International Journal on Advances in Systems and Measurements

2013 vol. 6 nr. 1&2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2013) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2013)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

International Journal on Advances in Systems and Measurements
Volume 6, Numbers 1 & 2, 2013

CONTENTS

pages: 1 - 25
Characterizing and Fulfilling Traceability Needs in the PREDIQT Method for Model-based Prediction of System Quality
Aida Omerovic, SINTEF ICT, Norway
Ketil Stølen, SINTEF ICT & University of Oslo, Department of Informatics, Norway

pages: 26 - 39
Augmented Reality Visualization of Numerical Simulations in Urban Environments
Sebastian Ritterbusch, Karlsruhe Institute of Technology (KIT), Germany
Staffan Ronnas, Karlsruhe Institute of Technology (KIT), Germany
Irina Waltschlaeger, Karlsruhe Institute of Technology (KIT), Germany
Philipp Gerstner, Karlsruhe Institute of Technology (KIT), Germany
Vincent Heuveline, Karlsruhe Institute of Technology (KIT), Germany

pages: 40 - 56
An Explorative Study of Module Coupling and Hidden Dependencies based on the Normalized Systems Framework
Dirk van der Linden, University of Antwerp, Belgium
Peter De Bruyn, University of Antwerp, Belgium
Herwig Mannaert, University of Antwerp, Belgium
Jan Verelst, University of Antwerp, Belgium

pages: 57 - 71
Magnitude of eHealth Technology Risks Largely Unknown
Hans Ossebaard, RIVM National Institute for Public Health and the Environment,, Netherlands
Lisette van Gemert-Pijnen, University of Twente, Netherlands
Adrie de Bruijn, RIVM National Institute for Public Health and the Environment,, Netherlands
Robert Geertsma, RIVM National Institute for Public Health and the Environment,, Netherlands

pages: 72 - 81
Optimized Testing Process in Vehicles Using an Augmented Data Logger
Karsten Hünlich, Steinbeis Interagierende Systeme GmbH, Germany
Daniel Ulmer, Steinbeis Interagierende Systeme GmbH, Germany
Steffen Wittel, Steinbeis Interagierende Systeme GmbH, Germany
Ulrich Bröckl, University of Applied Sciences Karlsruhe, Germany

pages: 82 - 91
Modeling and Synthesis of mid- and long-term Future Nanotechnologies for Computer Arithmetic Circuits
Bruno Kleinert, Chair of Computer Architecture, University of Erlangen-Nürnberg, Germany
Dietmar Fey, Chair of Computer Architecture, University of Erlangen-Nürnberg, Germany

pages: 92 - 111
Developing an ESL Design Flow and Integrating Design Space Exploration for Embedded Systems

Falko Guderian, TU-Dresden, Germany
Gerhard Fettweis, TU-Dresden, Germany

pages: 112 - 123
6LoWPAN Gateway System for Wireless Sensor Networks and Performance Analysis
Gopinath Rao Sinniah, MIMOS Berhad, Malaysia
Zeldi Suryady Kamalurradat, MIMOS Berhad, Malaysia
Usman Sarwar, MIMOS Berhad, Malaysia
Mazlan Abbas, MIMOS Berhad, Malaysia
Sureswaran Ramadass, Universiti Sains Malaysia, Malaysia

pages: 124 - 136
Silicon Photomultiplier: Technology Improvement and Performance
Roberto Pagano, CNR-IMM, Italy
Sebania Libertino, CNR-IMM, Italy
Domenico Corso, CNR-IMM, Italy
Salvatore Lombardo, CNR-IMM, Italy
Giuseppina Valvo, STMicroelectronics, Italy
Delfo Sanfilippo, STMicroelectronics, Italy
Giovanni Condorelli, STMicroelectronics, Italy
Massimo Mazzillo, STMicroelectronics, Italy
Angelo Piana, STMicroelectronics, Italy
Beatrice Carbone, STMicroelectronics, Italy
Giorgio Fallica, STMicroelectronics, Italy

pages: 137 - 148
Application of the Simulation Attack on Entanglement Swapping Based QKD and QSS Protocols
Stefan Schauer, AIT Austrian Institute of Technology GmbH, Austria
Martin Suda, AIT Austrian Institute of Technology GmbH, Austria

pages: 149 - 165
Maximizing Utilization in Private IaaS Clouds with Heterogenous Load through Time Series Forecasting
Tomas Vondra, Dept. of Cybernetics, Faculty of Electrical Engineering, Czech Technical University, Czech Republic
Jan Sedivy, Dept. of Cybernetics, Faculty of Electrical Engineering, Czech Technical University, Czech Republic

pages: 166 - 177
RobustMAS: Measuring Robustness in Hybrid Central/Self-Organising Multi-Agent Systems
Yaser Chaaban, Institute of Systems Engineering, Leibniz University of Hanover, Germany
Christian Müller-Schloer, Institute of Systems Engineering, Leibniz University of Hanover, Germany
Jörg Hähner, Institute of Organic Computing, University of Augsburg, Germany

pages: 178 - 189
Optimization and Evaluation of Bandwidth-Efficient Visualization for Mobile Devices
Andreas Helfrich-Schkarbanenko, Karlsruhe Institute of Technology (KIT), Germany
Roman Reiner, Karlsruhe Institute of Technology (KIT), Germany
Sebastian Ritterbusch, Karlsruhe Institute of Technology (KIT), Germany
Vincent Heuveline, Karlsruhe Institute of Technology (KIT), Germany

pages: 190 - 199
LUT Saving in Embedded FPGAs for Cache Locking in Real-Time Systems

Antonio Martí Campoy, Universitat Politècnica de València, Spain
Francisco Rodríguez-Ballester, Universitat Politècnica de València, Spain
Rafael Ors Carot, Universitat Politècnica de València, Spain

pages: 200 - 213

Archaeological and Geoscientific Objects used with Integrated Systems and Scientific Supercomputing Resources

Claus-Peter Rückemann, Westfälische Wilhelms-Universität Münster (WWU), Leibniz Universität Hannover, North-German Supercomputing Alliance (HLRN), Germany, Germany

pages: 214 - 223

Quantifying Network Heterogeneity by Using Mutual Information of the Remaining Degree Distribution

Lu Chen, Osaka University, Japan
Shin'ichi Arakawa, Osaka University, Japan
Masayuki Murata, Osaka University, Japan

pages: 224 - 234

An FPGA Implementation of OFDM Transceiver for LTE Applications

Tiago Pereira, Instituto de Telecomunicações, Portugal
Manuel Violas, Instituto de Telecomunicações, Universidade de Aveiro, Portugal
João Lourenço, Instituto Telecomunicações, Portugal
Atílio Gameiro, Instituto de Telecomunicações; Universidade de Aveiro, Portugal
Adão Silva, Instituto de Telecomunicações; Universidade de Aveiro, Portugal
Carlos Ribeiro, Instituto de Telecomunicações; Escola Superior de Tecnologia e Gestão, Instituto Politécnico de Leiria, Portugal

pages: 235 - 244

Comparison of Single-Speed GSHP Controllers with a Calibrated Semi-Virtual Test Bench

Tristan Salque, CSTB, France
Dominique Marchio, Mines Paristech, France
Peter Riederer, CSTB, France