

MeMeA 2012 Program

Thursday, May 17

17:00 – 19:00 Registration

19:00 - 21:00 Welcome Cocktail

Friday, May 18

08:00- Registration

09:00-09:30 Opening Ceremony

Room: A

09:30-11:10 Parallel Sessions F1

F1.1 Biosignal Processing I.

Room: B

Chair: Levente Lócsi

Implementation of selected EEG signal processing algorithms in asynchronous BCI

Andrzej Majkowski, Marcin Kolodzie and Remigiusz J. Rak

#1569556085

Using Kalman filtering to analyze oscillometric blood pressure waveforms

José Antonio de la O Serna, Wendy Van Moer and Kurt Barbé

#1569552913

Time domain characterization of window length and type on moving variance signal features

Daphne Townsend, Rafik Goubran and Frank Knoefel

#1569554349

Dual-tree complex wavelet transform for motion artifact reduction of PPG signals

M. Raghuram, K. Venu Madhav, E. Hari Krishna, Nagarjuna Reddy Komalla, Kosaraju Sivani and K. Ashoka Reddy

#1569558531

Electrical impedance spectral measurements of muscular tissue in different physiological condition

Fabrizio Clemente, Mario Cesarelli and Paolo Bifulco

#1569553819

F1.2 Patient monitoring and patient safety I.

Room: A

Chair: G. Zentai

A multi-modal intelligent system for biofeedback interactions

Mohammed F. Alhamid, Mohamad Eid and Abdulmotaleb El Saddik

#1569564403

Heart rate measurement in neonatal patients using a web-camera

Lorenzo Scalise, Natascia Bernacchia, Ilaria Ercoli and Paolo Marchionni
#1569564409

Assessing standing stability of older adults using pressure sensitive arrays

Matthew Taylor, Dan McEwen, Rafik Goubran, Hillel Finestone, Frank Knoefel, Heidi Sveistrup and Martin Bilodeau
#1569556281

IEEE 1451.4 Embedded Smart Sensors Architecture for wheelchair user monitoring

Octavian Adrian Postolache, Pedro Girão, Hamza Ijaz and João Freire
#1569572475

Textronic clothing with resistance textile sensor to monitoring frequency of human breathing

Michal Frydrysiak, Janusz Zieba and Jan Błaszczuk
#1569562773

11:10-11:40

Coffee Break

11:40-13:20

Parallel Sessions F2

F2.1 Biomedical imaging I.

Room: B

Chair: Gábor Horváth

An image processing approach for calorie intake measurement

Gregorio Villalobos, Rana Almaghrabi, Parisa Pouladzadeh and Shervin Shirmohammadi
#1569556207

Comparison of the corneal surface representations based on Chebyshev polynomials

Alexandros Soumelidis, Zoltán Fazekas and Ferenc Schipp
#1569564261

An improved wavelet-based contralateral subtraction algorithm

Tamás Kapelner, Gergely Orbán and Gábor Horváth
#1569555783

Detection of architectural distortion in prior mammograms using measures of angular dispersion

Rangaraj M. Rangayyan, Shantanu Banik and J. E. Leo Desautels
#1569555379

Detection of the eye blinks for human's fatigue monitoring

Yuriy Kurylyak, Francesco Lamonaca and Giovanni Mirabelli
#1569572381

F2.2 Sensors, actuators, and instrumentation for medical systems I.

Room: A

Chair: Adrian Chan

A differential high-resolution motorized multi-projection approach for an experimental MIT prototype

Jorge Caeiros, Bruno Gil, Nuno Gonçalo Bandeira Brás and Raul C Martins
#1569572235

Measuring of oxygen saturation using pulse oximeter based on fuzzy logic

Gözde Ateş and Kemal Polat
#1569549427

Mechanical characterization of totally optical tactile sensor oriented on bio-applications

Nicola Ivan Giannoccaro, Alessandro Massaro, Luigi Spedicato, Fabrizio Spano, Aime' Lay-Ekuakille and Patrizia Vergallo
#1569564447

Electrode-skin impedance changes due to an externally applied force

Anas Albulbul and Adrian D. C. Chan
#1569555831

Lying and sitting posture recognition and transition detection using a pressure sensor array

Nick Foubert, Anita McKee, Rafik Goubran and Frank Knoefel
#1569555961

13:20-14:30

Lunch

14:30-15:00

Plenary Session: Invited Lecture 1

Room: A

Chair: Anna Lanzolla

Non-obtrusive electrocardiogram system for the smart rollator

Emile Richard and Adrian D.C. Chan
#1569572473

15:00-16:40

Parallel Sessions F3

F3.1 Biosignal Processing II.

Room: B

Chair: Kurt Barbé

Methods for the detection of ECG characteristic points

Bruce Wallace, Richard Dansereau and Rafik Goubran
#1569556253

Processing ECG signals using rational function systems

Levente Lócsi and Péter Kovács

#1569564585

Removal of electrocardiogram artifacts in surface electromyography using a moving average method

Graham Fraser; Adrian D.C. Chan; James R Green; Dawn T. Maclsaac

#1569552535

Extraction of respiratory activity from ECG and PPG signals using vector autoregressive model

K. Venu Madhav, M. Raghuram, E. Hari Krishna, Nagarjuna Reddy Komalla and K. Ashoka Reddy

#1569564115

Ensemble empirical mode decomposition and adaptive filtering for ECG signal enhancement

Xiaochuan He, Rafik Goubran and Peter Liu

#1569563737

F3.2 Patient monitoring and patient safety II.

Room: A

Chair: Remigiusz Rak

Stride time estimation: real-time peak detection implemented on an 8-bit, portable microcontroller

Luke Russell, Alan Steele and Rafik Goubran

#1569564771

A 16-channel synchronous sampling power measurement system for wireless health assistance devices

Lukas Reuter, Robert Weigel and Georg Fischer

#1569564307

Use of higher order spectral analysis for the identification of sudden cardiac death

K. Sharmila, E. Hari Krishna, Nagarjuna Reddy Komalla and K. Ashoka Reddy

#1569574301

Diet Advisory System for Children Using Biofeedback Sensor

Hawazin Badawi, Mohamad Eid and Abdulmotaleb El Saddik

#1569556321

16:40-17:40

Poster Session with coffee and soft drinks

Chair: Abdulmotaleb Elsaddik

Saving lives by integrating cognitive radios into ambulances

Wendy Van Moer, Niclas Björsell, Mohamed Hamid, Kurt Barbé and Charles Nader

#1569547843

Performance of wavelet function in ultrasound image denoising

Gregorio Andria, Filippo Attivissimo, Anna Maria Lucia Lanzolla

#1569572423

Textronic matrix electrode system to electrostimulation

Janusz Zieba, Michal Frydrysiak, Lukasz Tesiorowski and Magdalena Tokarska
#1569562819

A preliminary ultrasound assessment of multimodality contrast agents

Claudia Sciallero and Andrea Trucco
#1569556041

Diffusion tensor imaging measurements for neuro-detection

Aime' Lay-Ekuakille, Patrizia Vergallo, Alessandro Massaro, Antonio Trabacca, Matteo Cacciola, Domenico Labate, Francesco Morabito and Rosario Morello
#1569565395

Detection of ADC clipping, quantization noise and amplifier saturation in surface electromyography

Graham Fraser, Adrian D.C. Chan, James R Green, Dawn T. MacIsaac
#1569555853

Neuromuscular response to whole body vibration treatment during static and dynamic squat exercises

Mario Cesarelli, Felice Di Iorio, Paolo Bifulco, Fabrizio Clemente, Antonio Fratini and Mariano Ruffo
#1569563211

Study of the nonlinear behavior of the electrode-skin interface using silicon and Ag/AgCl electrodes

Seyyed Rasoul Molaei and Reza Jafari
#1569572439

Pressure signal feature extraction for the differentiation of clinical mobility assessments

Stephanie Bennett, Rafik Goubran, Amaya I Arcelus, Kenneth Rockwood and Frank Knoefel
#1569556277

Powerline interference removal from ECG signal using notch filter with non-zero initial conditions

Jacek Piskorowski
#1569556181

Reproducibility of kinematics indexes of upper arm reaching movement in robot assisted therapy

Giovanni D'Addio, Mario Cesarelli, Francesco Lullo, Fabrizio Clemente, Marco De Nunzio and Nicola Pappone
#1569572137

User demands for sensory feedback in upper extremity prostheses

Sören Lewis
#1569572449

Reproducibility analysis of a TDR-based monitoring system for intravenous drip infusions

Andrea Cataldo, Giuseppe Cannazza, Egidio De Benedetto, Nicola Giaquinto and Amerigo Trotta
#1569573909

Artificial lighting to enhance color perception

Ingrid Langer and Annamária R. Várkonyi-Kóczy

#1569590957

17:40-18:10

Plenary Session: Invited Lecture 2

Room: A

Chair: Gregorio Andria

Mathematical modeling and parameter estimation of blood pressure oscillometric waveform

Mohamad Forouzanfar, Balakumar Balasingam, Hilmi R Dajani, Voicu Groza, Miodrag Bolić, Sreeraman Rajan and Emil M. Petriu

#1569556275

19:00-21:30

Dinner Cruise on the Danube

Saturday, May 19

9:00-9:30 Plenary Session: Invited Lecture 3

Room: A

Chair: Wendy Van Moer

Comparison of spectrally sparse excitation signals for fast bioimpedance spectroscopy

Jaan Ojarand, Raul Land and Mart Min

#1569556007

09:30-11:10 Parallel Sessions S1

S1.1 Biomedical imaging II.

Room: B

Chair: Zoltán Fazekas

Present status of CMOS X-ray imagers

George Zentai and Richard Colbeth

#1569572281

Automatic 3D segmentation of mandible for assessment of facial asymmetry

Concetto Spampinato, Carmelo Pino, Daniela Giordano and Rosalia Leonardi

#1569566187

A combined wavelet based mesh free method for solving the forward problem in electrical impedance tomography

Mohammad Reza Yousefi, Reza Jafari and Hamid Abrishami Moghaddam

#1569563187

Fuzzy enhancement for nonuniform illumination of microscopic Sprague-Dawley rat sperm

Khairunnisa Hasikin and Nor Ashidi Mat Isa

#1569553145

S1.2 Sensors, actuators, and instrumentation for medical systems II.

Room: A

Chair: O. Postolache

A proposal of layered sensor for analysis of muscular activity

Akira Kimoto and Yuji Yamada

#1569567985

Enhanced glucose nano-biosensor by pulsed deposition of conducting polymer on ITO/Pt

Daluwathu Preethichandra, Mala Ekanayake and Keiichi Kaneto

#1569556235

Treat me well: affective and physiological feedback for wheelchair users

Octavian Adrian Postolache, Pedro Girão, Mario Ribeiro, Helder Carvalho, Andre Catarino and Gabriela Postolache

#1569567341

Reliable pulse rate evaluation by smartphone

Francesco Lamonaca, Yuriy Kurylyak, Domenico Grimaldi and Vitaliano Spagnuolo

#1569573575

A graphical user interface for measurement of the openness of the retinal temporal arcade

Faraz Oloumi, Rangaraj M. Rangayyan and Anna Ells

#1569563151

11:00-11:40

Coffee Break

11:40-12:10

Plenary Session: Invited Lecture 4

Room: A

Chair: Mart Min

An innovative oscillometric blood pressure measurement: getting rid of the traditional envelope

Kurt Barbé and Wendy Van Moer

#1569556171

12:10-12:40

Closing Ceremony

Room: A

12:40-14:10

Lunch