

Contents

Invited Keynote Papers

A Jumping Gene Evolutionary Approach for Multiobjective Optimization	1
<i>Wallace K.S. Tang, Chris S.H. Yeung, K.F. Man</i>	
Distributed Intelligent MEMS: Progresses and Perspectives	15
<i>Julien Bourgeois, Seth Copen Goldstein</i>	
Extracting Emergent Semantics from Large-Scale User-Generated Content	27
<i>Ioannis Kompatsiaris, Sotiris Diplaris, Symeon Papadopoulos</i>	

Proceeding Papers

Protein Function Prediction by Clustering of Protein-Protein Interaction Network	39
<i>Ivana Cingovska, Aleksandra Bogojeska, Kire Trivodaliev, Slobodan Kalajdziski</i>	
A Novel Fuzzy Decision Tree Based Method for Detecting Protein Active Sites	51
<i>Georgina Mirceva, Andreja Naumoski, Danco Davcev</i>	
Comparison of Protein Descriptors Used in Hierarchical Multi-label Classification Based on Gene Ontology	61
<i>Natasha Pavlovikj, Ilinka Ivanoska, Slobodan Kalajdziski</i>	
Improving Data Integrity and Performance of Cryptographic Structured Log File Systems	73
<i>Genti Daci, Megi Shyle</i>	

Effects of Terrain Details on Wireless Network Simulation Macro Results Accuracy	85
<i>Sonja Filiposka, Igor Mishkovski, Dimitar Trajanov</i>	
Concept for Deploying Wireless in the Enterprise Infrastructure: Balancing Security and Positive QoE for the End-Users	95
<i>Toni Malinovski, Vladimir Trajkovik</i>	
An Energy-Efficient Approach for Time-Space Localization in Wireless Sensor Networks	107
<i>Ustijana Rechkoska Shikoska, Danco Davcev</i>	
Performance of Amplify-and-Forward Relay Systems with On-off Relaying	119
<i>Katina Krlevska, Zoran Hadzi-Velkov</i>	
Secure Transport of Electronic Payment over GPRS	129
<i>Ana Vuksanovic Vanevska, Vladimir Trajkovik</i>	
Collaborative Augmented Reality (AR) Mobile Phone Game for Co-located Players	147
<i>Saso Koceski, Natasa Koceska</i>	
Framework for Prototyping and Evaluation of Recommendation Algorithms in Mobile Applications	159
<i>Vasil Vangelovski, Sonja Gievska</i>	
A Protocol for Secure SMS Communication for Android OS	171
<i>Smile Markovski, Aleksandra Kuzmanovska, Milivoj Simeonovski</i>	
On the Feasibility of Automatic Topic Detection in IM Chats	179
<i>Katerina Packova, Sonja Gievska</i>	
Modality Classification Using Texture Features	189
<i>Ivan Kitanovski, Katarina Trojancanec, Ivica Dimitrovski, Suzana Loskovska</i>	
Estimation of Minimal Path Vectors of Multi-state Systems from Failure Data	199
<i>Marija Mihova, Zaneta Popeska</i>	
Novel Inverse Sigmoid Fuzzy Approach for Water Quality Diatom Classification	207
<i>Andreja Naumoski, Svetislav Krstić, Kosta Mitreski</i>	
Analysis of the Convergence of Iterative Geophysical Inversion in Parallel Systems	219
<i>Neki Frasheri, Betim Cico</i>	

Parallel Genetic Algorithms for Finding Solution of System of Ordinary Differential Equations	227
<i>Jane Jovanovski, Boro Jakimovski, Dragan Jakimovski</i>	
Enabling Large-Scale Linear Systems of Equations on Hybrid HPC Infrastructures	239
<i>H. Astsatryan, V. Sahakyan, Yu. Shoukouryan, M. Daydé, A. Hurault</i>	
Faraday Waves and Collective Modes in Bose-Einstein Condensates	247
<i>Alexandru I. Nicolin, Ivana Vidanović, Antun Balaž</i>	
Monte Carlo Methods Using New Class of Congruential Generators	257
<i>T. Gurov, S. Ivanovska, A. Karaivanova, N. Manev</i>	
Implementation of Hybrid Monte Carlo (Molecular Dynamics) Quantum Mechanical Methodology for Modeling of Condensed Phases on High Performance Computing Environment	269
<i>Anastas Misev, Dragan Sahpaski, Ljupco Pejov</i>	
Parallelization of Dynamic Programming in Nussinov RNA Folding Algorithm on the CUDA GPU	279
<i>Marina Zaharieva Stojanovski, Dejan Gjorgjevikj, Gjorgji Madjarov</i>	
Towards Improvement of the Study Programme Quality: Alumni Tracking Information System	291
<i>Danijel Mijic, Dragan Jankovic</i>	
Computer-Added C-V Measurement and Analysis of Metal/High-κ/Si Structures	301
<i>Lihnida Stojanovska-Georgievska, Nenad Novkovski</i>	
Towards an Integrated Model of Optimizing the Efficiency of IT in Organizations	311
<i>Fisnik Dalipi, Ajri Shej</i>	
MRI Based Visualization and Evaluation of Carpal Tunnel Syndrome	325
<i>Saso Koceski, Natasa Koceska, Filip Shteriev</i>	
TMACS: A Tool for Modeling, Manipulation, and Analysis of Concurrent Systems	335
<i>Jane Jovanovski, Maja Siljanoska, Vladimir Carevski, Dragan Sahpaski, Petar Gjorcevski, Metodi Micev, Bojan Ilijoski, Vlado Georgiev</i>	
Apportionment Heuristics for Mapping Tasks in Heterogeneous Computing Systems	347
<i>Igor Mishkovski, Sonja Filiposka, Dimitar Trajanov, Ljupco Kocarev</i>	

Semantic Stored Procedures Programming Environment and Performance Analysis	357
<i>Marjan Efremov, Vladimir Zdraveski, Petar Ristoski, Dimitar Trajanov</i>	
Performance Impact Correlation of Message Size vs. Concurrent Users Implementing Web Service Security on Linux Platform	367
<i>Sasko, Aristotel Tentov</i>	
The Comparison of Virtual Machine Migration Performance between XEN-HVM, XEN-PV and Open-VZ	379
<i>Igli Tafa, Ermal Beqiri, Elinda Kajo, Hakik Paci, Aleksander Xhuvani</i>	
Modifications and Improvements on CEN/BII Profiles	395
<i>Kiril Kirovski, Marjan Gusev, Magdalena Kostoska, Sasko</i>	
Author Index	405