



# **EMERGING 2013**

The Fifth International Conference on Emerging Network Intelligence

September 29 - October 3, 2013

Porto, Portugal

## **EMERGING 2013 Editors**

Michael D. Logothetis, University of Patras, Greece

**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@aria.org](mailto:petre@aria.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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## TABLE OF CONTENTS

### **EMERGING 1: EVOLUTION OF TELECOMMUNICATIONS NETWORK ARCHITECTURES**

<b>A Lightweight Messaging Protocol for Smart Grids .....</b>	1
<i>Eric Veith, Bernd Steinbach, Johannes Windeln</i>	
<b>Proposal and Evaluation of a Predictive Mechanism for Ant-based Routing .....</b>	7
<i>Naomi Kuze, Naoki Wakamiya, Daichi Kominami, Masayuki Murata</i>	
<b>Tiers-Lieu: Exploratory Environments for Service-Centred Innovations .....</b>	13
<i>Michel Leonard, Anastasiya Yurchyshyna</i>	
<b>Wireless Health: Making Your Devices Talk .....</b>	19
<i>Stephan Hengstler</i>	

### **EMERGING 2: APPLICATIONS AND SERVICES**

<b>Mobile Device Biometric Touch Gesture Information Used to Give User Identity Evidence .....</b>	26
<i>Thomas Ruebsamen, Christoph Reich, Julia Bayer</i>	
<b>A Real Virtuality Application: The Real Farmer Game .....</b>	32
<i>Michail Tourlos, Aris Paraskevopoulos, Christos Pezirkianidis, Stavros Stavrianidis, Iakovos Pavlopoulos, George Tselikis, Nikolaos Tselikas, Anthony Boucouvalas</i>	
<b>Algorithms for Network Discovery and Detection of MAC and IP Spoofing Security Attacks .....</b>	37
<i>Paulo Lopes, Paulo Salvador, António Nogueira</i>	

### **EMERGING 3: NETWORKING AND SERVICE DIFFERENTIATION**

<b>QoS Equalization in a Multirate Loss Model of Elastic and Adaptive Traffic with Retrials .....</b>	49
<i>Ioannis Moscholios, Vassilios Vassilakis, Michael Logothetis, Michael Koukias</i>	
<b>A Bandwidth Assignment Method for Downloading Large Files with Time Constraints .....</b>	55
<i>Ken Katsumoto, Kazuhiko Kinoshita, Nariyoshi Yamai, Koso Murakami</i>	
<b>Key Performance Indicators for Cloud Computing SLAs .....</b>	60
<i>Stefan Frey, Christoph Reich, Claudia Lüthje</i>	

### **EMERGING 4: EMERGING NETWORKS**

<b>Performance Improvement of Heterogeneous Wireless Sensor Networks Using a New Clustering Algorithm .....</b>	65
<i>Magdy Ahmed</i>	
<b>Analysing Impact of Mobility Dynamics on Multicast Routing in Vehicular Networks.....</b>	73
<i>Ines Ben Jemaa, Oyunchimeg Shagdar, Paul Muhlethaler, Arnaud De La Fortelle</i>	
<b>Dynamic Reorganization of P2P Networks Based on Content Similarity .....</b>	77
<i>Takuya Yamaguchi, Noriko Matsumoto, Norihiko Yoshida</i>	
<b>Improving the Reliability of Operation Networks (PRESENTATION).....</b>	N/A
<i>Nafisa Solonina, Konstantin Suslov, Vladimir Stepanov</i>	
<b>Author Index</b>	