

# Conference on Information Technologies in Biomedicine

## Program

### Monday 16.06.2008

8:00	Registration	
9:00	Opening	
<b>Moderator: prof. dr hab. inż. Mariusz Nieniewski</b>		
9:30	Invited lecture: Exploring the Knowledge of Human Expert Beyond His Willing Expression <i>Prof. dr hab. inż. Piotr Augustyniak</i>	
10:30	Invited lecture: Computer-aided diagnosis: from image understanding to integrated assistance <i>Prof. dr hab. inż. Artur Przelaskowski</i>	
11:30	Coffee break	
12:00	Invited lecture: Możliwości obrazowania w nowoczesnej diagnostyce medycznej <i>Doc. dr hab. n. med. Ewa Kluczevska</i>	
13:00	Lunch	
	<b>Image processing and CAD</b>	<b>Signal processing</b>
	<b>Chair: prof. dr hab. inż. Artur Przelaskowski</b>	<b>Chair: prof. dr hab. inż. Piotr Augustyniak</b>
14:00	Fractal Magnification of Medical Images <i>(p. 85)</i> <i>J. Kwiatkowski, W. Walczak</i>	Diagnostic Quality-Derived Patient-Oriented Optimization of ECG Interpretation <i>(p. 243)</i> <i>P. Augustyniak</i>
14:20	Fuzzy Clustering in Segmentation of Abdominal Structures Based on CT Studies <i>(p. 93)</i> <i>W. Więclawek, E. Piętko</i>	Projective versus Linear Filtering for Repolarization Duration Measurement <i>(p. 251)</i> <i>M. Kotas</i>
14:40	Content-based Indexing of Medical Images for Digital Radiology Applications <i>(p. 113)</i> <i>P. Boniński, A. Przelaskowski</i>	An Application of Robust Kernel-based Filtering of Biomedical Signals <i>(p. 259)</i> <i>T. Pander</i>
15:00	Shape and Texture Feature Extraction for Retrieval Mammogram in Databases <i>(p. 121)</i> <i>R. S. Choraś</i>	An Approach to Estimation of the Angular Eye-ball Speed Based on the EOG Signal <i>(p. 283)</i> <i>T. Przybyła, T. Pander, R. Czabański, N. Henzel</i>
15:20	Mathematical Morphology (MM) Features for Classification of Cancerous Masses in Mammograms <i>(p. 129)</i> <i>K. Bojar, M. Nieniewski</i>	Prediction of Newborn Sex with Neural Networks Approach to Fetal Cardiotocograms Classification <i>(p. 299)</i> <i>M. Jeżewski, R. Czabański, K. Horoba, J. Wróbel, J. Jeżewski</i>
15:40	Automated Fuzzy-Connectedness-Based Segmentation in Extraction of Multiple Sclerosis Lesions <i>(p. 149)</i> <i>J. Kawa, E. Piętko</i>	Assessment of Uterine Contractile Activity During a Pregnancy Based on a Nonlinear Analysis of the Uterine Electromyographic Signal <i>(p. 325)</i> <i>D. Radomski, A. Grzanka, S. Graczyk, A. Przelaskowski</i>
16:00	Coffee break	
	<b>Image processing and CAD</b>	<b>Biotechnology</b>
	<b>Chair: prof. dr hab. inż. Tadeusz Palko</b>	<b>Chair: prof. dr hab. inż. Adam Józwiak</b>
16:20	Computer-Interactive Methods of Brain Cortical and Subcortical Atrophy Evaluation Based on CT Images <i>(p. 157)</i> <i>A. Czarnecka, M. J. Sasiadek, E. Hudyma, H. Kwasnicka, M. Paradowski</i>	Use of Computer System for Cell Hybridisation in Biotechnology and Medicine <i>(p. 335)</i> <i>A. Dyszkiewicz, P. Poleć, J. Zajdel, D. Chachulski, B. Pawlus</i>
16:40	Application of MLBP Neural Network for Exercise ECG Test Records Analysis in Coronary Artery Diagnosis <i>(p. 179)</i> <i>K. Stefko</i>	Detection of Mitotic Cell Fraction in Neural Stem Cells in Cultures <i>(p. 365)</i> <i>A. Korzyńska and M. Iwanowski</i>
17:00	Volumetric Analysis of Tumours and Their Blood Vessels <i>(p. 184)</i> <i>R. H. Kartaszyński, P. Mikołajczak</i>	Application to Estimate Haplotypes for Multiallelic Present-absent Loci <i>(p. 357)</i> <i>R. Nowak</i>
17:20	Pre- and Postprocessing Stages in Fuzzy Connectedness-Based Lung Nodule CAD <i>(p. 192)</i> <i>P. Badura, E. Piętko</i>	Protein Molecular Viewer for Visualizing Structures Stored in the PDBML Format <i>(p. 377)</i> <i>D. Mrozek, A. Mastej, B. Malysiak</i>
17:40	Fuzzy Rule-based System for the Diagnosis of Laryngeal Pathology Based on Contact Endoscopy Images <i>(p. 217)</i> <i>W. Tarnawski, J. Cichosz</i>	Fuzzy Support Vector Machine for Genes Expression Data Analysis <i>(p. 387)</i> <i>J. Musiol, A. Więclawek, U. Mazurek</i>
18:00	Synthesis of Medical Images in the Domain of Melanocytic Skin Lesions <i>(p. 225)</i> <i>Z. S. Hippe, J. W. Grzymała-Busse, Ł. Piątek</i>	Predictive Performance of Top Differentially Expressed Genes in Microarray Gene Expression Studies <i>(p. 395)</i> <i>H. Maciejewski</i>
18:20	Identification of Layers in a Tomographic Image of an Eye Based on the Canny Edge Detection <i>(p. 232)</i> <i>R. Koprowski, Z. Wrobel</i>	A Study on Diagnostic Potential of a Computer-assisted System for Identification of Neoplastic Urothelial Nuclei from the Bladder <i>(p. 403)</i> <i>A. Dulewicz, D. Piętko, P. Jaszczak</i>
19:00	Gala dinner	

### Tuesday 17.06.2008

<b>Moderator: prof. dr hab. inż. Jan Marciniak</b>		
9:00	Invited lecture: Application Problems of Implants Used in Interventional Cardiology <i>Prof. dr hab. inż. Zbigniew Paszenda</i>	
10:00	Invited lecture: Computer Enhanced Orthopedics <i>Dr n.med. Wojciech Glinkowski</i>	
11:00	Coffee break / Poster session	
	<b>Data Analysis</b>	<b>Biomechanics</b>
	<b>Chair: prof. dr hab. inż. Piotr Szczepaniak</b>	<b>Chair: prof. dr hab. inż. Zbigniew Paszenda</b>
11:30	Matching Knowledge and Evidence in a Model of Medical Diagnosis <i>(p. 429)</i> <i>E. Straszcka</i>	Biomechanical Behaviour of Double Threaded Screw in Tibia Fixation <i>(p. 521)</i> <i>W. Walke, J. Marciniak, Z. Paszenda, M. Kaczmarek, J. Cieplak</i>
11:50	Nonparametric Regression for Analyzing Correlation between Medical Parameters <i>(p. 437)</i> <i>M. Charytanowicz, P. Kulczycki</i>	Biomechanical Analysis of Plate for Corrective Osteotomy of Tibia <i>(p. 545)</i> <i>J. Marciniak, M. Kaczmarek, W. Walke, J. Cieplak</i>
12:10	Experiments on Linear Combiners <i>(p. 445)</i> <i>M. Woźniak</i>	Kinematic Analysis of Complex Therapeutic Movements of the Upper Limb <i>(p. 551)</i> <i>R. Michnik, J. Jurkojć, Z. Rak, A. Mężyk, Z. Paszenda, W. Rycerski, J. Janota, J. Brandt</i>
12:30		Computer Simulations of Electric Properties of Organic and Non-organic Compounds <i>(p. 568)</i> <i>P. Janik, M.A. Janik, Z. Wrobel</i>
13:00	Lunch	
14:00	Wykorzystanie narzędzi teleinformatycznych w celu budowy jednolitej platformy systemowej dla ratownictwa <i>Władysław Mizia – WASKO S.A.</i>	
14:30	Model rejestru publicznego na przykładzie Rejestru Zakładów Opieki Zdrowotnej <i>Krzysztof Nyczej – CSIOZ</i>	
15:10	Poster session	
16:00	Social event	
19:00	Dinner - fire place	

### Poster Session

<i>Biomedical Structures Representation by Morphological Spectra</i> <i>(p. 57)</i> <i>J. L. Kulikowski, M. Przytułska, D. Wierzbicka</i>	Medical Image Analysis Using Potential Active Contours <i>(p. 66)</i> <i>L. Pięta, A. Tomczyk and P. S. Szczepaniak</i>
Potential Active Contours – Basic Concepts, Mechanisms and Features <i>(p. 74)</i> <i>A. Tomczyk, Ł. Pięta, P.S. Szczepaniak</i>	The Clusterization Process in an Adaptative Method of Image Segmentation <i>(p. 105)</i> <i>A. Lamża and Z. Wrobel</i>
Stroke Display Extensions: Three Forms of Visualization <i>(p. 139)</i> <i>A. Przelaskowski, K. Sklinda, G. Ostrek</i>	Automatic Registration of MRI Brain <i>(p. 165)</i> <i>P. Zarychta, A. Zarychta-Bargieła</i>
Magnetic Resonance Image Classification Using Fractal Analysis <i>(p. 173)</i> <i>K. Kuczyński and P. Mikołajczak</i>	Modeling and Simulation of Airway Tissues Stresses during Pulmonary Recruitment <i>(p. 200)</i> <i>B. Kuraszkiewicz</i>
Compression of Bronchoscopy Video: Coding Usefulness and Efficiency Assessment <i>(p. 208)</i> <i>A. Przelaskowski and R. Józwiak</i>	Weighted Averaging of ECG Signal Using Criterion Function Minimization <i>(p. 267)</i> <i>A. Momot</i>
Empirical Bayesian Approach to Weighted Averaging of ECG Signal Using Cauchy Distribution <i>(p. 275)</i> <i>A. Momot, M. Momot</i>	Ensuring the Real Time Signal Transmission Using GSM/Internet Technology for Remote Fetal Monitoring <i>(p. 291)</i> <i>K. Horoba, J. Wróbel, D. Roj, T. Kupka, A. Matonia, J. Jeżewski</i>
Coping with Limitation of Bedside Measurement Instrumentation for Reliable Assessment of Fetal Heart Rate Variability <i>(p. 307)</i> <i>J. Wróbel, J. Jeżewski, K. Horoba</i>	Relationships between Isopotential Areas in EEG Maps before, during and after the Seizure Activity <i>(p. 315)</i> <i>H. Goszczyńska, M. Doros, L. Kowalczyk, K. Kolebska, S. Dec, E. Zalewski, J. Miszczak</i>
Clustering as a Method of Image Simplification <i>(p. 345)</i> <i>A. Korzyńska, M. Zdunczuk</i>	Control of Hand Bioprosthesis via Sequential Recognition of Patient's Intent Using Combination of Fuzzy Sets and Dempster-Shafer Theory <i>(p. 421)</i> <i>M. Kurzynski, A. Wolczowski, M. Topolski</i>
Telesfor – Telemedical Real-Time Communication Support System <i>(p. 497)</i> <i>J. Błaszczyszki, B. Prędko, R. Słowiński</i>	Multimedia Program for Teaching Autistic Children <i>(p. 505)</i> <i>J. Marnik and M. Szela</i>
Multimedia System for Accessible Distant Education <i>(p. 513)</i> <i>D. Spinczyk, P. Brzoza</i>	Biomechanical Analysis of Lumbar Spine Stabilization by Means of Transpedicular Stabilizer <i>(p. 529)</i> <i>J. Marciniak, J. Szewczenko, W. Walke, M. Basiąga, S. Kiel, I. Mańka</i>
FEM Analyses of the Expandable Intramedullar Nail <i>(p. 537)</i> <i>W. Kajzer, A. Krauze, M. Kaczmarek, J. Marciniak</i>	Influence of Model Discretization Density in FEM Numerical Analysis on the Determined Stress Level in Bone Surrounding Dental Implants <i>(p. 559)</i> <i>J. Żmudzki, W. Walke, W. Chladek</i>

### Wednesday 18.06.2008

<b>Moderator: prof. dr hab. inż. Ryszard S. Choraś</b>		
9:00	Invited lecture: Combining rule-based and sample-based classifiers - application in medical diagnosis <i>Prof. dr hab. inż. Marek Kurzyński</i>	
10:00	Invited lecture: Interactive information granulation - A human-centric information processing <i>Prof. dr hab. inż. Andrzej Bargieła</i>	
11:00	Coffee break	
	<b>Data Analysis</b>	
	<b>Chair: prof. dr hab. inż. Marek Kurzyński</b>	
11:20	Processing of Missing Data In A Fuzzy System <i>(p. 453)</i> <i>S. Pośpiech-Kurkowska</i>	
11:40	Knowledge-based Decision Hybrid System for the Doctor's Work Support <i>(p. 461)</i> <i>Z. Buchalski</i>	
12:00	Features for Text Comparison <i>(p. 468)</i> <i>M. Krótkiewicz, K. Wojtkiewicz</i>	
12:20	Possibility of Use of a Fuzzy Loss Function in Medical Diagnostics <i>(p. 476)</i> <i>R. Burduk</i>	
12:40	An Application of a Generalized Additive Model for an Identification of a Nonlinear Relation Between a Course of Menstrual Cysts and a Risk of Endometrioid Cysts <i>(p. 482)</i> <i>D. Radomski, Z. Lewandowski, P. I. Roszkowski</i>	
13:00	Recognition of the Ventilatory Response to the Intermittent Chemical Stimuli in Awake Animals <i>(p. 488)</i> <i>B. Sokolowska, A. Rekawek, A. Jozwik</i>	
13:20	Closing	
13:30	Lunch	