## **Table of Contents**

Two Practical Procedures Based on Loop Dominance Analysis for Assessing Sustainability Tipping Points of Irrigation Systems  Newton Bueno	1
Multi-Agent Systems: A new paradigm for Systems of Systems  Eduardo Alonso, Nicos Karcanias, and Ali G. Hessami	8
Decentralized State-Space Control Involving Subsystem Interactions  Dusan Krokavec and Anna Filasova	13
Adaptivity of Business Process  Charif Mahmoudi and Fabrice Mourlin	19
Experimentation System for Evaluation of Heuristic Algorithms to Solving Transportation Problem Kacper Rychard, Wojciech Kmiecik, Leszek Koszalka, and Andrzej Kasprzak	27
My Phone, My Car and I - And Maybe a Traffic Light Assistant  Michael Krause and Klaus Bengler	33
An Intelligent Cloud-based Home Energy Management System Based on Machine to Machine Communications in Future Energy Environments  Jinsung Byun, Insung Hong, Zion Hwang, and Sehyun Park	40
Classification and Monitoring of Early Stage Breast Cancer using Ultra Wideband Radar Marggie Jones, Dallan Byrne, Brian McGinley, Fearghal Morgan, Martin Glavin, Edward Jones, Raquel Conceicao, and Martin O'Halloran	46
O-MUSUBI: Ad-hoc Grouping System Enhanced by Ambient Sound - The Similarity based on Information Theoretical Features for Sound-Fields - Sachio Teramoto and Jun Noda	52
The Dispedia Framework: A Semantic Model for Medical Information Supply Romy Elze and Klaus-Peter Fahnrich	59
A Comparison of MapReduce and Parallel Database Management Systems  Alan McClean, Raquel C. Conceicao, and Martin O'Halloran	64
Fault Detection of a Linear Friction Welding Production System Using an Analytical Model Darren Williams, Andrew Plummer, and Peter Wilson	69
Universal Approaches for Overflow and Sign Detection in Residue Number System Based on $\{2n - 1, 2n, 2n + 1\}$	77

Path Planning for Rapid Aerial Mapping with Unmanned Aircraft Systems  Eduard Santamaria, Florian Segor, Igor Tchouchenkov, and Rainer Schonbein	82
Autonomous Disaster Information System for Local Residents  Yuichi Takahashi and Sakae Yamamoto	88
Security Audit Trail Analysis Using Harmony Search Algorithm  Daoudi Mourad	92
Secure Trust Management for the Android Platform  Raimund Ege	98
Implementation of Improved DES Algorithm in Securing Smart Card Data  Ariel Sison, Bartolome Tanguilig III, Bobby Gerardo, and Yung-Cheol Byun	104
On the Estimation of Missing Data in Incomplete Databases: Autoregressive Bayesian Networks  Pablo H. Ibarguengoytia, Uriel A. Garcia, Javier Herrera Vega, Pablo Hernandez Leal, Eduardo Morales, L.  Enrique Sucar, and Felipe Orihuela Espina	111
Development of an Accelerator Safety System Using IEC 61508 and Design Pattern Hao Zhang and Elder Matias	117
A New Laboratory Equipment for Characterization of Smart Concrete Materials  Ladislav Machan and Pavel Steffan	123
Safety Critical Multiprocessor Real-Time Scheduling with Exact Preemption Cost Falou Ndoye and Yves Sorel	127
Performance Evaluation of Distributed M3 Applications via ABSOLUT Subayal Khan, Jukka Saastamoinen, Jussi Kiljander, Jyrki Huusko, Juha Korpi, and Jari Nurmi	137
Towards evolvable state machines for automation systems  Dirk van der Linden, Georg Neugschwandtner, and Herwig Mannaert	148
Odor Classification by Neural Networks Sigeru Omatu and Mitsuaki Yano	154
A Practical Approach to Quality Requirements Handling in Software Systems Development Yuki Terawaki and Tetsuo Tamai	160
XCOMP: A Multidimensional Approach for Composing Specific Domains	164

Toward System Level Performance Evaluation of distributed Embedded Systems  Jukka Saastamoinen, Subayal Khan, Jyrki Huusko, Juha Korpi, Kari Tiensyrja, and Jari Nurmi	169
An Expert System for Design-Process Automation in a CAD Environment Gerald Frank	179
Ontology-Based Meta Model in Object-Oriented World Modeling for Interoperable Information Access  Achim Kuwertz and Gerd Schneider	185
RedNoCs: A Runtime Configurable Solution for Cluster-based and Multi-objective System Management in Networks-on-Chip Philipp Gorski, Claas Cornelius, Dirk Timmermann, and Volker Kuhn	192
Interplay Between Traffic Dynamics and Network Structure  Ziping Hu, Pramode K. Verma, and Krishnaiyan Thulasiraman	202
Centralized Adaptive Source-Routing for Networks-on-Chip as HW/SW-Solution with Cluster-based Workload Isolation  Philipp Gorski, Claas Cornelius, Dirk Timmermann, and Volker Kuhn	207