposium: Frontiers of Microrobotics in Endo-and Transluminal Therapy	
Chair: Paolo Dario, <i>Scuola Superiore Sant'Anna</i>	
Co-Chair: Jacob Rosen, <i>Univ. of California - Santa Cruz</i>	
08:30-08:45	SuA13.1
Miniaturized Robotic Devices for Endoluminal Diagnosis and Surgery: A Single-Module and a Multiple-Module Approach	6842-6845
Menciassi, Arianna* (Scuola Superiore Sant'Anna); Dario, Paolo (Scuola Superiore Sant'Anna)	
08:45-09:00	SuA13.2
Modular "Plug-And-Play" Capsules for Multi-Capsule Environment in the Gastrointestinal Tract	6846-6849
Phee, Louis* (Nanyang Technological University); Ting, Eng Kiat (Nanyang Technological University); Lin, Lin (Nanyang Technological University); HUYNH, VAN AN (NANYANG TECHNOLOGICAL UNIVERSITY); Kencana, Andy Prima (Nanyang Technological University); Wong, Kai-Juan (Nanyang Technological University); Tan, Su-Lim (Nanyang Technological University)	
09:00-09:15	SuA13.3
Some Control-Related Issues in Mini-Robotics for Endoluminal Surgery	6850-6855
POIGNET, Philippe* (LIRMM, UMR CNRS 5506, University of Montpellier II); chemori, ahmed (LIRMM); Zemiti, Nabil (Université Montpellier 2, CNRS/UM2); Liu, Chao (LIRMM Laboratory)	

09:15-09:30	SuA13.4
Characterization of SMA Actuator for Applications in Robotic Neurosurgery	6856-6859
Desai, Jaydev* (University of Maryland)	
09:30-09:45	SuA13.5
Teleoperation in Surgical Robotics – Network Latency Effects on Surgical Performance	6860-6863
Rosen, Jacob* (University of California - Santa Cruz); Lum, Mitchell (Intel Corp.); Lendvay, Thomas (University of Washington); Sinanan, Mika (University of Washington); Hannaford, Blake (University of Washington); Friedman, Diana (University of Washington); Wright, Andrew (University of Washington)	
SuA14: 08:30-10:00	Marquette III
9.4.4 Quantitative Metabolic Physiology (Oral Session)	
Chair: Jon Moon, Devicix, LLC	
Co-Chair: Kong Chen, National Inst. of Health	
08:30-08:45	SuA14.1
Optimizing Energy Expenditure Detection in Human Metabolic Chambers	6864-6868
Brychta, Robert* (National Institutes of Diabetes and Digestive and Kidney Diseases, NIH); Rothney, Megan (GE); Skarulis, Monica (National Institutes of Health); Chen, Kong (National Institutes of Health)	
08:45-09:00	SuA14.2
Quantification of Food Intake Using Food Image Analysis	6869-6872
Martin, Corby* (Pennington Biomedical Research Center); KAYA, SERTAN (Louisiana State University); Gunturk, Bahadir (Louisiana State University)	
09:00-09:15	SuA14.3
A Novel Approach for Measuring Energy Expenditure in Free-Living Humans	6873-6877
Melanson, Edward* (University of Colorado Denver); Szuminsky, Neil (LifeChek LLC); Dykstra, John (MetaLogics Corporation)	
09:15-09:30	SuA14.4
Assessing the Metabolic Cost of Walking: The Influence of Baseline Subtractions	6878-6881
Weyand, Peter* (Southern Methodist University); Sandell, Rosalind (Southern Methodist University)	
09:30-09:45	SuA14.5
Integration of Multiple Physiological Signals to Evaluate the Human Body's Response to an Environmental Challenge.	6882-6884
McKenzie, Jack* (Philips Respiration)	
SuA15: 08:30-10:00	Marquette IX
10.2.1 Wireless and Ubiquitous Medical Devices (Oral Session)	
Chair: Robert Istepanian, Kingston Univ. London	
Co-Chair: Julien Penders, Stichting IMEC Nederland	
08:30-08:45	SuA15.1
Understanding Energy Consumption of Sensor Enabled Applications on Mobile Phones	6885-6888
Crk, Igor* (University of Arizona); Albinali, Fahd (MIT); Hartman, John (University of Arizona); Gniady, Chris (University of Arizona)	
08:45-09:00	SuA15.2
Predicting Cardiovascular Disease from Real-Time Electrocardiographic Monitoring: An Adaptive Machine Learning Approach on a Cell Phone	6889-6892
Jin, Zhanpeng (University of Pittsburgh); Sun, Yuwen (University of Pittsburgh); Cheng, Allen C.* (University of Pittsburgh)	
09:00-09:15	SuA15.3
Time Encoding and Reconstruction of Multichannel Data by Brain Implants Using Asynchronous Sigma Delta Modulators	6893-6896
Senay, Seda (University of Pittsburgh); Chaparro, Luis F. (University of Pittsburgh); Sclabassi, Robert (University of Pittsburgh); Sun, Mingui* (University of Pittsburgh)	

09:15-09:30	SuA15.4
Performance Evaluation of Wireless Communications through Capsule Endoscope	6897-6900
Takizawa, Kenichi* (NICT)	
09:30-09:45	SuA15.5
Episodic Sampling: Towards Energy-efficient Patient Monitoring with Wearable Sensors	6901-6905
Au, Lawrence* (University of California, Los Angeles); Batalin, Maxim (University of California, Los Angeles); Stathopoulos, Thanos (University of California, Los Angeles); Bui, Alex (University of California, Los Angeles); Kaiser, William (University of California, Los Angeles)	
09:45-10:00	SuA15.6
Analysis of a Multi-Access Scheme and Asynchronous Transmit-Only UWB for Wireless Body Area Networks	6906-6909
Ho, Chee Keong* (University of Newcastle, Australia); Yuce, Mehmet Rasit (University of Newcastle)	
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SuA16: 08:30-10:00	Grand Ballroom - Salon A
6.11.2 Prosthetic Control (Oral Session)	
Chair: Guanglin Li, Chinese Acad. of Sciences	
Co-Chair: Kathleen H. Sienko, Univ. of Michigan	
08:30-08:45	SuA16.1
Assessing the Effect of Vibrotactile Feedback During Continuous Multidirectional Platform Motion: A Frequency Domain Approach	6910-6913
Vichare, Vivek (University of Michigan); Wall, Conrad (Harvard Medical School); Balkwill, M. David (Massachusetts Eye & Ear Infirmary); Sienko, Kathleen H.* (University of Michigan)	
08:45-09:00	SuA16.2
EMG Pattern Recognition Control of Multifunctional Prostheses by Transradial Amputees	6914-6917
Li, Guanglin* (Chinese Academy of Sciences); Kuiken, Todd (Rehabilitation Institute of Chicago)	
09:00-09:15	SuA16.3
Development of a Portable Actuated Orthotic Glove to Facilitate Gross Extension of the Digits for Therapeutic Training after Stroke	6918-6921
Ochoa, Jose Mauricio* (Antioquia School of Engineering, CES Univ.); Kamper, Derek (Rehabilitation Institute of Chicago and Illinois Institute of Technology); Jia, Yicheng (Rehabilitation Institute of Chicago); Narasimhan, Dev (Northwestern University)	
09:15-09:30	SuA16.4
Prosthetic Hand Control Using Motion Discrimination from EMG Signals	6922-6925
Kurisu, Naoyuki* (Doshisha University); Tsujiuchi, Nobutaka (Doshisha University); Koizumi, Takayuki (Doshisha University)	
09:30-09:45	SuA16.5
Promise of Embedded System with GPU in Artificial Leg Control: Enabling Time-Frequency Feature Extraction from Electromyography	6926-6929
Xiao, Weijun* (University of Rhode Island); Huang, He (University of Rhode Island); Sun, Yan (University of Rhode Island); Yang, Qing (University of Rhode Island)	
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SuB01: 10:20-11:50	Conrad B
1.6.1 Biomedical Adaptive Filtering I (Oral Session)	
Chair: Issa Panahi, Univ. of Texas at Dallas	
Co-Chair: Massimo Mischi, Eindhoven Univ. of Tech.	
10:20-10:35	SuB01.1
Impedance Cardiography Filtering Using Scale Fourier Linear Combiner Based on RLS Algorithm	6930-6933
Dromer, Olivier* (University of Poitiers); ALATA, Olivier (Lab. XLIM-SIC, UMR CNRS 6172, University of Poitiers); BERNARD, Olivier (University of Poitiers)	

10:35-10:50	Electrohysterographic Conduction Velocity Estimation	SuB01.2 6934-6937
	<i>Mischi, Massimo* (Eindhoven University of Technology); Rabotti, Chiara (Eindhoven University of Technology); Vosters, Luc (Eindhoven University of Technology); Oei, S. Guid (Maxima Medisch Centrum, Veldhoven); Bergmans, Johannes Wilhelmus Maria (Eindhoven University of Technology)</i>	
10:50-11:05	A Simple Filter Circuit for Denoising Biomechanical Impact Signals	SuB01.3 6938-6941
	<i>SUBRAMANIAM, SUBA* (KING'S COLLEGE LONDON); GEORGAKIS, APOSTOLOS (KING'S COLLEGE LONDON)</i>	
11:05-11:20	A Pulse Simulator for Crystal Identification Validation of Phoswich Detectors Used in Positron Emission Tomography	SuB01.4 6942-6945
	<i>YOUSEFZADEH, HOORVASH CAMILIA* (Université de Sherbrooke); Lecomte, Roger (Université de Sherbrooke); Fontaine, Réjean (Université de Sherbrooke)</i>	
11:20-11:35	A Multichannel Speech Enhancement Method for Functional MRI Systems Using a Distributed Microphone Array	SuB01.5 6946-6949
	<i>Milani, Ali* (University of Texas at Dallas); Kannan, Govind (The University of Texas at Dallas); Panahi, Issa (University of Texas at Dallas); Briggs, Richard (UT Southwestern Medical Center at Dallas)</i>	
11:35-11:50	Real Time Speech Enhancement System for Noisy MRI Environment	SuB01.6 6950-6953
	<i>Pathak, Nishank* (UT Dallas); Devineni, Naga Parameswara Rao (University of Texas at Dallas); Panahi, Issa (University of Texas at Dallas); Briggs, Richard (UT Southwestern Medical Center at Dallas)</i>	
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SuB02: 10:20-11:50	1.9.2 Computational Genomics and Proteomics (Oral Session)	Conrad C
	Chair: Konstantina Nikita, National Tech. Univ. of Athens	
10:20-10:35	Network Topological Reordering Revealing Systemic Patterns in Yeast Protein Interaction Networks	SuB02.1 6954-6957
	<i>Wu, Xiaogang (Indiana University); Pandey, Ragini (Indiana University); Chen, Jake* (Indiana University)</i>	
10:35-10:50	Supporting Genotype-To-Phenotype Association Studies with Grid-Enabled Knowledge Discovery Workflows	SuB02.2 6958-6962
	<i>Koumakis, Lefteris (Foundation for Research and Technology Hellas); MOUSTAKIS, VASSILIS (Technical University of Crete); Tsiknakis, Manolis (ICS-FORTH); Kafetzopoulos, Dimitris (FORTH); Potamias, George* (Foundation for Research and Technology - Hellas)</i>	
10:50-11:05	Identification of Markers of Cardiovascular Disease in Women and the Reconstruction of Its Corresponding Protein Interaction Network	SuB02.3 6963-6968
	<i>Camargo, Anyela* (University of East Anglia)</i>	
11:05-11:20	Imaging Mass Spectrometry Analysis for Follicular Lymphoma Grading	SuB02.4 6969-6972
	<i>Samsi, Siddharth* (Ohio Supercomputer Center); Krishnamurthy, Ashok (Ohio Supercomputer Center); Groseclose, Mark (Vanderbilt University); Caprioli, Richard (Vanderbilt University); Lozanski, Gerard (The Ohio State University, Medical Center); Gurcan, Metin (The Ohio State University)</i>	
11:20-11:35	Application of Signal Processing Techniques for Estimating Regions of Copy Number Variations in Human Meningioma DNA	SuB02.5 6973-6976
	<i>Stamoulis, Catherine* (Harvard Medical School); Betensky, Rebecca (Harvard School of Public Health); Mohapatra, Gayatri (Massachusetts General Hospital, Harvard Medical School); Louis, David (Massachusetts General Hospital, Harvard Medical School)</i>	

SuB03: 10:20-11:50	Grand Ballroom - Salon B
2.8.1 Image Visualization and Volume Rendering (Oral Session)	
Chair: Anthony Reeves, Cornell Univ.	

10:20-10:35	SuB03.1
New Blockwise Permutation Tests Preserving Exchangeability in Functional Neuroimaging 6977-6980	
Zhou, Chunxiao (University of Illinois at Urbana-Champaign); Wang, Yongmei Michelle* (University of Illinois at Urbana-Champaign)	
10:35-10:50	SuB03.2
An Integrated Multimodality MR Brain Imaging Study: Gray Matter Tissue Loss Mediates the Association between Cerebral Hypoperfusion and Alzheimer's Disease 6981-6984	
Tosun, Duygu* (Center for Imaging Neurodegenerative Diseases)	
10:50-11:05	SuB03.3
Visualization and Segmentation of Liver Tumors Using Dynamic Contrast MRI 6985-6989	
Raj, Ashish* (Weill Medical College of Cornell University)	
11:05-11:20	SuB03.4
Local and Global Panoramic Imaging for Fluorescence Bladder Endoscopy 6990-6993	
Behrens, Alexander* (RWTH Aachen University); Stehle, Thomas (RWTH Aachen University); Gross, Sebastian (RWTH Aachen University); Aach, Til (RWTH Aachen University)	
11:20-11:35	SuB03.5
Automated 3-D Tracking of Centrosomes in Sequences of Confocal Image Stacks 6994-6997	
Kerekes, Ryan* (Oak Ridge National Laboratory); Gleason, Shaun S. (Oak Ridge National Laboratory); Trivedi, Niraj (St. Jude Children's Research Hospital); Solecki, David (St. Jude Children's Research Hospital)	

SuB05: 10:20-11:50	Marquette V
1.2.5 Biomedical Modelling and Simulation I (Oral Session)	
Chair: Junichi Hori, Niigata Univ. Co-Chair: Jie Zhang, Medical School, Univ. of Minnesota	

10:20-10:35	SuB05.1
Spike Library Based Simulator for Extracellular Single Unit Neuronal Signals 6998-7001	
Thorbergsson, Palmi Thor* (Lund University); Jorntell, Henrik (Experimental Medical Science); Bengtsson, Fredrik (Experimental Medical Science); Garwicz, Martin (Lund University); Schouenborg, Jens (Lund University); Johansson, Anders (Lund University)	
10:35-10:50	SuB05.2
A Statistical Model for Multiphoton Calcium Imaging of the Brain 7002-7005	
Malik, Wasim Q.* (Massachusetts Institute of Technology); Schummers, James (Massachusetts Institute of Technology); Sur, Mriganka (MIT); Brown, Emery N (MGH-Harvard Medical School-MIT)	
10:50-11:05	SuB05.3
Medial-Lateral Postural Control in Older Adults Exhibits Increased Stiffness and Damping 7006-7009	
Cenciarini, Massimo* (University of Pittsburgh); Loughlin, Patrick (University of Pittsburgh); Sparto, Patrick (University of Pittsburgh); Redfern, Mark (University of Pittsburgh)	
11:05-11:20	SuB05.4
Using a Bi-Planar Postural Stability Model to Assess Children with Scoliosis 7010-7013	
Riedel, Susan* (Marquette University); Bustamante Valles, Karla (Marquette University); Harris, Gerald (Marquette University); Long, Jason (Medical College of Wisconsin); Graf, Adam (Shriners Hospital for Children); Krzak, Joe (Shriners Hospital of Chicago); Sturm, Peter (Shriners Hospitals for Children); Hassani, Sahar (Shriners Hospital of Chicago)	
11:20-11:35	SuB05.5
Dynamic Gesture Recognition Based on Multiple Sensors Fusion Technology 7014-7017	
Wang, Wenhui* (University of Science and Technology of China); Chen, Xiang (University of Science & Technology of China); Wang, Kong-qiao (Nokia); Zhang, Xu (University of Science & Technology of China); Yang, Jihai (University of Science and Technology of China)	

11:35-11:50	SuB05.6
Exploration on the Feasibility of Building Muscle-Computer Interfaces Using Neck and Shoulder Motions	7018-7021
Zhang, Xu* (University of Science & Technology of China); Chen, Xiang (University of Science & Technology of China); Lantz, Vuokko (Nokia); Yang, Jihai (University of Science and Technology of China); Wang, Kong-qiao (Nokia)	

SuB06: 10:20-11:50	Conrad A
3.9.2 Microfluidics Methods, Systems and Microtechnology (Oral Session)	
Chair: Ali Khademhosseini, Harvard-MIT Co-Chair: Shuichi Takayama, Univ. of Michigan	

10:20-10:35	SuB06.1
Polyimide-Based Multi-Channel Arrayed Electrode for Measuring EEG Signal on the Skull of Mouse	7022-7025
Baek, Dong-Hyun (Korea University); Lee, Eun-Joong (College of Health Science, Korea University.); Moon, Jin-hee (Seoul National University); Choi, Jee Hyun (Korea Institute of Science and Technology, University of Science and Technology); Pak, James Jungho (Korea University); Lee, Sang hun* (College of Medicine Korea University)	

10:35-10:50	SuB06.2
Hollow Polymer Microneedle Array Fabricated by Photolithography Process Combined with Micromolding Technique	7026-7029
Wang, Po-Chun* (Georgia Tech); Allen, Mark (Georgia Institute of Technology)	

10:50-11:05	SuB06.3
A Passive Microfluidic Device for Plasma Extraction from Whole Human Blood	7030-7033
Sollier, Elodie* (CEA Leti Minatec); Cubizolles, Myriam (CEA Leti Minatec); Faivre, Magalie (CEA Leti Minatec); Fouillet, Yves (CEA Leti Minatec); Achard, Jean-Luc (Laboratoire des Ecoulements Géophysiques et industriels)	

11:05-11:20	SuB06.4
Improving Alternate Flow Mixing by Obstacles Located Along a Micro-Channel	7034-7036
Miranda, Joao Mario (University of Minho); Teixeira, Jose (University of Minho); Vicente, Antonio (University of Minho); Correia, Higino (University of Minho); Minas, Graca* (University of Minho)	

11:20-11:35	SuB06.5
Microfluidic Encapsulation of Cells in Alginate Capsules for High Throughput Screening	7037-7040
Trivedi, Varun (Wayne State University); Ereifej, Evon (Wayne State University); Doshi, Ankur (Wayne State University); Sehgal, Priyanka (Wayne State University); VandeVord, Pamela (Wayne State University); Basu, Amar* (Wayne State University)	

SuB07: 10:20-11:50	Marquette VII
11.1.1 Technology Development, Assessment and Management (Oral Session)	
Chair: Mark Kroll, Univ. of Minnesota	

10:20-10:35	SuB07.1
Is BIS Monitoring Cost-Effective?	7041-7044
Abenstein, John Peter* (Mayo Clinic College of Medicine)	

10:35-10:50	SuB07.2
A Protocol Design for Evaluation of Wearable Cuff-Less Blood Pressure Measuring Devices	7045-7047
Yan, Renfei* (The Chinese University of Hong Kong); Poon, Carmen CY (The Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong)	

10:50-11:05	SuB07.3
Medical Devices for Developing Countries: Design Constraints and Approaches	7048-7051
Nimunkar, Amit* (University of Wisconsin-Madison); Baran, Jonathan (University of Wisconsin-Madison); Webster, John (University of Wisconsin Madison)	

11:05-11:20	SuB07.4
Cells to Society: Lactate and Neuromuscular Incapacitation Devices	7052-7056
Marino, Bruno* (Axonix Technologies); Stethem, Kenneth (Aegis Industries)	

11:20-11:35	Proving Experience Speeds Medical Device Time to Market	SuB07.5
	<i>Lucke, Lori* (Minnetronix Inc); Mickelson, Anne (Minnetronix, Inc.); Anderson, Dave (Minnetronix)</i>	7057-7060
11:35-11:50	Security of the Food Supply Chain	SuB07.6
	<i>Setola, Roberto* (Univ. CAMPUS Bio-Medico); De Maggio, Maria Carla (University Campus Bio-Medico of Rome)</i>	7061-7064
SuB08: 10:20-11:50	4.6.1 Biological and Medical Data Management, Ontology, Mining, and Visualization (Oral Session)	Marquette VIII
	Chair: Gregory A. Worrell, Mayo Clinic	
10:20-10:35	Computing Human Image Annotation	SuB08.1
	<i>Channin, David Samuel* (Northwestern University); Mongkolwat, Pattanasak (Northwestern University); Kleper, Vladimir (Northwestern University); Rubin, Daniel (Stanford University)</i>	7065-7068
10:35-10:50	Entity/Quality-Based Logical Definitions for the Human Skeletal Phenome Using PATO	SuB08.2
	<i>Robinson, Peter* (Charité - Universitätsmedizin Berlin)</i>	7069-7072
10:50-11:05	Exploitation of Ontological Resources for Scientific Literature Analysis: Searching Genes and Related Diseases	SuB08.3
	<i>Jimeno-Yepes, Antonio Jose (European Bioinformatics Institute); Berlanga-Llavori, Rafael (Universitat Jaume I, Spain); Rebholz-Schuhmann, Dietrich* (European Bioinformatics Institute)</i>	7073-7078
11:05-11:20	Search of Phenotype-Related Candidate Genes Using Gene Ontology-Based Semantic Similarity and Protein Interaction Information: Application to Brugada Syndrome	SuB08.4
	<i>Massanet Vila, Raimon* (Universitat Politècnica de Catalunya); Gallardo-Chacón, Joan-Josep (CIBER Bioengineering, Biomaterials, and Nanomedicin); Caminal, Pere (Technical University of Catalonia (UPC)); Perera, Alexandre (Universitat Poltècnica de Catalunya)</i>	7079-7082
11:20-11:35	Multiscale Electrophysiology Format: An Open-Source Electrophysiology Format Using Data Compression, Encryption, and Cyclic Redundancy Check	SuB08.5
	<i>Brinkmann, Benjamin* (Mayo Foundation); Bower, Mark (Mayo Clinic); Worrell, Gregory A. (Mayo Clinic); Stead, Matt (Mayo Clinic)</i>	7083-7086
11:35-11:50	Transcription Factor Binding Site Detection through Position Cross-Mutual Information Variability Analysis	SuB08.6
	<i>Joan, Maynou Fernàndez* (Universitat Politècnica de Catalunya); Vallverdu, Montserrat (Technical University of Catalonia); Claria, Francesc (Lleida University); Gallardo-Chacón, Joan-Josep (CIBER Bioengineering, Biomaterials, and Nanomedicin); Caminal, Pere (Technical University of Catalonia (UPC)); Perera, Alexandre (Universitat Poltècnica de Catalunya)</i>	7087-7090
SuB09: 10:20-11:50	5.10.1 Sleep Apnea (Oral Session)	Marquette II
	Chair: Thomas Penzel, Charite Univ. Hospital	
	Co-Chair: W. G. Besio, Univ. of Rhode Island	
10:20-10:35	SleepMinder: An Innovative Contact-Free Device for the Estimation of the Apnoea-Hypopnoea Index.	SuB09.1
	<i>Zaffaroni, Alberto Antonio* (Biancamed Ltd); de Chazal, Philip (BiancaMed Ltd); Heneghan, Conor (BiancaMed); Mc Nicholas, Walter (St. Vincent's University Hospital); Boyle, Patricia (St Vincents Private Hospital); Ronayne, Patricia (St Vincent's Healthcare Group)</i>	7091-7094

10:35-10:50	SuB09.2
Development of an Apnea Detector for Neonates Using Diaphragmatic Surface Electromyography	7095-7098
Osorio, Juan Sebastián* (Antioquia School of Engineering, CES Univ.); Torres, Róbinson (Antioquia School of Engineering, CES University); Ochoa, Jose Mauricio (Antioquia School of Engineering, CES Univ.); McLeod, Christopher N (Imperial College London)	
10:50-11:05	SuB09.3
Revised Recommendations for Computer-Based Sleep Recording and Analysis	7099-7101
Penzel, Thomas* (Charite University Hospital)	
11:05-11:20	SuB09.4
Automatic differentiation of obstructive and central hypopneas with esophageal pressure measurement during sleep	7102-7105
Morgenstern, Christian* (Institut de Bioenginyeria de Catalunya); Schwaibold, Matthias (MCC-Med GmbH & Co KG); Randerath, Winfried (Klinikum Bethanien); Bolz, Armin (University of Karlsruhe); Jané, Raimon (Universitat Politècnica de Catalunya)	
11:20-11:35	SuB09.5
Sleep Disordered Breathing Detection Using Heart Rate Variability and R-Peak Envelope Spectrogram	7106-7109
Al-Abed, Mohammad* (University of Texas at Arlington); Manry, Michael (The University of Texas at Arlington); Burk, John R. (Sleep Consultants Inc.); Lucas, Edgar A (Sleep Consultants Inc.); Behbehani, Khosrow (University of Texas at Arlington)	
11:35-11:50	SuB09.6
Acoustic Obstructive Sleep Apnea Detection	7110-7113
Yadollahi, Azadeh* (University of Manitoba); Moussavi, Zahra (University of Manitoba)	
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SuB10: 10:20-11:50	Grand Ballroom - Salon C
6.10.1 Robotics in Rehabilitation I (Oral Session)	
Chair: James Patton, Rehab Inst. of Chicago & U. of Illinois at Chicago	
Co-Chair: Jaydev Desai, Univ. of Maryland	
10:20-10:35	SuB10.1
Robust Multivariable Strategy and Its Application to a Powered Wheelchair	7114-7117
Nguyen, Tuan Nghia* (University of Technology, Sydney); Nguyen, Hung T. (University of Technology, Sydney); Su, Steven Weidong (University of Technology, Sydney)	
10:35-10:50	SuB10.2
Adaptive Shared Control Strategies Based in the Bayesian Recursive Technique in an Intelligent Wheelchair	7118-7121
Trieu, Tuyen Hoang* (University of Technology, Sydney); Nguyen, Hung T. (University of Technology, Sydney); Willey, Keith (University of Technology, Sydney)	
10:50-11:05	SuB10.3
Development of Hand Rehabilitation System for Paralysis Patients - Universal Design Using Wire-Driven Mechanism -	7122-7125
Yamaura, Hiroshi* (The University of Tokyo); Matsushita, Kojiro (The University of Tokyo); Kato, Ryu (The University of Tokyo); Yokoi, Hiroshi (University of Tokyo)	
11:05-11:20	SuB10.4
Patient-Specific Walking Pattern Simulation in a Gait Trajectory Guiding Device	7126-7130
Hasan, Muhammad Kamrul* (Kyung Hee University, South Korea); Park, Jang Ho (Kyunghee University); Park, Seung-Hun (Kyung Hee University); HWANG, SUN HEE (Kyung Hee University); Khang, Gon (Kyung Hee University)	
11:20-11:35	SuB10.5
Treadmill Motor Current Value Based Walk Phase Estimation	7131-7134
Ohki, Eiichi (Waseda University); Nakashima, YASUTAKA (Waseda University); Ando, Takeshi* (Waseda University); Fujie, Masakatsu G. (Waseda University)	

11:35-11:50	SuB10.6
Design and Development of an Upper Extremity Motion Capture System for a Rehabilitation Robot	7135-7138
Nanda, Pooja* (Rochester Institute of Technology); Smith, Alan (Rochester Institute of Technology); Gebregiorgis, Adey (Rochester Institute of Technology); Brown, Edward (Rochester Institute of Technology)	

SuB11: 10:20-11:50	Marquette I
6.14.1 Tissue/Electrode Interface (Oral Session)	
Chair: Hubert Lim, Univ. of Minnesota	
Co-Chair: Jack Judy, UCLA	

10:20-10:35	SuB11.1
Effects of adsorbed proteins, an antifouling agent and long-duration DC voltage pulses on the impedance of silicon-based neural microelectrodes	7139-7142
Sommakia, Salah* (Purdue University); Rickus, Jenna (Purdue University); Otto, Kevin (Purdue University)	

10:35-10:50	SuB11.2
In Vitro and in Vivo Electrochemical Characterization of a Microfabricated Neural Probe	7143-7146
Musa, Silke* (IMEC); Welkenhuysen, Marleen (IMEC); Prodanov, Dimiter (IMEC); Eberle, Wolfgang (IMEC); Bartic, Carmen (IMEC); Nuttin, Bart (KU Leuven); Borghs, Gustaaf (IMEC)	

10:50-11:05	SuB11.3
Penetrating Microelectrode Arrays with Low-Impedance Sputtered Iridium Oxide Electrode Coatings	7147-7150
Cogan, Stuart* (EIC Laboratories, Inc.); Ehrlich, Julia (EIC Laboratories); Plante, Timothy D. (EIC Laboratories); Van Wagenen, Rick (Blackrock Microsystems)	

11:05-11:20	SuB11.4
Adhesion Molecules Promote Chronic Neural Interfaces Following Neurotrophin Withdrawal	7151-7154
Winter, Jessica* (the Ohio State University); Han, Ning (the Ohio State University); Jensen, Ralph (Boston VA Healthcare System); Cogan, Stuart (EIC Laboratories, Inc.); Rizzo, Joseph F. (Boston VA Healthcare System)	

11:20-11:35	SuB11.5
An in Vitro System for Modeling Brain Reactive Responses and Changes in Neuroprosthetic Device Impedance	7155-7158
Frampton, John* (SUNY at Albany); Hynd, Matthew (New York State Department of Health); Vargun, Aytekin (Rensselaer Polytechnic Institute); Roysam, Badrinath (Rensselaer Polytechnic Institute); Shain, William (New York State Department of Health)	

SuB12: 10:20-11:50	Marquette VI
8.8.2 Biomechanical Modeling and Simulation I (Oral Session)	
Chair: Victor Barocas, Univ. of Minnesota	
Co-Chair: Yo Kobayashi, Waseda Univ.	

10:20-10:35	SuB12.1
Longitudinal Strain Estimation in Incompressible Cylindrical Tissues from Magnetic Resonance Imaging	7159-7163
Wei, Qi* (Rutgers University); Pai, Dinesh K. (UBC)	

10:35-10:50	SuB12.2
Upper Extremity Biomechanical Model of Crutch-Assisted Gait in Children	7164-7167
Bhagchandani, Neha* (Marquette University); Slavens, Brooke (Marquette University); Wang, Mei (Medical College of Wisconsin); Harris, Gerald (Marquette University)	

10:50-11:05	SuB12.3
A Morphological Approach to the Simulation of Forearm Motion	7168-7171
Fuerstahl, Philipp* (ETH Zurich); Schweizer, Andreas (Balgrist University Hospital); Nagy, Ladislav (Balgrist University Hospital); Szekely, Gabor (ETH Zurich); Harders, Matthias (Swiss Federal Institute of Technology (ETH))	

11:05-11:20	SuB12.4
The Effect of Modern Total Knee Arthroplasty on Muscle Balance at the Knee	7172-7175
Buford, William L* (The Univ of Texas Medical Branch); Ivey, F. Marty (University of Texas Medical Branch); Loveland, Dustin M. (Univ. of Texas Medical Branch); Flowers, Christopher W. (University of Texas Medical Branch)	

11:20-11:35	SuB12.5
Development of a Kinematic 3D Carpal Model to Analyze in Vivo Soft-Tissue Interaction across Multiple Static Postures	7176-7179
<i>Marai, Georgeta Elisabeta* (University of Pittsburgh); Crisco, Joseph (Brown University); Laidlaw, David (Brown University)</i>	
11:35-11:50	SuB12.6
Dynamic AFM Elastography Reveals Phase Dependent Mechanical Heterogeneity of Beating Cardiac Myocytes	7180-7183
<i>Costa, Kevin D.* (Mount Sinai School of Medicine); Azeloglu, Evren U. (Mount Sinai School of Medicine)</i>	
 SuB13: 10:20-11:50	 Conrad D
8.2.1 BioMimetic Robotics I (Oral Session)	
Chair: Cecilia Laschi, Scuola Superiore Sant'Anna	
10:20-10:35	SuB13.1
Investigations of Mammalian Echolocation	7184-7187
<i>Edwards, David Steven* (University of Southampton); Allen, Robert (University of Southampton); Papadopoulos, Timos (University of Southampton); Rowan, Daniel (University of Southampton); Kim, Su Yeon (University of Southampton); Wilmot-Brown, LaToya (University of Southampton)</i>	
10:35-10:50	SuB13.2
Behavioral Match Evaluation of Spatial Cognition in Rats and Robots	7188-7191
<i>Barrera, Alejandra* (Mexico's Autonomous Institute of Technology); Weitzenfeld, Alfredo (ITAM)</i>	
10:50-11:05	SuB13.3
Design and Development of Biomimetic Quadruped Robot for Behavior Studies of Rats and Mice	7192-7195
<i>Ishii, Hiroyuki* (Waseda University); Yuichi, Masuda (Waseda University); Miyagishima, Syunsuke (Faculty of Science and Engineering); Fumino, Shogo (Faculty of Science and Engineering); Takanishi, Atsuo (Waseda University); Laschi, Cecilia (Scuola Superiore Sant'Anna); Mazzolai, Barbara (Scuola Superiore Sant'Anna); Mattoli, Virgilio (Scuola Superiore Sant'Anna); Dario, Paolo (Scuola Superiore Sant'Anna)</i>	
11:05-11:20	SuB13.4
Tools and Methods for Experimental In-Vivo Measurement and Biomechanical Characterization of an Octopus vulgaris Arm	7196-7199
<i>Margheri, Laura (Scuola Superiore Sant'Anna); Mazzolai, Barbara (Scuola Superiore Sant'Anna); Cianchetti, Matteo (Scuola Superiore Sant'Anna); Dario, Paolo (Scuola Superiore Sant'Anna); Laschi, Cecilia* (Scuola Superiore Sant'Anna)</i>	
11:20-11:35	SuB13.5
A Multi-Level Robotic Architecture for Biologically-Inspired Modeling	7200-7203
<i>Weitzenfeld, Alfredo* (ITAM); Barrera, Alejandra (Mexico's Autonomous Institute of Technology)</i>	
11:35-11:50	SuB13.6
Functional Contrast and Kinetic Analysis of Water-Dispersible Carbon Black Nanoparticles and MWNTs in Glucose Biosensors	7204-7207
<i>yang, hao (Zhejiang University); Yang, Xiaohe (Zhejiang University); Pan, Min (Zhejiang University); Chen, Yuquan* (Zhejiang University)</i>	
 SuB14: 10:20-11:50	 Marquette III
9.6.1 Safety and Medical Device Design (Oral Session)	
Chair: Dustin Tyler, Case Western Res. Univ.	
Co-Chair: Babak Ziaie, Purdue Univ.	
10:20-10:35	SuB14.1
Safety Design for Medical Robots	7208-7211
<i>Kazanzides, Peter* (Johns Hopkins University)</i>	
10:35-10:50	SuB14.2
Twenty Year Experience with Implanted Neuroprostheses	7212-7215
<i>Kilgore, Kevin* (MetroHealth Medical Center); Peckham, Hunter (Case Western Reserve University); Keith, Michael (MetroHealth Medical Center)</i>	

10:50-11:05	SuB14.3
An Investigation of Tissue-Temperature Elevation Caused by Transcutaneous Recharging of Neuromodulation Devices	7216-7219
Abraham, John* (University of St. Thomas)	
11:05-11:20	SuB14.4
Safety Measures Implemented for Modular Functioning Electrical Stimulators	7220-7223
Chen, Chiun-fan (National Taiwan University); Chen, Shih-Wei (National Taiwan Univ.); Lin, Yin-Tsong (National Taiwan University); Lai, Jin-Shin* (National Taiwan University Hospital); Kuo, Te-son (National Taiwan University)	
11:20-11:35	SuB14.5
Basic Study of Brain Injury Mechanism Caused by Cavitation	7224-7227
Kurosawa, Yusuke* (Meiji University); Kato, Kazuo (Meiji University); Saito, Satoshi (Meiji University)	
SuB15: 10:20-11:50	Marquette IX
10.4.1 Technologies for Chronic Disease Management and Assisted Living (Oral Session)	
Chair: Michael Pavel, Oregon Health and Science Univ.	
Co-Chair: Constantinos Pattichis, Univ. of Cyprus	
10:20-10:35	SuB15.1
Diabetes Management in OLDES Project	7228-7231
Novak, Daniel* (Czech Technical University in Prague); Uller, Miroslav (Czech Technical University in Prague); Rousseaux, Sébastien (CETIC); Mraz, Milos (Charles University); Smrz, Jan (University); Stepankova, Olga (CTU in Prague); Haluzik, Martin (Charles University); Massimo, Busuoli (ENEA - Italian National Agency for New Technologies, the Energy and the Environment)	
10:35-10:50	SuB15.2
Activity Density Map Dis-Similarity Comparison for Eldercare Monitoring	7232-7235
Wang, Shuang* (University of Missouri - Columbia); Skubic, Marjorie (University of Missouri); Zhu, Yingnan (University of Missouri - Columbia)	
10:50-11:05	SuB15.3
Automated Estimation of Elder Activity Levels from Anonymized Video Data	7236-7239
Harvey, Nicholas* (University of Missouri-Columbia); Zhou, Zhongna (University of Missouri-Columbia); Keller, James M (University of Missouri); Rantz, Marilyn (University of Missouri); He, Zhihai (University of Missouri)	
11:05-11:20	SuB15.4
SoundView: An Auditory Guidance System Based on Environment Understanding for the Visually Impaired People	7240-7243
Nie, Min (Shanghai Jiao Tong University); Ren, Jie (Shanghai Jiao Tong University); Li, Zhengjun (Shanghai Jiao Tong University); Niu, Jinhai (Shanghai Jiao Tong University); Qiu, Yihong (Shanghai Jiao Tong University); Zhu, Yisheng (Shanghai Jiaotong University); Tong, Shanbao* (Shanghai Jiao Tong University)	
11:20-11:35	SuB15.5
Adaptive Notification Framework for Smart Nursing Home	7244-7247
Betgé-Brezetz, Stéphane* (Alcatel-Lucent Bell Labs); Dupont, Marie-Pascale (Alcatel-Lucent Bell Labs); Ghorbel, Mahmoud (Alcatel-Lucent Bell Labs); Kamga, Guy-Bertrand (Alcatel-Lucent Bell Labs); Piekarec, Sophie (Alcatel-Lucent Bell Labs)	
11:35-11:50	SuB15.6
Unobtrusive Assessment of Walking Speed in the Home Using Inexpensive PIR Sensors	7248-7251
Hayes, Tamara* (Oregon Health and Science University); Hagler, Stuart (Oregon Health and Science University); Austin, Daniel (University of Southern California); Kaye, Jeffrey A. (Oregon Health and Science University); Pavel, Michael (Oregon Health and Science University)	

SuB16: 10:20-11:50	Grand Ballroom - Salon A
6.11.3 Rehabilitation I (Oral Session)	
Chair: William Durfee, <i>Univ. of Minnesota</i>	
Co-Chair: Mehdi Mirbagheri, <i>Northwestern Univ.</i>	

10:20-10:35	SuB16.1
Prediction of Reflex Recovery after Stroke Using Quantitative Assessments of Motor Impairment at 1 Month	7252-7255
Mirbagheri, Mehdi* (Northwestern University/RIC); Rymer, William Zev (Northwest. & Rehab Inst of Chicago)	
10:35-10:50	SuB16.2
A Wireless Gait Analysis System by Digital Textile Sensors	7256-7260
Yang, Chang-Ming* (Ming Yang Biomedical Corp.); Hu, Jwu-Sheng (National Chiao Tung University)	
10:50-11:05	SuB16.3
Head-Movements Produced During Linear Translations in Unexpected Directions	7261-7264
Brown, Eric (University of Rochester); Luan, Hongge (University of Rochester); Gdowski, Martha Johnson (University of Rochester); Gdowski, Greg* (University of Rochester)	
11:05-11:20	SuB16.4
Regulation of Feed-Forward and Feedback Strategies at the Human Ankle During Balance Control	7265-7268
Finley, James* (Northwestern University); Dhaher, Yasin (Northwestern University); Perreault, Eric (Northwestern University)	
11:20-11:35	SuB16.5
Evaluation of a Single Accelerometer Based Biofeedback System for Real-Time Correction of Neck Posture in Computer Users	7269-7272
Breen, Paul* (National University of Ireland Galway); Nisar, Aamer (Health Services Executive); OLaighin, Gearoid (National University of Ireland Galway)	
11:35-11:50	SuB16.6
Development of a Cart for Independent Mobility Assistance for Non-Ambulatory Children	7273-7276
Kakimoto, Akira* (Polytechnic university); Suzuki, Shigenobu (Polytechnic Univesity); Sekiguchi, Yukio (Precise Measurement Techinique Promoting Foundation)	