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PROGRAM IN CHRONOLOGICAL ORDER

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Sharif Univ. of Tech.

Shamsollahi, Mohammad Bagher

Sharif Univ. of Tech.

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Rocon de Lima, Eduardo

Inst. de Automática Industrial

Pons, Jose Luis

Inst. de Automática Industrial- Consejo Superior de Investigacio

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Univ. of Delaware, USA

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Univ. of Delaware, USA

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Lab. TIMC Univ. Joseph Fourier

Meignen, Sylvain

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Heyer, Laurent

Hôpital Lariboisière

Lavault, Yves

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Gottfried, Stewart

MCGill Univ. health centre

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Portland State Univ.

Goldstein, Brahm

Oregon Health & Science Univ.

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New Jersey Inst. of Tech.

Alvarez, Tara

New Jersey Inst. of Tech.

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New Jersey Inst. of Tech.

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Univ. of Minnesota

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	Pei, Yaling	SUNY Downstate
	Graber, Harry	SUNY Downstate
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	Chang, Chen	Acad. Sinica
	Chen, Jyh-Cheng	National Yang-Ming Univ.
	Jaw, Fu-Shan	National Taiwan Univ.

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MIT

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Univ. of Padova

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Univ. of Cambridge

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Univ. of Virginia

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Univ. of Tokyo

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Univ. of Tokyo

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Cantor-Jolson

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Organizer: Frisch, Paul

Memorial Sloan-Kettering Cancer Center

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Memorial Sloan Kettering Cancer Center

Frisch, Paul

Memorial Sloan-Kettering Cancer Center

Booth, Paul

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Memorial Sloan Kettering Cancer Center

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Memorial Sloan Kettering Cancer Center

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Memorial Sloan Kettering Cancer Center

Lui, Wei

Memorial Sloan Kettering Cancer Center

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Emergin, Inc.

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Frisch, Paul

Memorial Sloan-Kettering Cancer Center

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Memorial Sloan Kettering Cancer Center

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Memorial Sloan Kettering Cancer Center

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Laramée, Craig

Binghamton Univ.

Lesperance, Leann

Binghamton Univ.

Gause, Donald C.

Thomas J. Watson School of Engineering, Binghamton Univ. SUNY Binghamton

McLeod, Kenneth

State Univ. of New York

WeC09

Gramercy-Olmstead

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Fujimoto, James

Massachusetts Inst. of Tech.

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Boppart, Stephen

Univ. of Illinois at Urbana-Champaign

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Harvard Medical School and Massachusetts General Hospital

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Netz, Uwe J. Charité - Univ. Berlin
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Centre O. Lambret, Univ. Lille 2
Inst. de Tech. Médicale
Univ. de Lille
CRLCC O. Lambret
CRLCC Centre Oscar Lambret
INSERM - Univ. de Lille 2

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Columbia Univ.
Columbia Univ.

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Friedrich Schiller Univ.

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LEVI, Francis

INSERM and Univ. Paris Sud

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Univ. of Virginia

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Inst. National de Recherche en Informatique et en

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Chelsea-Gotham

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Northwestern Univ.

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Northwestern Univ.
Northwestern Univ.
Northwestern Univ.

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Northwestern Univ.
Northwestern Univ.

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Catholic Univ. of America
Catholic Univ. of America

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Univ. of twente
Univ. of twente
Univ. of twente

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ETH Zurich
ETH Zurich
ETH Zurich
Swiss Federal Inst. of Tech.

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O'Neill

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Sunagawa, Kenji

National Cardio. Center Res. Inst.
National Cardiovascular Center Res. Inst.
National Cardiovascular Center Res. Inst.
National Cardiovascular Center Res. Inst.
Natl Cardio Center Res. Inst.
Kyushu Univ.

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Rice Univ.
UT Medical Branch
Univ. of Texas Medical Branch
Rice Univ.

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Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.

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The Univ. of Tokyo
the Univ. of Tokyo
the Univ. of Tokyo

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Michigan State Univ.
Michigan State Univ.

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Castel Res. Inc.
Laval Univ.

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Advanced Concepts Analysis, Inc.

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Univ. of Chieti-Pescara, Fondazione "Univ. G. D'Annunzio",
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Univ. of Houston
Univ. of Houston

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National Inst. of Health - NICHD
National Inst. of Health - NICHD
National Inst. of Health - NICHD
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National Inst. of Health - NICHD
Univ. of Maryland
Lawrence Livermore National Lab.
National Inst. of Health - NCI
National Inst. of Health - NCI
National Inst. of Health - NCI
National Inst. of Health - NICHD

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Wiecek, Boguslaw

Tech. Univ. of Lodz

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Tech. Univ. of Lodz

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Nottingham Trent Univ.
Nottingham Trent Univ.
Univ. of Derby
Univ. of Glamorgan
Univ. of Glamorgan

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Strydom, Marie Luise Univ. of British Columbia

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Feng, Huanqing Univ. of Science and Tech. of China

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15:00-15:15

Identification of Time-Varying Intrinsic and Reflex Joint Stiffness, pp. 288-291
Giesbrecht, Heidi Irene McGill Univ.
Baker, Mackenzie McGill Univ.
Ludvig, Daniel McGill Univ.
Wagner, Ross McGill Univ.
Kearney, Robert Edward McGill Univ.

15:15-15:30

Real-Time Estimation of Intrinsic and Reflex Stiffness, pp. 292-295
Ludvig, Daniel McGill Univ.
Kearney, Robert Edward McGill Univ.

15:30-15:45

Decomposition of a Parallel Cascade Model of Ankle Stiffness Using Subspace Methods, pp. 296-299
Zhao, Yong McGill Univ.
Kearney, Robert Edward McGill Univ.

15:45-16:00

Regulation of Multijoint Stretch Reflexes During Interactions with Stiff and Compliant Environments, pp. 300-302
Perreault, Eric Northwestern Univ.
Chen, Kuifu China Agricultural Univ.
Lewis, Gwyn Rehabilitation Inst. of Chicago

16:00-16:15

Comparison of Neuromuscular Abnormalities between Upper and Lower Extremities in Hemiparetic Stroke, pp. 303-306
Mirbagheri, Mehdi Northwestern Univ.
Alibiglou, Laila RIC/UIC
Thajchayapong, M RIC/NU
Lilaonitkul, Thanan RIC/NU
Rymer, William Zev Northwestern & Rehab Inst. of Chicago

WeD04 Ziegfeld
Pharmacokinetics and Dynamics: Glucose-Insulin Modeling in Health and Diabetes (Oral Session)

14:45-15:00

Mixed Meal Simulation Model of Glucose-Insulin System, pp. 307-310

Dalla Man, Chiara Univ. of Padova
Rizza, Robert Mayo Clinic
Cobelli, Claudio Univ. of Padova

15:00-15:15

Computational Model of Glucose Homeostasis During Exercise, pp. 311-314

Kim, Jaeyeon Case Western Res. Univ.
Saidel, Gerald Case Western Res. Univ.
Kirwan, John Case Western Res. Univ.
Cabrera, Marco Case Western Res. Univ.

15:15-15:30

Bio-Behavioral Control, Glucose Variability, and Hypoglycemia-Associated Autonomic Failure in Type 1 Diabetes (T1DM), pp. 315-318

Breton, Marc D. Univ. of Virginia
Farhy, Leon S Univ. of virginia
Penberthy, Jennifer K Univ. of Virginia
Kovatchev, Boris P Univ. of Virginia

15:30-15:45

Robust Parameter Estimation in a Model for Glucose Kinetics in Type 1 Diabetes Subjects, pp. 319-322

Palerm, Cesar C. Univ. of California Santa Barbara
Rodriguez-Fernandez, Maria IIM-CSIC (Spanish Council for Scientific Res.
Bevier, Wendy Sansum Diabetes Res. Inst.
Zisser, Howard Sansum Diabetes Res. Inst.
Banga, Julio R. IIM-CSIC (Spanish Council for Scientific Res.
Jovanovic, Lois Sansum Diabetes Res. Inst.
Doyle, Francis Univ. of California Santa Barbara

15:45-16:00

Mixed Meal Modeling and Disturbance Rejection in Type I Diabetic Patients, pp. 323-326

Roy, Anirban Univ. of Pittsburgh
Parker, Robert Univ. of Pittsburgh

WeD05 Duffy-Columbia
Applied Neural Computing II (Special Session)

14:45-15:00

Spatiotemporal Source Tuning Filter Bank for Multiclass EEG Based Brain Computer Interfaces, pp. 327-330

Acharya, Soumyadipta Johns Hopkins Univ.
Mollazadeh, Mohsen Johns Hopkins Univ.
Murari, Kartikeya Johns Hopkins Univ.
Thakor, Nitish Johns Hopkins Univ.

WeD06 Empire Hudson
Surgical Robotics I (Oral Session)

14:45-15:00

Development of a Compliant Device for Minimally Invasive Surgery, pp. 331-334

Meier, Petra Tech. Univ. Ilmenau
Oberthuer, Siegfried Tech. Univ. Ilmenau
Lang, Michael TU Ilmenau

15:00-15:15

Micromanipulator for Enhancing Surgeon's Dexterity in Cochlear Atraumatic Surgery, pp. 335-338

Savall, Joan	CEIT
Manrique, Manuel	Univ. of Navarra Medical School
Echeverria, Mikel	CEIT
Ares, Mikel	CEIT

15:15-15:30

Improved Traction for a Mobile Robot Traveling on the Heart, pp. 339-342

Patronik, Nicholas	Carnegie Mellon Univ.
Ota, Takeyoshi	Univ. of Pittsburgh
Zenati, Marco	Univ. of Pittsburgh
Riviere, Cameron	Carnegie Mellon Univ.

15:30-15:45

Theoretical Model and Design of a Device to Reduce the Influence of Environmental Factors on Refractive Surgery Outcomes, pp. 343-346

Schena, Emiliano	Univ. of Rome Campus Bio-Medico
Silvestri, Sergio	Univ. Campus Bio-medico
Talei Franzesi, Giovanni	MIT
Carito, Pino	Campus Biomedico
Cupo, Gaetano	Campus biomedico
Ghinelli, Emiliano	MIT

15:45-16:00

Development of a Vision Integration Framework for Laparoscopic Surgical Robot, pp. 347-349

Shin, Jung Wook	National Cancer Center
Park, Jun Woo	National Cancer Center
Hong, Soyoung	National Cancer Center
Lee, Chul Han	National Cancer Center
Jo, Yunggho	National Cancer Center
Choi, Jaesoon	National Cancer Center

WeD07

Cantor-Jolson

Cardiopulmonary Models II: Critical Care (Oral Session)

14:45-15:00

Integrating Data, Models, and Reasoning in Critical Care, pp. 350-353

Heldt, Thomas	Massachusetts Inst. of Tech.
Long, William	Massachusetts Inst. of Tech.
Verghese, George	Massachusetts Inst. of Tech.
Szolovits, Peter	Massachusetts Inst. of Tech.
Mark, Roger	Massachusetts Inst. of Tech.

15:00-15:15

Short-Term Autonomic Control of the Cardio-Respiratory System: A Summary with the Help of a Comprehensive Mathematical Model, pp. 354-358

Ursino, Mauro	Univ. of Bologna
Magosso, Elisa	Univ. of Bologna

15:15-15:30

Sensitivity Analysis of a Model of the Cardiovascular System, pp. 359-362

Batzel, Jerry	Univ. Graz
Kappel, Franz	Univ. of Graz

15:30-15:45

Heat Transfer Model of Hyperthermic Infusion of Cold Saline for Stroke Therapy, pp. 363-366

Neimark, Matthew	Columbia Univ.
Kostas, Angelos-Arsteidis	Columbia Univ.
Laine, Andrew	Columbia Univ.
Pile-Spellman, John	Columbia Univ.

Magnetic Resonance Imaging I (Oral Session)

14:45-15:00

Towards High Temporal and Spatial Resolution Cardiac Imaging with Parallel MRI, pp. 367-368
Pai, Vinay new york Univ.

15:00-15:15

Spiral Parallel Magnetic Resonance Imaging, pp. 369-371
Meyer, Craig H. Univ. of Virginia

15:15-15:30

Accelerated Parallel Imaging by Transform Coding Data Compression with K-T SENSE, pp. 372-372
Tsao, Jeffrey Novartis Inst. for BioMedical Res. Inc.
Hansen, Michael Schacht UCL Inst. of Child Health
Kozerke, Sebastian Univ. and ETH Zurich

15:30-15:45

Highly Accelerated Cardiovascular Magnetic Resonance Imaging: Concepts and Clinical Applications, pp. 373-376
Niendorf, Thoralf RWTH - Tech. Univ. Aachen
Sodickson, Daniel K. Beth Israel Deaconess Medical Center and Harvard Medical School

15:45-16:00

Statistical Aspects of Parallel Imaging Reconstruction, pp. 377-380
Raj, Ashish UCSF
Kressler, Bryan Cornell Univ.
Singh, Gurmeet Cornell Univ.
Zabih, Ramin cornell Univ.
Wang, Yi cornell Univ.

Optical Imaging (Oral Session)

14:45-15:00

MicroCT-Guided Bioluminescence Tomography Based on the Adaptive Finite Element Tomographic Algorithm, pp. 381-384
Lv, Yujie Inst. of Automation, Chinese Acad. of Sciences
Tian, Jie Inst. of Automation, Chinese Acad. of Sciences
Cong, Wenxiang Univ. of Iowa
Wang, Ge Univ. of Iowa
Kumar, Durairaj Univ. of Iowa

15:00-15:15

Characterizing 3-D Geometry of Mouse Aortic Arch Using Light Stereo-Microscopic Imaging, pp. 385-388
Zhu, Hui Duke Univ.
Shih, Jessica Duke Univ.
Long, David Duke Univ.
Maeda, Nobuyo Univ. of North Carolina at Chapel Hill
Hagaman, John Univ. of North Carolina at Chapel Hill
Friedman, Morton Duke Univ.

15:15-15:30

*An Incremental and Optimized Learning Method for the Automatic Classification of Protein Crystal Images**
Xu, George Columbia Univ.
Chiu, Casey Columbia Univ.
Angelini, Elsa Ec. Nationale Superieure des Telecommunications
Laine, Andrew Columbia Univ.

15:30-15:45

3D Localized Photoactivation of Pa-GFP in Living Cells Using Two-Photon Interactions., pp. 389-391

Diaspro, Alberto	Univ. of Genoa
Testa, Ilaria	Univ. of Genoa
Faretta, Mario	European Inst. of Oncology
Magrassi, Raffaella	NANOMED - Univ. of Genoa
Barozzi, Sara	European Inst. of Oncology
Parazzoli, Dario	European Inst. of Oncology
Vicidomini, Giuseppe	Univ. of Genoa

WeD10

Astor Ballroom

The MyHeart Project - Fighting Cardiovascular Diseases by Prevention and Early Diagnosis (Minisymposium)

Organizer: Habetha, Joerg Philips Res. Lab.

14:45-15:00

Advances in Textile Technologies for Unobtrusive Monitoring of Vital Parameters and Movements. (I), pp. 392-395

Paradiso, Rita	Milior SpA
De Rossi, Danilo	Univ. of Pisa

15:00-15:15

Analysis of Sleep and Stress Profiles from Biomedical Signal Processing in Wearable Devices (I)*

Cerutti, Sergio	Pol. Univ. of Milan
Bianchi, Anna Maria	Pol. di Milano
Reiter, Harald	Philips

15:15-15:30

Innovative Concepts for Prevention and Disease Management of Cardiovascular Diseases (I), pp. 396-399

GUILLEN, SERGIO	Inst. Itaca
Sala, Pilar	Inst. ITACA
Habetha, Joerg	Philips Res. Lab.
Schmidt, Ralt	Philips
ARREDONDO, MARIA TERESA	Tech. Univ. of Madrid

15:30-15:45

User Interaction Design and Development of a Heart Failure Management System Based on Wearable and Information Technologies (I), pp. 400-403

Villalba, Elena	Tech. Univ. of Madrid
ARREDONDO, MARIA TERESA	Tech. Univ. of Madrid
MORENO, ALBERTO	Tech. Univ. of Madrid
SALVI, DARIO	Tech. Univ. of Madrid
GUILLEN, SERGIO	Inst. Itaca

15:45-16:00

The MyHeart Project – Fighting Cardiovascular Diseases by Prevention and Early Diagnosis (I)*

Habetha, Joerg Philips Res. Lab.

WeD11

Musicbox-Majestic

Image-Guided Surgery and Treatment II (Oral Session)

14:45-15:00

Towards Real-Time Registration of 4D Ultrasound Images, pp. 404-407

Foroughi, Pezhman	Queen's Univ.
Abolmaesumi, Purang	Queen's Univ.
Hashtrudi-Zaad, Keyvan	Queen's Univ.

15:00-15:15

Aortic Thrombus Segmentation Using Narrow Band Active Contour Model, pp. 408-411

Das, Bipul

Mallya, Yogisha

Suryanarayanan, Srikanth

Malladi, Ravikanth

GE Global Res.

GE Global Res.

GE Global Res.

GE Global Res.

15:15-15:30

Design and Validation of a Robotic Needle Positioning System for Small Animal

Imaging Applications, pp. 412-415

Waspe, Adam C.

Cakiroglu, H. Jason

Lacefield, James C.

Fenster, Aaron

Univ. of Western Ontario

Univ. of Western Ontario

Univ. of Western Ontario

Robarts Res. Inst.

15:30-15:45

Identification of Anatomical Landmarks for Registration of CT and Ultrasound Images in Computer-Assisted Shoulder Arthroscopy, pp. 416-419

Tyryshkin, Kathrin

Mousavi, Parvin

Pichora, David

Abolmaesumi, Purang

Queen's Univ.

Queen's Univ.

Kingston General Hospital

Queen's Univ.

15:45-16:00

Finite Element Modelling of Breast Biomechanics: Directly Calculating the Reference State, pp. 420-423

Rajagopal, Vijayaraghavan

Chung, Jae-Hoon

Nielsen, Poul

Nash, Martyn

Univ. of Auckland

Univ. of Auckland

Univ. of Auckland

Univ. of Auckland

WeD12

Palace Wintergarden

Coordination Physiological Rhythms Part 2: Cardiovascular and Other

Coordinated Rhythms (Minisymposium)

Organizer: Hoyer, Dirk

Friedrich Schiller Univ.

14:45-15:00

Why Life Oscillates – Biological Rhythms and Health (I), pp. 424-428

Moser, Maximilian

Humanomed Centre

15:00-15:15

Circadian and Ultradian Rhythms in Cardiac Autonomic Modulation (I), pp. 429-432

Stein, Phyllis

Lundequam, Eric J

Daniel, Clauw

Freedland, Kevin E

Carney, Robert M

Domitrovich, Peter P

Washington Univ.

Washington Univ.

Univ. of Michigan

Washington Univ.

Washington Univ.

Washington Univ.

15:15-15:30

Association between Short Term and Long Term Communication in Pathological Autonomic Control (I), pp. 433-436

Hoyer, Dirk

Friedrich Schiller Univ.

15:30-15:45

Coupled Oscillators: Complex but Not Complicated Cardiovascular and Brain Interactions (I), pp. 437-440

Stefanovska, Aneta

Lancaster Univ.

15:45-16:00

Coupled Oscillators Approach in Analysis of Physiological Data (I), pp. 441-444

Rosenblum, Michael

Cimponeriu, Laura

Pikovsky, Arkady

Potsdam Univ.

Univ. of Patras

Potsdam Univ.

16:00-16:15

Scale-Invariant Aspects of Physiologic Dynamics across Sleep Stages and Circadian Phases (I), pp. 445-448

Plamen, Ivanov

Boston Univ.

ThA01

Marquis AB

Signal Processing and Modeling in Biological Systems II (Oral Session)

09:00-09:15

Insulin Secretion Rate and B-Cell Sensitivity from Oral Glucose Tolerance Test in Normotensive and Normoglycemic Humans, pp. 449-450

Di Nardo, Francesco
Cerasa, Pamela
Casagrande, Fabrizio
Boemi, Massimo
Morosini, Pierpaolo
Burattini, Roberto

Pol. Univ. of Marche
Pol. Univ. of Marche
Pol. Univ. of Marche
Italian National Inst. of Res. and Care on Aging (INRCA-IRCCS)
"C. G. Mazzoni" General Hospital
Pol. Univ. of Marche

09:15-09:30

Robust Blood-Glucose Control Using Mathematica, pp. 451-454

Kovacs, Levente
Palancz, Bela
Benyo, Balazs Istvan
Torok, Laszlo
Benyo, Zoltan

Budapest Univ. of Tech. and Ec.
Budapest Univ. of Tech. and Ec.
Szechenyi Istvan Univ. Gyor
Budapest Univ. of Tech. and Ec.
Budapest Univ. of Tech. and Ec.

09:30-09:45

Aspects of Nonlinear Dielectric Spectroscopy of Biological Cell Suspensions, pp. 455-458

McLellan, Christopher J.
Chan, Adrian D.C.
Goubran, Rafik A.

Carleton Univ.
Carleton Univ.
Carleton Univ.

09:45-10:00

Regularization of Body Core Temperature Prediction During Physical Activity, pp. 459-463

Gribok, Andrei
McKenna, Thomas
Reifman, Jaques

U.S. Army Medical Res. and Materiel Command
U.S. Army Medical Res. and Materiel Command
U.S. Army Medical Res. and Materiel Command

10:00-10:15

Integrative Analysis of Intracranial Pressure and R-R Interval Signals: A Study of ICP B-Wave Using Causal Coherence, pp. 464-467

Hu, Xiao
Nenov, Valeriy
Bergsneider, Marvin

Univ. of California, Los Angeles
Univ. of California, Los Angeles
Univ. of California, Los Angeles

10:15-10:30

Enhanced Parameter Estimation with GLLS and the Bootstrap Monte Carlo Method for Dynamic SPECT, pp. 468-471

Wen, Lingfeng
Eberl, Stefan
Feng, Dagan

Univ. of Sydney
Royal Prince Alfred Hospital
The Univ. of Sydney

ThA02

Marquis C

MRI: Novel Applications (Oral Session)

09:00-09:15

Magnetic Steering of Iron Oxide Microparticles Using Propulsion Gradient Coils in MRI, pp. 472-475

Mathieu, Jean-Baptiste
Martel, Sylvain

Ec. Pol. de Montreal
Ec. Pol. de Montreal

09:15-09:30

Cell Number Quantification of USPIO-Labeled Stem Cells by MRI: An in Vitro Study, pp. 476-479

Cheung, Jerry S.
Chow, April M.
Hui, Edward S.
Yang, Jian
Tse, H. F.
Wu, Ed X.

The Univ. of Hong Kong
The Univ. of Hong Kong
The Univ. of Hong Kong
The Univ. of Hong Kong
Univ. of Hong Kong
The Univ. of Hong Kong

09:30-09:45

The Correlated Network of Acupuncture Effect: A Functional Connectivity Study, pp. 480-483

Qin, Wei
Tian, Jie
Hu, Jin

CASIA
Inst. of Automation, Chinese Acad. of Sciences
Inst. of Automation, Chinese Acad. of Sciences

09:45-10:00

Ultrasound Accelerated Bone Tissue Engineering Monitored with Magnetic Resonance Microscopy, pp. 484-488

Moinnes, Jessy
Vidula, Neelima
Halim, Nadia
Othman, Shadi

Univ. of Illinois at Chicago
Univ. of Illinois at Chicago
Univ. of Illinois at Chicago
Univ. of Illinois at Chicago

10:00-10:15

Combination 3D TOP with 2D PC MRA Technique for Cerebral Blood Flow Volume Measurement, pp. 489-492

Guo, Gang
Wu, RenHua
Zhang, YunPing
Guan, JinTian
Guo, YueLin
Chen, XiaoKe
terBrugger, Karel
Mikulis, David

Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Huazhong Univ. of Sci & Tech.
Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
The Toronto Western Hospital, Univ. of Toronto
The Toronto Western Hospital, Univ. of Toronto

10:15-10:30

Partially Parallel MR Spectroscopic Imaging of Gliomas at 3T, pp. 493-496

Ozturk-Isik, Esin
Banerjee, Suchandrima
Majumdar, Sharmila
Nelson, Sarah

Univ. of California, San Francisco
Univ. of California, San Francisco
Univ. of California, San Francisco
Univ. of California, San Francisco

ThA03

SoHo-Herald

Adaptive, Parametric and Optimal Filtering II (Oral Session)

09:00-09:15

Comparing Unscented and Extended Kalman Filter Algorithms in the Rigid-Body Point-Based Registration, pp. 497-500

Hedjazi Moghari, Mehdi
Abolmaesumi, Purang

Queens Univ.
Queen's Univ.

09:15-09:30

Epileptic Spike Detection Using a Kalman Filter Based Approach, pp. 501-504

Tzallas, Alexandros
Oikonomou, Vaggelis
Fotiadis, Dimitrios I.

Univ. of Ioannina
Univ. of Ioannina
Univ. of Ioannina

09:30-09:45

A Labview-Based GUI for the Measurement of Otoacoustic Emissions, pp. 505-508

Wu, Ye
McNamara, David
Ziarani, Alireza

Clarkson Univ.
Clarkson Univ.
Clarkson Univ.

09:45-10:00

A Robust Tool for Newborn Infant Cry Analysis, pp. 509-512

Manfredi, Claudia
Bocchi, Leonardo
Tocchioni, Valentina

Univ. degli Studi di Firenze, Firenze, Italy
Univ. degli Studi di Firenze, Firenze, Italy
Univ. degli Studi di Firenze, Firenze, Italy

10:00-10:15

LMS-Based Active Noise Cancellation Methods for Fmri Using Sub-Band Filtering, pp. 513-516

Abdollahzadeh Milani, Ali
Panahi, Issa
Briggs, Richard

Univ. of Texas at Dallas
Univ. of Texas at Dallas
UT Southwestern

10:15-10:30

Adaptive Compression of Respiratory and Swallowing Sounds, pp. 517-520

Yadollahi, Azadeh
Moussavi, Zahra
Yahampath, Pradeepa

Univ. of Manitoba
Univ. of Manitoba
Univ. of Manitoba

ThA04

Ziegfeld

Functional Musculoskeletal Tissue Engineering - Bone Tissue Engineering (Oral Session)

09:00-09:15

Production of Osteoclasts from Human Adipose Tissue under Chemically-Defined Conditions*

Ogle, Roy
Ogle, Rebecca
Tholpady, Ashok
Sefcik, Lauren
Botchwey, Edward

Univ. of Virginia
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia

09:15-09:30

Induction of Osteoblast Differentiation Markers in Human Dermal Fibroblasts: Potential Application to Bone Tissue Engineering, pp. 521-524

Hee, Christopher
Nicoll, Steven

Univ. of Pennsylvania
Univ. of Pennsylvania

09:30-09:45

In Vivo Evaluation of a Tri-Phasic Composite Scaffold for Anterior Cruciate Ligament-To-Bone Integration, pp. 525-528

Spalazzi, Jeffrey
Dagher, Elias
Doty, Stephen
Guo, Edward
Rodeo, Scott
Lu, Helen

Columbia Univ.
Hospital for Special Surgery
Hospital for Special Surgery
Columbia Univ.
Hospital for Special Surgery
Columbia Univ.

09:45-10:00

Proliferative Capacity and Osteogenic Differentiation Behavior of Novel Dura Stem Cells*

Petrie, Caren
Ogle, Roy
Botchwey, Edward

Univ. of Virginia
Univ. of Virginia
Univ. of Virginia

10:00-10:15

In Vitro and in Vivo Evaluation of a Novel Polymer-Ceramic Composite Scaffold for Bone Tissue Engineering, pp. 529-530

Khan, Yusuf
El-Amin, Saadiq
Laurencin, Cato T

Univ. of Virginia
Univ. of Virginia
Univ. of Virginia

10:15-10:30

Functional Tissue Engineering – the Articular Cartilage Paradigm*

Mow, Van

ThA05	Duffy-Columbia
Advances in Sensor Technology I (Oral Session)	
09:00-09:15	
FRET Evidence That an Isoform of Caspase-7 Binds but Does Not Cleave Its Substrate , pp. 531-534	
Li, Isaac	Univ. of Toronto
Chiang, Jui-Hsuan(Jason)	Univ.
Truong, Kevin	Univ. of Toronto
09:15-09:30	
An Impedimetric Sensor for Monitoring the Growth of Staphylococcus Epidermidis , pp. 535-538	
Oliver, Louise Mary	Univ. of Ulster
Dunlop, Patrick SM	Univ. of Ulster
Byrne, John A	Univ. of Ulster
Blair, Ian	Univ. of Ulster
Boyle, Maria	Royal Coll. of Surgeons Ireland
McGuigan, Kevin G	Royal Coll. of Surgeons Ireland
McAdams, Eric T	Univ. of Ulster
09:30-09:45	
Effect of Incus Removal on Middle Ear Acoustic Sensor for a Fully Implantable Cochlear Prosthesis , pp. 539-542	
Zurcher, Mark	Case Western Res. Univ.
Young, Darrin	Case Western Res. Univ.
Semaan, Maroun	Univ. Hospitals of Cleveland
Megerian, Cliff	Univ. Hospitals of Cleveland
Ko, Wen	Case Western Res. Univ.
09:45-10:00	
Video-Rhino-Hygrometer (VRH) , pp. 543-546	
Setola, Roberto	Univ. CAMPUS Bio-Medico di Roma
Casale, Manuele	Univ. CAMPUS Bio-Medico
Cusimano, Valerio	Univ. CAMPUS Bio-Medico
Soda, Paolo	Univ. CAMPUS Bio-Medico
Salvinelli, Fabrizio	Univ. CAMPUS Bio-Medico
10:00-10:15	
The Use of a Two Channel Doppler Radar Sensor for the Characterization of Heart Motion Phases , pp. 547-550	
Muehlsteff, Jens	Philips
Thijs, Jeroen A.J.	Philips
Pinter, Robert	Philips
10:15-10:30	
Method and Apparatus for Intra-Esophageal Cough Detection , pp. 551-554	
Hogan, Jennifer A.	Univ. of Calgary
Mintchev, Martin P.	Univ. of Calgary

ThA06	Empire Hudson
Surgical Robotics II (Oral Session)	

09:00-09:15	
Needle Insertion Force Estimation Model Using Procedure-Specific and Patient-Specific Criteria , pp. 555-558	
Podder, Tarun	Univ. of Rochester Medical Center
Sherman, Jason	Univ. of Rochester
Messing, Edward	Univ. of Rochester
Rubens, Deborah	Univ. of Rochester
Fuller, Dave	Univ. of Rochester
Ng, Wan-Sing	Nanyang Tech. Univ.
Brasacchio, Ralph	Univ. of Rochester
Yu, Yan	Univ. of Rochester Medical Center

09:15-09:30

Toward Effective Needle Steering in Brain Tissue, pp. 559-562

Engh, Johnathan
Podnar, Gregg
Kondziolka, Douglas
Riviere, Cameron

Univ. of Pittsburgh
Carnegie Mellon Univ.
Univ. of Pittsburgh
Carnegie Mellon Univ.

09:30-09:45

Efficacy of Prostate Stabilizing Techniques During Brachytherapy Procedure, pp. 563-566

Sherman, Jason
Podder, Tarun
Misic, Vladimir
Fu, Lei
Fuller, Dave
Winey, Brian
Messing, Edward
Rubens, Deborah
Strang, John
Brasacchio, Ralph
Yu, Yan

Univ. of Rochester
Univ. of Rochester Medical Center
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester Medical Center

09:45-10:00

Dynamic Augmented Reality for Sensory Substitution in Robot-Assisted Surgical Systems., pp. 567-570

Akinbiyi, Takintope
Reiley, Carol
Saha, Sunipa
Burschka, Darius
Hasser, Christopher
Yuh, David
Okamura, Allison

Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.
Tech. Univ. Munchen
Intuitive Surgical
Johns Hopkins Univ.
Johns Hopkins Univ.

ThA07

Cantor-Jolson

Cellular and Tissue Cardiac Electrophysiology (Oral) (Oral Session)

09:00-09:15

Imaging Cellular Calcium Dysfunction in the Heart Using Multi-Modal Optical Mapping, pp. 571-575

Hoeker, Gregory
Laurita, Kenneth
Katra, Rodolphe

MetroHealth Campus, Case Western Res. Univ.
MetroHealth Campus, Case Western Res. Univ.
MetroHealth Campus, Case Western Res. Univ.

09:15-09:30

Acquired Cell-To-Cell Coupling and "Cardiac-Like" Calcium Oscillations in Adult Stem Cells in a Cardiomyocyte Microenvironment, pp. 576-579

Muller-Borer, Barbara
Cascio, Wayne
Gwyn, Esch
Grisham, Joe
Anderson, Page
Malouf, Nadia

Brody School of Medicine at East Carolina Univ.
Brody School of Medicine at East Carolina Univ.
The Univ. of North Carolina at Chapel Hill
The Univ. of North Carolina at Chapel Hill
Duke Univ.
The Univ. of North Carolina at Chapel Hill

09:30-09:45

How to Explain Why "Unequal Anisotropy Ratios" Is Important Using Pictures but No Mathematics, pp. 580-583

Roth, Bradley

Oakland Univ.

09:45-10:00

Multilevel Homogenization Applied to the Cardiac Bidomain Equations, pp. 584-587

Austin, Travis
Trew, Mark
Pullan, Andrew

Univ. of Auckland
Univ. of Auckland
Univ. of Auckland

10:00-10:15

Atrial Action Potential Heterogeneity Measured by Unipolar Electrograms, pp. 588-589

Vigmond, Edward
Tsoi, Vincent
Page, Pierre

Univ. of Calgary
Univ. of Calgary
Univ. of Montreal/Sacre-Coeur Hospital

ThA08

Juilliard

Computational Neurophysiology (Oral Session)

09:00-09:15

Assessment of Effective Connectivity among Cortical Regions Based on a Neural Mass Model, pp. 590-594

Zavaglia, Melissa
Astolfi, Laura
Babiloni, Fabio
Ursino, Mauro

Univ. of Bologna
Univ. of Rome
Univ. of Rome
Univ. of Bologna

09:15-09:30

Behaviorally Modulated Filter Model for the Thalamic Reticular Nucleus, pp. 595-598

Scaglione, Alessandro
Moxon, Karen

Drexel Univ.
Drexel Univ.

09:30-09:45

Efficient Model-Based Design of Neurophysiological Experiments, pp. 599-602

Lewi, Jeremy
Butera, Robert
Paninski, Liam

Georgia Inst. of Tech.
Georgia Inst. of Tech.
Columbia Univ.

09:45-10:00

A New 3D Finite Element Model of Extracellular Action Potentials Recording with a Microelectrode in a Tissue Slice, pp. 603-606

Moulin, Céline
Gličre, Alain

CEA (Commissariat à l'énergie atomique)
Commissariat à l'Énergie Atomique

10:00-10:15

Significance of Pacemaker vs. Non-Pacemaker Neurons in an Excitatory Rhythmic Network, pp. 607-608

Purvis, Liston
Wright, Terrence Michael
Smith, Jeffrey
Butera, Robert

Georgia Inst. of Tech.
Emory Univ.
NINDS/NIH
Georgia Inst. of Tech.

10:15-10:30

Synaptic Amplification in Motoneurons: Computational and Mechanistic Implications, pp. 609-611

Shapiro, Nicholas
Lee, Robert

Georgia Inst. of Tech.
Emory Univ.

ThA09

Gramercy-Olmstead

Cardiac Mechanics (Oral Session)

09:00-09:15

Reproducing Nonlinear Force Velocity Relation of Myocardial Tissue by a Nonlinear Parallel Elastic Component, pp. 612-615

Nobuaki, Yutaka
Kamei, Yu
Lu, Jianyin
Shimayoshi, Takao
Ishikawa, Satoshi
Amano, Akira
Kotera, Hidetoshi
Matsuda, Tetsuya

Kyoto Univ.
Kyoto Univ.
Kyoto Univ.
ASTEM Res. Inst. of Kyoto
Mechanical Design & Analysis co
Kyoto Univ.
Kyoto Univ.
Kyoto Univ.

09:15-09:30

Estimation of Elastic and Viscous Properties of the Left Ventricle Based on Annulus Plane

Harmonic Behavior, pp. 616-619

Kheradvar, Arash
Milano, Michele
Gorman, Robert
gorman, III, Joseph H
Gharib, Morteza

California Inst. of Tech.
California Inst. of Tech.
Univ. of Pennsylvania School of Medicine
Univ. of Pennsylvania School of Medicine
California Inst. of Tech.

09:30-09:45

Continuous Left Ventricular Ejection Fraction Monitoring by Central Aortic Pressure

Waveform Analysis, pp. 620-623

Mukkamala, Ramakrishna
Kuiper, Jacob
Sala-Mercado, Javier
Hammond, Robert
Kim, Jong-Kyung
W, Stephenson, Larry
O'Leary, Donal

Michigan State Univ.
Michigan State Univ.
Wayne State Univ. School of Medicine
Wayne State Univ. School of Medicine
Wayne State Univ. School of Medicine
Wayne State Univ.
Wayne State Univ. School of Medicine

09:45-10:00

Stress Distribution in a Rotationally Symmetric and a Measurement Based Left Ventricular

Shape Model, pp. 624-627

Takada, Yasuhiro
Amano, Akira
Lu, Jianyin
Shimayoshi, Takao
Ishikawa, Satoshi
Matsuda, Tetsuya
Kotera, Hidetoshi

Graduate School of Informatics, Kyoto Univ.
Kyoto Univ.
Kyoto Univ.
ASTEM Res. Inst. of Kyoto
Mechanical Design & Analysis co
Kyoto Univ.
Kyoto Univ.

10:00-10:15

Model-Based Screening of Wall Motion Measures for Detection of Ischemia in Three-Dimensional

Cardiac Images, pp. 628-631

Herz, Susan
Ingrassia, Christopher
Costa, Kevin
Holmes, Jeffrey

Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.

10:15-10:30

Imaging the Mechanics and Electromechanics of the Heart*

Konofagou, Elisa

Columbia Univ.

ThA11

Belasco

Cellular and Molecular Engineering (Oral Session)

09:00-09:15

Microenvironments That Promote Microvascular Function*

Tien, Joe

Boston Univ.

09:15-09:30

Lateral Diffusion and Self-Interactions of the Outer Hair Cell Protein Prestin*

Raphael, Robert

Rice Univ.

09:30-09:45

Multiple Automated Minibioreactor System for Multifunctional Screening in Biotechnology, pp. 632-635

Fontova, Andreu	Tech. Univ. of Catalonia
Soley, Albert	Autonomous Univ. of Barcelona (UAB)
Galvez, Jordi	Autonomous Univ. of Barcelona (UAB)
Sarro, Enric	Autonomous Univ. of Barcelona (UAB)
Lecina, Marti	Autonomous Univ. of Barcelona (UAB)
Rosell, Javier	Tech. Univ. of Catalonia
Riu, Pere J	Tech. Univ. of Catalonia (UPC)
Cairo, Jordi Joan	Autonomous Univ. of Barcelona (UAB)
Godia, Francesc	Autonomous Univ. of Barcelona
Bragos, Ramon	Tech. Univ. of Catalonia (UPC)

09:45-10:00

High Cell Density Three-Dimensional Neural Co-Cultures Require Continuous Medium

Perfusion for Survival, pp. 636-639

Cullen, Kacy	Georgia Inst. of Tech.
Vukasinovic, Jelena	Georgia Inst. of Tech.
Glezer, Ari	Georgia Inst. of Tech.
LaPlaca, Michelle	Georgia Inst. of Tech.

10:00-10:15

The Use of an 'Effective Potential' to Describe the Directed Motion of a Two-State

Molecular Motor, pp. 640-643

Han, Yingrong	Hebei Univ. of Tech.
ZHAN, Yong	Hebei Univ. of Tech.
Zhao, Tongjun	Hebei University of Tech.
AN, Hailong	Hebei Univ. of Tech.
Zhang, Suhua	Hebei University of Tech.
Liu, Hui	Hebei University of Tech.
Zhang, Yuhong	Hebei University of Tech.
Zheng, Yan	Hebei Univ. of Tech.
Zhuo, Yizhong	China Inst. of Atomic Energy

ThA12

Palace Wintergarden

Neural Microsystems and Instrumentation (Oral Session)

09:00-09:15

Development of a Multichannel System for Intrinsic Cardiac Neural Recording*

Dubeau, Simon	Univ. of Montreal
Vinet, Alain	Univ. de Montréal
Richer, Louis-Philippe	Univ. of Montreal
Guardo, Robert	Ec. Pol. de Montréal
Armour, John Andrew	Centre de recherche Hôpital Sacré-Coeur de Montréal

09:15-09:30

Transcutaneous Battery Recharging by Volume Conduction and Its Circuit Modeling, pp. 644-647

Tang, Zhide	Chongqing Univ.
Sclabassi, Robert	Univ. of Pittsburgh
Hackworth, Steven A.	Univ. of Pittsburgh
Zhao, Jun	Univ. of Pittsburgh
Sun, Caixin	Chongqing Univ.
Sun, Mingui	Univ. of Pittsburgh

09:30-09:45

Light-Addressable Planar Electrode with Hydrogenated Amorphous Silicon and Low-Conductive Passivation Layer for Stimulation of Cultured Neurons, pp. 648-651

Suzurikawa, Jun	The Univ. of Tokyo
Takahashi, Hirokazu	Univ. of Tokyo
Takayama, Yuzo	The Univ. of Tokyo
Warisawa, Shin'ichi	The Univ. of Tokyo
Mitsuishi, Mamoru	The Univ. of Tokyo
Nakao, Masayuki	Univ. of Tokyo
Jimbo, Yasuhiko	The Univ. of Tokyo

09:45-10:00

A Switched-Capacitor Neural Preamplifier with an Adjustable Pass-Band for Fast Recovery Following Stimulation, pp. 652-655

Gusmeroli, Riccardo	DEI, Pol. di Milano - IU.NET
Bonfanti, Andrea	DEI, Pol. di Milano - IU.NET
Borghi, Tommaso	DEI, Pol. di Milano - IU.NET
S. Spinelli, Alessandro	DEI, Pol. di Milano - IU.NET
Baranauskas, Gytis	Pol. di Milano

10:00-10:15

An Adaptive Multiple-Input Multiple-Output Analog-To-Digital Converter for High Density Neuroprosthetic Electrode Arrays, pp. 656-659

Chakrabartty, Shantanu	Michigan State Univ.
Gore, Amit	Michigan State Univ.
Oweiss, Karim	Michigan State Univ.

10:15-10:30

Preliminary Study of Multichannel Flexible Neural Probes Coated with Hybrid Biodegradable Polymer, pp. 660-663

Kato, Yasuhiro	The Univ. of Tokyo
Saito, Itsuro	The Univ. of Tokyo
Hoshino, Takayuki	The Univ. of Tokyo
Suzuki, Takafumi	The Univ. of Tokyo
Mabuchi, Kunihiko	The Univ. of Tokyo

ThA13

Brecht

Special Session: Neural Imaging and Sensing II (Oral Session)

09:00-09:15

Imaging Odor Coding and Synaptic Plasticity in the Mammalian Brain with a Genetically-Encoded Probe, pp. 664-667

McGann, John	Boston Univ.
Pérez, Nicolás	Boston Univ.
Wachowiak, Matt	Boston Univ.

09:15-09:30

Combining Optical Imaging and Computational Modeling to Analyze Structure and Function of Living Neurons, pp. 668-670

Losavio, Brad	Baylor Coll. of Medicine
Reddy, Duemani	Rice Univ.
Colbert, Costa	Univ. of Houston
Kakadiaris, Ioannis	Univ. of Houston
Saggau, Peter	Baylor Coll. of Medicine

09:30-09:45

Directed Transfer Function Analysis of Fmri Data to Investigate Network Dynamics, pp. 671-674

Deshpande, Gopikrishna
LaConte, Stephen
Peltier, Scott James
Hu, Xiaoping

Georgia Inst. of Tech. and Emory Univ.
Georgia Inst. of Tech. and Emory Univ.
Georgia Inst. of Tech. and Emory Univ.
Georgia Inst. of Tech. and Emory Univ.

ThA14

Chelsea-Gotham

Therapeutic Devices 1 (Oral Session)

09:00-09:15

Sequential Activation of Multiple Grounding Pads Reduces Skin Heating, pp. 675-678

Haemmerich, Dieter
Schutt, David J.

Medical Univ. of South Carolina
Medical Univ. of South Carolina

09:15-09:30

A Lorentz-Force Actuated Autoloading Needle-Free Injector, pp. 679-682

Hemond, Brian
Wendell, Dawn
Hogan, N. Catherine
Taberner, Andrew
Hunter, Ian

Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.

09:30-09:45

Non-Invasive Transcranial Ultrasound Therapy Guided by CT-Scans, pp. 683-687

Marquet, Fabrice
Pernot, Mathieu
Montaldo, Gabriel
Aubry, Jean-François
Tanter, Mickaël
Fink, Mathias

CNRS UMR7587
CNRS
CNRS
CNRS
CNRS
CNRS

09:45-10:00

In-Vivo Non-Invasive Motion Tracking and Correction in High Intensity Focused Ultrasound Therapy, pp. 688-691

Marquet, Fabrice
Pernot, Mathieu
Montaldo, Gabriel
Aubry, Jean-François
Tanter, Mickaël
Fink, Mathias

CNRS UMR7587
CNRS
CNRS
CNRS
CNRS
CNRS

10:00-10:15

New Computer-Based Cognitive Function Test for the Elderly, pp. 692-694

Tamura, Toshiyo

Chiba Univ. School of Engineering

10:15-10:30

Feasibility Study of TheraDrive: A Low-Cost, Game-Based Environment for the Delivering of Upper Arm Stroke Therapy, pp. 695-698

Johnson, Michelle J.
Ramachandran, Brinda
Paranjape, Ruta P.
Kosasih, Judith B.

Medical Coll. of Wisconsin/Marquette Univ.
Marquette Univ.
Marquette Univ.
Medical Coll. of Wisconsin

ThA15

O'Neill

Cardiac Imaging I (Oral Session)

09:00-09:15

Visualization of Propagation of Pulse Vibration Along the Heart Wall and Imaging of Its Propagation Speed, pp. 699-702

Kanai, Hiroshi

Tohoku Univ. Graduate School of Engineering

09:15-09:30

Improved Signal-To-Noise Ratio in Parallel Coronary Artery Magnetic Resonance Angiography Using Graph Cuts Based Bayesian Reconstruction, pp. 703-706

Singh, Gurmeet	Cornell Univ.
Nguyen, Thanh	Weill Medical Coll. of Cornell Univ.
Kressler, Bryan	Cornell Univ.
Spincemaille, Pascal	Weill Medical Coll. of Cornell Univ.
Raj, Ashish	UCSF
Zabih, Ramin	Cornell Univ.
Wang, Yi	Cornell Univ.

09:30-09:45

Tracking Endocardium Using Optical Flow Along Iso-Value Curve, pp. 707-710

Duan, Qi	Columbia Univ.
Angelini, Elsa	Ec. Nationale Superieure des Telecommunications
Homma, Shunichi	Columbia Univ.
Laine, Andrew	Columbia Univ.

09:45-10:00

Extraction and Tracking of MRI Tagging Sheets Using a 3D Gabor Filter Bank, pp. 711-714

Qian, Zhen	Rutgers Univ. New Brunswick
Metaxas, Dimitris	Rutgers Univ. New Brunswick
Axel, Leon	NYU Medical Center

10:00-10:15

Real-Time Measurement System for the Evaluation of the Intima Media Thickness with a New Edge Detector, pp. 715-718

Faita, Francesco	Italian National Res. Council
Gemignani, Vincenzo	Italian National Res. Council
Bianchini, Elisabetta	Univ. of Pisa
Giannarelli, Chiara	Univ. of Pisa
Demi, Marcello	Italian National Res. Council

10:15-10:30

Semi-Automated Analysis of Coronary Flow Doppler Images:

Validation with Manual Tracings, pp. 719-722

Magagnin, Valentina	Pol. of Milan
Caiani, Enrico	Pol. of Milan
Delfino, Luigi	Istituto ortopedico Galeazzi-Univ. degli studi di Milano
Champlon, Christine	Pol. of Milan
Cerutti, Sergio	Pol. Univ. of Milan
Turiel, Maurizio	Istituto ortopedico Galeazzi-Univ. degli studi di Milano

ThB01

Marquis AB

Principal Component Analysis, Independent Components Analysis II (Oral Session)

10:45-11:00

A Combined SPM-ICA Approach to Fmri, pp. 723-726

Penney, Todd John Michael	Univ. of Alberta
Koles, Zoltan	Univ. of Alberta

11:00-11:15

Functional Classification of Schizophrenia Using Feed Forward Neural Networks*

Jafri, Madiha	Hartford Hospital
Calhoun, Vince	Olin Neuropsychiatry Res. Center, Yale Univ.

11:15-11:30

Observing Frequency Content Time Evolution of Independent Hippocampal Signals, pp. 727-730

Tanskanen, Jarno Mika Antero	Tampere Univ. of Tech.
Mikkonen, Jarno Eelis	Univ. of Jyväskylä
Hyttinen, Jari	Tampere Univ. of Tech.
Penttonen, Markku	Univ. of Kuopio

11:30-11:45

*Latency Characteristics of the Auditory N1 Component Using an Iterative Independent Component Analysis Procedure**

Zouridakis, George
Diaz, Javier

Univ. of Houston
Univ. Houston

11:45-12:00

Blind Source Separation of Neural Recordings and Control Signals, pp. 731-734

Tesfayesus, Wondimeneh
Durand, Dominique

Case Western Res. Univ.
Case Western Res. Univ.

12:00-12:15

Recovery of Multiple Fibers Per Voxel by ICA in DTI Tractography, pp. 735-738

Singh, Manbir
Wong, Chi Wah

Univ. of Southern California
Univ. of Southern California

ThB02

Marquis C

MRI: Novel Methods (Oral Session)

10:45-11:00

Motion Artifact Suppression in Breath Hold 3D Contrast Enhanced Magnetic Resonance Angiography Using ECG Ordering, pp. 739-742

Spincemaille, Pascal
Xi Hai, Zhao
Cheng, Liuquan
Prince, Martin
Wang, Yi

Weill Medical Coll. of Cornell Univ.
Chinese PLA General Hospital
Chinese PLA General Hospital
Weill Medical Coll. of Cornell Univ.
cornell Univ.

11:00-11:15

High-Precision Absolute Positioning of Medical Instruments in MRI Systems, pp. 743-746

Aboussouan, Eric
Martel, Sylvain

Ec. Pol. de Montreal
Ec. Pol. de Montreal

11:15-11:30

Partially-Parallel, Susceptibility-Weighted MR Imaging of Brain Vasculature at 7 Tesla Using Sensitivity Encoding and an Autocalibrating Parallel Technique, pp. 747-750

Lupo, Janine
Banerjee, Suchandrima
Kelley, Douglas
Xu, Duan
Vigneron, Daniel
Majumdar, Sharmila
Nelson, Sarah

Univ. of California, San Francisco
Univ. of California, San Francisco-Univ. Berkeley
GE Healthcare
Univ. of California, San Francisco
Univ. of California, San Francisco
Univ. of California, San Francisco
Univ. of California, San Francisco

11:30-11:45

Auto-Calibrated Dynamic Parallel MRI with Phase-Sensitive Data, pp. 751-754

Son, Jong Bum
Ji, Jim Xiuquan

Texas A&M Univ.
Texas A&M Univ.

11:45-12:00

On the Complimentarity of SENSE and GRAPPA in Parallel MR Imaging, pp. 755-758

Hoge, W Scott
Brooks, Dana

Brigham and Women's Hospital and Harvard Medical School
Northeastern Univ.

12:00-12:15

Nosologic Maps of Brain Tumor Images Obtained from Combination of Different MRI Modalities, pp. 759-762

Martin-Landrove, Miguel

Univ. Central de Venezuela

ThB03

SoHo-Herald

Non Linear Dynamics in Biological Signals I (Oral Session)

10:45-11:00

A Computationally Simple and Robust Method to Detect Determinism in a Time Series, pp. 763-766

Lu, Sheng

State Univ. of New York at Stony Brook

Ju, Kihwan

State Univ. of New York at Stony Brook

Kanters, Jorgen
chon, kiUniv. of Copenhagen, and Copenhagen Heart Arrhythmia Res. Center
State Univ. of New York at Stony Brook

11:00-11:15

Approximated Mutual Information Training for Speech Recognition Using Myoelectric Signals, pp. 767-770

Guo, Huajian

Carleton Univ.

Chan, Adrian

Carleton Univ.

11:15-11:30

Very Low Frequency Modulation in Renal Autoregulation, pp. 771-774

Siu, Kin Lung

SUNY at Stony Brook

Sung, Biin

SUNY at Stony Brook

Moore, Leon C.

SUNY at Stony Brook

Birzgalis, Aija

SUNY at Stony Brook

chon, ki

State Univ. of New York at Stony Brook

ThB04

Ziegfeld

Functional Musculoskeletal Tissue Engineering - Soft Tissue Engineering (Oral Session)

10:45-11:00

Fibroblastic Differentiation of Human Mesenchymal Stem Cells Using Connective Tissue Growth Factor, pp. 775-778

Lee, Chang Hun

Columbia Univ.

Moioli, Eduardo

Columbia Univ.

Mao, Jeremy

Columbia Univ.

11:00-11:15

The Effect of Applied Compressive Loading on Tissue-Engineered Cartilage Constructs Cultured with TGF- β ; 3, pp. 779-782

Lima, Eric G

Columbia Univ.

Bain, Liming

Columbia Univ.

Mauck, Robert

Univ. of Pennsylvania

Byers, Benjamin A.

NIAMS, NIH

Tuan, Rocky S.

National Inst. of Arthritis, Musculoskeletal & Skin Diseases Nat

Ateshian, Gerard

Columbia Univ.

Hung, Clark

Columbia Univ.

11:15-11:30

Role of Cell-Cell Interactions on the Regeneration of Soft Tissue to Bone Interface, pp. 783-786

Lu, Helen

Columbia Univ.

Wang, I-Ning

Columbia Univ.

11:30-11:45

Engineering of Fiber-Reinforced Tissues with Anisotropic Biodegradable Nanofibrous Scaffolds, pp. 787-790

Nerurkar, Nandan

Univ. of Pennsylvania

Baker, Brendon

Univ. of Pennsylvania

Chen, Chiu-Yu

Univ. of Pennsylvania

Elliott, Dawn

Univ. of Pennsylvania

Mauck, Robert

Univ. of Pennsylvania

11:45-12:00

*Enhanced Cell Growth and Differentiation on Zebrafish Fertilized Egg Chorions As Extracellular Matrix of Embryonic Carcinoma (EC) Stem Cells**

Chae, Su Kyoung	Microsystem Res. Center, Korea Inst. of Science and Tech.
Kang, Ji Yoon	Microsystem Res. Center, Korea Inst. of Science and Tech.
Lee, Sang Ho	Korea Univ.
Ryu, Sung-Shin	Microsystem Res. Center, Korea Inst. of Science and Tech.
Hwang, Chang Nam	School of Life Sciences and Biotechnology, Korea Univ.
Lee, Chang Ha	Microsystem Res. Center, Korea Inst. of Science and Tech.
Lee, Jin Woo	Microsystem Res. Center, Korea Inst. of Science and Tech.
Kim, Tae Song	Microsystem Res. Center, Korea Inst. of Science and Tech.

12:00-12:15

Synthesis and Characterization of Novel Injectable, Biodegradable and in Situ Crosslinkable Poly(hexa Methylene carbonate-Fumarate), Poly (hexamethylene Carbonate-Acrylate) and Poly(ethylene Glycol Fumarate-Co Hexamethylene Carbonate-Fumarate) Scaffolds *For*, pp. 791-794

Sharifi, Shahriar	Amirkabir Univ. of Tech.
Mirzadeh, Hamid	Iran Pol. and Petrochemical Inst.
Imani, Mohammad	Iran Pol. and Petrochemical Inst.
Atai, Mohammad	Iran Pol. and Petrochemical Inst.
Ziaee, Farshid	Iran Pol. and Petrochemical Inst.
Bakhshi, Raheleh	Iran Pol. and Petrochemical Inst.

ThB05

Duffy-Columbia

Fiber Optic and Photonic Sensors (Oral Session)

10:45-11:00

Peptide-Nanoparticle Hybrid SERS Probe for Dynamic Detection of Active Cancer Biomarker Enzymes, pp. 795-798

Liu, Gang	Univ. of California at Berkeley
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11:00-11:15

Noninvasive Measurement of Total Hemoglobin and Hemoglobin Derivatives Using Multiwavelength Pulse Spectrophotometry -In Vitro Study with a Mock Circulatory System, pp. 799-802

Suzaki, Hironori	Waseda Univ.
Kobayashi, Naoki	Nihon Kohden Corp.
Nagaoka, Takashi	Shizuoka Cancer Center Res. Inst.
Iwasaki, Kiyotaka	Waseda Univ.
Umezumi, Mitsuo	Waseda Univ. Graduate School
Takeda, Sunao	Nihon Kohden Corp.
Togawa, Tatsuo	Waseda Univ.

11:15-11:30

An Optical Fiber Photoplethysmographic System for Central Nervous System Tissue, pp. 803-806

Phillips, Justin	St Bartholomew's Hospital
Kyriacou, Panayiotis	City Univ.
George, Kuriakose Joshi	Queen Mary, Univ. of London
Priestley, John	Queen Mary, Univ. of London
Langford, Richard	St Bartholomew's Hospital

11:30-11:45

Optical Dialysis Adequacy Sensor: Contribution of Chromophores to the Ultra Violet Absorbance in the Spent Dialysate, pp. 807-810

Lauri, Kai	Tallinn Univ. of Tech.
Tanner, Risto	National Inst. of Chemical Physics and Biophysics
Luman, Merike	North-Estonian Regional Hospital
Jerotskaja, Jana	Tallinn Univ. of Tech.
Fridolin, Ivo	Centre of Biomedical Engineering

11:45-12:00

Fiber-Optic Immuno-Biosensor for Rapid and Accurate Detection of Nerve Growth Factor in Human Blood, pp. 811-814

Tang, Liang
Cha, Yong-Mei
Li, Hongmei
Chen, Peng-sheng
Lin, Shien-Fong

Cedars-Sinai Medical Center
Mayo Clinic Coll. of Medicine
Cedars-Sinai Medical Center
Cedars-Sinai Medical Center
Cedars-Sinai Medical Center

12:00-12:15

Pulse Oximeter Improvement with an ADC-DAC Feedback Loop and a Radial Reflectance Sensor, pp. 815-818

Thompson, David
Wareing, Austin
Day, Dwight
Warren, Steve

Kansas State Univ.
Kansas State Univ.
Kansas State Univ.
Kansas State Univ.

ThB06

Empire Hudson

Surgical Robotics III (Oral Session)

10:45-11:00

Development of a Surgical Simulator for Laparoscopic Esophageal Procedures, pp. 819-822

Choi, Changmok
Han, Hyonyung
An, Bummo
Kim, Jung

Korea Advanced Inst. of Science and Tech.
Korea Advanced Inst. of Science and Tech.
Korea Advanced Inst. of Science and Tech.
Korea Advanced Inst. of Science and Tech.

11:00-11:15

Model Based Control Algorithms for Robotic Assisted Beating Heart Surgery, pp. 823-828

Bebek, Ozkan
Cavusoglu, M. Cenk

Case Western Res. Univ.
Case Western Res. Univ.

11:15-11:30

Analysis of the Surgery Task for the Force Feedback Amplification in the Minimally Invasive Surgical System, pp. 829-832

Pitakwatchara, Phongsan
Warisawa, Shin'ichi
Mitsuishi, Mamoru

The Univ. of Tokyo
The Univ. of Tokyo
The Univ. of Tokyo

11:30-11:45

Haptic Rendering & Perception Studies for Laparoscopic Surgery Simulation, pp. 833-836

McColl, Ryan
Brown, Ian
Seligman, Cory
Lim, Fabian
Alsaraira, Amer

Monash Univ.
Monash Univ.
Monash Univ.
Monash Univ.
Monash Univ.

11:45-12:00

Multi-Sensory Force/deformation Cues for Stiffness Characterization in Soft-Tissue Palpation, pp. 837-840

Tavakoli, Mahdi
Aziminejad, Arash
Patel, Rajni
Moallem, Mehrdad

CSTAR, London Health Sciences Centre
CSTAR, London Health Sciences Centre
CSTAR, London Health Sciences Centre
CSTAR, London Health Sciences Centre

ThB07 Cantor-Jolson
Functional Cardiac Tissue Engineering (Oral Session)

10:45-11:00

Cardiac Arrhythmogenesis and Temperature, pp. 841-844

Shah, Ujas Stony Brook Univ.
Bien, Harold Stony Brook Univ.
Entcheva, Emilia Stony Brook Univ.

11:00-11:15

Controllable Bio-Microactuator Powered by Muscle Cells*

Akiyama, Yoshitake Tokyo Univ. of Agriculture and Tech.

11:15-11:30

Characterization of Electrical Stimulation Electrodes for Cardiac Tissue Engineering, pp. 845-848

Tandon, Nina Columbia Univ.
Vunjak-Novakovic, Gordana Columbia Univ.

11:30-11:45

Engineered Cardiac Tissues for in Vitro Assessment of Contractile Function and Repair Mechanisms, pp. 849-852

Kim, Do Eun Columbia Univ.
Lee, Eun Jung Columbia Univ.
Martens, Timothy Columbia Univ.
Kara, Rina Columbia Univ.
Chaudhry, Hina Columbia Univ.
Itescu, Silviu Columbia Univ.
Costa, Kevin Columbia Univ.

11:45-12:00

Biomechanics of Engineered Heart Valve Tissues, pp. 853-854

Sacks, Michael Univ. of Pittsburgh

ThB08 Juilliard
Special Session: Neural Imaging and Sensing I (Oral Session)

10:45-11:00

Quantum Dot-FRET Systems for Imaging of Neuronal Action Potentials, pp. 855-858

Nadeau, Jay Louise McGill Univ.
Clarke, Samuel McGill Univ.
Hollmann, Annette McGill Univ.
Bahcheli, Daniel McGill Univ.

11:00-11:15

A New Multimodal Imaging Strategy for Integrating Fmri with EEG, pp. 859-862

Liu, Zhongming Univ. of Minnesota
He, Bin Univ. of Minnesota

ThB09 Gramercy-Olmstead
Coronary Blood Flow (Oral Session)

10:45-11:00

Ultrasonic Doppler Vibrometry: Measurement of Left Ventricular Wall Vibrations Associated with Coronary Artery Disease, pp. 863-866

Sikdar, Siddhartha Univ. of Washington
Beach, Kirk Univ. of Washington
Goldberg, Steven Univ. of Washington
Lidstrom, Matthew Univ. of Washington
Kim, Yongmin Univ. of Washington

11:00-11:15

Arterial Pulse Wave Velocity in Coronary Arteries, pp. 867-870

Aguado-Sierra, Jazmin	Imperial Coll. London
Parker, Kim H.	Imperial Coll. London
Davies, Justin E.	ICCH, St. Mary's Hospital, Imperial Coll. London
Francis, Darrel	ICCH, St. Mary's Hospital, Imperial Coll. London
Hughes, Alun D.	ICCH, St. Mary's Hospital, Imperial Coll. London
Mayet, Jamil	ICCH, St. Mary's Hospital, Imperial Coll. London

11:15-11:30

Two-Dimensional Computational Fluid Dynamic Analysis of Wall Shear Stress

Distribution in Left Coronary Artery, pp. 871-874

Smith, Sahid	Florida Agricultural and Mechanical Univ.
Wesson, G. Dale	Florida Agricultural and Mechanical Univ.
Austin, Shawn	Florida Agricultural and Mechanical Univ.
Moore, Carl	Florida Agricultural and Mechanical Univ.

11:30-11:45

Numerical Investigation of Blood Flow in a Sequential Aorto-Coronary Bypass Graft Model, pp. 875-878

Sankaranarayanan, Meena	Inst. for Infocomm Res.
Ghista, Dhanjoo	Nanyang Tech. Univ.
Chua, Leok Poh	Nanyang Tech. Univ.
Tan, Yong Seng	National Heart Center

11:45-12:00

Non-Invasive Measurement of Coronary Flow Reserve in Mice by Doppler Ultrasound*

Hartley, Craig J.	Baylor Coll. of Medicine
Reddy, Anilkumar K.	Baylor Coll. of Medicine
Michael, Lloyd H.	Baylor Coll. of Medicine
Entman, Mark L.	Baylor Coll. of Medicine
Madala, Sridhar	Indus Inst.
Taffet, George E.	Baylor Coll. of Medicine

ThB11

Belasco

Student Paper Competition I (Special Session)

10:45-11:00

Non-Invasive Diagnosing Malignant Melanoma by Multi-Spectral Optical Nevoscope*

Wang, Song	New Jersey Inst. of Tech.
Dhawan, Atam	New Jersey Inst. of Tech.

11:00-11:15

Psychophysics of Prosthetic Vision: I. Visual Scanning and Visual Acuity*

Chen, Spencer Chin-Yu	Univ. of New South Wales
Hallum, Luke E.	Univ. of New South Wales
Suaning, Gregg	The Univ. of Newcastle
Lovell, Nigel H	Univ. of New South Wales

11:30-11:45

Wavelet Compression of Multichannel ECG Data by Enhanced Set Partitioning in Hierarchical Trees Algorithm*

SharifAhmadian, Ershad	Shahed Univ.
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11:45-12:00

Semi-Automated Analysis of Coronary Flow Doppler Images: Validation with Manual Tracings*

Magagnin, Valentina	Pol. of Milan
Caiani, Enrico	Pol. of Milan
Delfino, Luigi	Istituto ortopedico Galeazzi-Univ. degli studi di Milano
Champlon, Christine	Pol. of Milan
Cerutti, Sergio	Pol. Univ. of Milan
Turiel, Maurizio	Istituto ortopedico Galeazzi-Univ. degli studi di Milano

12:00-12:15

*LF/(LF+HF) Index in Ventricular Repolarization Variability Related and Unrelated to Heart Rate Variability**

Altuve, Miguel
Sara Wong, Castañeda
Passariello, Gianfranco
Carrault, Guy
Hernandez, Alfredo

Simon Bolivar Univ.
Univ. Simon Bolivar
Univ. Simón Bolívar
Univ. de Rennes 1
LTSI. INSERM U642

ThB12

Palace Wintergarden

Characterization of Electrode-Electrode Interfaces for Neural Stimulation I (Oral Session)

10:45-11:00

Modeling the Electrode-Electrolyte Interface for Recording and Stimulating Electrodes, pp. 879-881

Troy, John
Cantrell, Donald Robinson
Taflove, Allen
Ruoff, Rodney S.

Northwestern Univ.
Northwestern Univ.
Northwestern Univ.
Northwestern Univ.

11:00-11:15

In Vivo and in Vitro Differences in the Charge-Injection and Electrochemical Properties of Iridium

Oxide Electrodes, pp. 882-885

Cogan, Stuart F.

EIC Lab. Inc.

11:15-11:30

In Vitro and in Vivo Charge Capacity of AIROF Microelectrodes, pp. 886-889

Hu, Zhe
Troyk, Philip
Brawn, Tim
Margoliash, Dan
Cogan, Stuart

Illinois Inst. of Tech.
Illinois Inst. of Tech.
The Univ. of Chicago
The Univ. of Chicago
EIC Lab. Inc.

11:30-11:45

Charge Injection Capacity of TiN Electrodes for an Extended Voltage Range, pp. 890-892

Patan, Mustafa
Shah, Tosha
Sahin, Mesut

New Jersey Inst. of Tech.
New Jersey Inst. of Tech.
New Jersey Inst. of Tech.

11:45-12:00

Optimizing Deep Brain Stimulation Parameter Selection with Detailed Models of the Electrode-Tissue Interface, pp. 893-895

McIntyre, Cameron
Butson, Christopher
Maks, Christopher
Noecker, Angela

Cleveland Clinic Foundation
Cleveland Clinic Foundation
Cleveland Clinic Foundation
Cleveland Clinic Foundation

12:00-12:15

Effects of Nano Red Elemental Selenium on Sodium Currents in Rat Dorsal Root

Ganglion Neurons, pp. 896-899

Yuan, Huijun
lin, jjarui
Lan, Tong-han

Huazhong Univ. of Sci and Tech.
Huazhong Univ. of Sci &Tech.
Huazhong Univ. of Science and Tech.

ThB14

Chelsea-Gotham

Wireless Sensors and Telemetry Systems 1 (Oral Session)

10:45-11:00

A Non Invasive Wearable Sensor for the Measurement of Brain Temperature, pp. 900-902

DITTMAR, Andre	INSA Lyon
GEHIN, Claudine	INSA Lyon
DELHOMME, Georges	INSA Lyon
Boivin, Diane	McGill Univ.
Dumont, Guy	Univ. of British Columbia
Mott, Christopher	The Univ. of British Columbia

11:00-11:15

Acquiring High-Rate Neural Spike Data with Hardware-Constrained Embedded Sensors, pp. 903-907

Farshchi, Shahin	Univ. of California, Los Angeles
Pesterev, Aleksey	Univ. of California, Los Angeles
Ho, Wan-Lun	Univ. of Southern California
Judy, Jack	UCLA

11:15-11:30

Wearable, Cuff-Less PPG-Based Blood Pressure Monitor with Novel Height Sensor, pp. 908-911

Shaltis, Phillip	MIT
Reisner, Andrew	Massachusetts General Hospital
Asada, Harry	MIT

11:30-11:45

A Wearable Reflectance Pulse Oximeter for Remote Physiological Monitoring, pp. 912-915

Mendelson, Yitzhak	Worcester Pol. Inst.
Comtois, Gary	WPI
Duckworth, R James	WPI

11:45-12:00

An Application of Capacitive Electrode for Detecting Electrocardiogram of Neonates and Infants, pp. 916-919

Kato, Tsuyoshi	Tokyo Denki Univ.
Ueno, Akinori	Tokyo Denki Univ.
Kataoka, Sachiyo	Apprica Childcare Inst.
Hoshino, Hiroshi	Tokyo Denki Univ.
Ishiyama, Yoji	Kyorin Univ.

12:00-12:15

Non-Invasive Respiration Rate Estimation Using Ultra-Wideband Distributed Cognitive Radar System, pp. 920-923

Chen, Yifan	Nanyang Tech. Univ.
Gunawan, Erry	Nanyang Tech. Univ.
Low, Kay soon	Nanyang Tech. Univ.
Kim, Yongmin	Univ. of Washington
Soh, Cheong Boon	Nanyang Tech. Univ.
Leyman, Rahim	A*STAR
Lin, Lin Thi	Nanyang Tech. Univ.

ThB15

O'Neill

Cardiac Imaging II (Oral Session)

10:45-11:00

Temporal Tracking of Coronaries in MSCTA by Means of 3D Geometrical Moments, pp. 924-927

Laguitton, Soizic	Univ. of Rennes 1
Boldak, Cezary	Inst. of Bialystok
Bousse, Alexandre	LTSI-INSERM U642
Yang, Guanyu	Southeast Univ.
Toumoulin, Christine	Univ. de Rennes I

11:00-11:15

Endo and Epicardium Contour Modeling Based on Markov Random Fields and Active Contours, pp. 928-931

Cordero-Grande, Lucilio
Casaseca-de-la-Higuera, Pablo
Martín-Fernández, Marcos
Alberola-López, Carlos

Univ. de Valladolid
Univ. de Valladolid
Univ. of Valladolid
Univ. de Valladolid

11:15-11:30

Automated Pericardial Fat Quantification in CT Data, pp. 932-935

Bandekar, Alok
Naghavi, Morteza
Kakadiaris, Ioannis

Univ. of Houston
Association for
Univ. of Houston

11:30-11:45

A Novel Segmentation Approach for Echocardiographic Images*

BIAN, Zhengzhong
Yu, Gang
Yang, Yuxiang
li, peng

Xi'an Jiaotong Univ.
Xi'An Jiaotong Univ.
Xi'an Jiaotong Univ.
xi an jiaotong Univ.

11:45-12:00

Model-Based Image Reconstruction for Dynamic Cardiac Perfusion MRI from Sparse Data, pp. 936-941

Awate, Suyash P.
DiBella, Edward V.R
Tasdizen, Tolga
Whitaker, Ross T.

Univ. of Utah
Univ. of Utah
Univ. of Utah
Univ. of Utah

12:00-12:15

Immune Cells Detection of the in Vivo Rejecting Heart in USPIO-Enhanced Magnetic Resonance Imaging, pp. 942-945

Chang, Hsun-Hsien
Moura, José M. F.
Wu, Yijen L.
Ho, Chien

Carnegie Mellon Univ.
Carnegie Mellon Univ.
Carnegie Mellon Univ.
Carnegie Mellon Univ.

ThB16

Musicbox-Majestic

Biomedical Infrared Imaging (Oral Session)

10:45-11:00

Analysis of Breathing Air Flow Patterns in Thermal Imaging, pp. 946-952

Fei, Jin
Pavlidis, Ioannis

Univ. of Houston
Univ. of Houston

11:00-11:15

Thermal and Geometrical Parameters Evaluation Using Thermal Wave Method*

Owczarek, Grzegorz

National Res. Inst.

11:15-11:30

Evaluation of Feature-Based Registration in Dynamic Infrared Imaging for Breast Cancer Diagnosis, pp. 953-956

AGOSTINI, VALENTINA
Delsanto, Silvia
Molinari, Filippo
Knaflitz, Marco

Pol. di Torino
Pol. di Torino
Pol. di Torino
Pol. di Torino

11:30-11:45

Segmentation and Landmark Identification in Infrared Images of the Human Body, pp. 957-960

Herry, Christophe
Frize, Monique
Goubran, Rafik A.

Carleton Univ.
Carleton Univ.
Carleton Univ.

11:45-12:00

Field-Warp Registration for Biomedical High-Resolution Thermal Infrared Images, pp. 961-964

Tangherlini, Andrea
Merla, Arcangelo
Romani, Gian Luca

Univ. of Chieti-Pescara
Univ. of Chieti-Pescara, Fondazione "Univ. G. D'Annunzio",
Univ. of Chieti-Pescara, Fondazione "Univ. G. D'Annunzio",

12:00-12:15

Overlay of Thermal and Visual Medical Images Using Skin Detection and Image Registration, pp. 965-967

Schaefer, Gerald
Tait, Roger J.
Zhu, Shao Ying

Nottingham Trent Univ.
Nottingham Trent Univ.
Univ. of Derby

ThBP1

Westside Ballroom South

Automation and Computer-Aided Surgery (Poster Session)

11:30-11:45

A Biomechanical Model of the Pelvic Cavity: First Steps, pp. 968-971

RUBOD, Chrystčle
BOUKERROU, Malik
Rousseau, Jean
VIARD, Romain
BRIEU, Mathias
DUBOIS, Patrick

Univ. Hospital
Univ. Hospital
INSERM - Univ. de Lille 2
CHRU Lille
Ec. Centrale de Lille
Inserm

ThBP2

Westside Ballroom South

Electrophysiological Neuroimaging - 2 (Poster Session)

10:45-11:00

A Comparison of Adaptive and Non-Adaptive EEG Source Localization Algorithms, pp. 972-975

Russell, John
Koles, Zoltan

Univ. of Alberta
Univ. of Alberta

11:00-11:15

Removal of Ocular Artifacts for High Resolution EEG Studies: A Simulation Study, pp. 976-979

Babiloni, Fabio
Marciani, Maria Grazia
Cichocki, Andrzej
Mattia, Donatella
Cincotti, Febo
Astolfi, Laura
Salinari, Serenella
De Vico Fallani, Fabrizio

Univ. of Rome
Tor Vergata Univ.
BSI RIKEN
Fondazione Santa Lucia IRCCS
Fondazione Santa Lucia IRCCS
Univ. of Rome
La Sapienza Univ.
Univ. La Sapienza

11:15-11:30

Neuroelectrical Source Imaging of Mu Rhythm Control for BCI Applications, pp. 980-983

Mattiocco, Marco
Mattia, Donatella
Babiloni, Fabio
Bufalari, Simona
Sergio, Silvia
Salinari, Serenella
Marciani, Maria Grazia
Cincotti, Febo

Fondazione Santa Lucia IRCCS
Fondazione Santa Lucia IRCCS
Univ. of Rome
Fondazione Santa Lucia IRCCS
La Sapienza Univ.
La Sapienza Univ.
Tor Vergata Univ.
Fondazione Santa Lucia IRCCS

11:30-11:45

Combination of Event-Related Potentials and Functional Magnetic Resonance Imaging During Single-Letter Reading, pp. 984-987

Casarotto, Silvia	Pol. Univ. of Milan
Bianchi, Anna Maria	Pol. di Milano
Cerutti, Sergio	Pol. Univ. of Milan
Vanello, Nicola	Univ. of Pisa
Ricciardi, Emiliano	Univ. of Pisa
Gentili, Claudio	Univ. of Pisa
Sani, Lorenzo	Univ. of Pisa
Bonino, Daniela	Univ. of Pisa
Guazzelli, Mario	Univ. of Pisa
Pietrini, Pietro	Univ. of Pisa
Landini, Luigi	Univ. of Pisa
Chiarenza, Giuseppe Augusto	Az. Osp. "G. Salvini", Rho Hospital

11:45-12:00

Brain Connectivity Structure in Spinal Cord Injured : Evaluation by Graph Analysis, pp. 988-991

De Vico Fallani, Fabrizio	Univ. La Sapienza
Astolfi, Laura	Univ. of Rome
Salinari, Serenella	La Sapienza Univ.
Mattia, Donatella	Fondazione Santa Lucia IRCCS
Cincotti, Febo	Fondazione Santa Lucia IRCCS
Babiloni, Fabio	Univ. of Rome

12:00-12:15

Estimation of Cortical Dipole Sources by Equivalent Dipole Layer Imaging and Independent Component Analysis, pp. 992-995

Aoki, Naotoshi	Niigata Univ.
Hori, Junichi	Niigata Univ.
He, Bin	Univ. of Minnesota

12:00-12:15

Cortical Connectivity Patterns During Imagination of Limb Movements in Normal Subjects and in a Spinal Cord Injured Patient, pp. 996-999

Astolfi, Laura	Univ. of Rome
Gao, Shang kai	Tsinghua Univ.
Wu, Wei	Tsinghua Univ.
Babiloni, Fabio	Univ. of Rome
Ursino, Mauro	Univ. of Bologna
Zavaglia, Melissa	Univ. of Bologna
Cincotti, Febo	Fondazione Santa Lucia IRCCS
Mattia, Donatella	Fondazione Santa Lucia IRCCS
Mattiocco, Marco	Fondazione Santa Lucia IRCCS
Marciani, Maria Grazia	Tor Vergata Univ.
De Vico Fallani, Fabrizio	Univ. La Sapienza

12:00-12:15

Evaluation of Cortical Imaging Techniques Based on Somatosensory Evoked Potentials, pp. 1000-1001

Bai, Xiaoxiao	Univ. of Minnesota
Towle, V	Univ. of Chicago
He, Eric J.	Univ. of Minnesota
He, Bin	Univ. of Minnesota

12:00-12:15

Muscle and Eye Movement Artifact Removal Prior to EEG Source Localization, pp. 1002-1005

Hallez, Hans J.	Ghent Univ.
Vergult, Anneleen	Katholieke Univ. Leuven
Phlypo, Ronald	Ghent Univ.
Van Hese, Peter	Ghent Univ.
De Clercq, Wim	Katholieke Univ. Leuven
D'Asseler, Yves	Ghent Univ.
Van de Walle, Rik	Ghent Univ.
Vanrumste, Bart	Katholieke Univ. Leuven
Van Paesschen, Wim	Katholieke Univ. Leuven
Van Huffel, Sabine	Katholieke Univ. Leuven
Lemahieu, Ignace	Ghent Univ.

ThBP3

Westside Ballroom South

Neural Imaging (Poster Session)

10:45-11:00

Boost up the Detection Sensitivity of ASL Perfusion Fmri through Support Vector Machine, pp. 1006-1009

Wang, Ze	Univ. of Pennsylvania
Detre, John A.	Univ. of Pennsylvania
Childress, AnnaRose	Univ. of Pennsylvania

11:00-11:15

Time-Shifted Z-Score and Student New Statistical Tests in Fmri, pp. 1010-1013

DEWALLE, ANNE-SOPHIE	Univ. des Sciences et Tech. de Lille
Betrouni, Nacim	Inst. de Tech. Médicale
Vermandel, Maximilien	Univ. de Lille
IVANOVA, POLINA	Univ. LILLE1
Steinling, Marc	Univ. Hospital
Rousseau, Jean	INSERM - Univ. de Lille 2
Vasseur, Christian	USTL

11:15-11:30

Functional Feature Embedded Space Mapping of Fmri Data, pp. 1014-1017

Hu, Jin	Inst. of Automation, Chinese Acad. of Sciences
Tian, Jie	Inst. of Automation, Chinese Acad. of Sciences

11:30-11:45

Improvement to Functional Magnetic Resonance Imaging (fMRI) Methods Using Non-Rigid Body Image Registration Methods for Correction in the Presence of Susceptibility Artifact Effects, pp. 1018-1020

Wu, Dee	Univ. of Oklahoma Health Sciences
Guo, Yujun	Kent State Univ.
Lu, Cheng-Chang	Kent State Univ.
Suri, Jasjit	Biomedical Tech.

11:45-12:00

A Compatible Electrocutaneous Display for Functional Magnetic Resonance Imaging Application, pp. 1021-1024

Hartwig, Valentina	Univ. of Pisa
Cappelli, Claudia	Univ. of Pisa
Vanello, Nicola	Univ. of Pisa
Ricciardi, Emiliano	Univ. of Pisa
Scilingo, Enzo Pasquale	Univ. of Pisa
Giovannetti, Giulio	CNR
Santarelli, Filomena	CNR
Positano, Vincenzo	CNR
Landini, Luigi	Univ. of Pisa
Bicchi, Antonio	Univ. of Pisa
Pietrini, Pietro	Univ. of Pisa

12:00-12:15

Integrated Semiconductor Optical Sensors for Chronic, Minimally-Invasive Imaging of Brain Function, pp. 1025-1028

Lee, Thomas	Stanford Univ.
Levi, Ofer	Stanford Univ.
Cang, Jianhua	Univ. of California, San Francisco
Kaneko, Megumi	Univ. of California, San Francisco
Stryker, Michael P.	Univ. of California, San Francisco
Smith, Stephen	Stanford Univ.
Shenoy, Krishna	Stanford Univ.
Harris, James S.	Stanford Univ.

12:00-12:15

Functional MR Imaging of the Cervical Spinal Cord by Using of Electrical Stimulation at LI4 (Hegu), pp. 1029-1031

Wang, WeiDong	The 2nd Hospital, Shantou Univ. Medical Coll.
Kong, KangMei	The 2nd Hospital, Shantou Univ. Medical Coll.
Xiao, YeYu	ShantouUniversity Medical Coll.
Wang, XinJia	Shantou Univ. Medical Coll.
Liang, Bing	ShantouUniversity Medical Coll.
Qi, WeiLi	Shantou Univ. Medical Coll.
Wu, RenHua	Shantou Univ. Medical Coll.

12:00-12:15

Spatial Frequency Modulates the Human Visual Cortical Response to Temporal Frequency Variation: An Fmri Study, pp. 1032-1035

Mirzajani, Ali	Iran Univ. of Medical Sciences & Tehran Univ. of
Oghabian, Mohammad Ali	Tehran Univ. of Medical Sciences
Riyahi-Alam, Nader	Tehran Univ. of Medical Sciences (TUMS)
Saberi, Houshang	Tehran Univ. of Medical Sciences
Firouz Nia, Kavous	Tehran Univ. of Medical Sciences
Bakhtiary, Morteza	Tehran Univ. of Medical Sciences (TUMS)

12:00-12:15

The Brain Mapping on Reinforcement Acupuncture Stimulation at ST36 (zusanli) Evidenced by Fmri, pp. 1036-1039

Xiao, YeYu	ShantouUniversity Medical Coll.
Chen, XiaoKe	Shantou Univ. Medical Coll.
Du, Li	Shantou Univ. Medical
Pei, RenQuan	Shantou Univ. Medical Coll.
Chen, FengYing	Shantou Univ. Medical Coll.
Liu, GuoRui	Shantou Univ. Medical Coll.
Wu, RenHua	Shantou Univ. Medical Coll.

12:00-12:15

Multimodal Analysis of a Sustained Attention Protocol: Continuous Performance Test Assessed with Near Infrared Spectroscopy and EEG, pp. 1040-1043

Butti, Michele	Pol. Univ. of Milan
Pastori, Aurora	IRCCS "E. Medea"
Merzagora, Anna Caterina	Drexel Univ.
Zucca, Claudio	IRCCS "E. Medea"
Bianchi, Anna Maria	Pol. di Milano
Reni, Gianluigi	Koinč s.r.l.
Cerutti, Sergio	Pol. Univ. of Milan

12:00-12:15

Diagnosis of Brain Abnormality Using Both Structural and Functional MR Images, pp. 1044-1047
 Fan, Yong Univ. of Pennsylvania
 Rao, Hengyi Univ. of Pennsylvania
 Giannetta, Joan The Children's Hospital of Philadelphia
 Hurt, Hallam The Children's Hospital of Philadelphia
 Wang, Jiongjiong Univ. of Pennsylvania
 Davatzikos, Christos Univ. of Pennsylvania
 Shen, Dinggang Univ. of Pennsylvania

12:00-12:15

A New Methodology Based on Q-Entropy for Breast Lesion Classification in 3-D Ultrasound Images, pp. 1048-1051
 Rodrigues, Paulo Sérgio National Lab. for Scientific Computing
 Giraldi, Gilson National Lab. for Scientific Computing
 Provenzano, Márcia Federal Univ. of Rio de Janeiro
 Faria, Marcelo Federal Univ. of Rio de Janeiro
 Chang, Ruey-Feng National Chung Cheng Univ.
 Suri, Jasjit Biomedical Tech.

12:00-12:15

Coma Duration Prediction in Diffuse Axonal Injury Analyses of Apparent Diffusion Coefficient and Clinical Prognostic Factors, pp. 1052-1055
 Zheng, WenBin Second hospital, Shantou Univ. Medical Coll.
 Liu, GuoRui Shantou Univ. Medical Coll.
 Kong, KangMei Shantou Univ. Medical Coll.
 Wu, RenHua Shantou Univ. Medical Coll.

12:00-12:15

Symmetry Identification Using Partial Surface Matching and Tilt Correction in 3D Brain Images, pp. 1056-1060
 Liu, Xin Columbia Univ.
 Celina, Imielinska Columbia Univ.
 Laine, Andrew Columbia Univ.
 Connolly, Sander Columbia Univ.
 Anthony, L. D'Ambrosio Columbia Univ.

12:00-12:15

A New Neural Imaging Approach Using a CMOS Imaging Device, pp. 1061-1064
 Ng, David Nara Inst. of Science and Tech.
 Tokuda, Takashi Nara Inst. of Science and Tech.
 Nakagawa, Takuma Nara Inst. of Science and Tech.
 Tamura, Hideki Nara Inst. of Science and Tech.
 Nunoshita, Masahiro Nara Inst. of Science and Tech.
 Ishikawa, Yasuyuki Nara Inst. of Science and Tech.
 Shiosaka, Sadao Nara Inst. of Science and Tech.
 Ohta, Jun Nara Inst. of Science and Tech.

ThBP4	Westside Ballroom South
Cardiac Imaging IV (Poster Session)	

10:45-11:00

Fast Edge-Preserving Filtering for 3D+t Echocardiographic Volume Rendering, pp. 1065-1068
 Yanez-Suarez, Oscar Univ. Autonoma Metropolitana - Iztapalapa
 Lerallut, Jean-Francois Univ. de Tech. de Compiegne

11:00-11:15

Diffusion Tensor MRI Study of Myocardium Structural Remodeling after Infarction in Porcine Model, pp. 1069-1072

Wu, Yin
Tse, H. F.
Wu, Ed X.

Univ. of Hong Kong
Univ. of Hong Kong
The Univ. of Hong Kong

11:15-11:30

Tangential Curved Planar Reformation for Topological and Orientation Invariant Visualization of Vascular Trees, pp. 1073-1076

Lee, Noah
Rasch, Matthias

Columbia Univ.
Siemens Corp. Res.

11:30-11:45

Unsupervised Segmentation of Cardiac PET Transmission Images for Automatic Heart Volume Extraction, pp. 1077-1080

Juslin, Anu
Tohka, Jussi

Tampere Univ. of Tech.
Tampere Univ. of Tech.

11:45-12:00

Analysis of Ventricular Contraction by Factorial Phase Imaging with Equilibrium Radionuclide Angiography, pp. 1081-1084

Jimenez-Angeles, Luis
Medina, Veronica
Valdes-Cristerna, Raquel
Vallejo-Venegas, Enrique

Univ. Autonoma Metropolitana Iztapalapa
Univ. Autonoma Metropolitana
Univ. Autonoma Metropolitana
Inst. Nacional de Cardiologia Ignacio Chavez

12:00-12:15

Software Phantom for the Synthesis of Equilibrium Radionuclide Ventriculography Images, pp. 1085-1088

Ruiz-de-Jesus, Oscar
Jimenez-Angeles, Luis
Vallejo-Venegas, Enrique
Yanez-Suarez, Oscar

Univ. Autonoma Metropolitana Iztapalapa
Univ. Autonoma Metropolitana Iztapalapa
Inst. Nacional de Cardiologia Ignacio Chavez
Univ. Autonoma Metropolitana - Iztapalapa

12:00-12:15

Coding of Echocardiographic Image by Selection of the Normalization Matrix Using Fuzzy Logic, pp. 1089-1092

Zaghetto, Alexandre
Assis de Oliveira Nascimento, Francisco
dos Santos, Icaro
da Rocha, Adson F.

Univ. of Brasilia
Univ. of Brasilia
Univ. of Brasilia
Univ. of Brasilia

12:00-12:15

Monte Carlo Simulation of 3D Mapping of Cardiac Electrical Activity with Spinning Slit Confocal Optics, pp. 1093-1097

Hwang, Seong-min
Choi, Bum-Rak
Salama, Guy

Univ. of Pittsburgh, School of Medicine
Tulane Univ.
Univ. of Pittsburgh, School of Medicine

12:00-12:15

Arterial Viscoelasticity: A Fractional Derivative Model, pp. 1098-1101

Craiem, Damian
Armentano, Ricardo Luis

Favaloro Univ.
Favaloro Univ.

Bioelectromagnetism (Poster Session)

10:45-11:00

Analysing Specificity of a Bipolar EEG Measurement, pp. 1102-1105

Väisänen, Juho
 Ryyänen, Outi R. M.
 Hyttinen, Jari
 Malmivuo, Jaakko

Tampere Univ. of Tech.
 Tampere Univ. of Tech.
 Tampere Univ. of Tech.
 Tampere Univ. of Tech.

11:00-11:15

Mutual Information of Tri-Polar Concentric Ring Electrodes, pp. 1106-1109

Besio, W. G.
 Koka, Kanthaiah

Louisiana Tech. Univ.
 Louisiana Tech. Univ.

11:15-11:30

Effect of Source Depth on the Specificity of Bipolar EEG Measurements, pp. 1110-1113

Ryyänen, Outi R. M.
 Väisänen, Juho
 hyttinen, jari
 Malmivuo, Jaakko

Tampere Univ. of Tech.
 Tampere Univ. of Tech.
 Tampere Univ. of Tech.
 Tampere Univ. of Tech.

11:30-11:45

Three-Dimensional Finite-Difference EEG Forward Problem Solution on High Performance Computers, pp. 1114-1117

Mininel, Stefano
 Vatta, Federica
 Collaone, Andrea
 Bruno, Paolo
 Inchingolo, Paolo

Univ. of Trieste
 Univ. of Trieste
 Univ. of Trieste
 Univ. of Trieste
 Univ. of Trieste

11:45-12:00

TMS Effect on Visual Search Task, pp. 1118-1120

Ge, Sheng
 Matsuoka, Akira
 Iramina, Keiji
 Ueno, Shoogo

Kyushu Univ.
 Kyushu Univ.
 Kyushu Univ. Japan
 the Univ. of Tokyo

12:00-12:15

A FDM Anisotropic Formulation for EEG Simulation, pp. 1121-1125

Bruno, Paolo
 hyttinen, jari
 Inchingolo, Paolo
 Magrofuoco, Alberto
 Mininel, Stefano
 Vatta, Federica

Univ. of Trieste
 Tampere Univ. of Tech.
 Univ. of Trieste
 Univ. of Trieste
 Univ. of Trieste
 Univ. of Trieste

12:00-12:15

Basic Study on a Lower-Energy Defibrillation Method Using Computer Simulation and Cultured Myocardial Cell Models*

Yaguchi, Aya
 Nagase, Kazuya
 Ishikawa, Mitsukuni
 Iwasaka, Takehiro
 Odagaki, Masato
 Hosaka, Hidehiro

tokyo denki Univ.
 Tokyo Denki Univ.
 Tokyo Denki Univ.
 Tokyo Denki Univ.
 Tokyo Denki Univ.
 Tokyo Denki Univ.

Electrical Impedance Imaging II (Poster Session)

10:45-11:00

*Forward Problem of Three Dimensional EIT in the Thorax Model**

Wu, Huanli	Hebei Univ. of Tech.
Xu, Guizhi	Hebei Univ. of Tech.
Zhang, Shuai	Hebei Univ. of Tech.
Yang, Shuo	Hebei Univ. of Tech.
Li, Ying	Hebei Univ. of Tech.
Yan, Weili	Hebei Univ. of Tech.

11:00-11:15

*Resistivity Parameters Estimation Based on 2D Real Head Model Using Improved Differential Evolution Algorithm**

Li, Ying	Hebei Univ. of Tech.
Xu, Guizhi	Hebei Univ. of Tech.
Guo, Lei	Hebei Univ. of Tech.
Wang, Lei	Hebei Univ. of Tech.
Yang, Shuo	Hebei Univ. of Tech.
Rao, Liyun	The Methodist Hospital Res. Inst.
He, Renjie	Univ. of Texas Medical School at Houston
Yan, Weili	Hebei Univ. of Tech.

11:15-11:30

Capacitive Electrodes in Electroencephalography, pp. 1126-1129

von Ellenrieder, Nicolas	Univ. Nacional de La Plata
Spinelli, Enrique	Univ. Nacional de La Plata
Muravchik, Carlos	Univ. Nacional de La Plata

11:30-11:45

Tissue Conductivity Estimation in Two-Dimension Head Model Based on Support Vector Machine, pp. 1130-1133

Wu, Youxi	Hebei Univ. of Tech.
Guo, Lei	Hebei Univ. of Tech.
Dong, Guoya	Hebei Univ. of Tech.
Wu, Qing	Hebei Univ. of Tech.
Shen, Xueqin	Hebei Univ. of Tech.
Xu, Guizhi	Hebei Univ. of Tech.
Yan, Weili	Hebei Univ. of Tech.

11:45-12:00

*Using Polynomial Curve Fitting Method to Improve Image Quality in EIT**

Zhang, Jianjun	Hebei Univ. of Tech.
Xu, Guizhi	Hebei Univ. of Tech.
Zhao, Quanming	Hebei Univ. of Tech.
Yan, Weili	Hebei Univ. of Tech.

12:00-12:15

EIT Images with Improved Spatial Resolution Using a Realistic Head Model, pp. 1134-1137

Dong, Guoya	Hebei Univ. of Tech.
Bayford, Richard H.	Middlesex Univ.
Liu, Hesheng	Tsinghua Univ.
Zhou, Ying	Hebei Univ. of Tech.
Yan, Weili	Hebei Univ. of Tech.

Neural Informatics and Signal Processing 3 (Poster Session)

10:45-11:00

Estimation of Locomotion Speed and Directions Changes to Control a Vehicle Using Neural Signals from the Motor Cortex of Rat, pp. 1138-1141

Fukayama, Osamu
 Taniguchi, Noriyuki
 Suzuki, Takafumi
 Mabuchi, Kunihiko

The Univ. of Tokyo
 The Univ. of Tokyo
 The Univ. of Tokyo
 The Univ. of Tokyo

11:00-11:15

EEG Features Extraction for Motor Imagery, pp. 1142-1145

Cososchi, Stefan
 Strungaru, Rodica
 Ungureanu, Alexandru
 Ungureanu, Mihaela

Pol. Univ. of Bucharest
 Pol. Univ. of Bucharest
 Pol. Univ. of Bucharest
 Pol. Univ. of Bucharest

11:15-11:30

Combination of Frequency Bands in EEG for Feature Reduction in Mental Task Classification, pp. 1146-1149

Abdollahi, Farnaz
 Nasrabadi, Ali

Amirkabir Univ. of Tech.
 shahed Univ.

11:30-11:45

Localization of FFA Using SSVEP-Based Binocular Rivalry, pp. 1150-1153

Wang, Ruiping
 Zhang, Yajing
 Wu, Wei
 Liu, Hesheng
 Gao, Xiaorong
 Gao, Shangkai

Beijing Jiaotong Univ.
 Tsinghua Univ.
 Tsinghua Univ.
 Tsinghua Univ.
 Tsinghua Univ.
 Tsinghua Univ.

11:45-12:00

Coherence Analysis Over the Latent Period of Epileptogenesis Reveal That High-Frequency Communication Is Increased across Hemispheres in an Animal Model of Limbic Epilepsy, pp. 1154-1156

Simonotto, Jennifer D.
 Myers, Stephen
 Furman, Michael D.
 Norman, Wendy
 Liu, Zhao
 DeMarse, Thomas B.
 Carney, Paul
 Ditto, William L.

Univ. of Florida
 Univ. of Florida
 Univ. of Florida
 Univ. of Florida
 Univ. of Florida
 Univ. of Florida
 Univ. of Florida
 Univ. of Florida

12:00-12:15

Single Trial P300 Detection Based on the Empirical Mode Decomposition, pp. 1157-1160

Solis-Escalante, Teodoro
 Yanez-Suarez, Oscar
 Gentiletti, Gerardo Gabriel

Univ. Autonoma Metropolitana-Iztapalapa
 Univ. Autonoma Metropolitana - Iztapalapa
 Univ. Nacional de Entre Rios

12:00-12:15

An Effective BCI Speller Based on Semi-Supervised Learning, pp. 1161-1164

Li, Huiqi
 Li, Yuanqing
 Guan, Cuntai

Inst. for Infocomm Res.
 Inst. for Infocomm Res.
 Inst. for Infocomm Res.

12:00-12:15

A Non-Parametric Bayesian Approach to Spike Sorting, pp. 1165-1168

Wood, Frank
 Goldwater, Sharon
 Black, Michael J.

Brown Univ.
 Brown Univ.
 Brown Univ.

12:00-12:15

Psychophysics of Prosthetic Vision: III. Stochastic Rendering, the Phosphene Image, and Perception, pp. 1169-1172

Hallum, Luke E.
Cloherty, Shaun L.
Taubman, David S.
Suanning, Gregg
Lovell, Nigel H

Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
The Univ. of Newcastle
Univ. of New South Wales

12:00-12:15

Possible Macroscopic Indicators of Neural Maturation in Subcortical Auditory Pathways in School-Age Children, pp. 1173-1176

Dietmar, Hecker
Delb, Wolfgang
Corona, Farah I.
Strauss, Daniel J.

Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit

12:00-12:15

Source Estimation of Contrast-Related Perception Based on Frequency-Tagged Binocular Rivalry, pp. 1177-1180

Zhang, Yajing
Wang, Ruiping
Hong, Bo
Gao, Xiaorong
Gao, Shangkai

Tsinghua Univ.
Beijing Jiaotong Univ.
Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.

12:00-12:15

A Pilot Studies in Dynamic Profile of Multi Parameters of EEG in a Rat Model of Transient Middle Cerebral Artery Occlusion, pp. 1181-1184

Zhang, Shaomin
Tong, Kai Yu, Raymond
Zhang, Hengyi
Hu, Xiaoling
Zheng, Xiaoxiang

Zhejiang Univ.
The Hong Kong Pol. Univ.
Zhejiang Univ.
The Hong Kong Pol. Univ.
Zhejiang Univ.

12:00-12:15

Power Demodulation of Local Field Potential Recordings, pp. 1185-1188

Pearson, Sean
McNames, James

Portland State Univ.
Portland State Univ.

ThBP8

Westside Ballroom South

Sensorimotor and Neuromuscular Systems 2 (Poster Session)

10:45-11:00

Non-Asymptotical Postural Stabilization Strategy During Human Quiet Stance, pp. 1189-1192

Yasutake, Youko
Taniguchi, Satoshi
Nomura, Taishin

Osaka Univ.
Osaka Univ.
Osaka Univ.

11:00-11:15

Estimation of Optimal Location of EEG Reference Electrode for Motor Imagery Based BCI Using Fmri, pp. 1193-1196

Choi, Sang Han
Lee, Minho
Wang, Yijun
Hong, Bo

Kyungpook National Univ.
Kyungpook National Univ.
Tsinghua Univ.
Tsinghua Univ.

11:15-11:30

Can a Kinetic Optimization Criterion Predict Both Arm Trajectory and Final Arm Posture?, pp. 1197-1200
Wada, Yasuhiro Nagaoka Univ. of Tech.
Yamanaka, Kazuhiro Nagaoka Univ. of Tech.
Soga, Yousuke Nagaoka Univ. of Tech.
Tsuyuki, Kimitaka Nagaoka Univ. of Tech.
Kawato, Mitsuo ATR Computational Neuroscience Lab.

11:30-11:45

A Method for Monitoring Intra-Cortical Motor Cortex Responses in an Animal Model of Ischemic Stroke, pp. 1201-1203
Jensen, Winnie Aalborg Univ. DK
Rousche, Patrick J Univ. of Illinois at Chicago, US
Chiganos, Terry C Univ. of Illinois at Chicago, US

11:45-12:00

EMG-Based Detection of Inspiration in the Rat Diaphragm Muscle, pp. 1204-1207
Dow, Douglas Eric Mayo Clinic Coll. of Medicine
Mantilla, Carlos B Mayo Clinic Coll. of Medicine
Zhan, Wen-Zhi Mayo Clinic Coll. of Medicine
Sieck, Gary C Mayo Clinic Coll. of Medicine

12:00-12:15

Movement Time Planning in Human Movement with Via-Points, pp. 1208-1211
Saito, Hisashi Nagaoka Univ. of Tech.
Tsubone, Tadashi Nagaoka Univ. of Tech.
Wada, Yasuhiro Nagaoka Univ. of Tech.

12:00-12:15

An Autonomous, Broadband, Multi-Channel Neural Recording System for Freely Behaving Primates, pp. 1212-1215
Linderman, Michael Stanford Univ.
Gilja, Vikash Stanford Univ.
Santhanam, Gopal Stanford Univ.
Afshar, Afsheen Stanford Univ.
Ryu, Stephen Stanford Univ.
Meng, Teresa Stanford Univ.
Shenoy, Krishna Stanford Univ.

ThBP9 Westside Ballroom South
Sensory-Motor Assessment: Gait (Poster Session)

10:45-11:00

HMM-Fuzzy Model for Recognition of Gait Changes Due to Trip-Related Falls, pp. 1216-1219
Hassan, Rafiul The Univ. of Melbourne
Begg, Rezaul Victoria Univ.
Taylor, Simon Victoria Univ.
Kumar, Dinesh Kant Rmit Univ.

11:00-11:15

Gait Energy Efficiency in Children with Cerebral Palsy, pp. 1220-1223
Rosen, Sarah Drexel Univ.
Tucker, Carole Shriners Hospital for Children
Lee, Samuel Shriners Hospital for Children

11:15-11:30

Locomotor Disorders in Patients at Early Stages of Parkinson's Disease:

A Quantitative Analysis, pp. 1224-1227

Ferrarin, Maurizio
Carpinella, Ilaria
Rabuffetti, Marco
Calabrese, Elena
Mazzoleni, Paolo
Nemni, Raffaello

Foundation Don Carlo Gnocchi Onlus IRCCS
Foundation Don Carlo Gnocchi Onlus IRCCS
Foundation Don Carlo Gnocchi Onlus IRCCS
Foundation Don Carlo Gnocchi Onlus IRCCS
Foundation Don Carlo Gnocchi Onlus IRCCS
Foundation Don Carlo Gnocchi Onlus IRCCS

11:30-11:45

A Model-Based Approach for Assessing Parkinsonian Gait and Effects of Levodopa and Deep

Brain Stimulation, pp. 1228-1231

Cho, Catherine
Osaki, Yasuhiro
Kunin, Mikhail
Cohen, Bernard
Olanow, C Warren
Raphan, Theodore

Mount Sinai School of Medicine
Mount Sinai School of Medicine
Brooklyn Coll. CUNY
Mount Sinai School of Medicine
Mount Sinai School of Medicine
Brooklyn Coll. of the City Univ. of New York

11:45-12:00

Effects on Normal Gait of a New Active Knee Orthosis for Hemiparetic Gait Retraining, pp. 1232-1235

Patel, Shyamal
Patriitti, Ben
Nikitczuk, Jason
Weinberg, Brian
Della Croce, Ugo
Mavroidis, Constantinos
Bonato, Paolo

Harvard Medical School
Harvard Medical School
Northeastern Univ.
Northeastern Univ.
Univ. of Sassari
Northeastern Univ.
Harvard Medical School

ThBP10

Westside Ballroom South

Applied Neurocomputing, 1 (Poster Session)

10:45-11:00

Loudness Normalization for Cochlear Implant Using Pulse-Rate Modulation to Convey Mandarin Tonal Information: A Model-Based Study, pp. 1236-1239

Chen, Fei
Zhang, Yuan-Ting

The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong

11:00-11:15

An Offline/Real-Time Artifact Rejection Strategy to Improve the Classification of Multi-Channel

Evoked Potentials*

Gupta, Lalit
Kook, Hyunseok
Molfese, Dennis
Lyytinen, Heikki
Fadem, K.C

Southern Illinois Univ.
Southern Illinois Univ.
Univ. of Louisville
Univ. of Jyvaskyla
Neuronetrix, Inc.

11:15-11:30

Subthalamic Nucleus Deep Brain Stimulation: Accurate Axonal Threshold Prediction with Diffusion

Tensor Based Electric Field Models, pp. 1240-1243

Chaturvedi, Ashutosh
Butson, Christopher
Cooper, Scott
McIntyre, Cameron

Case Western Res. Univ.
Cleveland Clinic
Cleveland Clinic Foundation
Cleveland Clinic Foundation

11:30-11:45

Hardware Considerations of a Spatial Filter for Decorrelating High-Density Multielectrode Neural Recordings, pp. 1244-1247

Thomson, Kyle
Oweiss, Karim

Michigan State Univ.
Michigan State Univ.

11:30-11:45

Affective State Control for Neuroprostheses, pp. 1248-1251

Doyle, Thomas E.
Kucerovsky, Z.
Ieta, Adrian

McMaster Univ.
Univ. of Western Ontario
Murray State Univ.

ThBP11

Westside Ballroom South

EMG Analysis (Poster Session)

10:45-11:00

Multi-Receiver Precision Decomposition of Intramuscular EMG Signals, pp. 1252-1255

Nawab, Syed Hamid
Wotiz, Robert
De Luca, Carlo J.

Boston Univ.
Boston Univ.
Boston Univ.

11:00-11:15

How Much Can We Trust the Electromechanical Delay Estimated by Using Electromyography?, pp. 1256-1259

Conforto, Silvia
Mathieu, Pierre A.
Schmid, Maurizio
Bibbo, Daniele
Florestal, Joel R.
D'Alessio, Tommaso

Univ. Roma TRE
Univ. de Montréal, Canada
Univ. Roma TRE
Univ. Roma TRE
Univ. de Montréal, Canada
Univ. Roma TRE

11:15-11:30

Resolution of Superpositions in EMG Signals Using Belief Propagation: Results for the Known Constituent Problem, pp. 1260-1263

Koch, Volker Maximillian
McGill, Kevin
Loeliger, Hans-Andrea

ETH Zurich
VA Palo Alto Health Care System
ETH Zurich

ThBP12

Westside Ballroom South

Neural Engineering (Poster Session)

10:45-11:00

A Four Command BCI System Based on the SSVEP Protocol, pp. 1264-1267

Maggi, Luca
Parini, Sergio
Piccini, Luca
Panfili, Guido
Andreoni, Giuseppe

Pol. di Milano
Pol. di Milano
Pol. di Milano
Pol. di Milano
Pol. di Milano

11:00-11:15

A Comparison of Neural Feature Extraction Methods for Brain Machine Interfaces, pp. 1268-1272

Gilmour, Tim
Krishnan, Lavanya
Gaumont, Roger
Clement, Ryan

The Pennsylvania State Univ.
The Pennsylvania State Univ.
The Pennsylvania State Univ.
The Pennsylvania State Univ.

11:15-11:30

Low-Cost Motivated Rehabilitation System for Post-Operation Exercises*

Novak, Daniel
Brutovsky, Jan

Czech Tech. Univ. in Prague
Czech Tech. Univ. in Prague

11:30-11:45

A Behavior Study of the Effects of Visual Feedback on Motor Output, pp. 1273-1276

Hou, Wensheng	Bioengineering Inst. of Chongqing Univ.
Zheng, Jun	Queens Coll. - City Univ. of New York
Jiang, Yingtao	Univ. of Nevada
Shen, Shan	Univ. of Surrey
Sterr, Annette	Univ. of Surrey
Szameitat, André J.	Univ. of Surrey
van Loon, Monique	Univ. of Surrey

11:45-12:00

Finite Element Modeling of Electric Field Effects of TASER Devices on Nerve and Muscle, pp. 1277-1279

Panescu, Dorin	St. Jude Medical
Kroll, Mark	Cal Pol. Univ. San Luis Obispo
Efimov, Igor	Washington Univ.
Sweeney, James	Arizona State Univ.

12:00-12:15

A Fmri Study of the Cross-Modal Interaction in the Brain with an Adaptable EMG Prosthetic Hand with Biofeedback, pp. 1280-1284

Hernandez Arieta, Alejandro	Univ. of Tokyo
Kato, Ryu	The Univ. of Tokyo
Yokoi, Hiroshi	Univ. of Tokyo
Arai, Tamio	The Univ. of Tokyo

12:00-12:15

Effects of Prolonged Stimulation at the Electrode-Retina Interface, pp. 1285-1287

Ray, Aditi	Univ. of Southern California
Chan, Leanne	Univ. of Southern California
Thomas, Biju	Univ. of Southern California
Weiland, James	Univ. of Southern California

12:00-12:15

Curative Effect of General Geomagnetic Therapy, pp. 1288-1290

Rotov, Anton	Central Clinical Air Forth Hospital
Garilevich, Boris	Central Clinical Air Forth Hospital
Zubkov, A. D.	Central Air-Force Clinical Hospital
Olefir, Yu. V.	Central Air Force Clinical Hospital
Andriyanov, Yuri	TRINITI

12:00-12:15

Two Channel EEG Thought Pattern Classifier, pp. 1291-1294

Craig, Daniel Ashley	Univ. of Tech. Sydney
Nguyen, Hung	Univ. of Tech. Sydney
Burchey, Harold Andrew	Univ. of Tech. Sydney

12:00-12:15

Electrooculogram Based System for Computer Control Using a Multiple Feature Classification Model, pp. 1295-1298

Kherlopian, Armen	Columbia Univ.
Sajda, Paul	Columbia Univ.
Gerrein, Joseph	Univ. of California, San Diego
Yue, Minerva	Columbia Univ.
Kim, Kristina	Columbia Univ.
Kim, Ji Won	New York Medical Coll.
Sukumaran, Madhav	Columbia Univ.

Biomedical Signal Processing and Physiological Modeling I (Poster Session)

10:45-11:00

Model Order Selection for Quantification of a Multi-Exponential Magnetic Resonance Spectrum, pp. 1299-1302

Devos, Andy	Katholieke Univ. Leuven
Bergans, Niki	Katholieke Univ. Leuven
Dresselaers, Tom	Katholieke Univ. Leuven
De Brabanter, Jos	K.U.Leuven
Sima, Diana	Katholieke Univ. Leuven
Vanhamme, Leentje	Katholieke Univ. Leuven
Vanstapel, Florent	Katholieke Univ. Leuven
Van Hecke, Paul	Katholieke Univ. Leuven
Van Huffel, Sabine	Katholieke Univ. Leuven

11:00-11:15

Time-Frequency Evaluation of Segmentation Methods for Neonatal EEG Signals, pp. 1303-1306

Wong, Lisa	The Univ. of Auckland
Abdulla, Waleed H.	The Univ. of Auckland

11:15-11:30

The EEG Measurement Technique under Exercising, pp. 1307-1310

Hosaka, Naoya	Tokai Univ.
Koyama, Akira	Tokai Univ.
Tanaka, Junya	Tokai Univ.
Magatani, Kazushige	TOKAI Univ.

11:30-11:45

Influence of Sinusoidally Modulated Visual Stimuli at Extremely Low Frequency Range on the Human EEG Activity, pp. 1311-1314

Cvetkovic, Dean	RMIT Univ.
Simpson, David	Swinburne Univ.
Cosic, Irena	RMIT Univ.

11:45-12:00

A Model-Based Approach to Attention and Sensory Integration in Postural Control of Older Adults, pp. 1315-1318

Mahboobin, Arash	Univ. of Pittsburgh
Loughlin, Patrick	Univ. of Pittsburgh
Redfern, Mark	Univ. of Pittsburgh

12:00-12:15

Assessment of Preprocessing on Classifiers Used in the P300 Speller Paradigm, pp. 1319-1322

Mirghasemi, Hamed	Sharif Univ. of Tech.
Shamsollahi, Mohammad Bagher	Sharif Univ. of Tech.
Fazel-Rezai, Reza	Univ. of Manitoba

12:00-12:15

On Spatio-Temporal Dependency Changes in Epileptic Intracranial EEG: A Statistical Assessment*

Hegde, Anant	Univ. of Florida
Principe, Jose	Univ. of Florida
Sackellares, J. Chris	L3-100 McKnight Brain Inst.

12:00-12:15

An Evaluation of Autoregressive Spectral Estimation Model Order for Brain-Computer Interface Applications, pp. 1323-1326

Krusienski, Dean	Wadsworth Center
McFarland, Dennis	Wadsworth Center
Wolpaw, Jonathan	Wadsworth Center

12:00-12:15

Finite Element Analysis and Experimental Study on Mechanism of Brain Injury Using Brain Model, pp. 1327-1330

Ishikawa, Ryo
Kato, Kazuo

Meiji Univ.
Meiji Univ.

12:00-12:15

Event-Related Potential Studies of Attention to Shape under Different Stimuli Tasks*

Xu, Guizhi
Zhang, Ying
Hou, Huijuan
Wang, Lei
Yan, Weili

Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.

12:00-12:15

Development of the Input Equipment for a Computer Using Surface EMG, pp. 1331-1334

Ando, Keiichi
Nagata, Kentaro
Kitagawa, Daisuke
Shibata, Naoki
Yamada, Masafumi
Magatani, Kazushige

TOKAI Univ.
TOKAI Univ.
Univ. of Tokai
Univ. of Tokai
Kanagawa Rehabilitation Center
TOKAI Univ.

12:00-12:15

Evaluation of Techniques for the Study of Electromyographic Signals, pp. 1335-1338

Monteiro de Andrade, Marcelino
Carvalho do Carmo, Jake
Assis de Oliveira Nascimento, Francisco
Camapum, Juliana Fernandes
dos Santos, Icaro
Mochizuki, Luis
da Rocha, Adson Ferreira

Univ. of Brasíia
Univ. de Brasíia.
Univ. of Brasíia
Univ. de Brasíia
Univ. of Brasíia
Univ. de São Paulo
Univ. of Brasíia

12:00-12:15

Hand Motion Estimation by EMG Signals Using Linear Multiple Regression Models, pp. 1339-1342

Kitamura, Toru
Tsujiuchi, Nobutaka
Koizumi, Takayuki

Doshisha Univ.
Doshisha Univ.
Doshisha Univ.

12:00-12:15

3D Dynamic Computer Model of the Head-Neck Complex, pp. 1343-1346

Sierra Bueno, Daniel Alfonso
Enderle, John D.

Univ. of Connecticut, Univ. Industrial de Santander (Col)
Univ. of Connecticut

12:00-12:15

A Nonlinear System Model of Isometric Force, pp. 1347-1350

Stitt, Joseph
Newell, Karl

Pennsylvania State Univ.
Pennsylvania State Univ.

ThBP14

Westside Ballroom South

Biomedical Signal Processing and Physiological Modeling II (Poster Session)

10:45-11:00

The Measurement Technique Ofhuman's Bio-Signals, pp. 1351-1354

Saeki, Yasuhiro

TOKAI Univ.

11:00-11:15

Stress Detection in Computer Users Based on Digital Signal Processing of Noninvasive Physiological Variables, pp. 1355-1358

Zhai, Jing
Barreto, Armando

Florida International Univ.
Florida International Univ.

11:15-11:30

Automatic Quantitative Evaluation of Emotions in E-Learning Applications, pp. 1359-1362

Scotti, Stefano	Pol. of Milan
Mauri, Maurizio	Massachusetts Inst. of Tech.
Barbieri, Riccardo	MGH-Harvard Medical School-MIT
Jawad, Bassam	Royal Inst. of Tech.
Mainardi, Luca	Pol. di Milano
Cerutti, Sergio	Pol. Univ. of Milan
Brown, Emery N	MGH-Harvard Medical School-MIT
Villamira, Marco Alessandro	IULM Univ. of Milan

11:30-11:45

LF/(LF+HF) Index in Ventricular Repolarization Variability Correlated and Uncorrelated with Heart

Rate Variability, pp. 1363-1366

Altuve, Miguel	Univ. Simon Bolivar
Sara Wong, Castañeda	Univ. Simon Bolivar
Passariello, Gianfranco	Univ. Simón Bolívar
Carrault, Guy	Univ. de Rennes 1
Hernandez, Alfredo	LTSI. INSERM U642

11:45-12:00

Morphological Heart Arrhythmia Detection Using Hermitian Basis Functions and

Knn Classifier, pp. 1367-1370

Karimifard, Saeed	Tehran Univ. of Medical Science
Ahmadian, Alireza	Tehran Univ. of Medical Sciences
Khoshnevisan, Mohammad	Griffith Univ.
Nambakhsh, Mohammad Saleh	Tehran Univ. of Medical Science

12:00-12:15

Adaptive Template Filtering Method for MRI, pp. 1371-1374

Guo, Lei	Hebei Univ. of Tech.
Liu, Xuena	Hebei Univ. of Tech.
Wu, Youxi	Hebei Univ. of Tech.
Li, Ying	Hebei Univ. of Tech.
Xu, Guizhi	Hebei Univ. of Tech.
Yan, Weili	Hebei Univ. of Tech.

12:00-12:15

Estimating Arterial Stiffness Using Transmission Line Model, pp. 1375-1378

Leung, Mande	Univ. of British Columbia
Dumont, Guy	Univ. of British Columbia
Sandor, George G. S.	British Columbia's Children Hospital
Potts, James	British Columbia's Children Hospital

12:00-12:15

Efficacy of Using Mean Arterial Blood Pressure Sequence for Three-Element Windkessel

Model Estimation, pp. 1379-1382

Gehalot, Piyush	Univ. of Texas at Arlington
Zhang, Rong	Univ. of Texas Southwestern Medical Center at Dallas
Mathew, Aby	Joint Programme (UT Arlington and UT Southwestern, Dallas)
Behbehani, Khosrow	Univ. of Texas at Arlington

12:00-12:15

Simulation of the Generation and Processing of Doppler Ultrasound Fetal Heart Signals to Obtain

Directional Motion Information, pp. 1383-1386

Mansor, Wahidah	Univ. Teknologi MARA
Crowe, John	Univ. of Nottingham
Woolfson, Malcolm	Univ. of Nottingham
Hayes-Gill, Barrie	Univ. of Nottingham
Blanchfield, Peter	Univ. of Nottingham
Bister, Michel	Univ. of Nottingham

12:00-12:15

A Model-Based Study of Relationship between Timing of Second Heart Sound and Systolic Blood Pressure, pp. 1387-1390

Zhang, Xin-Yu The Chinese Univ. of Hong Kong, Shenzhen Univ.
Zhang, Yuan-Ting The Chinese Univ. of Hong Kong

12:00-12:15

A Novel Approach to Pulse Pressure Variation Estimation, pp. 1391-1393

Austin, Daniel OIT
Staats, Christian Oregon Inst. of Tech.
Aboy, Mateo Oregon Inst. of Tech.

12:00-12:15

Maternal ECG Removal from Non-Invasive Fetal ECG Recordings, pp. 1394-1397

Vullings, Rik Eindhoven Univ. of Tech.
Peters, Christiaan Hendrik Leonard Máxima Medical Center
Misch, Massimo Eindhoven Univ. of Tech.
Oei, S. Guid Maxima Medisch Centrum, Veldhoven
Bergmans, Johannes Wilhelmus Maria Eindhoven Univ. of Tech.

ThC01

Marquis AB

Time-Frequency Analysis in Cardiovascular System (Oral Session)

14:00-14:15

A Time-Frequency Approach for the Analysis of Normal and Arrhythmia Cardiac Signals*

Mahmoud, Seedahmed RMIT Univ.
Fang, Qiang RMIT Univ.
Davidovic, Dragomir Vinca Inst. of Nuclear Sciences
Cosic, Irena RMIT Univ.

14:15-14:30

Comparison of Different Wavelet Subband Features in the Classification of ECG Beats Using Probabilistic Neural Network, pp. 1398-1401

Chen, Ying-Hsiang National Chung Cheng Univ.
Yu, Sung-Nien National Chung Cheng Univ.

14:30-14:45

Cardiac Rhythm Detection and Classification by WOLA Filterbank Analysis of EGM Signals, pp. 1402-1405

Sheikhzadeh Nadjar, Hamid AMI Semiconductor Canada Company
Brennan, Robert AMI Semiconductor Canada Company
So, Simon Sai-Man AMI Semiconductor

14:45-15:00

Frequency Tracking of Atrial Fibrillation Using Hidden Markov Models, pp. 1406-1409

Nilsson, Frida Lund Univ.
Stridh, Martin Lund Univ.
Sornmo, Leif Lund Univ.

15:00-15:15

Detection of S1 and S2 Heart Sounds by High Frequency Signatures, pp. 1410-1416

Kumar, Dinesh Univ. of Coimbra
Carvalho, Paulo Univ. of Coimbra
Antunes, Manuel Univ. of Coimbra
Henriques, Jorge Univ. of Coimbra
Eugénio, Luís Univ. Hospital of Coimbra
Schmidt, Ralf Philips Res. Lab.
Habetha, Joerg Philips Res. Lab.

15:15-15:30

A Simple Non-Physiological Artifact Filter for Invasive Arterial Blood Pressure Monitoring: A Study of 1852 Trauma ICU Patients, pp. 1417-1420

Cao, Hanqing
Norris, Patrick
Ozdas, Asli
Jenkins, Judy
Morris, John A

Vanderbilt Univ. Medical Center
Vanderbilt Univ. Div. of Trauma
Vanderbilt Univ. Medical Center
Vanderbilt Univ. Div. of Trauma
Vanderbilt Univ. Medical Center

ThC02

Marquis C

Image Registration I (Oral Session)

14:00-14:15

Automatic Correspondence Using the Enhanced Hexagonal Center-Based Inner Search Algorithm for Point-Based Dental Image Registration, pp. 1421-1424

Economopoulos, Theodoros
Asvestas, Pantelis
Matsopoulos, George K.
Gröndahl, Kerstin
Gröndahl, Hans-Goran

Inst. of Communication & Computer Systems
Inst. of Communication & Computer Systems
Inst. of Communication & Computer Systems
Faculty of Odontology, The Sahlgrenska Acad. at Göteborg
Faculty of Odontology, The Sahlgrenska Acad. at Göteborg Univ.

14:15-14:30

Hardware Implementation of Hierarchical Volume Subdivision-Based Elastic Registration, pp. 1425-1428

Dandekar, Omkar
Walimbe, Vivek
Shekhar, Raj

Univ. of Maryland
The Ohio State Univ.
Univ. of Maryland

14:30-14:45

Multi-Modal Medical Image Registration Based on Adaptive Combination of Intensity and Gradient Field Mutual Information, pp. 1429-1432

Liu, Jianguang
Tian, Jie
Dai, Yakang

Chinese Acad. of Science
Inst. of Automation, Chinese Acad. of Sciences
Chinese Acad. of Science

14:45-15:00

A Robust Technique for 2D-3D Registration, pp. 1433-1436

Gong, Ren Hui
Abolmaesumi, Purang
Stewart, James

Queen's Univ.
Queen's Univ.
Queen's Univ.

15:00-15:15

Rapid Multi-Modality Preregistration Based on SIFT Descriptor, pp. 1437-1440

Chen, Jian
Tian, Jie

Inst. of automation, Chinese Acad. of sciences
Inst. of Automation, Chinese Acad. of Sciences

15:15-15:30

Statistical Bilateral Asymmetry Measurement in Brain Images, pp. 1441-1445

Liu, Xin
Ogden, Todd
Celina, Imielinska
Laine, Andrew
Rosiene, Joel
Connolly, Sander
Anthony, L. D'Ambrosio

Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Eastern Connecticut State Univ.
Columbia Univ.
Columbia Univ.

ThC03

SoHo-Herald

Non Linear Dynamics in Cardio-Respiratory System I (Oral Session)

14:00-14:15

Influence of Autonomic Impairment on Blood-Pressure and Heart-Rate Scaling Structures, pp. 1446-1449

Castiglioni, Paolo	Fondazione Don C. Gnocchi ONLUS
Merati, Giampiero	Univ. of Milan
Veicsteinas, Arsenio	Univ. of Mialn
Parati, Gianfranco	Istituto Auxologico Italiano
Di Rienzo, Marco	Fondazione Don Carlo Gnocchi

14:15-14:30

Further Study of the Asymmetry for Multifractal Spectra of Heartbeat Time Series, pp. 1450-1453

Muñoz-Diosdado, Alejandro	Inst. Pol. Nacional México
Del Río-Correa, José Luis	Univ. Autónoma Metropolitana

14:30-14:45

Time-Variant Analysis of Nonlinear Stability and Bispectral Measures to Quantify the Development of Fetal Sleep States, pp. 1454-1457

Schwab, Karin	Friedrich Schiller Univ. Jena
Groh, Tobias	Friedrich Schiller Univ. Jena
Schwab, Matthias	Friedrich Schiller Univ. Jena
Witte, Herbert	Friedrich Schiller Univ.

14:45-15:00

New Indexes from the Fetal Heart Rate Analysis for the Identification of Severe Intra Uterine Growth Restricted Fetuses, pp. 1458-1461

Ferrario, Manuela	Pol. di Milano
Signorini, Maria G.	Pol. di Milano
Magenes, Giovanni	Univ. of Pavia

15:00-15:15

Respiratory Flow Signal Analysis Using Approximate Entropy and Sample Entropy*

Chaparro, Javier	Univ. Central
Giraldo, Beatriz	Tech. Univ. of Catalonia (UPC)
Caminal, Pere	Tech. Univ. of Catalonia (UPC)
Benito, Salvador	Hospital de la Santa Creu i Sant Pau
Diaz, Ivan	Hospital de la Santa Creu i Sant Pau
Ballesteros, D	Hospital Univ. de Getafe
López-Rodriguez, L	Hospital Univ. de <getafe

15:15-15:30

Information Flow to Assess Cardiorespiratory Interactions in Patients on Weaning Trials, pp. 1462-1465

Vallverdu, Montserrat	Tech. Univ. of Catalonia (UPC)
Tibaduisa, Oscar	Tech. Univ. of Catalonia (UPC)
Claria, Francesc	Lleida Univ.
Hoyer, Dirk	Friedrich Schiller Univ.
Giraldo, Beatriz	Tech. Univ. of Catalonia (UPC)
Benito, Salvador	Hospital de la Santa Creu i Sant Pau
Caminal, Pere	Tech. Univ. of Catalonia (UPC)

ThC04

Ziegfeld

Nanomedicine and Bio-Nanostructures (Oral Session)

14:00-14:15

Advanced Metal Nanostructure Design for Surface Plasmon Photonic Bandgap Biosensor Device*

Chiu, Nan Fu	National Taiwan Univ.
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14:15-14:30

Metallization of Surface Attached Actin Networks, pp. 1466-1469

Springer, Michael
Leon, Jeffrey
Qiao, Tiecheng
Hammerschmidt, Jon
McGrath, James

Univ. of Rochester
Eastman Kodak
Eastman Kodak
Eastman Kodak
Univ. of Rochester

14:30-14:45

Labeling and Imaging of Human Mesenchymal Stem Cells with Quantum Dot Bioconjugates During Proliferation and Osteogenic Differentiation in Long Term, pp. 1470-1473

Shah, Bhranti
Clark, Paul
Stroscio, Michael
Mao, Jeremy

Columbia Univ.
Univ. of Illinois at Chicago
Univ. of Illinois at Chicago
Columbia Univ.

14:45-15:00

Layer-By-Layer Adsorption of Biocompatible Polyelectrolytes Onto Dexamethasone Aggregates, pp. 1474-1477

Stewart-Clark, Skylar
Roldan, Jorge
Mills, David
Lvov, Yuri

Louisiana Tech. Univ.
Louisiana Tech. Univ.
Louisiana Tech. Univ.
Louisiana Tech. Univ.

15:00-15:15

Quantification of Quantum Dots in HUVECs by Confocal Laser Scanning Microscopy, pp. 1478-1481

Chen, Weiwei
Liu, Ping
Zhang, Aili
Ren, Jichun
Xu, Lisa Xuemin

Shanghai Jiaotong Univ.
Shanghai Jiao Tong Univ.
Shanghai Jiao Tong Univ.
Shanghai Jiao Tong Univ.
Shanghai Jiaotong Univ.

ThC05

Duffy-Columbia

Applications of Wearable Technology (Oral Session)

14:00-14:15

Development of Measuring System to Measure Standing Pose of the Foot Using Distributed Triaxial Force Sensor, pp. 1482-1486

Nishi, Akimi
Tanaka, Noriko
Tsujiuchi, Nobutaka
Koizumi, Takayuki
Oshima, Hiroko
Minato, Kotaro
Yoshida, Masaki
Tsutiya, Yotaro

Doshisha Univ.
Nara Inst. of Science and Tech.
Doshisha Univ.
Doshisha Univ.
Doshisha Univ.
Nara Inst. of Science and Tech.
Osaka Electro-Communication Univ.
Tecgihan Corp.

14:15-14:30

The Cuffless Arterial Blood Pressure Estimation Based on the Timing-Characteristics of Second Heart Sound, pp. 1487-1488

Wong, Mico Yee Man
Zhang, Xin-Yu
Zhang, Yuan-Ting

The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong

14:30-14:45

Dependence of Anticipatory Postural Adjustments for Step Initiation on Task Movement Features: A Study Based on Dynamometric and Accelerometric Data, pp. 1489-1492

Rocchi, Laura	Univ. of Bologna
Mancini, Martina	Univ. of Bologna
Chiari, Lorenzo	Univ. of Bologna
Cappello, Angelo	Univ. of Bologna

14:45-15:00

Human Balance Estimation Using a Wireless 3D Acceleration Sensor Network, pp. 1493-1496

Similä, Heidi	VTT, Tech. Res. Centre of Finland
Kaartinen, Jouni	VTT
Lindholm, Juha Mikko	VTT
Saarinen, Ari	Rokua Rehabilitation Centre
Mahjneh, Ibrahim	Univ. of Oulu and MHSO hospital

15:00-15:15

Wearable Kinesthetic System for Joint Knee Flexion-Extension Monitoring in Gait Analysis, pp. 1497-1500

Tesconi, Mario	Univ. of Pisa
Scilingo, Enzo Pasquale	Univ. of Pisa
Barba, Pierluigi	Univ. of Pisa
De Rossi, Danilo	Univ. of Pisa

15:15-15:30

Identification of Tasks Performed by Stroke Patients Using a Mobility Assistive Device, pp. 1501-1504

Bonato, Paolo	Harvard Medical School
Hester, Todd	Harvard Medical School
Sherrill, Delsey M.	Harvard Medical School
Hamel, Mathieu	Inst. Univ. de Geriatrie de Sherbrooke
Perreault, Karine	Inst. Univ. de Geriatrie de Sherbrooke
Boissy, Patrick	Inst. Univ. de Geriatrie de Sherbrooke

ThC06

Empire Hudson

Surgical Robotics IV (Oral Session)

14:00-14:15

A Novel Surgical Robot Design: Minimizing the Operating Envelope within the Sterile Field, pp. 1505-1508

Peine, William	Purdue Univ.
Dachs, Gregory	Purdue Univ.

14:15-14:30

Stereo Display of 3D Ultrasound Images for Surgical Robot Guidance, pp. 1509-1512

Novotny, Paul	Harvard Univ.
Kettler, Daniel	Harvard Univ.
Jordan, Petr	Harvard Univ.
Dupont, Pierre	Boston Univ.
Del Nido, Pedro	Children's Hospital Boston
Howe, Robert	Harvard Univ.

14:30-14:45

Hysteroscopic Simulator for Training and Educational Purposes, pp. 1513-1516

Lim, Fabian	Monash Univ.
Brown, Ian	Monash Univ.
McCull, Ryan	Monash Univ.
Seligman, Cory	Monash Univ.
Alsaraira, Amer	Monash Univ.

ThC07

Cantor-Jolson

Biomechanics II (Oral Session)

14:00-14:15

Geometric Modeling of Living Tissue for Subject-Specific Finite Element Analysis*

Tada, Mitsunori

National Inst. of Advanced Industrial Science and Technology

Yoshida, Hiroaki

National Inst. of Advanced Industrial Science and Technology

Mochimaru, Masaaki

National Inst. of Advanced Industrial Science and Technology

14:15-14:30

The Correlation Comparison of Vertebral Axial Rotation Relative to Curvature and Torsion in Scoliosis by Simplified 3D Spine Model, pp. 1517-1520

Lin, Hong

TSRHC

14:30-14:45

Two-Dimensional Axisymmetric Model for the Sensitivity Analysis of a Chronic Drug Infusion into the Brain, pp. 1521-1524

Stiles, David

Medtronic

Gwost, Douglas

Medtronic

14:45-15:00

A Dynamic Model of the Upper Extremities for Quantitative Assessment of Lofstrand Crutch-Assisted Gait, pp. 1525-1528

Slavens, Brooke

Marquette Univ.

Sturm, Peter

Shriners Hospitals for Children

Wang, Mei

Marquette Univ.

Harris, Gerald

Marquette Univ.

15:00-15:15

First Clinical Trials of Using Knee Stabilisers with Adaptable Kinematics for Functional Treatment of Periarticular Fractures - Experimental Research and Computer Simulation, pp. 1529-1532

Choromanski, Wlodzimierz

Warsaw Univ. of Tech.

Dobrzynski, Grzegorz

Warsaw Univ. of Tech.

Deszczynski, Jaroslaw

Warsaw Medical School

15:15-15:30

Modeling and Simulation of Physical Performance of a External Unilateral Mechatronic Orthopaedic Fixator – Bone System, pp. 1533-1536

Lesniewska, Agnieszka

Warsaw Univ. of Tech.

Choromanski, Wlodzimierz

Warsaw Univ. of Tech.

Deszczynski, Jaroslaw

Warsaw Medical School

Dobrzynski, Grzegorz

Warsaw Univ. of Tech.

ThC08

Juilliard

Special Session on Cardiac Imaging (Oral Session)

14:00-14:15

Review of Myocardial Motion Estimation Methods from Optical Flow Tracking on Ultrasound Data, pp. 1537-1540

Angelini, Elsa

Ec. Nationale Superieure des Telecommunications

Gerard, Olivier

Philips

14:15-14:30

A Segmentation and Tracking System for 4D Cardiac Tagged MR Images, pp. 1541-1544

Metaxas, Dimitris

Rutgers Univ.

Axel, Leon

NYU Medical Center

Qian, Zhen

Rutgers Univ. New Brunswick

Huang, Xiaolei

Rutgers Univ. New Brunswick

14:30-14:45

Imaging Cardiac Mechanics: What Information Do We Need to Extract from Cardiac Images?, pp. 1545-1547

Holmes, Jeffrey
Costa, Kevin

Columbia Univ.
Columbia Univ.

14:45-15:00

Generation of a Cardiac Shape Model from CT Data, pp. 1548-1551

Lorenz, Cristian
von Berg, Jens

Philips Res. Lab. Europe - Hamburg
Philips Res. Lab. Europe - Hamburg

15:00-15:15

Detection of Murine Infarcts Using Myocardial Elastography at Both High Temporal and Spatial Resolution, pp. 1552-1555

Luo, Jianwen
Fujikura, Kana
Konofagou, Elisa

Columbia Univ.
Columbia Univ.
Columbia Univ.

ThC09

Gramercy-Olmstead

Tissue and Organ Level Cardiac Electrophysiology (Oral Session)

14:00-14:15

Modulation of Shock-End Virtual Electrode Polarisation As a Direct Result of 3D Fluorescent Photon Scattering, pp. 1556-1559

Bishop, Martin
Rodriguez, Blanca
Trayanova, Natalia
Gavaghan, David

Univ. of Oxford
Oxford Univ.
Tulane Univ.
Univ. of Oxford

14:15-14:30

Propagation and Electrical Impedance Changes Due to Ischemia, Hypoxia and Reperfusion in Mouse Hearts, pp. 1560-1563

Liang, Qiansheng
Sohn, Kwanghyun
Punske, Bonnie

Univ. of Utah
Univ. of Utah
Univ. of Utah

14:30-14:45

Intra-Myocardial Cusp Waves and Their Manifestation in Optical Mapping Signals, pp. 1564-1567

Bernus, Olivier
Zemlin, Christian W
Matiukas, Arvydas
Hyatt, Christopher J.
Pertsov, Arkady M.

SUNY Upstate Medical Univ.
SUNY Upstate Medical Univ.
SUNY Upstate Medical Univ.
SUNY Upstate Medical Univ.
SUNY Upstate Medical Univ.

14:45-15:00

Arrhythmia Source Localization from Intravenous and Transthoracic Catheter Measurements, pp. 1568-1571

Yilmaz, Bulent
Cunedioglu, Ugur
Cakir, Oguzhan

Baskent Univ.
Baskent Univ.
Baskent Univ.

15:00-15:15

Multisite Interstitial Stimulation for Cardiac Micro-Impedance Measurements, pp. 1572-1575

Pollard, Andrew E
Barr, Roger

Univ. of Alabama at Birmingham
Duke Univ.

ThC10	Astor Ballroom
Technical Issues of Image Registration in PET-CT and SPECT-CT Systems (Minisymposium)	
Organizer: Zuckier, Lionel	New Jersey Medical School, Nuclear Medicine
Organizer: Zanzonico, Pat	New Jersey Medical School, Nuclear Medicine
Organizer: Nehmeh, Sadek	New Jersey Medical School, Nuclear Medicine
14:00-14:15	
<i>New Applications of Planar Image Fusion in Clinical Nuclear Medicine and Radiology (I)</i> , pp. 1576-1579	
Zuckier, Lionel	New Jersey Medical School, Nuclear Medicine
Koncicki, Holly	New Jersey Medical School, UMDNJ
14:15-14:30	
<i>Introduction to Clinical and Laboratory (Small-Animal) Image Registration and Fusion (I)</i> , pp. 1580-1583	
Zanzonico, Pat	Memorial Sloan-Kettering Cancer Center
Nehmeh, Sadek	Memorial Sloan-Kettering Cancer Center
14:30-14:45	
<i>Broad-Spectrum Multi-Modality Image Registration: From PET, CT, and MRI to Autoradiography, Microscopy, and Beyond (I)</i> , pp. 1584-1588	
Zanzonico, Pat	Memorial Sloan-Kettering Cancer Center

ThC11	Belasco
Student Paper Competition II (Special Session)	
14:00-14:15	
<i>Accelerating Large Cardiac Bidomain Simulations by Arnoldi Preconditioning*</i>	
Deo, Makarand	Univ. of Calgary
Bauer, Steffen	National organization of metrology
Plank, Gernot	Medical Univ. of Graz
Vigmond, Edward	Univ. of Calgary
14:15-14:30	
<i>Delayed Termination Following Pacing Induced Shifts from Monomorphic to Polymorphic Ventricular Tachycardia: Implications for Antitachycardia Pacing*</i>	
Byrd, Israel	Univ. of Alabama at Birmingham
Pollard, Andrew E	Univ. of Alabama at Birmingham
Kay, Matthew	The George Washington Univ.
14:30-14:45	
<i>Quantitative Analysis of QRS Detection Algorithms Based on the First Derivative of the ECG*</i>	
Arzeno, Natalia	Massachusetts Inst. of Tech.
Poon, Chi-Sang	Massachusetts Inst. of Tech.
Deng, Zhi-De	MIT
14:45-15:00	
<i>Subthalamic Nucleus Deep Brain Stimulation: Accurate Axonal Threshold Prediction with Diffusion Tensor Based Electric Field Models*</i>	
Chaturvedi, Ashutosh	Case Western Res. Univ.
Butson, Christopher	Cleveland Clinic
Cooper, Scott	Cleveland Clinic Foundation
McIntyre, Cameron	Cleveland Clinic Foundation
15:00-15:15	
<i>Three-Dimensional Ventricular Activation Imaging by Means of Equivalent Current Source Modeling and Estimation*</i>	
Liu, Zhongming	Univ. of Minnesota
Liu, Chenguang	Univ. of Minnesota
He, Bin	Univ. of Minnesota

Neural Informatics and Signal Processing I (Oral Session)

14:00-14:15

Feature Extraction and Subset Selection for Classifying Single-Trial ECoG During Motor Imagery, pp. 1589-1592Wei, Qingguo
Gao, Xiaorong
Gao, ShangkaiTsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.

14:15-14:30

Multi-Site Stimulation Quiets Network-Wide Spontaneous Bursts and Enhances Functional Plasticity in Cultured Cortical Networks, pp. 1593-1596Madhavan, Radhika
Chao, Zenas
Wagenaar, Daniel
Bakkum, Douglas
Potter, SteveGeorgia Inst. of Tech.
Georgia Inst. of Tech.
Univ. of California, San Diego
Georgia Inst. of Tech.
Georgia Inst. of Tech.

14:30-14:45

Integration of Differences in EEG Analysis Reveals Changes in Human EEG Caused by Microwave, pp. 1597-1600Bachmann, Maie
Lass, Jaanus
Kalda, Jaan
Säkki, Maksim
Tomson, Ruth
Tuulik, Viiv
Hinrikus, HiieTallinn Univ. of Tech.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.

14:45-15:00

Assessing Temporal and Spatial Evolution of Clusters of Functionally Interdependent Neurons Using Graph Partitioning Techniques, pp. 1601-1604Oweiss, Karim
Jin, Rong
Chen, FeilongMichigan State Univ.
Michigan State Univ.
Michigan state Univ.

15:00-15:15

Pre-Ictal Entropy Analysis of Microwire Data from an Animal Model of Limbic Epilepsy, pp. 1605-1607Mishra, Mitushi
Jones, Britta
Simonotto, Jennifer D.
Furman, Michael D.
Norman, Wendy
Liu, Zhao
DeMarse, Thomas B.
Carney, Paul R.
Ditto, William L.Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida

15:15-15:30

Improved Linear BMI Systems Via Population Averaging, pp. 1608-1611DiGiovanna, Jack
Sanchez, Justin
Principe, JoseUniv. of Florida
Univ. of Florida
Univ. of Florida

ThC13 Brecht

Therapeutic Neural Engineering (Minisymposium)

Organizer: Bardakjian, Berj Luther Univ. of Toronto
Organizer: Kearney, Robert Edward McGill Univ.
Organizer: Sajda, Paul Columbia Univ.
Organizer: Durand, Dominique Case Western Res. Univ.

14:00-14:15

Direct Current Brain Polarization*

Wassermann, Eric National Inst. of Neurological Disorders and Stroke

14:15-14:30

Seizure Control with Applied Electric Fields: From Brain Slices to Chronic Application, pp. 1612-1615

Sunderam, Sridhar Pennsylvania State Univ.
Chernyy, Nick Pennsylvania State Univ.
Mason, Jonathan Pennsylvania State Univ.
Peixoto, Nathalia George Mason Univ.
Weinstein, Steven L. Children's National Medical Center
Schiff, Steven J. Pennsylvania State Univ.
Gluckman, Bruce J. Pennsylvania State Univ.

14:30-14:45

Rational Modulation of Neuronal Processing with Applied Electric Fields, pp. 1616-1619

Bikson, Marom The City Coll. of New York
Radman, Thomas The City Coll. of New York
Datta, Abhishek The City Coll. of New York

14:45-15:00

Mechanisms and Therapeutic Effects of Magnetic Stimulation, pp. 1620-1623

Amassian, Vahe SUNY Downstate Medical Center
Maccabee, Paul SUNY Downstate Medical Center

15:00-15:15

Suppression of Neural Activity with High Frequency Stimulation In-Vitro, pp. 1624-1625

Durand, Dominique Case Western Res. Univ.
Jensen, Alicia Case Western Res. Univ.
Bikson, Marom City Coll. of New York

ThC16 Musicbox-Majestic

Neural Stimulation and Prostheses I (Oral Session)

14:00-14:15

Modeling and Engineering Aspects of ChannelRhodopsin2 System for Neural Photostimulation, pp. 1626-1629

Nikolic, Konstantin Imperial Coll. London
Degenaar, Patrick Imperial Coll. London
Toumazou, Christofer Imperial Coll. London

14:15-14:30

An Implanted Myoelectrically-Controlled Neuroprosthesis for Upper Extremity Function in Spinal Cord Injury, pp. 1630-1633

Kilgore, Kevin MetroHealth Medical Center
Hart, Ronald Louis Stokes VA Medical Center
Montague, Fred Case Western Res. Univ.
Anne, Bryden Case Western Res. Univ.
Keith, Michael MetroHealth Medical Center
Hoyen, Harry MetroHealth Medical Center
Sams, Carol MetroHealth Medical Center
Peckham, Hunter Case Western Res. Univ.

14:30-14:45

Psychophysics of Prosthetic Vision: II. Stochastic Sampling, the Phosphene Image, and Noise, pp. 1634-1637

Hallum, Luke E.
Chen, Spencer Chin-Yu
Cloherty, Shaun L
Lovell, Nigel H

Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales

14:45-15:00

Microelectronic Retinal Prosthesis: III. a New Method for Fabrication of High-Density Hermetic Feedthroughs, pp. 1638-1641

Suaning, Gregg
Lavoie, Phil
Armitage, Timothy
Forrester, Jennifer
Lovell, Nigel H

The Univ. of Newcastle
The Univ. of Newcastle
The Univ. of Newcastle
The Univ. of Newcastle
Univ. of New South Wales

15:00-15:15

The Growth of Loudness Functions Measured in Cochlear Implant Listeners Using Absolute Magnitude Estimation and Compared Using Akaike's Information Criterion, pp. 1642-1644

Sanpetrino, Nicole
Smith, Robert

Syracuse Univ.
Syracuse Univ.

ThEP2

Westside Ballroom South

Biomedical Signal Processing and Physiological Modeling III (Poster Session)

16:30-18:30

Optical Flow Computation and Visualization in Spherical Context. Application on 3D+t Bio-Cellular Sequences., pp. 1645-1648

Rekik, Wafa
Béréziat, Dominique
Dubuisson, Séverine

Pierre et Marie Curie Univ.
Pierre et Marie Curie Univ. Lab. d'informatique de Paris6
Pierre et Marie Curie Univ. Lab. d'informatique de Paris 6

16:30-18:30

Software Suite for Finite Difference Method Models, pp. 1649-1652

Arola, Tuukka
Hannula, Markus
Narra Girish, Nathaniel
Malmivuo, Jaakko
Hytinen, Jari

Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.

16:30-18:30

Signal Noise Ratio of Small Intestine Myoelectrical Signal Recording from External Surface, pp. 1653-1656

Martinez-de-Juan, Jose Luis
Garcia-Casado, Javier
Ye, Yiyao
Guardiola, Jose L
Ponce, Jose Luis

Centro de investigación e Innovación en Bioingeniería. Univ. Pol.
Centro de investigación e Innovación en Bioingeniería. Univ. Pol.
Centro de investigación e Innovación en Bioingeniería. Univ. Pol.
Centro de investigación e Innovación en Bioingeniería. Univ. Pol.
Hospital Univ. La Fe

16:30-18:30

The Characteristics of Metabolic Activity Based on Regularization Method, pp. 1657-1660

Liu, Hai
Jiang, Guotai

Tongji Univ.
Tongji Univ.

16:30-18:30

***Relationship between Electrohysterogram and Internal Uterine Pressure:
A Preliminary Study***, pp. 1661-1664

Rabotti, Chiara
Mischi, Massimo
van Laar, Judith
aelen, Paul
Oei, S. Guid
Bergmans, Johannes Wilhelmus Maria

Eindhoven, Tech. Univ.
Eindhoven Univ. of Tech.
Eindhoven Tech. Univ.
Eindhoven Tech. Univ.
Maxima Medisch Centrum, Veldhoven
Eindhoven Univ. of Tech.

16:30-18:30

Assessment of Acute Skin Irritation in Rabbits Using Electrical Impedance Model, pp. 1665-1668

Ferreira, Daniele M.
Silva, Celia S.
Souza, Marcio N.

Federal Univ. of Rio de Janeiro
Federal Univ. of Rio de Janeiro
Federal Univ. of Rio de Janeiro

16:30-18:30

Pathological Voice Assessment, pp. 1669-1673

Dibazar, Alireza
Berger, Theodore
Narayanan, Shrikanth

Univ. of Southern Claifornia
Univ. of Southern California
Univ. of Southern California

ThEP3

Westside Ballroom South

Biomedical Signal Processing I: Time-Frequency and Wavelet Analysis (Poster Session)

16:30-18:30

***A Comparison of Real-Time Performance of Signal Processing Algorithms for Minimum Latency
Detection of Hypovolemic States***, pp. 1674-1677

Jovanov, Emil
Cox, Paul
Saul, J. Philip
Salinas, Jose
Ryan, Kathy
Convertino, Victor

Univ. of Alabama in Huntsville
PERL Res.
Medical Univ. of South Carolina
U.S. Army Inst. of Surgical Res.
US Army Inst. of Surgical Res.
US Army Inst. of Surgical Res.

16:30-18:30

Quick ECG Analysis for On-Line Holter Monitoring Systems, pp. 1678-1681

Szilagyi, Laszlo
Szilagyi, Sandor Miklos
Fordos, Gergely
Benyo, Zoltan

Budapest Univ.
Sapientia - Hungarian Science Univ. of Transylvania
Budapest Univ. of Tech. and Ec.
Budapest Univ. of Tech. and Ec.

16:30-18:30

Multiwavelet Design for Cardiac Signal Processing, pp. 1682-1685

Peeters, Ralf
Karel, Joël
Westra, Ronald
Haddad, Sandro
Serdijn, Wouter

Univ. Maastricht
Univ. Maastricht
Univ. Maastricht
Delft Univ. of Tech.
Delft Univ. of Tech.

16:30-18:30

Matching a Wavelet to ECG Signal, pp. 1686-1689

Takla, George
Loparo, Kenneth
Nair, Bala

Cleveland Clinic
Case Western Res. Univ.
Cleveland Clinic

16:30-18:30

Time-Frequency Analysis for Arrhythmia Discrimination Using Human Atrium Electrogram, pp. 1690-1693

Shin, Hang Sik
Lee, Chungkeun
Choo, Benjamin Youngmin
Lee, Myounggho

Yonsei Univ.
Yonsei Univ.
Yonsei Univ.
Yonsei Univ.

16:30-18:30

Heart Sounds Interference Cancellation in Lung Sounds, pp. 1694-1697

Charleston-Villalobos, Sonia
Domínguez-Robert, Luis Felipe
González-Camarena, Ramón
Aljama-Corrales, Angel Tomás

Univ. Autónoma Metropolitana
Univ. Autónoma Metropolitana
Univ. Autónoma Metropolitana
Univ. Autónoma Metropolitana

16:30-18:30

Soluble CD40L versus Myocyte Enhancer Factor: Predicting a Prominent Marker for Cardiovascular Disease., pp. 1698-1701

De Trad, Chafia

United Arab Emirates Univ.

16:30-18:30

Detection of Fast Fiber Recruitment by Multiresolution Analysis of Surface Electromyograms, pp. 1702-1703

NOGUCHI, Yoshio

Saga Univ.

16:30-18:30

Extracting Effective Features of SEMG Using Continuous Wavelet Transform, pp. 1704-1707

Kilby, Jeff
GholamHosseini, Hamid

Auckland Univ. of Tech.
Auckland Univ. of Tech.

16:30-18:30

Vibromyographic Quantification of Voluntary Isometric Contractile Force in the Brachioradialis, pp. 1708-1710

Cole, Jason
Madhavan, Guruprasad
McLeod, Kenneth

State Univ. of New York
State Univ. of New York
State Univ. of New York

16:30-18:30

Walk Detection with a Kinematic Sensor: Frequency and Wavelet Methods, pp. 1711-1714

BARRALON, Pierre
Noury, Norbert
Vuillerme, Nicolas

Univ. Joseph Fourier
Univ. Joseph Fourier Grenoble
UMR CNRS 5525

16:30-18:30

Wavelet Transform for Rabbit EEG with Vagus Nerve Electric Stimulation, pp. 1715-1718

Chen, Zhaoyang
Hao, Hongwei
Li, Luming
Dong, Jie

Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.

16:30-18:30

Wavelet Filtering of the P300 Components in Evoked Related Potentials, pp. 1719-1722

Ayoubian Markazi, Seyedehmina
Qazi, Saad
Stergioulas, Lampros
bunce, david
Ramchurn, Anusha

Brunel Univ.
Brunel Univ.
Brunel Univ.
Brunel Univ.
Univ. of London

16:30-18:30

Optimal Denoising of Brainstem Auditory Evoked Response (baer) for Automatic Peak Identification and Brainstem Assessment, pp. 1723-1726

Jacquín, Arnaud
Causevic, Elvir
John, E. Roy
Prichep, Leslie

Brainscope Company, Inc.
Brainscope Company, Inc.
NYU
NYU

16:30-18:30

Identification of Speech Transients Using Variable Frame Rate Analysis and Wavelet Packets, pp. 1727-1730

Rasetshwane, Daniel
Boston, J Robert
Li, Ching-Chung

Univ. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh

16:30-18:30

*Seizure Detection in EEG Signals: A Comparison of Different Approaches**

Mohseni, Hamid Reza
Shamsollahi, Mohammad Bagher
Maghsoudi, Arash

Sharif Univ. of Tech.
Sharif Univ. of Tech.
Sharif Univ. of Tech.

16:30-18:30

Auditory Wavelet Transform Based on Auditory Wavelet Families, pp. 1731-1734

Salimpour, Yousef
Abolhassani, Mohammad Djavad

Tehran Univ. of Medical Science
Tehran Univ. of Medical Science

ThEP4

Westside Ballroom South

Biomechanics (Poster Session)

16:30-18:30

A Novel Finite Element Method Based Biomechanical Model for HIT-Robot Assisted Orthopedic Surgery System, pp. 1735-1738

Jia, Zhiheng
Du, Zhijiang
wang, monan

Harbin Inst. of Tech.
Harbin Inst. of Tech.
Harbin Inst. of Tech.

16:30-18:30

Development of a Parametric Finite Element Model of Lower Cervical Spine in Sagittal Plane, pp. 1739-1741

Haghpanahi, Mohammad
Mapar, Reza

Iran Univ. of Science and Tech.
Islamic Azad Univ. Science and Res. Branch

16:30-18:30

Towards the Investigation of Kinematic Parameters from an Integrated Measurement Unit for the Classification of the Rising from the Chair, pp. 1742-1745

Giansanti, Daniele
Maccioni, Giovanni
Macellari, Velio
Costantini, Giovanni
Carota, Massimo

Dipartimento di Tecnologie e Salute
Istituto Superiore di Sanitf
Istituto Superiore di Sanitf
Univ. of Rome "Tor Vergata"
Univ. of Rome "Tor Vergata"

16:30-18:30

Sequence Design and Software Environment for Real-Time Navigation of a Wireless Ferromagnetic Device Using MRI System and Single Echo 3D Tracking, pp. 1746-1749

Chanu, Arnaud
Aboussouan, Eric
Tamaz, Samer
Martel, Sylvain

Ec. Pol. de Montreal
École Pol. de Montreal (EPM)
École Pol. de Montréal
Ec. Pol. de Montreal

16:30-18:30

Ferromagnetic Artifacts in MRI: Minimization of Motion Effects in Long TR Acquisitions, pp. 1750-1753

Aboussouan, Eric
Martel, Sylvain

Ec. Pol. de Montreal
Ec. Pol. de Montreal

16:30-18:30

Fluid/Structure Interaction Applied to the Simulation of Abdominal Aortic Aneurysms, pp. 1754-1757

Pélerin, Jean-Luc
Kulik, Carine
Goksu, Cemil
Coatrieux, jean louis
Michel, Rochette

ANSYS France SAS
Univ. Rennes I
Univ. Rennes I
INSERM-Univ. Rennes 1
ANSYS France SAS

16:30-18:30

Biomechanical Modeling of Semicircular Canals for Fabricating a Biomimetic Vestibular System, pp. 1758-1761

Ciaravella, Gaetano
Laschi, Cecilia
Dario, Paolo

IMT Lucca Inst. for Advanced Studies
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna

16:30-18:30

Fast and Efficient Radiological Interventions Via a Graphical User Interface Commanded Magnetic Resonance Compatible Robotic Device, pp. 1762-1767

Ozcan, Alpay
Christoforou, Eftychios
Brown, Daniel
Tsekos, Nikolaos

Washington Univ. in Saint Louis
Washington Univ. in Saint Louis
Washington Univ. in Saint Louis
Washington Univ. in Saint Louis

ThEP5

Westside Ballroom South

Cardiorespiratory Variability III (Poster Session)

16:30-18:30

Real-Time Evaluation of Spectral Heart Rate Variability, pp. 1768-1771

Thong, Tran

Oregon Health & Science Univ.

16:30-18:30

Time-Evolution of Cardiovascular Variability During Autonomic Function Tests in Physiological Investigations, pp. 1772-1775

Singh, Dilbag
Saini, B. S.
Kumar, Vinod
Deepak, K. K.

Dr. B. R. Ambedkar National Inst. of Tech.
Dr. B. R. Ambedkar National Inst. of Tech.
IIT Roorkee
All India Inst. of Medical Sciences

16:30-18:30

Effect of Respiration in Heart Rate Variability (HRV) Analysis, pp. 1776-1779

Aysin, Benhur
Aysin, Elif

ANSAR Group Inc.
ANSAR Inc.

16:30-18:30

Heart Rate Variability and Autonomic Nerve Activities in Ambulatory Dogs, pp. 1780-1783

Song, Juan
Ogawa, Masahiro
Tan, Alex
Chen, Peng-sheng
Lin, Shien-Fong

Cedars-Sinai Medical Center
Cedars-Sinai Medical Center
Cedars-Sinai Medical Center
Cedars-Sinai Medical Center
Cedars-Sinai Medical Center

16:30-18:30

A Comparative Study of Fetal Heart Rate Variability Analysis Techniques, pp. 1784-1787

Hopkins, Paul
Outram, Nicholas
Löfgren, Nils
Ifeachor, Emmanuel
Rosen, Karl G

Univ. of Plymouth
Univ. of Plymouth
Univ. Coll. of Borís
Univ. of Plymouth
Neoventa Medical

16:30-18:30

Quantitative Analysis of QRS Detection Algorithms Based on the First Derivative of the ECG, pp. 1788-1791

Arzeno, Natalia
Poon, Chi-Sang
Deng, Zhi-De

Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.

16:30-18:30

Effect of Considering Constant Variance Time-Frequency Autoregressive Models for HRV Analysis, pp. 1792-1795

Gaitan-Gonzalez, Mercedes
Carrasco-Sosa, Salvador
Gonzalez-Camarena, Ramon
Yanez-Suarez, Oscar

Univ. Autonoma Metropolitana - Iztapalapa
Univ. Autonoma Metropolitana - Iztapalapa
Univ. Autonoma Metropolitana - Iztapalapa
Univ. Autonoma Metropolitana - Iztapalapa

16:30-18:30

Change in Complexity of Fetal Heart Rate Variability, pp. 1796-1798

Padhye, Nikhil

The Univ. of Texas Health Science Center

Brazdeikis, Audrius

Univ. of Houston

Verklan, M. Terese

The Univ. of Texas Health Science Center at Houston

16:30-18:30

Time Constant of Heart Rate Recovery after Low Level Exercise As a Useful Measure of

Cardiovascular Fitness, pp. 1799-1802

Wang, Lu

Univ. of New South Wales

Su, Steven Weidong

Univ. of Tech. Sydney

Celler, Branko George

Univ. of New South Wales

ThEP6

Westside Ballroom South

Cardiopulmonary Modeling (Poster Session)

16:30-18:30

New Model to Estimate Mean Blood Pressure by Heart Rate with Stroke Volume

Changing Influence, pp. 1803-1805

Al-Jumaily, Adel

Faculty of Engineering, Univ. of Tech. Sydney

Al-Jaafreh, Moha'med

Univ. of Tech. Sydney

16:30-18:30

Modeling Systolic Pressure Variation Due to Positive Pressure Ventilation, pp. 1806-1809

Messerges, Joanne

GE Healthcare

16:30-18:30

Modeling Blood Flow in the Gastrointestinal System, pp. 1810-1813

Mabotuwana, Thusitha De Silva

Univ. of Auckland

Cheng, Leo K

The Univ. of Auckland

Smith, Nicolas

Univ. of Auckland

Pullan, Andrew

Univ. of Auckland

16:30-18:30

Simplified Distributed-Parameter Model of Brachial-Radial Arteries for Noninvasive

Determination of Mechanical Characteristics of Vessel, pp. 1814-1817

Ferreira, Arthur

Federal Univ. of Rio de Janeiro

Barbosa Filho, José

National Inst. of Cardiology

Souza, Marcio N.

Federal Univ. of Rio de Janeiro

16:30-18:30

Transpulmonary Dilution System Identification for Pulmonary Blood Volume Measurements by

Contrast Echocardiography, pp. 1818-1821

Mischi, Massimo

Eindhoven Univ. of Tech.

Korsten, Erik

Eindhoven Univ. of Tech.

16:30-18:30

Blind Identification of the Central Aortic Pressure Waveform from Multiple Peripheral Arterial

Pressure Waveforms, pp. 1822-1825

Swamy, Gokul

Michigan State Univ.

Ling, Qi

Michigan State Univ.

Tongtong, Li

Michigan State Univ.

Mukkamala, Ramakrishna

Michigan State Univ.

Advances in Sensor Technology 3 (Poster Session)

16:30-18:30

Enobio – First Tests of a Dry Electrophysiology Electrode Using Carbon Nanotubes, pp. 1826-1829

Ruffini, Giulio	Starlab Barcelona SL
Dunne, Stephen	Starlab Barcelona SL
Farrés, Esteve	Starlab Barcelona SL
Watts, Paul C.P.	Univ. of Surrey
Mendoza, Ernest	Univ. of Surrey
Silva, S. Ravi P.	Univ. of Surrey
Grau, Carles	Univ. of Barcelona
Marco, Josep	Univ. of Barcelona
Fuentemilla, Lluís	Univ. of Barcelona
Vandecasteele, Bjorn	IMEC

16:30-18:30

Modeling of the Bioactivated Nanopore Devices, pp. 1830-1833

H. Talasaz, AmirAli	Stanford Univ.
Liu, Yang	Stanford Univ.
Ronaghi, Mostafa	Stanford Univ.
W. Davis, Ronald	Stanford Univ.

16:30-18:30

SPR and AFM Study of Engineered Biomolecule Immobilisation Techniques.*

Craig, Ian	Univ. of Ulster
McLaughlin, James	Univ. of Ulster

16:30-18:30

Evaluation of Driver Stress Using Biomarker in Motor-Vehicle Driving Simulator, pp. 1834-1837

Yamaguchi, Masaki	Univ. of Toyama
Wakasugi, Junichi	Univ. of Toyama
Sakakima, Josaku	Univ. of Toyama

16:30-18:30

Cell Trapping in Activated Micropores for Functional Analysis, pp. 1838-1841

H. Talasaz, AmirAli	Stanford Univ.
A. Powell, Ashley	Stanford Univ.
Stahl, Patrick	Stanford Univ.
Ronaghi, Mostafa	Stanford Univ.
S. Jeffrey, Stefanie	Stanford Univ.
Mindrinos, Michael	Stanford Univ.
W. Davis, Ronald	Stanford Univ.

16:30-18:30

Development of MAb-Based Immunochromatographic Assay for Cadmium from Biological Samples, pp. 1842-1845

Sasaki, Kazuhiro	Central Res. Inst. of Electric Power Industry
Tawarada, Kei	The Kansai Electric Power Co., Inc.
Okuhata, Hiroshi	The Kansai Electric Power Co., Inc.
Miyasaka, Hitoshi	The Kansai Electric Power Co., Inc.
Okuyama, Akira	EnBioTec Lab. Co., Ltd.
Maruyama, Yukinao	EnBioTec Lab. Co., Ltd.
Ohmura, Naoya	Central Res. Inst. of Electric Power Industry

16:30-18:30

Electrolyte Pulse Current Measurements by CnuMOS with Microsecond and Thermal Voltage Resolution, pp. 1846-1849

Jacquot, Blake	Cornell Univ.
Munoz, Nini	Cornell Univ.
Kan, Edwin	Cornell Univ.

16:30-18:30

An Investigation into the Suitability of Using Three Electronic Nose Technologies for the Detection and Discrimination of Bacteria Types, pp. 1850-1853

Green, Geoffrey
Chan, Adrian
Goubran, Rafik A.

Carleton Univ.
Carleton Univ.
Carleton Univ.

16:30-18:30

Novel Long-Term Implantable Blood Pressure Monitoring System with Reduced Baseline Drift, pp. 1854-1857

Cong, Peng
Hoit, Brian
Young, Darrin
Ko, Wen

Case Western Res. Univ.
Case Western Res. Univ.
Case Western Res. Univ.
Case Western Res. Univ.

16:30-18:30

Performance Analysis and Early Validation of a Bi-Modal Ultrasound Transducer, pp. 1858-1861

Lanati, Antonio
Scilingo, Enzo Pasquale
Francesconi, Raffaello
De Rossi, Danilo

Faculty of Engineering, Univ. of Pisa
Faculty of Engineering, Univ. of Pisa
CNR Inst. of Clinical Physiology Italian National
Faculty of Engineering, Univ. of Pisa

16:30-18:30

The Effect of a Distributed Mass Loading on the Frequency Response of a MEMS Mesh Resonator, pp. 1862-1865

Bartkovsky, Michael
Liao, Anna
Fedder, Gary K.
Przybycien, Todd
Hauan, Steinar

Carnegie Mellon Univ.
Carnegie Mellon Univ.
Carnegie Mellon Univ.
Carnegie Mellon Univ.
Carnegie Mellon Univ.

ThEP8

Westside Ballroom South

Magenetic Resonance Imaging (Poster Session)

16:30-18:30

Fast Magnetic Resonance Spectroscopic Imaging at 3 Tesla Using Autocalibrating Parallel Technique, pp. 1866-1869

Banerjee, Suchandrima
Ozturk-Isik, Esin
Nelson, Sarah
Majumdar, Sharmila

Univ. of California, San Francisco-Univ. of California, Berkeley
Univ. of California, San Francisco
Univ. of California, San Francisco
Univ. of California, San Francisco

16:30-18:30

Quantitative Analysis of White Matter on DTI Images of Patients with Tinnitus: Preliminary Report, pp. 1870-1872

Yoo, Done-Sik
Choi, Woo Young
Lee, Sooyeul
Jeong, Ji-Wook
Lee, Jeong Won
Kim, Seunghwan
Chang, Yongmin

Electronics & Telecommunications Res. Inst. (ETRI)
Myongji Univ.
Electronics & Telecommunications Res. Inst. (ETRI)
Electronics & Telecommunications Res. Inst. (ETRI)
Electronics & Telecommunications Res. Inst. (ETRI)
Electronics & Telecommunications Res. Inst. (ETRI)
Kyungpook National Univ.

16:30-18:30

Can We Use 1H MRS Shimming Values to Obtain 31P Spectra?, pp. 1873-1876

Wu, RenHua
Guo, Gang
Zhang, YunPing
Tran, Hien
terBrugge, Karel
Mikulis, David

Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Univ. of Toronto
The Toronto Western Hospital, Univ. of Toronto
The Toronto Western Hospital, Univ. of Toronto

16:30-18:30

Functional Magnetic Resonance Mapping of Motor Cortex in Patients with Mass Lesions Near Primary Motor and Sensory Cortices, pp. 1877-1880

Chen, XiaoKe	Shantou Univ. Medical Coll.
Xiao, YeYu	ShantouUniversity Medical Coll.
Zheng, WenBin	the second affiliated hospital of shan tou Univ.
Chen, FengYing	Shantou Univ. Medical Coll.
Wu, RenHua	Shantou Univ. Medical Coll.

16:30-18:30

Prediction of Hemorrhagic Transformation after Acute Ischemic Stroke Using Hyperintense MCA Sign on Post-Gd T1WI, pp. 1881-1884

Guo, Gang	Shantou Univ. Medical Coll.
Wu, RenHua	Shantou Univ. Medical Coll.
Zhang, YunPing	Shantou Univ. Medical Coll.
Mikulis, David	The Toronto Western Hospital, Univ. of Toronto
terBrugger, Karel	The Toronto Western Hospital. Univ. of Toronto

16:30-18:30

Morphology and Morphometry in Chronic Spinal Cord Injury Assessed Using Diffusion Tensor Imaging and Fuzzy Logic, pp. 1885-1888

Ellingson, Benjamin	Marquette Univ.
Schmit, Brian D.	Marquette Univ.
Prost, Robert	Medical Coll. of Wisconsin
Ulmer, John	Medical Coll. of Wisconsin

ThEP9

Westside Ballroom South

Magnetic Resonance Imaging II (Poster Session)

16:30-18:30

MRI Induced Heating of Pacemaker Leads: Effect of Temperature Probe Positioning and Pacemaker Placement on Lead Tip Heating and Local SAR, pp. 1889-1892

Mattei, Eugenio	Italian National Inst. of Health
Calcagnini, Giovanni	Italian Natiol Inst. of Health
Censi, Federica	Italian National Inst. of Health
Triventi, Michele	Italian National Inst. of Health
Bartolini, Pietro	Italian National Inst. of Health
Bassen, Howard	Food and Drug Administration
Kainz, Wolfgang	Food and Drug Administration

16:30-18:30

A Magnetization Mapping Approach for Passive Shim Design in MRI, pp. 1893-1896

Sanchez Lopez, Hector	The Univ. of Queensland
Liu, Feng	The Univ. of Queensland
Trakic, Adnan	The Univ. of Queensland
Crozier, Stuart	The Univ. of Queensland

16:30-18:30

A Low-Cost Scalable Multichannel Digital Receiver for Magnetic Resonance Imaging, pp. 1897-1900

Dalal, Ishaan	The Cooper Union for the Advancement of Science and Art
Kirpalani, Ashwin	The Cooper Union for the Advancement of Science and Art
Fontaine, Fred	The Cooper Union for the Advancement of Science and Art

16:30-18:30

Inside-Out NMR Probe for Portable Spectrometry, pp. 1901-1903

Le Bec, Gael	ENSIEG
Yonnet, Jean-Paul	ENSIEG
Raouf, Kosai	Univ. Joseph Fourier

16:30-18:30

Slotted Surface Coil with Reduced G-Factor for SENSE Imaging, pp. 1904-1906

Ocegueda, Karelia
Rodriguez, Alfredo O

UAM, Iztapalapa
UAM Iztapalapa

16:30-18:30

Noise Analysis for Multi-Slice Radio Frequency Current Density Imaging, pp. 1907-1910

Wang, Dinghui
DeMonte, Tim P.
Joy, Michael L.
Nachman, Adrian I.

Univ. of Toronto
Field Metrica Inc.
Univ. of Toronto
Univ. of Toronto

16:30-18:30

Spin Relaxation Laws for Quantitative MRI of Hyperpolarized Spins, pp. 1911-1915

Wu, Xizeng

Univ. of Alabama at Birmingham

16:30-18:30

Magnetic Resonance Elastography with Twin Drivers for High Homogeneity and Sensitivity, pp. 1916-1919

Zheng, Ying
Chan, Queenie C. C.
Yang, Edward

The Univ. of Hong Kong
The Univ. of Hong Kong
Univ. of Hong Kong

16:30-18:30

Influence of Moving Sensation by Turning Over Frequency, pp. 1920-1923

ISHIHARA, SHINYA
SAWADA, Keisuke
MAENO, Masato
ISHIDA, Tomohiro
Yanashima, Kenji
Magatani, Kazushige

TOKAI Univ.
Tokai Univ.
Tokai Univ.
Tokai Univ.
Tokai Univ.
Tokai Univ.

16:30-18:30

Simulated Dataset for Verification and Validation of DT-MRI Analyzing Tools, pp. 1924-1927

Goksel, Dilek
Ozkan, Mehmed

Bogazici Univ.
Bogazici Univ.

16:30-18:30

Quantification of Brain Creatine Concentration Using PRESS Sequence and LCMoDel: Comparison with HPLC Method, pp. 1928-1931

Lin, Yan
Zhang, YunPing
Xiao, ZhuangWei
Li, Hui
Shen, Jerry
Chen, XiaoKe
Huang, Kai
Wu, RenHua

Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Shantou Univ. Medical Coll.
Shantou Univ.
Shantou Univ. Medical Coll.
Shantou Univ.
Shantou Univ. Medical Coll.

ThEP10

Westside Ballroom South

Optical Imaging and Microscopy (Poster Session)

16:30-18:30

Accounting for Point Source Propagation Properties in 3D Fluorescence OPT*

Darrell, Alexander
Meyer, Heiko
Brady, Mike
Ripoll, Jorge
Marias, Kostas
Anikitos, Garofalakis

Foundation for Res. & Tech. Hellas and Univ. of Oxford
Foundation for Res. & Tech. Hellas
Univ. of Oxford
Foundation for Res. & Tech. Hellas
Foundation for Res. & Tech. Hellas
Foundation for Res. & Tech. Hellas

16:30-18:30

Modulated Imaging in Layered Media*

Weber, Jessie

Univ. of California, Irvine, Beckman LaserInstituteand Medical C

16:30-18:30

Subsurface Bioimaging Using Angular Domain Optical Backscattering Illumination, pp. 1932-1936

VASEFI, FARTASH
Chan, Paulman K. Y.
Kaminska, Bozena
Chapman, Glenn H.

SIMON FRASER Univ.
SIMON FRASER Univ.
SIMON FRASER Univ.
SIMON FRASER Univ.

16:30-18:30

Development of a Finger Joint Phantom for Evaluation of Frequency Domain Measurement Systems (I), pp. 1937-1940

Netz, Uwe J.
Scheel, Alexander K.
Beuthan, Jürgen
Hielscher, Andreas

Charité Berlin
Georg-August-Univ. Göttingen
Charité Berlin
Columbia Univ. New York

16:30-18:30

Oximetry Considerations in the Small Source Detector Separation Limit, pp. 1941-1943

Winey, Brian
Yu, Yan

Univ. of Rochester
Univ. of Rochester Medical Center

16:30-18:30

Combining Near Infrared Spectroscopy and Functional MRI During Continuous Performance Test in Healthy Subjects, pp. 1944-1947

Butti, Michele
Pastori, Aurora
Merzagora, Anna Caterina
Bianchi, Anna Maria
Bardoni, Alessandra
Branca, Vincenzo
Costa, Antonella
Cerutti, Sergio
Reni, Gianluigi

Pol. Univ. of Milan
IRCCS "E. Medea"
Drexel Univ.
Pol. di Milano
IRCCS "E. Medea"
Ospedale Maggiore Pol. IRCCS "Mangiagalli e Regina Elena",
Ospedale Maggiore Pol. IRCCS "Mangiagalli e Regina Elena",
Pol. Univ. of Milan
Koinč s.r.l.

16:30-18:30

Elastic Registration for Auto-Fluorescence Image Averaging, pp. 1948-1951

Kubecka, Libor
Jan, Jiri
Kolar, Radim
Jirik, Radovan

Brno Univ. of Tech.
Brno Univ. of Tech.
Brno Univ. of Tech.
Brno Univ. of Tech.

16:30-18:30

MIBIC: Mutual Information Based Image Clearance Algorithm for Enhanced Visualization of Cellular Structures*

kockara, sinan
Dagtas, Serhan
Ali, Nawab

Univ. of Arkansas at Little Rock
UALR
UALR

16:30-18:30

A Technique to Compensate the Eye Movement in Dark Adaptometry Exams, pp. 1952-1955

Azevedo, Dario F.G. de
Helegda, Sergio
S. Glock, Flavio
Russomano, Thais
Fabrício Pereira, Léo

Pontifícia Univ. Católica
Pontifícia Univ. Católica do Rio Grande do Sul
Pontifícia Univ. Católica do Rio Grande do Sul
PUCRS
IPCT - Inst. de Pesquisas Cientificas e Tecnologicas

16:30-18:30

Stochastic Decomposition Method for Detection of Epithelium Dysplasia and Inflammation Using White Light Spectroscopy Imaging, pp. 1956-1959

Taslidere, Ezgi
Cohen, Fernand S.

Drexel Univ.
Drexel Univ.

16:30-18:30

System for the Validation of Cell-Tracking Algorithms Using On-Demand Simulated Optical Microscope Images, pp. 1960-1963

Moufarrej, Bechara
Martel, Sylvain

Ec. Pol. de Montreal
Ec. Pol. de Montreal

16:30-18:30

Tracking Endothelial Cells Using Multiframe Point Correspondence, pp. 1964-1967

Lamberti, Fabrizio
Montrucchio, Bartolomeo

Pol. di Torino
Pol. di Torino

16:30-18:30

Measurement of 2-D SpO2 Distribution in Skin Tissue by Multispectral Imaging with Depth Selectivity Control, pp. 1968-1971

Arimoto, Hidenobu

Natl Inst. of Advd Industrial Sci & Tech.

ThEP11

Westside Ballroom South

X-Ray, CT, PET, SPECT, Ultrasound and Infrared Imaging (Poster Session)

16:30-18:30

Detecting Microcalcifications in Digital Mammograms Using Wavelet Domain Hidden Markov Tree Model, pp. 1972-1975

Regentova, Emma
Zhang, Lei
Zheng, Jun
Veni, Gopalkrishna

Univ. of Nevada, Las Vegas
Univ. of Nevada, Las Vegas
Queens Coll. - City Univ. of New York
UNLV

16:30-18:30

Automatic Registration of CT Volumes and Dual-Energy Digital Radiography for Detection of Cardiac and Lung Diseases, pp. 1976-1979

Fei, Baowei
Chen, Xiang
Wang, Hesheng
Sabol, John
DuPont, Elena
Gilkesson, Robert

Case Western Res. Univ.
Case Western Res. Univ.
Case Western Res. Univ.
GE Medical Systems
Univ. Hospitals of Cleveland
Univ. Hospitals of Cleveland

16:30-18:30

Distal Radius Bone Mineral Density Estimation Using the Filling Factor of Trabecular Bone in the X-Ray Image, pp. 1980-1982

Lee, Sooyeul
Jeong, Ji-Wook
Lee, Jeong Won
Yoo, Done-Sik
Kim, Seunghwan

Electronics & Telecom Res. Inst.
Electronics and Telecommunications Res. Inst. (ETRI)
Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst. (ETRI)

16:30-18:30

The GGO Lesions Detected by Computer-Aided Detection System on Chest MDCT Images, pp. 1983-1985

Lee, Jeong Won
Jeong, Ji-Wook
Lee, Sooyeul
Yoo, Done-Sik
Kim, Seunghwan

Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst. (ETRI)
Electronics & Telecom Res. Inst.
Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst. (ETRI)

16:30-18:30

Design and Evaluation of a 2D Array PIN Photodiode Bump Bonded to Readout IC for the Low Energy X-Ray Detector, pp. 1986-1989

Yuk, Sunwoo
Park, Shin Woong
Yi, Yun

Korea Univ.
Korea Univ.
Korea Univ.

16:30-18:30

Polycrystalline CdZnTe Thick Films for Low Energy X-Ray: System Evaluation, pp. 1990-1993

Yuk, Sunwoo

Korea Univ.

Park, Shin Woong

Korea Univ.

Yi, Yun

Korea Univ.

16:30-18:30

Study of Digital Mammographic Equipments by Phantom Image Quality, pp. 1994-1996

Verdú, Gumersindo

Pol. Univ. of Valencia

Mayo, Patricia

Pol. Univ. of Valencia

Rodenas, Francisco

Pol. Univ. of Valencia

16:30-18:30

Deformable Registration of Prone and Supine Colons for CT Colonography, pp. 1997-2000

Suh, Jung W.

Virginia Tech.

Wyatt, Christopher Lee

Virginia Tech.

16:30-18:30

Detection of Lung Cancer with Phase-Contrast X-Ray Imaging Using Synchrotron Radiation, pp. 2001-2004

Liu, Ping

Shanghai Jiao Tong Univ.

Sun, Jianqi

Shanghai Jiao Tong Univ.

Guan, Yijing

Shanghai Jiao Tong Univ.

Zhang, Guilin

Shanghai Inst. of Applied Physics, Chinese Acad. of Science

Xu, Lisa Xuemin

Shanghai Jiaotong Univ.

16:30-18:30

Temporal Resolution of *nt*PET Using Either Arterial or Reference Region-Derived Plasma Input Functions, pp. 2005-2008

Normandin, Marc

Purdue Univ.

Morris, Evan

Indiana Univ. Univ. Indianapolis

ThEP12

Westside Ballroom South

Methods and Applications in Bioinformatics and Systems Biology (Poster Session)

16:30-18:30

Modelling and Simulation of the TLR4 Pathway with Coloured Petri Nets, pp. 2009-2012

Täubner, Claudia

Tech. Univ. of Braunschweig

Mathiak, Brigitte

Tech. Univ. of Braunschweig

Kupfer, Andreas

Tech. Univ. of Braunschweig

Fleischer, Nina

Tech. Univ. of Braunschweig

Eckstein, Silke

Tech. Univ. of Braunschweig

16:30-18:30

Discrete Stochastic Simulation of Cell Signaling: Comparison of Computational Tools, pp. 2013-2016

Manninen, Tiina

Tampere Univ. of Tech.

Mäkiraatikka, Eeva

Tampere Univ. of Tech.

Ylipää, Antti

Tampere Univ. of Tech.

Pettinen, Antti

Tampere Univ. of Tech.

Leinonen, Kalle

Tampere Univ. of Tech.

Linne, Marja-Leena

Tampere Univ. of Tech.

16:30-18:30

Computation Intelligent for Eukaryotic Cell-Cycle Gene Network, pp. 2017-2020

Wu, Shing-Jen

Da-Yeh Univ.

Wu, Cheng-Tao

Da-Yeh Univ.

Lee, Tsu-Tian

National Chiao-Tung Univ.

16:30-18:30

Pluggable Application Server Framework, pp. 2021-2024

Wang, Hao
Tan, Feng
Sabnis, Amit
Fu, Xuezheng
Volarath, Patra
Harrison, Robert W.

Georgia State Univ. Dept. of Computer Science
Georgia State Univ. Dept. of Computer Science
Georgia State Univ. Dept. of Biology
georgia state Univ. Dept. of Computer Science
Georgia State Univ. Dept. of Chemistry
Georgia State Univ. Dept. of Computer Science and Biology

16:30-18:30

E. Coli Promoter Prediction Using Feed-Forward Neural Networks, pp. 2025-2027

Zhang, Fan
Kuo, Michael
Brunkhorst, Adrian

Univ. of California San Diego Medical Center
Univ. of California San Diego
UCSD

16:30-18:30

A Mathematical Model Relating Chromosome Aberrations to Cancer Progression, pp. 2028-2031

Ying, Hao
DiPierdomenico, Julia
Lin, Feng
Heng, Henry

Wayne State Univ.
Wayne State Univ.
Wayne State Univ.
Wayne State Univ.

16:30-18:30

Simulation of the Cell Cycle Using a Pathway of the G1Phase and Cell's Behavior Research*

Christodoulou, Manolis
Louvros, Nikos

Tech. Univ. of Crete
Tech. Univ. of Crete

16:30-18:30

Robust Mixture Model Clustering of DNA Binding Sites, pp. 2032-2035

Liu, Sheng
Song, Qing
Cao, Aize
Yang, Xulei
Wu, Yilei

Nanyang Tech. Univ.
Nanyang Tech. Univ.
Vanderbilt Univ.
Nanyang Tech. Univ.
Nanyang Tech. Univ.

16:30-18:30

Association between Pathways in Regulatory Networks, pp. 2036-2040

Kluger, Yuval
Kluger, Harriet
Tuck, David

NYU School of Medicine
Yale Univ.
Yale

16:30-18:30

Bayesian Dynamic Multivariate Models for Inferring Gene Interaction Networks, pp. 2041-2044

Liang, Yulan
Kelemen, Arpad

State Univ. of New York at Buffalo
Niagara Univ.

16:30-18:30

Biological Evolution: Distribution and Convergence Analysis of Amino Acids, pp. 2045-2048

Bouaynaya, Nidhal
Schonfeld, Dan

UIC
Univ. of Illinois at Chicago

ThEP13

Westside Ballroom South

Wireless Sensors and Telemetry Systems 4 (Poster Session)

16:30-18:30

A New Platform Based on IEEE802.15.4 Wireless Inertial Sensors for Motion Caption and Assessment*

Brunetti, Fernando
Pons, Jose Luis

Inst. de Automática Industrial- Consejo Superior de Investigacion
Inst. de Automática Industrial- Consejo Superior de Investigacion

16:30-18:30

Miniature Wireless Measurement Node for ECG Signal Transmission in Home Area Network, pp. 2049-2052

Vehkaoja, Antti
Verho, Jarmo
Lekkala, Jukka

Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.

16:30-18:30

Design and Implementation of a Wireless (Bluetooth) Four Channel Bio-Instrumentation Amplifier and Digital Data Acquisition Device with User-Selectable Gain, Frequency, and Driven Reference, pp. 2053-2056

Cosmanescu, Alin Petre
Miller, Benjamin
Magno, Terence
Ahmed, Assad
Kremenec, Ian

The Cooper Union for the Advancement of Science and Art
The Cooper Union for the Advancement of Science and Art
The Cooper Union for the Advancement of Science and Art
The Cooper Union for the Advancement of Science and Art
The Cooper Union for the Advancement of Science and Art

16:30-18:30

Mobile Remote Monitoring of Biological Signals, pp. 2057-2059

da Rocha, Murilo Fraga
Azevedo, Dario F.G. de
Russomano, Thais
Figueira, Márcio Vieira
Helegda, Sergio

Pontifical Catholic Univ. of Rio Grande do Sul
Pontifícia Univ. Católica
PUCRS
Pontifical Catholic Univ. of Rio Grande do Sul
Pontifícia Univ. Católica do Rio Grande do Sul

16:30-18:30

Contactless and Unobtrusive Measurement of Heart Rate in Home Environment, pp. 2060-2063

Zakrzewski, Mari
Kolinummi, Arto
Vanhala, Jukka

Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.

16:30-18:30

PERSEIA: A Biomedical Wireless Sensor Network to Support Healthcare Delivery for the Elderly and Chronically Ill, pp. 2064-2066

Jiménez-Fernández, Silvia
Araujo, Álvaro
Cobo, Antonio
del Pozo, Francisco
Nieto-Taladriz, Octavio
de Toledo, Paula
Moya, José M.

Tech. Univ. of Madrid
Tech. Univ. of Madrid
Tech. Univ. of Madrid
Tech. Univ. of Madrid
Tech. Univ. of Madrid
Tech. Univ. of Madrid
Tech. Univ. of Madrid

16:30-18:30

Low-Power Wireless Medical Sensor Platform, pp. 2067-2070

Dolgov, Arseny
Zane, Regan

Univ. of Colorado
Univ. of Colorado

16:30-18:30

BPSK & QPSK Modulated Data Communication for Biomedical Monitoring Sensor Network, pp. 2071-2074

Wegmueller, Marc Simon
Oberle, Michael
Kuster, Niels
Fichtner, Wolfgang

ETH Zurich
Foundation for Res. on Information Tech. in Society (
Foundation for Res. on Information Tech. in Society (
ETH Zurich

16:30-18:30

Generic Controller Dedicated to Telemetry-Controlled Microsystems, pp. 2075-2078

Sodagar, Amir M.
Wise, Kensall
Najafi, Khalil

Univ. of Michigan
Univ. of Michigan, Ann Arbor
Univ. of Michigan

ThEP14

Westside Ballroom South

Cellular and Functional Tissue Engineering (Poster Session)

16:30-18:30

A Kinematics-Based Method for Generating Cartilage Maps and Deformations in the Multi-Articulating Wrist Joint from CT Images, pp. 2079-2082

Marai, Georgeta Elisabeta
Crisco, Joseph
Laidlaw, David

Brown Univ.
Brown Univ.
Brown Univ.

16:30-18:30

In Vivo Biomechanical Evaluations of the Medial Gastrocnemius: Changes in Muscle Properties in Stroke Survivors, pp. 2083-2086

Gao, Fan
Zhang, Liquan

Rehabilitation Inst. of Chicago
Northwestern Univ.

16:30-18:30

Gene Expression of Four Adhesive Proteins in the Early Healing of Bone Defect and Bone-Implant Interface, pp. 2087-2090

ZHANG, Ting
XIA, Haibin
Wang, Yining
PENG, Cong
LI, Yu Hong
PAN, Xinhua

School of Stomatology, Wuhan Univ.
School of Stomatology, Wuhan Univ.
School & Hospital of Stomatology, Wuhan Univ.
School of Stomatology, Wuhan Univ.
School of Stomatology, Wuhan Univ.
School & Hospital of Stomatology, Wuhan Univ.

16:30-18:30

In Vitro Degradation Behavior of Photopolymerized PEG Hydrogels As Tissue Engineering Scaffold, pp. 2091-2093

Xin, Antonio X
Gaydos, Celeste
Mao, Jeremy

Columbia Univ.
UIC
Columbia Univ.

16:30-18:30

Mineral Trioxide Aggregate in Endodontic Treatment for Immature Teeth, pp. 2094-2097

Hatibovic-Kofman, Sahza
Raimundo, Lin
Chong, Lawrence
Moreno, Jorge
Zheng, Lei

The Univ. of Western Ontario
The Univ. of Western Ontario
The Univ. of Western Ontario
The Univ. of Western Ontario
The Univ. of Western Ontario

16:30-18:30

Finite Element Modeling Following Partial Meniscectomy: Effect of Various Size of Resection, pp. 2098-2101

Vadher, Sharadsinh
Nayeb-Hashemi, Hamid
Canavan, Paul
Warner, Grant

Northeastern Univ.
Northeastern Univ.
Northeastern Univ.
Northeastern Univ.

16:30-18:30

Realistic Computational Modeling for Hybrid Biopolymer Microcantilevers, pp. 2102-2105

Kim, Jinseok
Park, Jungyul
Ryu, Suk-Kyu
Baek, Jeongeun
Park, Sewan
Kim, Hyeon Cheol
Chun, Kukjin
Park, Sukho

Korea Inst. of Science and Tech.
Korea Inst. of Science and Tech.
Korea Inst. of Science and Tech.
Korea Inst. of Science and Tech.
Seoul National Univ.
Seoul National Univ.
Seoul National Univ.
Korea Inst. of Science & Tech.

16:30-18:30

Four versus Two-Electrode Measurement Strategies for Cell Growing and Differentiation Monitoring Using Electrical Impedance Spectroscopy, pp. 2106-2109

Bragos, Ramon
Sarro, Enric
Fontova, Andreu
Soley, Albert
Cairo, Jordi Joan
Bayes-Genis, Antoni
Rosell, Javier

Tech. Univ. of Catalonia (UPC)
Autonomous Univ. of Barcelona (UAB)
Tech. Univ. of Catalonia
Autonomous Univ. of Barcelona (UAB)
Autonomous Univ. of Barcelona (UAB)
Hospital de la Santa Creu i Sant Pau
Tech. Univ. of Catalonia

16:30-18:30

Rapid Prototyping of Patterned Poly-L-Lysine Microstructures, pp. 2110-2113

Kim, Jiwan

Univ. of Wisconsin-Madison

Williams, Justin

Univ. of Wisconsin-Madison

FrA01

Marquis AB

Signal Processing and Modeling in Biological Systems I (Oral Session)

09:00-09:15

Boolean Modeling of Neural Systems with Point-Process Inputs and Outputs, pp. 2114-2117

Marmarelis, Vasilis

Univ. of Southern California

Zanos, Theodoros

Univ. of Southern California

Courellis, Spiros

Univ. of Southern California

Berger, Theodore

Univ. of Southern California

09:15-09:30

Unbiased Identification of Finite Impulse Response Linear Systems Operating in

Closed-Loop, pp. 2118-2121

Westwick, David

Univ. of Calgary

Perreault, Eric

Northwestern Univ.

09:30-09:45

The Generation Mechanisms and Repeatability of 2F1-F2 Distortion Product Otoacoustic Emissions: Study on Normally Hearing Subjects, pp. 2122-2125

Parazzini, Marta

Istituto di Ingegneria Biomedica CNR

Wilson, Hanna

Royal Gwent Hospital

Bell, Steven

Inst. of Sound and Vibration Res. Univ. of Southampton

Tognola, Gabriella

Istituto di Ingegneria Biomedica CNR

Ravazzani, Paolo

Istituto di Ingegneria Biomedica CNR

Lutman, Mark E.

Inst. of Sound and Vibration Res. Univ. of Southampton

09:45-10:00

Observations from Chaotic Analysis of Sleep EEGs, pp. 2126-2129

Kassebaum, John

Stellar Wind Development, LLC

Foresman, Brian

Indiana Univ. Medical Center

Talavage, Thomas

Purdue Univ.

Eberhart, Russell

Purdue School of Engineering and Tech. IUPUI

10:00-10:15

Separable Least Squares Identification of Long Memory Block Structured Models:

Application to Lung Tissue Viscoelasticity, pp. 2130-2133

Westwick, David

Univ. of Calgary

Suki, Bela

Boston Univ.

10:15-10:30

Optimal Feature Selection for Seizure Detection: A Subspace Based Approach, pp. 2134-2137

Ozkurt, Tolga Esat

Univ. of Pittsburgh

Sun, Mingui

Univ. of Pittsburgh

Akgul, Tayfun

Istanbul Tech. Univ.

Sclabassi, Robert

Univ. of Pittsburgh

FrA02

Marquis C

Nerve Stimulation As a Clinical Rehabilitation Technique (Oral Session)

09:00-09:15

Combined Peripheral and Cortical Neural Stimulation in Motor Neurorehabilitation*

Sinkjaer, Thomas

Aalborg Univ.

Mrachacz-Kersting, Natalie

The Univ. of Auckland

09:15-09:30

Modulation in Spinal Circuits and Corticospinal Connections Following Nerve Stimulation and Operant Conditioning, pp. 2138-2141

Thompson, Aiko K.

Wadsworth Center, NY State Dept. Health

Stein, Richard B.

Univ. of Alberta

Chen, Xiang Yang

Wadsworth Center, NY State Dept. Health and SUNY Albany

Wolpaw, Jonathan R.

Wadsworth Center, NY State Dept. Health and SUNY Albany

09:30-09:45

Electrical Stimulation Augmented Rehabilitation of Hemiparetic Gait*

Sinkjaer, Thomas

Aalborg Univ.

09:45-10:00

Transcutaneous Electrical Stimulation Technology for Functional Electrical Therapy Applications, pp. 2142-2145

Popovic, Milos R.

Univ. of Toronto

10:00-10:15

Hybrid Assistive Systems for Rehabilitation: Lessons Learned from Functional Electrical Therapy in Hemiplegics, pp. 2146-2149

Popovi_., Dejan

Aalborg Univ.

Popovi_., Mirjana

Aalborg Univ.

10:15-10:30

Dynamic Balance Training with Sensory Electrical Stimulation in Chronic Stroke Patients, pp. 2150-2153

Worms, Georg

Univ. of Glasgow

Matja_i_., Zlatko

Inst. for Rehabilitation, Republic of Slovenia

Gollee, Henrik

Univ. of Glasgow

Cikajlo, Imre

Inst. for Rehabilitation, Republic of Slovenia

Goljar, Nika

Inst. for Rehabilitation, Republic of Slovenia

Hunt, Kenneth J.

Univ. of Glasgow

FrA03

SoHo-Herald

Neural Networks and Support Vector Machines in Biological Signal Processing (Poster Session)

09:00-09:15

Multiple ECG Beats Recognition in the Frequency Domain Using Grey Relational Analysis, pp. 2154-2158

Lin, Chia-Hung

Kao-Yuan Inst. of Tech.

Du, Yi Chun

National Cheng Kung Univ.

Chen, Yung-Fu

China Medical Univ.

Chen, Tainsong

National Cheng Kung Univ.

09:15-09:30

Robustness of Support Vector Machine-Based Classification of Heart Rate Signals, pp. 2159-2162

Kampouraki, Argyro

Univ. of Ioannina

Nikou, Christophoros

Univ. of Ioannina

Manis, George

Univ. of Ioannina

09:30-09:45

Intelligent Arrhythmia Detection and Classification Using ICA, pp. 2163-2166

Azemi, Asad

Penn State Univ.

Sabzevari, Vahid Reza

Islamic Azad Univ. of Mashhad

Khademi, Morteza

Ferdowsi Univ. of Mashhad

Gholizade, Hossein

ferdowsi

Kiani, Arman

Ferdowsi Univ. of Mashhad, Iran

Dastgheib, zeinab

Ferdowsi Univ.

09:45-10:00

Adaptive Neuro-Fuzzy Inference System for Analysis of Doppler Signals, pp. 2167-2170

Ubeyli, Elif Derya

TOBB Ec. and Tech. Univ.

10:00-10:15
Effect of Feature and Channel Selection on EEG Classification, pp. 2171-2174
 Al-Ani, Ahmed Univ. of Tech. Sydney
 Al-Sukker, Akram Univ. of Tech. Sydney

10:15-10:30
Reducing the Number of Channels for an Ambulatory Patient-Specific EEG-Based Epileptic Seizure Detector by Applying Recursive Feature Elimination, pp. 2175-2178
 Glassman, Elena MIT
 Guttag, John MIT

10:15-10:30
Detection of Bursts in the EEG of Post Asphyctic Newborns, pp. 2179-2182
 Löfhede, Johan Univ. Coll. of Borås
 Löfgren, Nils Univ. Coll. of Borås
 Thordstein, Magnus Unit of Clinical Neurophysiology, Sahlgrenska Univ. Hospital
 Flisberg, Anders Goteborg Univ.
 Kjellmer, Ingemar Goteborg Univ.
 Lindcrantz, Kaj Univ. Coll. of Borås

10:15-10:30
Creating a Nonparametric Brain-Computer Interface with Neural Time-Series Prediction Preprocessing, pp. 2183-2186
 Coyle, Damien Univ. of Ulster
 McGinnity, T. Martin Univ. of Ulster
 Prasad, Girijesh Univ. of Ulster

10:15-10:30
Early Driver Fatigue Detection from Electroencephalography Signals Using Artificial Neural Networks, pp. 2187-2190
 King, Leslie Univ. of Tech. Sydney
 Nguyen, Hung Univ. of Tech. Sydney
 Lal, Sara Univ. of Tech. Sydney

10:15-10:30
Unspoken Vowel Recognition Using Facial Electromyogram, pp. 2191-2194
 Poosapadi Arjunan, Sridhar RMIT Univ.
 Kant Kumar, Dinesh RMIT Univ.
 Yau, Wai Chee RMIT Univ.
 Weghorn, Hans BA-Univ. of cooperative education

10:15-10:30
Patients on Weaning Trials from Mechanical Ventilation Classified with Neural Networks and Feature Selection, pp. 2195-2198
 Giraldo, Beatriz Tech. Univ. of Catalonia (UPC)
 Arizmendi, Carlos Tech. Univ. of Catalonia (UPC)
 Romero, Enrique Tech. Univ. of Catalonia (UPC)
 Alquezar, René Tech. Univ. of Catalonia (UPC)
 Caminal, Pere Tech. Univ. of Catalonia (UPC)
 Benito, Salvador Hospital de la Santa Creu i Sant Pau
 Ballesteros, D Hospital Univ. de Getafe

10:15-10:30
Speech Sound Classification and Detection of Articulation Disorders with Support Vector Machines and Wavelets, pp. 2199-2202
 Georgoulas, George Univ. of Patras
 Georgopoulos, Voula Tech. Educal Inst. of Patras
 Stylios, Chrysostomos Univ. of Patras

10:15-10:30

The Effect of Electrode Displacements on Pattern Recognition Based Myoelectric Control, pp. 2203-2206
Hargrove, Levi Univ. of New Brunswick
Engelhart, Kevin Univ. of New Brunswick
Hudgins, Bernard Univ. of New Brunswick

10:15-10:30

Novel Method of Using Dynamic Electrical Impedance Signals for Noninvasive Diagnosis of Knee Osteoarthritis, pp. 2207-2210
Gajre, Suhas SGGSIE&T, Nanded and CBME, Indian Inst. of Tech. Delhi
Anand, Sneh CBME, Indian Inst. of Tech. Delhi
Singh, U PMR, All India Inst. of Medical Sciences New Delhi
Saxena, Rajendra CBME, Indian Inst. of Tech. Delhi

FrA04

Ziegfeld

Micro Robotics (Oral Session)

09:00-09:15

Capsular Locomotive Microrobot for Gastrointestinal Tract, pp. 2211-2214
Park, Sukho Korea Inst. of Science & Tech.
Hyunjun, Park KIST
Sungjin, Park KIST
Jee, Changyeol KIST
Kim, Jinseok Korea Inst. of Science and Tech.
Kim, Byungkyu Korea Inst. of Science & Tech.

09:15-09:30

Towards Active Capsular Endoscopy: Preliminary Results on a Legged Platform, pp. 2215-2218
Menciassi, Arianna Scuola Superiore Sant'Anna
Stefanini, Cesare Scuola Superiore Sant'Anna
Orlandi, Giovanni Scuola Superiore Sant'Anna
Quirini, Marco Scuola Superiore Sant'Anna
Dario, Paolo Scuola Superiore Sant'Anna

09:30-09:45

Robust Contact Detection in Micromanipulation Using Computer Vision Microscopy, pp. 2219-2222
Wang, Wenhui Univ. of Toronto
Liu, Xinyu Univ. of Toronto
Sun, Yu University of Toronto

FrA05

Duffy-Columbia

Monitoring Sensors and Systems I (Oral Session)

09:00-09:15

Applications of a Textile-Based Wearable System for Vital Signs Monitoring, pp. 2223-2226
Di Rienzo, Marco Fondazione Don Carlo Gnocchi
Rizzo, Francesco Fondazione Don C. Gnocchi ONLUS
Meriggi, Paolo Fondazione Don Gnocchi
Bordoni, Bruno Fondazione Don Gnocchi ONLUS
Brambilla, Gabriella Fondazione Don C. Gnocchi, ONLUS
Ferratini, Maurizio Fondazione Don C. Gnocchi, ONLUS
Castiglioni, Paolo Fondazione Don C. Gnocchi ONLUS

09:15-09:30

Measurement of Human Gastric Motility by Near-Infrared Light for the Assessment of Chronic Mental Stress, pp. 2227-2230
Teppej, Hayashi Ritsumeikan Univ.
Shiozawa, Naruhiro Ritsumeikan Univ.
Makikawa, Masaaki Ritsumeikan Univ.

09:30-09:45

A Multi-Channel Femtoampere-Sensitivity Conductometric Array for Biosensing Applications*

Gore, Amit

Michigan State Univ.

Chakrabartty, Shantanu

Michigan State Univ.

Pal, Sudeshna

Michigan State Univ.

Alocilja, Evangelyn

Michigan State Univ.

09:45-10:00

Measurement of Blood Urea Based in Optical Sensing by Employ in Hemodialysis, pp. 2231-2234

Martinez Chavez, Gustavo Adolfo

UDEFA

10:00-10:15

Robust Overnight Monitoring of Human Vital Signs by a Non-Contact Respiration and Heartbeat Detector, pp. 2235-2238

Li, Changzhi

Univ. of Florida

Lin, Jenshan

Univ. of Florida

Xiao, Yanming

Univ. of Florida

10:15-10:30

Long-Term Characterization of Electrode Materials for Surface Electrodes in Biopotential Recording, pp. 2239-2242

Hoffmann, Klaus-Peter

Fraunhofer Inst. für Biomedizinische Tech. IBMT

Ruff, Roman

Fraunhofer Inst. für Biomedizinische Tech. IBMT

Poppendieck, Wigand

Fraunhofer Inst. für Biomedizinische Tech. IBMT

FrA06

Empire Hudson

Diffusion Tensor Imaging (Oral Session)

09:00-09:15

Simulation of the MRI Measurement of Diffusion in Realistic Neural Tissue Models, pp. 2243-2244

Frank, Lawrence

Univ. of California San Diego

09:15-09:30

Hybrid Diffusion Imaging (HYDI), pp. 2245-2248

Alexander, Andrew

Univ. of Wisconsin

Wu, Yu-Chien

Univ. of Wisconsin

Venkat, Pradeep

Univ. of Wisconsin

09:30-09:45

Comparison of Brain White Matter Fiber Orientation Measurements Based on Diffusion Tensor Imaging and Light Microscopy, pp. 2249-2251

Anderson, Adam

Vanderbilt Univ.

Choe, Ann

Vanderbilt Univ.

Stepniewska, Iwona

Vanderbilt Univ.

Colvin, Daniel

Vanderbilt Univ.

09:45-10:00

Characterization of Mouse Brain and Its Development Using Diffusion Tensor Imaging and Computational Techniques, pp. 2252-2255

Zhang, Jiangyang

Johns Hopkins Univ. School of Medicine

Richards, Linda J.

Univ. of Queensland School of Biomedical Sciences and The Queens

Miller, Michael

Johns Hopkins Univ.

Yarowksy, Paul

Univ. of Maryland School of Medicine

van Zijl, Peter

Johns Hopkins Univ. School of Medicine

Mori, Susumu

Johns Hopkins Univ. School of Medicine

10:00-10:15

Characterization of Anomalous Diffusion from MR Signal May Be a New Probe to Tissue Microstructure, pp. 2256-2259

Ozarslan, Evren	National Inst. of Health
Basser, Peter	National Inst. of Health
Shepherd, Timothy	Univ. of Florida
Thelwall, Peter	Newcastle Univ.
Vemuri, Baba	Univ. of Florida
Blackband, Stephen	Univ. of Florida

10:15-10:30

An Information Theoretic Approach Characterizing Diffusion Anisotropy in Diffusion-Weighted Magnetic Resonance Images, pp. 2260-2263

Metwalli, Nader	Georgia Inst. of Tech. and Emory Univ.
LaConte, Stephen	Emory Univ.
Hu, Xiaoping	Emory Univ. and Georgia Inst. of Tech.

FrA07

Cantor-Jolson

Cardiac Arrhythmias (Oral Session)

09:00-09:15

Calcium Transients Influences Action Potential Amplitudes in Ventricular Fibrillation, pp. 2264-2267

Choi, Bum-Rak	Tulane Univ.
Liu, Tong	Univ. of Pittsburgh
Salama, Guy	Univ. of Pittsburgh

09:15-09:30

Epicardial Rotors in Panoramic Optical Maps of Fibrillating Swine Ventricles, pp. 2268-2271

Kay, Matthew	The George Washington Univ.
Rogers, Jack	Univ. of Alabama in Birmingham

09:30-09:45

Role of Cellular Uncoupling in Arrhythmogenesis in Ischemia Phase 1B, pp. 2272-2275

Jie, Xiao	Tulane Univ.
Rodriguez, Blanca	Oxford Univ.
Trayanova, Natalia	Tulane Univ.

09:45-10:00

Field Stimulation of Cells in Suspension: Use of a Hybrid Finite Element Method, pp. 2276-2279

Ying, Wenjun	Duke Univ.
Pourtaheri, Navid	Duke Univ.
Henriquez, Craig	Duke Univ.

10:00-10:15

Vulnerability to Electric Shocks in the Regionally-Ischemic Ventricles, pp. 2280-2283

Rodriguez, Blanca	Univ. of Oxford
Tice, Brock	Tulane Univ.
Blake, Robert	Tulane Univ.
Gavaghan, David	Univ. of Oxford
Trayanova, Natalia	Tulane Univ.

FrA08

Juilliard

Neural Informatics and Signal Processing II (Oral Session)

09:00-09:15

Separation of Subcortical Component from Cortical Auditory Evoked Potential by Independent Component Analysis, pp. 2284-2287

Takahashi, Hirokazu	Univ. of Tokyo
Nakao, Masayuki	Univ. of Tokyo
Kaga, Kimitaka	Univ. of Tokyo

09:15-09:30

Multi-Channel Recordings of the Motor Activity from the Spinal Cord of Behaving Rats, pp. 2288-2291
Prasad, Abhishek
Sahin, Mesut
New Jersey Inst. of Tech.
New Jersey Inst. of Tech.

09:30-09:45

Electrocorticographic Signal Classification Based on Time-Frequency Decomposition and Nonparametric Statistical Modeling, pp. 2292-2295
Dat, Tran Huy
Shue, Louis
Guan, Cuntai
Inst. for Infocomm Res.
Inst. for Infocomm Res.
Inst. for Infocomm Res.

09:45-10:00

Enhanced Hybrid Electromyogram / Eye Gaze Tracking Cursor Control System for Hands-Free Computer Interaction, pp. 2296-2299
Chin, Craig A.
Barreto, Armando
Florida International Univ.
Florida International Univ.

10:00-10:15

Modeling Hippocampal Nonlinear Dynamic Transformations with Principal Dynamic Modes, pp. 2300-2303
Courellis, Spiros
Zanos, Theodoros
Hsiao, Min-Chi
Hampson, Robert
Deadwyler, Sam
Berger, Theodore
Marmarelis, Vasilis
Univ. of Southern California
Univ. of Southern California
Univ. of Southern California
Wake Forest Univ.
Wake Forest Univ.
Univ. of Southern California
Univ. of Southern California

10:15-10:30

The Use of the Wavelet Transform in EMG M-Wave Pattern Classification, pp. 2304-2307
Salvador, Jillian
de Bruin, Hubert
McMaster Univ.
McMaster Univ.

FrA09

Gramercy-Olmstead

Healthcare Decision Support Systems I (Oral Session)

09:00-09:15

Predicting Probability of Mortality in the Neonatal Intensive Care Unit, pp. 2308-2311
Zhou, Dajie
Frize, Monique
Univ. of Ottawa
Carleton Univ.

09:15-09:30

Eye Stiffness Measurement by Probe Contact Method, pp. 2312-2315
Kurita, Yuichi
Kempf, Roland
Iida, Yoshichika
Kaneko, Makoto
Sugimoto, Eiichiro
Tsukamoto, Hidetoshi
Mishima, Hiromu
Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.
Chugoku Rousai Hospital
Hiroshima Univ.
Hiroshima Univ.

09:30-09:45

A Comparison of Methodologies for Fuzzy Expert System Creation - Application to Arrhythmic Beat Classification, pp. 2316-2319
Tsipouras, Markos G.
Exarchos, Themis P.
Fotiadis, Dimitrios I.
Univ. of Ioannina
Unit of Medical Tech. and Intelligent Information
Univ. of Ioannina

09:45-10:00

Computerized Detection of Lung Tumors in PET/CT Images, pp. 2320-2323

Jafar, Iyad
Ying, Hao
Shields, Anthony
Muzik, Otto

Wayne State Univ.
Wayne State Univ.
Wayne State Univ.
Wayne State Univ.

10:00-10:15

Identifying Risk Factors for Two Complication Types for Neonatal Intensive Care Patients (NICU), pp. 2324-2327

Frize, Monique
Walker, Robin
Ibrahim, Doaa

Carleton Univ.
Children Hospital of Eastern Ontario
Ottawa Univ.

10:15-10:30

Implementation of a Burn Scar Assessment System by Ultrasound Techniques, pp. 2328-2331

Du, Yi Chun
Lin, Chih-Ming
Chen, Yung-Fu
Chen, Chung-Lin
Chen, Tainsong

National Cheng Kung Univ.
National Cheng Kung Univ.
China Medical Univ.
National Cheng Kung Univ.
National Cheng Kung Univ.

FrA10

Astor Ballroom

Segmentation, Classification, Counting, and Feature Computation (Oral Session)

09:00-09:15

A 3D Level Sets Method for Segmenting the Mouse Spleen and Follicles in Volumetric MicroCT Images, pp. 2332-2336

Price, Jeffery
Aykac, Deniz
Wall, Jonathan

Oak Ridge National Lab.
Oak Ridge National Lab.
Univ. of Tennessee Graduate School of Medicine

09:15-09:30

3D Prostate Boundary Segmentation from Ultrasound Images Using 2D Active Shape Models, pp. 2337-2340

Hodge, Adam Christopher
Ladak, Hanif Mohamed

The Univ. of Western Ontario
The Univ. of Western Ontario

09:30-09:45

Segmentation of Prostate from 3-D Ultrasound Volumes Using Shape and Intensity Priors in Level Set Framework, pp. 2341-2344

Yang, Fuxing
Suri, Jasjit
Fenster, Aaron

Diagnostic Ultrasound, Bothell, WA
Biomedical Tech.
Robarts Res. Inst.

09:45-10:00

Automated Angiogenesis Quantification through Advanced Image Processing Techniques, pp. 2345-2348

Doukas, Charalampos
Maglogiannis, Ilias
Chatziioannou, Aristotle
Papapetropoulos, Andreas

Univ. of the Aegean
Univ. of the Aegean
National Hellenic Res. Foundation
School of Pharmacy, Univ. of Patras

10:00-10:15

Automatic Classification of Images with Appendiceal Orifice in Colonoscopy Videos, pp. 2349-2352

Cao, Yu
Liu, Danyu
Tavanapong, Wallapak
Wong, Johnny S
Oh, JungHwan
de Groen, Petrus (Piet) Cornelius

Iowa State Univ.
Iowa State Univ.
Iowa State Univ.
Iowa State Univ.
Univ. of North Texas
Mayo Clinic

10:15-10:30

Extraction of the Number of Peroxisomes in Yeast Cells by Automated Image Analysis, pp. 2353-2356

Niemistö, Antti	Tampere Univ. of Tech.
Selinummi, Jyrki	Tampere Univ. of Tech.
Saleem, Ramsey	Inst. for Systems Biology
Shmulevich, Ilya	Inst. for Systems Biology
Aitchison, John	Inst. for Systems Biology
Yli-Harja, Olli	Tampere Univ. of Tech.

FrA11

Belasco

Student Paper Competition III (Special Session)

09:00-09:15

*Modulation of Shock-End Virtual Electrode Polarisation As a Direct Result of 3D Fluorescent Photon Scattering**

Bishop, Martin	Univ. of Oxford
Rodriguez, Blanca	Oxford Univ.
Trayanova, Natalia	Tulane Univ.
Gavaghan, David	Univ. of Oxford

09:15-09:30

*High-Precision Absolute Positioning of Medical Instruments in MRI Systems**

Aboussouan, Eric	École Pol. de Montreal (EPM)
Martel, Sylvain	Ec. Pol. de Montreal

09:30-09:45

*Esophageal Electric Fields Are Correlated to Atrial Defibrillation Thresholds: Towards Patient-Specific Optimization of External Atrial Defibrillation**

Fitch, David	The Univ. of Memphis
Soberman, Judith	Univ. of Tennessee Health Science Center
de Jongh Curry, Amy	The Univ. of Memphis

09:45-10:00

*Automated Non-Invasive Detection of Pumping States in an Implantable Rotary Blood Pump**

Karantonis, Dean Michael	UNSW
Cloherty, Shaun L	Univ. of New South Wales
Mason, David G	Ventracor Ltd
Salamonsen, Robert F	Alfred Hospital
Ayre, Peter Joseph	Ventracor Ltd
Lovell, Nigel H	Univ. of New South Wales

10:00-10:15

*Correlation between Live and Post Mortem Skull Conductivity Measurements**

Wendel, Katrina	Tampere Univ. of Tech.
Malmivuo, Jaakko	Tampere Univ. of Tech.

FrA12

Palace Wintergarden

Biomaterials and Cell-Biomaterial Interactions (Oral Session)

09:00-09:15

*Biomimetic Nano-Structured Scaffolds**

Ma, Peter	Univ. of Michigan
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09:15-09:30

*Engineered Osteogenesis with Angiogenesis**

Mao, Jeremy	Columbia Univ.
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09:30-09:45

Engineered Microenvironments to Investigate Cellular Behavior, pp. 2357-2357

Raghavan, Srivatsan
Nelson, Celeste
Sniadecki, Nathan
Lim, Emerson
Chen, Christopher

Univ. of Pennsylvania
Johns Hopkins Univ.
Univ. of Pennsylvania
Johns Hopkins Univ.
Univ. of Pennsylvania

09:45-10:00

A Novel Use for Capillary Channel Fibers: Enhanced Engineered Tissue Systems, pp. 2358-2361

Burg, Karen
Brunson, Douglas

Clemson Univ.
Clemson Univ.

10:00-10:15

Biocompatibility of Candidate Materials for the Realization of Medical Microdevices, pp. 2362-2365

Pouponneau, Pierre
Yahia, LHocine
Merhi, Yahye
Epure, Laura Mery
Martel, Sylvain

Ec. Pol. de Montreal
Ec. Pol. de Montreal
Montreal Heart Inst.
Ec. Pol. de Montreal
Ec. Pol. de Montreal

10:15-10:30

Characterization of the Mechanical Properties and Mineral Distribution of the Anterior Cruciate Ligament-To-Bone Insertion Site, pp. 2366-2369

Moffat, Kristen
Sun, Wan-Hsuan
Chahine, Nadeen
Pena, Paul
Doty, Stephen
Hung, Clark
Ateshian, Gerard
Lu, Helen

Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Hospital for Special Surgery
Columbia Univ.
Columbia Univ.
Columbia Univ.

FrA13

Brecht

Optical Tomographic Imaging I (Oral Session)

09:00-09:15

Computationally Efficient Methods for Incorporation of Spectral Priors in 3-D Optical Tomography*

Srinivasan, Subhadra
Pogue, Brian
Leblond, Frederic

Dartmouth Coll.
Dartmouth Coll.
Advanced Res. Tech. Inc.

09:15-09:30

In-Vivo Lung Cancer Imaging in Mice Using 360 Deg Free-Space Fluorescence

Molecular Tomography, pp. 2370-2372

Deliolanis, Nikolaos

Massachusetts General Hospital, Harvard Medical School

09:30-09:45

Absorption and Fluorescence Diffuse Optical Tomography in the Spatial Frequency Domain Using Modulated Imaging (I)*

Cuccia, David

Univ. of CA, Irvine

FrA14

Chelsea-Gotham

Neural Injury (Oral Session)

09:00-09:15

Conduction Velocity Distribution Estimation Using the Collision Technique for Assessing

Carpal Tunnel Syndrome, pp. 2373-2376

Sundar, Swarna
Gonzalez-Cueto, Jose A.

Dalhousie Univ.
Dalhousie Univ.

09:15-09:30

*Efficacy of Electrotactile Vestibular Substitution in Patients with Bilateral Vestibular and Central Balance Loss**

Danilov, Yuri
Skinner, Kimberly
Tyler, Mitchell
Bach-y-Rita, Paul

Wicab, Inc.
Wicab, Inc.
UW-Madison
UW-Madison, Wicab, Inc.

09:30-09:45

Use of the Finite Element Method to Assess Impact of Current on Forearm and Wrist During an Electrical Accident, pp. 2377-2379

Morse, Michael
Morse, Jennifer

Univ. of San Diego
None

09:45-10:00

Kinematics of Electrically Elicited Eyelid Movement, pp. 2380-2383

Sachs, Nicholas
Chang, Eli
Weiland, James

Doheny Eye Inst. Univ. of Southern California
Doheny Eye Inst. Univ. of Southern California
Doheny Eye Inst. Univ. of Southern California

10:00-10:15

High Rate Shear Insult Delivered to Cortical Neurons Produces Heterogeneous Membrane Permeability Alterations, pp. 2384-2387

LaPlaca, Michelle
Prado, Gustavo
Cullen, Kacy
Irons, Hillary

Georgia Inst. of Tech.
Georgia Inst. of Tech.
Georgia Inst. of Tech.
Georgia Inst. of Tech.

FrA15

O'Neill

Ultrasound Imaging I (Oral Session)

09:00-09:15

Automatic Image-Based Gating for 4D Ultrasound, pp. 2388-2391

Karadayi, Kerem
Hayashi, Tetsuya
Kim, Yongmin

Univ. of Washington
Hitachi Medical Corp.
Univ. of Washington

09:15-09:30

Characterization of Carotid Atherosclerotic Plaques Using Frequency-Based Texture Analysis and Bootstrap, pp. 2392-2395

Stoitsis, John
Tsiaparas, Nikos
Golemati, Spyretta
Nikita, Konstantina

National Tech. Univ. of Athens
National Tech. Univ. of Athens
National Tech. Univ. of Athens
National Tech. Univ. of Athens

09:30-09:45

Classification of the Stages of Hyperplasia in Breast Ducts by Analyzing Different Depths and Segmentation of Ultrasound Breast Scans into Ductal Areas, pp. 2396-2399

Taslidere, Ezgi
Cohen, Fernand S.
Georgiou, Georgia

Drexel Univ.
Drexel Univ.
European Patent Office

09:45-10:00

Detection of Prostate Cancer from RF Ultrasound Echo Signals Using Fractal Analysis, pp. 2400-2403

Moradi, Mehdi
Abolmaesumi, Purang
Isotalo, Phil
Siemens, David Robert
Sauerbrei, Eric
Mousavi, Parvin

Queen's Univ.
Queen's Univ.
Kingston General Hospital
Kingston General Hospital
Kingston General Hospital
Queen's Univ.

10:00-10:15

User-Independent Plaque Characterization and Accurate IMT Measurement of Carotid Artery Wall Using Ultrasound, pp. 2404-2407

Delsanto, Silvia
Molinari, Filippo
LIBONI, WILLIAM
Giustetto, Pierangela
BADALAMENTI, SERGIO
Suri, Jasjit

Pol. di Torino
Pol. di Torino
GRADENIGO HOSPITAL
Presidio Sanitario Gradenigo
GRADENIGO HOSPITAL
Biomedical Tech.

10:15-10:30

Coded Excitation and Annular Arrays for High-Frequency Ultrasound Imaging, pp. 2408-2411

Mamou, Jonathan
Ketterling, Jeffrey A.

Riverside Res. Inst.
Riverside Res. Inst.

FrA16

Musicbox-Majestic

Bio-Robotics I (Oral Session)

09:00-09:15

A Method for Online Estimation of Human Arm Dynamics, pp. 2412-2416

Mobasser, Farid
Hashtrudi-Zaad, Keyvan

Queen's Univ.
Queen's Univ.

09:15-09:30

A Supervised Feature Projection for Real-Time Multifunction Myoelectric Hand Control, pp. 2417-2420

Chu, Jun-Uk
Moon, Inhyuk
Mun, Mu-Seong

Korea Orthopedics & rehabilitation Engineering Center
Dong-Eui Univ.
Korea Orthopedics & Rehabilitation Engineering Center

09:30-09:45

Towards Hybrid Swimming Microrobots: Bacteria Assisted Propulsion of Polystyrene Beads, pp. 2421-2424

Behkam, Bahareh
Sitti, Metin

Carnegie Mellon Univ.
Carnegie Mellon Univ.

09:45-10:00

FlexCVA: A Continuously Variable Actuator for Active Orthotics, pp. 2425-2428

Horst, Robert W.
Marcus, Richard

Tibion Corp.
Tibion Corp.

10:00-10:15

Catastrophe and Stability Analysis of a Cable-Driven Actuator, pp. 2429-2433

Sulzer, James
Peshkin, Michael
Patton, James (Jim)

Northwestern Univ.
Northwestern Univ.
Rehabilitation Inst. of Chicago and Northwestern Univ.

FrB01

Marquis AB

Time-Frequency Analysis in Central Nervous System (Oral Session)

10:45-11:00

Wavelet Analysis for EEG Feature Extraction in Deception Detection, pp. 2434-2437

Merzagora, Anna Caterina
Bunce, Scott
Izzetoglu, Meltem
Onaral, Banu

Drexel Univ.
Drexel Univ. Coll. of Medicine
Drexel Univ.
Drexel Univ.

11:00-11:15

Modeling the Time-Varying Microstructure of Simulated Sleep EEG Spindles Using Time-Frequency

Analysis Methods, pp. 2438-2441

Xanthopoulos, Petros
Golemati, Spyretta
Sakkalis, Vangelis
Ktonas, Periklis
Zervakis, Michalis
Soldatos, Constantin

Tech. Univ. of Crete
Univ. of Athens
Tech. Univ. of Crete - Foundation for Res. and
Univ. of Athens
Tech. Univ. of Crete, Greece
Medical School, Univ. of Athens

11:15-11:30

Nonlinear Dynamic Neural Network for Text-Independent Speaker Identification Using Information

Theoretic Learning Technology, pp. 2442-2445

Lu, Bing
Yamada, Walter Mas
Berger, Theodore

Univ. of Southern California
Univ. of Southern California
Univ. of Southern California

11:30-11:45

Estimation of the Time-Varying Cortical Connectivity Patterns by the Adaptive Multivariate

Estimators in High Resolution EEG Studies, pp. 2446-2449

Astolfi, Laura
Babiloni, Fabio
Mattiocco, Marco
De Vico Fallani, Fabrizio
Cincotti, Febo
Mattia, Donatella
Marciani, Maria Grazia

Univ. of Rome
Univ. of Rome
Fondazione Santa Lucia IRCCS
Univ. La Sapienza
Fondazione Santa Lucia IRCCS
Fondazione Santa Lucia IRCCS
Tor Vergata Univ.

11:45-12:00

Relation between Wavelet-Biopotential Likeness and Wavelet Compression of

Biopotential Trains, pp. 2450-2453

Martinez-Bonetti, Jose Alejandro
Escudero-Urbe, Apolo Z.
Adan-Martinez, Xicotencatl

Inst. Nacional de Astrofísica Optica y Electrónica
Inst. Nacional de Astrofísica Optica y Electrónica
Inst. Nacional de Astrofísica Optica y Electrónica

12:00-12:15

Analysis of Event Related Potentials Using PCA and Matching Pursuit on the

Time-Frequency Plane, pp. 2454-2457

Aviyente, Selin
Bernat, Edward
Malone, Stephen
Iacono, William

Michigan State Univ.
Univ. of Minnesota
Univ. of Minnesota
Univ. of Minnesota

FrB03

SoHo-Herald

Applications of Neural Networks to Biosignal Analysis II (Oral Session)

10:45-11:00

EOG and EMG: Two Important Switches in Automatic Sleep Stage Classification, pp. 2458-2461

Estrada, Edson
Nazeran, Homayoun
Barragan, Jaime
Burk, John R.
Lucas, Edgar A
Behbehani, Khosrow

The Univ. of Texas at El Paso
The Univ. of Texas at El Paso
Univ. of Texas at El Paso
Sleep Consultants Inc.
Sleep Consultants Inc.
Univ. of Texas at Arlington

11:00-11:15

Sleep State Scoring in Infants from Respiratory and Activity Measurements, pp. 2462-2465

Sazonova, Nadezhda
Sazonov, Edward
Schuckers, Stephanie
Tan, Bozhao

West Virginia Univ.
Clarkson Univ.
Clarkson Univ.
Clarkson Univ.

11:15-11:30

Double-Blind Comparison of Survival Analysis Models Using a Bespoke Web System, pp. 2466-2469

Taktak, Azzam Fouad George
Setzkorn, Christian
Damato, Bertil

Royal Liverpool Univ. Hospital
Royal Liverpool Univ. Hospital
Royal Liverpool Univ. Hospital

11:30-11:45

RBF Network Based on Artificial Immune Algorithm for Regional Head Conductivity Estimation, pp. 2470-2473

Dong, Guoya
Zhou, Ying
Qiu, Zhiliang
Yan, Weili

Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.

11:45-12:00

Statistically Rigorous Human Movement Onset Detection with the Maximal Information Redundancy Criterion, pp. 2474-2477

Van Dijck, Gert
Van Hulle, Marc
Van Vaerenbergh, Jo

Katholieke Univ. Leuven
K.U.Leuven
Center for Multidisciplinary Approach and Tech.

12:00-12:15

Automatic Assessment of Voice Quality According the GRBAS Scale, pp. 2478-2481

Sáenz-Lechón, Nicolás
Godino-Llorente, Juan Ignacio
Osma-Ruiz, Víctor
Blanco-Velasco, Manuel
Cruz-Roldán, Fernando

Univ. Pol. de Madrid
Univ. Pol. de Madrid
Univ. Pol. de Madrid
Univ. of Alcalá
Univ. de Alcalá

FrB04

Ziegfeld

Micro Fluidics (Oral Session)

10:45-11:00

Evaluation of Silicon and Polymer Substrates for Fabrication of Integrated Microfluidic Microsystems for DNA Extraction and Amplification, pp. 2482-2485

Gheorghe, Marin
Blionas, Spyridon
Ragoussis, Ioannis
Galvin, Paul

TYNDALL
INTRACOM S.A.
Univ. of Oxford
TYNDALL

11:00-11:15

PDMS and Its Suitability for Analytical Microfluidic Devices, pp. 2486-2489

Kuncova-Kallio, Johana
Kallio, Pasi

Tampere Univ. of Tech.
Tampere Univ. of Tech.

11:15-11:30

Hybrid Silicon/Silicone (polydimethylsiloxane) Microsystem for Cell Culture, pp. 2490-2493

Blain Christen, Jennifer
Andreou, Andreas

Johns Hopkins Univ.
Johns Hopkins Univ.

11:30-11:45

Modeling of Particle Interactions in DNA-Laden Flows at the Microscale*

Trebotich, David
Miller, Gregory
Bybee, Michael

Lawrence Livermore National Lab.
Univ. of California, Davis
Univ. of Illinois at Urbana-Champaign

11:45-12:00

Magnetic Microactuators for MEMS-Enabled Ventricular Catheters for Hydrocephalus, pp. 2494-2497

Lee, Selene	Univ. of California, Los Angeles
Vasquez, Daniel James	Univ. of California, Los Angeles
Bergsneider, Marvin	Univ. of California, Los Angeles
Judy, Jack	UCLA

12:00-12:15

Droplet Screens in Nanovolumes Using Static Conditions, pp. 2498-2501

Wu, Liang L.	Univ. of California, Irvine
XU, WEI	Univ. of California, Irvine
Bachman, Mark	Univ. of California, Irvine
Li, G.P.	Univ. of California, Irvine

FrB05

Duffy-Columbia

Wearable Sensors and Devices 2 (Oral Session)

10:45-11:00

A Reconfigurable Neural Signal Processor (NSP) for Brain Machine Interfaces, pp. 2502-2505

Darmanjian, Shalom	Univ. of Florida
Cieslewski, Grzegorz	Univ. of Florida
Morrison, Scott	Texas Inst.
Dang, Benjamin	Lockheed Martin ISS
Gugel, Karl	Univ. of Florida
Principe, Jose	Univ. of Florida

11:00-11:15

In Vivo RF Powering for Advanced Biological Research, pp. 2506-2509

Zimmerman, Mark	Case Western Res. Univ.
Chaimanonart, Nattapon	Case Western Res. Univ.
Young, Darrin	Case Western Res. Univ.

11:15-11:30

Characterization of a Novel Data Glove Based on Textile Integrated Sensors, pp. 2510-2513

Tognetti, Alessandro	Univ. of Pisa
Carbonaro, Nicola	Univ. of pisa
Zupone, Giuseppe	Univ. of pisa
De Rossi, Danilo	Univ. of Pisa

11:30-11:45

Contactless Sensors for Surface Electromyography, pp. 2514-2517

Gourmelon, Lena	Philips Res.
Langereis, Geert	Philips Res.

11:45-12:00

Development and Evaluation of a Wireless Interface for Inputting Characters Using Laplacian EMG, pp. 2518-2521

Miyazawa, Kenji	Tokyo Denki Univ.
Ueno, Akinori	Tokyo Denki Univ.
Mori, Hiroki	Utsunomiya Univ.
Hoshino, Hiroshi	Tokyo Denki Univ.
Noshiro, Makoto	Kitasato Univ.

12:00-12:15

A Localization Method Using 3-Axis Magnetoresistive Sensors for Tracking of Capsule Endoscope, pp. 2522-2525

Wang, Xiaona	The Chinese Univ. of Hong Kong
Meng, Max Qinghu	The Chinese Univ. of Hong Kong
Hu, Chao	The Chinese Univ. of Hong Kong

Image Reconstruction (Oral Session)

10:45-11:00

4D Vascular Tree Reconstruction Using Moving Grid Deformation, pp. 2526-2529

xue, jiaxing	Univ. of Texas at Arlington
Gao, Jean	Univ. of Texas at Arlington
Arbique, Gary	UT Southwestern Medical Center at Dallas
Michel, Saint-Cyr	UT Southwestern Medical Center at Dallas
Brown, Spencer	UT Southwestern Medical Center at Dallas

11:00-11:15

Maximum-Likelihood Estimation of Detector Response for PET Image Reconstruction, pp. 2530-2533

Qi, Jinyi	Univ. of California, Davis
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11:15-11:30

A Reconstruction Algorithm for Helical CT Imaging on PI-Planes, pp. 2534-2537

Liang, Hongzhu	Nanyang Tech. Univ.
Zhang, Cishen	Nanyang Tech. Univ.
Yan, Ming	Nanyang Tech. Univ.

11:30-11:45

Computing the 3-D Structure of Viruses from Unoriented Cryo Electron Microscope Images: A Fast Algorithm for a Statistical Approach, pp. 2538-2541

Lee, Junghoon	Purdue Univ.
Zheng, Yili	Purdue Univ.
Doerschuk, Peter C.	Purdue Univ.

11:45-12:00

3D Breast Microwave Imaging Based on Wavefront Reconstruction, pp. 2542-2545

Flores-Tapia, Daniel	Univ. of Manitoba
Thomas, Gabriel	Univ. of Manitoba
Ashtari, Ali	Univ. of Manitoba
Pistorius, Stephen	CancerCare Manitoba

12:00-12:15

A New Method for PET Image Reconstruction Using Fourier-Wavelet Moment, pp. 2546-2549

Hu, Yining	Southeast Univ.
Zhou, Jian	Southeast Univ.
Shu, Huazhong	Southeast Univ.
Luo, Limin	Univ. of Southeast
Coatrieux, jean louis	INSERM-Univ. Rennes 1

Forward and Inverse Problems in Cardiac Electrophysiology (Oral Session)

10:45-11:00

A Wavefront-Based Constraint for Potential Surface Solutions in Inverse Electrocardiography (I), pp. 2550-2553

Ghodrati, Alireza	Draeger Medical Systems, Inc
Keely, Andrew	Northeastern Univ.
Tadmor, Gilead	Northeastern Univ.
MacLeod, Robert	Univ. of Utah
Brooks, Dana	Northeastern Univ.

11:00-11:15

A Software Framework for Solving Bioelectrical Field Problems Based on Finite Elements (I), pp. 2554-2557

Sachse, Frank	Univ. of Utah
Cole, Martin	Univ. of Utah
Stinstra, Jeroen	Univ. of Utah

11:15-11:30

Meshless Methods in Potential Inverse Electrocardiography, pp. 2558-2559

Wang, Yong
Rudy, Yoram

Washington Univ. in Saint Louis
Washington Univ. in Saint Louis

11:30-11:45

Estimates of Endocardial Potentials from Non-Contact Intracavitary Probes, pp. 2560-2563

Throne, Robert
Olson, Lorraine
Windle, John
Schweitzer, Jeff
Voth, Eric

Rose-Hulman Inst. of Tech.
Rose-Hulman Inst. of Tech.
Univ. of Nebraska
St. Jude Medical, Inc
St. Jude Medical, Inc

11:45-12:00

Image Based Modeling of Defibrillation in Children (I), pp. 2564-2567

Jolley, Matthew
Triedman, John
Westin, Carl-Fredrik
Weinstein, David
MacLeod, Robert
Brooks, Dana

Children's Hospital Boston
Children's Hospital Boston
Brigham and Women's Hospital, Harvard Medical School
Univ. of Utah
Univ. of Utah
NorthEastern Univ.

12:00-12:15

Myocardial Electrical Impedance Correlates with Ischemic ECG ST-Segment Changes in Humans, pp. 2568-2569

Dzwonczyk, Roger
Sun, Benjamin
del Rio, Carlos
Howie, Michael

The Ohio State Univ.
The Ohio State Univ.
The Ohio State Univ.
The Ohio State Univ.

FrB08

Juilliard

Neural Informatics and Signal Processing 4 (Oral Session)

10:45-11:00

A Semi-Supervised SVM Learning Algorithm for Joint Feature Extraction and Classification in Brain Computer Interfaces, pp. 2570-2573

Li, Yuanqing
Guan, Cuntai

Inst. for Infocomm Res.
Inst. for Infocomm Res.

11:00-11:15

Development of EOG-Based Communication System Controlled by Eight-Directional Eye Movements, pp. 2574-2577

Yamagishi, Kenji
Hori, Junichi
Miyakawa, Michio

Univ.
Niigata Univ.
Niigata Univ.

11:15-11:30

Detection of High Frequency Oscillations with Teager Energy in an Animal Model of Limbic Epilepsy, pp. 2578-2580

Nelson, Ryan
Myers, Stephen
Simonotto, Jennifer D.
Furman, Michael D.
Spano, Mark L.
Norman, Wendy
Liu, Zhao
DeMarse, Thomas B.
Carney, Paul
Ditto, William L.

Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
NSWC
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida

11:30-11:45

A Space-Time-Frequency Analysis Approach for the Classification Motor Imagery EEG Recordings in a Brain Computer Interface Task, pp. 2581-2584

Ince, Nuri Firat
Tewfik, Ahmed
Arica, Sami

Univ. of Minnesota
Univ. of Minnesota
Cukurova Univ.

11:45-12:00

Large-Scale Inverse and Forward Modeling of Adaptive Resonance in the Tinnitus Decompensation, pp. 2585-2588

Low, Yin Fen
Trenado, Carlos
Delb, Wolfgang
DAmelio, Roberto
Falkai, Peter
Strauss, Daniel J.

Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit
Computational Diagnostics and Biocybernetics Unit

12:00-12:15

Laminar Analysis of Movement Direction Information in Local Field Potentials of the Rat Motor Cortex, pp. 2589-2592

Gage, Gregory J.
Kawahara, Chie
Ross, Shani
Marzullo, Timothy
Kipke, Daryl

Univ. of Michigan
Univ. of Michigan
Univ. of Michigan
Univ. of Michigan
Univ. of Michigan

FrB09

Gramercy-Olmstead

Healthcare Information Management I (Oral Session)

10:45-11:00

An Integrated System Supporting Training in Medical and Administrative Decision Making in the Emergency Department, pp. 2593-2596

Spyropoulos, Vasileios
Tzavaras, Aris
Botsivaly, Maria
Moschidis, Manolis
Koutsourakis, Konstantinos

Tech. Education Inst. of Athens
Tech. Educational Inst. of Athens
Tech. Educational Inst. of Athens
Tech. Educational Inst. of Athens
Tech. Educational Inst. of Athens

11:00-11:15

JPEG2000 vs. Full Frame Wavelet Packet Compression for Smart Card Medical Records, pp. 2597-2600

Azpiroz-leeahan, Joaquin
Lerallut, Jean-Francois

Univ. Autonoma Metropolitana
Univ. de Tech. de Compiegne

11:15-11:30

PACS through Web Compatible with DICOM Standard and WADO Service: Advantages and Implementation, pp. 2601-2605

Koutelakis, George
Lymperopoulos, Dimitrios

Univ. of Patras
Univ. of Patras

11:30-11:45

Terminology and Global Standardization of Endoscopic Information: Minimal Standard Terminology (MST), pp. 2606-2609

Fujino, Masayuki A.
Bito, Shigeru
Takei, Kazuko
Mizuno, Shigeto
Yokoi, Hideto

Univ. of Yamanashi
Seafic Software Corp.
Seafic Software Corp.
Nara Hospital, Kinki Univ. School of Medicine
Kagawa Univ. Hospital

11:45-12:00

Modeling a Web-Based Information System for Managing Clinical Information in Hemophilia Care, pp. 2610-2613

Teixeira, Leonor	Univ. of Aveiro
Ferreira, Carlos Manuel Santos	Univ. of Aveiro
Sousa Santos, Beatriz	Univ. of Aveiro
Martins, Natália	Hospital of Coimbra

12:00-12:15

Using Semantic Technologies to Promote Interoperability between Electronic Healthcare Records' Information Models, pp. 2614-2617

Fernández-Breis, Jesualdo Tomás	Univ. of Murcia
Vivancos-Vicente, Pedro José	Univ. of Murcia
Menárguez-Tortosa, Marcos	Univ. of Murcia
Moner, David	Tech. Univ. of Valencia
Maldonado, José Alberto	Tech. Univ. of Valencia
Valencia-García, Rafael	Univ. of Murcia
Miranda-Mena, Teddy Gonzalo	IMET

FrB10

Astor Ballroom

Image Analysis: Applications I (Oral Session)

10:45-11:00

Detection of Lesions in Retina Photographs Based on the Wavelet Transform, pp. 2618-2621

QUELLEC, Gwenole	GET/ENST Bretagne
Lamard, Mathieu	Univ. de Bretagne Occidentale
JOSSELIN, Pierre-Marie	Centre Hospitalier Univ. de Brest
Cazuguel, Guy	GET/ENST Bretagne
Cochener, Béatrice	CHU Morvan
Roux, Christian	ENST Bretagne - INSERM

11:00-11:15

On Diffusion Tensor Estimation, pp. 2622-2625

Niethammer, Marc	Brigham and Women's Hospital, Harvard Medical School
San Jose Estepar, Raul	Lab. of Mathematics in Imaging, Brigham and Women's Hospital, Ha
Bouix, Sylvain	Psychiatry Neuroimaging Lab.
Shenton, Martha	Brigham and Women's Hospital, Harvard Medical School
Westin, Carl-Fredrik	Brigham and Women's Hospital, Harvard Medical School

11:15-11:30

A Kernel-Based Approach for User-Guided Fiber Bundling Using Diffusion Tensor Data, pp. 2626-2629

San Jose Estepar, Raul	Lab. of Mathematics in Imaging, Brigham and Women's Hospital, Ha
Kubicki, Marek	Brigham and Women's Hospital
Shenton, Martha	Brigham and Women's Hospital, Harvard Medical School
Westin, Carl-Fredrik	Brigham and Women's Hospital, Harvard Medical School

11:30-11:45

UWB Microwave Breast Cancer Detection: Generalized Models and Performance Prediction, pp. 2630-2633

Chen, Yifan	Nanyang Tech. Univ.
Gunawan, Erry	Nanyang Tech. Univ.
Kim, Yongmin	Univ. of Washington
Low, Kay soon	Nanyang Tech. Univ.
Soh, Cheong Boon	Nanyang Tech. Univ.
Lin, Lin Thi	Nanyang Tech. Univ.

11:45-12:00

Simultaneous Registration and Landmark Detection, pp. 2634-2637

Bond, Sarah	Oxford Univ.
Brady, Michael	Oxford Univ.

12:00-12:15

Information-Theoretic Feature Detection in Ultrasound Images, pp. 2638-2642

Slabaugh, Greg
Unal, Gozde
Chang, Ti-Chiun

Siemens Corp. Res.
Siemens Corp. Res.
Siemens Corp. Res.

FrB11

Belasco

Student Design Competition (Special Session)

10:45-11:00

The Design and Testing of an Epi-Retinal Vision Prosthesis Neurostimulator Capable of Concurrent Parallel Stimulation*

Dommel, Norbert Brian
Wong, Yan Tat
Byrnes-Preston, Phil J.
Lehmann, Torsten
Lovell, Nigel H
Suaning, Gregg

Univ. of New South Wales
Univ. of New South Wales
The Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
The Univ. of Newcastle

11:00-11:15

Ultrasound-Guided Noninvasive Measurement of a Patient's Central Venous Pressure*

Aggarwal, Vikram
Chatterjee, Aniruddha
Cho, Yoonju
Cheung, Dickson

Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.
Bayview Medical Center, Johns Hopkins Univ.

11:15-11:30

Electrooculogram Based System for Computer Control Using a Multiple Feature Classification Model*

Kherlopian, Armen
Sajda, Paul
Gerrein, Joseph
Yue, Minerva
Kim, Kristina
Kim, Ji Won
Sukumaran, Madhav

Columbia Univ.
Columbia Univ.
Univ. of California, San Diego
Weill Medical Coll. Cornell Univ.
Columbia Univ.
New York Medical Coll.
Columbia Univ.

FrB12

Palace Wintergarden

Biomaterials and Cell-Biomaterial Interactions - Stem Cells (Oral Session)

10:45-11:00

Matrix Elasticity Directs Stem Cell Lineage Specification*

Discher, Dennis
Engler, Adam

Univ. of Pennsylvania
Univ. of Pennsylvania

11:00-11:15

Chondrogenic Differentiation of Human Embryonic Germ Cell Derived Cells in Hydrogels, pp. 2643-2646

Varghese, Shyni
Theprungsirikul, Paranduangji
Ferran, Angela
Hwang, Nathaniel
Canver, Adam
Elisseeff, Jennifer

Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.

11:15-11:30

Chondrogenesis of Mesenchymal Stem Cells by Controlled Delivery of Transforming Growth Factor-Beta3., pp. 2647-2650

Moioli, Eduardo
Mao, Jeremy

Columbia Univ.
Columbia Univ.

11:30-11:45

Polymer-Ceramic Composite Microsphere Scaffold Induces Osteogenic Differentiation of Human Mesenchymal Stem Cells, pp. 2651-2654

Leong, Natalie
Jiang, Jie
Lu, Helen

Columbia Univ.
Columbia Univ.
Columbia Univ.

11:45-12:00

The Influence of Cell-Substrate Adhesivity on the Osteogenic Differentiation of Human Mesenchymal Stem Cells*

Briggs, Tonye
Kohn, Joachim
Arinzeh, Treena

New Jersey Inst. of Tech.
Rutgers Univ.
New Jersey Inst. of Tech.

FrB13

Brecht

Optical Tomographic Imaging II (Oral Session)

10:45-11:00

Tumor Detection Using Bayesian Conjugate Prior in Diffuse Optical Tomography, pp. 2655-2658

Choudhary, Heeralal
Nehorai, Arye

Washington Univ. in St. Louis
Washington Univ. in St. Louis

11:00-11:15

Approximation Errors and Model Reduction in Optical Tomography, pp. 2659-2662

Kolehmainen, Ville
Arridge, Simon
Kaipio, Jari
Schweiger, Martin
Somersalo, Erkki
Tarvainen, Tanja
Vauhkonen, Marko

Univ. of Kuopio
Univ. Coll. London
Univ. of Kuopio
Univ. Coll. London
Helsinki Univ. of Tech.
Univ. of Kuopio
Univ. of Kuopio

11:15-11:30

Diagnosis of Vulnerable Atherosclerotic Plaques by Time-Resolved Fluorescence Spectroscopy and Ultrasound Imaging, pp. 2663-2666

Jo, Javier Antonio

Univ. of California - Davis

11:30-11:45

Parametric Reconstruction Method in Optical Tomography, pp. 2667-2670

Gu, Xuejun
Masciotti, James
Hielscher, Andreas

Columbia Univ.
Columbia Univ.
Columbia Univ.

11:45-12:00

Registering Fnr Data to Brain Surface Image Using MRI Templates, pp. 2671-2674

Ayaz, Hasan
Izzetoglu, Meltem
Platek, Steven
Bunce, Scott
Izzetoglu, Kurtulus
Pourrezaei, Kambiz
Onaral, Banu

Drexel Univ.
Drexel Univ.
Drexel Univ.
Drexel Univ. Coll. of Medicine
Drexel Univ.
Drexel Univ.
Drexel Univ.

12:00-12:15

Quantitative Small Animal Fluorescence Tomography Using an Ultrafast Gated Image Intensifier, pp. 2675-2678

Patwardhan, Sachin
Bloch, Sharon
Achilefu, Samuel
Culver, Joseph

Washington Univ. School of Medicine
Washington Univ. School of Medicine
Washington Univ. School of Medicine
Washington Univ. School of Medicine

FrB14

Chelsea-Gotham

New Techniques in Motor Rehabilitation (Oral Session)

10:45-11:00

A Novel Experimental System for Investigation of Cortical Activities Related to Lower Limb Movements, pp. 2679-2682

Ma, Chaolin

Arizona State Univ.

He, Jiping

Arizona State Univ.

11:00-11:15

Principal Component Analysis of Vertical Ground Reaction Force: A Powerful Method to Discriminate Normal and Abnormal Gait and Assess Treatment, pp. 2683-2686

Muniz, Adriane Mara de Souza

Federal Univ. of Rio de Janeiro

Manfio, Eliane Fatima

Estacio de Sa Univ.

Andrade, Mario Cesar

State Univ. of Santa Catarina

Nadal, Jurandir

Federal Univ. of Rio de Janeiro

11:15-11:30

Control of a Pneumatic Orthosis for Upper Extremity Stroke Rehabilitation, pp. 2687-2693

Wolbrecht, Eric

Univ. of California, Irvine

Leavitt, John

Univ. of California, Irvine

Reinkensmeyer, David

Univ. of California

Bobrow, James

Univ. of Calif, Irvine

11:30-11:45

Virtual Reality Applications in Improving Postural Control and Minimizing Falls, pp. 2694-2697

Virk, Sumandeep

Ryerson Univ.

Valter McConville, Kristiina M.

Ryerson Univ.

11:45-12:00

Limb Alignment and Kinematics Inside a Lokomat Robotic Orthosis, pp. 2698-2701

Neckel, Nathan

Catholic Univ. of America

Wisman, Wessel

Delft Univ. of Tech.

Hidler, Joseph

Catholic Univ. of America

12:00-12:15

Relationships between Muscle Activity and Autonomic Regulation During Cycling with a Torque-Assisted Bicycle, pp. 2702-2705

Kiryu, Tohru

Niigata Univ.

Yamagata, Jun

Niigata Univ.

12:00-12:15

Generalization of Motor Adaptation Skills from Bimanual-Grasp to Individual Limbs, pp. 2706-2708

Patton, James (Jim)

Rehabilitation Inst. of Chicago and Northwestern Univ.

Hitchens, Jamie

Northwestern Univ.

FrB15

O'Neill

Computational Genomics (Oral Session)

10:45-11:00

Hardware Accelerator for Prediction of Exons, pp. 2709-2712

Yusuf, Adeel

Centre for Advanced studies in Engineering

Khan, Shoab

CASE - Center for Advanced Studies in Engineering

11:00-11:15

A Cluster Based Approach for Semantic Similarity in the Biomedical Domain, pp. 2713-2717

Al-Mubaid, Hisham

Univ. of Houston-Clear Lake

Nguyen, Hoa

The Univ. of Houston Clear Lake

FrB16	Musicbox-Majestic
Bio-Robotics II (Oral Session)	
10:45-11:00	
<i>Dimensionality Reduction of Cellular Actuator Arrays Using the Concept of Synergy for Driving a Robotic Hand</i> , pp. 2718-2721	
Cho, Kyujin	MIT
Asada, Harry	MIT
11:00-11:15	
<i>2D Subspaces for Sparse Control of High-DOF Robots</i> , pp. 2722-2725	
Jenkins, Odest Chadwicke	Brown Univ.
11:15-11:30	
<i>A Biorobotic Pectoral Fin for Autonomous Undersea Vehicles</i> , pp. 2726-2729	
Tangorra, James	MIT
Davidson, Naomi	MIT
Madden, Peter	Harvard Univ.
Lauder, George	Harvard Univ.
Hunter, Ian	MIT
11:30-11:45	
<i>A Cellular Control Architecture for Compliant Artificial Muscles</i> , pp. 2730-2733	
Odhner, Lael	Massachusetts Inst. of Tech.
Ueda, Jun	MIT
Asada, Harry	MIT
11:45-12:00	
<i>Quantification of Dynamic Property of Pneumatic Muscle Actuator for Design of Therapeutic Robot Control</i> , pp. 2734-2737	
Balasubramanian, Sivakumar	Arizona State Univ.
Huang, He	Arizona State Univ.
He, Jiping	Arizona State Univ.

FrBP1	Westside Ballroom South
Ultrasound Imaging II (Poster Session)	
10:45-11:00	
<i>A Non-Rigid Image Registration Technique for 3D Ultrasound Carotid Images Using a "Twisting and Bending" Model</i> , pp. 2738-2741	
Nanayakkara, Nuwan D.	Robarts Res. Inst.
Chiu, Bernard	Robarts Res. Inst.
Samani, Abbas	Univ. of Western Ontario
Spence, J. David	Univ. of Western Ontario
Samarabandu, Jagath	Univ. of Western Ontario
Fenster, Aaron	Robarts Res. Inst.
11:00-11:15	
<i>An Implementation of Image Sharpening Based on Morphological Operations for Ubiquitous Echo</i> , pp. 2742-2745	
Tsubai, Masayoshi	National Inst. of Advanced Industrial Science and Tech. (AIST)
Mitoda, Naoshi	ISLabo, Co., Ltd.
Fukuda, Osamu	National Inst. of Advanced Industrial Science and Tech. (AIST)
Ueno, Naohiro	National Inst. of Advanced Industrial Science and Tech. (AIST)
11:15-11:30	
<i>Ultrasound Image Analysis for Renal Stone Tracking During Extracorporeal Shock Wave Lithotripsy</i> , pp. 2746-2749	
Manousakas, Ioannis	I-Shou Univ.
Pu, Yong-Ren	Chang Jung Christian Univ.
Chang, C. C.	Cheng Kung Univ. Hospital
Liang, Shen-Min	National Cheng Kung Univ. Tainan, Taiwan 701

11:30-11:45

A Qualitative and Quantitative Interaction Technique for Freehand 3D Ultrasound Imaging, pp. 2750-2753

Dai, Yakang

Chinese Acad. of Science

Tian, Jie

Inst. of Automation, Chinese Acad. of Sciences

Xue, Jian

Chinese Acad. of Science

Liu, Jianguang

Chinese Acad. of Science

11:45-12:00

Visualization of Unstable Regions in High PRF Doppler Using Baker Diagrams*

MORSY, AHMED

Cairo Univ.

12:00-12:15

Comparison of Wave-Equation versus Measurement-Processing Transducer Calibration for Ultrasonic Transmission Tomography, pp. 2754-2757

Zacal, Jiri

Brno Univ. of Tech.

Hemzal, Dusan

Masaryk Univ. Brno

Jan, Jiri

Brno Univ. of Tech.

Filipik, Adam

Brno Univ. of Tech.

Jirik, Radovan

Brno Univ. of Tech.

Kolar, Radim

Brno Univ. of Tech.

12:00-12:15

An Iterative Constrained Least Squares Filter for Ltrasound Image Deconvolution, pp. 2758-2761

Yeoh, Wee Soon

Nanyang Tech. Univ.

Zhang, Cishen

Nanyang Tech. Univ.

Chen, Ming

Nanyang Tech. Univ.

FrBP2

Westside Ballroom South

Infrared/Ultrasound/SPECT/CT Imaging (Poster Session)

10:45-11:00

Image Segmentation of Human Forearms in Infrared Image, pp. 2762-2765

Yoon, Tae-Ho

Konkuk Univ.

Kim, Kyeong-Seop

Konkuk Univ.

Lee, Jeong-Whan

Konkuk Univ.

Kim, Dong-Jun

Cheongju Univ.

Song, Chul-Gyu

Chonbuk National Univ.

11:00-11:15

Functional Infrared Imaging for Skin-Cancer Screening, pp. 2766-2769

Buzug, Thorsten M.

RheinAhrCampus Remagen

Schumann, Steffen

RheinAhrCampus Remagen

Pfaffmann, Lucas

RheinAhrCampus Remagen

Reinhold, Uwe

Praxisklinik Bonn

Ruhlmann, Jürgen

RheinAhrCampus Remagen

11:15-11:30

Quantitative Tool Design Using Tomographic Brain Image Processing from SPECT to Support

Psychiatric Diagnosis, pp. 2770-2773

Vidal Vidal, Mery Isabel

Pontificia Univ. Católica del Perú

Piñeyro Fernández, José del Carmen Julián

Pontificia Univ. Católica del Perú

Alvarado Merino, Rosa Ysabel

Pontificia Univ. Católica del Perú

Callupe Pérez, Rocío Liliana

Pontificia Univ. Católica del Perú

11:30-11:45

Computed Tomography of Kidney Stones for Extracorporeal Shock Wave Lithotripsy, pp. 2774-2775

Cadena, Miguel

Univ. Autonoma Metropolitana

11:45-12:00

Speckle Reduction in Medical Ultrasound: A Novel Scatterer Density Weighted Nonlinear Diffusion Algorithm Implemented As a Neural-Network Filter, pp. 2776-2782

Badawi, Ahmed
Rushdi, Muhammed

Univ. of Tennessee Knoxville
Univ. of Miami

12:00-12:15

Modeling and Identification of Practical Ultrasound Transducers in Ultrasound Imaging Systems, pp. 2783-2786

Chen, Ming
Zhang, Cishen
Yeoh, Wee Soon

Nanyang Tech. Univ.
Nanyang Tech. Univ.
Nanyang Tech. Univ.

12:00-12:15

Quantitative Wavelet Domain Image Processing of Dynamic PET Data, pp. 2787-2790

Erlandsson, Kjell
Jin, Yinpeng
Wong, Andrew
Esser, Peter
Laine, Andrew
Ogden, Todd
Oquendo, Maria A
van Heertum, Ronald
Mann, J John
Parsey, Ramin

Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.

FrBP3

Westside Ballroom South

Multi-Modality Breast Imaging (Poster Session)

10:45-11:00

Spiculation-Preserving Polygonal Modeling of Contours of Breast Tumors, pp. 2791-2794

Guliatto, Denise
Rangayyan, Raj
Daloia de Carvalho, Juliano
Anchieta Santiago, Sergio

Federal Univ. of Uberlandia
Schulich School of Engineering, Univ. of Calgary
Univ. of Uberlandia
Univ. of Uberlandia

11:00-11:15

Breast Density Analysis in 3-D Whole Breast Ultrasound Images, pp. 2795-2798

Chang, Ruey-Feng
Chang-Chien, Kuang-Che
Takada, Etsuo
Suri, Jasjit
Moon, Woo Kyung
Wu, Jeffery H.K.
Cho, Nariya
Wang, Yi-Fa
Chen, Dar-Ren

National Chung Cheng Univ.
National Chung Cheng Univ.
Dokkyo Univ. School of Medicine
Biomedical Tech.
Seoul National Univ. Hospital
Changhua Christian Hospital
Seoul National Univ. Hospital
National Chung Cheng Univ.
Changhua Christian Hospital

11:15-11:30

Automated 3D Elastic Registration for Improving Tumor Localization in Whole-Body PET-CT from Combined Scanner, pp. 2799-2802

Walimbe, Vivek
Dandekar, Omkar
Mahmoud, Faaiza
Shekhar, Raj

The Ohio State Univ.
Univ. of Maryland
VA Maryland Health Care System
Univ. of Maryland

11:30-11:45

Thermography in Psoriatic Lesion Regression*

Owczarek, Grzegorz

National Res. Inst.

11:45-12:00

*Primary Evaluation in Nude Mouse Model with Human Breast Cancer by Thermal Texture Maps**

Yuan, Yun-E

CHINA ARMY GENERAL HOSPITAL

Li Qi, Li Qi

Department of Molecular Biology, Inst. of Basic Medicine,

12:00-12:15

Fusion of Vibro-Acoustography Images and X-Ray Mammography, pp. 2803-2806

GholamHosseini, Hamid

Auckland Univ. of Tech.

Alizad, Azra

Mayo Clinic

Fatemi, Mostafa

Mayo Clinic

FrBP4

Westside Ballroom South

Micro-Implanted Devices II (Poster Session)

10:45-11:00

Active Floating Micro Electrode Arrays (AFMA), pp. 2807-2810

Kim, Taehyung

Illinois Inst. of Tech.

Troyk, Philip

Illinois Inst. of Tech.

Bak, M

Microprobe

11:00-11:15

Active Electrode Arrays by Chip Embedding in a Flexible Silicone Carrier, pp. 2811-2815

Vanden Bulcke, Mathieu

IMEC

Baert, Kris

IMEC

Beyne, Eric

IMEC

Gonzalez, Mario

IMEC

Winters, Christophe

imec vzw

Webers, Tomas

IMEC

11:15-11:30

Parallel Multiplexing – a Solution of Large Scale Stimulation Needed by the Retinal

Prostheses to Maintain the Persistence of Vision, pp. 2816-2819

Talukder, Mohammad I.

Wayne State Univ.

Siy, Pepe

Wayne State Univ.

Auner, Gregory W.

Wayne State Univ.

11:30-11:45

A New Micro Minimally Invasive Biopsy Tool for Molecular Analysis, pp. 2820-2823

Cosnier, Marie-Line

CEA (Commissariat à l'Energie Atomique)

Martin, Franck

CEA (Commissariat à l'Energie Atomique)

Bouamrani, Ali

Inserm (Inst. National de la Santé et de la Recherche Médicale)

Berger, François

Hospital

Caillat, Patrice

CEA (Commissariat à l'Energie Atomique)

FrBP5

Westside Ballroom South

Micro Robotics II (Poster Session)

10:45-11:00

Initial Design of a Bacterial Actuated Microrobot for Operations in an Aqueous Medium, pp. 2824-2827

Andre, Walder

Ec. Pol. de Montreal

Martel, Sylvain

Ec. Pol. de Montreal

11:00-11:15

*Muscle-Actuated Power Generator Using Cultured Cardiomyocytes and Pzt Fiber**

Morishima, Keisuke

Tokyo Univ. of Agriculture and Tech.

FrBP6 Westside Ballroom South
Micro Fluidics II (Poster Session)

10:45-11:00

Development of Novel Ferrofluidic Pumps, pp. 2828-2831

Baglio, Salvatore
Andñ, Bruno
Ascia, Alberto
Pitrone, Nicola

Univ. of Catania
DIEES - Univ. of Catania
DIEES - Univ. of Catania
DIEES - Univ. of Catania

11:00-11:15

Sub-60 Nm Nanofluidic Channels Fabricated by Glass-Glass Bonding, pp. 2832-2835

Liao, Ke-Pan
Yao, Nan-Kuang
Kuo, Te-Son

National Taiwan Univ.
Industrial Tech. Res. Inst.
National Taiwan Univ.

11:15-11:30

A Serial Dilution Microfluidic Device for Cytotoxicity Assays, pp. 2836-2839

O'Neill, Adrian
Monteiro-Riviere, Nancy
Walker, Glenn

North Carolina State Univ.
North Carolina State Univ.
North Carolina State Univ.

11:30-11:45

Virtual Wall in Microchannels, pp. 2840-2843

XU, WEI
Hong, xue
Bachman, Mark
Li, G.P.

Univ. of California, Irvine
California State Pol. Univ.
Univ. of California, Irvine
Univ. of California, Irvine

FrBP7 Westside Ballroom South
New Technologies for Micro Sensors II (Poster Session)

10:45-11:00

Stretchable Microelectrode Arrays: A Tool for Discovering Mechanisms of Functional Deficits Underlying Traumatic Brain Injury and Interfacing Neurons with Neuroprosthetics*

Yu, Zhe
Tsay, Candice
Lacour, Stéphanie
Wagner, Sigurd
Morrison, Barclay

Columbia Univ.
Princeton Univ.
Univ. of Cambridge
Princeton Univ.
Columbia Univ.

11:00-11:15

Microfabrication Procedure of PDMS Microbeam Array Using Photolithography for Laminin Printing and Piconewton Force Transduction on Axons, pp. 2844-2847

Sasoglu, F.Mert
Bohl, Andrew J.
Layton, Bradley E.

Drexel Univ.
Drexel Univ.
Drexel Univ.

FrBP8 Westside Ballroom South
Pulmonary Mechanics and Dynamics II (Poster Session)

10:45-11:00

Analysis of Simulated Heart Sounds by Intrinsic Mode Functions, pp. 2848-2851

Charleston-Villalobos, Sonia
Aljama-Corrales, Angel Tomás
González-Camarena, Ramón

Univ. Autónoma Metropolitana
Univ. Autónoma Metropolitana
Univ. Autónoma Metropolitana

11:00-11:15

Estimation of Tube Wall Compliance Using Pulse-Echo Acoustic Reflectometry, pp. 2852-2855

Juan Garcia, Eduardo
Figueroa Roldán, Héctor

Univ. of Puerto Rico - Mayagüez
Univ. of Puerto Rico - Mayagüez

11:15-11:30

Classifying Respiratory Sounds with Different Feature Sets, pp. 2856-2859

Kahya, Yasemin P.
Yeginer, Mete
Bilgic, Bora

Bogazici Univ.
Bogazici Univ.
Bogazici Univ.

11:30-11:45

Detection and Adaptive Cancellation of Heart Sound Interference in Tracheal Sounds, pp. 2860-2863

Cortés, Sandra
Jané, Raimon
Torres, Abel
Fiz Fernandez, José Antonio
Morera Prat, Jose

Univ. Pol. de Catalunya
Univ. Pol. de Catalunya
Univ. Pol. de Catalunya
Hospital Univ. Germans Trias i Pujol
Hospital Univ. Germans Trias i Pujol

11:45-12:00

Multi-Channel Classification of Respiratory Sounds, pp. 2864-2867

YILMAZ, CEMILE ASLI
Kahya, Yasemin P.

Bogazici Univ.
Bogazici Univ.

12:00-12:15

Direct Measurement of Airway Pressure in Ventilated Very Low Birth Weight Infants, pp. 2868-2870

Silberberg, Ants R.
Sandberg, Kenneth

Chalmers Univ. of Tech.
Göteborg Univ.

12:00-12:15

Bayesian Tracking of a Nonlinear Model of the Capnogram, pp. 2871-2874

Op Den Buijs, Jorn
Warner, Lizette
Chbat, Nicolas
Roy, Tuhin

Mayo Clinic Coll. of Medicine
Mayo Clinic
Philips Res. North America
Mayo Clinic

FrBP9

Westside Ballroom South

Cardiac Function and Vascular Systems (Poster Session)

10:45-11:00

Nitric Oxide Contribution to Vascular Wall Oxygen Consumption in Arterioles*

Shibata, Masahiro
Yamakoshi, Takehiro
Yamakoshi, Ken-ichi

Univ. of Tokyo
Kanazawa Univ.
Kanazawa Univ.

11:00-11:15

Reversal of Lower Limb Venous and Lymphatic Pooling by Passive Non-Invasive Calf Muscle

Pump Stimulation, pp. 2875-2877

Madhavan, Guruprasad
Cole, Jason
Pierce, Carolyn
McLeod, Kenneth

State Univ. of New York
State Univ. of New York
State Univ. of New York
State Univ. of New York

11:15-11:30

Can the Timing-Characteristics of Phonocardiographic Signal Be Used for Cuffless Systolic Blood Pressure Estimation?, pp. 2878-2879

Wong, Mico Yee Man
Poon, Carmen CY
Zhang, Yuan-Ting

The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong

11:30-11:45

Calculation of the Mean Pressure with Less Delay for Real-Time Clinical Monitoring, pp. 2880-2883

Ellis, Tim
McNames, James
Goldstein, Brahm

Portland State Univ.
Portland State Univ.
Oregon Health & Science Univ.

11:45-12:00

Towards a Biomechanical-Based Method for Assessing Myocardial Tissue Viability, pp. 2884-2887

Linte, Cristian A. The Univ. of Western Ontario/Robarts Res.
Wierzbicki, Marcin Robarts Res. Inst.
Aladl, Usaf Robarts Res. Inst.
Peters, Terry Robarts Res. Inst.
Samani, Abbas Univ. of Western Ontario

12:00-12:15

Model-Based Analysis of Effects of Systolic Blood Pressure on Frequency Characteristics of the Second Heart Sound, pp. 2888-2891

Zhang, Xin-Yu The Chinese Univ. of Hong Kong, Shenzhen Univ.
Zhang, Yuan-Ting The Chinese Univ. of Hong Kong

12:00-12:15

Simulation of Intra-Cardiac Catheter Complex Impedance Signals with Variable Stroke Volume, pp. 2892-2895

Gordon, Rauno Tallinn Univ. of Tech.

12:00-12:15

Hydrodynamic Effects of the Partial Opening of a Trileaflet Valve, pp. 2896-2899

Escobedo, Carlos Innovamedica S.A. de C.V.
Tovar, Francisco Innovamedica S.A. de C.V.
Vilá, Alexandra Innovamedica S.A. de C.V.
Garcia, Julio Innovamedica S.A. de C.V.
Suarez, Bibiana Innovamedica S.A. de C.V.
Corona, Farah Univ. Metropolitana
Sacristan, Emilio Univ. Autónoma Metropolitana

12:00-12:15

The Influence of Activation Time on Contraction Force of Myocardial Tissue: A Simulation Study, pp. 2900-2903

Lu, Jianyin Kyoto Univ.
Nishi, Toshifumi Kyoto Univ.
ASHIHARA, Takashi Kyoto Univ.
Schneider, Natalie Kyoto Univ.
Amano, Akira Kyoto Univ.
Matsuda, Tetsuya Kyoto Univ.
Kotera, Hidetoshi Kyoto Univ.

12:00-12:15

Evaluation of External Cardiac Massage Performance During Hypogravity Simulation, pp. 2904-2907

Dalmarco, Gustavo PUCRS
Russomano, Thais PUCRS
Falcao, Felipe PUCRS
Dario, Azevedo PUCRS
Calder, Alyson Univ. of Glasgow
Evetts, Simon Thames Valley Univ.
Sarkar, Subhajt Univ. of Birmingham
Moniz, Samuel Univ. do Porto

Neural Stimulation and Prostheses 4 (Poster Session)

10:45-11:00

3D Realistic Head Model Simulation Based on Transcranial Magnetic Stimulation*

Yang, Shuo

Hebei Univ. of Tech.

Xu, Guizhi

Hebei Univ. of Tech.

Wang, Lei

Hebei Univ. of Tech.

Chen, Yong

Hebei Univ. of Tech.

Wu, Huanli

Hebei Univ. of Tech.

Li, Ying

Hebei Univ. of Tech.

Yang, Qingxin

Hebei Univ. of Tech.

11:00-11:15

On the Activation Threshold of Nerve Fibers Using Sinusoidal Electrical Stimulation, pp. 2908-2911

Sundar, Swarna

Dalhousie Univ.

Gonzalez-Cueto, Jose A.

Dalhousie Univ.

11:15-11:30

Optimal Target Placement for Neural Communication Prostheses, pp. 2912-2915

Cunningham, John Patrick

Stanford Univ.

Yu, Byron M.

Stanford Univ.

Shenoy, Krishna

Stanford Univ.

11:30-11:45

Artificial Neural Network Prediction Using Accelerometers to Control Upper Limb FES During Reaching and Grasping Following Stroke, pp. 2916-2919

Tresadern, Phil

Univ. of Salford

Thies, Sibylle

Univ. of Salford

Kenney, Laurence

Univ. of Salford

Howard, David

Univ. of Salford

Goulermas, Yannis

Univ. of Liverpool

11:45-12:00

A Multi-Chip-Architecture Based Flexible Stimulation Device for Retinal Prosthesis with a Flip-Chip Packaging Technique, pp. 2920-2923

Tokuda, Takashi

Nara Inst. of Science & Tech.

Kawada, Masayuki

Nara Inst. of Science & Tech.

Sugitani, Sachie

Nara Inst. of Science & Tech.

Taniyama, Mari

Nara Inst. of Science & Tech.

Uehara, Akihiro

NIDEK Co. Ltd.

Kagawa, Keiichiro

Nara Inst. of Science & Tech.

Nunoshita, Masahiro

Nara Inst. of Science & Tech.

Ohta, Jun

Nara Inst. of Science & Tech.

12:00-12:15

Are There Modulated Electromagnetic Field Effects on Human Conscious Perception During Attentional Blink Test?, pp. 2924-2927

Lass, Jaanus

Tallinn Univ. of Tech.

Rodina, Anastassia

Univ. of Patras

Riipulk, Jevgeni

Tallinn Univ. of Tech.

Hinrikus, Hiie

Tallinn Univ. of Tech.

Bachmann, Talis

Univ. of Tartu

12:00-12:15

Hybrid Orthosis System with a Variable Hip Coupling Mechanism, pp. 2928-2931

To, Curtis

Case Western Res. Univ.

Kobetic, Rudi

Louis Stokes Veterans Affairs Medical Center

Triolo, Ronald J.

Cleveland FES Center

12:00-12:15

Design of a High Speed Transcutaneous Optical Telemetry Link, pp. 2932-2935

Ackermann, D. Michael
Smith, Brian
Kilgore, Kevin
Peckham, Hunter

Case Western Res. Univ.
Case Western Res. Univ.
MetroHealth Medical Center
Case Western Res. Univ.

12:00-12:15

Some Solutions to Technical Hurdles for Developing a Practical Intracortical Visual

Prosthesis Device, pp. 2936-2939

Srivastava, Nishant
Troyk, Philip

Illinois Inst. of Tech.
Illinois Inst. of Tech.

FrBP11

Westside Ballroom South

Neural Interfacing and Neurorobotics 2 (Poster Session)

10:45-11:00

Experiments on the Development and Use of a New Generation of Intra-Neural

Electrodes to Control Robotic Artefacts, pp. 2940-2943

Micera, Silvestro
Sergi, Pier Nicola
Carpaneto, Jacopo
Citi, Luca
Bossi, Silvia
Koch, Klaus-Peter
Hoffmann, Klaus-Peter
Menciassi, Arianna
Yoshida, Ken
Dario, Paolo

Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna
Inst. for Advanced Studies on Biorobotic Engineering
Inst. for Advanced Studies on Biorobotic Engineering
Fraunhofer Inst. für Biomedizinische Tech.
Fraunhofer Inst. für Biomedizinische Tech.
Scuola Superiore Sant'Anna
Aalborg Univ.
Scuola Superiore Sant'Anna

11:00-11:15

Recent Studies in the Design of a Self-Paced Brain Interface with Low False Positive Rate, pp. 2944-2949

Fatourechi, Mehrdad
Ward, Rabab K.
Birch, Gary E.

Univ. of British Columbia
Univ. of British Columbia
Univ. of British Columbia

11:15-11:30

A Gait Support System for Human Locomotion without Restriction of the Lower Extremities:

Preliminary Mechanism and Control Design, pp. 2950-2953

Hoshino, Takayuki
Tomono, Masanori
Suzuki, Takafumi
Shimojo, Makoto
Mabuchi, Kunihiko

Univ. of Tokyo
The Univ. of Electro-communications,
The Univ. of Tokyo
The Univ. of Electro-Communications
Univ. of Tokyo

11:30-11:45

Decoding High Level Signals for Asynchronous Brain Machine Interfaces*

Olson, Byron
Si, Jennie
Silver, Jason

Arizona State Univ.
Arizona State Univ.
Arizona State Univ.

11:45-12:00

Media Communication Center Using Brain Computer Interface, pp. 2954-2957

Teo, Jin Kiat Eugene
Huang, Alvin
Lian, Yong
Guan, Cuntai
Li, Yuanqing
Zhang, Haihong

National Univ. of Singapore, Inst. for Infocomm Res.
National Univ. of Singapore
National Univ. of Singapore
Inst. for Infocomm Res. Singapore
Inst. for Infocomm Res. Singapore
Inst. for Infocomm Res. Singapore

12:00-12:15

Collagenase-Aided Insertion of Intracortical Microelectrode Arrays: Evaluation of Insertion Force and Chronic Recording Performance, pp. 2958-2961

Paralikar, Kunal
Lawrence, Jonathan
Clement, Ryan

The Pennsylvania State Univ.
The Pennsylvania State Univ.
The Pennsylvania State Univ.

12:00-12:15

Velocity-Selective Recording from Frog Nerve Using a Multi-Contact Cuff Electrode, pp. 2962-2965

Schuettler, Martin
Seetohul, Vipin
Taylor, John
Donaldson, Nicholas de Neufville

Univ. of Freiburg
Univ. of Bath
Univ. of Bath
Univ. Coll. London

12:00-12:15

Design and Fabrication of a Flexible Substrate Microelectrode Array for Brain Machine Interfaces, pp. 2966-2969

Patrick, Erin
Ordonez, Matthew
Alba, Nicolas
Sanchez, Justin C.
Nishida, Toshikazu

Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida
Univ. of Florida

12:00-12:15

An Implantable Myoelectric Sensor Based Prosthesis Control System, pp. 2970-2973

DeMichele, Glenn
Troyk, Philip
Kerns, Douglas
Weir, Richard

Sigenics Inc.
Illinois Inst. of Tech.
Sigenics Inc.
Northwestern Univ.

FrBP12

Westside Ballroom South

Neural Microsystems and Instrumentation 2 (Poster Session)

10:45-11:00

An Integrated CMOS Bio-Potential Amplifier with a Feed-Forward DC Cancellation Topology, pp. 2974-2977

Parthasarathy, Jayant
Erdman, Arthur
redish, david
ziaie, babak

Univ. of Minnesota
Univ. of Minnesota
Univ. of Minnesota
Purdue Univ.

11:00-11:15

A Monolithic Multi-Channel Amplifier for Electrode Arrays, pp. 2978-2981

Kerns, Douglas
DeMichele, Glenn
Troyk, Philip

Sigenics Inc.
Sigenics Inc.
Illinois Inst. of Tech.

11:15-11:30

Neural Recording Front-End Designs for Fully Implantable Neuroscience Applications and Neural Prosthetic Microsystems, pp. 2982-2985

Perlin, Gayatri, E.
Sodagar, Amir M.
Wise, Kensall

Univ. of Michigan
Univ. of Michigan
Univ. of Michigan, Ann Arbor

11:30-11:45

Preliminary Study of the Thermal Impact of a Microelectrode Array Implanted in the Brain, pp. 2986-2989

Kim, Sohee
Normann, Richard
Harrison, Reid
Solzbacher, Florian

Univ. of Utah
Univ. of Utah
Univ. of Utah
Univ. of Utah

11:45-12:00

NeuroTalk™ an Interface for Multifunctional Neural Engineering ASICs, pp. 2990-2993

Troyk, Philip	Illinois Inst. of Tech.
Detlefsen, David	Illinois Inst. of Tech.
DeMichele, Glenn	Sigenics Inc.
Kerns, Douglas	Sigenics Inc.

12:00-12:15

A Multifunctional Neural Electrode Stimulation ASIC Using NeuroTalk™ Interface, pp. 2994-2997

Troyk, Philip	Illinois Inst. of Tech.
Detlefsen, David	Illinois Inst. of Tech.
DeMichele, Glenn	Sigenics Inc.

12:00-12:15

A LabVIEW Based Experiment System for the Efficient Collection and Analysis of Cyclic Voltametry and Electrode Charge Capacity Measurements, pp. 2998-3001

Detlefsen, David	Illinois Inst. of Tech.
Troyk, Philip	Illinois Inst. of Tech.
Hu, Zhe	Illinois Inst. of Tech.

12:00-12:15

The Measurement of Compound Neural Action Potential in Sciatic Nerve Using Microelectrode Array, pp. 3002-3004

Lee, Chungkeun	Yonsei Univ.
Kim, Yongho	Yonsei Univ.
Shin, Hang Sik	Yonsei Univ.
Kim, Yongjun	Yonsei Univ.
Lee, Myounggho	Yonsei Univ.

FrBP13

Westside Ballroom South

Segmentation, Classification, Counting, and Feature Computation II (Poster Session)

10:45-11:00

Texture-Based Classification of Hysteroscopy Images of the Endometrium, pp. 3005-3008

Neofytou, Marios	Univ. of Cyprus
Pattichis, Marios	Univ. of New Mexico,
Pattichis, Constantinos	Univ. of Cyprus
Tanos, Vasilios	Evaggelistria Medical Center
Kyriacou, Efthymoulos	Univ. of Cyprus
Koutsouris, Dimitrios	National Tech. Univ. of Athens (NTUA)

11:00-11:15

A Watershed Based Segmentation Method for Multispectral Chromosome Images Classification, pp. 3009-3012

Karvelis, Petros	Univ. of Ioannina
Fotiadis, Dimitrios I.	Univ. of Ioannina
Georgiou, Ioannis	Univ. of Ioannina
Syrrou, Marika	Univ. of Ioannina

11:15-11:30

Feature Selection, Matching, and Evaluation for Subcellular Structure Tracking, pp. 3013-3016

Wen, Quan	The Univ. of Texas at Arlington
Gao, Jean	Univ. of Texas
Luby-Phelps, Kate	The Univ. of Texas Southwestern Medical Center

11:30-11:45

Detection of Colon Wall Outer Boundary and Segmentation of the Colon Wall Based on Level Set Methods, pp. 3017-3020

Van Uitert, Robert	National Inst. of Health
Bitter, Ingmar	National Inst. of Health
Summers, Ronald M.	National Inst. of Health

11:45-12:00

Genetic Programming and Feature Selection for Classification of Breast Masses in Mammograms, pp. 3021-3024

Nandi, Robin J
Nandi, Asoke K
Rangayyan, Raj
Scutt, Di

The Univ. of Liverpool
The Univ. of Liverpool
Schulich School of Engineering, Univ. of Calgary
The Univ. of Liverpool

12:00-12:15

Implicit Dual Snakes for Medical Imaging, pp. 3025-3028

Giraldi, Gilson
Rodrigues, Paulo Sérgio
Suri, Jasjit

National Lab. for Scientific Computing
National Lab. for Scientific Computing
Biomedical Tech.

12:00-12:15

Evaluation of Two Segmentation Methods on MRI Brain Tissue Structures, pp. 3029-3032

Cai, Xiang
Hou, Yu
Li, Chang
Lee, Jing-Huei
Wee, William

Univ. of Cincinnati
Univ. of Cincinnati
Univ. of Cincinnati
Univ. of Cincinnati
Univ. of Cincinnati

12:00-12:15

Single Organ Segmentation Filters for Multiple Organ Segmentation, pp. 3033-3036

Furst, Jacob D.
Susomboom, Ruchaneewan
Raicu, Daneila S.

DePaul Univ.
DePaul Univ.
DePaul Univ.

12:00-12:15

Towards an Automatic Coronary Artery Segmentation Algorithm, pp. 3037-3040

Fallavollita, Pascal
Cheriet, Farida

Ec. Pol. de Montreal
Ec. Pol. de Montreal

FrBP14

Westside Ballroom South

Image Registration II (Poster Session)

10:45-11:00

New Deformable Registration Technique Using Scale Space and Curve Evolution Theory and a Finite Element Based Validation Framework, pp. 3041-3044

Fahmi, Rachid
Alaa E., Abdel-Hakim
El baz, Ayman
Frag, Aly A.

Univ. of Louisville
Univ. of Louisville
Univ. of Louisville
Univ. of Louisville

11:00-11:15

Efficient 3-D Medical Image Registration Using a Distributed Blackboard Architecture, pp. 3045-3048

Tait, Roger J.
Schaefer, Gerald
Hopgood, Adrian A.
Zhu, Shao Ying

Nottingham Trent Univ.
Nottingham Trent Univ.
Nottingham Trent Univ.
Univ. of Derby

11:15-11:30

Dynamic Breast MRI: Image Registration and Its Impact on Enhancement Curve Estimation, pp. 3049-3052

Hill, Andrew
Mehnert, Andrew
Crozier, Stuart
Leung, Carlos
Wilson, Stephen
McMahon, Kerry
Kennedy, Dominic

Univ. of Queensland
The Univ. of Queensland
The Univ. of Queensland
The Univ. of Queensland
Univ. of Queensland
Queensland X-Ray
Queensland X-Ray

11:30-11:45

A New Image Similarity Measure with Reduced Sensitivity to Interpolation and Generalizability to Multispectral Image Registration, pp. 3053-3056

Ardekani, Babak
Bachman, Alvin

Nathan S. Kline Inst. for Psychiatric Res.
Nathan S. Kline Inst. for Psychiatric Res.

11:45-12:00

Comparison of Intensity Based Similarity Measures for Matching Genomic Structures in Microscopic Images of Living Cells, pp. 3057-3061

Bhattacharya, Sambit
Acharya, Raj
Pliss, Artem
Malyavantham, Kishore
Berezney, Ronald

Fayetteville State Univ.
Pennsylvania State Univ.
State Univ. of New York at Buffalo
State Univ. of New York at Buffalo
State Univ. of New York at Buffalo

FrBP15

Westside Ballroom South

Image Segmentation II (Poster Session)

10:45-11:00

An Automatic Method for Ground Glass Opacity Nodule Detection and Segmentation from CT Studies, pp. 3062-3065

Zhou, Jinghao
Chang, Sukmoon
Metaxas, Dimitris
Zhao, Binsheng
Ginsberg, Michelle
Schwartz, Lawrence

Rutgers, the State Univ. of New Jersey
Capital Coll. Penn State Univ.
Rutgers Univ.
Meml Sloan-Kettering Cancer Ctr
Memorial Sloan-Kettering Cancer Center
Memorial Sloan-Kettering Cancer Center

11:00-11:15

A Multiscale Tracking Algorithm for the Coronary Extraction in MSCT Angiography, pp. 3066-3069

Yang, Guanyu
Bousse, Alexandre
Toumoulin, Christine
Shu, Huazhong

Southeast Univ.
LTSI-INSERM U642
Univ. de Rennes I
Southeast Univ.

11:15-11:30

Distinguishing Lesions from Posterior Acoustic Shadowing in Breast Ultrasound Via Non-Linear Dimensionality Reduction, pp. 3070-3073

Madabhushi, Anant
Yang, Peng
Rosen, Mark
Weinstein, Susan

Rutgers Univ.
Rutgers Univ.
Univ. of Pennsylvania
Univ. of Pennsylvania

11:30-11:45

A New Automatic Technique for Left and Right-Ventricular Segmentation in Magnetic Resonance Imaging, pp. 3074-3077

Katouzian, Amin
Prakash, Ashwin
Konofagou, Elisa

Columbia Univ.
Columbia Univ.
Columbia Univ.

11:45-12:00

A Fuzzy-C-Means Clustering Algorithm for a Volumetric Analysis of Paranasal Sinus and Nasal Cavity Cancers, pp. 3078-3081

Passera, Katia
Potepan, Paolo
Setti, Ernesto
Vergnaghi, Daniele
Sarti, Augusto
Mainardi, Luca
Cerutti, Sergio

Pol. di Milano
Istituto Nazionale dei Tumori
Istituto Nazionale dei Tumori
Istituto Nazionale dei Tumori
Pol. di Milano
Pol. di Milano
Pol. di Milano

12:00-12:15

Volumetric Tumor Segmentation Using 3D Implicit Active Surfaces*

Goffeney, Jason
Palaniappan, Kannappan
Figuerola, Said
Hoffman, Timothy

Univ. of Missouri - Columbia
Univ. of Missouri-Columbia
Harry S. Truman Memorial Veteran's Hospital
Harry S. Truman Memorial Veteran's Hospital

12:00-12:15

Boundary Extraction of Breast Ultrasonic Images, pp. 3082-3085

Shen, Jialin
Wang, Yuanyuan
Yu, Jianguo

Fudan Univ.
Fudan Univ.
Fudan Univ.

12:00-12:15

Segmentation of 4D Cardiac Images: Investigation on Statistical Shape Models, pp. 3086-3089

Renno, Markus
Shang, Yan
Sweeney, James
Dössel, Olaf

Arizona State Univ.
Karlsruhe Univ.
Arizona State Univ.
Univ. Karlsruhe (TH)

FrC01

Marquis AB

Principal Component Analysis, Independent Components Analysis III (Oral Session)

14:00-14:15

Combining Independent Component Analysis and Backpropagation Neural Network for ECG

Beat Classification, pp. 3090-3093

Yu, Sung-Nien
Chou, Kuan-To

National Chung Cheng Univ.
National Chung Cheng Univ.

14:15-14:30

Analysis of Ambulatory ECG Signal, pp. 3094-3097

Pawar, Tanmay
Chaudhuri, Subhasis
Duttgupta, Siddhartha

Indian Inst. of Tech. - Bombay
Indian Inst. of Tech. - Bombay
Indian Inst. of Tech. - Bombay

14:30-14:45

Noise Sensitivity of a Principal Component Regression Based RT Interval Variability

Estimation Method, pp. 3098-3101

Tarvainen, Mika
Niskanen, Juha-Pekka
Laitinen, Tomi
Lyyra-Laitinen, Tiina
Karjalainen, Pasi

Univ. of Kuopio
Univ. of Kuopio
Kuopio Univ. Hospital
Kuopio Univ. Hospital
Univ. of Kuopio

14:45-15:00

Quantification of Carotid Atherosclerotic Plaque Components Using Feature Space

Analysis and Magnetic Resonance Imaging, pp. 3102-3105

Karmonik, Christof
Basto, Pamela
Morrisett, Joel

The Methodist Hospital Res. Inst.
Baylor Coll. of Medicine
Baylor Coll. of Medicine

15:00-15:15

The Maternal ECG Suppression Algorithm for Efficient Extraction of the Fetal ECG from

Abdominal Signal, pp. 3106-3109

Matonia, Adam
Jezewski, Janusz
Horoba, Krzysztof
Gacek, Adam
Labaj, Pawel

Inst. of Medical Tech. and Equipment
Inst. of Medical Tech. and Equipment
Inst. of Medical Tech. and Equipment
Inst. of Medical Tech. and Equipment
The Silesian Univ. of Tech.

15:15-15:30

Separation of Gastric Electrical Control Activity from Simultaneous MGG/EGG Recordings Using Independent Component Analysis, pp. 3110-3113

Irimia, Andrei

Living State Physics Lab. Vanderbilt Univ.

FrC02

Marquis C

Image Segmentation I (Oral Session)

14:00-14:15

Segmenting Brain MRI Using Adaptive Mean Shift, pp. 3114-3117

Jimenez-Alaniz, Juan Ramon

Univ. Autonoma Metropolitana

Pohl, Mauricio

Univ. Autonoma Metropolitana

Medina, Veronica

Univ. Autonoma Metropolitana

Yanez-Suarez, Oscar

Univ. Autonoma Metropolitana - Iztapalapa

14:15-14:30

Automatic Medical Image Segmentation Using Gradient and Intensity Combined Level Set Method, pp. 3118-3121

Liu, Shaojun
Li, Jia

Oakland Univ.

Oakland Univ.

14:30-14:45

Automatic Segmentation of the Lungs Using Multiple Active Contours and Outlier Model, pp. 3122-3125

Silveira, Margarida

Inst. Superior Técnico and Inst. for Systems and Robotics

Marques, Jorge

Inst. Superior Técnico and Inst. for Systems and Robotics

14:45-15:00

A Novel Active Contour Model Using Local and Global Statistics for Vessel Extraction, pp. 3126-3129

Sum, K. W.
Cheung, Paul Y. S.

Univ. of Hong Kong

Univ. of Hong Kong

15:00-15:15

Maximum-Likelihood Decomposition of Overlapping and Touching M-Fish Chromosomes Using Geometry, Size and Color Information, pp. 3130-3133

Choi, Hyohoon
Bovik, Alan
Castleman, Kenneth R.

The Univ. of Texas at Austin
The Univ. of Texas at Austin
Advanced Digital Imaging Res. LLC

15:15-15:30

Four Dimensional MR Image Analysis of Dynamic Renography, pp. 3134-3137

Song, Ting
Lee, Vivian
Rusinek, Henry
Wong, Samson
Laine, Andrew

Columbia Univ.
New York Univ. Medical Center
New York Univ. Medical Center
New York Univ. School of Medicine
Columbia Univ.

FrC03

SoHo-Herald

Mathematical Modeling and Simulation of Molecules and Cells I (Oral Session)

14:00-14:15

Transcriptional Target Prediction Using Qualitative Reasoning, pp. 3138-3141

Wang, Li-San
Wagner, Doris
Kwon, Chang Seob
Su, Yanhui
Kim, Junhyong

Univ. of Pennsylvania
Univ. of Pennsylvania
Univ. of Pennsylvania
Univ. of Pennsylvania
Univ. of Pennsylvania

14:15-14:30

Inverting Amplifier Genetic Circuit Performance, pp. 3142-3145

Nagaraj, Seema
Davies, Stephen William

Univ. of Toronto
Univ. of Toronto

14:30-14:45

Stochastic Modeling of Tumor Induced Angiogenesis in a Heterogeneous Medium, the Extracellular Matrix, pp. 3146-3149

AMYOT, Franck
Gandjbakhche, Amir

National Inst. of health - NICHD
National Inst. of Health

14:45-15:00

Efficient Event-Driven Simulation of Excitable Hybrid Automata, pp. 3150-3153

True, Mike
Entcheva, Emilia
Smolka, Scott
Ye, Pei
Grosu, Radu

SUNY at Stony Brook
Stony Brook Univ.
Stony Brook Univ.
Stony Brook Univ.
Stony Brook Univ.

15:00-15:15

Modeling and Analysis of Force Induced Bone Growth, pp. 3154-3157

Maldonado, Solvey
Steffen, Borchers
Findeisen, Rolf
Allgöwer, Frank

Univ. of Stuttgart
Univ. of Stuttgart
Univ. of Stuttgart
Univ. of Stuttgart

15:15-15:30

Anatomically Realistic Torso Model for Studying the Relative Decay of Gastric Electrical and Magnetic Fields, pp. 3158-3161

Cheng, Leo K
Buist, Martin Lindsay
Pullan, Andrew

The Univ. of Auckland
National Univ. of Singapore
Univ. of Auckland

FrC04

Ziegfeld

Micro-Implanted Devices (Oral Session)

14:00-14:15

New Implantable Hearing Device Based on a Micro-Actuator That Is Directly Coupled to the Inner Ear Fluid, pp. 3162-3165

Bernhard, Hans
Stieger, Christof
Perriard, Yves

Helbling Tech. Bern AG
Inselspital Univ. of Berne
Ec. Pol. Fédérale de Lausanne (EPFL)

14:15-14:30

A Microsystem with Varying-Length Electrode Arrays for Auditory Nerve Prosthesis, pp. 3166-3169

Wu, Jian
Feng, Wei Feng
Tang, William C.
Zeng, Fan -Gang

Univ. of California, Irvine
Univ. of California, Irvine
Univ. of California, Irvine
Univ. of California, Irvine

14:30-14:45

A Parylene-Silicon Cochlear Electrode Array with Integrated Position Sensors, pp. 3170-3173

Wang, Jianbai
Gulari, Ning
Wise, Kensall

Univ. of Michigan, Ann Arbor
Univ. of Michigan, Ann Arbor
Univ. of Michigan, Ann Arbor

14:45-15:00

An Artificial Nano-Drainage Implant (ANDI) for Glaucoma Treatment, pp. 3174-3177

Pan, Tingrui

Univ. of Minnesota

15:00-15:15

Neural Interface Dynamics Following Insertion of Hydrrous Iridium Oxide Microelectrode Arrays, pp. 3178-3181

Johnson, Matthew
Langhals, Nicholas
Kipke, Daryl

Univ. of Michigan
Univ. of Michigan
Univ. of Michigan

Diagnostic Instrumentation and Physiological Measurement 1 (Oral Session)

14:00-14:15

Finite Element Analysis and Experimental Verification of Multilayered Tissue Characterization Using the Thermal Technique, pp. 3182-3185Kharalkar, Nachiket
Valvano, JonathanUniv. of Texas at Austin
Univ. of Texas at Austin

14:15-14:30

Interface Pressure Monitoring for a Secured Instrumented Childbirth, pp. 3186-3189RAMON, Carolina
GEHIN, Claudine
SCHMITT, Michael
DITTMAR, AndreINSA Lyon
INSA Lyon
INSA Lyon
INSA Lyon

14:30-14:45

Ingestible Pill for Heart Rate and Core Temperature Measurement in Cattle, pp. 3190-3193Martinez, Angel
Schoenig, Scott
Andresen, Daniel
Warren, SteveKansas State Univ.
Kansas State Univ.
Kansas State Univ.
Kansas State Univ.

14:45-15:00

Dielectric Spectroscopy of Blood Cells Suspensions: Study on Geometrical Structure of Biological Cells, pp. 3194-3197Merla, Caterina
Liberti, Micaela
Apollonio, Francesca
Nervi, Clara
D'Inzeo, GuglielmoICEmB @ La Sapienza Univ. Rome
ICEmB@La Sapienza Univ. Rome
ICEmB@La Sapienza Univ. Rome
Histology and Medical Embriology Univ. of Rome "La Sapienza" an
ICEmB@La Sapienza Univ. Rome

15:00-15:15

Digital Lock-In Algorithm for Biomedical Spectroscopy and Imaging Instruments with Multiple Modulated Sources (I), pp. 3198-3201Masciotti, James
Lasker, Joseph
Hielscher, AndreasColumbia Univ.
Columbia Univ.
Columbia Univ.

15:15-15:30

An Optimal Spot-Electrodes Array for Electrical Impedance Cardiography through Determination of Impedance Mapping of a Regional Area Along the Medial Line on the Thorax, pp. 3202-3205Ikarashi, Akira
Nogawa, Masamichi
Yamakoshi, Takehiro
Tanaka, Shinobu
Yamakoshi, Ken-ichiIshikawa Sunrise Industries Creation Organization
Kanazawa Univ.
Kanazawa Univ.
Kanazawa Univ.
Kanazawa Univ.**Signal Processing and Modeling in Biological Systems III (Oral Session)**

14:00-14:15

Alterations in Human EEG Activity Caused by Extremely Low Frequency Electromagnetic Fields, pp. 3206-3209Cvetkovic, Dean
Jovanov, Emil
Cosic, IrenaRMIT Univ.
Univ. of Alabama in Huntsville
RMIT Univ.

Fluid Dynamics and Vascular Mechanics (Oral Session)

14:00-14:15

Angiographic Assessment of the Performance of Flow Divertors to Treat Cerebral Aneurysms, pp. 3210-3213

Sadasivan, Chander	Univ. of Miami
Lieber, Baruch	Univ. of Miami
Cesar, Liliana	Univ. of Miami
Miskolczi, Laszlo	Memorial Healthcare System
Seong, Jaehoon	Univ. of Miami
Wakhloo, Ajay	Univ. of Massachusetts Medical School

14:15-14:30

Wall Shear Stress Variations in Basilar Tip Aneurysms Investigated with Computational Fluid Dynamics, pp. 3214-3217

Karmonik, Christof	The Methodist Hospital Res. Inst.
Benndorf, Goetz	The Methodist Hospital
Klucznik, Richard	The Methodist Hospital
Haykal, Hani	The Methodist Hospital
Strother, Charles	The Methodist Hospital

14:30-14:45

Oscillatory Shear Stress Promotes Nitritive Stress Relative to Pulsatile Shear Stress: A Potential Mechanism for Athero-Prone Regions within Vascular Bifurcations*

Hsiai, John T. K.	USC
Rouhanizadeh, Mahsa	USC
Barr, Mark L.	USC
Correa, Adria	USC
Hamilton, Ryan	USC
Tiantian Lin, Christina	USC
Alavi, Mohammad	USC
Cadenas, Enrique	USC
Juliana Hwang, Juliana	USC
Hazen, Stanley, L.	The Cleveland Clinic Foundation

14:45-15:00

Estimation of Arterial Wall Strain Based on IVUS Image Registration, pp. 3218-3221

Liang, Yun	Duke Univ.
Oakeson, Kevin	Medtronic
Zhu, Hui	Duke Univ.
Friedman, Morton	Duke Univ.

15:00-15:15

Noninvasive Detection of Vessel Stiffness from Continuous Blood Pressure Recordings in Hypertensive Subjects, pp. 3222-3225

Jurak, Pavel	Inst. of Scientific Inst. Acad. of Sciences of the Czech Republic
Halamek, Josef	Inst. of Scientific Inst. Acad. of Sciences of the Czech Republic
Somers, Virend	Mayo Clinic
Plachy, Martin	St Anne's Univ. Hospital, Brno,
Frana, Petr	St Anne's Univ. Hospital, Brno,
Leinveber, Pavel	Mayo Clinic
Soucek, Miroslav	St Anne's Univ. Hospital, Brno,
Kara, Tomas	St Anne's Univ. Hospital, Brno

FrC08

Juilliard

New Techniques in Rehabilitation II (Oral Session)

14:00-14:15

A Low Cost Human Computer Interface Based on Eye Tracking, pp. 3226-3229Redekopp, Andrew
Hiley, Jonathon
Fazel-Rezai, RezaUniv. of Manitoba
Univ. of Manitoba
Univ. of Manitoba

14:15-14:30

A Programmable Ramp Waveform Generator for PEMF Exposure Studies on Chondrocytes, pp. 3230-3233Jahns, Matthew
Durdle, Nelson
Lou, Edmond H.
Raso, JamesUniv. of Alberta
Univ. of Alberta
Glenrose Rehabilitation Hospital
Glenrose Rehabilitation Hospital

14:30-14:45

A High-Level Controller for Robot-Assisted Rehabilitation, pp. 3234-3237Erol, Duygun
Sarkar, Nilanjan
Halder, BibhrajitVanderbilt Univ.
Vanderbilt Univ.
Vanderbilt Univ.

14:45-15:00

Evaluating Reliability of Hidden Markov Models That Describe the Lifting Patterns of Chronic Lower Back Pain Patients and Controls, pp. 3238-3241Slaboda, Jill
Boston, J Robert
Rudy, ThomasUniv. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh

15:00-15:15

Using Remote Infrared Audible Cues to Increase Spatial Knowledge Acquisition for Persons Who Are Blind or Visually Impaired in a Multimodal Transportation Environment*

Marston, James

Univ. of California Santa Barbara

15:15-15:30

Towards Development of Biomechatronic Tools for Early Diagnosis of Neurodevelopmental Disorders, pp. 3242-3245Campolo, Domenico
Guglielmelli, Eugenio
Keller, Flavio
Laschi, Cecilia
Dario, PaoloCampus Bio-Medico Univ.
Campus Bio-Medico Univ.
Campus Bio-Medico Univ.
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna**FrC09**

Gramercy-Olmstead

Telemedicine, E-Medicine, and Home-Based Healthcare II (Oral Session)

14:00-14:15

Application of Near Field Communication for Health Monitoring in Daily Life, pp. 3246-3249Strömmer, Esko
Kartinen, Jouni
Pärkkä, Juha
Ylisaukko-oja, Arto
Korhonen, IlkkaVTT
VTT
VTT
VTT
VTT

14:15-14:30

Delivery of Healthcare Services Over Mobile Phones: E-Vital and CHS Paradigms, pp. 3250-3253PRENTZA, ANDRIANA
MAGLAVERA, STAVROULA
Leondaridis, EleferiosInst. of Communication and Computer Systems
POULIADIS ASSOCIATES Corp.
NETSMART S.A.

14:30-14:45

Quality Driven Wireless Video Transmission for Medical Applications, pp. 3254-3257

Martini, Maria G.
Mazzotti, Matteo

CNIT, Univ. of Bologna
CNIT, Univ. of Bologna

14:45-15:00

Towards E-Health Device Interoperability: The Spanish Experience in the Telemedicine Research Network, pp. 3258-3261

De Toledo, Paula
Galarraga, Miguel
Martínez Ruiz, Ignacio
Serrano, Luis
Fernández Navajas, Julián
Del Pozo, Francisco

Univ. Pol. de Madrid
Public Univ. of Navarra
Aragon Inst. for Engineering Res. (I3A), Univ. Zaragoza.
Public Univ. of Navarra
Aragon Inst. for Engineering Res. (I3A), Univ. of Zaragoza.
Univ. Pol. de Madrid

15:00-15:15

Watermarking SDK Implementation to Facilitate Integration in a Secure Healthcare Environment, pp. 3262-3265

Tagaris, Anastassios
Giakoumaki, Aggeliki
Karle, Lars B.
Koutsouris, Dimitrios

National Tech. Univ. of Athens
National Tech. Univ. of Athens
Eumdx Ltd
National Tech. Univ. of Athens

15:15-15:30

Body Sensor Network Based Context Aware QRS Detection, pp. 3266-3269

Li, Huaming
Tan, Jindong

Michigan Tech. Univ.
Michigan Tech. Univ.

FrC10

Astor Ballroom

Medical Watermarking, Denoising, Resampling, Filtering, and Coding (Oral Session)

14:00-14:15

Medical Image Watermarking with Tamper Detection and Recovery, pp. 3270-3273

Zain, Jasni M.
Fauzi, Mohammed

Univ. Coll. of Engineering & Tech. Malaysia
International Islamic Univ. of Malaysia

14:15-14:30

A Novel Blind Watermarking of ECG Signals on Medical Images Using EZW Algorithm, pp. 3274-3277

Nambakhsh, Mohammad Saleh
Ahmadian, Alireza
Ghavami, Mohammad
Dilmaghani, Reza
Karimi-Fard, Saeed

Tehran Univ. of medical sciences
Tehran Univ. of Medical Sciences
king's Coll. London
King's Coll. Univ. of London
Tehran Univ. of Medical Sciences

14:30-14:45

Simulation and Assessment of Bioinspired Visual Processing System for Epi-Retinal Prostheses, pp. 3278-3281

Vurro, Milena
Baselli, Giuseppe
Orabona, Francesco
Sandini, Giulio

Pol. of Milan
Pol. of Milan
Univ. of Genoa
Univ. of Genoa

14:45-15:00

Multiscale Penalized Weighted Least-Squares Sinogram Restoration for Low-Dose X-Ray Computed Tomography, pp. 3282-3285

Wang, Jing
Liang, Jerome
Lu, Hongbing

Stony Brook Univ.
State Univ. of New York at Stony Brook
Fourth Military Medical Univ.

15:00-15:15

Unbalanced 3-D Tree Structure for Region-Based Coding of Volumetric Medical Images, pp. 3286-3289
Cuhadar, Aysegul Carleton Univ.
Wang, Kaibin Carleton Univ.

FrC11

Belasco

Elder Care Technologies I (Oral Session)

14:00-14:15

Technology for Successful Aging, pp. 3290-3293
Tyrer, Harry Univ. of Missouri - Columbia
Alwan, Majd Med. Autom. Res. Ctr(MARC), Univ. of Virginia
Demiris, George Univ. of Missouri-Columbia
He, Zhihai Univ. of Missouri
Keller, James M Univ. of Missouri
Skubic, Marjorie Univ. of Missouri
Rantz, Marilyn Univ. of Missouri - Columbia

14:15-14:30

VALUE: Virtual Assisted Living Umbrella for the Elderly – User Patterns, pp. 3294-3296
Finkelstein, Stanley Univ. of Minnesota
Speedie, Stuart Univ. of Minnesota
Zhou, Xinyu Univ. of Minnesota
Ratner, Edward Univ. of Minnesota
Potthoff, Sandra Univ. of Minnesota

14:30-14:45

Designing for Older Adult Users of Handheld Technology, pp. 3297-3300
Becker, Shirley Ann Florida Inst. of Tech.
Webbe, Frank Florida Inst. of Tech.

14:45-15:00

Trial Deployment of a Clinical Monitoring and Management System for Residential Aged Care Facilities, pp. 3301-3304
Celler, Branko George Univ. of New South Wales
Basilakis, Jim Univ. of New South Wales
Budge, Marc Canberra Hospital
Lovell, Nigel H Univ. of New South Wales

15:00-15:15

A Simple Model of Stability Limits Applied to Sidestepping in Young, Elderly and Elderly Fallers, pp. 3305-3308
Patton, James (Jim) Rehabilitation Inst. of Chicago and Northwestern Univ.
Hilliard, Marjorie Feinberg School of Medicine, Northwestern Univ. IL
Martinez, Kathy Feinberg School of Medicine, Northwestern Univ. IL
Mille, Marie-Laure South Univ. Toulon - Var
Rogers, Mark Northwestern Univ.

15:15-15:30

Generic Implementation of a Distress Sound Extraction System for Elder Care, pp. 3309-3312
Istrate, Dan ESIGETEL
Vacher, Michel CLIPS-IMAG
Serignat, Jean Francois CLIPS-IMAG

FrC12 Palace Wintergarden

Linking Biocomputation with Nanotechnology for Personalized Medicine (Minisymposium)

Organizer: Wang, May Dongmei Georgia Tech. and Emory Univ.

14:00-14:15

Detecting and Quantifying Biomarkers of Risk for Colorectal Cancer Using Quantum Dots and Novel Image Analysis Algorithms (I), pp. 3313-3316

Bostick, Roberd Rollins School of Public Health, Emory Univ.
Kong, Koon-Yin Georgia Inst. of Tech.
Ahearn, Thomas U Emory Univ.
Chaudry, Qaiser Georgia Inst. of Tech.
Cohen, Vaunita Emory Univ.
Wang, May D. Georgia Tech. and Emory Univ.

14:15-14:30

Selecting Clinically-Driven Biomarkers for Cancer Nanotechnology (I), pp. 3317-3320

Phan, John H Georgia Inst. of Tech.
Young, Andrew N Emory Univ.
Wang, May Dongmei Georgia Tech. and Emory Univ.

14:30-14:45

Automatic Microtubule Tracking for QD-Based Cell Imaging and Drug Efficacy Study (I), pp. 3321-3324

Kong, Koon-Yin Georgia Inst. of Tech.
Marcus, Adam I Emory Univ.
Hong, Jin Young Georgia Tech. and Emory Univ.
Giannakakou, Paraskevi Weill Medical Coll. of Cornell Univ.
Wang, May Dongmei Georgia Tech. and Emory Univ.

14:45-15:00

Bio-Nano-Informatics: An Integrated Information Management System for Personalized Oncology (I), pp. 3325-3328

Stokes, Todd Georgia Inst. of Tech.
Phan, John H. Georgia Inst. of Tech.
Quo, Chang Feng Georgia Inst. of Tech.
Nie, Shuming Georgia Tech. and Emory Univ.
Wang, May Dongmei Georgia Tech. and Emory Univ.

FrC13 Brecht

Image Retrieval, Visualization, and Volume Rendering (Oral Session)

14:00-14:15

Synthesizing Panoramic Radiographs by Unwrapping Dental CT Data, pp. 3329-3332

Tohnak, Sirilawan The Univ. of Queensland
Mehnert, Andrew The Univ. of Queensland
Crozier, Stuart The Univ. of Queensland
Mahoney, Michael The Univ. of Queensland

14:15-14:30

Contrast Enhancement for Hypoechoic Lesions, pp. 3333-3336

Laurain, Vincent Advanced Computer Vision GmbH - ACV
Hoenigmann, Dieter C. Advanced Computer Vision GmbH - ACV

14:30-14:45

Content Based Image Retrieval for MR Image Studies of Brain Tumors, pp. 3337-3340

Dube, Shishir UCLA
El-Saden, Suzie UCLA
Cloughesy, Timothy UCLA
Sinha, Usha UCLA

14:45-15:00

A Multi-Modal 2D/3D Registration Scheme for Preterm Brain Images, pp. 3341-3344

Vansteenkiste, Ewout Ghent Univ.

15:00-15:15

Flattening the Abdominal Aortic Tree for Effective Visualization, pp. 3345-3348

Won, Joong Ho
Rubin, Geoffrey D.
Napel, Sandy

Stanford Univ.
Stanford Univ. School of Medicine
Radiological Sciences Lab. - Stanford Univ. School of Medicine

15:15-15:30

Evaluation of 3D Anatomical Surfaces Indexing for Surgery Planning, pp. 3349-3352

Rigollé, Yoann
Puentes, John
Giordani, Michel
Roux, Christian

France Telecom
INSERM - GET ENST Bretagne
France Telecom
ENST Bretagne - INSERM

FrC14

Chelsea-Gotham

Characterization of Electrode-Electrode Interfaces for Neural Stimulation II (Oral Session)

14:00-14:15

Iridium Sputtered at Varying Pressures and Target-Substrate-Distances Evaluated for Use As Stimulation Electrode Material, pp. 3353-3356

Wessling, Boerge
van Ooyen, André
Mokwa, Wilfried
Schnakenberg, Uwe

RWTH Aachen Univ.
RWTH Aachen Univ.
RWTH Aachen Univ.
RWTH Aachen Univ.

14:15-14:30

A MIMO Channel Approach for Characterizing Electrode-Tissue Interface in Long-Term Chronic Microelectrode Array Recordings, pp. 3357-3360

Oweiss, Karim

Michigan State Univ.

14:30-14:45

Optimization of Microelectrode Design for Cortical Recording Based on Thermal Noise Considerations, pp. 3361-3364

Lempka, Scott
Johnson, Matthew
Barnett, David
Moffitt, Mike
Otto, Kevin
Kipke, Daryl
McIntyre, Cameron

Cleveland Clinic Foundation and Case Western Res.
Univ. of Michigan
Saint Louis Univ.
Advanced Bionics Corp.
Purdue Univ.
Univ. of Michigan
Cleveland Clinic Foundation

14:45-15:00

Analysis of Capacitive Coupling within Microelectrode Array, pp. 3365-3368

Hu, Zhe
Troyk, Philip
Detlefsen, David

Illinois Inst. of Tech.
Illinois Inst. of Tech.
Illinois Inst. of Tech.

15:00-15:15

Boosting Linear Logistic Regression for Single Trial ERP Detection in Rapid Serial Visual Presentation Tasks, pp. 3369-3372

Huang, Yonghong
Erdogmus, Deniz
Mathan, Santosh
Pavel, Misha

Oregon Health and Science Univ.
Oregon Health and Science Univ.
Honeywell Lab.
Oregon Health and Science Univ.

FrC15

O'Neill

Adaptive, Parametric and Optimal Filtering I (Oral Session)

14:00-14:15

Correction of Erroneous and Ectopic Beats Using a Point Process Adaptive Algorithm, pp. 3373-3376

Barbieri, Riccardo
Brown, Emery N

MGH-Harvard Medical School-MIT
MGH-Harvard Medical School-MIT

14:15-14:30

Reconstruction of Central Aortic Pressure Waveform Using Adaptive Multi-Channel Identification, pp. 3377-3380

Hahn, Jin-Oh
Reisner, Andrew
Hojman, Horacio
Asada, Harry

MIT
Massachusetts General Hospital
Yale Univ. School of Medicine
MIT

14:30-14:45

Comparative Study of Event-Synchronous Interference Cancelling Methods, pp. 3381-3384

Ungureanu, Mihaela
Staude, Gerhard
Wolf, Werner

Pol. Univ. of Bucharest
Univ. AF Munich
Univ. AF Munich

14:45-15:00

Noise Reduction for Heart Sounds Using a Modified Minimum-Mean Squared Error Estimator with ECG Gating, pp. 3385-3390

Paul, Anindya S
Wan, Eric
Nelson, Alex

Oregon Health and Science Univ.
Oregon Health & Science Univ. OGI School of Science and Engineer
Inovise Medical

15:00-15:15

Multichannel Techniques for Motion Artifacts Removal from Electrocardiographic Signals, pp. 3391-3394

Milanesi, Matteo
Martini, Nicola
Vanello, Nicola
Positano, Vincenzo
Santarelli, Filomena
Paradiso, Rita
De Rossi, Danilo
Landini, Luigi

Univ. of Pisa
Univ. of Pisa
Univ. of Pisa
CNR
CNR
Milior SpA
Univ. of Pisa
Univ. of Pisa

15:15-15:30

An Adaptive Cusum Test Based on a Hidden Semi-Markov Model for Change Detection in Non-Invasive Mean Blood Pressure Trend, pp. 3395-3398

Yang, Ping
Dumont, Guy
Ansermino, J. Mark

Univ. of British Columbia
Univ. of British Columbia
British Columbia's Children's Hospital

FrC16

Musicbox-Majestic

Bio-Robotics III (Oral Session)

14:00-14:15

Towards MRI-Controlled Ferromagnetic and MC-1 Magnetotactic Bacterial Carriers for Targeted Therapies in Arteriolocapillar Networks Stimulated by Tumoral Angiogenesis, pp. 3399-3402

Martel, Sylvain

Ec. Pol. de Montreal

14:15-14:30

A Simple Highly Efficient Non Invasive EMG-Based HMI, pp. 3403-3406

Vitiello, Nicola
Olcese, Umberto
Oddo, Calogero Maria
Carpaneto, Jacopo
Micera, Silvestro
Carrozza, Maria Chiara
Dario, Paolo

Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna - PISA - Italy
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna
Scuola Superiore Sant'Anna

14:30-14:45

Predicting Moment Arms in Diarthroidal Joints – 3D Computer Simulation Capability and Muscle-Tendon Model Validation, pp. 3407-3410

Buford Jr, William
Andersen, Clark

Univ. of Texas Medical Branch
Univ. of Texas Medical Branch

14:45-15:00

The Force Sensing Bio-Microscope: An Efficient Tool for Cells Mechanotransduction Studies., pp. 3411-3414

Giroto, Maxime
Boukallel, Mehdi
Régnier, Stéphane

Univ. Pierre et Marie Curie
Univ. Pierre et Marie Curie-Paris 6, CNRS-FRE 2507
Univ. Pierre et Marie Curie-Paris 6, CNRS-FRE 2507

15:00-15:15

Preliminary Investigation of Bio-Carriers Using Magnetotactic Bacteria, pp. 3415-3418

lu, zhao
Martel, Sylvain

Ec. Pol. de Montreal
Ec. Pol. de Montreal

FrD01

Marquis AB

Non Linear Dynamics in Biological Signals II (Oral Session)

15:45-16:00

Pattern Recognition of Single and Combined Motions from the Shoulder Complex, pp. 3419-3422

Buerkle, Verena Rose
Englehart, Kevin
Hudgins, Bernard

Univ. of New Brunswick
Univ. of New Brunswick
Univ. of New Brunswick

16:00-16:15

Effects of Force and Joint Angle on Fractal Parameters of the Myoelectric Signal, pp. 3423-3426

Talebinejad Mohammadi, Mehran
Chan, Adrian
Miri, Ali
Dansereau, Richard

Univ. of Ottawa
Carleton Univ.
Univ. of Ottawa
Carleton Univ.

16:15-16:30

Estimation of Oxygen Consumption for Moderate Exercises by Using a Hammerstein Model, pp. 3427-3430

Su, Steven Weidong
Wang, Lu
Celler, Branko George
Savkin, Andrey

Univ. of Tech. Sydney
Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales

16:30-16:45

Nonlinear Analysis of Heart Rate Variability Signal for the Characterization of Cardiac Heart

Failure Patients, pp. 3431-3434

Signorini, Maria G.
Ferrario, Manuela
Marchetti, Miriam MS
Marseglia, Alessio

Pol. di Milano
Pol. di Milano
Pol. di Milano
Pol. di Milano

16:45-17:00

Center of Mass Approximation During Walking As a Function of Trunk and Swing Leg Acceleration, pp. 3435-3438

Betker, Aimee L.
Szturm, Tony
Moussavi, Zahra

Univ. of Manitoba
Univ. of Manitoba
Univ. of Texas at El Paso

Biomedical Image Analysis (Oral Session)

15:45-16:00

3D Statistical Shape Models of Patella for Sex Classification, pp. 3439-3445

Mahfouz, Mohamed	Univ. of Tennessee
Badawi, Ahmed	Univ. of Tennessee Knoxville
Merkl, Brandon Cole	Univ. of Tennessee
Abdel Fatah, Emam ElHak	Univ. of Tennessee
Pritchard, Emily	Univ. of Tennessee
Kesler, Katherine	Univ. of Tennessee
Moore, Megan	Univ. of Tennessee
L. Jantz, Richard	Univ. of Tennessee

16:00-16:15

Brain Tissue Mapping and Segmentation by MRI-Based Blind Source Separation Techniques, pp. 3446-3449

Vizel, Eldad	Tech. IIT
Orian, Ehud	Tech. IIT
Carasso, David	Tech. IIT
Zeevi, Yehoshua Y.	Tech. IIT

16:15-16:30

Predicting Neuropsychological Development from Skull Imaging, pp. 3450-3455

Hen-Tzu, J. L.	Univ. of Washington
Ruiz-Correa, S.	Children's National Medical Center
Shapiro, L. G.	Univ. of Washington
Cunningham, M. L.	Children's Hospital Regional Medical Center
Speltz, M. L.	Univ. of Washington
Sze, R. W.	Children's Natinal Medical Center

16:30-16:45

Textural Assessment in Digital Mammograms, pp. 3456-3459

Trujillo-Zamudio, Flavio Ernesto	Inst. Nacional de Medicina Nuclear
Marquez, Jorge	UNAM-CCADET

16:45-17:00

Position Tracking of the Mouth Using Image Processing, pp. 3460-3463

Higa, Hiroki	Univ. of the Ryukyus
Tsuha, Kazutoshi	Univ. of the Ryukyus
Onaga, Ryota	Univ. of the Ryukyus
Nakamura, Ikuo	Univ. of the Ryukyus

Algorithm and Software System for Bioinformatics (Oral Session)

15:45-16:00

Bioinformatics Tools Enabling U-Statistics for Microarrays, pp. 3464-3469

Wittkowski, Knut M.	The Rockefeller Univ.
haider, asifa	The Rockefeller Univ.
Sehayek, Ephraim	The Rockefeller Univ.
Pellegrino, Maurizio	The Rockefeller Univ.
Peshansky, Alexandre	UMDNJ
Coffran, Cameron	The Rockefeller Univ.
Coker, III, Sanford	The Rockefeller Univ.
Suárez-Fariñas, Mayte	The Rockefeller Univ.

16:00-16:15

Combinatorial Model for Sequence and Spatial Motif Discovery in Short Sequence Fragments: Examples of Beta-Barrel Membrane Proteins, pp. 3470-3473

Jackups, Jr, Ronald	U of Illinois at Chicago
Liang, Jie	Univ. of Illinois at Chicago

16:15-16:30
Using Suffix Tree to Discover Complex Repetitive Patterns in DNA Sequences, pp. 3474-3477
 He, Dan Univ. of Vermont

16:30-16:45
New Ensemble Machine Learning Method for Classification and Prediction on Gene Expression Data, pp. 3478-3481
 Wang, Ching Wei Univ. of Lincoln

16:45-17:00
Highly Scalable Genotype Phasing by Entropy Minimization, pp. 3482-3486
 Pasaniuc, Bogdan Univ. of Connecticut
 Mandoiu, Ion Univ. of Connecticut

17:00-17:15
Improved Hierarchical Parameter Optimization Technique - Application for a Cardiac Myocyte Model, pp. 3487-3490
 Yamashita, Yukiko Kyoto Univ.

FrD04	Ziegfeld
New Technologies for Micro Sensors (Oral Session)	

15:45-16:00
Fabrication Techniques for Improving the Performance of PVDF-On-Silicon Ultrasonic Transducer Arrays, pp. 3491-3494
 Kim, Hyun-Joong Purdue Univ.

16:00-16:15
Electroporation-Induced Cell Lysis in SWLA-2 Hybridomas, pp. 3495-3496
 Oakley, Barbara Oakland Univ.
 Gross, Brooks A. Oakland Univ.
 Martens, Sara Oakland Univ.
 Hanna, Darrin Oakland Univ.
 Stryker, Gabrielle Oakland Univ.

16:15-16:30
Integrated CMOS Electronic System-On-Chip for Medical Sensors and Actuators, pp. 3497-3500
 Salem, Fathi Michigan State Univ.

16:30-16:45
Design Optimization Methodology for Dry EEG Spikes Array Electrode, pp. 3501-3504
 Gabran, Salam Univ. of Waterloo
 El-Saadany, Ehab Univ. of Waterloo
 Salama, Magdy Univ. of Waterloo

16:45-17:00
New Technology for High Throughput THz BioMEMS., pp. 3505-3508
 Mille, Vianney IEMN-DHS, UMR CNRS 8520

17:00-17:15
Cell Investigation by Terahertz BioMEMS, pp. 3509-3512
 TREIZEBRE, Anthony Lille Univ. Inst. of Electronic Microelectronic
 Bertrand, Bocquet Lille Univ. Inst. of Electronic Microelectronic

Wearable Sensors and Devices I (Oral Session)

15:45-16:00

The Development of Wireless Sensor Network for ECG Monitoring, pp. 3513-3516

Lin, Jun-Liang	National Chiao Tung Univ. Hsichu, Taiwan
Liu, Hsien Chieh	Taiwan Univ.
Tai, Yu-Ting	National Chiao Tung Univ.
Wu, Hsin Hsien	National Chiao Tung Univ. (Taiwan)
Hsu, Shuo-Jen	National Chiao Tung Univ.
Jaw, Fu-Shan	National Taiwan Univ.
Chen, You-Yin	National Chiao-Tung Univ.

16:00-16:15

Signal Processing and Feature Extraction for Sleep Evaluation in Wearable Devices, pp. 3517-3520

Bianchi, Anna Maria	Pol. di Milano
Villantieri, Omar	Pol. di Milano
Mendez, Martin	Pol. di Milano
Cerutti, Sergio	Pol. Univ. of Milan

16:15-16:30

Adaptive Blood Pressure Estimation from Wearable PPG Sensors Using Peripheral Artery Pulse Wave Velocity Measurements and Multi-Channel Blind Identification of Local Arterial Dynamics, pp. 3521-3524

McCombie, Devin	MIT
Asada, Harry	MIT
Reisner, Andrew	Massachusetts General Hospital

16:30-16:45

Noise Cancellation Model Validation for Reduced Motion Artifact Wearable PPG Sensors Using MEMS Accelerometers, pp. 3525-3528

Wood, Levi Benjamin	MIT
Asada, Harry	MIT

16:45-17:00

Reflectance Forehead Pulse Oximetry: Effects of Contact Pressure During Walking, pp. 3529-3532

Dresher, Russell	Worcester Pol. Inst.
Mendelson, Yitzhak	Worcester Pol. Inst.

17:00-17:15

Testing of a HIFU Probe for the Treatment of Superficial Venous Insufficiency by Using MRI, pp. 3533-3536

Angel, Yves	INSERM U556
Pichardo, Samuel	Sunnybrook and Women's Coll.
Salomir, Rares	INSERM U556
Chapelon, Jean-Yves	INSERM U556
Petrusca, Lorena	INSERM U556

Applications of Neural Networks to Biosignal Analysis I (Oral Session)

15:45-16:00

Neural Network Models for Biosignal Analysis, pp. 3537-3540

Cohen, Maurice	Univ. of California San Francisco
Hudson, Donna L	Univ. of California, San Francisco

16:00-16:15

Near-Infrared Spectroscopic Measurements of Blood Analytes Using Multi-Layer Perceptron Neural Networks, pp. 3541-3544

Kalamatianos, Dimitrios	National Univ. of Ireland
Liatsis, Panos	City Univ. London
Wellstead, Peter E.	National Univ. of Ireland

16:15-16:30

Neural Network Based Glucose – Insulin Metabolism Models for Children with Type 1 Diabetes, pp. 3545-3548

Mougiakakou, Stavroula	National Tech. Univ. of Athens
Prountzou, Aikaterini	National Tech. Univ. of Athens
Iliopoulou, Dimitra	National Tech. Univ. of Athens
Nikita, Konstantina	National Tech. Univ. of Athens
Vazeou, Andriani	Faculty of Nursing, Univ. of Athens
Bartsocas, Christos	Faculty of Nursing, Univ. of Athens

16:30-16:45

Prediction of Wrist Angle from Sonomyography Signals with Artificial Neural Networks Technique, pp. 3549-3552

Shi, Jun	Shanghai Univ.
Zheng, Yongping	The Hong Kong Pol. Univ.
Yan, Zhuangzhi	Shanghai Univ.

16:45-17:00

Using a Generalized Neural Network to Identify Airway Obstructions in Anesthetized Patients Post-Operatively Based on Photoplethysmography*

Knorr, Bethany	Dartmouth Coll.
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17:00-17:15

A Radial Basis Function Classifier for Pediatric Aspiration Detection, pp. 3553-3556

Lee, Joon	Univ. of Toronto and Bloorview Kids Rehab
Blain, Stefanie	Univ. of Toronto and Bloorview Kids Rehab
Casas, Mike	The Hospital for Sick Children
Kenny, Dave	The Hospital for Sick Children
Berall, Glenn	North York General Hospital and Bloorview Kids Rehab
Chau, Tom	Univ. of Toronto and Bloorview Kids Rehab

FrD07	Cantor-Jolson
Cardiorespiratory Variability I (Oral Session)	

15:45-16:00

Circadian Rhythms of Spectral Components of Heart Rate Variability, pp. 3557-3560

Wu, Guoqiang	Dept.of Mechanics and Engineering Science, Fudan Univ.
Shen, Lin-Lin	Shanghai Medical Coll. Fudan Univ.
Tang, Da-Kan	School of Information Science and Engineering, Fudan Univ.
Zheng, Da-An	School of Information Science and Engineering, Fudan Univ.
Poon, Chi-Sang	Massachusetts Inst. of Tech.

16:00-16:15

Classification of Cheyne Stokes Breathing and Obstructive Sleep Apnea Using ECG, pp. 3561-3564

Sanjee, Suhas Ramesh	Univ. of Texas at Arlington
Vijendra, Sridhar	Univ. of Texas at Arlington
Burk, John R.	Sleep Consultants Inc.
Lucas, Edgar A	Sleep Consultants Inc.
Behbehani, Khosrow	Univ. of Texas at Arlington

16:15-16:30

Heart Rate Variability in Pediatric Obstructive Sleep Apnea, pp. 3565-3568

Deng, Zhi-De	Massachusetts Inst. of Tech.
Poon, Chi-Sang	Massachusetts Inst. of Tech.
Arzeno, Natalia	Massachusetts Inst. of Tech.
Katz, Eliot	Massachusetts General Hospital

16:30-16:45

Time-Varying Closed-Loop Modeling of Autonomic Control in Pediatric Obstructive Sleep Apnea Syndrome During Cold Face Stimulation, pp. 3569-3571

Chaicharn, Jarree	Univ. of Southern California
Lin, Zheng	Univ. of Southern California
Chen, Maida	Childrens Hospital Los Angeles, Univ. of Southern California
Keens, Thomas	Childrens Hospital Los Angeles, Univ. of Southern California
Davidson Ward, Sally	Univ. of Southern California
Khoo, Michael	Univ. of Southern California

16:45-17:00

Comparison of Baroreflex Sensitivity Measures for Assessing Subjects with Obstructive Sleep Apnea, pp. 3572-3575

Ward, Seamus	Univ. Coll. Dublin
Ryan, Silke	St Vincent's Univ. Hospital
Mc Nicholas, Walter	St. Vincent's Univ. Hospital
Heneghan, Conor	Univ. Coll. Dublin

17:00-17:15

Time-Varying Analysis of the Heart Rate Variability During REM and Non REM Sleep Stages, pp. 3576-3579

Mendez, Martin	Pol. di Milano
Bianchi, Anna Maria	Pol. di Milano
Villantieri, Omar	Pol. di Milano
Cerutti, Sergio	Pol. Univ. of Milan

FrD08

Juilliard

Neural Stimulation and Prostheses 2 (Oral Session)

15:45-16:00

Bio-Heat Transfer Model of Deep Brain Stimulation Induced Temperature Changes, pp. 3580-3583

elwassif, maged	The City Coll. of New York
Kong, Qingjun	City Coll. of New York
Vazquez, marbel	The City Coll. of New York
Bikson, Marom	The City Coll. of New York

16:00-16:15

Spiral Nerve Cuff Electrodes for an Upper Extremity Neuroprosthesis, pp. 3584-3587

Polasek, Katharine	Case Western Res. Univ.
Hoyen, Harry	MetroHealth Medical Center
Keith, Michael	MetroHealth Medical Center
Kirsch, Robert	Case Western Res. Univ.
Tyler, Dustin	Case Western Res. Univ.

16:15-16:30

The Role of Flexible Polymer Interconnects in Chronic Tissue Response Induced by Intracortical Microelectrodes – a Modeling and an in Vivo Study, pp. 3588-3591

Subbaroyan, Jeyakumar	Univ. of Michigan, Ann Arbor
Kipke, Daryl	Univ. of Michigan

16:30-16:45

Preliminary Evaluation of a Neural Prosthesis for Standing after Spinal Cord Injury with Four Contact Nerve-Cuff Electrodes for Quadriceps Stimulation, pp. 3592-3595

Fisher, Lee	Case Western Res. Univ.
Miller, Michael	Cleveland FES Center
Nogan, Stephanie	Cleveland FES Center
Davis, John	MetroHealth Medical Center
Anderson, James	MetroHealth Medical Center
Murray, Lori	Cleveland FES Center
Tyler, Dustin	Case Western Res. Univ.
Triolo, Ronald J.	Cleveland FES Center

16:45-17:00

Customized Selection of Frequency Maps in an Acoustic Simulation of a Cochlear Implant, pp. 3596-3599
Fitzgerald, Matthew
Morbiwala, Tasnim
Svirsky, Mario
New York Univ. School of Medicine
Advanced Bionics Corp.
NYU School of Medicine

FrD09 Gramercy-Olmstead
Emerging Technologies for Healthcare Delivery I (Oral Session)

15:45-16:00

An Adapted Gaussian Mixture Model Approach to Accelerometry-Based Movement Classification Using Time-Domain Features, pp. 3600-3603
Allen, Felicity Ruth
Ambikairajah, Eliathamby
Lovell, Nigel H
Celler, Branko George
Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales

16:00-16:15

Automated Healthcare Data Mining Based on a Personal Dynamic Healthcare System, pp. 3604-3607
Takeuchi, Hiroshi
Kodama, Naoki
Hashiguchi, Takeshi
Hayashi, Doubun
Takasaki Univ. of Health and Welfare
Takasaki Univ. of Health and Welfare
Univ. of Tokyo
Univ. of Tokyo

16:15-16:30

Development of a Remote Handheld Cardiac Arrhythmia Monitor, pp. 3608-3611
Singh, Swaroop
Hsiao, Henry
Univ. of North Carolina at Chapel Hill
Univ. of North Carolina at Chapel Hill

16:30-16:45

Ambient Multi-Perceptive System with Electronic Emails for a Residential Health Monitoring System, pp. 3612-3615
Noury, Norbert
Villemazet, Christophe
Fleury, Anthony
Barralon, Pierre
Rumeau, Pierre
Baghai, Ramine
TIMC-IMAG
TIMC-IMAG
TIMC-IMAG
TIMC-IMAG
CHU Toulouse
RBI inc

16:45-17:00

Preliminary Design of Remotely Used and Monitored Medication Dispenser, pp. 3616-3619
Patil, Sushil
Gale, Timothy John
Univ. of Tasmania
Univ. of Tasmania

17:00-17:15

The Role of the University Hospital in the Development of Biomedical Engineering Education in Taiwan—the Experience of an Endoscopist in the Last 35 Years(1971-2006)*
WANG, Cheng-Yi
Chien, Chia-Hung
Huang, Yi-You
Lin, Feng-Huei
Coll. of Medicine,National Taiwan Univ. Hospital
National Taiwan Univ.
National Taiwan Univ.
National Taiwan Univ.

FrD10 Astor Ballroom
Image Segmentation and Analysis (Oral Session)

15:45-16:00

Segmentation of Brain MR Images Using Genetically Guided Clustering, pp. 3620-3623
mohan, sasikala
Natesan, Kumaravel
Sampath kumar, Ravikumar
Madras Inst. of Tech. AnnaUniversity,Chennai,India
Anna Univ.
Madras Inst. of Tech. Anna Univ.

16:00-16:15

Vision-Based Segmentation of Continuous Mechanomyographic Grasping Sequences for Training Multifunction Prostheses, pp. 3624-3627

Alves, Natasha
Chau, Tom

Univ. of Toronto
Univ. of Toronto

16:15-16:30

Thalamus Segmentation from Diffusion Tensor Magnetic Resonance Imaging, pp. 3628-3631

Duan, Ye
Xi, Yongjian
Hao, Dayang
Heckenberg, Greg

Univ. of Missouri at Columbia
Univ. of Missouri at Columbia
Univ. of Missouri at Columbia
Univ. of Missouri at Columbia

16:30-16:45

Navigation System for Computer Assisted Tumor Ablation Using Radio Frequency, pp. 3632-3635

Alcerreca Alcocer, Claudio
Hazan Lasri, Eric
Arámbula Cosío, Fernando

National Autonomous Univ. of Mexico (UNAM)
National Inst. of Rehabilitation
National Autonomous Univ. of México (UNAM)

16:45-17:00

Non-Invasive Diagnosing Malignant Melanoma by Multi-Spectral Optical Nevoscope, pp. 3636-3639

Wang, Song
Dhawan, Atam

New Jersey Inst. of Tech.
New Jersey Inst. of Tech.

FrD11

Belasco

Biomechanics III (Oral Session)

15:45-16:00

Workloop Energetics of Antagonist Muscles, pp. 3640-3643

Farahat, Waleed
Herr, Hugh

MIT
MIT

16:00-16:15

A System for Measurement and Calibration of Nonorthogonal Joints and Limbs in Humans, pp. 3644-3647

Storey, Christopher M.
Hollister, Anne M.
Robinson, Charles
Witriol, Norman
Anderson, Dale O.
London, John C.
Buford, William L

Louisiana Tech. Univ.
Louisiana State Univ. Health Sciences Center
Clarkson Univ.
Louisiana Tech. Univ.
Louisiana Tech. Univ.
Tulane Univ.
The Univ. of Texas Medical Branch

16:15-16:30

The Role of Mechanical Stimulation in Engineering of Extracellular Matrix (ECM), pp. 3648-3651

Sebastine, Immanuel Maria
Williams, David

Loughborough Univ.
Loughborough Univ.

16:30-16:45

In-Vivo Measurement of Surgical Needle Intervention Parameters: A Pilot Study, pp. 3652-3655

Podder, Tarun
Sherman, Jason
Fuller, Dave
Messing, Edward
Rubens, Deborah
Strang, John
Brasacchio, Ralph
Yu, Yan

Univ. of Rochester Medical Center
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester
Univ. of Rochester Medical Center

16:45-17:00

Towards Tissue Engineering of Meniscus Substitutes: Selection Cell Source and Culture Environment, pp. 3656-3658

Marsano, Anna
Vunjak-Novakovic, Gordana
Martin, Ivan

Columbia Univ.
Columbia Univ.
Univ. Hospital Basel

17:00-17:15

Chondrocyte Nuclear Response to Osmotic Loading, pp. 3659-3661

Oswald, Elizabeth
Chao, Pen-hsiu Grace
Bulinski, Chloe
Ateshian, Gerard
Hung, Clark

Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.
Columbia Univ.

FrD12

Palace Wintergarten

Electrophysiological Neuroimaging (Oral Session)

15:45-16:00

Cortical Potential Imaging of Movement-Related Potentials Using Parametric Wiener Filter in Realistic-Shaped Head Model, pp. 3662-3665

Hori, Junichi
He, Bin

Niigata Univ.
Univ. of Minnesota

16:00-16:15

Hypermethylation for EEG Hyperscanning, pp. 3666-3669

Babiloni, Fabio
Astolfi, Laura
Cincotti, Febo
Mattia, Donatella
Mattiocco, Marco
Marciani, Maria Grazia
De Vico Fallani, Fabrizio

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Univ. of Rome
Fondazione Santa Lucia IRCCS
Fondazione Santa Lucia IRCCS
Fondazione Santa Lucia IRCCS
Tor Vergata Univ.
Univ. La Sapienza

16:15-16:30

Spatio-Temporal Source Localization and Granger Causality in Ictal Source Analysis, pp. 3670-3671

Ding, Lei
Worrell, Gregory A.
Lagerlund, Terrence D.
He, Bin

Univ. of Minnesota
Mayo Clinic
Mayo Clinic
Univ. of Minnesota

16:30-16:45

A Feature-Based Approach to Combine Functional MRI, Structural MRI and EEG Brain Imaging Data, pp. 3672-3675

Calhoun, Vince
Adali, Tulay
Liu, Jingyu

Olin Neuropsychiatry Res. Center, Yale Univ.
Univ. of Maryland Baltimore County
Olin Neuropsychiatry Res. Center, Inst. of Living

16:45-17:00

Neural Basis for the Brain Responses to the Marketing Messages: An High Resolution EEG Study, pp. 3676-3679

Babiloni, Fabio
De Vico Fallani, Fabrizio
Astolfi, Laura
Cincotti, Febo
Mattia, Donatella
Mattiocco, Marco
Marciani, Maria Grazia
Bufalari, Simona

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Univ. of Rome
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Fondazione Santa Lucia IRCCS
Fondazione Santa Lucia IRCCS
Tor Vergata Univ.
Fondazione Santa Lucia IRCCS

17:00-17:15

A Generalized Spatiotemporal Covariance Model for Stationary Background in Analysis of MEG Data, pp. 3680-3683

Plis, Sergey	Los Alamos National Lab.
Jun, Sung Chan	Los Alamos National Lab.
Schmidt, David	Los Alamos National Lab.
Ranken, Doug	Los Alamos National Lab.

FrD14	Chelsea-Gotham
Neuromuscular Control: Central Mechanisms (Oral Session)	

15:45-16:00

Towards a Method to Study Neurorobotic Control in a Rat Model of Spinal Cord Injury*

Flint, Robert	Drexel Univ.
Moxon, Karen	Drexel Univ.

16:00-16:15

Robot Application of Elastic Fields to the Pelvis of the Spinal Transected Rat: A Tool for Detailed Assessment and Rehabilitation., pp. 3684-3687

Udoekwere, Ubong Ime	Drexel Univ.
Ramakrishnan, Arun	Drexel Univ.
Mbi, Lollise	Drexel Univ. Coll. of Medicine
Giszter, Simon	Drexel Univ. Coll. Medicine

16:15-16:30

Mechanical Abnormalities of the Spastic Ankle in Chronic Stroke Subjects, pp. 3688-3691

Thajchayapong, M	RIC/NU
Alibiglou, Laila	RIC/UIC
Lilaonitkul, Thanan	RIC/NU
Mirbagheri, Mehdi	Northwestern Univ.

16:30-16:45

Fmri Analysis of Neural Mechanisms Underlying Rehabilitation in Virtual Reality: Activating Secondary Motor Areas, pp. 3692-3695

August, Katherine	NJIT
Lewis, Jeffrey	UMDNJ
Chandar, Gayathri	NJIT
Merians, Alma	UMDNJ
Biswal, Bharat	UMDNJ
Adamovich, Sergei	NJIT

16:45-17:00

Vestibular-Evoked Reflexive Head Movements and Their Dependence on the Body's Orientation in Space, pp. 3696-3699

Gdowski, Greg	Univ. of Rochester
Duarte, Sally P.	Univ. of Rochester
Green, Abbey	Univ. of Rochester

FrD15	O'Neill
Linear and Nonlinear Adaptive Filters (Oral Session)	

15:45-16:00

A Software Module for the Adaptive Estimation of Steady State Auditory Evoked Potentials, pp. 3700-3703

Middleton, Seth	Clarkson Univ.
Goli, Asghar	Clarkson Univ.
Ziarani, Alireza	Clarkson Univ.

16:00-16:15

Statistical Signal Processing for an Implantable Ethanol Biosensor, pp. 3704-3707

Han, Jae-Joon	Purdue Univ.
Doerschuk, Peter C.	Purdue Univ.
Gelfand, Saul	Purdue Univ.
O'Connor, Sean	Indiana Univ. School of Medicine and Purdue Univ.

16:15-16:30

Cardiovascular Signal Decomposition and Estimation with the Extended Kalman Smoother, pp. 3708-3711

McNames, James	Portland State Univ.
Aboy, Mateo	Oregon Inst. of Tech.

16:30-16:45

A Bootstrap Term Selection Method for the Identification of Time-Varying Nonlinear Systems, pp. 3712-3715

Ikharia, Bashiru I.	Univ. of Calgary
Westwick, David T.	Univ. of Calgary

16:45-17:00

Automated Tracking of Multiple C. Elegans, pp. 3716-3719

Fontaine, Ebraheem	California Inst. of Tech.
Burdick, Joel W.	California Inst. of Tech.
Barr, Alan	California Inst. of Tech.

17:00-17:15

A Spectrum of Colors: Investigating the Temporal Frequency Characteristics of the Human Visual System Using a System Identification Approach, pp. 3720-3723

Lalor, Edmund	Univ. Coll. Dublin
Reilly, Richard	Univ. Coll. Dublin
Pearlmutter, Barak	National Univ. of Ireland, Maynooth
Foxe, John	City Coll. of the City Univ. of New York

FrEP1

Westside Ballroom South

Biomedical Signal Processing II (Poster Session)

16:30-18:30

Automatic Detection of QRS Complexes in ECG Signals Collected from Patients after Cardiac Surgery, pp. 3724-3727

Visinescu, Mirela	The Cleveland Clinic
Bashour, Allen	Cleveland Clinic
Bakri, Mohamed	Cleveland Clinic
Nair, Bala	Cleveland Clinic

16:30-18:30

Evaluation of Fetal Heart Rate Baseline Estimation Method Using Testing Signals Based on a Statistical Model, pp. 3728-3731

Kupka, Tomasz	Inst. of Medical Tech. and Equipment
Wrobel, Janusz	Inst. of Medical Tech. and Equipment
Jezewski, Janusz	Inst. of Medical Tech. and Equipment
Gacek, Adam	Inst. of Medical Tech. and Equipment
Jezewski, Michal	The Silesian Univ. of Tech.

16:30-18:30

Unsupervised and Uncued Segmentation of the Fundamental Heart Sounds in Phonocardiograms Using a Time-Scale Representation, pp. 3732-3735

Rajan, Sreeraman	DRDC - Ottawa
Budd, Erin	Univ. of New Brunswick
Stevenson, Maryhelen	Univ. of New Brunswick
Doraiswami, Rajamani	Univ. of New Brunswick

16:30-18:30

Autoregressive Spectral Analysis in Brain Computer Interface Context, pp. 3736-3739

Bufalari, Simona
Mattia, Donatella
Babiloni, Fabio
Mattiocco, Marco
Marciani, Maria Grazia
Cincotti, Febo

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Fondazione Santa Lucia IRCCS
Univ. of Rome
Fondazione Santa Lucia IRCCS
Tor Vergata Univ.
Fondazione Santa Lucia IRCCS

16:30-18:30

Frequency Domain Analysis of Sleep EEG for Visualization and Automated State Detection, pp. 3740-3743

Vivaldi, Ennio A.
Bassi, Alejandro

Facultad de Medicina, Univ. de Chile
FCFM, Univ. de Chile

16:30-18:30

Time Series Trend of the Water Content on the Different Human Anatomical Sites Using Single Frequency-Susceptance Measuring Method, pp. 3744-3746

JANG, WOO YOUNG
Park, Jeong Je
Jeong, Hye Jin
Kim, Hong Sig
Park, Jae Chan

Samsung Advanced Inst. of Tech.
Samsung Advanced Inst. of Tech.
Samsung Advanced Inst. of Tech.
Samsung Advanced Insititute of Tech.
Samsung Advanced Inst. of Tech.

16:30-18:30

Patient Un-Specific Detection of Epileptic Seizures through Changes in Variance, pp. 3747-3750

Varsavsky, Andrea
Mareels, Iven

Melbourne Univ.
Melbourne Univ.

16:30-18:30

Short-Term Effects of GSM Mobiles Phones on Spectral Components of the Human Electroencephalogram, pp. 3751-3754

MABY, Emmanuel
Le Bouquin Jeannes, Regine
Faucon, Gerard

INSERM, U280, Lyon
INSERM U642 - Univ. de Rennes 1
INSERM U642 - Univ. de Rennes 1

16:30-18:30

Using Windowed Relative Deviation to Detect Possible Voice Pathology, pp. 3755-3758

Lafren, John Brandon
Lazarus, Cathy L.
Amin, Milan R.

New York Univ.
New York Univ.
New York Univ.

16:30-18:30

Assessment of Dysarthric Speech and an Analysis on Velopharyngeal Incompetence, pp. 3759-3762

P, Vijayalakshmi
M, Ramasubba Reddy

Indian Inst. of Tech. Madras
Indian Inst. of Tech. Madras

16:30-18:30

Speech Processing for Cochlear Implants with the Discrete Wavelet Transform: Feasibility Study and Performance Evaluation, pp. 3763-3766

Paglialonga, Alessia
Tognola, Gabriella
Baselli, Giuseppe
Parazzini, Marta
Ravazzani, Paolo
Grandori, Ferdinando

Inst. of Biomedical Engineering CNR
Istituto di Ingegneria Biomedica CNR
Pol. di Milano
CNR
CNR
Consiglio Nazionale delle Ricerche

16:30-18:30

A 'Nyquist' Plot Approach for Functional Analysis of Human Voice Production*

Yan, Yuling

Stanford Univ. School of Medicine

Image Reconstruction I (Poster Session)

16:30-18:30

An Efficient MR Image Reconstruction Method for Arbitrary K-Space Trajectories without Density Compensation, pp. 3767-3770Song, Jiayu
Liu, Qing HuoDuke Univ.
Duke Univ.

16:30-18:30

Morphological Exponential Entropy Driven-HUM, pp. 3771-3774gambino, orazio
ardizzone, edoardo
pirrone, robertoUniv. degli Studi di Palermo
Univ. degli Studi di Palermo
Univ. degli Studi di Palermo

16:30-18:30

Magnetic Field Mapping by Selective Equipotential Excitation, pp. 3775-3778Felfoul, Ouajdi
Michelle, Raimbert
Martel, SylvainÉcole Pol. de Montréal
Univ. de Montreal
École Pol. de Montréal

16:30-18:30

Joint Optimization of Spatial Registration and Histogram Compensation for Microscopic Images, pp. 3779-3782Kim, Dong Sik
Lee, Kiryung
Lee, Kyung Eun
Han, Sung SikHankuk Univ. of Foreign Studies
LG Electronics Inst. of Tech.
Korea Univ.
Korea Univ.

16:30-18:30

A New Scheme and Reconstruction Algorithm for Dual Source Circular CT, pp. 3783-3786Yan, Ming
Zhang, Cishen
Liang, HongzhuNanyang Tech. Univ.
Nanyang Tech. Univ.
Nanyang Tech. Univ.

16:30-18:30

Direct Fourier Method in 3D PET Using Accurately Determined Frequency Sample Distribution, pp. 3787-3790Li, Yingbo
Kummert, Anton
Herzog, HansUniv. of Wuppertal
Univ. of Wuppertal
Res. Center Juelich**Image-Guided Surgery and Treatment III (Poster Session)**

16:30-18:30

Modified Grey-Level Models for Active Shape Model Training, pp. 3791-3794Luo, Shuqian
Dong, ShuoCapital Univ. of Medical Sciences
Capital Univ. of Medical Sciences

16:30-18:30

Ultrasound Image Registration for Patient Setup in Conformal Radiotherapy of Prostate Cancer, pp. 3795-3798Betrouni, Nacim
Pasquier, David
DEWALLE, ANNE-SOPHIE
Jounwaz, Reza
DUBOIS, Patrick
Lartigau, Eric
Lopes, RenaudInst. de Tech. Médicale
Centre O. Lambret, Univ. Lille 2
Univ. des Sciences et Tech. de Lille
Inserm, Univ. of Lille 2, Lille Univ. Hospital
Inserm
CRLCC Centre Oscar Lambret
LMPA, ULCO, Calais, France.

16:30-18:30

Effect of Ultrasound Probe on Dose Delivery During Real-Time Ultrasound-Guided Tumor Tracking, pp. 3799-3802

Wu, Jianzhou	Univ. of Maryland School of Medicine
Dandekar, Omkar	Univ. of Maryland
Nazareth, Daryl	Univ. of Maryland School of Medicine
Lei, Peng	Univ. of Maryland School of Medicine
D'Souza, Warren	Univ. of Maryland School of Medicine
Shekhar, Raj	Univ. of Maryland

16:30-18:30

Intra-Observer Variation in Gross Tumor Volume Delineation in 18FDG-PET Guided IMRT Treatment Planning for Lung Cancer, pp. 3803-3806

Song, Yulin	Memorial Sloan-Kettering Cancer Center
Chan, Maria	Memorial Sloan-Kettering Cancer Center
Burman, Chandra	Memorial Sloan-Kettering Cancer Center
Cann, Donald	Memorial Sloan-Kettering Cancer Center

16:30-18:30

Heating Efficiency Improvement by Using a Spherically-Concaved Sectored Array in Focused Ultrasound Thermal Therapy, pp. 3807-3810

Liu, Hao-Li	Chang Gung Univ.
Chen, Heng-Wun	Chang-Gung Univ.
Ju, Kuen-Cheng	Univ. of Washington
Shih, Tzu-Ching	China Medical Univ.
Chen, Wen-Shiang	National Taiwan Univ. Hospital

16:30-18:30

Semi-Automated Intra-Operative Fluoroscopy Guidance for Osteotomy and External-Fixator, pp. 3811-3814

Lin, Hong	TSRHC
Birch, John	Texas Scottish Right Hospital for Children

16:30-18:30

Antomically Based Computational Models of the Male and Female Pelvic Floor and Anal Canal, pp. 3815-3818

Noakes, Kim	Bioengineering Inst. The Univ. of Auckland
Bissett, Ian	The Univ. of Auckland
Pullan, Andrew	The Univ. of Auckland
Cheng, Leo	The Univ. of Auckland

16:30-18:30

Quantification of Progression and Regression of Carotid Artery Atherosclerosis Using 3D Ultrasound Images, pp. 3819-3822

Chiu, Bernard	Robarts Res. Inst.
Egger, Micaela	Robarts Res. Inst.
Spence, J. David	Robarts Res. Inst.
Parraga, Grace	Robarts Res. Inst.
Fenster, Aaron	Robarts Res. Inst.

16:30-18:30

A Clinical Procedure for Case-Specific Analytical Validation of Mono-Modality Image Fusion in Image Guided Radiotherapy, pp. 3823-3826

Hanley, Joseph	Hackensack Univ. Medical Center
Barbiere, Joseph	Hackensack Univ. Medical Center
Song, Yulin	Memorial Sloan-Kettering Cancer Center

16:30-18:30

Normal Vector Information Registration and Comparisons with Mutual Information, pp. 3827-3830

Zhuang, Xiahai	Shanghai Jiao Tong Univ.
Gu, Lixu	Shanghai Jiaotong Univ.

16:30-18:30

Evaluation of the Influence of Probe Pressure on the B-Mode Ultrasound Measurement of Arterial Diameter, pp. 3831-3835

TRIBOULET, Jean	LIRMM, UMR CNRS 5506, Univ. of Montpellier II
NASR, Elias	LIRMM, UMR CNRS 5506, Univ. of Montpellier II
DOMBRE, Etienne	LIRMM, UMR CNRS 5506, Univ. of Montpellier II
POIGNET, Philippe	LIRMM, UMR CNRS 5506, Univ. of Montpellier II
DAUZAT, Michel	Lab. of Cardio-Vascular Physiologic, EA 2992, Faculty of Medecine

16:30-18:30

A Visual Validation Method Based on Point Mappings for Medical Image Segmentation, pp. 3836-3839

Qian, Feng	Shanghai Jiaotong Univ.
Gu, Lixu	Shanghai Jiaotong Univ.
Zhang, Shaoting	Shanghai Jiao Tong Univ.

16:30-18:30

Statistical Evaluation of the Cleft Lip Nose Deformity Image, pp. 3840-3842

Kim, Deok Won	Yonsei Univ. Coll. of Medicine
Kim, Jin Tae	Yonsei Univ.
Park, JoongHoon	Yonsei Univ.
Hong, Hyun Ki	Yonsei Univ.
Nam, Ki Chang	SIEMENS

16:30-18:30

Spinal 3D Alignment Measurement in Standing Position*

Nakajima, Yoshikazu	The Univ. of Tokyo
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16:30-18:30

Ultrasound-Guided Noninvasive Measurement of a Patient's Central Venous Pressure, pp. 3843-3849

Aggarwal, Vikram	Johns Hopkins Univ.
Chatterjee, Aniruddha	Johns Hopkins Univ.
Cho, Yoonju	Johns Hopkins Univ.
Cheung, Dickson	Bayview Medical Center, Johns Hopkins Univ.

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Westside Ballroom South

Surgical and Bio-Robotics (Poster Session)

16:30-18:30

Master Slave Robotic System for Therapeutic Gastrointestinal Endoscopic Procedures, pp. 3850-3853

Low, Soon Chiang	Nanyang Tech. Univ.
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16:30-18:30

Tool/tissue Interaction Feedback Modalities in Robot-Assisted Lump Localization, pp. 3854-3857

Tavakoli, Mahdi	CSTAR, London Health Sciences Centre
Aziminejad, Arash	CSTAR, London Health Sciences Centre
Patel, Rajni	CSTAR, London Health Sciences Centre
Moallem, Mehrdad	CSTAR, London Health Sciences Centre

16:30-18:30

Deflection of a Flexible Needle During Insertion into Soft Tissue, pp. 3858-3861

Abolhassani, Niki	Univ. of Western Ontario, Canadian Surgical Tech. & Advan
Patel, Rajni	Univ. of Western Ontario, Canadian Surgical Tech. & Advan

16:30-18:30

Acousto-Optic Compensation of Tremor for Use in a Handheld Laser

Microsurgical Instrument, pp. 3862-3864

Cernat, Ramona	National Inst. for Laser, Plasma, and Radiation Physics
Matei, Consuela	National Inst. for Laser, Plasma, and Radiation Physics
Olteanu, Luiza	National Inst. for Laser, Plasma, and Radiation Physics
Riviere, Cameron	Carnegie Mellon Univ.
Dumitra_, Dan	National Inst. for Laser, Plasma, and Radiation Physics

Sleep Disorders (Poster Session)

16:30-18:30

Communication Platform for Biosensor-Based Sleep Management Applications, pp. 3865-3868

Cabrera-Umpierrez, Maria Fernanda	Univ. Pol. de Madrid
Fico, Giuseppe	Tech. Univ. of Madrid
ARREDONDO, MARIA TERESA	Tech. Univ. of Madrid
Blasco, Jose Manuel	ITACA Inst.
Monton, Eduardo	ITACA Inst. - Pol. Univ. of Valencia
GUILLEN, SERGIO	Inst. Itaca
Hernandez, Jose F	Itaca Inst.
Vasao, Teresa	INESC INOVAÇÃO
Valadas, Jorge	INESC INOVAÇÃO

16:30-18:30

SENSATION Remote Monitoring System for Enabling the “anytime, Anywhere” Monitoring of Patients with Selected Sleep Disorders, pp. 3869-3872

MAGLAVERA, STAVROULA	POULIADIS ASSOCIATES Corp.
MAGLAVERAS, NIKOLAOS	Aristotle Univ. of Thessaloniki
Lekka, Irini	Medical School, Aristotle Univ. of Thessaloniki
Bekiaris, Evangelos	Centre for Res. & Tech. Hellas
Penzel, Thomas	Hospital of Philipps-Univ.
Canisius, Sebastian	Philipps-Univ. Marburg - Faculty Human Medicine
JAcob, Nathalie	FORENAP FRP
Leondaridis, Elefterios	NETSMART S.A.

16:30-18:30

Nonlinear Dynamics Analysis of Heart Rate Variability Signals to Detect Sleep Disordered Breathing in Children, pp. 3873-3878

Nazeran, Homayoun	The Univ. of Texas
Krishnam, Rohit	Univ. of Texas at El Paso
Chatlapalli, Surya Mala	Univ. of Texas at El Paso
Pamula, Yvonne	Adelaide Women's and Children's Hospital
Haltiwanger, Emily	Coll. of Health Sciences
Cabrera, Sergio	Univ. of Texas at El Paso

16:30-18:30

Detection of Apnoeic and Breathing Activity through Pole-Zero Analysis of the SpO2 Signal, pp. 3879-3882

Lazareck, Lisa Joanna	Univ. of Oxford
Tarassenko, Lionel	Univ. of Oxford

16:30-18:30

Automatic Sleep Spindle Detection in Patients with Sleep Disorders, pp. 3883-3886

Devuyst, Stéphanie	Faculté Pol. de Mons
Dutoit, Thierry	Faculté Pol. de Mons
Didier, Jean-François	Faculté Pol. de Mons
Meers, François	Multitel ASBL
Stanus, Etienne	Tivoli Hospital
Stenuit, Patricia	CHU Vésale
Kerkhofs, Myriam	CHU Vésale

16:30-18:30

A New Method to Detect Obstructive Sleep Apnea Using Fuzzy Classification of Time-Frequency Plots of the Heart Rate Variability*

Al-Abed, Mohammad	Univ. of Texas -- Arlington
Behbehani, Khosrow	Univ. of Texas at Arlington
Burk, John R.	Sleep Consultants Inc.
Lucas, Edgar A	Sleep Consultants Inc.
Manry, Michael	The Univ. of Texas at Arlington

16:30-18:30

Study of the Relationship between Pulse Photoplethysmography Amplitude Decrease Events and Sleep Apneas in Children, pp. 3887-3890

Gil, Eduardo
Vergara, Jose Maria
Laguna, Pablo

Zaragoza Univ.
Miguel Servet Children Hospital
Zaragoza Univ.

FrEP6

Westside Ballroom South

Cardiac Electrophysiological Modeling and Instrumentation (Poster Session)

16:30-18:30

Temporal Resolution of Stimulation Threshold: A Tool for Electrophysiologic Analysis, pp. 3891-3894

Whittington, R. Hollis
Chen, Michael Q.
Giovangrandi, Laurent
Kovacs, Gregory T.A.

Stanford Univ.
Stanford Univ.
Stanford Univ.
Stanford Univ.

16:30-18:30

A Comparison of Monodomain and Bidomain Propagation Models for the Human Heart, pp. 3895-3898

Potse, Mark
Dubé, Bruno
Vinet, Alain
Cardinal, René

Univ. de Montréal
Univ. de Montréal
Univ. de Montréal
Univ. de Montréal

16:30-18:30

ST Elevation or Depression in Subendocardial Ischemia?, pp. 3899-3902

Potse, Mark
LeBlanc, A.-Robert
Cardinal, René
Vinet, Alain

Univ. de Montréal
Univ. de Montréal
Univ. de Montréal
Univ. de Montréal

16:30-18:30

A Comparison of Different Choices for the Regularization Parameter in Inverse Electrocardiography Models, pp. 3903-3906

Shou, guofa
Jiang, Mingfeng
Xia, Ling
Wei, Qing
Liu, Feng
Crozier, Stuart

Zhejiang Univ.
Zhejiang Univ.
Zhejiang Univ.
University of Queensland
The Univ. of Queensland
The Univ. of Queensland

16:30-18:30

The Use of Genetic Algorithms for Solving the Inverse Problem of Electrocardiography, pp. 3907-3910

Jiang, Mingfeng
Xia, Ling
Shou, guofa

Zhejiang Univ.
Zhejiang Univ.
Zhejiang Univ.

16:30-18:30

The Effects of Phase Resetting Technique in Cardiac Models, pp. 3911-3914

Tsalikakis, Dimitrios
Zhang,, Henggui
Kremmydas, George
Fotiadis, Dimitrios I.

Univ. of Ioannina
The Univ. of Manchester
Univ. of Ioannina
Univ. of Ioannina

16:30-18:30

Guidelines for Plunge Needle Recordings for Effective Detection of Purkinje Activation, pp. 3915-3918

Dosdall, Derek	Univ. of Alabama at Birmingham
Huang, Jian	Univ. of Alabama at Birmingham
Smith, William	Univ. of Alabama at Birmingham
Allison, J. Scott	Univ. of Alabama at Birmingham
Allred, James	Univ. of Alabama at Birmingham
Ideker, Raymond	Univ. of Alabama at Birmingham

16:30-18:30

The Role of Resitution in Pacing Induced Spiral Wave Acceleration, pp. 3919-3922

Tranquillo, Joseph	Bucknell Univ.
Bursac, Nenad	Duke Univ.

16:30-18:30

Accelerating Large Cardiac Bidomain Simulations by Arnoldi Preconditioning, pp. 3923-3926

Deo, Makarand	Univ. of Calgary
Bauer, Steffen	National organization of metrology
Plank, Gernot	Medical Univ. of Graz
Vigmond, Edward	Univ. of Calgary

16:30-18:30

Printed Circuit Board Electrodes for Transmural Cardiac Mapping, pp. 3927-3930

Dosdall, Derek	Univ. of Alabama at Birmingham
Huang, Jian	Univ. of Alabama at Birmingham
Smith, William	Univ. of Alabama at Birmingham
Allred, James	Univ. of Alabama at Birmingham
Allison, J. Scott	Univ. of Alabama at Birmingham
Ideker, Raymond	Univ. of Alabama at Birmingham

16:30-18:30

A Cycle-Linear Approach to Modeling Action Potentials, pp. 3931-3934

Ye, Pei	Stony Brook Univ.
Entcheva, Emilia	Stony Brook Univ.
Smolka, Scott	Stony Brook Univ.
True, Mike	SUNY at Stony Brook
Grosu, Radu	Stony Brook Univ.

16:30-18:30

Inherent Dispersion in Restitution Properties Over Space, pp. 3935-3938

Singh, Rupinder	Stony Brook Univ.
Entcheva, Emilia	Stony Brook Univ.
Bien, Harold	Stony Brook Univ.
Fenton, Flavio	Cornell Univ.

16:30-18:30

Delayed Termination Following Pacing Induced Shifts from Monomorphic to Polymorphic Ventricular Tachycardia: Implications for Antitachycardia Pacing, pp. 3939-3942

Byrd, Israel	Univ. of Alabama at Birmingham
Pollard, Andrew E	Univ. of Alabama at Birmingham
Kay, Matthew	The George Washington Univ.

16:30-18:30

Simulating Pulmonary Vein Activity Leading to Atrial Fibrillation Using a Rule-based Approach on Realistic Anatomical Data, pp. 3943-3946

Reumann, Matthias	Univ. Karlsruhe (TH)
Bohnert, Julia	Univ. Karlsruhe (TH)
Doessel, Olaf	Univ. of Karlsruhe (TH)

16:30-18:30
*Unraveling the Mechanisms of Catecholaminergic Polymorphic Ventricular Tachycardia**
Iyer, Vivek
Armoundas, Antonis
Massachusetts General Hospital
Massachusetts General Hospital

16:30-18:30
Methods for Accurate Measures of Total Ventricular Activation Time, pp. 3947-3949
Sutherland, David R.
Adams, Jacob
Punske, Bonnie
Univ. of Utah
Utah Valley State Coll.
Univ. of Utah

16:30-18:30
Maintenance of Ventricular Fibrillation in Heterogeneous Ventricle, pp. 3950-3953
Arevalo, Hermenegild
Trayanova, Natalia
Tulane Univ.
Tulane Univ.

FrEP7 Westside Ballroom South
Sensory-Motor Assessment (Poster Session)

16:30-18:30
Quantitative Assessment of Divergence Eye Movements to Ramp Stimuli, pp. 3954-3957
Gayed, Bassem
Alvarez, Tara
New Jersey Inst. of Tech.
New Jersey Inst. of Tech.

16:30-18:30
Assessing Impaired Arm Use and Learned Bias after Stroke Using Unimanual and Bimanual Steering Tasks, pp. 3958-3961
Paranjape, Ruta P.
Johnson, Michelle J.
Ramachandran, Brinda
Marquette Univ.
Medical Coll. of Wisconsin/Marquette Univ.
Marquette Univ.

16:30-18:30
Investigation of a Portable Performance Measurement System for Neurologic Screening in Clinics, pp. 3962-3965
Kondraske, George
Mulukutla, Rahul
Stewart, R. Malcolm
Univ. of Texas at Arlington
Univ. of Texas at Arlington
Presbyterian Hospital of Dallas

16:30-18:30
Quantitative Characterization of Disease Severity in Diseases with Complex Symptom Profiles, pp. 3966-3969
Kondraske, George
Stewart, R. Malcolm
Univ. of Texas at Arlington
Presbyterian Hospital of Dallas

16:30-18:30
Improvements on a Fast Algorithm for Real Time Eye Movement Quantification, pp. 3970-3973
Azevedo, Dario F.G. de
Figueira, Márcio Vieira
Zaffari, Carlos Alberto
da Rocha, Murilo Fraga
Russomano, Thais
Pontifícia Univ. Católica
Pontifical Catholic Univ. of Rio Grande do Sul
PUCRS - Pontifícia Univ. Católica do Rio GrandedoSul
Pontifical Catholic Univ. of Rio Grande do Sul
PUCRS

16:30-18:30
Measurement of Elbow Spasticity in Stroke Patients Using a Manual Spasticity Evaluator, pp. 3974-3977
Wu, Yi-Ning
Park, Hyung-Soon
Yupeng, Ren
Gaebler-Spira, Deborah
Chen, Jia-Jin
Zhang, Liquan
National Cheng Kung Univ.
Rehabilitation Inst. of Chicago
Rehabilitation Inst. of Chicago
Northwestern Univ.
National Cheng Kung Univ.
Northwestern Univ.

16:30-18:30

*Twitch Response of Intact Human Tibialis Anterior Muscle to Doublet Stimulation at Graded Strengths**

Freeman, Stefan

Univ. of Minnesota

Durfee, William

Univ. of Minnesota

FrEP8

Westside Ballroom South

Electrocardiology and Arrhythmias (Poster Session)

16:30-18:30

Action Potential Duration Gradient Protects the Right Atrium from Fibrillation, pp. 3978-3981

Ridler, Marc

Univ. of Calgary

McQueen, David

New York Univ.

Peskin, Charles

New York Univ.

Vigmond, Edward

Univ. of Calgary

16:30-18:30

Instance Selection for Estimation of Epicardial Activation Sequence from Venous

Catheter Measurements, pp. 3982-3985

Yilmaz, Bulent

Baskent Univ.

MacLeod, Robert

Univ. of Utah

16:30-18:30

Accuracy of QT Measurement in the EASI-Derived 12-Lead ECG, pp. 3986-3989

Martínez, Juan Pablo

Univ. of Zaragoza

Laguna, Pablo

Univ. of Zaragoza

Olmos, Salvador

Univ. of Zaragoza

Pahm, Olle

Lund Univ. Hospital

Pettersson, Jonas

AstraZeneca R&D.

Sornmo, Leif

Lund Univ.

16:30-18:30

An Improved QT Interval Measurement Based on Singular Value Decomposition, pp. 3990-3993

Yana, Kazuo

Hosei Univ.

Shichiku, Hiroyuki

Hosei Univ.

Satoh, Toshihisa

Hosei Univ.

Mizuta, Hirohisa

Josai Univ.

Ono, Takuya

Nippon Medical School

16:30-18:30

Comparison of Laplacian and Bipolar ECGs for R-Wave Detection During Noise, pp. 3994-3997

Ghanem, Raja N.

Medtronic, Inc

Gillberg, Jeffrey M.

Medtronic, Inc

Wanasek, Kevin

Medtronic Inc.

Wood, Nicole

Medtronic

Abeyratne, Athula

Medtronic, Inc

Mitrani, Raul

Memorial Regional Hospital, and Cardiovascular Consultants of So

16:30-18:30

Sensibility Analysis of the Arruda Localization Method, pp. 3998-4001

Szilagyi, Sandor Miklos

Sapientia - Hungarian Science Univ. of Transylvania

Szilagyi, Laszlo

Budapest Univ.

Benyo, Zoltan

Budapest Univ. of Tech. and Ec.

16:30-18:30

Optical Mapping System for Visualizing Arrhythmias in Isolated Mouse Atria, pp. 4002-4005

Schmidt, Robyn

Univ. of Calgary

Nygren, Anders

Univ. of Calgary

16:30-18:30

Prediction of Atrial Fibrillation Following Cardiac Surgery Using Rough Set Derived Rules, pp. 4006-4009

Wiggins, Matthew	Georgia Inst. of Tech.
Firpi, Hiram	Georgia Inst. of Tech.
Blanco, Raul	Emory Univ.
Amer, Muhammad	Emory Univ.
Dudley, Samuel	Atlanta Veteran's Affairs Medical Center

16:30-18:30

Electrocardiographic Method for Identifying Drug-Induced Repolarization Abnormalities Associated with a Reduction of the Rapidly Activating Delayed Rectifier Potassium Current, pp. 4010-4015

Couderc, Jean-Philippe	Univ. of Rochester
Vaglio, Martino	Univ. of Rochester
Xia, Xiaojuan	Univ. of Rochester
McNitt, Scott	Univ. of Rochester Medical Center
Hyrien, Ollivier	Univ. of Rochester

16:30-18:30

Automatic Classification of Heartbeats Using Neural Network Classifier Based on a Bayesian Framework, pp. 4016-4019

Magenes, Giovanni	Univ. of Pavia
Karraz, George	Univ. of Pavia

16:30-18:30

Morphological Analysis of P-Wave in Patients Prone to Atrial Fibrillation, pp. 4020-4023

Censi, Federica	Italian National Inst. of Health
Calcagnini, Giovanni	Italian National Inst. of Health
Mattei, Eugenio	Italian National Inst. of Health
Ricci, Renato	San Filippo Neri Hospital
Ricci, Chiara	Univ. of Rome "LA Sapienza"
Santini, Massimo	San Filippo Neri Hospital
Grammatico, Andrea	Medtronic Italia SpA
Bartolini, Pietro	Italian National Inst. of Health

16:30-18:30

Validation of a Novel Atrial Fibrillation Model through Simulated Atrial Pacing Protocols, pp. 4024-4027

Lian, Jie	Micro Systems Engineering, Inc.
Muessig, Dirk	Micro Systems Engineering, Inc.
Lang, Volker	Micro Systems Engineering, Inc.

16:30-18:30

Successful Defibrillation in Water: A Preliminary Study, pp. 4028-4030

KLOCK-frezot, Julia Cathy	Univ. of Rhode Island
Ohley, William	Univ. of Rhode Island
Schock, Robert B.	Life Recovery Systems
Marc Cote, Marc	Life Recovery Systems
Schofield, Lorraine	Rhode Island Hospital

16:30-18:30

The Time Constants for Cathodic Make Stimulation of Electrical Syncytia: An Application to Cardiac Pacing, pp. 4031-4034

Suarez-Antola, Roberto	Catholic Univ. of Uruguay
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16:30-18:30

Automated Masking of Voltage-Sensitive Dye Imaging Data, pp. 4035-4038

Phillips, Trevor Paul	Univ. of Calgary
Schmidt, Robyn	Univ. of Calgary
Nygren, Anders	Univ. of Calgary

16:30-18:30

Structural Barrier Increases QT-Peak Dispersion in Swine Left Ventricle in Vivo, pp. 4039-4042

Lu, Sheng	State Univ. of New York at Stony Brook
Gong, Yunfan	Weill Medical Coll. of Cornell Univ.
Iwai, Sei	Weill Medical Coll. of Cornell Univ.
Stein, Kenneth	Weill Medical Coll. of Cornell Univ.
Lerman, Bruce	Weill Medical Coll. of Cornell Univ.
Christini, David	Weill Medical Coll. of Cornell Univ.

16:30-18:30

Transmural Electrophysiological Heterogeneities in Action Potential Duration Increase the Upper Limit of Vulnerability, pp. 4043-4046

Maharaj, Thushka	Oxford Univ.
Rodriguez, Blanca	Oxford Univ.
Blake, Robert	Tulane Univ.
Trayanova, Natalia	Tulane Univ.
Gavaghan, David	Univ. of Oxford

FrEP9

Westside Ballroom South

Postural Control (Poster Session)

16:30-18:30

Identification of a Degradation in Postural Equilibrium Invoked by Different Vibration Frequencies on the Tibialis Anterior Tendon, pp. 4047-4050

Michel-Pellegrino, Valérie	Univ. de Tech. de Troyes
Amoud, Hassan	Univ. de Tech. de Troyes
Hewson, David J	Univ. de Tech. de Troyes
Duchêne, Jacques	Univ. de Tech. de Troyes

16:30-18:30

Postural Control in Subjects with Down's Syndrome*

Rigoldi, Chiara	Pol. of Milan
Galli, Manuela	Pol. di Milano
Mainardi, Luca	Pol. di Milano
Tenore, Nunzio	IRCCS San Raffaele Tosinvest Sanitř
Crivellini, Marcello	Pol. di Milano
Albertini, Giorgio	IRCCS San Raffaele Tosinvest Sanitř
Passera, Katia	Pol. of Milan

16:30-18:30

Normative Based Clinical Tool for Objective Evaluation of Postural Responses, pp. 4051-4054

Cikajlo, Imre	Inst. for rehabilitation Republic of Slovenia
Klemen, Ana	Inst. for rehabilitation Republic of Slovenia
Rudolf, Marko	Inst. for rehabilitation Republic of Slovenia
Goljar, Nika	Inst. for rehabilitation Republic of Slovenia
Matja	Inst. for rehabilitation Republic of Slovenia
Šušteršič, Zlatko	Inst. for rehabilitation Republic of Slovenia

16:30-18:30

Effects of Stance Width on Control Gain in Standing Balance, pp. 4055-4057

Scrivens, Jevin E.	Georgia Inst. of Tech.
Ting, Lena H.	Emory Univ. and Georgia Inst. of Tech.
DeWeerth, Stephen P.	Georgia Inst. of Tech.

FrEP10 Westside Ballroom South
Clinical Engineering and Healthcare Information Systems Best Practices (Poster Session)

16:30-18:30

Experimental Heating Properties of Re-Entrant Type Resonant Cavity Applicator for Deep Tumor Hyperthermia, pp. 4058-4061

Nakano, Akinobu
Kato, Kazuo

Meiji Univ.
Meiji Univ.

16:30-18:30

Modeling the Healthcare Assistance Process for Comorbidity Patients Compliant with Pren12967, pp. 4062-4065

Roman, Isabel
Millan, Antonio
Roa, Laura M.
Madinabeitia, Germán
Reina-Tosina, Javier
Aguayo, Mariano

Univ. of Seville
Univ. Hospital Virgen Macarena
Univ. of Seville
Univ. of Seville
Univ. of Seville
Univ. Hospital Virgen Macarena

16:30-18:30

Statistical Shape Analysis of Metopic Craniosynostosis: A Preliminary Study, pp. 4066-4069

Srivilasa, Charlie
Zhao, Linping
Patel, Pravin
Liu, Shu Q.
Tomita, Tadanori

Northwestern Univ.
Shriners Hospital for Children-Chicago
Shriners Hospital for Children-Chicago
Northwestern Univ.
Shriners Hospital for Children-Chicago

16:30-18:30

Knowledge Creation Using Artificial Intelligence: A Twin Approach to Improve Breast Screening Attendance, pp. 4070-4073

Baskaran, Vikram
Bali, Rajeev Kumar
Arochena, Hisbel
Naguib, Raouf
Wallis, Matthew
Wheaton, Margot

Coventry Univ.
Coventry Univ.
Coventry Univ.
Coventry Univ.
Coventry & Warwickshire Teaching Hospitals NHS Trust
Coventry & Warwickshire Teaching Hospitals NHS Trust

16:30-18:30

Design and Construction of Resonant Cavity Applicator for Brain Tumor Hyperthermia Treatment without Contact, pp. 4074-4077

Takahashi, Yoshihiko
Kato, Kazuo

Meiji Univ.
Meiji Univ.

16:30-18:30

Whospital: A Web-Based Application with Digital Signature for Drugs Dispensing Management*

Rossi, Lorenzo
Margola, Lorenzo
Manzelli, Vania
Bandera, Alessandra

Pol. di Milano
it2b srl
it2b srl
Hospital of Busto Arsizio

FrEP11 Westside Ballroom South
Law, Ethics, Policy, Risk and Safety Issues (Poster Session)

16:30-18:30

Evidence-Based Analysis of Field Testing of Medical Electrical Equipment, pp. 4078-4080

Taktak, Azzam Fouad George
Brown, Malcolm

Royal Liverpool Univ. Hospital
Royal Liverpool Univ. Hospital

16:30-18:30

Developing Safety Standards for Electromagnetic Energy: The IEEE International Committee on Electromagnetic Safety ICES), pp. 4081-4084

Murphy, Michael R.
Petersen, Ronald

Human Effectiveness Directorate, Air Force Res.
R C Petersen Associates LLC

16:30-18:30

Informed Consent in Biomedical Research, pp. 4085-4087

Townsend, Daphné

SITE, Univ. of Ottawa

FrEP12

Westside Ballroom South

Micro Instrumentation and Imaging II (Poster Session)

16:30-18:30

Skin Penetration of Silicon Dioxide Microneedle Arrays, pp. 4088-4091

Kim, Sangchae
Shetty, Smitha
Price*, Dorielle
Bhansali, Shekhar

Univ. of South Florida
Univ. of South Florida
Univ. of South Florida
Univ. of South Florida

16:30-18:30

Biocompatible MEMS Electrode Array for Determination of Three-Dimensional Strain, pp. 4092-4095

Evans, Boyd
Mohamed, Mahfouz
Pritchard, Emily

Univ. of Tennessee
Univ. of Tennessee
Univ. of Tennessee

16:30-18:30

Electro-Disruption of Escherichia Coli Bacterial Cells on a Microfabricated Chip, pp. 4096-4099

de la Rosa, Carlos
Kaler, Karan V.I.S.

Univ. of Calgary
Univ. of Calgary

16:30-18:30

Detecting Artifacts on SNP Chips, pp. 4100-4102

Pellegrino, Maurizio
Suarez-Farinas, Mayte
Magnasco, Marcelo O.
Wittkowski, Knut M.

The Rockefeller Univ.
The Rockefeller Univ.
The Rockefeller Univ.
The Rockefeller Univ.

FrEP13

Westside Ballroom South

Advances in Sensor Technology 4 (Poster Session)

16:30-18:30

Competitive Technology Approaches for Electronic Hybridisation Detection in a Microsystem with Microfluidics for Diagnosis Genetic Tests, pp. 4103-4106

Bellis, Stephen
Blionas, Spyridon
Carrera, Jordi
Chatzandroulis, Stavros
Getin, Stephane
Misiakos, Kostas
Planat-Chretien, Anne
Tsoukalas, Dimitris

SensL Limited
INTRACOM S.A.
NTE S.A.
NCSR Demokritos
Commissariat A L'energie Atomique (LETI)
Ncsrd Demokritos
Commissariat A L'energie Atomique (Leti)
National Tech. Univ. of Athens

16:30-18:30

Design of the Laser Acupuncture Therapeutic Instrument, pp. 4107-4110

li, chengwei
Huang, Zhen

Electric Engineering Coll. Univ.
Biomedical engineering

16:30-18:30

FPMOD: A Modeling Tool for Sampling the Conformational Space of Fusion Proteins, pp. 4111-4114

Chiang, Jui-Hsuan(Jason)	Univ. of Toronto
Pham, Elizabeth	Univ. of Toronto
Li, Isaac	Univ. of Toronto
Truong, Kevin	Univ. of Toronto

16:30-18:30

Serotonin (5-HT) Released by Activated White Blood Cells in a Biological Fuel Cell Provide a Potential Energy Source for Electricity Generation, pp. 4115-4118

Justin, Gusphyl	Univ. of Pittsburgh
Sun, Mingui	Univ. of Pittsburgh
Zhang, Yingze	Univ. of Pittsburgh
Cui, Xinyan Tracy	Univ. of Pittsburgh
Sclabassi, Robert	Univ. of Pittsburgh

16:30-18:30

Construction and Characterization of Soft-Supported Lipid Bilayer Membranes for Biosensors Application, pp. 4119-4122

Jimenez, Jeffy	Univ. of South Florida
Heim II, August J.	Univ. of South Florida
Matthews, Garrett	Univ. of South Florida
Alcantar, Norma	Univ. of South Florida

16:30-18:30

Skin Surface Shock Wave, pp. 4123-4126

Tanaka, Nobuyuki	Hiroshima Univ.
Kaneko, Makoto	Hiroshima Univ.

16:30-18:30

An Electrodeless System for Measurement of Liquid Sample Dielectric Properties in Radio Frequency Band, pp. 4127-4130

Hartwig, Valentina	Univ. of Pisa
Giovannetti, Giulio	CNR
Vanello, Nicola	Univ. of Pisa
Costantino, Maria	CNR
Landini, Luigi	Univ. of Pisa
Benassi, Antonio	CNR-Pisa

16:30-18:30

Thermal Imaging Aid for the Blind, pp. 4131-4134

Hedin, Daniel	Advanced Medical Electronics
Seifert, Gregory John	Advanced Medical Electronics
Dagnelie, Gislin	Johns Hopkins Univ.
Havey, Gary	Advanced Medical Electronics Corp.
Knuesel, Robert	Advanced Medical Electronics
Gibson, Paul	Advanced Medical Electronics

16:30-18:30

The "parotec" Pressure Measurement System and Its Evaluation Procedures, pp. 4135-4139

Zequera Diaz, Martha Lucia	Pontificia Univ. Javeriana
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16:30-18:30

The Effect of Laser Wavelength in the Simulation of Laser Generated Surface Waves in a Human Skin Model, pp. 4140-4143

L'Etang, Adele J	Univ. of Dundee
Huang, Zhihong	Univ. of Dundee

16:30-18:30

Development and Calibration of a Pedal with Force and Moment Sensors, pp. 4144-4146

Azevedo, Dario F.G. de	Pontificia Univ. Católica
Helegda, Sergio	Pontificia Univ. Católica do Rio Grande do Sul
Russomano, Thais	PUCRS
Gurgel, Jonas	PUCRS
Porto, Flavia	PUCRS
Cambraia, Rodrigo	PUCRS
Beck, João Carlos Pinheiro Beck	ipct
S. Glock, Flavio	Pontificia Univ. Católica do Rio Grande do Sul

FrEP14

Westside Ballroom South

Mathematical Modeling and Simulation of Molecules and Cells II (Poster Session)

16:30-18:30

Inference of Genetic Network of Xenopus Frog Egg : Improved Genetic Algorithm, pp. 4147-4150

Wu, Shinq-Jen	Da-Yeh Univ.
Chou, Chia-Hsien	National Chiao-Tung Univ.
Wu, Cheng-Tao	Da-Yeh Univ.
Lee, Tsu-Tian	National Chiao-Tung Univ.

16:30-18:30

Hybrid Automata As a Unifying Framework for Modeling Excitable Cells, pp. 4151-4154

Ye, Pei	Stony Brook Univ.
Entcheva, Emilia	Stony Brook Univ.
Smolka, Scott	Stony Brook Univ.
True, Mike	SUNY at Stony Brook
Grosu, Radu	Stony Brook Univ.

16:30-18:30

EONS: An Online Synaptic Modeling Platform, pp. 4155-4158

Bouteiller, Jean-Marie Charles	Univ. of Southern California
Qiu, Yumei	Tandberg Television
Ziane, Mohammed	Univ. of Southern California
Baudry, Michel	Univ. of Southern California
Berger, Theodore	Univ. of Southern California

16:30-18:30

Synchronization Index of Neural Spike Trains in Response to Simulated Vowel Signal Stimuli in the Presence of a Pseudo-Spontaneous Activity, pp. 4159-4162

Wada, Yoshimasa	Kanto Gakuin Univ.
Mino, Hiroyuki	Kanto Gakuin Univ.

16:30-18:30

Development of a Support Tool for Multi-Agent Based Biological Modeling, pp. 4163-4166

Kawazu, Toshihiro	Osaka Univ.
Odai, Shinsuke	Osaka Univ.
Shibuya, Noriko	Osaka Univ.
Nomura, Taishin	Osaka Univ.

16:30-18:30

A Reduced Differential Model of the Electrical Activity of Cardiac Purkinje Fibres, pp. 4167-4170

Djabella, Karima	INRIA
Sorine, Michel	INRIA

16:30-18:30

Computer Support for Physiological Cell Modelling Using an Ontology on Cell Physiology, pp. 4171-4174
Shimayoshi, Takao
Komurasaki, Kazuhiro
Amano, Akira
Iwashita, Takeshi
Kanazawa, Masanori
Matsuda, Tetsuya

ASTEM Res. Inst. of Kyoto
Kyoto Univ.
Kyoto Univ.
Kyoto Univ.
Kyoto Univ.
Kyoto Univ.

16:30-18:30

Analysis of Spatial Dependencies of Endocytic Proteins Based on Temporal Random Sets, pp. 4175-4178
Sebastian, Rafael
Diaz, Elena
Ayala, Guillermo
Zoncu, Roberto
Toomre, Derek

Univ. of Valencia
Univ. of Valencia
Univ. de Valencia
Yale Univ.
Yale Univ.

16:30-18:30

Dynamical Analysis of Uterine Cell Electrical Activity Model, pp. 4179-4182
Rihana, Sandy
Ferreira, Jorge
Mondie, Sabine
Marque, Catherine

Univ. of Tech. of Compiègne
Université de Tech. de Compiègne
CINVESTAV
Univ. of Tech. of compiegne

16:30-18:30

Effects of Exogenous Noise in a Silent Neuron Model: Firing Induction and EM Signal Detection, pp. 4183-4186
Paffi, Alessandra
Liberti, Micaela
Apollonio, Francesca
Gianni, Matteo
D'Inzeo, Guglielmo

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ICEmB@La Sapienza Univ. Rome
ICEmB@La Sapienza Univ. Rome
ICEMB @ Univ. of Rome "La Sapienza"
ICEmB@La Sapienza Univ. Rome

16:30-18:30

Modelling of Acetylcholinesterase Immobilized into Artificial Membrane, pp. 4187-4191
Ferreira, Jorge
Friboulet, Alain
Lozano, Rogelio

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Univ. de Tech. de Compiègne
Univ. de Tech. de Compiègne

16:30-18:30

A Method to Model Neuron Activity, pp. 4192-4195
Masanotti, Delia
Langlois, Peter
Taylor, John

Univ. of Bath
Univ. Coll.
Univ. of Bath

16:30-18:30

Information Transmission in Hippocampal CA1 Neuron Models in the Presence of Poisson Shot Noise: The Case of Periodic Sub-Threshold Spike Trains, pp. 4196-4199
Kawaguchi, Minato
Mino, Hiroyuki
Durand, Dominique

Kanto Gakuin Univ.
Kanto Gakuin Univ.
Case Western Res. Univ.

16:30-18:30

Estimation of Action Potential of the Cellular Membrane Using Support Vectors Machines, pp. 4200-4204
Seijas, Cesar
Caralli, Antonino
Villazana, Sergio

Univ. of Carabobo
Univ. of Carabobo
Univ. of Carabobo

16:30-18:30

A Study on Some Optical Illusions Based Upon the Theory of Inducing Field, pp. 4205-4208

Ge, Sheng

Saito, Takashi

Wu, Jing-Long

Iramina, Keiji

Kyushu Univ.

Yamaguchi Univ. Japan

Kagawa Univ.

Kyushu Univ. Japan

16:30-18:30

Electrostatics of Photosynthetic Reaction Centers in Membranes, pp. 4209-4212

Pennisi, Cristian Pablo

Greenbaum, Elias

Yoshida, Ken

Aalborg Univ. SMI

ORNL

Aalborg Univ. SMI

FrEP15

Westside Ballroom South

Novel Technologies for Computational Biology and Bioinformatics, 2 (Poster Session)

16:30-18:30

A Smart Video Magnifier Controlled by the Visibility Signal of a Low Vision User, pp. 4213-4216

Miyakawa, Michio

Maeda, Yoshinobu

Miyazawa, Yoichi

Hori, Junichi

Niigata Univ.

Niigata Univ.

Niigata Univ.

Niigata Univ.

16:30-18:30

Application of XML Database Technology to Biological Pathway Datasets, pp. 4217-4220

Jiang, Keyuan

Nash, Christopher

Purdue Univ. Calumet

Purdue Univ. Calumet

16:30-18:30

PDB Data Curation, pp. 4221-4224

Wang, Yanchao

Sunderraman, Rajshekhar

Georgia State Univ.

Georgia State Univ.

16:30-18:30

Free Energy Analysis on the Coding Region of the Individual Genes of Saccharomyces Cerevisiae, pp. 4225-4228

Xing, Chuanhua

Bitzer, Donald

Alexander, Winser

Stomp, Anne-Marie

Vouk, Mladen

NC State Univ.

NC State Univ.

NC State Univ.

NC State Univ.

NC State Univ.

16:30-18:30

A Bootstrap-Based Linear Classifier Fusion System for Protein Subcellular Location Prediction, pp. 4229-4232

Wu, Yunfeng

Ma, Yuezhu

Liu, Xiaona

Wang, Cong

Beijing Univ. of Posts and Telecommunications

Beijing Univ. of Posts and Telecommunications

Beijing Univ. of Posts and Telecommunications

Beijing Univ. of Posts and Telecommunications

16:30-18:30

Using Existing Digital Tools for Efficient Metabolic Pathway Simulations, pp. 4233-4236

Macchiarulo, Luca

Univ. of Hawaii at Manoa

16:30-18:30

Toward a Curated CellML Model Repository, pp. 4237-4240

Nickerson, David Phillip

Stevens, Carey

Halstead, Matt

Hunter, Peter

Nielsen, Poul

National Univ. of Singapore

The Univ. of Auckland

The Univ. of Auckland

The Univ. of Auckland

The Univ. of Auckland

16:30-18:30

Inferring Network Interactions Using Recurrent Neural Networks and Swarm Intelligence, pp. 4241-4244
 Ressom, Habtom Georgetown Univ.
 Zhang, Yuji Georgetown Univ.
 Xuan, Jianhua The Catholic Univ. of America
 Wang, Yue Virginia Pol. Inst. and State Univ.
 Clarke, Robert Lombardi Comprehensive Cancer Center, Georgetown Univ.

SaA01 Marquis AB
EEG Signal Processing and Modeling (Oral Session)

09:00-09:15

Combing Nonlinear Dimensionality Reduction with Wavelet Network to Solve EEG Inverse Problem, pp. 4245-4248
 Wu, Qing Hebei Univ. of Tech.
 Shi, Lukui Hebei Univ. of Tech.
 Wu, Youxi Hebei Univ. of Tech.
 Xu, Guizhi Hebei Univ. of Tech.
 Li, Ying Hebei Univ. of Tech.
 Yan, Weili Hebei Univ. of Tech.

09:15-09:30

Smooth Bilinear Classification of EEG, pp. 4249-4252
 Dyrholm, Mads City Coll. New York
 Parra, Lucas City Coll. of New York

09:30-09:45

A Realistic Spatiotemporal Source Model for EEG Activity: Application to the Reconstruction of Epileptic Depth-EEG Signals, pp. 4253-4256
 COSANDIER-RIMELE, Delphine INSERM - Univ. de Rennes 1
 BADIER, Jean-Michel INSERM - Univ. de la Méditerranée
 WENDLING, Fabrice INSERM - Univ. de Rennes 1

09:45-10:00

Visualization of the Short Term Maximum Lyapunov Exponent Topography in the Epileptic Brain, pp. 4257-4260
 Mammone, Nadia Univ. of Reggio Calabria
 Morabito, Francesco Carlo Univ. of Reggio Calabria
 Principe, Jose Univ. of Florida

10:00-10:15

Gravity Transform for Input Conditioning in Brain Machine Interfaces, pp. 4261-4264
 Paiva, António R. C. Univ. of Florida
 Principe, Jose Univ. of Florida
 Sanchez, Justin Univ. of Florida

10:15-10:30

Time-Significant Wavelet Coherence for the Evaluation of Schizophrenic Brain Activity Using a Graph Theory Approach, pp. 4265-4268
 Sakkalis, Vangelis Tech. Univ. of Crete - Foundation for Res. and
 Oikonomou, Theofanis Univ. of Crete - Foundation for Res. and
 Pachou, Ellie Univ. of Crete
 Tollis, Ioannis Univ. of Crete - Foundation for Research and Tech. - Hellas
 Micheloyannis, Sifis Univ. of Crete
 Zervakis, Michalis Tech. Univ. of Crete, Greece

Electrical Impedance Imaging I (Oral Session)

09:00-09:15

Sub-Second Functional Imaging by Electrical Impedance Tomography, pp. 4269-4272

McCann, Hugh	Univ. of Manchester
Polydorides, Nick	Univ. of Manchester
Murrieta-Lee, Carlos	Univ. of Manchester
Kou, Ge	Univ. of Manchester
Beatty, Paul	Univ. of Manchester
Pomfrett, Chris	Univ. of Manchester

09:15-09:30

Hybrid Microwave Tomography Technique for Breast Cancer Imaging, pp. 4273-4276

Sabouni, Abas	Univ. of Manitoba
Flores-Tapia, Daniel	Univ. of Manitoba
Noghanian, Sima	Univ. of Manitoba
Thomas, Gabriel	Univ. of Manitoba
Pistorius, Stephen	CancerCare Manitoba / Univ. of Manitoba

09:30-09:45

A Fast Linear Reconstruction Method for Scanning Impedance Imaging, pp. 4277-4280

Liu, Hongze	Brigham Young Univ.
Hawkins, Aaron	Brigham Young Univ.
Schultz, Stephen	Brigham Young Univ.
Oliphant, Travis	Brigham Young Univ.

09:45-10:00

Electrical Impedance Tomography Method for Reconstruction of Biological Tissues with Continuous Plane-Stratification, pp. 4281-4284

Dolgin, Madlena	Tech. - Israel Inst. of Tech.
Einziger, Pinchas	Tech. - Israel Inst. of Tech.

10:00-10:15

Multi-Frequency EIT Hardware System Based on DSP*

Zhang, Shuai	Hebei Univ. of Tech.
Xu, Guizhi	Hebei Univ. of Tech.
Wu, Huanli	Hebei Univ. of Tech.
Geng, Duyan	Hebei Univ. of Tech.
Yan, Weili	Hebei Univ. of Tech.

10:15-10:30

Correlation between Live and Post Mortem Skull Conductivity Measurements, pp. 4285-4288

Wendel, Katrina	Tampere Univ. of Tech.
Malmivuo, Jaakko	Tampere Univ. of Tech.

Non Linear Dynamics in Cardio-Respiratory Systems II (Oral Session)

09:00-09:15

Comparison of Heart Rate Variability Signal Features Derived from Electrocardiography and Photoplethysmography in Healthy Individuals, pp. 4289-4294

Bolanos, Marcos	Univ. of Texas at El Paso
Nazeran, Homayoun	The Univ. of Texas
Haltiwanger, Emily	Coll. of Health Sciences

09:15-09:30

SpO2 Sensor Embedded in a Finger Ring: Design and Implementation, pp. 4295-4298

Sola, Josep	Swiss Center for Electronics and Microtechnology - CSEM
Castoldi, Serge	HEIG-VD
Olivier, Chételat	CSEM
Correvon, Marc	Haute Ec. d'Ingénierie et de Gestion du Canton de Vaud
Dasen, Stephan	CSEM
Droz, Serge	CSEM
jacob, nathalie	FORENAP
Kormann, Roger	Heig-VD
Neuman, Victor	Company
Perrenoud, André	Haute Ec. d'Ingénierie et de Gestion du Canton de Vaud
Pascal, Pilloud	CSEM
Verjus, Christophe	CSEM

09:30-09:45

Modelling and Control for Heart Rate Regulation During Treadmill Exercise, pp. 4299-4302

Su, Steven Weidong	Univ. of Tech. Sydney
Wang, Lu	Univ. of New South Wales
Celler, Branko George	Univ. of New South Wales
Savkin, Andrey	Univ. of New South Wales
Guo, Ying	CSIRO

09:45-10:00

Pain / Analgesia Evaluation Using Heart Rate Variability Analysis, pp. 4303-4306

Logier, Regis	CHRU de Lille
Jeanne, Mathieu	CHRU de Lille
Tavernier, Benoit	CHRU de Lille
De jonckheere, Julien	USTL

SaA04

Ziegfeld

Micro Instrumentation and Imaging (Oral Session)

09:00-09:15

Imaging Cross-Section of DNA Electrophoresis in a Microfabricated Glass

Device with CLSM, pp. 4307-4309

Chen, Zheng	Univ. of Michigan
Burns, Mark	Univ. of Michigan
Burke, David	Univ. of Michigan

09:15-09:30

Nerve Cell Segmentation Via Multi-Scale Gradient Watershed Hierarchies, pp. 4310-4313

Wang, Yi-Ying	National Cheng Kung Univ.
Sun, Yung-Nien	National Cheng Kung Univ.
Lin, Chou-Ching	National Cheng Kung Univ.
Ju, Ming-Shung	National Cheng Kung University

09:30-09:45

NMR Planar Micro Coils for Micro Spectroscopy: Design and Characterisation, pp. 4314-4317

Baxan, Nicoleta	Univ. Claude Bernard Lyon1
Rengle, Adrian	Univ. Claude Bernard Lyon1
Chateaux, Jean-François	Univ. Claude Bernard Lyon1
Briguet, Andre	Univ. Claude Bernard LYON1, CPE
Pasquet, Guillaume	Univ. Claude Bernard Lyon1
Morin, Pierre	Univ. Claude Bernard Lyon1
Fakri-Bouchet, Latifa	Univ. Claude Bernard Lyon1

09:45-10:00

New Opto-Plasmonic Tweezers for Manipulation and Rotation of Biological Cells - Design and Fabrication, pp. 4318-4321

Miao, Xiaoyu
Lin, Lih Y.

Univ. of Washington
Univ. of Washington

10:00-10:15

Parylene Neurocages for Electrical Stimulation on Silicon and Glass Substrates, pp. 4322-4325

Tooker, Angela
Erickson, Jon
Chow, Gary
Tai, Yu-Chong
Pine, Jerry

California Inst. of Tech.
California Inst. of Tech.
California Inst. of Tech.
California Inst. of Tech.
California Inst. of Tech.

10:15-10:30

Microneedle Array for Measuring Wound Generated Electric Fields, pp. 4326-4328

Mukerjee, Erik V.
Isseroff, Roslyn R.
Nuccitelli, Richard
Collins, Scott D.
Smith, Rosemary L.

Lawrence Livermore National Lab.
School of Medicine, Univ. of California, Davis
Old Dominion Univ.
Lab. for Surface Science & Tech. Univ. of Maine
Lab. for Surface Science & Tech. Univ. of Maine

SaA05

Duffy-Columbia

Advances in Sensor Technology II (Oral Session)

09:00-09:15

Making Medical Devices Accessible: A Drug-Resistant Malaria Detection System, pp. 4329-4332

Smilkstein, Tina

UC Berkeley

09:15-09:30

Multi-Site Analysis of Dopamine Uptake in the Somatosensory Cortex.*

Khair, Andrew
Moxon, Karen

Drexel Univ.
Drexel Univ.

09:30-09:45

A 1000+ Channel Bionic Communication System, pp. 4333-4335

Schulman, Joseph
Mobley, J. Phil
Wolfe, James
Stover, Howard
Krag, Adrian

Alfred Mann Foundation
Alfred Mann Foundation
Alfred Mann Foundation
Alfred Mann Foundation
Alfred Mann Foundation

09:45-10:00

Real Time Pressure-Volume Loops in Mice Using Complex Admittance: Measurement and Implications, pp. 4336-4339

Kottam, Anil T.G.
Porterfield, John
Raghavan, Karthik
Fernandez, Daniel Jose
Feldman, Marc D.
Valvano, Jonathan
Pearce, John Anthony

Univ. of Texas at Austin
Univ. of Texas at Austin
The Univ. of Texas at Austin
Univ. of Texas at Austin
Univ. of Texas Health Science Center at San Antonio
Univ. of Texas at Austin
Univ. of Texas at Austin

10:00-10:15

A Method to Investigate Non-Thermal Effects of Radio Frequency Radiation on Pharmaceuticals with Relevance to RFID Technology, pp. 4340-4343

Cox, Felicia	MIT
Sharma, Vikas	MIT
Wu, Bae-lan	MIT
Kong, Jin	MIT
Klibanov, Alexander	MIT
Engels, Daniel	MIT

10:15-10:30

Producing Smart Sensing Films by Means of Organic Field Effect Transistors, pp. 4344-4346

Manunza, Ileana	Univ. of Cagliari
Orgiu, Emanuele	Univ. of Cagliari
Caboni, Alessandra	Univ. of Cagliari
Barbaro, Massimo	Univ. of Cagliari
Bonfiglio, Annalisa	Univ. of Cagliari

SaA06

Empire Hudson

Novel Carriers for Drug and Gene Delivery (Oral Session)

09:00-09:15

Non-Viral Charge Reversal Vectors for DNA Delivery, pp. 4347-4349

Grinstaff, Mark	Boston Univ.
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09:15-09:30

Efficient Nuclear Delivery and Nuclear Bodies Localization of Antisense Oligo-Nucleotides Using Degradable Polymersomes, pp. 4350-4353

Kim, Younghoon	Univ. of Pennsylvania
Tewari, Manu	Univ. of Pennsylvania
Pajeroski, David J.	Univ. of Pennsylvania
Sen, Shamik	Univ. of Pennsylvania
Jason, Williams	Drexel Univ.
Sirsi, Shashank	Drexel Univ.
Lutz, Gordon	Drexel Univ.
Discher, Dennis	Univ. of Pennsylvania

09:30-09:45

Enhanced Efficacy of Anti-Tumor Liposomal Doxorubicin by Hyperthermia, pp. 4354-4357

Liu, Ping	Shanghai Jiao Tong Univ.
Xu, Lisa Xuemin	Shanghai Jiao Tong Univ.
Zhang, Aili	Shanghai Jiaotong Univ.

09:45-10:00

Controlled Release of PRP-Derived Growth Factors Promotes Osteogenic Differentiation of Human Mesenchymal Stem Cells, pp. 4358-4361

Lin, Sylvia S	Columbia Univ. Coll. of Dental Medicine
Landesberg, Regina	Columbia Univ. Coll. of Dental Medicine
Chin, Hsin S	Columbia Univ.
Lin, Jeffrey	Columbia Univ. Coll. of Dental Medicine
Eisig, Sidney B	Columbia Univ. Coll. of Dental Medicine
Lu, Helen	Columbia Univ.

10:00-10:15

Targeted Therapy with Monoclonal Antibodies: The New Generation of Pharmaceuticals*

Goldenberg, David	
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SaA07

Cantor-Jolson

Pacing, Defibrillation and Catheter Ablation (Oral Session)

09:00-09:15

Method of Post-Shock Synchronized Pacing in the Excitable Gaps, pp. 4362-4365

Tang, Liang

Cedars-Sinai Medical Center

Hwang, Gyo-Seung

Cedars-Sinai Medical Center

Yang, Lin

Xian Jiaotong Univ.

Lin, Shien-Fong

Cedars-Sinai Medical Center

09:15-09:30

Development of Arrhythmia Diagnosis Algorithm for Effective Control of Antitachycardia Pacing and High Energy Shock of ICD, pp. 4366-4369

Shin, Hang Sik

Yonsei Univ.

Lee, Chungkeun

Yonsei Univ.

Kim, Jinkwon

Yonsei Univ.

Lee, Myounggho

Yonsei Univ.

09:30-09:45

Development of an Algorithm for Detection of Fatal Cardiac Arrhythmia for Implantable Cardioverter-Defibrillator Using a Self-Organizing Map, pp. 4370-4373

Kinoshita, Hiroyuki

Graduate School of Engineering, Tohoku Univ.

Yoshizawa, Makoto

Tohoku Univ.

Inagaki, Masashi

National Cardiovascular Res. Inst.

UEMURA, KAZUNORI

National Cardio. Center Res. Inst.

Sugimachi, Masaru

Natl Cardio Center Res. Inst.

Sunagawa, Kenji

Kyushu Univ.

09:45-10:00

Transthoracic Atrial Defibrillation Energy Thresholds Are Correlated to Uniformity of Current Density Distributions, pp. 4374-4377

Hunt, Leslie

Univ. of Memphis

de Jongh Curry, Amy

The Univ. of Memphis

10:00-10:15

Esophageal Electric Fields Are Correlated to Atrial Defibrillation Thresholds: Towards Patient-Specific Optimization of External Atrial Defibrillation, pp. 4378-4381

Fitch, David

The Univ. of Memphis

Soberman, Judith

Univ. of Tennessee Health Science Center

de Jongh Curry, Amy

The Univ. of Memphis

SaA08

Juilliard

Neural Stimulation and Prostheses 3 (Oral Session)

09:00-09:15

Effects of Acute Hippocampal Stimulation on EEG Dynamics, pp. 4382-4386

Nair, Sandeep

Univ. of Florida

Sackellares, J. Chris

Univ. of Florida

Shiau, Deng-Shan

Univ. of Florida

Norman, Wendy

Univ. of Florida

Dance, Linda

Univ. of Florida

Pardalos, Panos

Univ. of Florida

Principe, Jose

Univ. of Florida

Carney, Paul

Univ. of Florida

09:15-09:30

Neural Recording Stability of Chronic Electrode Arrays in Freely Behaving Primates, pp. 4387-4391

Linderman, Michael	Stanford Univ.
Gilja, Vikash	Stanford Univ.
Santhanam, Gopal	Stanford Univ.
Afshar, Afsheen	Stanford Univ.
Ryu, Stephen	Stanford Univ.
Meng, Teresa	Stanford Univ.
Shenoy, Krishna	Stanford Univ.

09:30-09:45

A Dual Band Wireless Power and Data Telemetry for Retinal Prosthesis, pp. 4392-4395

Wang, Guoxing	Univ. of California, Santa Cruz
Liu, Wentai	Univ. of California, Santa Cruz
Sivaprakasam, Mohanasankar	Univ. of California at Santa Cruz
Zhou, Mingcui	Univ. of California, Santa Cruz
Weiland, James	Univ. of Southern California
Humayun, Mark	Univ. of Southern California

09:45-10:00

VLSI Implementation of a Nonlinear Neuronal Model: A "Neural Prosthesis" to Restore Hippocampal Trisynaptic Dynamics, pp. 4396-4399

Hsiao, Min-Chi	Univ. of Southern California
Chan, Chiu-Hsien	Univ. of Southern California
Zanos, Theodoros	Univ. of Southern California
Ahuja, Ashish	Univ. of Southern California
Gholmieh, Ghassan	Univ. of Southern California
Wills, Jack	Univ. of Southern California
LaCoss, Jeff	Univ. of Southern California
Courellis, Spiros	Univ. of Southern California
Song, Dong	Univ. of Southern California
Granacki, John	Univ. of Southern California
Marmarelis, Vasilis	Univ. of Southern California
Berger, Theodore	Univ. of Southern California

10:00-10:15

Psychophysics of Prosthetic Vision: I. Visual Scanning and Visual Acuity, pp. 4400-4403

Chen, Spencer Chin-Yu	Univ. of New South Wales
Hallum, Luke E.	Univ. of New South Wales
Suaning, Gregg	The Univ. of Newcastle
Lovell, Nigel H	Univ. of New South Wales

10:15-10:30

A Wideband Wireless Neural Stimulation Platform for High-Density Microelectrode Arrays, pp. 4404-4407

Myers, Frank	North Carolina State Univ.
Simpson, Jim	North Carolina State Univ.
Ghovanloo, Maysam	North Carolina State Univ.

SaA09

Gramercy-Olmstead

Automation and Computer-Aided Surgery I (Oral Session)

09:00-09:15

- ElePhant - an Anatomical Electronic Phantom As Simulation-System for Otologic Surgery***, pp. 4408-4411
- | | |
|------------------|--|
| Grunert, Ronny | Univ. of Leipzig |
| Strauss, Gero | Univ. of Leipzig |
| Moeckel, Hendrik | Univ. of Leipzig |
| Hofer, Mathias | Univ. |
| Poessneck, Antje | Univ. of Leipzig |
| Thalheim, Mario | Univ. of Leipzig |
| Schmiedel, Ronny | Heart Center Leipzig |
| Schulz, Thomas | Univ. of Leipzig |
| Oeken, Jens | Hospital of Chemnitz |
| Jannin, Pierre | INRIA, INSERM, CNRS, Univ. de Rennes 1 |
| Dietz, Andreas | Univ. of Leipzig |
| Korb, Werner | Univ. of Leipzig |

09:15-09:30

Modeling Interactions with a Computer Representation of the Upper***Gastrointestinal System***, pp. 4412-4415

- | | |
|---------------------------|--|
| Gastélum Strozzi, Alfonso | CCADET-UNAM (National Autonomus Univ. of Mexico) |
| Mosso, Jose | ISSSTE |
| Marquez, Jorge | UNAM-CCADET |

09:30-09:45

A New Kind of Training for Obstetric Residents: Simulator Training, pp. 4416-4419

- | | |
|-------------------|---|
| Moreau, Richard | Inst. National des Sciences Appliquées (INSA de Lyon) |
| Jardin, Audrey | Inst. National des Sciences Appliquées (INSA de Lyon) |
| Pham, Minh Tu | Inst. National des Sciences Appliquées (INSA de Lyon) |
| Redarce, Tanneguy | Inst. National des Sciences Appliquées (INSA de Lyon) |
| Olaby, Osama | Inst. National des Sciences Appliquées (INSA de Lyon) |
| Dupuis, Olivier | Hospices Civils de Lyon |

09:45-10:00

A Cascade Control Approach for a Class of Biomedical Systems, pp. 4420-4423

- | | |
|----------------------|---|
| Ortiz-Vargas, Moises | Univ. Panamericana |
| Puebla, Hector | Univ. Autonoma Metropolitana - Azcapotzalco |

10:00-10:15

Bidimensional MRI-Based Navigation System Using a PID Controller, pp. 4424-4427

- | | |
|-------------------|------------------------|
| Tamaz, Samer | École Pol. de Montréal |
| Gourdeau, Richard | École Pol. de Montréal |
| Martel, Sylvain | Ec. Pol. de Montreal |

10:15-10:30

Towards Ubiquitous Access of Computer-Assisted Surgery Systems, pp. 4428-4431

- | | |
|------------------|-------------------|
| Liu, Hui | Xidian Univ. |
| Lufei, Hanping | Wayne State Univ. |
| Shi, Weisong | Wayne State Univ. |
| Chaudhary, Vipin | Wayne State Univ. |

SaA12

Palace Wintergarden

Retinal Image Analysis I (Oral Session)

09:00-09:15

The Automatic Detection of the Optic Disc Location in Retinal Images Using Optic Disc***Location Regression***, pp. 4432-4435

- | | |
|-------------------------|------------------|
| Abramoff, Michael David | Univ. of Iowa |
| Niemeijer, Meindert | Univ. of Utrecht |

09:15-09:30

Locating the Optic Nerve in Retinal Images: Comparing Model-Based and Bayesian

Decision Methods, pp. 4436-4439

Karnowski, Thomas
Govindasamy, V. Priya
Tobin, Kenneth
Chaum, Edward

Oak Ridge National Lab.
Oak Ridge National Lab.
Oak Ridge National Lab.
Univ. of Tennessee Hamilton Eye Inst.

09:30-09:45

Fundus Foveal Localization Based on Vessel Model, pp. 4440-4444

Chutatape, Opas

Rangsit Univ.

09:45-10:00

A Reliability Study of Fractal Analysis of the Skeletonised Vascular Network Using the "box-Counting" Technique., pp. 4445-4448

MacGillivray, Tom
Patton, Niall

University of Edinburgh
NHS Lothian Univ. Hospitals Div.

10:00-10:15

Detecting False Vessel Recognitions in Retinal Fundus Analysis, pp. 4449-4452

Giani, Alfredo
Grisan, Enrico
De Luca, Massimo
Ruggeri, Alfredo

Univ. of Padova
Univ. of Padova
Univ. of Padova
Univ. of Padova

10:15-10:30

Automatic Image Processing Algorithm to Detect Hard Exudates Based on Mixture Models, pp. 4453-4456

Sánchez, Clara I.
Mayo, Agustín
García, María
López, María I.
Hornero, Roberto

Univ. of Valladolid
Univ. of Valladolid
Univ. of Valladolid
Univ. of Valladolid
Univ. of Valladolid

SaA14

Chelsea-Gotham

Intelligent Monitoring and Analysis Systems I (Oral Session)

09:00-09:15

An Interactive Software Module for DPOAE Signal Estimation, pp. 4457-4460

Powers, Michael
Goli, Asghar
Ziarani, Alireza

Clarkson Univ.
Clarkson Univ.
Clarkson Univ.

09:15-09:30

Automated Doppler Gate Placement and Velocity Calculation Based on a Vessel Angle Estimate, pp. 4461-4464

Hirsch, Annika
Petersch, Bernhard
Hoenigmann, Dieter C.

Advanced Computer Vision GmbH - ACV
Advanced Computer Vision GmbH - ACV
Advanced Computer Vision GmbH - ACV

09:30-09:45

Plantar Pressure Parameters for Dynamic Gait Stability Analysis, pp. 4465-4468

Lemaire, Edward
Biswas, Ajoy
Kofman, Jonathan

The Ottawa Hospital Rehabilitation Centre
Univ. of Ottawa
Univ. of Waterloo

09:45-10:00

Vision Analysis in Detecting Abnormal Breathing Activity in Application to Diagnosis of Obstructive Sleep Apnoea, pp. 4469-4473

Wang, Ching Wei
Ahmed, Amr
Hunter, Andrew

Univ. of Lincoln
Univ. of Lincoln
Univ. of Lincoln

10:00-10:15

*Automated Detection of Videotaped Neonatal Seizures by Motion Segmentation Methods Based on Optical Flow Computation**

Tao, Guozhi
Karayiannis, Nicolaos

Univ. of Houston
Univ. of Houston

SaA15

O'Neill

Sensorimotor and Neuromuscular Systems (Oral Session)

09:00-09:15

Sensory Perception of Unexpected Sudden Changes in Floor Level During Human Gait, pp. 4474-4477

Ishikawa, Tatsuya
Kaji, Yuji
Nomura, Taishin

Osaka Univ.
Osaka Univ.
Osaka Univ.

09:15-09:30

Central Physiological Tremor Oscillators within a Hemifield Repetitive Visual Stimulation Paradigm, pp. 4478-4481

Dobrea, Monica Claudia
Dobrea, Dan Marius

"Gh. Asachi" Tech. Univ. Iasi
"Gh. Asachi" Tech. Univ. Iasi

09:30-09:45

A Musculotendon Contribution for Multijoint Hand Control, pp. 4482-4485

Galias, Nick
Matsuoka, Yoky

Carnegie Mellon Univ.
Carnegie Mellon Univ.

09:45-10:00

Passive Dynamics of a Hybrid Neuromechanical Joint Incorporating Living Muscle, pp. 4486-4489

Sundar, Kartik
Ting, Lena H.
DeWeerth, Stephen P.

Georgia Inst. of Tech.
Emory Univ. and Georgia Inst. of Tech.
Georgia Inst. of Tech.

10:00-10:15

Effect of Fatigue on Muscle Elasticity in the Human Forearm Using Ultrasound Strain Imaging, pp. 4490-4493

Witte, Russell
Kim, Kang
Martin, Bernard
O'Donnell, Matthew

Univ. of Michigan
Univ. of Michigan
Univ. of Michigan
Univ. of Michigan

10:15-10:30

Can Human Isochrony Be Explained by a Computational Theory?, pp. 4494-4497

Saito, Hisashi
Tsubone, Tadashi
Wada, Yasuhiro

Nagaoka Univ. of Tech.
Nagaoka Univ. of Tech.
Nagaoka Univ. of Tech.

SaB01

Marquis AB

High-Order Spectral Analysis and Other Advanced Methods of Biomedical Signal Processing (Oral Session)

10:45-11:00

Fourth Order Approaches for Localization of Brain Current Sources, pp. 4498-4501

Albera, Laurent
Ferreol, Anne
Cosandier-Rimele, Delphine
Merlet, Isabelle
Wendling, Fabrice

INSERM - Univ. de Rennes1
THALES COMMUNICATIONS
INSERM - Univ. de Rennes 1
INSERM - Univ. de Rennes 1
INSERM - Univ. de Rennes 1

11:00-11:15

Nonlinear Analysis of Heart Murmurs Using Wavelet-Based Higher-Order Spectral Parameters, pp. 4502-4505

Taplidou, Styliani
Hadjileontiadis, Leontios

Aristotle Univ. of Thessaloniki
Aristotle Univ. of Thessaloniki

11:15-11:30

Non-Skin Contact Wireless Application of Ultra Wideband (UWB) for Estimation of Multiple Person Vital-Signs*

Rivera, Natalia V.
Venkatesh, Swaroop
Buehrer, R. Michael

School of Biomedical Engineering and Sciences, Virginia Tech. -
Bradley Dept. of Electrical Engineering and Computer Engineering
Bradley Dept. of Electrical Engineering and Computer Engineering

11:30-11:45

Nonlinear Characteristics of Wheezes As Seen in the Wavelet Higher-Order Spectra Domain, pp. 4506-4509

Taplidou, Styliani
Hadjileontiadis, Leontios

Aristotle Univ. of Thessaloniki
Aristotle Univ. of Thessaloniki

11:45-12:00

Dynamic Data Analysis in Obstructive Sleep Apnea, pp. 4510-4513

Karunajeewa, Samantha
Abeyratne, Udantha R
Rathnayake, Suren Indrajith
Swarnkar, Vinayak

UQ
Univ. of Queensland
Univ. of Queensland, Australia
Univ. of Queensland, Australia

12:00-12:15

A Detection Scheme for Frontalis and Temporalis Muscle EMG Contamination of EEG Data, pp. 4514-4518

Fu, Michael J.
Cavusoglu, M. Cenk
Daly, Janis J.

Case Western Res. Univ.
Case Western Res. Univ.
Case Western Res. Univ.

SaB02

Marquis C

Electrical Source Imaging (Oral Session)

10:45-11:00

Imaging 3-Dimensional Cardiac Electrical Activity from Intra-Cavity Potentials, pp. 4519-4519

He, Bin

Univ. of Minnesota

11:00-11:15

Things Arising from Electrocardiographic Imaging: Toward a Theory of Partial Inverse Problems, pp. 4520-4523

Greensite, Fred

Univ. of California, Irvine

11:15-11:30

Three-Dimensional Ventricular Activation Imaging by Means of Equivalent Current Source Modeling and Estimation, pp. 4524-4527

Liu, Zhongming
Liu, Chenguang
He, Bin

Univ. of Minnesota
Univ. of Minnesota
Univ. of Minnesota

11:30-11:45

Non-Invasive Laplacian Electrocardiography and Moment of Activation Mapping, pp. 4528-4531

Besio, W. G.
Chen, Ting

Louisiana Tech. Univ.
Louisiana Tech. Univ.

11:45-12:00

Large Scale Kalman Filtering Solutions to the Electrophysiological Source Localization Problem a Meg Case Study, pp. 4532-4535

Long, Christopher John	Massachusetts General Hospital/ Massachusetts Inst. of Tech.
Purdon, Patrick L.	Massachusetts General Hospital/ Massachusetts Inst. of Tech.
Temereanca, Simona	Massachusetts General Hospital/ Massachusetts Inst. of Tech.
Desai, Neil U	Massachusetts Inst. of Tech.
Hamalainen, Matti	Massachusetts General Hospital
Brown, Emery N	MGH-Harvard Medical School-MIT

12:00-12:15

A High-Resolution Anisotropic Finite-Volume Head Model for EEG Source Analysis, pp. 4536-4539

Cook, Michael	Univ. of Alberta
Koles, Zoltan	Univ. of Alberta

SaB03

SoHo-Herald

Computational Genomics, Epigenomics, and Proteomics I (Oral Session)

10:45-11:00

A Computational Model for Reading Frame Maintenance, pp. 4540-4543

Ponnala, Lalit	NC State Univ.
Bitzer, Donald	NC State Univ.
Stomp, Anne-Marie	NC State Univ.
Vouk, Mladen	NC State Univ.

11:00-11:15

The Genomic Structure: Proof of the Role of Non-Coding DNA, pp. 4544-4547

Bouaynaya, Nidhal	Univ. of Illinois at Chicago
Schonfeld, Dan	Univ. of Illinois at Chicago

11:15-11:30

Syndrome-Based Discrimination of Single Nucleotide Polymorphism, pp. 4548-4551

May, Elebeoba	Sandia National Lab.
Dolan, Patricia	Sandia National Lab.
Crozier, Paul	Sandia National Lab.
Brozik, Susan	Sandia National Lab.

11:30-11:45

Automated Method for Predicting Enzyme Functional Surface and Locating Key Residues with Accuracy and Specificity, pp. 4552-4555

Tseng, Yan Yuan	Univ. of Illinois at Chicago
Liang, Jie	Univ. of Illinois at Chicago

11:45-12:00

Design and Implementation of Probability-Based Scoring Function for Peptide Mass Fingerprinting Protein Identification, pp. 4556-4559

Song, Zhao	Univ. of Missouri-Columbia
Xu, Dong	Univ. of Missouri-Columbia
Chen, Luonan	Osaka Sangyo Univ.
Zhang, Chao	Univ. of Missouri-Columbia

12:00-12:15

Ant Colony Optimization for Biomarker Identification from MALDI-TOF Mass Spectra, pp. 4560-4563

Ressom, Habtom	Georgetown Univ.
Varghese, Rency	Georgetown Univ. Medical Center
Orvisky, Eduard	Georgetown Univ.
Drake, Steven	NIH
Hortin, Glen	NIH
Abdel-Hamid, Mohamed	NHTMRI
Loffredo, Christopher	Georgetown Univ.
Goldman, Radoslav	Georgetown Univ.

SaB04

Ziegfeld

Signal Processing and Modeling in Central and Peripheral Nervous System (Oral Session)

10:45-11:00

- Estimation of the Center of Body Mass During Forward Stepping Using Body Acceleration***, pp. 4564-4567
 Han, Jungmok Univ. of Manitoba
 Betker, Aimee L. Univ. of Manitoba
 Szturm, Tony Univ. of Manitoba
 Moussavi, Zahra Univ. of Texas at El Paso

11:00-11:15

- Nonlinear Characteristics of Visual Evoked Potential in Glaucoma Patients and Their Correlation with the Visual Responses on Magnocellular and Parvocellular Pathways***, pp. 4568-4571
 Momose, Keiko Waseda Univ.
 Kiyosawa, Motohiro Tokyo Medical and Dental Univ.

11:15-11:30

- Using Component Synchrony Measure for Somatosensory Evoked Potential Detection***, pp. 4572-4575
 Melges, Danilo Barbosa Federal Univ. of Rio de Janeiro
 Miranda de Sá, Antonio Mauricio Ferreira Leite Federal Univ. of Rio de Janeiro
 Infantosi, Antonio Fernando Catelli Federal Univ. of Rio de Janeiro

11:30-11:45

- Combined Sagittal and Coronal Plane Postural Stability Model***, pp. 4576-4579
 Bustamante Valles, Karla Dolores Marquette Univ.
 Schneider, Jennifer Melissa Marquette Univ.
 Long, Jason Medical Coll. of Wisconsin
 Riedel, Susan Marquette Univ.
 Johnson, Michelle Medical Coll. of Wisconsin/Marquette Univ.
 Harris, Gerald Marquette Univ.

11:45-12:00

- Optimal Window Length in the Windowed Adaptive Chirplet Analysis of Visual Evoked Potentials***, pp. 4580-4583
 Cui, Richard, J. Univ. of Toronto
 Wong, Willy Univ. of Toronto

12:00-12:15

- Reconstructed Phase Spaces of Intrinsic Mode Functions. Application to Postural Stability Analysis***, pp. 4584-4589
 Snoussi, Hichem Univ. de Tech. de Troyes
 Amoud, Hassan Univ. de Tech. de Troyes
 Doussot, Michel Univ. de Tech. de Troyes
 Hewson, David J. Univ. de Tech. de Troyes
 Duchêne, Jacques Univ. de Tech. de Troyes

SaB05

Duffy-Columbia

Biological and Chemical Sensors (Oral Session)

10:45-11:00

- Lateral Field Excitation (LFE) of Thickness Shear Mode (TSM) Acoustic Waves in Thin Film Bulk Acoustic Resonators (FBAR) As a Potential Biosensor***, pp. 4590-4593
 Dickherber, Anthony Georgia Inst. of Tech.
 Corso, Christopher David Georgia Inst. of Tech.
 Hunt, Bill Georgia Inst. of Tech.

11:00-11:15

Characterization of Gold Electrodes in Phosphate Buffered Saline Solution by Impedance and Noise Measurements for Biological Applications, pp. 4594-4597

McAdams, Eric
Jossinet, Jacques
Raman, Subramanian
McCauley, Ruth

Univ. of Ulster
INSERM
Univ. of Ulster at Jordanstown
Univ. of Ulster at Jordanstown

11:15-11:30

Novel Measurement Method for Magnetic Particles, pp. 4598-4601

Mäkiranta, Jarkko
Verho, Jarmo
Lekkala, Jukka
Matintupa, Nuutti

Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Univ. of Jyväskylä

11:30-11:45

Cavity-Enhanced Biosensing Utilizing Plasmon Resonance Modes, pp. 4602-4605

Razansky, Daniel
Einziger, Pinchas
Adam, Dan

Tech. - Israel Inst. of Tech.
Tech. - Israel Inst. of Tech.
Tech. - Israel Inst. of Tech.

11:45-12:00

Fabrication of Polymer Neural Probes with Sub-Cellular Features for Reduced Tissue Encapsulation, pp. 4606-4609

Seymour, John P.
Kipke, Daryl

Univ. of Michigan
Univ. of Michigan

12:00-12:15

Fabrication of Impedimetric Sensors for Label-Free Point-Of-Care Immunoassay Cardiac Marker Systems, with Passive Microfluidic Delivery., pp. 4610-4614

Tweedie, Mark
Raman, Subramanian
Lemoine, Patrick
Craig, Ian
McAdams, Eric
McLaughlin, James
MacCraith, Brian
Kent, Nigel

Univ. of Ulster at Jordanstown
Univ. of Ulster at Jordanstown
Univ. of Ulster at Jordanstown
Univ. of Ulster at Jordanstown
Univ. of Ulster at Jordanstown
Univ. of Ulster at Jordanstown
Dublin City Univ.
Dublin City Univ.

SaB07

Cantor-Jolson

Respiratory System Modeling and Signal Processing (Oral Session)

10:45-11:00

Differences in Phi Recovery in CO₂-Chemosensitive and Non-Chemosensitive Cells: Predictions from a Mathematical Model*

Cordovez, Juan
Clausen, Chris
Moore, Leon C.
Solomon, Irene

SUNY Stony Brook
SUNY Stony Brook
SUNY at Stony Brook
State Univ. of New York at Stony Brook

11:00-11:15

Fractal Fluctuations in Breath Number, Period, and Amplitude Are Independently Controlled in Awake, Healthy Human, pp. 4615-4618

GEBBER, GERARD
Barman, Susan
Fadel, Paul

Michigan State Univ.
Michigan State Univ.
Univ. of Missouri

11:15-11:30

Fast Oscillatory Rhythms in Inspiratory Motor Discharge: A Mathematical Model, pp. 4619-4622

Chen, Xinnian
Solomon, Irene
Zhao, He
Chon, Ki
State Univ. of NY at Stony Brook
State Univ. of New York at Stony Brook
State Univ. of New York at Stony Brook
State Univ. of New York at Stony Brook

11:30-11:45

Apnea Detection Using Acoustical Means, pp. 4623-4626

Yadollahi, Azadeh
Moussavi, Zahra
Univ. of Manitoba
Univ. of Manitoba

11:45-12:00

Sensitized Central Controller of Ventilation in Rats with Chronic Heart Failure Contributes to Hyperpnea Little at Rest but More During Exercise, pp. 4627-4630

Miyamoto, Tadayoshi
Inagaki, Masashi
Takaki, Hiroshi
Kamiya, Atsunori
Kawada, Toru
Shishido, Toshiaki
Sugimachi, Masaru
Sunagawa, Kenji
National Cardiovascular Center Res. Inst.
National Cardiovascular Res. Inst.
National Cardiovascular Center Res. Inst.
National Cardiovascular Center Res. Inst.
Nat. Cardiovascular Center Res. Inst.
National Cardiovascular Center Res. Inst.
Natl Cardio Center Res. Inst.
Kyushu Univ.

12:00-12:15

Power-Based Segmentation of Respiratory Signals Using Forward-Backward Bank Filtering, pp. 4631-4634

Aoude, Ahmed
Motto, Alexis L.
Galiana, Henrietta L.
Brown, Karen
Kearney, Robert Edward
McGill Univ.
McGill Univ.
McGill Univ.
McGill Univ.
McGill Univ.

SaB08

Juilliard

Neural Stimulation and Prostheses 5 (Oral Session)

10:45-11:00

Mathematically Modeling the Effects of Electrically Stimulating Skeletal Muscle, pp. 4635-4638

Davidson, John Bilkey
Kim, Juliana
Cheng, Leo K
Rohrle, Oliver
Shorten, Paul
Soboleva, Tanya
Clarke, Ross
Pullan, Andrew
Univ. of Auckland
Univ. of Auckland
The Univ. of Auckland
Univ. of Auckland
AgResearch Limited
AgResearch Limited
AgResearch Limited
Univ. of Auckland

11:00-11:15

Models of Selective Stimulation with a Flat Interface Nerve Electrode for Standing Neuroprosthetic Systems, pp. 4639-4642

Schiefer, Matthew Anthony
Triolo, Ronald J.
Tyler, Dustin
Case Western Res. Univ.
Cleveland FES Center
Case Western Res. Univ.

11:15-11:30

Microassembly Techniques for a Three-Dimensional Neural Stimulating Microelectrode Array, pp. 4643-4646

Yao, Ying
Gulari, Ning
Wise, Kensall
Univ. of Michigan, Ann Arbor
Univ. of Michigan, Ann Arbor
Univ. of Michigan, Ann Arbor

11:30-11:45

Microelectronic Retinal Prosthesis: I. a Neurostimulator for the Concurrent Activation of Multiple Electrodes, pp. 4647-4650

Wong, Yan Tat
Dommel, Norbert Brian
Byrnes-Preston, Phil J.
Lehmann, Torsten
Lovell, Nigel H
Suaning, Gregg

Univ. of New South Wales
Univ. of New South Wales
The Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
The Univ. of Newcastle

11:45-12:00

Microelectronic Retinal Prosthesis: II. Use of High-Voltage CMOS in Retinal Neurostimulators, pp. 4651-4654

Dommel, Norbert Brian
Wong, Yan Tat
Byrnes-Preston, Phil J.
Lehmann, Torsten
Lovell, Nigel H
Suaning, Gregg

Univ. of New South Wales
Univ. of New South Wales
The Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
The Univ. of Newcastle

12:00-12:15

Generalized Series Solution for the Induced E-Field Distribution of Slinky-Type Magnetic Stimulators, pp. 4655-4658

Feitosa, Marcilio
Fontana, Eduardo

Departamento de Eletrônica e Sistemas, Univ. Pernambuco
Departamento de Eletrônica e Sistemas, Univ. Federal de Pernambu

SaB09

Gramercy-Olmstead

Intelligent Monitoring and Analysis Systems II (Oral Session)

10:45-11:00

An Integrated Cattle Health Monitoring System, pp. 4659-4662

Smith, Kevin D.
Martinez, Angel
Craddolph, Roland
Andresen, Daniel
Warren, Steve

Kansas State Univ.
Kansas State Univ.
Kansas State Univ.
Kansas State Univ.
Kansas State Univ.

11:00-11:15

Modeling of ECG Interpretation Methods Sharing Based on Human Experts Relations, pp. 4663-4666

Augustyniak, Piotr
Tadeusiewicz, Ryszard

AGH Univ. of Science and Tech.
AGH Univ. of Science and Tech.

11:15-11:30

A New Method to Estimate Arterial Blood Pressure Using Photoplethysmographic Signal, pp. 4667-4670

Jeong, In Cheol
Ko, Jae Il
Hwang, Sung Oh
Yoon, Hyung Ro

Yonsei Univ.
Yonsei Univ.
Yonsei Univ.
Yonsei Univ.

11:30-11:45

A Recursive Fuzzy Expert Systems for Sequential Pattern Recognition for Patient Status Monitoring in Operating Room, pp. 4671-4674

Xue, Joel
Krajnak, Michael

GE Healthcare
GE Healthcare Information Tech.

11:45-12:00

Thickness Dependent Tortuosity Estimation for Retinal Blood Vessels, pp. 4675-4678

azegrouz, hind
Trucco, Emanuele
Dhillon, Baljean
MacGillivray, Thomas
MacCormick, Ian J

Heriot Watt Univ.
Heriot Watt Univ.
Princess Alexandra Eye Pavilion
Univ. of Edinburgh
The Univ. of Edinburgh

12:00-12:15

Multi-Channel EEG Based Neonatal Seizure Detection, pp. 4679-4684

Greene, Barry
Reilly, Richard
Boylan, Geraldine
de Chazal, Philip
Connolly, Sean

Univ. Coll. Dublin
Univ. Coll. Dublin
Univ. Coll. Cork
BiancaMed Ltd
St. Vincent's Univ. Hospital

SaB11

Belasco

Critical (Medical) Information Protection: A Privacy/Security and Information Assurance Debate (Minisymposium)

Organizer: Coatrieux, Gouenou
Organizer: Kun, Luis

ENST Bretagne - Inserm
IRMC-NDU

10:45-11:00

Homecare and Disease Prevention: Reviewing a Decade of Evolution - Privacy Still the Biggest Hurdle (I), pp. 4685-4685

Kun, Luis

IRMC-NDU

11:00-11:15

The Need for Technical Solutions for Maintaining the Privacy of EHR (I), pp. 4686-4689

Ray, Pradeep
Wimalasiri, Jaminda

Univ. of New South Wales
Univ. of New South Wales

11:15-11:30

Maintaining Security and Privacy of Patient Information (I), pp. 4690-4690

Ferrante, Frank

11:30-11:45

A Review of Image Watermarking Applications in Healthcare (I), pp. 4691-4694

Coatrieux, Gouenou
Lecornu, Laurent
Roux, Christian
Sankur, Bulent

ENST Bretagne - Inserm
GET ENST Bretagne
ENST Bretagne - INSERM
Bogazici Univ.

SaB12

Palace Wintergarden

Retinal Image Analysis II (Oral Session)

10:45-11:00

Design of an Ultrasonic Micro-Array for Near Field Sensing During Retinal Microsurgery, pp. 4695-4699

Clarke, Clyde
Etienne-Cummings, Ralph

Morgan State Univ.
Johns Hopkins Univ.

11:00-11:15

The Design and Testing of an Epi-Retinal Vision Prosthesis Neurostimulator Capable of Concurrent Parallel Stimulation, pp. 4700-4709

Dommel, Norbert Brian
Wong, Yan Tat
Byrnes-Preston, Phil J.
Lehmann, Torsten
Lovell, Nigel H
Suanning, Gregg

Univ. of New South Wales
Univ. of New South Wales
The Univ. of New South Wales
Univ. of New South Wales
Univ. of New South Wales
The Univ. of Newcastle

11:15-11:30

Increased Resolution Macular Thickness Mapping by OCT, pp. 4710-4713

Bernardes, Rui Association for Innovation and Biomedical Res. on Light and Imag
Santos, Torcato Association for Innovation and Biomedical Res. on Light and Imag
Cunha-Vaz, José Association for Innovation and Biomedical Res. on Light and Imag

11:30-11:45

Automated Change Analysis from Fluorescein Angiograms for Monitoring Wet

Macular Degeneration, pp. 4714-4717

Narasimha-Iyer, Harihar Lickenbrock Engineering Inc
Can, Ali GE Global Res.
Roysam, Badrinath Rensselaer Pol. Inst.
Stern, Jeffrey Northeastern Retina Specialists

11:45-12:00

Autofocusing for Automated Microscopic Evaluation of Blood Smear and Pap Smear, pp. 4718-4721

Liu, Xinyu Univ. of Toronto
Wang, Wenhui Univ. of Toronto
Sun, Yu Univ. of Toronto

12:00-12:15

Registration of Retinal Angiograms Using Self Organizing Maps, pp. 4722-4725

Asvestas, Pantelis Inst. Of Communication & Computer Systems
Matsopoulos, George K. Inst. Of Communication & Computer Systems
Mouravliansky, Nikolaos Inst. Of Communication & Computer Systems
Delibasis, Konstantinos Inst. Of Communication & Computer Systems

SaB14

Chelsea-Gotham

Clinical Engineering and Healthcare Information Systems Best Practices I (Oral Session)

10:45-11:00

Electrical Safety Priority Index for Medical Equipment*

Ortiz-Posadas, Martha Univ. Autónoma Metropolitana Iztapalapa

11:00-11:15

Using Web Technique in the Managing Regulatory Requirements of Medical Equipment for the Nursing Department*

Chien, Chia-Hung National Taiwan Univ.
Hwang, Bao-Hwa National Taiwan Univ. Hospital
Lin, Thuey-Ru National Taiwan Univ. Hospital
WANG, Cheng-Yi Coll. of Medicine, National Taiwan Univ. Hospital
Chong, Fok-Ching National Taiwan Univ.

11:15-11:30

A Communication Tool to Improve the Patient Journey Modeling Process, pp. 4726-4730

Curry, Joanne Marie Univ. of Western Sydney
McGregor, Carolyn Univ. of Western Sydney
Tracy, Sally Univ. of New South Wales

11:30-11:45

An Integrated Healthcare Enterprise Information Portal and Healthcare Information System Framework, pp. 4731-4734

Hsieh, Sheau-Ling	National Chiao Tung Univ.
Lai, Feipei	National Taiwan Univ.
Cheng, Po-Hsun	National Taiwan Univ. Hospital
Chen, Chuen-Liang	National Taiwan Univ.
Lee, Hsiu-Hui	National Taiwan Univ.
Tsai, Wen-Nung	National Chiao Tung Univ.
Weng, Yung-Ching	National Taiwan Univ.
Hsieh, Sung-Huai	National Taiwan Univ.
Hsu, Kai-Ping	National Taiwan Univ.
Ko, Li-Fan	National Taiwan Univ.
Chen, Chi-Huang	National Taiwan Univ.
Yang, Tzu-Hsiang	National Taiwan Univ. Hospital

11:45-12:00

FUJI-Scheduler : Outpatient-Test-Order-Management Function for Order Entry System, pp. 4735-4738

Toyoda, Shuichi	Jobu Univ.
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12:00-12:15

EHTP: Improving Health Quality through Health Technology*

Judd, Tom	Kaiser Permanente consultant; WHO consultant
Heimann, Peter	World Health Organization
Issakov, Andrei	World Health Organization

SaBP1

Westside Ballroom South

Image Analysis: Applications II (Poster Session)

10:45-11:00

Analysis of Corneal Images for the Recognition of Nerve Structures, pp. 4739-4742

Ruggeri, Alfredo	Univ. of Padova
Scarpa, Fabio	Univ. of Padova
Grisan, Enrico	Univ. of Padova

11:00-11:15

A Novel Image Capture System for Use in Telehealth Applications, pp. 4743-4746

Lim, Ed W	Univ. of NSW
Celler, Branko George	Univ. of New South Wales
Basilakis, Jim	Univ. of NSW
Taubman, David S.	Univ. of New South Wales

11:15-11:30

SVM Based System for Classification of Microcalcifications in Digital Mammograms, pp. 4747-4750

Singh, Sukhvinder	Sant Longowal Inst. of Engineering and Tech.
Kumar, Vinod	IIT Roorkee
Verma, H. K.	IIT Roorkee
Singh, Dilbag	Dr. B. R. Ambedkar National Inst. of Tech. Jalandhar

11:30-11:45

Diffusion Equations with Negentropy Applied to Denoise Mammographic Images, pp. 4751-4754

Mayo, Patricia	Univ. Pol. de Valencia
Rodenas, Francisco	Univ. Pol. de Valencia
Ginestar, Damian	Univ. Pol. de Valencia
Verdú, Gumersindo	Pol. Univ. of Valencia
Miró, Rafael	Pol. Univ. of Valencia

11:45-12:00

Using Gabor Filter Banks and Temporal-Spatial Constraints to Compute 3D Myocardium Strain, pp. 4755-4758

chen, ting
Axel, Leon

NYU
NYU Medical Center

12:00-12:15

Detecting Prostatic Adenocarcinoma from Digitized Histology Using a Multi-Scale Hierarchical Classification Approach, pp. 4759-4762

Doyle, Scott
Rodriguez, Carlos
Madabhushi, Anant
Feldman, Michael
Tomaszewski, John

Rutgers Univ.
Rutgers Univ.
Rutgers Univ.
Univ. of Pennsylvania
Univ. of Pennsylvania

SaBP2

Westside Ballroom South

Image Processing and Analysis (Poster Session)

10:45-11:00

The Theory of Cross Point Regions with Ideal Cross Point Regions for Medical Image Compression*

Dang, Tin T.
Higuchi, Seihaku
Vu, Dinh Thanh
Nguyen, Kim Sach

Hochiminh City Univ. of Tech.
Osaka Sangyo Univ.
Hochiminh city Univ. of Tech.
Hochiminh city Univ. of Tech.

11:00-11:15

Threshold Optimization of Adaptive Template Filtering for MRI Based on Intelligent Optimization Algorithm, pp. 4763-4766

Guo, Lei
Wu, Youxi
Liu, Xuena
Li, Ying
Xu, Guizhi
Yan, Weili

Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.
Hebei Univ. of Tech.

11:15-11:30

Statistical Analysis of Difference Image for Absolutely Lossless Compression of Medical Images, pp. 4767-4770

Ashraf, Robina
Akbar, Muhammad
Jafri, Noman

National Univ. of Sciences & Tech.
National Univ. of sciences & Tech. Pakistan
National Univ. of Sciences & Tech. Pakistan

11:30-11:45

A System for Automatic Quantification of Cigarette Smoking Behavior., pp. 4771-4774

Stitt, Joseph
Kozlowski, Lynn

Pennsylvania State Univ.
Pennsylvania State Univ.

11:45-12:00

SVM-Based Texture Classification and Application to Early Melanoma Detection, pp. 4775-4778

Yuan, Xiaojing
Yang, Zhenyu
Zouridakis, George
Mullani, Nizar

Univ. of Houston
Univ. of Houston
Univ. of Houston
Translite, LLC

12:00-12:15

Significance of MPEG-7 Textural Features for Improved Mass Detection in Mammography, pp. 4779-4782

Eltonsy, Nevine
Tourassi, Georgia
Fadeev, Aleksey
Elmaghraby, Adel

Univ. of Louisville
Duke Univ. Medical Center
Univ. of Louisville
Univ. of Louisville

12:00-12:15
A Fast Eye-Movement Tracking Using Cross-Division Algorithm*
 Cho, Jongman Inje Univ.

12:00-12:15
Fuzzy Wavelet and Contourlet Based Contrast Enhancement*
 Nezhadarya, Ehsan Sharif Univ. of Tech.
 Shamsollahi, Mohammad Bagher Sharif Univ. of Tech.
 Sayadi, Omid Sharif Univ. of Tech.

12:00-12:15
Three-Dimensional Digital Image Analysis of Immunostained Neurons in Thick Tissue Sections, pp. 4783-4786
 Selinummi, Jyrki Tampere Univ. of Tech.
 Ruusuvoori, Pekka Tampere Univ. of Tech.
 Lehmussola, Antti Tampere Univ. of Tech.
 Huttunen, Heikki Tampere Univ. of Tech.
 Yli-Harja, Olli Tampere Univ. of Tech.
 Miettinen, Riitta Univ. of Kuopio

12:00-12:15
Platelet-Based MPLE Method for Denoising of Brain and Cardiac SPECT Images, pp. 4787-4790
 Riyahi-Alam, Nader Tehran Univ. of Medical Sciences (TUMS)
 Takavar, abbas tehran Univ. of medical sciences(TUMS)
 Alibabaei, Naghmeh Tehran Univ. of Medical Sciences(TUMS), School of
 Sohrabi, M Tehran Univ. of Medical Sciences(TUMS), School of Medicine
 Fard-Esfahani, A Tehran Univ. of Medical Sciences(TUMS), School of Medicine
 Oghabian, Mohammad Ali Tehran Univ. of Medical Sciences
 Bakhtiary, Morteza Res. Center for Science and Tech. in Medicine

12:00-12:15
Performance Evaluation of Feature Extraction Methods for Classifying Abnormalities in Ultrasound Liver Images Using Neural Network, pp. 4791-4794
 maheshkumar, poonguzhali Coll. of Engineering ,Guidy, Anna Univ. .
 gurubatham, ravindran Coll. of Engineering ,Guidy, Anna Univ.

12:00-12:15
Progressive Image Transmission for Medical Applications Based on Wavelet Transform with a Non-Uniform Scalar Quantization Scheme, pp. 4795-4798
 Lu, Yi Insightful Corp.
 Zheng, Jun Queens Coll. - City Univ. of New York
 Jiang, Yingtao Univ. of Nevada
 Yang, Mei Univ. of Nevada, Las Vegas
 Fu, Bingmei The City Coll. of New York
 Hou, Wensheng Bioengineering Inst. of Chongqing Univ.

12:00-12:15
A Dental Vision System for Accurate 3D Tooth Modeling, pp. 4799-4802
 Zhang, Li Univ. of Bristol, UK
 Alemzadeh, Kazem Univ. of Bristol, UK

12:00-12:15
Image Registration Based on Neural Network and Fourier Transform, pp. 4803-4806
 Abche, Antoine Univ. of Balamand
 Yaacoub, Fadi Univ. of Balamand
 Maalouf, Aldo Univ. of Balamand
 Karam, Elie Univ. of balamand

12:00-12:15
Parametric 3D Hip Joint Segmentation for the Diagnosis of Developmental Dysplasia, pp. 4807-4810
 de Luis-García, Rodrigo Univ. of Valladolid
 Alberola-López, Carlos Univ. de Valladolid

12:00-12:15

The Effects of Sampling Rate on the Texture Separability of Ultrasound Images, pp. 4811-4814

Lai, Chao-Wei

National Taiwan Univ.

Tsao, Jenho

National Taiwan Univ.

Lo, Men-Tzung

National Taiwan Univ.

12:00-12:15

Image Quality Assessment Based on Local Variance, pp. 4815-4818

Aja-Fernandez, Santiago

Lab. of Mathematics in Imaging, Brigham and Women's Hospital, Ha

San Jose Estepar, Raul

Lab. of Mathematics in Imaging, Brigham and Women's Hospital, Ha

Alberola-López, Carlos

Univ. de Valladolid

Westin, Carl-Fredrik

Brigham and Women's Hospital, Harvard Medical School

12:00-12:15

Acceleration of Fiber Tracking in DTI Tractography by Reconfigurable Computer Hardware, pp. 4819-4822

Singh, Manbir

Univ. of Southern California

Kwatra, Aditya

Univ. of Southern California

Wong, Chi Wah

Univ. of Southern California

Prasanna, Viktor

Univ. of Southern California

12:00-12:15

Nonrigid Registration of Images with Different Topologies Using Embedded Maps, pp. 4823-4827

Wyatt, Christopher Lee

Virginia Tech.

Laurienti, Paul

Wake Forest Univ. Health Sciences

12:00-12:15

A Method for the Dynamic Analysis of the Heart Using a Lyapounov Based

Denoising Algorithm, pp. 4828-4831

Sanches, João

Inst. Superior Técnico / Inst. de Sistemas e Robótica

Nascimento, Jacinto

Inst. Superior Técnico / Inst. de Sistemas e Robótica

Marques, Jorge

Inst. Superior Técnico and Inst. for Systems and Robotics

12:00-12:15

Source Localization of Subtopographic Brain Maps for Event Related Potentials (ERP), pp. 4832-4834

Duru, Adil Deniz

Univ. of Bogazici

Bayram, Ali

Univ. of Bogazici

Demiralp, Tamer

Univ. of Istanbul, Medical School

Ademoglu, Ahmet

Univ. of Bogazici

12:00-12:15

Framework for Creating New Discriminants for Detecting DTI Properties: DTI Mapper, pp. 4835-4839

Sakai, Koji

Kyoto Univ.

12:00-12:15

Qualitative Visual Image Analysis of Bruise Age Determination: A Survey, pp. 4840-4843

Dimitrova, Tatyana Velikova

Rousse Univ.

Georgieva, Lidia Hristova

Rousse Univ.

Pattichis, Constantinos

Univ. of Cyprus

Neofytou, Marios

Univ. of Cyprus

12:00-12:15

Image Analysis for Neuroblastoma Classification: Segmentation of Cell Nuclei, pp. 4844-4847

Gurcan, Metin

The Ohio State Univ.

12:00-12:15

An Automated Tool for Face Recognition Using Visual Attention and Active Shape

Models Analysis, pp. 4848-4852

Faro, Alberto

Univ. di Catania

Giordano, Daniela

Univ. di Catania

Spampinato, Concetto

Univ. di Catania

12:00-12:15

Three Comparative Approaches for Breast Density Estimation in Digital and Screen Film Mammograms, pp. 4853-4856

Chang, Ruey-Feng
Chang-Chien, Kuang-Che
Takada, Etsuo
Suri, Jasjit
Moon, Woo Kyung
Wu, Jeffery H.K.
Cho, Nariya
Wang, Yi-Fa
Chen, Dar-Ren

National Chung Cheng Univ.
National Chung Cheng Univ.
Dokkyo Univ. School of Medicine
Biomedical Tech.
Seoul National Univ. Hospital
Changhua Christian Hospital
Seoul National Univ. Hospital
National Chung Cheng Univ.
Changhua Christian Hospital

12:00-12:15

Tissue Image Interpolation Based on Fractional Brownian Motion, pp. 4857-4860

Li, Ching Lin
Ting, Wen-Hung
Cheng, Kuo-Sheng

National Cheng Kung Univ.
National Cheng Kung Univ.
National Cheng Kung Univ.

12:00-12:15

Wireless Capsule Endoscopy Images Enhancement by Tensor Based Diffusion, pp. 4861-4864

Li, Baopu
Meng, Max Qinghu

The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong

SaBP3

Westside Ballroom South

Image Retrieval, Visualization, and Volume Rendering II (Poster Session)

10:45-11:00

Automated Classification of Cerebral Arteries in MRA Images and Its Application to Maximum Intensity Projection, pp. 4865-4868

Uchiyama, Yoshikazu
Yamauchi, Masashi
Ando, Hiromichi
Yokoyama, Ryujiro
Hara, Takeshi
Fujita, Hiroshi
Iwama, Toru
Hoshi, Hiroaki

Gifu Univ.
Gifu Univ.
Graduate School of Medicine, Gifu Univ.
Gifu Univ.
Gifu Univ. Graduate Sch of Medicine
Gifu Univ.
Graduate School of Medicine, Gifu Univ.
Gifu Univ.

11:00-11:15

Segmentation of Lung Lobes in Volumetric CT Images for Surgical Planning of Treating Lung Cancer, pp. 4869-4872

Wei, Qiao
Hu, Yaoping
MacGregor, J. H.
Gelfand, Gary

Univ. of Calgary
The Univ. of Calgary
Foothills Medical Center
Foothills Medical Center

11:15-11:30

Investigation on Virtual Palpation System Using Ultrasonic Elasticity Imaging, pp. 4873-4876

HAMAMOTO, Kazuhiko

Tokai Univ.

11:30-11:45

Progress in Visualizing Turbulent Flow Using Single-Echo Acquisition Imaging, pp. 4877-4880

Wright, Steven M.
McDougall, Mary P.
Bosshard, John

Texas A&M Univ.
Texas A&M Univ.
Texas A&M Univ.

11:45-12:00

Circumferential Resection Margin Assessment on MRI of Rectal Cancer, pp. 4881-4884

Petroudi, Styliani
Brown, Gina
Bond, Sarah
Brady, Michael

Univ. of Oxford
Royal Marsden Hospital NHS Foundation Trust
Oxford Univ.
Univ. of Oxford

12:00-12:15

Sampling DTI Fibers in the Human Brain Based on DWI Forward Modeling, pp. 4885-4888

Zhang, Song
Laidlaw, David

Brown Univ.
Brown Univ.

12:00-12:15

Classification and Retrieval of Medical Images in an Integrated Healthcare Environment, pp. 4889-4892

José, Alexandre Bellezi
Reis, Maria do Carmo dos
Camapum, Juliana Fernandes
Carvalho, Hervaldo Sampaio
França Vasconcelos, Daniel
da Rocha, Adson F.
Barbosa, Talles M. G. de A.

Univ. of Brasília
Univ. of Brasília
Univ. de Brasília
Univ. of Brasília
UnB - HUB
Univ. of Brasilia
Catholic Univ. of Goiás

SaBP4

Westside Ballroom South

New Techniques in Rehabilitation III (Poster Session)

10:45-11:00

Development of the Navigation System for the Visually Impaired by Using White Can, pp. 4893-4896

Hirahara, Yoshiaki
Sakurai, Yusuke
Siizu, Yuriko
Yanashima, Kenji
Magatani, Kazushige

Tokai Univ.
Tokai Univ.
Tokai Univ.
National Rehabilitation Center for the Disabled
TOKAI Univ.

11:00-11:15

Neural Observer Based Spasticity Quantification During Therapeutic Muscle Stimulation, pp. 4897-4900

Bernhardt, Michael
Angerer, Bernhard
Buss, Martin
Struppler, Albrecht

Tech. Univ. Muenchen
Tech. Univ. Muenchen
Tech. Univ. Muenchen
Tech. Univ. Muenchen

11:15-11:30

Analysis of Prosody in Finger Braille Using Electromyography, pp. 4901-4904

Miyagi, Manabi
Nishida, Masafumi
Horiuchi, Yasuo
Ichikawa, Akira

Chiba Univ.
Chiba Univ.
Chiba Univ.
Chiba Univ.

11:30-11:45

Design and Development of a Low-Cost Eye Tracking System for the Rehabilitation of the Completely Locked-In Patient, pp. 4905-4908

Abu-Faraj, Ziad
Mashaalany, Maya
Bou Sleiman, Habib
Heneine, Jean-Louis
Al Katergi, Waleed

American Univ. of Science & Tech.
American Univ. of Science & Tech.
American Univ. of Science & Tech.
American Univ. of Science & Tech.
American Univ. of Science & Tech.

11:45-12:00

Transfer Information Enhancement with a 2-D Tactile Stimulator Array for Acoustic Vision Substitute System, pp. 4909-4912

Taki, Hirofumi
Sato, Toru

Kyoto Univ.
Kyoto Univ.

12:00-12:15

Space Cognitive Map As a Tool for Navigation for Visually Impaired., pp. 4913-4916

Pissaloux, Edwige
Maingreaud, Flavien
Hafez, Moustapha
Velazquez, Ramiro

Univ. Paris 6
Univ. Paris 6 et CEA/LIST
CEA
Univ. Paris 6

12:00-12:15

M3S-Based Electrical Wheelchair with Head-Controlled Device, pp. 4917-4920

Chen, Show-Hong
Chen, Yu-luen
Kuo, Te-son
Chu, Chiung-Yu
Chao-Nan, Hung

National Taiwan Univ.
Hwa-Hsia Inst. of Tech.
Nation Taiwan Univ.
NCTU
Tung Nan Inst. of Tech.

12:00-12:15

Stopping Behavior in a VR Driving Simulator: A New Clinical Measure for the Assessment of Driving, pp. 4921-4924

Schultheis, Maria
Simone, Lisa
Roseman, Emily
Nead, Richard
Rebimbas, Jose
Mourant, Ronald

Drexel Univ.
New Jersey Inst. of Tech.
Drexel Univ.
Kessler Inst. for Rehabilitation
KMRREC
Northeastern Univ.

12:00-12:15

Novel Design of Interactive Multimodal Biofeedback System for Neurorehabilitation, pp. 4925-4928

Huang, He
CHEN, YINPENG
WeiWei, Xu
Sundaram, Hari
Olson, Loren
ingalls, todd
Rikakis, Thanassis
He, Jiping

Arizona State Univ.
Arizona State Univ.
Arizona State Univ.
Arizona State Univ.
Arizona State Univ.
Arizona State Univ.
Arizona State Univ.
Arizona State Univ.

12:00-12:15

Auditory Cortical Plasticity Induced by Intracortical Microstimulation under Pharmacological Blockage of Inhibitory Synapses, pp. 4929-4932

Yokota, Ryou
Suzurikawa, Jun
Takahashi, Hirokazu
funamizu, akihiro
uchihara, masanobu
kanzaki, ryohei

the Univ. of Tokyo
The Univ. of Tokyo
Univ. of Tokyo
the Univ. of Tokyo
the Univ. of Tokyo
the Univ. of Tokyo

12:00-12:15

Coactivations of Elbow and Shoulder Muscles in Hemiplegic Persons with Chronic Stroke During Robot-Assisted Training, pp. 4933-4935

Hu, Xiaoling
Song, Rong
Tong, Kai Yu, Raymond
Tsang, Sin Fai
Leung, Penny
Li, Le

The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.

12:00-12:15

*Conscious Control of Electrodermal Activity: The Potential of Mental Exercises**

Blain, Stefanie
Mihailidis, Alex
Chau, Tom

Univ. of Toronto
Univ. of Toronto
Univ. of Toronto

12:00-12:15

Development of a Measuring System of Contact Pressure During Braille Reading Using an Optical 6-Axis Force Sensor, pp. 4936-4940

Watanabe, Tetsuya
Oouchi, Susumu
Yamaguchi, Toshimitsu
Shimojo, Makoto
Shimada, Shigenobu

National Inst. of Special Education
National Inst. of Special Education
National Inst. of Special Education
The Univ. of Electro-Communications
Tokyo Metropolitan Industrial Tech. Res. Inst.

12:00-12:15

The Transcutaneous Charger for Implanted Nerve Stimulation Device, pp. 4941-4944

Niu, Chuansen
Hao, Hongwei
Li, Luming
Ma, Bozhi
Wu, Minsheng

Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.

12:00-12:15

The Therapeutic Effects of Myoelectrically Controlled Robotic System for Persons after Stroke-A Pilot Study, pp. 4945-4948

Song, Rong
Tong, Kai Yu, Raymond
Hu, Xiaoling
Tsang, Vincent
Li, Le

The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.
The Hong Kong Pol. Univ.

SaBP5

Westside Ballroom South

Computational Neurophysiology (Poster Session)

10:45-11:00

Amplification of Small Electric Fields by Neurons; Implications for Spike Timing, pp. 4949-4952

Radman, Thomas
Parra, Lucas
Bikson, Marom

The City Coll. of New York
The City Coll. of New York
The City Coll. of New York

11:00-11:15

Object Segmentation and Reconstruction Via an Oscillatory Neural Network: Interaction among Learning, Memory, Topological Organization and Gamma-Band Synchronization, pp. 4953-4956

Magosso, Elisa
Cuppini, Cristiano
Ursino, Mauro

Univ. of Bologna
Univ. of Bologna
Univ. of Bologna

11:15-11:30

Enhancement of Information Transmission with Stochastic Resonance in Hippocampal CA1 Neuron Models, pp. 4957-4960

Mino, Hiroyuki
Durand, Dominique
Kawaguchi, Minato

Kanto Gakuin Univ.
Case Western Res. Univ.
Kanto Gakuin Univ.

11:30-11:45

An Internal Model of Self-Motion Based on Inertial Signals., pp. 4961-4964

Ramat, Stefano
Pre, Deborah
Magenes, Giovanni

Univ. di Pavia
Univ. deglistudi di Pavia
Univ. of Pavia

11:45-12:00

Long-Term Potentiation Alters the Hippocampal Paired-Pulse Index in the Freely Behaving Neonatal Rat, pp. 4965-4966

Blaise, J. Harry
Arnett, Adrian

Trinity Coll.
Trinity Coll.

12:00-12:15

A Multi-Input Modeling Approach to Quantify Hippocampal Nonlinear Dynamic Transformations, pp. 4967-4970

Zanos, Theodoros
Courellis, Spiros
Hampson, Robert
Deadwyler, Sam
Marmarelis, Vasilis
Berger, Theodore

Univ. of Southern California
Univ. of Southern California
Wake Forest Univ.
Wake Forest Univ.
Univ. of Southern California
Univ. of Southern California

12:00-12:15

High Frequency Mammalian Nerve Conduction Block: Simulations and Experiments, pp. 4971-4974

Kilgore, Kevin
Bhadra, Niloy

MetroHealth Medical Center
Case Western Res. Univ.

12:00-12:15

Computational Modeling of A_β; Fiber Wind-Up, pp. 4975-4978

farajidavar, aydin
Towhidkhah, Farzad
mirhashemi, arash
gharibzadeh, shahriar
Behbehani, Khosrow

Amirkabir Univ. of Tech.
Amirkabir Univ. of Tech.
Amirkabir Univ. of Tech.
Amirkabir Univ. of Tech.
Univ. of Texas at Arlington

12:00-12:15

A Feedforward Hippocampal Circuit Associated with the Mossy Fiber Pathway Acts As an Adaptive Highpass Filter, pp. 4979-4982

Zalay, Osbert
Bardakjian, Berj Luther

Univ. of Toronto
Univ. of Toronto

12:00-12:15

Audiometric Threshold Screening Method Using Envelope Detection Filters of Intensity Ramping Click Auditory Steady-State Responses, pp. 4983-4986

Acikgoz, Nuri
Ozdamar, Ozcan
Delgado, Rafael E.
Bohorquez, Jorge

Univ. of Miami
Univ. of Miami
Univ. of Miami
Univ. of Miami

12:00-12:15

Acquisition and Analysis of High Rate Deconvolved Auditory Evoked Potentials During Sleep, pp. 4987-4990

Millan, Jorge
Ozdamar, Ozcan
Bohorquez, Jorge

Univ. of Miami
Univ. of Miami
Univ. of Miami

12:00-12:15

Analysis of a Gain Control Model of V1: Is the Goal Redundancy Reduction?, pp. 4991-4994

Shi, Jianing
Wielaard, Jim
Sajda, Paul

Columbia Univ.
Columbia Univ.
Columbia Univ.

SaBP6

Westside Ballroom South

Therapeutic Devices 3 (Poster Session)

10:45-11:00

Comparative Phantom Study on Epidural Anesthesia Needle, pp. 4995-4998

Naemura, Kiyoshi

Tokyo Univ. of Tech.

11:00-11:15

A New Infusion Pathway Intactness Monitoring System, pp. 4999-5000

Ogawa, Hidekuni
Yonezawa, Yoshiharu
Maki, Hiromichi
Ninomiya, Ishio
Sata, Koji
Hamada, Shingo
Caldwell, Morton

Hiroshima Inst. of Tech.
Hiroshima Inst. of Tech.
International Trinity Coll.
Hiroshima International Univ.
Shakaihoken Shimonoseki Kousei Hospital
Shakaihoken Shimonoseki Kousei Hospital
Caldwell Biomedical Electronics

11:15-11:30

A Portable Needle-Free Jet Injector Based on a Custom High Power-Density Voice-Coil Actuator, pp. 5001-5004

Taberner, Andrew
Ball, Nathan
Hogan, N. Catherine
Hunter, Ian

Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.

11:30-11:45

The Effect of Jet Parameters on Jet Injection, pp. 5005-5008

Wendell, Dawn
Hemond, Brian
Hogan, N. Catherine
Taberner, Andrew
Hunter, Ian

Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.

11:45-12:00

A Software Upgrade Method for Micro-Electronics Medical Implants, pp. 5009-5012

Cao, Yang
Hao, Hongwei
Xue, Lin
Li, Luming
Ma, Bozhi

Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.
Tsinghua Univ.

12:00-12:15

Contribution of Direct Heating, Thermal Conduction and Perfusion During Radiofrequency and Microwave Ablation, pp. 5013-5016

Schramm, Wolfgang
Yang, Deshan
Haemmerich, Dieter

Medical Univ. of South Carolina
Univ. of Wisconsin-Madison
Medical Univ. of South Carolina

12:00-12:15

Study of a Brain Hyperthermia System Providing Also Passive Brain Temperature Monitoring, pp. 5017-5020

Karanasiou, Irene
Uzunoglu, Nikolaos

National Tech. Univ. of Athens, Inst. of Communications and Comp
National Tech. Univ. of Athens

12:00-12:15

Electrical Isolation During Radiofrequency Ablation: 5% Dextrose in Water Provides Better Protection Than Saline, pp. 5021-5024

Brace, Christopher
Laeseke, Paul
Prasad, Vijay
Lee, Jr., Fred

Univ. of Wisconsin
Univ. of Wisconsin
Univ. of Wisconsin
Univ. of Wisconsin

12:00-12:15

Measurement of Safe Thermal Therapy Levels: The Case of Ultrasonic Waveguide Interstitial Applicator Array, pp. 5025-5028

Jarosz, Boguslaw J

Carleton Univ.

SaBP7

Westside Ballroom South

Pharmacokinetics and Dynamics (Poster Session)

10:45-11:00

Pharmacodynamic Modelling of Drug-Induced Ventilatory Depression and Automatic Drug Dosing in Conscious Sedation, pp. 5029-5032

Zanderigo, Eleonora	Swiss Federal Inst. of Tech.
Caruso, Antonello	Swiss Federal Inst. of Tech.
Bouillon, Thomas	Univ. Hospital Bern
Luginbuehl, Martin	Univ. Hospital Bern
Morari, Manfred	Swiss Federal Inst. of Tech.

11:00-11:15

Ordinary Differential Equation Models for Ethanol Pharmacokinetics Based on Anatomy and Physiology, pp. 5033-5036

Han, Jae-Joon	Purdue Univ.
Plawecki, Martin	Purdue Univ.
Doerschuk, Peter C.	Purdue Univ.
O'Connor, Sean	Indiana Univ. School of Medicine and Purdue Univ.
Ramchandani, Vijay	National Inst. of Alcohol Abuse and Alcoholism (NIAAA)

11:15-11:30

A Fuzzy Physiologically Based Pharmacokinetic Modeling Framework to Predict Drug Disposition in Humans, pp. 5037-5040

Seng, Kok-Yong	Univ. of Washington
Vicini, Paolo	Univ. of Washington
Nestorov, Ivan	Zymogenetics Inc.

11:30-11:45

An Improved PID Switching Control Strategy for Type 1 Diabetes, pp. 5041-5044

Marchetti, Gianni	Univ. of Padova
Barolo, Massimiliano	Univ. of Padova
Jovanovic, Lois	Sansum Diabetes Res. Inst.
Zisser, Howard	Sansum Diabetes Res. Inst.
Seborg, Dale	Univ. of California, Santa Barbara

11:45-12:00

Glucose Production by Deconvolution in Intravenous and Oral Glucose Tolerance Tests: Role of Output Variable, pp. 5045-5048

Chierici, Marco	Univ. of Padova
Pillonetto, Gianluigi	Univ. of Padova
Toffolo, Gianna	Univ. of Padova
Cobelli, Claudio	Univ. of Padova

12:00-12:15

Identification of IVGTT Minimal Glucose Model by Nonlinear Mixed-Effects Approaches, pp. 5049-5052

Denti, Paolo	Univ. of Padova
Bertoldo, Alessandra	Univ. of Padova
Vicini, Paolo	Univ. of Washington
Cobelli, Claudio	Univ. of Padova

SaBP8

Westside Ballroom South

Diagnostic Instrumentation and Physiological Measurements 3 (Poster Session)

10:45-11:00

Hypacusis Detector for Evaluation of Scholars in Field, pp. 5053-5055

Moreno, José Antonio	CINVESTAV-IPN
Hernández, Pablo_Rogelio	CINVESTAV-IPN
Cardiel, Eladio	CINVESTAV-IPN
Pérez, Santiago_Jesus	CECADET-UNAM
Martínez, Mario Alberto	CINVESTAV-IPN

11:00-11:15

Impedance Analyzer for in Vivo Electroporation Studies, pp. 5056-5059

Ivorra, Antoni
Rubinsky, Boris

Univ. of California at Berkeley
Univ. of California at Berkeley

11:15-11:30

RTD Fluxgate Performance for Application in Magnetic Label-Based Bioassay: Preliminary Results, pp. 5060-5063

Baglio, Salvatore
Andñ, Bruno
Ascia, Alberto
Bulsara, Adi
In, Visarath
Trigona, Carlo

Univ. of Catania
DIEES - Univ. of Catania
DIEES - Univ. of Catania
SPAWAR
SPAWAR
DIEES - Univ. of Catania

11:30-11:45

Fully-Integrated Heart Rate Variability Monitoring System with an Efficient Memory, pp. 5064-5067

Wang, Xiaoyue
Chen, Mingqi
Macchiarulo, Luca
Boric-Lubecke, Olga

Univ. of Hawaii at Manoa
Univ. of Hawaii Manoa
Univ. of Hawaii at Manoa
Univ. of Hawaii at Manoa

11:45-12:00

Tendon Reflexes Elicited Using a Computer Controlled Linear Motor Tendon Hammer, pp. 5068-5071

Archambeault, Mark
de Bruin, Hubert
McComas, Alan
Fu, Winnie

McMaster Univ.
McMaster Univ.
McMaster Univ.
Univ. of British Columbia

12:00-12:15

Simulation of Laser Ultrasonic Surface Wave Dispersion in a Multilayered Skin Model, pp. 5072-5075

L'Etang, Adele J
Huang, Zhihong
Yang, Di

Univ. of Dundee
Univ. of Dundee
Univ. of Dundee

12:00-12:15

Measurements of Ocular Properties in Response to Intraocular Pressure Changes Using an Ultrasonic System, pp. 5076-5079

He, Xiaoyin
Liu, Jun

The Ohio State Univ.
The Ohio State Univ.

12:00-12:15

Preliminary Study of Skeletal Muscles with Multi-Signals During Isometric Contraction, pp. 5080-5083

Shi, Jun
Zheng, Yongping
Yan, Zhuangzhi
Huang, Qinghua

Shanghai Univ.
The Hong Kong Pol. Univ.
Shanghai Univ.
The Hong Kong Pol. Univ.

12:00-12:15

A Simple Model to Measure Breath by Breath the VO2 and VCO2 in the Indirect Calorimetry Technique, pp. 5084-5087

Cadena, Miguel
Infante, Oscar

Univ. Autonoma Metropolitana
Inst. Nacional de Cardiologia Dr. Ignacio Chavez

12:00-12:15

Cuffless Estimation of Systolic Blood Pressure for Short Effort Bicycle Tests: The Prominent Role of the Pre-Ejection Period, pp. 5088-5092

Muehlsteff, Jens
Aubert, Xavier
Schuett, Marion

Philips
Philips Res. Lab. Aachen
Res.

12:00-12:15

Non-Restrictive Heart Rate Monitoring Using an Acceleration Sensor, pp. 5093-5096

Okada, Shima	Osaka Univ. Graduate School of Medicine, Div. Sciences
Fujiwara, Yoshihisa	SANYO Electric Co., Ltd.
Yasuda, Masashi	SANYO Electric Co., Ltd.
OHNO, Yuko	Osaka Univ. Graduate School of Medicine
Makikawa, Masaaki	Ritsumeikan Univ.

SaBP9	Westside Ballroom South
Diagnostic Instrumentation and Physiological Measurements 4 (Poster Session)	

10:45-11:00

Enhancing the Focusing Properties of an Ellipsoidal Beamformer Based Imaging System:

A Simulation Study, pp. 5097-5100

Trichopoulos, Georgios	National Tech. Univ. of Athens
Karanasiou, Irene	National Tech. Univ. of Athens, Inst. of Communications and Comp
Uzunoglu, Nikolaos	National Tech. Univ. of Athens

11:00-11:15

Simulation of Exercise-Dependent Difference in Metabolism with a Mathematical Model for Analyses of Measurements Using Near-Infrared Spectroscopy, pp. 5101-5104

Kek, Khai Jun	Hokkaido Univ.
Miyakawa, Takahiro	Hokkaido Univ.
Yoneyama, Satoko	Hokkaido Univ.
Kudo, Nobuki	Hokkaido Univ.
Yamamoto, Katsuyuki	Hokkaido Univ.

11:15-11:30

A True to Life Simulation of Electrosurgery, pp. 5105-5108

Shambroom, John R.	Shambroom Associates, LLC
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11:30-11:45

Detecting Exercise Induced Stress Using the Photoplethysmogram, pp. 5109-5112

Linder, Stephen Paul	Dartmouth Coll.
Wendelken, Suzanne	Dartmouth Coll.
Clayman, Jeffrey	DHMC

11:45-12:00

Heart Rate Detection from Plantar Bioimpedance Measurements, pp. 5113-5116

González Landaeta, Rafael	Castelldefels School of Tech. Tech. Univ. of Catalonia
Casas, Oscar	Castelldefels School of Tech. Tech. Univ. of Catalonia
Pallás-Areny, Ramon	Castelldefels School of Tech. Tech. Univ. of Catalonia

12:00-12:15

Continuous Blood Pressure Monitoring Using ECG and Finger Photoplethysmogram, pp. 5117-5120

Chua, Chern Pin	Univ. Coll. Dublin
Heneghan, Conor	Univ. Coll. Dublin

12:00-12:15

Current Source for Multifrequency Broadband Electrical Bioimpedance Spectroscopy Systems.

a Novel Approach, pp. 5121-5125

Seoane, Fernando	Univ. Coll. of Borís
Bragos, Ramon	Tech. Univ. of Catalonia (UPC)
Lindecrantz, Kaj	Univ. Coll. of Borís

12:00-12:15

Continuous Measurement of Calf Resistivity in Hemodialysis Patients Using Bioimpedance Analysis, pp. 5126-5128

Zhu, Fansan	Renal Res. Inst.
Leonard, Edward F.	Columbia Univ.
Carter, Mary	Renal Res. Inst.
levin, Nathan W.	Renal Res. Inst.

12:00-12:15

Hemodynamic Responses During Simulated Automobile Driving in a Monotonous Situation, pp. 5129-5132
Yamakoshi, Takehiro Kanazawa Univ.
Yamakoshi, Ken-ichi Kanazawa Univ.
Tanaka, Shinobu Kanazawa Univ.
Nogawa, Masamichi Kanazawa Univ.
Sawada, Yukihiro Sapporo Medical Univ.
Rolfe, Peter Oxford BioHorizons Ltd

12:00-12:15

Effects of Physiological Parameters on the Electrical Properties of Blood Bank Stored Erythrocyte Suspensions, pp. 5133-5136
SEZDI, MANA Bogaziçi Univ. Istanbul, Turkey
Ulgen, Yekta Bogazici Univ.

12:00-12:15

Complete Scanpaths Analysis Toolbox, pp. 5137-5140
Augustyniak, Piotr AGH Univ. of Science and Tech.
Mikrut, Zbigniew AGH Univ. of Science and Tech.

SaBP10 Westside Ballroom South
Healthcare Information Management (Poster Session)

10:45-11:00

Archetype-Based Semantic Integration and Standardization of Clinical Data, pp. 5141-5144
Moner, David Tech. Univ. of Valencia
Maldonado, José Alberto Tech. Univ. of Valencia
Bosca, Diego Tech. Univ. of Valencia
Fernández-Breis, Jesualdo Tomás Univ. de Murcia
Angulo, Carlos Tech. Univ. of Valencia
Crespo, Pere Tech. Univ. of Valencia
Vivancos Vicente, Pedro Jose Univ. OF MURCIA
Robles, Montserrat Tech. Univ. of Valencia

11:00-11:15

The Effect of Age on Web-Safe Color Visibility for a White Background, pp. 5145-5148
Saito, Daisuke Tokyo Denki Univ.
Saito, Keiichi Tokyo Denki Univ.
Notomi, Kazuhiro Kanagawa Inst. of Tech.
Saito, Masao Tokyo Denki Univ.

11:15-11:30

Application of Knowledge Management and the Intelligence Continuum for Medical Emergencies and Disaster Scenarios, pp. 5149-5152
Wickramasinghe, Nilmini Stuart School of Business, Illinois Inst. of Tech.
Bali, Rajeev Kumar Coventry Univ.
Naguib, Raouf Coventry Univ.

SaBP11 Westside Ballroom South
Models in Healthcare Informatics (Poster Session)

10:45-11:00

Classification of Cancer Stage from Free-Text Histology Reports, pp. 5153-5156
McCowan, Iain CSIRO, ICT Centre
Moore, Darren CSIRO, ICT Centre
Fry, Mary-Jane Queensland Health

11:00-11:15

Synthesizing Multi-View Video Frames for Coding Patient Monitoring Video, pp. 5157-5160

Peng, Renbin	Univ. of Pittsburgh
Sclabassi, Robert	Univ. of Pittsburgh
Liu, Qiang	Univ. of Pittsburgh
Justin, Gusphyl	Univ. of Pittsburgh
Sun, Mingui	Univ. of Pittsburgh

11:15-11:30

Development of the Re-Entrant Type Resonant Cavity Applicator for Brain Tumor Hyperthermia: Experimental Heating Results, pp. 5161-5164

Yabuhara, Tadao	Meiji Univ.
Kato, Kazuo	Meiji Univ.

11:30-11:45

The Application of Computerized WCST and Long-Term Evoked Potentials for Schizophrenia Analysis, pp. 5165-5168

Huang, Min-Wei	Inst. of Biomedical Engineering, National Cheng Kung University, Ta
Lo, Pei-Yu	Veterans General Hospital-Kaohsiung, National Cheng Kung University
Chen, Chien Hung	National Cheng Kung Univ.
Chen, Cheng-Yu	National Cheng Kung Univ.
Cheng, Kuo-Sheng	National Cheng Kung Univ.

11:45-12:00

Equilibrium-Based Bipolar Neurological Modeling, pp. 5169-5172

Zhang, Wen-Ran	Georgia Southern Univ.
Pandurangi, Anand	Virginia Commonwealth Univ.
Peace, Karl	Georgia Southern Univ.

12:00-12:15

Optimizing Fuzzy Clinical Decision Support Rules Using Genetic Algorithms, pp. 5173-5176

Krajnak, Michael	GE Healthcare Information Tech.
Xue, Joel	GE Healthcare

12:00-12:15

Model Predictive Control with Reinforcement Learning for Drug Delivery in Renal Anemia Management, pp. 5177-5180

Gaweda, Adam	Univ. of Louisville
Muezzinoglu, Mehmet	Univ. of Louisville
Aronoff, George	Univ. of Louisville
Jacobs, Alfred	Univ. of Louisville
Brier, Michael	Univ. of Louisville

12:00-12:15

Development of Voice Navigation System for the Visually Impaired by Using IC Tags, pp. 5181-5184

NORHIKO, TAKATORI	Tokai Univ.
KENGO, NOJIMA	Tokai Univ.
MASASHI, MATSUMOTO	Tokai Univ.
Magatani, Kazushige	Tokai Univ.
Yanashima, Kenji	National Rehabilitation Center for the Disabled

SaBP12

Westside Ballroom South

Emerging Technologies for Healthcare Delivery (Poster Session)

10:45-11:00

Use of Hand Held Devices in a Western Australian Health Sector, pp. 5185-5187

Patel, Keyurkumar	Box Hill Inst.
Gururajan, Raj	Univ. of Southern Queensland

11:00-11:15

A Hybrid Mobile-Based Patient Location Tracking System for Personal Healthcare Applications, pp. 5188-5191

Chew, Shih Han
Chong, Peiyi Adele
Gunawan, Erry
Goh, Keng Wee
Kim, Yongmin
Soh, Cheong Boon

Nanyang Tech. Univ.
Nanyang Tech. Univ.
Nanyang Tech. Univ.
Nanyang Tech. Univ.
Univ. of Washington
Nanyang Tech. Univ.

11:15-11:30

A Wearable Context Aware System for Ubiquitous Healthcare, pp. 5192-5195

Kang, Dong-Oh
Lee, Hyung-Jik
Ko, Eun-Jung
Kang, Kyuchang
Lee, Jeunwoo

Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst.

11:30-11:45

Use of Infrared Sensors for Estimation of Energy Expenditure by Elderly People Living Alone at Home, pp. 5196-5199

Kaushik, Alka
Celler, Branko George

Univ. of New South Wales
Univ. of New South Wales

11:45-12:00

Continuous Home Care Monitoring Services through INTERLIFE, pp. 5200-5203

MAGLAVERA, STAVROULA
PRENTZA, ANDRIANA
MAGLAVERAS, NIKOLAOS
Lekka, Irini
Sakka, Eleni
Leondaridis, Elefterios

Netsmart S.A.
Inst. of Communication and Computer Systems
Aristotle Univ. of Thessaloniki
Medical School, Aristotle Univ. of Thessaloniki
Inst. of Communication and Computer Systems, NTUA
NETSMART S.A.

12:00-12:15

Ultrasonometric Profiling of Incidence and Risk of Osteoporosis in Rural Women, pp. 5204-5205

Gueldner, Sarah
Britton, Geraldine R.
Pierce, Carolyn
Madhavan, Guruprasad
Stucke, Sheri
Grabo, Theresa
Lombardi, Bernadette
Srnlka-Debnar, Frances

SUNY
Binghamton Univ. SUNY
State Univ. of New York
State Univ. of New York
UNLV
SUNY
SUNY
SUNY

12:00-12:15

Improving the Detection of Stage I Pressure Ulcers by Enhancing Digital Color Images, pp. 5206-5209

Rajendran, Prabhu Jude
Leachtenauer, Jon
Kell, Steve
Turner, Beverly
Newcomer, Chris
Lyder, Courtney
Alwan, Majd

Univ. of Virginia
Univ. of Virginia Volunteer Services
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia

Telemedicine, E-Medicine, and Home-Based Healthcare (Poster Session)

10:45-11:00

Extending the Use of DRGs to Estimate Mean Home-Care Cost by Employing an Adapted ASTM***E2369-05 Continuity of Care Record***, pp. 5210-5213

Spyropoulos, Vasileios

Tech. Education Inst. of Athens

Botsivaly, Maria

Tech. Educational Inst. of Athens

Tzavaras, Aris

Tech. Educational Inst. of Athens

Koutsourakis, Konstantinos

Tech. Educational Inst. of Athens

11:00-11:15

Interoperability of a Mobile Health Care Solution with Electronic Healthcare***Record Systems***, pp. 5214-5217

De Toledo, Paula

Univ. Pol. de Madrid

Lalinde, William

Motorola

Del Pozo, Francisco

Univ. Pol. de Madrid

Thurber, Douglas

Motorola

Jiménez-Fernández, Silvia

Tech. Univ. of Madrid

11:15-11:30

Initial Experiences with a Telemedicine Framework for Remote Pacemaker Follow-Up, pp. 5218-5221

Kollmann, Alexander

ARC Seibersdorf Res. GmbH

Hayn, Dieter

ARC Seibersdorf Res. GmbH

García Moros, José

Aragon Inst. for Engineering Res. (I3A), Univ. Zaragoza.

Kastner, Peter

ARC Seibersdorf Res. GmbH

Rotman, Brigitte

Medical Univ. Graz

Tscheliessnigg, Karlheinz

Medical Univ. Graz

Schreier, Guenter

ARC Seibersdorf Res. GmbH

11:30-11:45

Application Parameters Optimization to Guarantee QoS in E-Health Services, pp. 5222-5225

Martínez Ruiz, Ignacio

Aragon Inst. for Engineering Res. (I3A), Univ. Zaragoza.

García Moros, José

Aragon Inst. for Engineering Res. (I3A), Univ. of Zaragoza.

Viruete Navarro, Eduardo Antonio

Aragon Inst. of Engineering Res. (I3A), Univ. Zaragoza.

Fernández Navajas, Julián

Aragon Inst. for Engineering Res. (I3A), Univ. of Zaragoza.

11:45-12:00

Fetal Breathing Transmission in Phonocardiographic Monitoring Telemedicine Systems, pp. 5226-5229

Horvath, Csaba

Budapest Univ. of Tech. and Ec.

Kovacs, Ferenc

Pazmany Peter Catholic Univ.

Torok, Miklos

OGYIK State Medical Centre

Hosszu, Gabor

Budapest Univ. of Tech. and Ec.

12:00-12:15

A System for Prevention, Care and Rehabilitation of Subject with Cardiovascular Risk: The Signal***Processing Algorithm Library***, pp. 5230-5233

Braga, Francesca

Pol. di Milano

Bonacina, Stefano

Pol. di Milano

Signorini, Maria G.

Pol. di Milano

12:00-12:15

SIMILITUDE: Symbolic Indexing of Medical Images for Learning by Internet and Teamwork in Upper***Digestive Endoscopy****

Le Guillou, Clara

Univ. Bretagne Occidentale

Cholet, Franck

Univ. Hospital (CHU)

Solaiman, Basel

GET-ENST Bretagne

Logan, Judith

Oregon Health & Science Univ. (OHSU)

Cauvin, Jean-Michel

Univ. Hospital (CHU)

12:00-12:15

Adaptive Transmit Diversity with Orthogonal Space-Time Block Coding for Telemedicine Application*

Mahmoud, Seedahmed	RMIT Univ.
Fang, Qiang	RMIT Univ.
Hussain, Zahir	RMIT Univ.
Cosic, Irena	RMIT Univ.

12:00-12:15

Performance Evaluation of Rural E-Health Scenarios: Users and QoS Management, pp. 5234-5237

Martínez Ruiz, Ignacio	Aragon Inst. for Engineering Res. (I3A), Univ. Zaragoza.
García Moros, José	Aragon Inst. for Engineering Res. (I3A), Univ. of Zaragoza.
Viruete Navarro, Eduardo Antonio	Aragon Inst. of Engineering Res. (I3A), Univ. Zaragoza.
Fernández Navajas, Julián	Aragon Inst. for Engineering Res. (I3A), Univ. of Zaragoza.

12:00-12:15

Wavelet Compression of Multichannel ECG Data by Enhanced Set Partitioning in Hierarchical

Trees Algorithm, pp. 5238-5243

Sharifahmadian, Ershad	Shahed Univ.
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12:00-12:15

A Portable ECG Monitoring Device with Bluetooth and Holter Capabilities for

Telemedicine Applications, pp. 5244-5247

Lucani, Daniel Enrique	Univ. Simon Bolivar
Cataldo, Giancarlo	Univ. Simon Bolivar
Cruz, Julio	Univ. Simon Bolivar
Sara Wong, Castañeda	Univ. Simon Bolivar
Villegas, Guillermo	Univ. Simon Bolivar

12:00-12:15

Mobile Consultant: Combining Total Mobility with Constant Access, pp. 5248-5251

Banitsas, Konstantinos	Brunel Univ.
Georgiadis, Pantelis	Tech. Educational Inst. of Athens
Tachakra, Sapal	Central Middlesex Hospital
Cavouras, Dionysios	Tech. Educational Inst. of Athens

12:00-12:15

Development of a Telemedicine Model for Emerging Countries: A Case Study on Pediatric

Oncology in Brazil, pp. 5252-5256

Hira, Adilson Yuuji	Escola Pol. da Univ. de São Paulo
Nebel de Mello, André	Faculdade de Medicina da Univ. de São Paulo
Faria, Regis Rossi Alves	Escola Pol. da Universidade de São Paulo
Odone Filho, Vicente	Faculdade de Medicina da Univ. de São Paulo
Lopes, Roseli de Deus	Escola Pol. da Univ. de São Paulo
Zuffo, Marcelo Knörich	Escola Pol. da Univ. de São Paulo

12:00-12:15

Characterization of Passive Infrared Sensors for Monitoring Occupancy Pattern, pp. 5257-5260

Kaushik, Alka	Univ. of New South Wales
Celler, Branko George	Univ. of New South Wales

12:00-12:15

Image Processing for a Tactile/Vision Substitution System Using Digital CNN, pp. 5261-5264

Lin, Chien-Nan	National Chung Cheng Univ.
Yu, Sung-Nien	National Chung Cheng Univ.
Hu, Jin-Cheng	National Chung Cheng Univ.

12:00-12:15

Effective Method for Quantifying Respiratory Instability During Ambulatory Recordings As a Subsequent Marker of Anxiety*

Myers, Lance Jonathan	VivoMetrics, Inc.
Derchak, Phillip Alexander	VivoMetrics Inc

Principal Component Analysis, Independent Components Analysis I (Oral Session)

14:00-14:15

A Fully Automatic Method for Ocular Artifact Suppression from EEG Data Using Wavelet Transform and Independent Component Analysis, pp. 5265-5268Ghandeharioun, Hosna
Erfanian, AbbasIran Univ. of Science and Tech.
Iran Univ. of science and Tech.

14:15-14:30

Real-Time Ocular Artifacts Suppression from EEG Signals Using an Unsupervised Adaptive Blind Source Separation, pp. 5269-5272Shayegh Boroujeny, Farzaneh
Erfanian, AbbasIran Univ. of Science and Tech. (IUST)
Iran Univ. of science and Tech.

14:30-14:45

Blinking Artifact Removal in Cognitive EEG Data Using ICA, pp. 5273-5276Li, Ruijiang
Principe, JoseUniv. of Florida
Univ. of Florida

14:45-15:00

Single Trial Method for Brain-Computer Interface, pp. 5277-5281Funase, Arao
Yagi, Tohru
Barros, Allan
Cichocki, Andrzej
TAKUMI, IchiNaogya Inst. of Tech.
RIKEN
Federal Univ. of the Maranhao
BSI RIKEN
Naogya Inst. of Tech.

15:00-15:15

Rejection of Artifact Sources in Magnetoencephalogram Background Activity Using Independent Component Analysis, pp. 5282-5285Escudero, Javier
Hornero, Roberto
Abásolo, Daniel
Poza, Jesús
Fernandez, Alberto
López, MiguelUniv. of Valladolid
Univ. of Valladolid
Univ. of Valladolid
Univ. of Valladolid
Univ. Complutense de Madrid
Univ. of Valladolid

15:15-15:30

Extracting the Spike Process from the EEG by Spatially Constrained ICA, pp. 5286-5289Phlypo, Ronald
Van Hese, Peter
Hallez, Hans J.
Van de Walle, Rik
Lemahieu, Ignace
Boon, Paul
D'Asseler, YvesGhent Univ.
Ghent Univ.
Ghent Univ.
Ghent Univ.
Ghent Univ.
Univ. Hospital Ghent, Lab. for Clinical and Experimental Neurolo
Ghent Univ.**3D Image Modeling and Registration (Oral Session)**

14:00-14:15

A Finite Element Model of the Human Thorax: Prediction of Respiratory Motion*Kyriakou, Elizabeth
McKenzie, David
Suchowerska, Natalka
Fulton, RogerUniv. of Sydney, Australia
Univ. of Sydney
Univ. of Sydney
Univ. of Sydney

14:15-14:30

3D Modeling of Patient-Specific Geometries of Portal Veins Using MR Images, pp. 5290-5293

Yang, Yan Georgia Inst. of Tech.
George, Stephanie Georgia Inst. of Tech.
Martin, Diego Emory Univ.
Tannenbaum, Allen Georgia Institute of Tech.
Giddens, Don Georgia Inst. of Tech.

14:30-14:45

Knowledge-Driven 3-D Extraction of the Masseter from MR Data, pp. 5294-5297

Ng, Hsiao Piau National Univ. of Singapore / Agency for Science, Tech. and Res.
Ong, Sim Heng National Univ. of Singapore
Foong, Kelvin Weng Chiong National Univ. of Singapore
Goh, Poh Sun National Univ. of Singapore
Nowinski, L. Wieslaw Agency for Science, Tech. & Res.

14:45-15:00

Compensating for Camera Translation in Video Eye Movement Recordings by Tracking a Landmark Selected Automatically by a Genetic Algorithm, pp. 5298-5301

Karmali, Faisal Johns Hopkins Univ.
Shelhamer, Mark Johns Hopkins Univ.

15:00-15:15

Robust High-Speed Binocular 3D Eye Movement Tracking System Using a Two-Radii Eye Model, pp. 5302-5306

Zhu, Danjie Brooklyn Coll. of the City Univ. of New York
Kunin, Mikhail Brooklyn Coll. CUNY
Raphan, Theodore Brooklyn Coll. of the City Univ. of New York

SaC03

SoHo-Herald

Novel Technologies for Computational Biology and Bioinformatics, 1 (Oral Session)

14:00-14:15

Computer Modeling Provides a New Tool for Clinically Diagnosing Melanoma Spread through the Lymphatics, pp. 5307-5310

Reynolds, Hayley Maria Univ. of Auckland
Dunbar, Rod Univ. of Auckland
Uren, Roger Univ. of Sydney
Smith, Nicolas Univ. of Auckland

14:15-14:30

A Computational Model of Cardiac Electromechanics, pp. 5311-5314

Nickerson, David Phillip National Univ. of Singapore
Niederer, Steven Alexander The Univ. of Auckland
Stevens, Carey The Univ. of Auckland
Nash, Martyn The Univ. of Auckland
Hunter, Peter The Univ. of Auckland

14:30-14:45

Finding Intervention Points in the Pathogenesis of Dengue Viral Infection, pp. 5315-5321

Tay, Joc Cing Nanyang Tech. Univ.
Tan, Philip Nanyang Tech. Univ.

14:45-15:00

A Meta-Predictor for MHC Class II Binding Peptides Based on Naïve Bayesian Approach, pp. 5322-5325

Huang, Lei Univ. of Illinois at Chicago
Karpenko, Oleksiy Univ. of Illinois at Chicago
Murugan, Naveen Univ. of Illinois at Chicago
Dai, Yang Univ. of Illinois at Chicago

15:00-15:15

A Knowledge Driven Regression Model for Gene Expression and Microarray Analysis, pp. 5326-5329

Jin, Rong
Si, Luo
Srivastava, Shireesh
Li, Zheng
Chan, Christina

Michigan State Univ.
Purdue Univ.
Michigan State Univ.
Michigan State Univ.
Michigan State Univ.

15:15-15:30

Protein-Protein Docking with Reduced Potentials by Exploiting Multi-Dimensional Energy Funnels, pp. 5330-5333

Paschalidis, Ioannis
Shen, Yang
Vakili, Pirooz
Vajda, Sandor

Boston Univ.
Boston Univ.
Boston Univ.
Boston Univ.

SaC04

Ziegfeld

Applications of Neural Networks to Biosignal Analysis III (Oral Session)

14:00-14:15

Classifier Fusion Approaches for Diagnostic Cancer Models, pp. 5334-5337

Dimou, Ioannis
Manikis, Georgios
Zervakis, Michalis

Tech. Univ. of Crete
Tech. Univ. of Crete
Tech. Univ. of Crete, Greece

14:15-14:30

Classification of Cervical Cancer Cells Using FTIR Data, pp. 5338-5341

Njoroge, Erick
Alty, Stephen
Gani, Mahbub
Alkatib, Maha

King's Coll. London
King's Coll. London
King's Coll. London
St George's Hospital

14:30-14:45

Classifying Ovarian Tumors Using Bayesian Multi-Layer Perceptrons and Automatic Relevance

Determination: A Multi-Center Study, pp. 5342-5345

Van Calster, Ben
Timmerman, Dirk
Nabney, Ian T.
Valentin, Lil
Van Holsbeke, Caroline
Van Huffel, Sabine

Katholieke Univ. Leuven
K.U.Leuven
Aston Univ.
Univ. Hospital Malmo
Univ. Hospitals Leuven
Katholieke Univ. Leuven

14:45-15:00

Fuzzy Similarity Index for Discrimination of EEG Signals, pp. 5346-5349

Ubeyli, Elif Derya

TOBB Ec. and Tech. Univ.

15:00-15:15

Stacked Generalization for Early Diagnosis of Alzheimer's Disease, pp. 5350-5353

Gandhi, Hardik
Green, Deborah
Kounios, John
Clark, Christopher
Polikar, Robi

Rowan Univ.
Drexel Univ.
Drexel Univ.
Univ. of Pennsylvania
Rowan Univ.

15:15-15:30

Training Probabilistic VLSI Models On-Chip to Recognise Biomedical Signals under Hardware Nonidealities, pp. 5354-5357

Jiang, Pei-Chi
Chen, Hsin

National Tsing-Hua Univ.
National Tsing-Hua Univ.

Sensors and Systems for E-Health, M-Health, and P-Health 1 (Oral Session)

14:00-14:15

Wearable Health Systems: From Smart Technologies to Real Applications*Lymberis, Andreas
Gatzoulis, LoukianosEuropean Commission
European Commission

14:15-14:30

Textile Piezoresistive Sensors for Biomechanical Variables Monitoring, pp. 5358-5361Pacelli, Maria
Caldani, Laura
Paradiso, RitaSmartex s.r.l.
Univ. of Pisa
Milior SpA

14:30-14:45

Sensors to Detect the Activities of Daily Living, pp. 5362-5365Logan, Beth
Healey, JenniferIntel Digital Health
Intel Digital Health

14:45-15:00

A Prototype Sourceless Kinematic-Feedback Based Video Game for Movement Based Exercise., pp. 5366-5369Foody, John
Kelly, Daniel
Kumar, Damini
Fitzgerald, Diarmaid
Caulfield, Brian
Ward, Tomas
Markham, CharlesNational Univ. of Ireland Maynooth
National Univ. Maynooth.
Univ. Coll. Dublin
UCD
UCD
NUIM
NUIM

15:00-15:15

Marker-Based Monitoring of Seated Spinal Posture Using a Calibrated Single-Variable Threshold Model, pp. 5370-5373Walsh, Pauline
Dunne, Lucy
caulfield, brian
smyth, barryUniv. Coll. Dublin
Univ. Coll. Dublin
UCD
Univ. Coll. dublin

15:15-15:30

Smart Garment to Help Children Improve Posture, pp. 5374-5377Lou, Edmond H.
Raso, James
Hill, Doug
Moreau, Marc
Mahood, JamesGlenrose Rehabilitation Hospital
Glenrose Rehabilitation Hospital
Glenrose Rehabilitation Hospital
Univ. of Alberta
Univ. of Alberta**Ventricular Assist Devices (Oral Session)**

14:00-14:15

Evaluation of Cardiac Function Based on Ventricular Pressure-Volume Relationships During Assistance with a Rotary Blood Pump., pp. 5378-5381Ogawa, Daisuke
Yoshizawa, Makoto
Tanaka, Akira
Olegario, Paul S.
Yambe, Tomoyuki
Shiraishi, Yasuyuki
Sekine, KazumitsuTohoku Univ.
Tohoku Univ.
Fukushima Univ.
Tohoku Univ.
Tohoku Univ.
Inst. of Development, Aging & Cancer
Tohoku Univ.

14:15-14:30

A Discriminant-Analysis-Based Suction Detection System for Rotary Blood Pumps, pp. 5382-5385

Ferreira, Antonio	Univ. of Pittsburgh
Chen, Shaohui	Univ. of Pittsburgh
Simaan, Marwan	Univ. of Pittsburgh
Boston, J Robert	Univ. of Pittsburgh
Antaki, James	Carnegie-Mellon Univ.

14:30-14:45

Automated Non-Invasive Detection of Pumping States in an Implantable Rotary Blood Pump, pp. 5386-5389

Karantonis, Dean M	Univ. of New South Wales
Cloherly, Shaun L	Univ. of New South Wales
Mason, David G	Ventracor Ltd
Salamonsen, Robert F	Alfred Hospital
Ayre, Peter J	Ventracor Ltd
Lovell, Nigel H	Univ. of New South Wales

14:45-15:00

OxyRVAD for Total Right Heart and Respiratory Support, pp. 5390-5391

Wang, Dongfang	The Univ. of Texas Medical Branch
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15:00-15:15

Analysis of Current Density and Specific Absorption Rate in Biological Tissue Surrounding an Air-Core Type of Transcutaneous Transformer for an Artificial Heart, pp. 5392-5395

Shiba, Kenji	Hiroshima Univ.
Nukaya, Masayuki	Hiroshima Univ.
Tsuji, Toshio	Hiroshima Univ.
Koshiji, Kohji	Tokyo Univ. of Science

15:15-15:30

Structural Performance and Hydrodynamic Resistance of a New Silicone Auricular Cannula Tip, pp. 5396-5399

Tovar, Francisco	Innovamedica S.A. de C.V.
Escobedo, Carlos	Innovamedica S.A. de C.V.
Rodriguez, Georgina	Innovamedica S.A. de C.V.
Garcia, Julio	Innovamedica S.A. de C.V.
Vilá, Alexandra	Innovamedica S.A. de C.V.
Corona, Farah	Univ. Metropolitana
Sacristan, Emilio	Univ. Autónoma Metropolitana

SaC08

Juilliard

Neural Stimulation and Prosthesis 6 (Oral Session)

14:00-14:15

Mechanisms of High-Frequency Electrical Stimulation of the Stomach in Gastroparetic Patients, pp. 5400-5403

McCallum, Richard W.	Univ. of Kansas Medical Center
Dusing, Reginald	Univ. of Kansas Medical Center
Sarosiek, Irene	Univ. of Kansas Medical Center
Cocjin, Jose	Univ. of Kansas Medical Center
Forster, Jameson	Univ. of Kansas Medical Center
Lin, Zhiyue	Univ. of Kansas Medical Center,

14:15-14:30

Functional Electrical Stimulation: A MatLab Based Tool for Designing Stimulation Patterns, pp. 5404-5407

Došen, Strahinja	Aalborg Univ.
Popovi_., Dejan	Aalborg Univ.

14:30-14:45

Ambulation after Incomplete Spinal Cord Injury with Electromyogram-Triggered Functional Electrical Stimulation, pp. 5408-5411

Dutta, Anirban
Kobetic, Rudi
Triolo, Ronald J.

Case Western Res. Univ.
Louis Stokes Veterans Affairs Medical Center
Cleveland FES Center

14:45-15:00

Instability Prediction by Monitoring Center of Pressure During Standing, pp. 5412-5415

Tortolero Baena, Xavier
Masani, Kei
Thrasher, Timothy Adam
Popovic, Milos R.

Univ. Iberoamericana
Univ. of Toronto
Univ. of Toronto
Univ. of Toronto

15:00-15:15

Frequency Sensitive Motion Control for a Single Joint Arm Model, pp. 5416-5419

Park, Hyunjoo
Durand, Dominique

Case Western Res. Univ.
Case Western Res. Univ.

15:15-15:30

Spectral Analysis in Walking Balance by Elderly Subjects, pp. 5420-5423

TSURUOKA, Yuriko
Shibasaki, Ryosuke

The Inst. of Statistical Mathematics
Center for Spatial Information Science, Univ. of Tokyo

SaC09

Gramercy-Olmstead

Healthcare Decision Support Systems II (Oral Session)

14:00-14:15

Prototyping Virtual Cancer Therapist(VCT): A Software Engineering Approach, pp. 5424-5427

Liu, Shaoshan
Gaudiot, Jean-Luc
Cristini, Vittorio

Univ. of California Irvine
Univ. of California Irvine
Univ. of California Irvine

14:15-14:30

Understanding Eye Deformation in Non-Contact Tonometry, pp. 5428-5431

Kempf, Roland
Kurita, Yuichi
Iida, Yoshichika
Kaneko, Makoto
Mishima, Hiromu
Tsukamoto, Hidetoshi
Sugimoto, Eiichiro

Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.
Hiroshima Univ.

14:30-14:45

A Minimal Model for Glycemia Control in Critically Ill Patients, pp. 5432-5435

Van Herpe, Tom
Pluymers, Bert
Espinoza, Marcelo
Van den Berghe, Greet
De Moor, Bart

Katholieke Univ. Leuven
Katholieke Univ. Leuven
Katholieke Univ. Leuven
Katholieke Univ. Leuven
Katholieke Univ. Leuven

14:45-15:00

Observer Design in Switching Control of Neuromuscular Blockade: Clinical Cases, pp. 5436-5439

Magalhães, Hugo
Mendonça, Teresa
Lemos, João
Rocha, Paula
Esteves, Simão
Gaivão, José

Faculdade de Ciências
Faculdade de Ciências
INESC
Univ. de Aveiro
Hospital Geral de Santo António
Faculdade de Ciências

15:00-15:15

JEDI – an Executive Dashboard and Decision Support System for Lean Global Military Medical Resource and Logistics Management, pp. 5440-5443

Sloane, Elliot B.
Rosow, Eric
Adam, Joe
Shine, Dave

Villanova Univ.
Premise Development Corp.
Premise Development Corp.
Premise Development Corp.

15:15-15:30

Integrated Healthcare Resource Planning and Management, pp. 5444-5446

Poluta, Mladen
Nunziata, Enrico

Univ. of Cape Town
Health Tech. Consulting

SaC14

Chelsea-Gotham

Law, Ethics, Policy, Risk and Safety Issues I (Oral Session)

14:00-14:15

Legal and Ethical Issues in the Regulation and Development of Engineering Achievements in Medical Technology: A 2006 Perspective*

Malloy, Allison

Carleton Univ.

14:15-14:30

Modeling Risk in Distributed Healthcare Information Systems, pp. 5447-5450

Maglogiannis, Ilias
ZAFIROPOULOS, ELIAS

Univ. of the Aegean
Univ. Of The Aegean, Department Of Information And Communication

14:30-14:45

Virtual Firm As a Role-Playing Tool for Biomedical Education, pp. 5451-5452

Blagosklonov, Oleg
Soto-Romero, Georges
Guyon, Florent
Butterlin, Nadia

CHU Jean Minjot
Univ. of Franche-Comte
Univ. of Franche-Comte
Univ. of Franche-Comte

14:45-15:00

Security and Privacy Issues with Health Care Information Technology, pp. 5453-5458

Meingast, Marci
Roosta, Tanya
Sastry, Shankar

Univ. of California, Berkeley
Univ. of California, Berkeley
Univ. of California, Berkeley

15:00-15:15

Clinical Evaluation of Watermarked Medical Images, pp. 5459-5462

Zain, Jasni M.
Fauzi, Mohammed
Aziz, Azian

Univ. Coll. of Engineering & Tech. Malaysia
International Islamic Univ. of Malaysia
International Islamic Univ. of Malaysia

15:15-15:30

An Anatomically Realistic Voxel Model of the Pregnant Woman and Numerical Dosimetry for a Whole-Body Exposure to RF Electromagnetic Fields, pp. 5463-5467

Nagaoka, Tomoaki
Togashi, Toshihiro
Saito, Kazuyuki
Takahashi, Masaharu
Ito, Koichi
Ueda, Takuya
Osada, Hisao
Ito, Hisao
Watanabe, Soichi

National Inst. of Information and Communications Technology
Chiba Univ.
Chiba Univ.
Chiba Univ.
Chiba Univ.
Univ. of Tukuba
Juntendo Univ. Shizuoka Hospital
Graduate School of Medicine, Chiba Univ.
National Inst. of Information and Communications Tech.

Neural Interfacing and Neurorobotics (Oral Session)

14:00-14:15

Analysis of Amplitude Modulated Control Features for ECoG Neuroprosthetics, pp. 5468-5471Sanchez, Justin C.
Carney, Paul R.
Principe, Jose C.Univ. of Florida
Univ. of Florida
Univ. of Florida

14:15-14:30

Motor Cortical Encoding of Hand Orientation in a 3-D Reach-To-Grasp Task, pp. 5472-5475Fan, Jing
He, Jipingarizona state Univ.
Arizona State Univ.

14:30-14:45

Towards Real-Time In-Implant Epileptic Seizure Prediction, pp. 5476-5479Aziz, Joseph
Karakiewicz, Rafal
Genov, Roman
Bardakjian, Berj Luther
Derchansky, Miron
Carlen, Peter L.Univ. of Toronto
Univ. of Toronto
Univ. of Toronto
Univ. of Toronto
Univ. of Toronto
Univ. of Toronto

14:45-15:00

Detecting Controlled Signals in the Human Brain by Near Infrared Spectroscopy, pp. 5480-5482Kohlenberg, Jennifer
Chau, TomUniv. of Toronto
Univ. of Toronto

15:00-15:15

The Effects of Training Set on Prediction of Elbow Trajectory from Shoulder Trajectory During Reaching to Targets, pp. 5483-5486

Kaliki, Rahul

Univ. of Southern California

15:15-15:30

Preparatory Activity in PMd Neurons to Bypass a Virtual Obstacle in the Reaching Path, pp. 5487-5490Kang, Tao
He, JipingArizona State Univ.
Arizona State Univ.**Principal Component Analysis, Independent Component Analysis IV (Oral Session)**

15:45-16:00

Limitations of Surface EMG Signals of Extrinsic Muscles in Predicting Postures of Human Hand, pp. 5491-5494Vinjamuri, Ramana
Mao, Zhi-Hong
Sclabassi, Robert
Sun, MinguiUniv. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh

16:00-16:15

Quantitative Evaluation of Automatic Ocular Removal from Simulated EEG Signals: Regression vs. Second Order Statistics Methods, pp. 5495-5498Romero, Sergio
Mañanas, Miquel Angel
Barbanoj, ManuelTech. Univ. of Catalonia (UPC)
Tech. Univ. of Catalonia (UPC)
Farmacología Clínica. Hospital de la Santa Creu i Sant Pau

16:15-16:30

On Correlation between Single-Trial ERP and GSR Responses: A Principal Component Regression Approach, pp. 5499-5502

Ranta-aho, Perttu	Univ. of Kuopio
Tarvainen, Mika	Univ. of Kuopio
Georgiadis, Stefanos	Univ. of Kuopio
Niskanen, Juha-Pekka	Univ. of Kuopio
Valkonen-Korhonen, Minna	Univ. of Kuopio
Lehtonen, Johannes	Univ. of Kuopio
Karjalainen, Pasi	Univ. of Kuopio

16:30-16:45

Feature Selection in Pathology Detection Using Hybrid Multidimensional Analysis, pp. 5503-5506

Castellanos, Germán	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Delgado Trejos, Edilson	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Daza, Genaro	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Sanchez, Luis	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Suarez, Julio	Univ. Nacional de Colombia, sede Manizales (National Univ.)

16:45-17:00

Acoustic Speech Analysis for Hypernasality Detection in Children, pp. 5507-5510

Castellanos, Germán	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Daza, Genaro	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Sanchez, Luis	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Castrillon, Omar	Univ. Nacional de Colombia, sede Manizales (National Univ.)
Suarez, Julio	Univ. Nacional de Colombia, sede Manizales (National Univ.)

17:00-17:15

Kernel Principal Component Analysis through Time for Voice Disorder Classification, pp. 5511-5514

Alvarez, Mauricio	Univ. Tecnológica de Pereira
Henao, Ricardo	Univ. Tecnológica de Pereira
Castellanos, Germán	Univ. Nacional de Colombia, sede Manizales
Godino-Llorente, Juan Ignacio	Univ. Pol. de Madrid
Orozco, Alvaro	Univ. Tecnológica de Pereira

SaD03

SoHo-Herald

Regulatory Elements, Gene Expression, and Gene Networks. 1 (Oral Session)

15:45-16:00

Biologically Supervised Hierarchical Clustering Algorithms for Gene Expression Data, pp. 5515-5518

Boratyn, Grzegorz M	Univ. of Louisville
Datta, Susmita	Univ. of Louisville
Datta, Somnath	Univ. of Louisville

16:00-16:15

Predictive Modeling of Therapy Response in Multiple Sclerosis Using Gene Expression Data, pp. 5519-5522

Mostafavi, Sara	Queen's Univ.
Baranzini, Sergio	Univ. of California, San Francisco
Oksenberg, Jorge	Univ. of California, San Francisco
Mousavi, Parvin	Queen's Univ.

16:15-16:30

Sample Scale-Free Gene Regulatory Network Using Gene Ontology, pp. 5523-5526

Chen, Guanrao	Univ. of Illinois at Chicago
Larsen, Peter	Univ. of Illinois at Chicago
Almasri, Eyad	Univ. of Illinois at Chicago
Dai, Yang	Univ. of Illinois at Chicago

16:30-16:45

Alignment of Protein Interaction Networks by Integer Quadratic Programming, pp. 5527-5530

Li, Zhenping	Beijing Wuzi Univ.
Wang, Yong	Osaka Sangyo Univ.
Zhang, Shihua	CAS
Zhang, Xiang-Sun	CAS
Chen, Luonan	Osaka Sangyo Univ.

16:45-17:00

Overlapping Probabilities of Top Ranking Gene Lists, Hypergeometric Distribution, and Stringency of Gene Selection Criterion, pp. 5531-5534

Fury, Wen	Regeneron Pharmaceuticals, Inc.
Batliwalla, Franak	Feinstein Inst. for Medical Res. North Shore LIJ Health System
Gregersen, Peter K.	Feinstein Inst. for Medical Res. North Shore LIJ Health System
Li, Wentian	Feinstein Inst. for Medical Res.

17:00-17:15

Assessing the Information Content of Short Time Series Expression Data, pp. 5535-5538

Yang, Eric	Rutgers Univ.
Androulakis, Ioannis	Rutgers Univ.

SaD04

Ziegfeld

Nonlinear Brain Signal Processing and Modeling (Oral Session)

15:45-16:00

Modeling the Nonlinear Dynamic Interactions of the Lateral and the Medial Perforant Path of the Hippocampal Dentate Gyrus, pp. 5539-5542

Dimoka, Angelika	Univ. of Southern California
Courellis, Spiros	Univ. of Southern California
Marmarelis, Vasilis	Univ. of Southern California
Berger, Theodore	Univ. of Southern California

16:00-16:15

Interaction of Short-Term Neuronal Plasticity and Synaptic Plasticity Revealed by Nonlinear Systems Analysis in Dentate Granule Cells, pp. 5543-5546

Xie, Xiaping	Univ. of Southern California
Song, Dong	Univ. of Southern California
Wang, Zhuo	Univ. of Southern California
Marmarelis, Vasilis	Univ. of Southern California
Berger, Theodore	Univ. of Southern California

16:15-16:30

Oscillation and Its Inhibition in a Neural Oscillator Model for Tinnitus, pp. 5547-5550

Fujimoto, Kenichi	The Univ. of Tokushima
Nagashino, Hirofumi	The Univ. of Tokushima
Kinouchi, Yohsuke	The Univ. of Tokushima
Danesh, Ali A.	Florida Atlantic Univ.
Pandya, Abhijit S.	Florida Atlantic Univ.

16:30-16:45

A Model Selection Approach for Robust Spatio-Temporal Analysis of Dynamics in 4D Fluorescence Videomicroscopy, pp. 5551-5554

BECHAR, Ikhlef	Univ. of Paris 5 & INRA of Jouy-en-Josas
Trubuil, Alain	INRA of Jouy-en-Josas

16:45-17:00

Identification of Spike Sources Using Proximity Analysis through Hidden Markov Models, pp. 5555-5558

Orozco, Alvaro	Univ. Tecnológica de Pereira
Alvarez, Mauricio	Univ. Tecnológica de Pereira
Guijarro, Enrique	Pol. Univ. of Valencia
Castellanos, Germán	Univ. Nacional de Colombia, sede Manizales

17:00-17:15

Neural Mass Model of Human Multisensory Integration, pp. 5559-5562

Moran, Rosalyn
Reilly, Richard

Univ. Coll. Dublin
Univ. Coll. Dublin

SaD05

Duffy-Columbia

Monitoring Sensors and Systems II (Oral Session)

15:45-16:00

New Methodology for Preventing Pressure Ulcers Using Actimetry and Autonomous Nervous System Recording, pp. 5563-5566

Meffre, Richard
GEHIN, Claudine
SCHMITT, Michael
De Oliveira, Fabrice
DITTMAR, Andre

INSA Lyon
INSA Lyon
INSA Lyon
INSA Lyon
INSA Lyon

16:00-16:15

Head Fixed Field Coil System for Measuring Eye Movements in Freely Moving Monkeys, pp. 5567-5570

Ogorodnikov, Dmitri
Tarasenko, Sergey
Yakushin, Sergei
Cohen, Bernard
Raphan, Theodore

Mount Sinai School of Medicine
The Mount Sinai Hospital Center
Mount Sinai School of Medicine
Mount Sinai School of Medicine
Brooklyn Coll. of the City Univ. of New York

16:15-16:30

Midpoint Perturbation Response in Haptically-Guided Movements, pp. 5571-5574

Fortunov, Daniel
Hwang, Faustina
Harwin, William Seymour

Univ. of Reading
Univ. of Reading
Univ. of Reading

16:30-16:45

Can Visual Evoked Potentials Be Used in Biometric Identification?, pp. 5575-5578

Power, Alan
Lalor, Edmund
Reilly, Richard

Univ. Coll. Dublin
Univ. Coll. Dublin
Univ. Coll. Dublin

16:45-17:00

Rapid Prototyping of Pulse Oximeter, pp. 5579-5582

Jalan, Payal
Bracio, Boris Romanus
Rider, Patrick Jason
Toniolo, Horacio

Univ. of Alaska Fairbanks
Univ. of Alaska Fairbanks
Univ. of Alaska Fairbanks
Univ. of Alaska Fairbanks

17:00-17:15

A Noncontact Measurement of Saccadic Eye Movement with Two High-Speed Cameras, pp. 5583-5586

UENO, Akinori
OTANI, Yuji
UCHIKAWA, Yoshinori

Tokyo Denki Univ.
Tokyo Denki Univ.
Tokyo Denki Univ.

Pulmonary Mechanics and Dynamics IA (Oral Session)

15:45-16:00

Support Vector Machine Classification Applied on Weaning Trials Patients, pp. 5587-5590

Giraldo, Beatriz
 Garde, Ainara
 Arizmendi, Carlos
 Jané, Raimon
 Benito, Salvador
 Diaz, Ivan
 Ballesteros, D

Tech. Univ. of Catalonia (UPC)
 Tech. Univ. of Catalonia (UPC)
 Tech. Univ. of Catalonia (UPC)
 Univ. Pol. de Catalunya
 Hospital de la Santa Creu i Sant Pau
 Hospital de la Santa Creu i Sant Pau
 Hospital Univ. de Getafe

16:00-16:15

Analysis of Temporal Pattern of Swallowing Mechanism, pp. 5591-5594

Aboofazeli, Mohammad
 Moussavi, Zahra

Univ. of Manitoba
 Univ. of Manitoba

16:15-16:30

Can Asthma in Children Be Detected by the Estimated Parameter Values of the Augmented RIC Model ?, pp. 5595-5598

Rajagiri, Avinash
 Diong, Bill
 Goldman, Michael David
 Nazeran, Homayoun

Texas Christian Univ.
 Texas Christian Univ.
 Univ. of California Los Angeles
 The Univ. of Texas at El Paso

16:30-16:45

Airflow Velocities in the Airways During Expiration on Different End-Expiratory Lung Volumes: Computational Study, pp. 5599-5602

Sohn, Kiwon

State Univ. of New York at Stony Brook

16:45-17:00

Circuit Compliance Compensation in Lung Protective Ventilation, pp. 5603-5606

Masselli, Grazia Maria Pia
 Silvestri, Sergio
 Sciuto, Salvatore Andrea
 Cappa, Paolo

Univ. Campus Bio-Medico
 Univ. Campus Bio-medico
 Univ. "Roma Tre"
 Univ. La Sapienza

17:00-17:15

Automated Extraction of Swallowing Sounds Using a Wavelet-Based Filter, pp. 5607-5610

Aboofazeli, Mohammad
 Moussavi, Zahra

Univ. of Manitoba
 Univ. of Manitoba

Drug Delivery and Imaging (Oral Session)

15:45-16:00

Delivery of Active Collagenase to Skin Using a Lorentz-Force Actuated Needle-Free Injector, pp. 5611-5616

Hogan, N. Catherine
 Hemond, Brian
 Wendell, Dawn
 Taberner, Andrew
 Hunter, Ian

Massachusetts Inst. of Tech.
 Massachusetts Inst. of Tech.
 Massachusetts Inst. of Tech.
 Massachusetts Inst. of Tech.
 Massachusetts Inst. of Tech.

16:00-16:15

Feasibility Study for Focusing Electric Fields to Mediate in Vitro Drug and Gene Delivery, pp. 5617-5620

Rey, Jose I.
 Gilbert, Richard
 Jaroszeski, Mark

Univ. of South Florida
 Univ. of South Florida
 Univ. of South Florida

16:15-16:30

MEMS Fabricated Chip for an Implantable Drug Delivery Device, pp. 5621-5624

Sbiaa, Zouhair

MicroCHIPS

16:30-16:45

Detection Sensitivity of MRI Using Ultra-Small Super Paramagnetic Iron Oxide Nano-Particles (USPIO) in Biological Tissues, pp. 5625-5626

Oghabian, Mohammad Ali	Tehran Univ. of Medical Sciences
Guiti, Massomeh	Tehran Univ. of Medical Sciences
Haddad, Payman	Tehran Univ. of Medical Sciences
Gharehaghaji, Nahid	Tehran Univ. of Medical Sciences
Riyahi-Alam, Nader	Tehran Univ. of Medical Sciences (TUMS)
Malekpour, M	Tehran Univ. of Medical Sciences
Rafie, Behrouz	Tehran Univ. of Medical Sciences
Saber, Reza	Tehran Univ. of Medical Sciences

16:45-17:00

Reconstruction of Spatially Resolved Pharmacokinetic Rate Images of Fluorescence Agents in FDOT, pp. 5627-5630

Alacam, Burak	Rensselaer Pol. Inst.
Yazici, Birsen	RPI
Serdaroglu, Ahmed	RPI
Intes, Xavier	ART
Nioka, Shoko	UPENN
Chance, Britton	UPENN

17:00-17:15

Magneto-Optical Labeling of Fetal Neural Stem Cells for in Vivo MRI Tracking, pp. 5631-5634

Flexman, Jennifer A.	Univ. of Washington
Minoshima, Satoshi	Univ. of Washington
Kim, Yongmin	Univ. of Washington
Cross, Donna J.	Univ. of Washington

SaD08

Juilliard

Neural Stimulation and Prosthesis VII (Oral Session)

15:45-16:00

Cobotic Architecture for Prosthetics, pp. 5635-5637

Faulring, Eric L.	Chicago PT, LLC
Colgate, J. Edward	Northwestern Univ.
Peshkin, Michael	Northwestern Univ.

16:00-16:15

Liquid-Fueled Actuation for an Anthropomorphic Upper Extremity Prosthesis, pp. 5638-5642

Fite, Kevin	Vanderbilt Univ.
Withrow, Thomas	Vanderbilt Univ.
Wait, Keith	Vanderbilt Univ.
Goldfarb, Michael	Vanderbilt Univ.

16:15-16:30

Multiday Electrophysiological Recordings from Freely Behaving Primates, pp. 5643-5646

Gilja, Vikash	Stanford Univ.
Linderman, Michael	Stanford Univ.
Santhanam, Gopal	Stanford Univ.
Afshar, Afsheen	Stanford Univ.
Ryu, Stephen	Stanford Univ.
Meng, Teresa	Stanford Univ.
Shenoy, Krishna	Stanford Univ.

16:30-16:45

A Model of Glucose Production During a Meal, pp. 5647-5650

Dalla Man, Chiara
Toffolo, Gianna
Basu, Rita
Rizza, Robert
Cobelli, Claudio

Univ. of Padova
Univ. of Padova
Mayo Clinic
Mayo Clinic
Univ. of Padova

SaD10

Astor Ballroom

Students: The Movers and Shakers of EMBS (Minisymposium)

Organizer: Tran, Winston
Organizer: Lazareck, Lisa Joanna

Univ. of Southern California
Univ. of Oxford

15:45-16:00

Experiences and Lessons Learned from the Formation of a New IEEE EMBS

Student Chapter, pp. 5651-5654

Celebi, Leyla
Pickel, Lara Michelle
Sprouse, Mary
Dyer, Stephen
Warren, Steve

Kansas State Univ. EMB
Kansas State Univ.
Kansas State Univ. EMB
Kansas State Univ.
Kansas State Univ.

SaD14

Chelsea-Gotham

Clinical Engineering and Healthcare Information Systems Best Practices II (Oral Session)

15:45-16:00

Managing Medical Technology in Australia's Health Care Systems – Planning, Prioritisation and Procurement, pp. 5655-5658

Brown, Ian
Smale, Andrew
Wong, Matthew

Monash Univ. Centre for Biomedical Engineering
Monash Univ. Centre for Biomedical Engineering
Monash Univ. Centre for Biomedical Engineering

16:00-16:15

Evaluation of DR and CR Digital Mammography Systems Based on Phantom and Breast Dosimetry, pp. 5659-5662

Verdú, Gumersindo
Ramos, Miguel
Ferrer, Silvia

Pol. Univ. of Valencia
Pol. Univ. of Valencia
Pol. Univ. of Valencia

16:15-16:30

A Completely Decentralized Workflow Management System for the Support of Emergency Telemedicine and Patient Monitoring, pp. 5663-5666

Kyriacou, Efthymoulos
Fakas, Georgios
Pavlaki, Vaso

Univ. of Cyprus
Manchester Metropolitan Univ.
Univ. of Cyprus

16:30-16:45

Activities for Endoscopy Information Systems Standardization in Japan, pp. 5667-5670

Yokoi, Hideto
Fujino, Masayuki A.

Kagawa Univ. Hospital
Univ. of Yamanashi

16:45-17:00

Engineers in the Field: Accreditation of BME Programs in Argentina, pp. 5671-5674

Monzon, Jorge E.

Univ. Nacional del Nordeste

17:00-17:15

A Medical Device Regulatory Framework – Case Study: South Africa, pp. 5675-5678

Poluta, Mladen

Univ. of Cape Town

New Techniques in Sensory Rehabilitation (Oral Session)

15:45-16:00

Improved Head Direction Command Classification Using an Optimised Bayesian***Neural Network***, pp. 5679-5682

Nguyen, Son

Univ. of Tech. Sydney

Nguyen, Hung

Univ. of Tech. Sydney

Taylor, Philip

Univ. of Tech. Sydney

Middleton, James

The Univ. of Sydney

16:00-16:15

Divergence Dynamic Modification As a Function of Initial Position, pp. 5683-5686

Alvarez, Tara

New Jersey Inst. of Tech.

Gayed, Bassem

New Jersey Inst. of Tech.

16:15-16:30

The Transient Component of Disparity Vergence Maybe an Indication of Progressive***Lens Acceptability***, pp. 5687-5690

Castillo, Carlos

New Jersey Inst. of Tech.

Gayed, Bassem

New Jersey Inst. of Tech.

Pedrono, Claude

Essilor International

Ciuffreda, Kenneth

SUNY- School of Optometry

Semmlow, John

Rutgers Univ.

Alvarez, Tara

New Jersey Inst. of Tech.

16:30-16:45

Effect of Learning on Listening to Ultra-Fast Synthesized Speech, pp. 5691-5694

Nishimoto, Takuya

The Univ. of Tokyo

Sako, Shinji

The Univ. of Tokyo

Sagayama, Shigeki

The Univ. of Tokyo

Ohshima, Kazue

Tokyo Woman's Christian Univ.

Oda, Koichi

Tokyo Woman's Christian Univ.

Watanabe, Takayuki

Tokyo Woman's Christian Univ.

16:45-17:00

Should Object Function Matter During Modeling of Reach-To-Grasp Selfcare Tasks in***Robot-Assisted Therapy?***, pp. 5695-5698

Nathan, Dominic

Marquette Univ.

Johnson, Michelle

Medical Coll. of Wisconsin/Marquette Univ.

17:00-17:15

Hybrid Feature Subset Selection for the Quantitative Assessment of Skills of Stroke Patients in***Activity of Daily Living Tasks***, pp. 5699-5703

Van Dijck, Gert

Katholieke Univ. Leuven

Van Hulle, Marc

K.U. Leuven

Van Vaerenbergh, Jo

Center for Multidisciplinary Approach and Tech.

Principal Component and Independent Component Analysis (Poster Session)

16:30-18:00

Independent Component Analysis of Parameterized ECG Signals, pp. 5704-5707

Tanskanen, Jarno Mika Antero

Tampere Univ. of Tech.

Viik, Jari

Tampere Univ. of Tech.

Hyttinen, Jari

Tampere Univ. of Tech.

16:30-18:00

A Study of Heart Sound and Lung Sound Separation by Independent Component Analysis Technique, pp. 5708-5711

Jen-Chien, Chien
Huang, Ming-Chuan
Lin, Yue-Der
Chong, Fok-Ching

Univ. of National Taiwan
Univ. of National Taiwan
Univ. of Feng Chia
Univ. of National Taiwan

16:30-18:00

Assessment Myocardial Perfusion and Contraction by Karhunen-Loeve Transform on Scintigraphic Images, pp. 5712-5714

Blagosklonov, Oleg
Comas, Laurent
Berthout, Pascal
Sabbah, Remy
Verdenet, Josette
Cardot, Jean-Claude
Baud, Michel

CHU Jean Minjoz
CHU Jean Minjoz
St-Vincent Clinic
CHU Jean Minjoz
CHU Jean Minjoz
CHU Jean Minjoz
CHU Jean Minjoz

16:30-18:00

A Procedure to Extract the Aortic and the Pulmonary Sounds from the Phonocardiogram, pp. 5715-5718

Nigam, Vivek
Priemer, Roland

Univ. of Illinois at Chicago
Univ. of Illinois at Chicago

16:30-18:00

A Global Approach for Automatic Artifact Removal for Standard EEG Record, pp. 5719-5722

Boudet, Samuel
Peyrodie, Laurent
Gallois, Philippe
Vasseur, Christian

HEI
HEI
Univ. Catholique de Lille
USTL

16:30-18:00

Detecting Behavioral Microsleeps from EEG Power Spectra, pp. 5723-5726

Peiris, Malik T. R.
Jones, Richard D.
Davidson, Paul R.
Bones, Philip. J.

Univ. of Canterbury
Van der Veer Inst.
Van der Veer Inst.
Univ. of Canterbury

16:30-18:00

Analysis of the Automatic Detection of Critical Epochs from Coma-EEG by Dominant Components and Features Extraction, pp. 5727-5730

Inuso, Giuseppina
La Foresta, Fabio
Mammone, Nadia
Morabito, Francesco Carlo

Univ. of Reggio Calabria
Univ. of Reggio Calabria
Univ. of Reggio Calabria
Univ. of Reggio Calabria

16:30-18:00

Analysis of Large-Scale Brain Data for Brain-Computer Interfaces, pp. 5731-5734

Das, Koel
Meyer, Joerg
Nenadic, Zoran

Univ. of California, Irvine
Univ. of California, Irvine
Univ. of California, Irvine

16:30-18:00

Blind Source Separation in Single-Channel EEG Analysis: An Application to BCI*

James, Christopher
Wang, Suogang

Univ. of Southampton
Univ. of Southampton

16:30-18:00

Inspiratory Pressure Evaluation by Means of the Entropy of Respiratory Mechanomyographic Signals, pp. 5735-5738

Torres, Abel
Fiz, José A.
Galdiz, Juan B.
Gea, Joaquim
Morera, Josep
Jané, Raimon

Univ. Pol. de Catalunya
Hospital Univ. Germans Trias i Pujol
Hospital Cruces
Hospital del Mar
Hospital Germans Trias I Pujol
Univ. Pol. de Catalunya

16:30-18:00

Limitations and Applications of ICA for Surface Electromyogram, pp. 5739-5742

Naik, Ganesh R
Kumar, Dinesh Kant
Poosapadi Arjunan, Sridhar
Palaniswami, Marimuthu
Begg, Rezaul

Royal Melbourne Univ. of Tech.
Rmit Univ.
RMIT Univ.
The Univ. of Melbourne
Victoria Univ.

16:30-18:00

Beamspace Magnetoencephalographic Signal Decomposition in Spherical Harmonics Domain, pp. 5743-5746

Ozkurt, Tolga Esat
Sun, Mingui
Sclabassi, Robert

Univ. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh

16:30-18:00

Feature Extraction & Lips Posture Detection Oriented to the Treatment of CLP Children, pp. 5747-5750

Salazar, Augusto
Daza, Genaro
Sanchez, Luis
Prieto, Flavio
Castellanos, Germán
Quintero, Colombia

Univ. Nacional de Colombia, sede Manizales (National Univ.)
Univ. Nacional de Colombia, sede Manizales (National Univ.)
Univ. Nacional de Colombia, sede Manizales (National Univ.)
Univ. Nacional de Colombia, sede Manizales (National Univ.)
Univ. Nacional de Colombia, sede Manizales (National Univ.)
Univ. de Caldas (Caldas Univ.)

SaEP2

Westside Ballroom South

Algorithm and Software System for Bioinformatics, 2 (Poster Session)

16:30-18:00

A Domain Specific Data Management Architecture for Protein Structure Data, pp. 5751-5754

Wang, Yanchao
Sunderraman, Rajshekhar
Tian, Hao

Georgia State Univ.
Georgia State Univ.
Georgia State Univ.

16:30-18:00

Building a Structured PDB: The RS-PDB Database, pp. 5755-5758

Szabadka, Zoltan
Grolmusz, Vince

Eotvos Univ.
Eotvos Univ.

16:30-18:00

Multiple Linear Regression for Index SNP Selection on Unphased Genotypes, pp. 5759-5762

He, Jingwu
Zelikovsky, Alex

Georgia State Univ.
Georgia State Univ.

16:30-18:00

Tally and Geometry Definition Influence on the Computing Time in Radiotherapy Treatment Planning with MCNP Monte Carlo Code, pp. 5763-5766

Miró, Rafael
Juste, Belen
Gallardo, Sergio
Santos, Agustín
Verdú, Gumersindo

Pol. Univ. of Valencia
Pol. Univ. of Valencia
Pol. Univ. of Valencia
Hospital Provincial de Castelló
Pol. Univ. of Valencia

16:30-18:00

Phenotypic-Specific Gene Module Discovery Using a Diagnostic Tree and Cabig VISDA, pp. 5767-5770
 Zhu, Yitan Virginia Pol. Inst. and State Univ.
 Wang, Zuyi Children National Medical Center
 Feng, Yuanjian Virginia Pol. Inst. and State Univ.
 Xuan, Jianhua Virginia Pol. Inst. and State Univ.
 Miller, David J. The Pennsylvania State Univ.
 Hoffman, Eric P. Children National Medical Center
 Wang, Yue Virginia Pol. Inst. and State Univ.

16:30-18:00

A Fast Boosting-Based Screening Method for Large-Scale Association Study Data in Complex Traits with Genetic Heterogeneity, pp. 5771-5774
 Wang, Lu-yong Siemens Corp. Res.
 Fasulo, Daniel Siemens Corp. Res.

16:30-18:00

Automated Adaptive Heart Interbeat Time Extraction from Long Term Noisy and Variable ECG Signals, pp. 5775-5778
 Torres-Solis, Jorge Univ. of Toronto
 Chan, Christopher Univ. Health Network
 Chau, Tom Univ. of Toronto

16:30-18:00

BioProber: Software System for Biomedical Relation Discovery from PubMed, pp. 5779-5782
 Jang, Hyunchul Electronics and Telecommunications Res. Inst.
 Lim, Jaesoo Electronics and Telecommunications Res. Inst.
 Lim, Joon-Ho Electronics and Telecommunications Res. Inst.
 Park, Soo-Jun Electronics and Telecommunications Res. Inst.
 Lee, Kyu-Chul Chungnam National Univ.

16:30-18:00

DNA Binding Sites Characterization by Means of Rényi Entropy Measures on Nucleotide Transitions, pp. 5783-5786
 Perera, Alexandre Tech. Univ. of Catalonia
 Vallverdu, Montserrat Tech. Univ. of Catalonia
 Claria, Francesc Lleida Univ.
 Soria, José Manuel Santa Creu i Sant Pau Hospital
 Caminal, Pere Tech. Univ. of Catalonia (UPC)

16:30-18:00

Hardware Accelerator for Genomic Sequence Alignment, pp. 5787-5789
 Chiang, Jui-Hsuan(Univ. of Toronto)
 Studniberg, Michael Univ. of Toronto
 shaw, jack Univ. of Toronto
 Seto, Stephen Univ. of Toronto
 Truong, Kevin Univ. of Toronto

16:30-18:00

A Program for Medical Visualization and Image Processing, pp. 5790-5793
 Zaffari, Carlos Alberto PUCRS - Pontifícia Univ. Católica do Rio Grande do Sul
 Zaffari, Paulo PUCRS - Pontifícia Univ. Católica do Rio Grande do Sul
 Azevedo, Dario F.G. de Pontifícia Univ. Católica
 Helegda, Sergio Pontifícia Univ. Católica do Rio Grande do Sul
 Figueira, Márcio Vieira Pontifical Catholic Univ. of Rio Grande do Sul
 Russomano, Thais PUCRS

16:30-18:00

An Interactive Visualization-Based Approach for High Throughput Screening Information Management in Drug Discovery, pp. 5794-5797

Chan, Pui Shan, Tammy
Malik, Preeti
Singh, Rahul

San Francisco State Univ.
San Francisco State Univ.
San Francisco State Univ.

16:30-18:00

Utilization of Human Expert Techniques for Detection of Low-Abundant Peaks in High-Resolution Mass Spectra, pp. 5798-5801

Boratyn, Grzegorz M
Merchant, Michael L
Klein, Jon B

Univ. of Louisville
Univ. of Louisville
Univ. of Louisville

SaEP3

Westside Ballroom South

Computational Genomics, Epigenomics, and Proteomics II (Poster Session)

16:30-18:00

Combinatorial Search Methods for Multi-SNP Disease Association, pp. 5802-5805

Brinza, Dumitru
He, Jingwu
Zelikovsky, Alex

Georgia State Univ.
Georgia State Univ.
Georgia State Univ.

16:30-18:00

Statistical Framework for Quantitative Analysis of Array CGH, pp. 5806-5809

Shah, Shishir

Univ. of Houston

16:30-18:00

A Rule-Based Detection of Functional Modules in Protein-Protein Interaction Networks, pp. 5810-5813

Park, Jongmin
Choi, Jaehun
Yang, Jaedong
Park, Soo-Jun

Electronics and Telecommunications Res. Inst.
Electronics and Telecommunications Res. Inst.
Chonbuk National Univ.
Electronics and Telecommunications Res. Inst.

16:30-18:00

Protein Classification Using Sequential Pattern Mining, pp. 5814-5817

Exarchos, Themis P.
Papaloukas, Costas
Lampros, Christos
Fotiadis, Dimitrios I.

Unit of Medical Tech. and Intelligent Information
Univ. of Ioannina
Unit of Medical Tech. and Intelligent Information Systems
Univ. of Ioannina

16:30-18:00

Linear Discrimination of Transmembrane from Non-Transmembrane Segments in Proteins Using Higher-Order Crossings, pp. 5818-5821

Kitsas, Ilias
Panas, Stavros
Hadjileontiadis, Leontios

Aristotle Univ. of Thessaloniki
Aristotle Univ. of Thessaloniki
Aristotle Univ. of Thessaloniki

16:30-18:00

A New Seed Selection Algorithm That Maximizes Local Structural Similarity in Proteins, pp. 5822-5825

Altun, Gulsah
Zhong, Wei
Pan, Yi
Tai, Phang C.
Harrison, Robert W.

Georgia State Univ. Dept. of Computer Science
Georgia State Univ. Dept. of Computer Science
Georgia State Univ. Dept. of Computer Science
Georgia State Univ. Dept. of Biology
Georgia State Univ. Dept. of Computer Science and Biology

16:30-18:00

A Fast Algorithm for Low-Resolution Protein Structure Prediction, pp. 5826-5829

Bondugula, Rajkumar
Xu, Dong
Shang, Yi

Univ. of Missouri-Columbia
Univ. of Missouri-Columbia
Univ. of Missouri-Columbia

16:30-18:00

*A Protein Structure Prediction Scoring Function Based on Backbone Dihedral Angles and Pairwise Distance of Residues of the Protein**

Zhang, Lu

Shanghai Jiaotong Univ.

16:30-18:00

Prediction of RNA-Binding Residues in Protein Sequences Using Support Vector Machines, pp. 5830-5833

Wang, Liangjiang

Kansas State Univ.

Brown, Susan

Kansas State Univ.

SaEP4

Westside Ballroom South

Regulatory Elements, Gene Expression, and Gene Networks. 2 (Poster Session)

16:30-18:00

An Ensemble Approach for Phenotype Classification Based on Fuzzy Partitioning of Gene

Expression Data, pp. 5834-5837

Dragomir, Andrei

Univ. of Patras

Maraziotis, Ioannis

Univ. of Patras

Bezerianos, Anastasios

PATRAS

16:30-18:00

A Neural Network Based Approach for Inference and Verification of Transcriptional

Regulatory Interactions, pp. 5838-5841

Knott, Simon Robert Vincent

Queen's Univ.

Mostafavi, Sara

Queen's Univ.

Mousavi, parvin

Queen's Univ.

16:30-18:00

Correlated Discretized Expression Score: A Method for Identifying Gene Interaction Networks from

Time Course Microarray Expression Data, pp. 5842-5845

Larsen, Peter

Univ. of Illinois at Chicago

Almasri, Eyad

Univ. of Illinois at Chicago

Chen, Guanrao

Univ. of Illinois at Chicago

Dai, Yang

Univ. of Illinois at Chicago

16:30-18:00

*Does Logarithm Transformation of Microarray Data Affect Ranking Order of Differentially Expressed Genes?**

Li, Wentian

Feinstein Inst. For Medical Res.

Suh, Young Ju

Sookmyung Women's Univ.

Zhang, Jing-Shan

Forest Res. Inst.

16:30-18:00

Gene Selection for Brain Cancer Classification, pp. 5846-5849

Leung, Y. Y.

The Univ. of Hong Kong

Chang, C. Q.

The Univ. of Hong Kong

Hung, Y.S.

The Univ. of Hong Kong

Fung, P.C.W.

The Univ. of Hong Kong

16:30-18:00

Improved Microarray Spot Segmentation by Combining Two Information Channels, pp. 5850-5853

Margaritis, Thanasis

IMBB - FORTH, UoC

Marias, Kostas

Foundation for Res. & Tech. Hellas

Kafetzopoulos, Dimitris

IMBB - FORTH

16:30-18:00

A Statistical and Biological Approach for Identifying Misdiagnosis of Incipient Alzheimer Patients

Using Gene Expression Data, pp. 5854-5857

Joseph, Sandeep

Univ. of Georgia

Robbins, Kelly

Univ. of Georgia

Rekaya, Romdhane

Univ. of Georgia

16:30-18:00

Exploiting Binary Abstractions in Deciphering Gene Interactions, pp. 5858-5863

Yoon, Sungroh
Garg, Abhishek
Chung, Eui-Young
Park, Hyun Seok
Park, Woong Yang
De Micheli, Giovanni

Stanford Univ.
EPFL
Yonsei Univ.
Ewha Womans Univ.
Seoul National Univ.
EPFL

16:30-18:00

Cancer Classification Using Loss of Heterozygosity Data Derived from Single-Nucleotide Polymorphism Genotyping Arrays, pp. 5864-5867

Wang, Yuhang

Southern Methodist Univ.

16:30-18:00

Lung Tumor Diagnosis and Subtype Discovery by Gene Expression Profiling, pp. 5868-5871

Wang, Lu-yong
Tu, Zhuowen

Siemens Corp. Res.
Univ. of California, Los Angeles

16:30-18:00

Latent Variable and Nica Modeling of Pathway Gene Module Composite, pp. 5872-5875

Gong, Ting
Zhu, Yitan
Xuan, Jianhua
Li, Huai
Clarke, Robert
Hoffman, Eric P.
Wang, Yue

Virginia Pol. Inst. and State Univ.
Virginia Pol. Inst. and State Univ.
The Catholic Univ. of America
National Inst. on Aging, NIH
Lombardi Comprehensive Cancer Center, Georgetown Univ.
Children National Medical Center
Virginia Pol. Inst. and State Univ.

16:30-18:00

An Automated Method for Gridding in Microarray Images, pp. 5876-5879

Giannakeas, Nikolaos
Fotiadis, Dimitrios I.
Politou, Anastasia

Univ. of Ioannina
Univ. of Ioannina
Univ. of Ioannina

SaEP5

Westside Ballroom South

Wireless Sensors and Telemetry Systems 3 (Poster Session)

16:30-18:00

Analytical Calculation of the Self-Resonant Frequency of Biomedical Telemetry Coils, pp. 5880-5883

Yang, Zhi
Wang, Guoxing
Liu, Wentai

Univ. of California, Santa Cruz
Univ. of California, Santa Cruz
Univ. of California, Santa Cruz

16:30-18:00

A Transcutaneous Data Telemetry System Tolerant to Power Telemetry Interference, pp. 5884-5887

Zhou, Mingcui
Liu, Wentai
Wang, Guoxing
Sivaprakasam, Mohanasankar
Yuce, Mehmet
Weiland, James
Humayun, Mark

Univ. of California, Santa Cruz
Univ. of California, Santa Cruz
Univ. of California, Santa Cruz
Univ. of California at Santa Cruz
The Univ. of Newcastle
Univ. of Southern California
Univ. of Southern California

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Investigation of Signal Processing Algorithms for an Embedded Microcontroller-Based Wearable Pulse Oximeter, pp. 5888-5891

Mendelson, Yitzhak
Johnston, William

Worcester Pol. Inst.
WPI

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ASIC Design for Wireless Surgical MEMS Device and Instrumentation, pp. 5892-5895

To, Gary

Univ. of Tennessee

Qu, Wenchao

Univ. of Tennessee

Mohamed, Mahfouz

Univ. of Tennessee

16:30-18:00

A Portable, Low-Cost, Battery-Powered Wireless Monitoring System for Obtaining Varying Physiologic Parameters from Multiple Subjects, pp. 5896-5899

Zhao, He

State Univ. of New York at Stony Brook

Chen, Xinnian

State Univ. of NY at Stony Brook

chon, ki

State Univ. of New York at Stony Brook

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A Neural Signal Processor for an Implantable Multi-Channel Cortical Recording Microsystem, pp. 5900-5903

Sodagar, Amir M.

Univ. of Michigan

Wise, Kensall

Univ. of Michigan

Najafi, Khalil

Univ. of Michigan

16:30-18:00

The Development of Virtual Instrument for Detecting Korotkoff Sounds*

Jiang, Guotai

Tongji Univ.

Li, Juanjuan

Tongji Univ.

Zheng, Fuhui

Tongji Univ.

Wang, Peipei

Tongji Univ.

16:30-18:00

Neural Signal Sampling Via the Low Power Wireless Pico System, pp. 5904-5907

Cieslewski, Grzegorz

Univ. of Florida

Cheney, David

Univ. of Florida

Gugel, Karl

Univ. of Florida

Sanchez, Justin C.

Univ. of Florida

Principe, Jose C.

Univ. of Florida

16:30-18:00

Wireless Platform for Multi-Channel Analog Measurements, pp. 5908-5911

Heinisuo, Sami Markus

Tampere Univ. of Tech.

Vanhala, Jukka

Tampere Univ. of Tech.

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Westside Ballroom South

Wearable Technology 1 (Poster Session)

16:30-18:00

A Simple Test to Assess the Static and Dynamic Accuracy of an Inertial Sensors System for Human Movement Analysis, pp. 5912-5915

Cutti, Andrea Giovanni

INAIL Prosthesis Center

Giovanardi, Andrea

INAIL Prosthesis Center

Rocchi, Laura

Univ. of Bologna

Davalli, Angelo

INAIL Prosthesis Center

16:30-18:00

Quantifying Functional Mobility Progress for Chronic Disease Management, pp. 5916-5919

Boyle, Justin

CSIRO ICT Centre

Karunanithi, Mohan

CSIRO ICT Centre

Wark, Tim

CSIRO ICT Centre

Chan, Wilbur

The Prince Charles Hospital

Colavitti, Christine

The Prince Charles Hospital

16:30-18:00

Evaluation of the Preset Travel Routes in a Self-Determination Support System, pp. 5920-5923

Maeda, Yoshinobu
Miyaji, Takaaki
Miyakawa, Michio

Niigata Univ.
Niigata Univ.
Niigata Univ.

16:30-18:00

Gait Evaluation of a New Electromechanical Stance-Control Knee-Ankle-Foot Orthosis, pp. 5924-5927

Yakimovich, Terris
Lemaire, Edward
Kofman, Jonathan

The Ottawa Hospital Rehabilitation Centre
The Ottawa Hospital Rehabilitation Centre
Univ. of Waterloo

16:30-18:00

24 Hour Ambulatory Research System Supporting Multiple Physiologic Sensors, pp. 5928-5931

Ellingson, Roger M.
Oken, Barry
Zajdel, Daniel
Flegal, Kristin
Kishiyama, Shirley
Thong, Tran

RM Ellingson System Design & Development
Oregon Health & Science Univ.
Oregon Health & Science Univ.
Oregon Health & Science Univ.
Oregon Health & Science Univ.
Oregon Health & Science Univ.

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A Wireless Ballistocardiographic Chair, pp. 5932-5935

Junnila, Sakari
Akhbardeh, Alireza
Barna, Laurentiu C
Defee, Irek
Värri, Alpo

Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.

16:30-18:00

A Sub-Microwatt Piezo-Floating-Gate Sensor for Long-Term Fatigue Monitoring in Biomechanical Implants, pp. 5936-5939

Chakrabartty, Shantanu
Elvin, Niell
Lajnef, Nizar
Elvin, Alex

Michigan State Univ.
Michigan State Univ.
Michigan State Univ.
Michigan State Univ.

16:30-18:00

A Next Generation Electronic Triage System to Aid Mass Casualty Disaster Response*

Gao, Tia
White, David

Johns Hopkins Univ.
Johns Hopkins Univ.

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Westside Ballroom South

Wearable Sensors and Devices 4 (Poster Session)

16:30-18:00

Development of an Ambulatory Device for Monitoring Posture Change and Walking Speed for Use in Rehabilitation, pp. 5940-5943

Motoi, Kosuke
Ikeda, Kohei
Kuwae, Yutaka
Yuji, Tadahiko
Higashi, Yuji
Nogawa, Masamichi
Tanaka, Shinobu
Yamakoshi, Ken-ichi

Kanazawa Univ.
Kanazawa Univ.
Fujimoto Hayasuzu Hospital
Fujimoto Hayasuzu Hospital
Fujimoto Hayasuzu Hospital
Kanazawa Univ.
Kanazawa Univ.
Kanazawa Univ.

16:30-18:00

Friction-Assisted Magnetic Holding of an Ingestible Capsule for Esophageal Ph and Impedance Monitoring, pp. 5944-5947

Mintchev, Martin P.
Sadowski, Dan
Gonzalez, Jose L.

Univ. of Calgary
Univ. of Alberta
Univ. of Calgary

16:30-18:00

FPGA-Based Sleep Apnea Screening Device for Home Monitoring, pp. 5948-5951

Al-Ashmouny, Khaled
Hamed, Hisham
MORSY, AHMED

Cairo Univ.
National Telecommunication Inst.
Cairo Univ.

16:30-18:00

A Novel Solution to Power Problems in Implanted Biosensor Networks, pp. 5952-5955

Guo, Tiantian
Zhang, Luyong
Zhou, Zheng
Liu, Wei

Beijing Univ. of Posts and Telecommunication
Beijing Univ. of Posts and Telecommunication
Beijing Univ. of Posts and Telecommunication
Beijing Univ. of Posts and Telecommunication

16:30-18:00

Review of Current Actuator Suitability for Use in Medical Implants, pp. 5956-5959

Szczesny, Spencer
Jetzki, Stefanie
Leonhardt, Steffen

RWTH Aachen Univ.
RWTH Aachen Univ.
RWTH Aachen Univ.

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An Indoor Guidance System for the Blind Using Fluorescent Lights -Relationship between Receiving Signal and Walking Speed, pp. 5960-5963

Liu, Xiaohan
Makino, Hideo
Kobayashi, Suguru
Maeda, Yoshinobu

Niigata Univ.
Niigata Univ.
Niigata Univ.
Niigata Univ.

16:30-18:00

Comparison of Step Length Estimators from Wearable Accelerometer Devices, pp. 5964-5967

Alvarez, Diego
Gonzalez, Rafael C.
Lopez, Antonio M.
Alvarez, Juan Carlos

Univ. de Oviedo
Univ. de Oviedo
Univ. de Oviedo
Univ. de Oviedo

16:30-18:00

A Wearable Device for Continuous Monitoring of Heart Mechanical Function Based on Impedance CardioGraphy, pp. 5968-5971

Panfilii, Guido
Piccini, Luca
Maggi, Luca
Parini, Sergio
Andreoni, Giuseppe

Pol. di Milano
Pol. di Milano
Pol. di Milano
Pol. di Milano
Pol. di Milano

16:30-18:00

Design of Antennas for a Wearable Sensor for Homecare Movement Monitoring, pp. 5972-5976

Reina-Tosina, Javier
Roa, Laura M.
Prado, Manuel

Univ. of Seville
Univ. of Seville
Univ. de Sevilla

16:30-18:00

*Assessment of Stress-Induced Hemodynamic Responses Using Multipurpose Non-Invasive Continuous Cardiovascular Monitoring System**

Nogawa, Masamichi Kanazawa Univ.
Yamakoshi, Takehiro Kanazawa Univ.
Ikarashi, Akira Ishikawa Sunrise Industries Creation Organization
Tanaka, Shinobu Kanazawa Univ.
Yamakoshi, Ken-ichi Kanazawa Univ.

16:30-18:00

Wearable Patient Monitoring Application (ECG) Using Wireless Sensor Networks, pp. 5977-5980

Taylor, Steven Andrew Univ. of Nebraska-Lincoln
Sharif, Hamid Univ. of Nebraska-Lincoln

16:30-18:00

*Wearable EDA Sensor Gloves Using Conducting Fabric and Embedded System**

Lee, youngbum Yonsei Univ.
Yoon, sung won Yonsei Univ.
Lee, Chungkeun Yonsei Univ.
Lee, Myounggho Yonsei Univ.

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Westside Ballroom South

Wearable Technology 2 (Poster Session)

16:30-18:00

The Effect of Fiber Orientation on Volume Measurement Using Conductance Catheter Techniques, pp. 5981-5984

Thaijiam, Chanchai Univ. of Tasmania
Gale, Timothy John Univ. of Tasmania

16:30-18:00

Digital Signal Processing of the Wideband External Pulse Recorded During Cuff Deflation: A New Way to Measure Blood Pressure, pp. 5985-5988

Yeol, Joe W. Columbia Univ.
Ryu, Yeong Soon New York City Coll. of Tech.
Blank, Seymour New York City Coll. of Tech.

16:30-18:00

Battery-Operated High-Bandwidth Multi-Channel Wireless Neural Recording System Using 802.11b, pp. 5989-5992

Parthasarathy, Jayant Univ. of Minnesota
Hogenson, Jim Avalon Engineering LLC
Erdman, Arthur Univ. of Minnesota
redish, david Univ. of Minnesota
ziaie, babak Purdue Univ.

16:30-18:00

Evaluation of Chip LED Sensor Module for Fat Thickness Measurement Using Tissue Phantoms, pp. 5993-5996

Hwang, In Duk Samsung Advanced Inst. of Tech.
Shin, Kunsoo Samsung Advanced Inst. of Tech.
Ho, Dong-Su Yonsei Univ.
Kim, Beop-Min Yonsei Univ.

16:30-18:00

Portable Gage for Pressure Ulcer Detection, pp. 5997-6000

Wang, Qi McGill Univ.
Kong, Linghua Georgia Inst. of Tech.
Sprigle, Stephen Georgia Inst. of Tech.
Hayward, Vincent McGill Univ.

16:30-18:00

Feasibility Study of a Urine Glucose Level Monitor for Home Healthcare Using Near Infrared Spectroscopy, pp. 6001-6003

Tanaka, Shinobu
Motoi, Kosuke
Nogawa, Masamichi
Yamakoshi, Takehiro
Yamakoshi, Ken-ichi

Kanazawa Univ.
Kanazawa Univ.
Kanazawa Univ.
Kanazawa Univ.
Kanazawa Univ.

16:30-18:00

Design and Implementation of a Mobile-Care System Over Wireless Sensor Network for Home Healthcare Applications, pp. 6004-6007

Lee, Ren-Guey
Lai, Chien-Chih
Chiang, Shao-Shan
Liu, Hsin-Sheng
Chen, Chun-Chang
Hsieh, Guan-Yu

National Taipei Univ. of Tech.
National Taipei Univ. of Tech.
Lunghwa Univ. of Science and Tech.
National Taipei Univ. of Tech.
National Taipei Univ. of Tech.
National Taipei Univ. of Tech.

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Wearable Sensors and Devices 5 (Poster Session)

16:30-18:00

Design and Development of a Cost Effective Plantar Pressure Distribution Analysis System for the Dynamically Moving Feet, pp. 6008-6011

Karkokli, Riwa
Valter McConville, Kristiina M.

Ryerson Univ.
Ryerson Univ.

16:30-18:00

Measurement of Noise and Impedance of Dry and Wet Textile Electrodes, and Textile Electrodes with Hydrogel, pp. 6012-6015

Puurtinen, Merja
Komulainen, Satu
Kauppinen, Pasi
Malmivuo, Jaakko
Hyttinen, Jari

Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.
Tampere Univ. of Tech.

16:30-18:00

An Electrical Stimulator for Sensory Substitution, pp. 6016-6020

Pereira, Mauro Conti
Kassab Jr, Fuad

UCDB - Univ. Catolica Dom Bosco
USP

16:30-18:00

Electrode-Electrolyte Interface Properties in Implantation Conditions, pp. 6021-6024

Riistama, Jarno
Lekkala, Jukka

Tampere Univ. of Tech.
Tampere Univ. of Tech.

16:30-18:00

Practical Issues Affecting the Measurement and Analysis of Physiological Data Recorded Remotely from Individuals with Spinal Cord Injury (SCI) During Normal Daily Activities, pp. 6025-6028

Nunn, Andrew
Brown, Ian

Monash Univ.
Monash Univ.

16:30-18:00

Optimizing the Use of an Artificial Tongue-Placed Tactile Biofeedback for Improving Ankle Joint Position Sense in Humans, pp. 6029-6032

Vuillerme, Nicolas
Chenu, Olivier
Fleury, Anthony
Demongeot, Jacques
Payan, Yohan

Lab. TIMC-IMAG, UMR CNRS 5525
Lab. TIMC-IMAG, UMR CNRS 5525
Lab. TIMC-IMAG, UMR CNRS 5525
Lab. TIMC-IMAG, UMR CNRS 5525
Lab. TIMC-IMAG, UMR CNRS 5525

16:30-18:00

The Preliminary Study on the Clinical Application of the WHAM (Wearable Heart Activity Monitor), pp. 6033-6036

Shin, Kunsoo
Kim, Youn Ho
Kim, Jong Pal
Park, Jae Chan

Samsung Advanced Inst. of Tech.
Samsung Advanced Inst. of Tech.
Samsung Advanced Inst. of Tech.
Samsung Advanced Inst. of Tech.

16:30-18:00

Application-Oriented Programming Model for Sensor Networks Embedded in the Human Body, pp. 6037-6040

Barbosa, Talles M. G. de A.
Sene Jr, Iwens G.
da Rocha, Adson F.
Assis de Oliveira Nascimento, Francisco
Carvalho, Hervaldo Sampaio
Camapum, Juliana Fernandes

Catholic Univ. of Goiás
Catholic Univ. of Goiás
Univ. of Brasilia
Univ. of Brasilia
Univ. of Brasília
Univ. de Brasília

16:30-18:00

Development of a Quantitative In-Shoe Measurement System for Assessing Balance: Sixteen-Sensor Insoles, pp. 6041-6044

Bamberg, Stacy J Morris
Dibble, Lee
LaStayo, Paul
Musselman, Josh
Dasa Raghavendra, Swarna Kiran

Univ. of Utah
Univ. of Utah
Univ. of Utah
Univ. of Utah
Univ. of Utah

16:30-18:00

Reduction of Skin Stretch Induced Motion Artifacts in Electrocardiogram Monitoring Using Adaptive Filtering, pp. 6045-6048

Liu, Yan
Pecht, Michael

Univ. of Maryland, Coll. Park
Univ. of Maryland, Coll. Park

16:30-18:00

An Evaluation of a PTT-Based Method for Noninvasive and Cuffless Estimation of Arterial Blood Pressure, pp. 6049-6052

Teng, Xiaofei
Zhang, Yuan-Ting

The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong

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Westside Ballroom South

Diagnostic Instrumentation and Physiological Measurements 2 (Poster Session)

16:30-18:00

Neural-Network Detection of Hypoglycemic Episodes in Children with Type 1 Diabetes Using Physiological Parameters, pp. 6053-6056

Nguyen, Hung
Ghevondian, Nejhdeh
Jones, Timothy

Univ. of Tech. Sydney
AIMedics Pty Ltd
Princess Margaret Hospital for Children

16:30-18:00

Which Techniques to Improve the Early Detection and Prevention of Pressure Ulcers?, pp. 6057-6060

GEHIN, Claudine
BRUSSEAU, Elisabeth
Meffre, Richard
SCHMITT, Michael
DEPREZ, Jean-François
DITTMAR, Andre

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UMR CNRS5515
INSA Lyon
INSA Lyon
UMR CNRS5515 INSERM U630
INSA Lyon

16:30-18:00

Two-Channel Bioimpedance Monitor for Impedance Cardiography, pp. 6061-6063

Vondra, Vlastimil	Inst. of Scientific Inst. Czech Acad. of
Halamek, Josef	Inst. of Scientific Inst. Acad. of Sciences of the Czech Republic
Viscor, Ivo	Inst. of Scientific Inst. Czech Acad. of Sciences
Jurak, Pavel	Inst. of Scientific Inst. Acad. of Sciences of the Czech Republic

16:30-18:00

Extraction of the Intracranial Component from the Rheoencephalographic Signal: A New Approach, pp. 6064-6067

Perez, Juan J	Pol. Univ. of Valencia
Guijarro, Enrique	Pol. Univ. of Valencia
Sancho, Jeronimo	Hospital General Univ.
Navarre, Arantxa	Hospital General Univ.

16:30-18:00

Design of Rapid Medical Evacuation System for Trauma Patients Resulting from Biological and Chemical Terrorist Attacks, pp. 6068-6071

Frieder, Russell	Cal-Zark, LLC
Kumaresan, Srirangam	Cal-Zark, LLC
Sances, Jr., Anthony	Cal-Zark, LLC
Renfro, David	Cal-Zark, LLC
Myers, Will J.	Cal-Zark, LLC
Harvey, L. William	Cal-Zark, LLC

16:30-18:00

The Simulation of Current Generator Design for Multi-Frequency Electrical Impedance Tomograph, pp. 6072-6075

Chen, Cheng-Yu	National Cheng Kung Univ.
Lu, Yi-Yu	National Cheng Kung Univ.
Huang, Wen-Lung	National Cheng Kung Univ.
Cheng, Kuo-Sheng	National Cheng Kung Univ.

16:30-18:00

A New Device for Assessing Subjective Haptic Vertical, pp. 6076-6079

Cavalleri, Matteo	IRCCS E.MEDEA
Reni, Gianluigi	IRCCS E.MEDEA
Brambilla, Daniele	IRCCS E.MEDEA

16:30-18:00

Discrete Laplacian Recordings of the Electroenterogram from Abdominal Surface in Humans, pp. 6080-6083

Prats-Boluda, Gema	Centro de investigación e Innovación en Bioingeniería
Martinez-de-Juan, Jose Luis	Centro de investigación e Innovación en Bioingeniería
Garcia-Casado, Javier	Univ. Pol. de Valencia
Guardiola, Jose Luis	Univ. Pol. de Valencia
Ponce, Jose Luis	Hospital Univ. La Fe

16:30-18:00

Evaluation of Spasticity in the Ankle of a Hemiplegic Subject Using a Step-Like Response, pp. 6084-6087

Murayama, Daisuke	Faculty of science and Tech.
Uchiyama, Takanori	Keio Univ.
Uchida, Ryusei	Kanto-Rosai Hospital

16:30-18:00

Sensitivity of Rheoencephalographic Measurements to Spatial Brain Electrical Conductivity, pp. 6088-6091

Guijarro, Enrique	Pol. Univ. of Valencia
Perez, Juan J	Pol. Univ. of Valencia
Berjano, Enrique	Pol. Univ. of Valencia
Ortiz, Pedro	Hospital General Univ.

16:30-18:00

Heart Rate Detection in Low Amplitude Non-Invasive Fetal ECG Recordings, pp. 6092-6094

Peters, Christiaan Hendrik Leonard
Vullings, Rik
Bergmans, Johannes Wilhelmus Maria
Oei, S. Guid
Wijn, Pieter

Máxima Medical Center
Eindhoven Univ. of Tech.
Eindhoven Univ. of Tech.
Maxima Medisch Centrum, Veldhoven
Máxima Medical Center

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Westside Ballroom South

Intelligent Monitoring and Analysis Systems (Poster Session)

16:30-18:00

A Multi-Facets Analysis of the Driver Status by EEG and Fuzzy Hardware Processing, pp. 6095-6100

Faro, Alberto
Giordano, Daniela
Spampinato, Concetto

Univ. di Catania
Univ. di Catania
Univ. di Catania

16:30-18:00

Enhanced Insulin Transport through Skin by High-Voltage Pulse*

Zhu, Bing
Bao, Jiali
Yang, Yuanyuan
hou, haifeng

Coll. of medicine science, Zhejiang Univ.
Zhejiang Univ.
Coll. of Medicine Science, Zhejiang Univ.
Coll. of Medicine Science, Zhejiang Univ.

16:30-18:00

Differentiation of Epileptic Seizures from Voluntary Movements by Quantitative Analysis of Digital Video*

Karayiannis, Nicolaos
Modur, Pradeep
Xiong, Yaohua
Tao, Guozhi

Univ. of Houston
Univ. of Louisville
Univ. of Houston
Univ. of Houston

16:30-18:00

Embedded Assessment Algorithms within Home-Based Cognitive Computer Game

Exercises for Elders, pp. 6101-6104

Jimison, Holly
Pavel, Michael

Oregon Health & Science Univ.
Oregon Health and Science Univ.

16:30-18:00

Software Enhanced Learning of Cardiac Auscultation, pp. 6105-6108

Syed, Zeeshan
Curtis, Dorothy
Nesta, Francesca
Levine, Robert A.
Guttag, John

Massachusetts Inst. of Tech.
Massachusetts Inst. of Tech.
Massachusetts General Hospital
Massachusetts General Hospital
Massachusetts Inst. of Tech.

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Healthcare Decision Support Systems (Poster Session)

16:30-18:00

Risk Factors for Apgar Score Using Artificial Neural Networks, pp. 6109-6112

Ibrahim, Doaa
Frize, Monique
Walker, Robin

Ottawa Univ.
Carleton Univ.
Children Hospital of Eastern Ontario

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Probabilistic Framework for Reliability Analysis of Information-Theoretic CAD

Systems in Mammography, pp. 6113-6116

Habas, Piotr A.
Zurada, Jacek M.
Elmaghraby, Adel S.
Tourassi, Georgia D.

Univ. of Louisville
Univ. of Louisville
Univ. of Louisville
Duke Univ. Medical Center

16:30-18:00

A Combined Fuzzy Cognitive Map and Decision Trees Model for Medical Decision Making, pp. 6117-6120
Papageorgiou, Elpiniki Univ. of Patras
Stylios, Chrysostomos Univ. of Patras
Groumpos, Peter Univ. of Patras

16:30-18:00

Computer-Based Classification of Eye Diseases, pp. 6121-6124
Acharya, Rajendra NgeeAnn Pol.
Natarajan, Kannathal National Univ. of Singapore
NG, Eddie YK Nanyang Tech. Univ.
Suri, Jasjit Biomedical Tech.

16:30-18:00

Spectral Analysis of Walking with Shoes and without Shoes, pp. 6125-6128
Tsuruoka, Masako Center for Spatial Information Science, Univ. of Tokyo
Tsuruoka, Yuriko The Inst. of Statistical Mathematics
Shibasaki, Ryosuke Center for Spatial Information Science, Univ. of Tokyo
Yasuoka, Yoshifumi Univ. of Tokyo

SaEP13 Westside Ballroom South
Nonlinear Dynamic Analysis of Biological Signals II (Poster Session)

16:30-18:00

Physiologically Plausible Stochastic Nonlinear Kernel Models of Spike Train to Spike Train Transformation, pp. 6129-6132
Song, Dong Univ. of Southern California
Chan, Rosa Univ. of Southern California
Marmarelis, Vasilis Univ. of Southern California
Hampson, Robert Wake Forest Univ.
Deadwyler, Sam Wake Forest Univ.
Berger, Theodore Univ. of Southern California

16:30-18:00

Detection of Rhythmic Discharges in Newborn EEG Signals*
Mohseni, Hamid Reza Sharif Univ. of Tech.
Mirghasemi, Hamed Sharif Univ. of Tech.
Shamsollahi, Mohammad Bagher Sharif Univ. of Tech.

16:30-18:00

Left-Right Information Flow in the Brain During EEG Arousals, pp. 6133-6136
Swarnkar, Vinayak Univ. of Queensland
Abeyratne, Udantha R Univ. of Queensland
Karunajeewa, Samantha Univ. of Queensland

16:30-18:00

Spike Separation from EEG/MEG Data Using Morphological Filter and Wavelet Transform, pp. 6137-6140
Jia, Wenyan Univ. of Pittsburgh
Sclabassi, Robert Univ. of Pittsburgh
Pon, Lin-Sen Univ. of Pittsburgh
Scheuer, Mark Univ. of Pittsburgh
Sun, Mingui Univ. of Pittsburgh

16:30-18:00

Seizure Detection by a Novel Wavelet Packet Method, pp. 6141-6144
Tafreshi, Reza Univ. of British Columbia
Dumont, Guy Univ. of British Columbia
Gross, Donald Univ. of Alberta
Ries, Craig Univ. of British Columbia
Puil, Ernie Univ. of British Columbia
MacLeod, Bernard Univ. of British Columbia

16:30-18:00

Elman Neural Networks for Dynamic Modeling of Epileptic EEG, pp. 6145-6148

Natarajan, Kannathal

National Univ. of Singapore

16:30-18:00

Cross Approximate Entropy Analysis of Nocturnal Oximetry Signals in the Diagnosis of the Obstructive Sleep Apnea Syndrome, pp. 6149-6152

Alvarez, Daniel

Univ. of Valladolid

Hornero, Roberto

Univ. of Valladolid

García, María

Univ. of Valladolid

del Campo, Félix

Hospital del Río Hortega

Zamarrón, Carlos

Hospital Clínico Univ.

López, Miguel

Univ. of Valladolid

16:30-18:00

Analysis of Chaos Attractors of MCG-Recordings, pp. 6153-6156

Jiang, Shiqin

Tongji Univ.

Yang, Fan

Tongji Univ.

Yi, Panke

Tongji Univ.

16:30-18:00

Self Similarity Behavior Characterization of Fetal Heart Rate Signal in Healthy and IUGR Fetuses, pp. 6157-6160

Esposti, Federico

Pol. di Milano

Signorini, Maria G.

Pol. di Milano

Ferrario, Manuela

Pol. di Milano

Magenes, Giovanni

Univ. of Pavia

16:30-18:00

Detrended Fluctuation Analysis of Ion Single Channel Signal*

Lan, Tong-han

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XU, BAO_SHAN

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Department of electric information and Engineering, Huazhong

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16:30-18:00

Changes in SEMG During the Long Duration Cycling Exercise, pp. 6161-6164

Singh, Vijay Pal

RMIT Univ.

Kant Kumar, Dinesh

RMIT Univ.

Polus, Barbara

RMIT Univ.

Lo Guidice, Sonia

RMIT Univ.

Fraser, Steve

RMIT Univ.

16:30-18:00

Identification of the Slow Wave of Bowel Myoelectrical Surface Recording by Empirical Mode Decomposition, pp. 6165-6168

Ye, Yiyao

Centro de investigación e Innovación en Bioingeniería, CI2B

Garcia-Casado, Javier

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Martinez-de-Juan, Jose Luis

Centro de investigación e Innovación en Bioingeniería, CI2B

Guardiola, Jose L

Univ. Pol. de Valencia

Ponce, Jose Luis

Hospital Univ. La Fe

16:30-18:00

Time Delay and Causality in Biological Systems Using Whitened Cross-Correlation Analysis, pp. 6169-6172

El-Gohary, Mahmoud

Portland State Univ.

McNames, James

Portland State Univ.

Ellis, Tim

Portland State Univ.

Goldstein, Brahm

Oregon Health & Science Univ.

16:30-18:00

Application of Empirical Mode Decomposition to Remove the Wall Components in Doppler Ultrasound Signals: A Simulation Study, pp. 6173-6176

Zhang, Yufeng	Yunnan Univ.
Gao, Yali	Yunnan Univ.
Wang, Le	Yunnan Univ.
Chen, Jianhua	Yunnan Univ.
Shi, Xinling	Yunnan Univ.

16:30-18:00

Biosignal Processing and Analysis Using Mathcad - Pedagogical and Research Issues -, pp. 6177-6180

Sandham, William	Scotsig
Hamilton, David	Univ. of Strathclyde

16:30-18:00

Magnetoencephalogram Background Activity Analysis in Alzheimer's Disease Patients Using Auto Mutual Information, pp. 6181-6184

Gómez, Carlos	Univ. of Valladolid
Hornero, Roberto	Univ. of Valladolid
Fernandez, Alberto	Univ. Complutense de Madrid
Abásolo, Daniel	Univ. of Valladolid
Escudero, Javier	Univ. of Valladolid
López, Miguel	Univ. of Valladolid

SuA01

Marquis AB

Signal Processing and Modeling in Brain-Computer Interface (Oral Session)

09:00-09:15

Analysis of the Correlation between Local Field Potentials and Neuronal Firing Rate in the Motor Cortex, pp. 6185-6188

Wang, Yiwen	Univ. of Florida
Sanchez, Justin	Univ. of Florida
Principe, Jose	Univ. of Florida
Mitzelfelt, Jeremiah	Univ. of Florida
Gunduz, Aysegul	Univ. of Florida

09:15-09:30

Detection of the Anaerobic Threshold by Surface Electromyography, pp. 6189-6192

Nadal, Jurandir	Federal Univ. of Rio de Janeiro
Mello, Roger Gomes Tavares de	Federal Univ. of Rio de Janeiro
Oliveira, Liliam Fernandes de	Federal Univ. of Rio de Janeiro

09:30-09:45

Development of the Human Interface Equipment Based on Surface EMG Employing Channel Selection Method, pp. 6193-6196

Nagata, Kentaro	TOKAI Univ.
Ando, Keiichi	TOKAI Univ.
Nakano, Shinji	TOKAI Univ.
Nakajima, Hideaki	TOKAI Univ.
Yamada, Masafumi	Kanagawa Rehabilitation Center
Magatani, Kazushige	TOKAI Univ.

09:45-10:00

Evaluation of Surface EMG Features for the Recognition of American Sign Language Gestures, pp. 6197-6200

Kosmidou, Vasiliki	Aristotle Univ. of Thessaloniki
Hadjileontiadis, Leontios	Aristotle Univ. of Thessaloniki
Panas, Stavros	Aristotle Univ. of Thessaloniki

10:00-10:15

Indicators of Sleepiness in an Ambulatory EEG Study of Night Driving, pp. 6201-6204

Papadelis, Christos	Aristotle Univ.
Kourtidou-Papadeli, Chrysoula	Greek Aerospace Medical Association
Bamidis, Panagiotis	Aristotle Univ.
Chouvarda, Ioanna	Aristotle Univ.
Koufogiannis, Dimitris	Aristotle Univ.
Bekiaris, Evangelos	Centre for Res. & Tech. Hellas
MAGLAVERAS, NIKOLAOS	Aristotle Univ. of Thessaloniki

10:15-10:30

Analysis of P300 Classifiers in Brain Computer Interface Speller, pp. 6205-6208

Mirghasemi, Hamed	Sharif Univ. of Tech.
Fazel-Rezai, Reza	Univ. of Manitoba
Shamsollahi, Mohammad Bagher	Sharif Univ. of Tech.

SuA02

Marquis C

Non Linear Dynamics in Brain Signal Analysis (Oral Session)

09:00-09:15

Detecting Determinism in EEG Signals Using Principal Component Analysis and Surrogate

Data Testing, pp. 6209-6212

Meghdadi, Amir H.	Univ. of Manitoba
Fazel-Rezai, Reza	Univ. of Manitoba
Aghakhani, Yahya	Univ. of Manitoba

09:15-09:30

Application of Velocity Filters to Somatosensory Evoked Potential Measurements for Removal of

Stimulus Artifact, pp. 6213-6216

Yazdani, Nabil	Carleton Univ.
Chan, Adrian	Carleton Univ.

09:30-09:45

Mechanism of Frequency Selectivity in VOR Motor Learning: Frequency Channel or

Waveform Learning?, pp. 6217-6220

Yoshikawa, Akimasa	Chubu Univ. Coll. of Engineering
Hirata, Yutaka	Chubu Univ. Coll. of Engineering

09:45-10:00

Designing a Planar Vector Field to Investigate the Role of a Slow Variable in an Enhanced Mean-Field

Model During General Anesthesia, pp. 6221-6224

Molaei-Ardekani, Behnam	Univ. of Rennes 1, Sharif Univ. of Tech.
Shamsollahi, Mohammad Bagher	Sharif Univ. of Tech.
Senhadji, Lotfi	Univ. of Rennes 1; INSERM
Vosoughi Vahdat, Bijan	Sharif Univ. of Tech.
Wodey, Eric	Univ. of Rennes 1

10:00-10:15

Nonlinear Analysis of Anesthesia Dynamics by Fractal Scaling Exponent, pp. 6225-6228

Gifani, Payman	Amir Kabir Univ. of Tech.
Rabiee, Hamid Reza	Sharif University of Tech.
Hashemi, Mohammad Reza	Amir Kabir Univ. of Tech.
Taslimi, Pejman	Sharif Univ. of Tech.
Ghanbari, Mohammad	Univ. of ESSEX

10:15-10:30

Quantitative EEG Assessment of Brain Injury and Hypothermic Neuroprotection after

Cardiac Arrest, pp. 6229-6232

Shin, Hyunchool
Tong, Shanbao
Jia, Xiaofeng
Geocardin, Romergryko
Thakor, Nitish

Johns Hopkins Univ.
Shanghai Jiao Tong Univ.
Johns Hopkins Univ.
Johns Hopkins School of Medicine
Johns Hopkins Univ.

SuA03

SoHo-Herald

Wireless Sensors and Telemetry Systems II (Oral Session)

09:00-09:15

Instrumentation System Upgrade Supports Mobile Personalized Healthcare Delivery, pp. 6233-6236

Ellingson, Roger M.
Helt, Wendy J.
Helt, Patrick V.
Fausti, Stephen A.

Department of Veterans Affairs
Department of Veterans Affairs
Department of Veterans Affairs
Department of Veterans Affairs

09:15-09:30

Sensing and Feedback Stimulation Via the Wireless ZigBee Protocol, pp. 6237-6240

Chati, Harding
Salem, Fathi

Michigan State Univ.
Michigan State Univ.

09:30-09:45

A 1-MHz, 5-Kb/s Wireless Command Receiver for Electronic Site Selection in Multichannel Neural Biopotential Recording, pp. 6241-6244

Mohseni, Pedram
Najafi, Khalil

Case Western Res. Univ.
Univ. of Michigan

09:45-10:00

Wearable Wireless Telemetry System for Implantable Bio-MEMS Sensors, pp. 6245-6248

Simons, Rainee
Miranda, Felix
Wilson, Jeffrey
Simons, Renita E.

NASA Glenn Res. Center
NASA Glenn Res. Center
NASA Glenn Res. Center
John Carroll Univ.

10:00-10:15

Low Power Digital Communication in Implantable Devices Using Volume Conduction of Biological Tissues, pp. 6249-6252

Yao, Ning
Lee, Heung-no
Sclabassi, Robert
Sun, Mingui

Univ. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh
Univ. of Pittsburgh

10:15-10:30

A Wireless Power Interface for Rechargeable Battery Operated Neural Recording Implants, pp. 6253-6256

Li, Pengfei
Principe, Jose
Bashirullah, Rizwan

Univ. of Florida
Univ. of Florida
Univ. of Florida

SuA04

Ziegfeld

Healthcare Information Management II (Oral Session)

09:00-09:15

A Cross-Functional Service Oriented Architecture to Support Real-Time Information Exchange During Mass Casualty Events*

Gao, Tia
Hauenstein, Logan
White, David

Johns Hopkins Univ.
Johns Hopkins Univ.
Johns Hopkins Univ.

09:15-09:30

Semantic Tagging for Medical Knowledge Tracking, pp. 6257-6260

Jang, Hyeju

Song, Sa Kwang

Myaeng, Sung Hyon

Information Communications Univ.
Electronics and Telecommunications Res. Inst.
Information Communications Univ.

09:30-09:45

Proposal of Wireless Behavioral Monitoring System with Electric Field Sensor, pp. 6261-6264

Kameda, Noriyuki

Akabane, Yoshinori

Naganokawa, Haruhisa

Tsukamoto, Sosuke

Tamura, Toshiyo

Hoshino, Hiroshi

Tokyo Denki Univ.
Tokyo Denki Univ.
Tokyo Denki Univ.
Tokyo Denki Univ.
Chiba Univ. School of Engineering
Tokyo Denki Univ.

09:45-10:00

Issues in Implementing a Knowledge-Based ECG Analyzer for Personal Mobile

Health Monitoring, pp. 6265-6268

Goh, Keng Wee

Kim, Eung-Hun

Janardhanan, Lavanya

Kim, Yongmin

Soh, Cheong Boon

Nanyang Tech. Univ.
Univ. of Washington
Nanyang Tech. Univ.
Univ. of Washington
Nanyang Tech. Univ.

10:00-10:15

The Development of an Interoperable Roadmap for Medical Devices*

Judd, Tom

Rausch, Tracy L.

International consultant; WHO consultant

10:15-10:30

Reinforcement Learning Interfaces for Biomedical Database Systems, pp. 6269-6272

Rudowsky, Ira

Kulyba, Olga

Kunin, Mikhail

Parsons, Simon

Raphan, Theodore

Brooklyn Coll. / CUNY
Brooklyn Coll. / CUNY
Brooklyn Coll. / CUNY
Brooklyn Coll. / CUNY
Brooklyn Coll. / CUNY

SuA05

Duffy-Columbia

Wearable Sensors and Devices 3 (Oral Session)

09:00-09:15

Posture Classification Via Wearable Strain Sensors for Neurological Rehabilitation, pp. 6273-6276

Giorgino, Toni

Lorussi, Federico

De Rossi, Danilo

Quaglioni, Silvana

Univ. of Pavia
Univ. of Pisa
Univ. of Pisa
Univ. of Pavia

09:15-09:30

Unobtrusive Assessment of Mobility, pp. 6277-6280

Pavel, Michael

Hayes, Tamara

Adami, Andre

Jimison, Holly

Kaye, Jeffrey A.

Oregon Health and Science Univ.
Oregon Health and Science Univ.
Oregon Health & Science Univ.
Oregon Health & Science Univ.
Oregon Health and Science Univ.

09:30-09:45

Measuring Finger Flexion and Activity Trends Over a 25 Hour Period Using a Low Cost

Wireless Device, pp. 6281-6284

Simone, Lisa	New Jersey Inst. of Tech.
Sundarrajan, Nappinnai	Kessler Medical Rehabilitation Res. and Education Corp.
Elovic, Elie	Kessler Medical Rehabilitation Res. and Education
Luo, Xun	Rehabilitation Inst. of Chicago
Jia, Yicheng	Rehabilitation Inst. of Chicago
Kamper, Derek	Rehabilitation Inst. of Chicago

09:45-10:00

Finger Taps Movement Acceleration Measurement System for Quantitative Diagnosis of Parkinson's Disease*

Okuno, Ryuhei	Osaka Univ.
Akazawa, Kenzo	Osaka Inst. of Tech.

10:00-10:15

Development of Walking Pattern Evaluation System for Hypogravity Simulation, pp. 6285-6288

Leaes, Roberta	PUC-RS
Cambráia, Rodrigo	PUCRS
Bacim, Felipe	PUC-RS
Dalmarco, Gustavo	PUCRS
Dario, Azevedo	PUCRS
Russomano, Thais	PUCRS
Pinho, Marcio	PUC-RS
Calder, Alyson	Univ. of Glasgow

10:15-10:30

A Navigation Aid for the Blind Using Tactile-Visual Sensory Substitution, pp. 6289-6292

Johnson, Lise A.	The Univ. of Arizona
Higgins, Charles M.	The Univ. of Arizona

SuA07

Cantor-Jolson

Pacing, Defibrillation and Catheter Ablation II (Oral Session)

09:00-09:15

Quantification of Local Convective Cooling During Cardiac Radiofrequency

Catheter Ablation, pp. 6293-6296

Haemmerich, Dieter	Medical Univ. of South Carolina
Saul, J. Philip	Medical Univ. of South Carolina

09:15-09:30

High-Precision Guidance of Ablation Catheters to Arrhythmic Sites: A Physiologically Realistic

Simulation Study, pp. 6297-6300

Barley, Maya	Massachusetts Inst. of Tech.
Cohen, Richard	Massachusetts Inst. of Tech.

09:30-09:45

Comparison of Current Densities Measured in a Pig Heart During States of Ventricular Fibrillation and Post-Mortem for Different Defibrillation Electrode Positions, pp. 6301-6304

DeMonte, Tim P.	Field Metrica Inc.
Jorgenson, Dawn B.	Philips Medical Systems
Wang, Dinghui	Univ. of Toronto
Ma, Angela W.	Univ. of Toronto
Nachman, Adrian I.	Univ. of Toronto
Joy, Michael L.	Univ. of Toronto

09:45-10:00

Cardiac Current Density Distribution by Electrical Pulses from TASER Devices, pp. 6305-6307

Panescu, Dorin
Stratbucker, Robert
Kroll, Mark
McDaniel, Wayne

St. Jude Medical
Stratbucker & Assoc.
Cal Pol. Univ. San Luis Obispo
Univ. of Missouri

10:00-10:15

Intracardiac Electrical Bioimpedance As a Basis for Controlling of Pacing Rate Limits, pp. 6308-6311

Kink, Andres
Salo, Rodney W
Min, Mart
Parve, Toomas
Ratsep, Indrek

SmartImplant, Ltd.
Guidant Corp.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.
Tallinn Univ. of Tech.

10:15-10:30

Myocardial Contrast Echocardiography of Radiofrequency Ablation Lesions*

Panescu, Dorin
Rao, Liyun
Nagueh, Sherif F.
Ding, Chuxiong
Sun, Huabin
Youker, Keith
Khoury, Dirar

St. Jude Medical
The Methodist Hospital Res. Inst.
The Methodist Hospital Res. Inst.
The Methodist Hospital Res. Inst.
The Methodist Hospital Res. Inst.
The Methodist Hospital Res. Inst.
The Methodist Hospital Res. Inst.

SuA09

Gramercy-Olmstead

Telemedicine, E-Medicine, and Home-Based Healthcare I (Oral Session)

09:00-09:15

Distributed Personal Health Information Management System for Dermatology at the Homes for Senior Citizens, pp. 6312-6315

Janardhanan, Lavanya
Goh, Keng Wee
Leow, Yung Hian
Chio, Martin
Kandasamy, Prabakaran
Kim, Eung-Hun
Kim, Yongmin
Soh, Cheong Boon

Nanyang Tech. Univ.
Nanyang Tech. Univ.
National Health Group
National Health Group
Nanyang Tech. Univ.
Univ. of Washington
Univ. of Washington
Nanyang Tech. Univ.

09:15-09:30

Fragility Issues of Medical Video Streaming Over 802.11e-WLAN M-Health Environments, pp. 6316-6319

Tan, Edwin
Philip, Nada
Istepanian, Robert

Kingston Univ.
Kingston Univ.
Kingston Univ.

09:30-09:45

A Systematic Review of Technical Evaluation in Telemedicine Systems, pp. 6320-6323

Clarke, Malcolm
Thiyagarajan, Chinnayaasari

Brunel Univ.
Stoke Mandeville Hospital

09:45-10:00

A Web Application for Managing Data of Cardiovascular Risk Patients, pp. 6324-6327

Bonacina, Stefano
Masseroli, Marco

Pol. di Milano
Pol. di Milano

10:00-10:15

Digital Watermarking in Telemedicine Applications – towards Enhanced Data Security and Accessibility, pp. 6328-6331

Giakoumaki, Aggeliki
Perakis, Konstantinos
Tagaris, Anastassios
Koutsouris, Dimitrios

National Tech. Univ. of Athens
National Tech. Univ. of Athens
National Tech. Univ. of Athens
National Tech. Univ. of Athens (NTUA)

10:15-10:30

Intelligent Agent Model for Remote Support of Rural Healthcare for the Elderly, pp. 6332-6335

Hudson, Donna L
Cohen, Maurice

Univ. of California, San Francisco
Univ. of California San Francisco

SuB01

Marquis AB

Spectral Analysis in Signals of Central Nervous System (Oral Session)

10:45-11:00

Spectral Analysis of Category-Specific Knowledge in the Intact Brain, pp. 6336-6338

LAKANY, Heba

Univ. of Essex

11:00-11:15

Classifying ECoG/EEG-Based Motor Imagery Tasks, pp. 6339-6342

An, Bin
Ning, Yan
Jiang, Zhaohui
Feng, Huanqing
Zhou, Heqin

Univ. of Science and Tech. of China
Univ. of Science and Tech. of China
Univ. of Science and Tech. of China
Univ. of Science and Tech. of China
Univ. of Science and Tech. of China

11:15-11:30

Method for the Automatic Detection of Epileptiform Waveforms in Sevoflurane-Induced

Anesthesia EEG, pp. 6343-6346

Ermes, Miikka
Särkelä, Mika
van Gils, Mark
Vakkuri, Anne
Yli-Hankala, Arvi
Jäntti, Ville

VTT Tech. Res. Centre of Finland
GE Healthcare
VTT Tech. Res. Centre of Finland
Helsinki Univ. Hospital
Univ. of Tampere
Tampere Univ. Hospital

11:30-11:45

Model-Related Analysis of EEG Burst Patterns in Sedated Patients, pp. 6347-6350

Leistritz, Lutz
Putsche, Peter
Haeisen, Jens
Witte, Herbert

Friedrich Schiller Univ.
Friedrich Schiller Univ.
Tech. Univ. Ilmenau
Friedrich Schiller Univ.

11:45-12:00

Frequency-Selective Quantification of Short-Echo Time Magnetic Resonance Spectra, pp. 6351-6355

Pouillet, Jean-Baptiste
Van Huffel, Sabine
Sima, Diana

Katholieke Univ. Leuven
Katholieke Univ. Leuven
Katholieke Univ. Leuven

12:00-12:15

Comparison of the Properties of EEG Spindles in Sleep and Propofol Anesthesia, pp. 6356-6359

Ferenets, Rain
Lipping, Tarmo
Suominen, Pertti
Turunen, Jari
Puumala, Pasi
Jäntti, Ville
Himanen, Sari-Leena
Huotari, Ari-Matti

Tampere Univ. of Tech. Pori
Tampere Univ. of Tech.
Tampere Univ. of Tech. Pori
Tampere Univ. of Tech. Pori
Tampere Univ. Hospital
Tampere Univ. Hospital
Tampere Univ. Hospital
Oulu Univ. Hospital

SuB03

SoHo-Herald

Therapeutic Devices 2 (Oral Session)

10:45-11:00

Automated Removal of Stimulus Artifact in Nerve Conduction Studies, pp. 6360-6363

Tracey, Brian

Krishnamachari, Srivathsan

NEUROMetrix
Neurometrix, Inc

11:00-11:15

Novel Micromachined Valved Glaucoma Drainage Devices, pp. 6364-6369

Tavakolian, Kouhyar

Kaminska, Bozena

Maleki Jafarabadi, Teimour

Simon Fraser Univ.
SIMON FRASER Univ.
Simon Fraser Univ.

11:15-11:30

Outlook for the Use of Focused Shock Waves and Pulsed Electric Fields in the Complex Treatment of Malignant Neoplasms, pp. 6370-6372

Zubkov, A. D.

Andriyanov, Yuri

Garilevich, Boris

Olefir, Yu. V.

Rotov, Anton

Central Air-Force Clinical Hospital
TRINITI
Central Clinical Air Forth Hospital
Central Air Force Clinical Hospital
Central Clinical Air Forth Hospital

11:30-11:45

A Possibility of Hyperthermia Treatment Using MRI Equipment, pp. 6373-6375

Kunisaki, Junichi

Saito, Tasuku

Yamada, Tsutomu

Takemura, Yasushi

Niwa, Tetsu

Inoue, Tomio

Yokohama National Univ.
Yokohama National Univ.
Yokohama National Univ.
Yokohama National Univ.
Yokohama City Univ.
Yokohama City Univ.

11:45-12:00

Investigation of a Cylindrical Ultrasound Phased-Array with Multiple-Focus Scanning for Breast Tumor Thermal Therapy, pp. 6376-6379

Ho, Cheng-Shiao

Ju, Kuen-Cheng

Chen, Yung-Yaw

Lin, Win-Li

National Taiwan Univ.
Univ. of Washington
National Taiwan Univ.
National Taiwan Univ.**SuB04**

Ziegfeld

Elder Care Technologies II (Oral Session)

10:45-11:00

A Non-Contact Imaging-Based Approach to Detecting Stage I Pressure Ulcers, pp. 6380-6383

Leachtenauer, Jon

Kell, Steve

Turner, Beverly

Newcomer, Chris

Lyder, Courtney

Alwan, Majd

Univ. of Virginia Volunteer Services
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia
Univ. of Virginia

11:00-11:15

Monocular 3D Head Tracking to Detect Falls of Elderly People, pp. 6384-6387

Rougier, Caroline

Meunier, Jean

St-Arnaud, Alain

Rousseau, Jacqueline

Univ. de Montréal
Univ. de Montreal
Centre de santé de santé et de services sociaux Lucille-Teasdale
Univ. de Montréal

11:15-11:30

Recognizing Falls from Silhouettes, pp. 6388-6391

Anderson, Derek
Keller, James M
Skubic, Marjorie
Chen, Xi
He, Zhihai

Univ. of Missouri
Univ. of Missouri
Univ. of Missouri
Univ. of Missouri
Univ. of Missouri

11:30-11:45

RFID Application to Control Unauthorized Egress of People with Spatial Disorientation, pp. 6392-6395

Vargas, Jose

Fundacion Andaluza de Servicios Sociales

11:45-12:00

Video Surveillance of Medication Intake, pp. 6396-6399

Valin, Myriam
Meunier, Jean
St-Arnaud, Alain
Rousseau, Jacqueline

Univ. de Montréal
Univ. de Montreal
Centre de santé de santé et de services sociaux Lucille-Teasdale
Univ. de Montréal

12:00-12:15

An Electronic Pillbox for Continuous Monitoring of Medication Adherence, pp. 6400-6403

Hayes, Tamara
Hunt, John M.
Adami, Andre
Kaye, Jeffrey A.

Oregon Health and Science Univ.
OGI School of Science and Engineering/Oregon Health & Science Uni
Oregon Health & Science Univ.
Oregon Health and Science Univ.

SuB05

Duffy-Columbia

Sensors and Systems (Oral Session)

10:45-11:00

The Changes in Pulse Transit Time at Specific Cuff Pressures During Inflation and Deflation, pp. 6404-6405

Liu, Yinbo
Poon, Carmen C. Y.
Zhang, Yuan-Ting

The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong
The Chinese Univ. of Hong Kong

11:00-11:15

Modeling Impermeable Membranes As Acoustic Filters for Biomedical Applications, pp. 6406-6409

Juan Garcia, Eduardo
Goenaga Jiménez, Miguel

Univ. of Puerto Rico - Mayagüez
Univ. of Puerto Rico - Mayagüez

11:15-11:30

Reliable Respiration Rate Estimation from a Bed Pressure Array, pp. 6410-6413

Howell-Jones, Megan
Goubran, Rafik A.
Knoefel, Frank-Dietrich

Carleton Univ.
Carleton Univ.
SCO Health Service

11:30-11:45

Analysis of Skin-Electrode Impedance Using Concentric Ring Electrode, pp. 6414-6417

Besio, W. G.
Prasad, Ashwini

Louisiana Tech. Univ.
Louisiana Tech. Univ.

11:45-12:00

Cuffless and Noninvasive Tonometry Mean Blood Pressure Measurement by Physiological Characteristics and Applied Pressure, pp. 6418-6421

Park, Mikyoung
Kang, HeeJung
Huh, Young
Kim, KyungChul

Korea Elctrotechnology Res. Inst.
DAEYOMEDI Co., Ltd
Korea Electrotechnology Res. Inst.
Dong-Eui Univ.

12:00-12:15

Development of Smart Toothbrush Monitoring System for Ubiquitous Healthcare, pp. 6422-6425

Lee, Jeong-Whan	Konkuk Univ.
Kim, Kyeong-Seop	Konkuk Univ.
Kim, Dong-Jun	Cheongju Univ.
Lee, Kang-Hwi	Konkuk Univ.
Kim, Kyungho	Dankook Univ.

SuB07

Cantor-Jolson

Cardiorespiratory Variability II (Oral Session)

10:45-11:00

Spontaneous Heart Rate Turbulence in Patients with Dilated Cardiomyopathy, pp. 6426-6429

Voss, Andreas	Univ. of Applied Sciences Jena
Schroeder, Rico	Univ. of Applied Sciences Jena
Truebner, Sandra	Univ. of Applied Sciences Jena
Goernig, Matthias	Friedrich Schiller Univ. Jena, Klinik fuer Innere Medizin 1
Schirdewan, Alexander	Humboldt Univ. Charite, Franz-Volhard-Klinik
Figulla, Hans R.	Friedrich-Schiller-Univ. Jena, Klinik fuer Innere Medizin 1

11:00-11:15

Short-Term Heart Rate Variability Response to Head-Up Tilt in Young Syncope Patients and Controls with Respect to Age, pp. 6430-6433

Dickhaus, Hartmut	Univ. of Heidelberg
Maier, Christoph	Heilbronn Univ.
Khalil, Markus	Univ. of Heidelberg
Ulmer, Herbert	Univ. of Heidelberg

11:15-11:30

Linear Models of Intrapartum Uterine Pressure-Fetal Heart Rate Interaction for the Normal and Hypoxic Fetus, pp. 6434-6437

Warrick, Philip A.	McGill Univ.
Kearney, Robert Edward	McGill Univ.
Precup, Doina	McGill Univ.
Hamilton, Emily	McGill Univ.

11:30-11:45

Frequency Modulation between Low and High-Frequency Components of the Heart Rate Variability Spectrum May Indicate Sympathetic-Parasympathetic Nonlinear Interactions, pp. 6438-6441

Zhong, Yuru	State Univ. of New York at Stony Brook
Jan, Kung_Ming	Columbia Univ.
Chon, Ki	State Univ. of New York at Stony Brook

11:45-12:00

Spectral Analysis of Pulse Transit Time Variability and Its Coherence with Other Cardiovascular Variabilities, pp. 6442-6445

Ma, Ting	Chinese Univ. of Hong Kong
Zhang, Yuan-Ting	The Chinese Univ. of Hong Kong

SuB09

Gramercy-Olmstead

M-Health: Personalised Health Information Systems (Oral Session)

10:45-11:00

Home Healthcare in the Home Environment, pp. 6446-6448

Price, Sheila	Loughborough Univ.
Summers, Ronald	Loughborough Univ.

11:00-11:15

Design and Implementation of a Framework for Monitoring Patients in Hospitals Using Wireless Sensors in Ad Hoc Configuration, pp. 6449-6452

O'Donoghue, Nicholas
Kulkarni, Sarvesh
Marzella, Douglas

Villanova Univ.
Villanova Univ.
Villanova Univ.

11:15-11:30

Integrated Scheduling Algorithm for Personalized Disease Management Applications, pp. 6453-6456

Yuan, Xiaojing
Moges, Mequanint

Univ. of Houston
Univ. of Houston

11:30-11:45

The Effects of Wireless Channel Errors on the Quality of Real Time Ultrasound Video Transmission, pp. 6457-6460

Hernández, Carolina
Alesanco, Alvaro
Abadía, Violeta
García Moros, José

Univ. of Zaragoza
Univ. of Zaragoza
Univ. of Zaragoza
Aragon Inst. for Engineering Res. (I3A), Univ. Zaragoza.

11:45-12:00

On the Guarantee of Reconstruction Quality in ECG Wavelet Codecs, pp. 6461-6464

Alesanco, Alvaro
García, José
Serrano, Pedro
Ramos, Luciano
Istepanian, Robert

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A Wearable Reflectance Pulse Oximeter for Remote Physiological Monitoring

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Abstract—To save life, casualty care requires that trauma injuries are accurately and expeditiously assessed in the field. This paper describes the initial bench testing of a wireless wearable pulse oximeter developed based on a small forehead mounted sensor. The battery operated device employs a lightweight optical reflectance sensor and incorporates an annular photodetector to reduce power consumption. The system also has short range wireless communication capabilities to transfer arterial oxygen saturation (SpO₂), heart rate (HR), body acceleration, and posture information to a PDA. It has the potential for use in combat casualty care, such as for remote triage, and by first responders, such as firefighters.

I. INTRODUCTION

STEADY advances in noninvasive physiological sensing, hardware miniaturization, and wireless communication are leading to the development of new wearable technologies that have broad and important implications for civilian and military applications [1]-[2]. For example, the emerging development of compact, low-power, small-size, light-weight, and unobtrusive wearable devices may facilitate remote noninvasive monitoring of vital signs from soldiers during training exercises and combat. Telemetry of physiological information via a short-range wirelessly-linked personal area network can also be useful for firefighters, hazardous material workers, mountain climbers, or emergency first-responders operating in harsh and hazardous environments. The primary goals of such a wireless mobile platform would be to keep track of an injured person's vital signs, thus readily allowing the telemetry of physiological information to medical providers, and support emergency responders in making critical and often life saving decisions in order to expedite rescue operations. Having wearable physiological monitoring could offer far-forward medics numerous advantages, including the ability to determine a casualty's condition remotely without exposing the first

responders to increased risks, quickly identifying the severity of injuries especially when the injured are greatly dispersed over large geographical terrains and often out-of-site, and continuously tracking the injured condition until they arrive safely at a medical care facility.

Several technical challenges must be overcome to address the unmet demand for long-term continuous physiological monitoring in the field. In order to design more compact sensors and improved wearable instrumentation, perhaps the most critical challenges are to develop more power efficient and low-weight devices. To become effective, these technologies must also be robust, comfortable to wear, and cost-effective. Additionally, before wearable devices can be used effectively in the field, they must become unobtrusive and should not hinder a person's mobility. Employing commercial off-the-shelf (COTS) solutions, for example finger pulse oximeters to monitor blood oxygenation and heart rate, or standard adhesive-type disposable electrodes for ECG monitoring, is not practical for many field applications because they limit mobility and can interfere with normal tasks.

A potentially attractive approach to aid emergency medical teams in remote triage operations is the use of a wearable pulse oximeter to wirelessly transmit heart rate (HR) and arterial oxygen saturation (SpO₂) to a remote location. Pulse oximetry is a widely accepted method that is used for noninvasive monitoring of SpO₂ and HR. The method is based on spectrophotometric measurements of changes in the optical absorption of deoxyhemoglobin (Hb) and oxyhemoglobin (HbO₂). Noninvasive spectrophotometric measurements of SpO₂ are performed in the visible (600-700nm) and near-infrared (700-1000nm) spectral regions. Pulse oximetry also relies on the detection of photoplethysmographic (PPG) signals produced by variations in the quantity of arterial blood that is associated with periodic contractions and relaxations of the heart. Measurements can be performed in either transmission or reflection modes. In transmission pulse oximetry, the sensor can be attached across a fingertip, foot, or earlobe. In this configuration, the light emitting diodes (LEDs) and photodetector (PD) in the sensor are placed on opposite sides of a peripheral pulsating vascular bed. Alternatively, in reflection pulse oximetry, the LEDs and PD are both mounted side-by-side on the same planar substrate to enable readings from multiple body locations where transillumination measurements are not feasible. Clinically, forehead reflection pulse oximetry has been used as an alternative approach to conventional transmission-based

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oximetry when peripheral circulation to the extremities is compromised.

Pulse oximetry was initially intended for in-hospital use on patients undergoing or recovering from surgery. During the past few years, several companies have developed smaller pulse oximeters, some including data transmission via telemetry, to further expand the applications of pulse oximetry. For example, battery-operated pulse oximeters are now attached to patients during emergency transport as they are being moved from a remote location to a hospital, or between hospital wards. Some companies are also offering smaller units with improved electronic filtering of noisy PPG signals.

Several reports described the development of a wireless pulse oximeter that may be suitable for remote physiological monitoring [3]-[4]. Despite the steady progress in miniaturization of pulse oximeters over the years, to date, the most significant limitation is battery longevity and lack of telemetric communication. In this paper, we describe a prototype forehead-based reflectance pulse oximeter suitable for remote triage applications.

II. SYSTEM ARCHITECTURE

The prototype system, depicted in Fig. 1, consists of a body-worn pulse oximeter that receives and processes the PPG signals measured by a small ($\phi = 22\text{mm}$) and lightweight (4.5g) optical reflectance transducer. The system

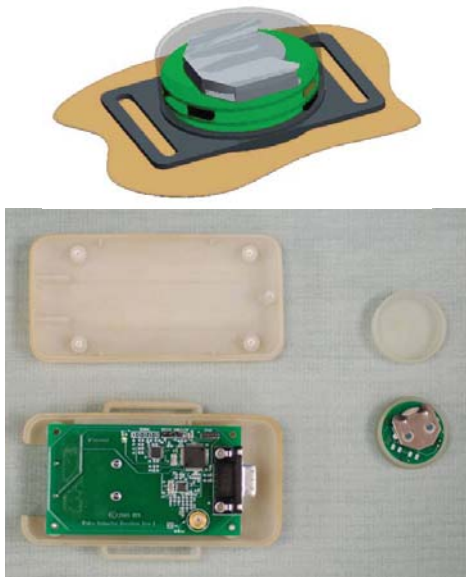


Fig. 1. (Top) Attachment of Sensor Module to the skin; (Bottom) photograph of the Receiver Module (left) and Sensor Module (right).

consists of three units: A Sensor Module, consisting of the optical transducer, a stack of round PCBs, and a coin-cell battery. The information acquired by the Sensor Module is transmitted wirelessly via an RF link over a short range to a body-worn Receiver Module. The data processed by the Receiver Module can be transmitted wirelessly to a PDA. The PDA can monitor multiple wearable pulse oximeters simultaneously and allows medics to collect vital physiological information to enhance their ability to extend more effective care to those with the most urgent needs. The

system can be programmed to alert on alarm conditions, such as sudden trauma, or physiological values out of their normal range. It also has the potential for use in combat casualty care, such as for remote triage, and for use by first responders, such as firefighters.

Key features of this system are small-size, robustness, and low-power consumption, which are essential attributes of wearable physiological devices, especially for military applications. The system block diagram (Fig. 2), is described in more detail below.

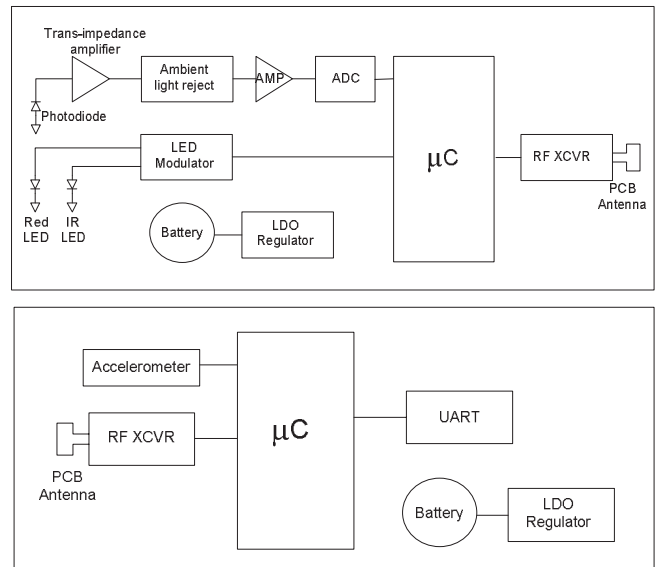


Fig. 2. System block diagram of the wearable, wireless, pulse oximeter. Sensor Module (top), Receiver Module (bottom).

Sensor Module: The Sensor Module contains analog signal processing circuitry, ADC, an embedded microcontroller, and an RF transceiver. The unit is small enough so the entire module can be integrated into a headband or a helmet. The unit is powered by a CR2032 type coin cell battery with 220mAh capacity, providing at least 5 days of operation.

Receiver Module: The Receiver Module contains an embedded microcontroller, RF transceiver for communicating with the Sensor Module, and a Universal Asynchronous Receive Transmit (UART) for connection to a PC. Signals acquired by the Sensor Module are received by the embedded microcontroller which synchronously converts the corresponding PD output to R and IR PPG signals. Dedicated software is used to filter the signals and compute SpO_2 and HR based on the relative amplitude and frequency content of the reflected PPG signals. A tri-axis MEMS accelerometer detects changes in body activity, and the information obtained through the tilt sensing property of the accelerometer is used to determine the orientation of the person wearing the device.

To facilitate bi-directional wireless communications between the Receiver Module and a PDA, we used the DPAC Airborne™ LAN node module (DPAC Technologies, Garden Grove, CA). The DPAC module operates at a frequency of 2.4GHz, is 802.11b wireless compliant, and has a relatively small ($1.6 \times 1.17 \times 0.46$ inches) footprint. The wireless module runs off a 3.7VDC and includes a built-in

TCP/IP stack, a radio, a base-band processor, an application processor, and software for a “drop-in” WiFi application. It has the advantage of being a plug-and-play device that does not require any programming and can connect with other devices through a standard UART.

PDA: The PDA was selected based on size, weight, and power consumption. Furthermore, the ability to carry the user interface with the medic also allows for greater flexibility during deployment. We chose the HP iPAQ h4150 PDA because it can support both 802.11b and Bluetooth™ wireless communication. It contains a modest amount of storage and has sufficient computational resources for the intended application. The use of a PDA as a local terminal also provides a low-cost touch screen interface. The user-friendly touch screen of the PDA offers additional flexibility. It enables multiple controls to occupy the same physical space and the controls appear only when needed. Additionally, a touch screen reduces development cost and time, because no external hardware is required. The data from the wireless-enabled PDA can also be downloaded or streamed to a remote base station via Bluetooth or other wireless communication protocols. The PDA can also serve to temporarily store vital medical information received from the wearable unit.

A dedicated National Instruments LabVIEW program was developed to control all interactions between the PDA and the wearable unit via a graphical user interface (GUI). One part of the LabVIEW software is used to control the flow of information through the 802.11b radio system on the PDA. A number of LabVIEW VIs programs are used to establish a connection, exchange data, and close the connection between the wearable pulse oximeter and the PDA. The LabVIEW program interacts with the Windows CE™ drivers of the PDA’s wireless system. The PDA has special drivers provided by the manufacturer that are used by Windows CE™ to interface with the 802.11b radio hardware. The LabVIEW program interacts with Windows CE™ on a higher level and allows Windows CE™ to handle the drivers and the direct control of the radio hardware.

The user interacts with the wearable system using a simple GUI, as depicted in Fig. 3.



Fig. 3. Sample PDA Graphical User Interface (GUI).

The GUI was configured to present the input and output information to the user and allows easy activation of various

functions. In cases of multiple wearable devices, it also allows the user to select which individual to monitor prior to initiating the wireless connection. Once a specific wearable unit is selected, the user connects to the remote device via the System Control panel that manages the connection and sensor control buttons. The GUI also displays the subject’s vital signs, activity level, body orientation, and a scrollable PPG waveform that is transmitted by the wearable device.

The stream of data received from the wearable unit is distributed to various locations on the PDA’s graphical display. The most prominent portion of the GUI display is the scrolling PPG waveform, shown in Fig. 3. Numerical SpO₂ and HR values are displayed in separate indicator windows. A separate tri-color indicator is used to annotate the subject’s activity level measured by the wearable accelerometer. This activity level was color coded using green, yellow, or red to indicate low or no activity, moderate activity, or high activity, respectively. In addition, the subject’s orientation is represented by a blue indicator that changes orientation according to body posture. Alarm limits could be set to give off a warning sign if the physiological information exceeds preset safety limits.

One of the unique features of this PDA-based wireless system architecture is the flexibility to operate in a free roaming mode. In this ad-hoc configuration, the system’s integrity depends only on the distance between each node. This allows the PDA to communicate with a remote unit that is beyond the PDA’s wireless range. The ad-hoc network would therefore allow medical personnel to quickly distribute sensors to multiple casualties and begin immediate triage, thereby substantially simplifying and reducing deployment time.

Power Management: Several features were incorporated into the design in order to minimize the power consumption of the wearable system. The most stringent consideration was the total operating power required by the Sensor Module, which has to drive the R and IR LEDs, process the data, and transmit this information wirelessly to the Receive Module. To keep the overall size of the Sensor Module as small as, it was designed to run on a watch style coin-cell battery.

It should be noted that low power management without compromising signal quality is an essential requirement in optimizing the design of wearable pulse oximeter. Commercially available transducers used with transmission and reflection pulse oximeters employ high brightness LEDs and a small PD element, typically with an active area ranging between 12 to 15mm². One approach to lowering the power consumption of a wireless pulse oximeter, which is dominated by the current required to drive the LEDs, is to reduce the LED duty cycle. Alternatively, minimizing the drive currents supplied to the R and IR LEDs can also achieve a significant reduction in power consumption. However, with reduced current drive, there can be a direct impact on the quality of the detected PPGs. Furthermore, since most of the light emitted from the LEDs is diffused by the skin and subcutaneous tissues, in a predominantly forward-scattering direction, only a small fraction of the incident light is normally backscattered from the skin. In

addition, the backscattered light intensity is distributed over a region that is concentric with respect to the LEDs. Consequently, the performance of reflectance pulse oximetry using a small PD area is significantly degraded. To overcome this limitation, we showed that a concentric array of either discrete PDs, or an annularly-shaped PD ring, could be used to increase the amount of backscattered light detected by a reflectance type pulse oximeter sensor [5]-[7].

Besides a low-power consuming sensor, afforded by lowering the driving currents of the LEDs, a low duty cycle was employed to achieve a balance between low power consumption and adequate performance. In the event that continuous monitoring is not required, more power can be conserved by placing the device in an ultra low-power standby mode. In this mode, the radio is normally turned off and is only enabled for a periodic beacon to maintain network association. Moreover, a decision to activate the wearable pulse oximeter can be made automatically in the event of a patient alarm, or based on the activity level and posture information derived from the on-board accelerometer. The wireless pulse oximeter can also be activated or deactivated remotely by a medic as needed, thereby further minimizing power consumption.

III. IN VIVO EVALUATIONS

Initial laboratory evaluations of the wearable pulse oximeter included simultaneous HR and SpO₂ measurements. The Sensor Module was positioned on the forehead using an elastic headband. Baseline recordings were made while the subject was resting comfortably and breathing at a normal tidal rate. Two intermittent recordings were also acquired while the subject held his breath for about 30 seconds. Fig. 4 displays about 4 minutes of SpO₂ and HR recordings acquired simultaneously by the sensor.

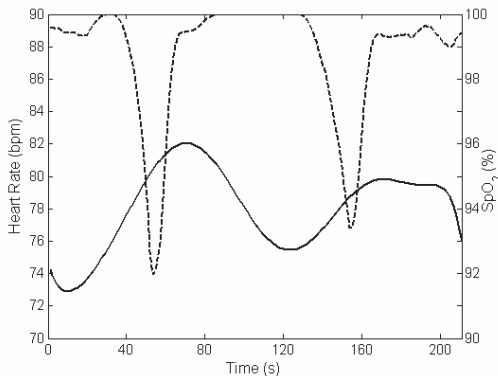


Fig. 4. Typical HR (solid line) and SpO₂ (dashed line) recording of two voluntary hypoxic episodes.

The pronounced drops in SpO₂ and corresponding increases in HR values coincide with the hypoxic events associated with the two breath holding episodes.

IV. DISCUSSION

The emerging development of compact, low power, small size, light weight, and unobtrusive wearable devices can facilitate remote noninvasive monitoring of vital

physiological signs. Wireless physiological information can be useful to monitor soldiers during training exercises and combat missions, and help emergency first-responders operating in harsh and hazardous environments. Similarly, wearable physiological devices could become critical in helping to save lives following a civilian mass casualty. The primary goal of such a wireless mobile platform would be to keep track of an injured person's vital signs via a short-range wirelessly-linked personal area network, thus readily allowing RF telemetry of vital physiological information to command units and remote off-site base stations for continuous real-time monitoring by medical experts.

The preliminary bench testing plotted in Fig. 4 showed that the SpO₂ and HR readings are within an acceptable clinical range. Similarly, the transient changes measured during the two breath holding maneuvers confirmed that the response time of the custom pulse oximeter is adequate for detecting hypoxic episodes.

V. CONCLUSION

A wireless, wearable, reflectance pulse oximeter has been developed based on a small forehead-mounted sensor. The battery-operated device employs a lightweight optical reflectance sensor and incorporates an annular photodetector to reduce power consumption. The system has short range wireless communication capabilities to transfer SpO₂, HR, body acceleration, and posture information to a PDA carried by medics or first responders. The information could enhance the ability of first responders to extend more effective medical care, thereby saving the lives of critically injured persons.

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