

2013 IEEE 9th International Conference on Computational Cybernetics

(ICCC 2013)

**Tihany, Hungary
8-10 July 2013**



**IEEE Catalog Number: CFP13575-POD
ISBN: 978-1-4799-0062-6**

Table of Contents

Welcome from the General Chair	7
Committees	8
Systems Thinking In Fair Water Resources Allocation	11
<i>Keith W. Hipel</i>	
Knowledge-based Cybernetics in Decision Support System based on Subjective Emotional Intelligence	13
<i>Hamido Fujita</i>	
Augmented Collaboration on the Future Internet	15
<i>Péter Baranyi</i>	
Bin-EM-CEM Algorithms of General Parsimonious Gaussian Mixture Models for Binned Data Clustering	17
<i>Jingwen Wu, Hani Hamdan</i>	
Applying a Parametric Approach for the Task of Nonstationary Noise Removal with Missing Information	23
<i>Luis González-Jaime, Mike Nachtgeal, Etienne Kerre, Gonzalo Vegas-Sánchez-Ferrero, Santiago Aja-Fernández</i>	
HOSVD-Wavelet-based Framework for Multidimensional Data Approximation.....	29
<i>András Rövid, László Szeidl, Szabolcs Sergyán, Péter Várlaki</i>	
Metric Numbers for Communication of Numerical Data in Computational Cybernetics	35
<i>Rudolf Jakša</i>	
Surface Models View Designs with 3DS MAX Software	41
<i>Sáfár Attila, Balonyi Ádám, Kováts Róbert</i>	
Fuzzy Control of Robotic Arm Implemented in PLC	45
<i>Skulavik Tomas, Kopcek Michal, Kopcekova Alena</i>	
Possible Connecting Areas of Education and Intelligent Systems.....	51
<i>Rita Ósz and János Fodor</i>	
A System Designed in Order to Control a Process Production in a Manufacturing System	57
<i>A. D. Morosan and F. Sisak</i>	
iOS-based Speed Estimation for the Video Car Recorder System.....	61
<i>Chen-Chia Chuang, Shun-Feng Su, Jin-Tsong Jeng, Dong-Han Lin, Wen-June Wang</i>	
Optimization-based Design of Kinetic Feedbacks for Nonnegative Polynomial Systems.....	67
<i>Gábor Szederkényi, György Lipták, János Rudan and Katalin M. Hangos;</i>	
Semantically-oriented Unique Access Point Based on SOA	73
<i>László Rátgéber, Saša Arsovski, Predrag Pecev, Branko Markoski, Dejan Lacmanović</i>	
Error Handling using Linear Programming in CPS Applications: Aircraft Fuel Management System Case Study.....	77
<i>Madalin Gavrilescu, Gabriela Magureanu and Dan Pescaru</i>	
Dynamic Model of Pneumatic Actuator Based on Advanced Geometric Muscle Model.....	83
<i>M. Tóthová, J. Pitel'</i>	

Computation Intelligence for Knowledge Representation Based Higher Education Courses.....	89
<i>József Gáti and Gyula Kártyás</i>	
Unsupervised Satellite Image Segmentation using a Bivariate Beta type-II Mixture Model.....	95
<i>Taher Ben Arab, Mourad Zribi, Aff Masmoudi</i>	
Evaluation of Value Changes between Different Phases of the Product Life-Cycle	101
<i>George L. Kovács</i>	
Complex Adaptive Models for the Integration of Product Centered Engineering.....	107
<i>László Horváth and Imre J. Rudas</i>	
Improvement of an Adaptive Fuzzy-Based Obstacle Avoidance algorithm using Virtual and Real Kinect Sensors	113
<i>György Csaba</i>	
Analysis of Fuzzy Logic Assisted Evaluation of the Minnesota Code.....	121
<i>Norbert Sram, Márta Takács</i>	
PSO and GA Optimization Methods Comparison on Simulation Model of a Real Hexapod Robot.....	125
<i>István Kecskés, László Székács, János C. Fodor, Péter Odry</i>	
Mobil Robot Localization Using RGB-D Camera.....	131
<i>László Somlyai</i>	
Conversational Content in the Context of Safety of Social Networks.....	137
<i>Ján Štofa, Peter Michalik</i>	
Maintenance and Diagnostic in Mechatronic Systems	141
<i>Attila L. Bencsik, József Z. Szabó, Marianna Lendvay</i>	
Analysis through Simulation of a Self-Tuning Control Structure for Dual Winded Induction Generator	147
<i>Ioan Filip, Iosif Szeidert, Octavian Prostean, Cristian Vasar</i>	
Organ Detection in Medical Images with Discriminately Trained Deformable Part Model	153
<i>Viktor Gál and Etienne Kerre, Domonkos Tikk</i>	
Colon Cancer Diagnosis on Digital Tissue Images.....	159
<i>Zoltán Kerekes, Zoltán Tóth, Sándor Szénási, Zoltán Vámosy, Szabolcs Sergyán</i>	
Autonomus – Navigation System for Mobile Robot	165
<i>Máté Fugérth, Zoltán Vámosy</i>	
Android Application Developed to Extend Health Monitoring Device Range and Real-time Patient Tracking	393
<i>P. Szakacs-Simon, S. A. Moraru and L. Perniu</i>	
Mechanical and Walking Optimization of a Hexapod Robot using PSO	177
<i>Ervin Burkus, Péter Odry</i>	
Investigation of the Urbanistical Complexity in Global Scale	181
<i>Ákos Varga, Antal Ürmös, Ákos Nemcsics</i>	
Current Physical Status Evaluation Subsystem using User-specific tuned Membership Functions in Sport Activity Risk Calculation.....	185
<i>Edit Tóth-Laufer, Márta Takács, Zoltán Keresztényi</i>	

Threshold Constructions of Aggregation Functions	191
<i>Orsolya Csiszár, János Fodor</i>	
Water Level Control System Using PLC and Wireless Sensors	195
<i>Cosmina Illes, Gabriel Nicolae Popa and Ioan Filip</i>	
Insulin Pump Testing Platform for Robust Control Framework.....	201
<i>Gy. Eigner, P. Sas, L Kovács</i>	
Experiments with Multifractal Analysis for Fabric Wrinkledness Assessment	207
<i>Zoltán Fazekas, Ștefan Țălu, László Szalay</i>	
Pseudo-Analysis.....	213
<i>Endre Pap</i>	
Closed-Form Symbolic Computation of the Global Efficiency of Complex Systems by means of Digraphs.....	219
<i>Nicola Pio Belfiore</i>	
Evaluation of Boolean Graphs in Software Testing.....	225
<i>József Sziray, Thomas Neidhart, Rani Pinchuk</i>	
Numerical Approximation for Backward Stochastic Differential Equations.....	231
<i>Romeo Negrea, Ciprian Hedrea</i>	
Comparison of Pitch Distance Determination Algorithms	237
<i>Gyula Hermann</i>	
Frequent Itemset Mining on Hadoop	241
<i>Ferenc Kovács, János Illés</i>	
The Control of a CNC Metal Plate Cutting Machine Using a Fuzzy Algorithm.....	247
<i>G. O. Tirian, I. Filip, G. Proștean</i>	
Electronic Robustness by Circuit Polling and Reconfiguration.....	251
<i>György Györök</i>	
Purpose-driven Design of a KDD Enabled Application for Experimental Data Analysis.....	257
<i>V. Gašpar and L. Madarász</i>	
Kinetostatic Optimization of a MEMS–Based Compliant 3 DOF Plane Parallel Platform	261
<i>Nicola Pio Belfiore, Mohammad EmamiMeibodi, Matteo Verotti, Rocco Crescenzi, Marco Balucani, Paolo Nenzi</i>	
Improvement of the Stability of RFPT-based Adaptive Controllers by Observing “Precursor Oscillations”	267
<i>Krisztián Kósi, József K. Tar, Imre J. Rudas</i>	
Flattening Virtual Simulink Subsystems - A Case Study.....	273
<i>Péter Fehér, Tamás Mészáros and László Lengyel</i>	
Dynamic Output Feedback for Nonlinear Networked Control System with State Delay	279
<i>Kheir Eddine Bouazza, Mohammed Kaddour and Fayal Khelfi</i>	
A Control Method for One Phase Solar Converters.....	285
<i>Adam Halmos, Istvan Varjasi</i>	

A Classification of Solutions for the Energy Limitation in Wireless Sensor Networks	293
<i>M. Popa, O. Prosteanand A. S. Popa</i>	
Non-Parametric and Parametric t-norms Applied in Fuzzy Rule Extraction.....	299
<i>László Gál, Rita Lovassy, László T. Kóczy</i>	
Effect of Current Levels on Memory Behaviour of MNOS Structures - Limits of Computer Simulation ...	303
<i>Zs. J. Horváth, and K. Z. Molnár</i>	
Self-organizing Robotic System for Area Coverage and Surround of Contamination Found	309
<i>J. Sebestyénová, P. Kurdel</i>	
Simple Definition of Adequate Fixed Time-Step Size of Szabad(ka)-II Robot Model	315
<i>István Kecskés, Péter Odry</i>	
Unmanned Aerial Vehicle Guidance Methods for 3D Aerial Image Reconstruction	321
<i>Dániel Stojcsics, László Somlyai, András Molnár</i>	
The Rising Prospects of Cloud Robotic Applications.....	327
<i>S. Jordán, T. Haidegger, L. Kovács, I. Felde, I. J. Rudas</i>	
GA Optimization and Parameter Tuning at the Mobile Robot Map Building Process.....	333
<i>I. Nagy, A. R. Várkonyi-Kóczy, A. Dineva</i>	
Solutions to Avoid the Worst Case Scenario in Driving Systems Working Under Continuously Variable Conditions.....	339
<i>Alexandra-Iulia Stinean, Stefan Preitl, Radu-Emil Precup, Claudia-Adina Dragos, Emil M. Petriu, Mircea-Bogdan Radac</i>	
Business Process Modeling – Simulation of Administrative Activities.....	345
<i>J. Tick, A. Tick</i>	
Hydraulic Analysis of Heat Pump’s Heating Circuit using Mathematical Model.....	349
<i>Jozsef M. Nyers, Arpad J. Nyers</i>	
Model of Freud’s „Pleasure Pump” in Virtual Robots.....	353
<i>Jozef Kelemen, Andrej Lúčný</i>	
A Technique to Detect Books from Library Bookshelf Image	359
<i>Mohammad Imrul Jubair, Prianka Banik</i>	
Emotion-Based Human-Robot-Interaction.....	365
<i>Marius Klug, Andreas Zell</i>	
Extraction of Glottal Features for Speaker Recognition.....	369
<i>Stevan Ostrogonac, Milan Sečujski, Dragan Knežević, Siniša Suzić</i>	
Operational Security – Security-based Corporate Governance	375
<i>Katalin Szenes</i>	
Online Social Networks and Mental Functioning: a Case Study.....	379
<i>Jozsef Halasz, Peter Vida, Julia Gadoros, Tamas Gabor Orosz</i>	
Author’s Index	384