

4th Conference on Information Technologies in Biomedicine

Program

Monday 02.06.2014			
08:00	Registration		
09:00	Opening		
Moderator: <i>prof. Ewa Piętka, PhD, DSc</i>			
09:15	High-speed noninvasive brain-computer interfaces <i>prof. Andrzej Materka, PhD, DSc</i>		
10:00	Influence of volume conductor modeling on source reconstruction in magnetoencephalography and electroencephalography <i>prof. Jens Hauelsen, PhD, DSc</i>		
10:20	Coffee break		
Image Analysis and Applications Chair: <i>prof. Artur Przelaskowski, PhD, DSc</i>		Computer Aided Surgery Chair: <i>prof. Ewa Piętka, PhD, DSc</i>	
10:40	Applications of Ray-Casting in Medical Imaging (1/003) <i>Maciej Borzęcki, Adam Skurski, Marek Kamiński, Andrzej Napieralski, Jarosław Kasprzak, Piotr Lipiec</i>	10:40	Laparoscopic Liver Surgery (2/003) <i>Stanisław Czudek</i>
11:00	A New Aortic Aneurysm CT Series Registration Algorithm (1/015) <i>Joanna Czajkowska, Christian Feinen, Marcin Grzegorzek, Matthias Raspe, Ralph Wickenh</i>	11:00	Assistance in Destroying Focal Lesions in the Liver Using Image Navigation (2/015) <i>Dominik Spinczyk</i>
11:20	Angular Resolution Study of Vectors Representing Subtle Spiculated Structures in Mammograms (1/027) <i>Magdalena Jasonowska, Artur Przelaskowski</i>	11:20	Image Navigation in Minimally Invasive Surgery (2/025) <i>Bartłomiej Pyciński, Jan Juszczyk, Paweł Bożek, Jacek Ciekalski, Józef Dzielicki, Ewa Piętka</i>
11:40	Line Segment Based Approach to Pattern Detection in Mammographic Images (1/037) <i>Jagoda Lazarek, Piotr S. Szczepaniak</i>	11:40	The Effect of Marker Detection Efficiency on Performance of the Optical Tracking Systems in Computer Assisted Surgery (2/035) <i>Adrian Goral</i>
12:00	Breast Phantom Imaging Results from an Ultrasound Computer Tomography Research System (1/049) <i>Krzysztof J. Opieliński, Piotr Pruchnicki, Tadeusz Gudra, Przemysław Podgórski, Tomasz Kraśnicki, Jacek Kurcz, Marek Sęsiadek</i>	12:00	3D Bone Shape Modelling Basing on Dataset Recorded by Ultrasound Free-Hand Navigated Probe (2/045) <i>Ewelina Świątek-Najwer, Katarzyna Otto, Paweł Krowicki, Krzysztof Krzysztoforski, Peter Keppler, Josef Kozak</i>
12:20	Adaptive Preprocessing of X-ray Hand Images (1/061) <i>Marzena Bielecka, Adam Piórkowski</i>	12:20	Hip Joint Centre Localization: Evaluation of Formal Methods and Effects on Joint Kinematics (2/057) <i>Magdalena Żuk, Ewelina Świątek-Najwer, Celina Pezowicz</i>
12:40	Cruciate Ligaments of the Knee Joint in the Computer Analysis (1/071) <i>Piotr Zarychta</i>	12:40	Radiological Atlas for Patient Specific Model Generation (2/069) <i>Jacek Kawa, Jan Juszczyk, Bartłomiej Pyciński, Paweł Badura, Ewa Piętka</i>
13:00	Lunch		
14:00	Some aspects on Effectiveness and Efficiency for ambulatory care assisted by mobile technological devices <i>prof. Jürgen Zerth, PhD</i>		
Image Analysis and Applications Chair: <i>prof. Krzysztof Kalużyński, PhD, DSc</i>		Telegeriatrics Chair: <i>prof. Elizabeth Krupinski, PhD</i>	
14:40	An Investigation of the Trabecular Bone Microstructure Using Histomorphometric Parameters Based on X-ray Microcomputed Tomography Trabecular Bone Microstructure Investigation (1/81) <i>Paulina Popik, Marcin Binkowski, Łukasz Cyganik, Filip Bolechała, Roman Nowak, Antoni John, Zygmunt Wróbel</i>	14:40	The Application of Adapted TICS (Telephone Interview for Cognitive Status) for Diagnostics of Cognitive Function Disturbances in Elderly Patients. A Pilot Study (2/115) <i>Jarosław Derejczyk, Olga Stępień-Wyrobiec, Aneta Hanusiak, Adam Bednorz, Edyta Karasek, Katarzyna Hornowska-Suchoń, Jan Szymuszal, Agnieszka Pogonowska</i>
15:00	The Three Dimensional Visualization Growth of Bone Tissue in Microstructure of Surface Analysis Using Driшти Open-Source Software (1/91) <i>Mateusz Stolarz, Krzysztof Ficek, Marcin Binkowski, Anna Wójcicka, Zygmunt Wróbel</i>	15:00	Activity Monitoring of the Elderly for Telecare Systems – Review (2/125) <i>Andrzej W. Mitas, Marcin Rudzki, Maria Skotnicka, Paula Lubina</i>
15:20	Fractal Texture Analysis in the Irregular Region of Interest of the Healing Process Using Guided Bone Regeneration (1/103) <i>Marta Borowska, Edward Oczerecko, Janusz Szarmach</i>	15:20	Device for Accelerometer and Gyroscope Measurements (2/139) <i>Stefan Borik, Branko Babusiak, Ivo Cap</i>
15:40	A New Method of Automatic Craniometric Landmarks Definition and Soft Tissue Thickness Measurement Based on MRI Data (1/115) <i>Iryna Garbenko, Krzysztof Mikołajczyk, Iaroslav Iarovy, Tomasz Kubik, Krzysztof Kalużyński</i>	15:40	Wearable System for Activity Monitoring of the Elderly (2/115) <i>Andrzej W. Mitas, Marcin Rudzki, Wojciech Więclawek, Piotr Zarychta, Seweryn Piwowarski</i>
16:00	Coffee break		
Image Analysis and Applications Chair: <i>prof. Robert Cierniak, PhD, DSc</i>		Telemedicine Chair: <i>prof. Edward Oczerecko, PhD, DSc</i>	
16:20	The Assessment of Brain Volume in the Postoperative Craniostenosis (1/127) <i>Anna Fabijańska, Jarosław Gocławski, Wanda Mikołajczyk-Wieczorek</i>	16:20	Teledermatology & Teledermoscopy: Optimizing Technology & Information by Optimizing Users (2/085) <i>Elizabeth A. Krupinski</i>
16:40	Multi-Image Texture Analysis in Classification of Prostatic Tissues from MRI. Preliminary Results (1/139) <i>Dorota Duda, Marek Kretowski, Romain Mathieu, Renaud de Crevoisier, Johanne Bezy-Wendling</i>	16:40	e-Melanoma Diagnosing and Learning System. Current Status (2/095) <i>Zdzisław S. Hippe</i>
17:00	Adaptive Sparse Recovery of Medical Images with Variational Approach - Preliminary Study for CT Stroke (1/151) <i>Artur Przelaskowski</i>	17:00	Telemetry Recording of the Electromyographic Activity of Female Reproduction Tract (2/101) <i>Ewelina Brzozowska, Edward Oczerecko, Bartosz Pawliński, Zdzisław Gajewski</i>
18:00	Concert		
19:00	Gala dinner		

Erratum: Acknowledgements

This work was supported by grant number NN308 077439 from the State Committee for Research Investigation.

4th Conference on Information Technologies in Biomedicine

Tuesday 03.06.2014			
Moderator: prof. Andrzej Napieralski, PhD, DSc			
9:00	From Data to Information Granules: Towards Fundamentals of Granular Computing prof. Witold Pedrycz, PhD, DSc		
09:45	A Machine Learning Approach to Identify Prostate Cancer Areas in Complex Histological Images Arkadiusz Gertych, PhD		
10:30	Coffee break		
Bioinformatics Chair: prof. Ewaryst Tkacz, PhD, DSc		Image Analysis and Applications Chair: prof. Antoni Nowakowski, PhD, DSc	
10:50	Spectral Classification of Dual Nuclear p16/Ki67 Positivity in Pap Smears (1/307) Sukhveer Sandhu Singh, Arkadiusz Gertych	10:50	Application of the Digital Curvelet Transform for the Purpose of Image Denoising in MRI (1/165) Joanna Świebocka-Więk, Henryk Figiel
11:10	Simulation Analysis of the ATR Module as a Detector of UV-Induced DNA Damage (1/317) Monika Kurpas, Katarzyna Jonak, Krzysztof Puszyński	11:10	Universal Segmentation Framework for Medical Imaging Using Rough Sets Theory and Fuzzy Logic Clustering (1/175) Marcin Majak
11:30	Protein Hotspot Prediction Using S-Transform (1/327) Jan Kasperek, Denisa Maderankova, Ewaryst Tkacz	11:30	Ultrafast Iterative Model-Based Statistical 3D Reconstruction Algorithm for X-ray Computed Tomography (1/187) Robert Cierniak, Michał Knas
11:50	Extended Spatial Evolutionary Games and Induced Bystander Effect (1/337) Michał Krześlak, Andrzej Świerniak	11:50	Comparison Study of Two Programs Dedicated to X-ray Microtomography Data Analysis (1/197) Joanna Śróbka, Marcin Binkowski, Martyna Czaja, Iwona Szarejko, Zygmunt Wróbel
12:10	Prediction of the Behavior of Mammalian Cells After Exposure to Ionizing Radiation Based on the New Mathematical Model of ATM-Mdm2-p53 Regulatory Pathway (1/349) Katarzyna Jonak, Monika Kurpas, Krzysztof Puszyński	12:10	
12:30	Euler's and Taylor's Expansion Method Applied on Non-Linear Pharmacokinetics Model (1/363) Daniela Gombárska, Mariana Beňová	12:30	
13:00	Lunch		
Bioinformatics Chair: prof. Ivo Provazník, PhD, DSc		Biomechanics Chair: prof. Zygmunt Wróbel, PhD, DSc	
14:00	Prokaryotic DNA Signal Downsampling for Fast Whole Genome Comparison (1/373) Karel Sedlar, Helena Skutkova, Martin Vitek, Ivo Provazník	14:00	Overview of the Ocular Biomechanical Properties Measured by the Ocular Response Analyzer and the Corvis ST (2/377) Magdalena Jędzierowska, Robert Koprowski, Zygmunt Wróbel
14:20	Relationship of Bacteria Using Comparison of Whole Genome Sequences in Frequency Domain (1/393) Vladimira Kubicova, Ivo Provazník	14:20	Numerical Analysis of Taylor-Type External Fixator by Means of FEM (2/387) Mateusz Pawlik, Marcin Basiaga
14:40	Three-Step Framework of Feature Selection for Data of DNA Microarray Experiments (1/405) Paweł Trajdos, Adam Kamizelić, Marek Kurzynski	14:40	Influence of Radiation on Mechanical Properties of Ultra High Molecular Weight Polyethylene (UHMWPE) (2/395) Magdalena Grygiel, Marcin Kaczmarek
15:00 - 16:00	Poster session		
16:30	Social event		
19:00	Dinner - fire place		

4th Conference on Information Technologies in Biomedicine

Poster Session Moderator: Arkadiusz Gertych, PhD	
Object Detail Correspondence Problem in Stereovision (1/209) Paweł Popielski, Zygmunt Wróbel, Robert Koprowski	An Algorithm for the Pore Size Determination Using Digital Image Analysis (1/223) Małgorzata Charytanowicz
Automatic Car Make Recognition in Low-Quality Images (1/235) Paweł Badura, Maria Skotnicka	Retina Analysis in Optical Coherence Tomography Images (1/247) Wojciech Wieclawek, Ewa Pietka
Numerical Simulation of the Vascular Solid Tumour Growth Model and Therapy – Parallel Implementation (1/261) Krzysztof Psiuk-Maksymowicz, Damian Borys, Sebastian Student, Andrzej Świerniak	Searching for Malignancy in Automated Urological Cytology (1/271) Bogusław D. Pietka, Annamoni Dulewicz
microRNA 3'-end Modification Detection Algorithm and Its Usage Example for Tissue Classification (1/285) Marta Danch, Damian Borys, Tomasz Stokowy, Knut Krohn, Krzysztof Fajarewicz	Using Analysis Algorithms and Image Processing for Quantitative Description of Colon Cancer Cells (1/383) Anna Wójcicka, Przemysław Jędrusik, Mateusz Stolarz, Robert Kubina, Zygmunt Wróbel
Hetero- and Homogeneous Multiclassifier Systems Based on Competence Measure Applied to the Recognition of Hand Grasping Movements (2/163) Marek Kurzynski, Andrzej Wolczowski	Guidelines for the Eye Tracker Calibration Using Points of Regard (2/225) Paweł Kasprowski, Katarzyna Haręźlak, Mateusz Stasch
BlinkMouse-On-Screen Mouse Controlled by Eye Blinks (2/237) Joanna Marnik	Development of Diagnostic Stroke Ontology - Preliminary Results (2/261) Teresa Podsiadły-Marczykowska, Bogdan Cizek, Artur Przelaskowski
Ensemble Classifier Systems for Headache Diagnosis (2/273) Konrad Jackowski, Dariusz Jankowski, Paweł Ksieniewicz, Dragan Simić, Svetlana Simić, Michał Woźniak	A Multivariate Sample Entropy of Differentiated Electroencephalographical Signals for an Identification of an Uterine Labor Activities (2/303) Dariusz S. Radomski
A Novel Approach to Robust Weighted Averaging of Auditory Evoked Potentials (2/321) Tomasz Pander, Stanisław Pietraszek, Tomasz Przybyła	Reproduction of Missing Parts of a Quasi Periodic Signals (2/333) Tomasz Przybyła, Tomasz Pander, Robert Czański
EIS Study of SiO ₂ Oxide Film on 316L Stainless Steel for Cardiac Implants (2/403) Witold Walke, Zbigniew Paszenda, Marcin Basiaga, Paweł Karasiński, Marcin Kaczmarek	Electrochemical Impedance Spectroscopy and Corrosion Resistance of SiO ₂ coated CpTi and Ti-6Al-7Nb Alloy (2/441) Marcin Basiaga, Zbigniew Paszenda, Witold Walke, Paweł Karasiński, Jan Marciniak
Correlation Matrices as a Tool to Analyze the Variability of EEG Maps (2/311) Hanna Goszczyńska, Leszek Kowalczyk, Bożenna Kuraszkiewicz	Preliminary Study of Clinical Workflow Integration of Spatial Thermograms Application for the Assessment of Burn Wound Healing Process (2/187) Dominik Spinczyk

Wednesday 04.06.2014																									
Moderator: prof. Zdzisław Hippe, PhD, DSc																									
09:30	Computer Assisted Surgery prof. Romuald Będziński, PhD, DSc																								
10:30	Biomechanics for Biomedical Engineering prof. Hartmut Witte, PhD, DSc																								
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