

**2016 19th IEEE International Conference  
on Computational Science and Engineering  
(CSE 2016) and 14th IEEE International  
Conference on Embedded and Ubiquitous  
Computing (EUC 2016) and 15th  
International Symposium on Distributed  
Computing and Applications for Business,  
Engineering and Science (DCABES 2016)**

**Paris, France  
24 – 26 August 2016**



**IEEE Catalog Number: CFP16CSN-POD  
ISBN: 978-1-5090-3594-6**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16CSN-POD
ISBN (Print-On-Demand):	978-1-5090-3594-6
ISBN (Online):	978-1-5090-3593-9

**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) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

**2016 IEEE International Conference  
on Computational Science and Engineering, IEEE  
International Conference on Embedded  
and Ubiquitous Computing, and International  
Symposium on Distributed Computing  
and Applications to Business, Engineering  
and Science**

**CSE-EUC-DCABES 2016**

**Table of Contents**

Message from the EUC 2016 General Chairs.....	xv
Message from the EUC 2016 Steering Committee Chairs.....	xvi
Message from the EUC 2016 Program Committee Chairs.....	xvii
EUC 2016 Program Committee.....	xviii
Message from the CSE 2016 General Chairs.....	xx
Message from the CSE 2016 Steering Committee Chairs.....	xxii
Message from the CSE 2016 Program Committee Chairs.....	xxiii
CSE 2016 Program Committee.....	xxiv
Message from the DCABES 2016 General and Program Chairs.....	xxvii
DCABES 2016 Program Committee.....	xxviii

---

**IEEE International Conference on Embedded and Ubiquitous Computing (EUC 2016)**

**EUC HADT: Hardware Architecture and Design Tools**

Practical Formal Verification for Model Based Development of Cyber-Physical Systems .....	1
<i>Tasuku Ishigooka, Habib Saissi, Thorsten Piper, Stefan Winter, and Neeraj Suri</i>	
An Analytical Channel Model for Emerging Wireless Networks-on-Chip .....	9
<i>Michael Opoku Agyeman, Quoc-Tuan Vien, and Terrence Mak</i>	
Quality of Service Driven Runtime Resource Allocation in Reconfigurable HPC Architectures .....	16
<i>Marcello Pogliani, Gianluca C. Durelli, Antonio Miele, and Tobias Becker</i>	

## **EUC MSA: Mobile Systems and Applications for Embedded and Ubiquitous Computing**

Energy Consumption Measurements as a Basis for Computational Offloading for Android Smartphones .....	24
<i>Quang-Huy Nguyen, Johannes Blobel, and Falko Dressler</i>	
Towards Zero-Configuration Indoor Localization Using Asynchronous Acoustic Beacons .....	32
<i>Yu-Ting Wang, Rong Zheng, and Dongmei Zhao</i>	
TSTP MAC: A Foundation for the Trustful Space-Time Protocol .....	40
<i>Davi Resner and Antônio Augusto Fröhlich</i>	
Reliable Memory Efficient Name Forwarding in Named Data Networking .....	48
<i>Divya Saxena, Vaskar Raychoudhury, Christian Becker, and Neeraj Suri</i>	
MIC: Enabling Efficient Concurrent Use of Multiple Network Interfaces on Mobile Systems .....	56
<i>Varun Anand, Taeyeon Ki, Karthik Dantu, Steven Y. Ko, and Dimitrios Koutsonikolas</i>	
Improving Always-On Gesture Recognition Power Efficiency for Android Devices Using Sensor Hubs .....	64
<i>Johann-P. Wolff, Sebastian Stieber, Tobias Rankl, and Rainer Dorsch</i>	
Request-Size Aware Flash Translation Layer Based on Page-Level Mapping .....	68
<i>Dong-Bin Yeo, Joon-Young Paik, and Tae-Sun Chung</i>	

## **EUC SPT: Software and Programming Tools for Embedded and Ubiquitous Computing**

Ruleset Minimization in Multi-tenant Smart Buildings .....	72
<i>Andrea Piscitello, Alessandro A. Nacci, Vincenzo Rana, Marco D. Santambrogio, and Donatella Sciuto</i>	
Optimal Multiprocessor Real-Time Scheduling Based on RUN for Practical Imprecise Computation with Harmonic Periodic Task Sets .....	80
<i>Hiroyuki Chishiro</i>	
DockerCap: A Software-Level Power Capping Orchestrator for Docker Containers .....	90
<i>A. Asnaghi, M. Ferroni, and M.D. Santambrogio</i>	

## **EUC SSRD: Security, Safety, and Reliability/Dependability**

Troubleshooting Wireless Coexistence Problems in the Industrial Internet of Things .....	98
<i>Ulf Wetzker, Ingmar Splitt, Marco Zimmerling, Carlo Alberto Boano, and Kay Römer</i>	
LSKA: Location Similarity Based Key Agreement Scheme for Smartphone Networks .....	99
<i>Tao Jing, Jie Li, Peng Huang, Wei Cheng, Xiaoshuang Xing, and Yan Huo</i>	
Recursive and Rolling Windows for Medical Time Series Forecasting: A Comparative Study .....	106
<i>Lamia Ben Amor, Imene Lahyani, and Mohamed Jmaiel</i>	

## **EUC DADM: Data Analysis and Data Management for Embedded and Ubiquitous Computing**

A Partitional Approach for Genomic-Data Clustering Combined with K-Means Algorithm .....	114
<i>Billel Kenidra, Mohamed Benmohammed, Abdesselem Beghriche, and Zakaria Benmounah</i>	
A Multi-sensor Process for In-Situ Monitoring of Water Pollution in Rivers or Lakes for High-Resolution Quantitative and Qualitative Water Quality Data .....	122
<i>Sukanya Randhawa, Sandeep S. Sandha, and Biplav Srivastava</i>	
FFWD: Latency-Aware Event Stream Processing via Domain-Specific Load-Shedding Policies .....	130
<i>R. Brondolin, M. Ferroni, and M.D. Santambrogio</i>	

## **EUC SPS: Short Papers Session**

On Eavesdropping Attacks in Wireless Networks .....	138
<i>Hong-Ning Dai, Hao Wang, Hong Xiao, Xuran Li, and Qiu Wang</i>	
An Online Tool to Design Highly Parametrized Optimized Encoders and Decoders .....	142
<i>Minas Dasygenis</i>	
An Android Systrace Extension for Tracing Wakelocks .....	146
<i>Bui Duc Binh and Kimura Keiji</i>	
An Efficient Scalable Parallelized Version of the Mondrian Algorithm .....	150
<i>John Christoforidis and Minas Dasygenis</i>	
Development of a Hybrid Defensive Embedded System with Face Recognition .....	154
<i>Maria Tsourma and Minas Dasygenis</i>	

## **IEEE International Conference on Computational Science and Engineering (CSE 2016)**

### **CSE CSMC: Computational Science for Mobile Computing**

Indoor Positioning Based on the iBeacon Framework with Gaussian Weight Functions .....	158
<i>Ryota Kanzaki and Satoshi Fujita</i>	
Battery Life Estimation of Sensor Node with Zero Standby Power Consumption .....	166
<i>Akira Yamawaki and Seiichi Serikawa</i>	
Integrating the Kaltura Video Platform with the Photodentro Video Repository: A Case Study .....	173
<i>V. Gkamas, A. Koutoumanos, K. Alexandris, E. Megalou, M. Paraskevas, and C. Kaklamanis</i>	
Formal Verification of Robotics Navigation Algorithms .....	177
<i>Vasileios Germanos and Emanuele Lindo Secco</i>	
Persona Analysis Engine Based on Mobile Networks .....	181
<i>Cheng-Hung Tsai, Zhi-Guo Zhu, Han-Wen Liu, Tsun Ku, and Wu-Fan Chien</i>	

A New Cluster-Based Evolutionary Routing Algorithm for Extending the Lifetime of Heterogeneous Sensor Networks .....	185
<i>Mei Wu and Martin Collier</i>	
Support Vector Regression for Electricity Consumption Prediction in a Building in Japan .....	189
<i>Frédéric Magoulès, Michel Piliouguine, and David Elizondo</i>	

## **CSE PPSC: Parallel Programming for Scientific Computing**

Survey on Memory and Devices Disaggregation Solutions for HPC Systems .....	197
<i>Maciej Bielski, Christian Pinto, Daniel Raho, and Renaud Pacalet</i>	
CPUs Energy Consumption Reduction for Asynchronous Parallel Methods Running over Grids .....	205
<i>Ahmed Fanfakh, Jean-Claude Charr, Raphaël Couturier, and Arnaud Giersch</i>	
Reducing the Power Consumption of Matrix Multiplications by Vectorization .....	213
<i>Thomas Jakobs, Michael Hofmann, and Gudula Rünger</i>	
Collaborative P2P Painting on a Shared Canvas .....	221
<i>Keita Yamanaka, Sayaka Kamei, and Satoshi Fujita</i>	
Towards Scaling Parallel Seismic Raytracing .....	225
<i>Allen D. Malony, Mohammad Alaul Haque Monil, Craig Rasmusen, Kevin Huck, Joseph Byrnes, and Doug Toomey</i>	
Automatic Code Generation of Distributed Parallel Tasks .....	234
<i>Nelson Lossing, Corinne Ancourt, and Francois Irigoien</i>	
Parallelization of the ADAPT 3D Streamer Propagation Code .....	242
<i>Imad Kissami, Christophe Cérin, Fayssal Benkhaldoun, and Gilles Scarella</i>	
Efficient Matricization of n-D Array with CUDA and Its Evaluation .....	246
<i>Md Abu Hanif Shaikh, K.M. Azharul Hasan, G.G. Md. Nawaz Ali, Marwa Chafii, and Peter Han Joo Chong</i>	
Automatic Tuning of Computation-Communication Overlap for Parallel 1-D FFT .....	253
<i>Daisuke Takahashi</i>	
Threewise: a local variance algorithm for GPU .....	257
<i>Florian Gouin, Corinne Ancourt, and Christophe Guettier</i>	

## **CSE SEC: Scientific and Engineering Computing**

An Algorithm for Detection of Chiastic Structures in Text Databases .....	263
<i>SeungJin Lim</i>	
Two Parallel Implementations of Ehrlich-Aberth Algorithm for Root-Finding of Polynomials on Multiple GPUs with OpenMP and MPI .....	270
<i>Kahina Ghidouche, Abderrahmane Sider, Lilia Ziane Khodja, and Raphaël Couturier</i>	
A New Design of Swarm Intelligence Based Metaheuristics for Constrained Multi-objective Optimization .....	278
<i>Kamel Zeltani and Souham Meshoul</i>	

Evaluation and Comparison of QoE-Based Admission Control Solutions .....	283
<i>Doreid Ammar and Martín Varela</i>	
Personalized Social Image Organization, Visualization, and Querying Tool Using Low- and High-Level Features .....	287
<i>Issa Ayoub, Karl J. Codoumi, and Joe Tekli</i>	
Xev-GMP: Automatic Code Generation for GMP Multiple-Precision Code from C Code .....	295
<i>Toshiaki Hishinuma, Takuma Sakakibara, Akihiro Fujii, Teruo Tanaka, and Shoichi Hirasawa</i>	
Galerkin Least Square Method for Time-Harmonic Acoustics in Royaumont Abbey .....	299
<i>Frédéric Magoulès and Hanyu Zhang</i>	
Automatic Matrix Partitioning Algorithm Underlying Iterative Substructuring Methods for Finite Element Analysis .....	308
<i>Hanyu Zhang, Peter Iványi, and Frédéric Magoulès</i>	
HPC Accelerators with 3D Memory .....	320
<i>Manuel Ujaldón</i>	
 <b>CSE CSIT: Computational Science for the Internet of Things</b>	
Optimizing Radio Resource Allocation in Multicast Mobile Networks .....	329
<i>Jacques Bou Abdo, Rabih Jreish, Jacques Demerjian, and Talar Atechian</i>	
On the Topology Effects in Wireless Sensor Networks Based Prognostics and Health Management .....	335
<i>Ahmad Farhat, Abdallah Makhoul, Christophe Guyeux, Rami Tawil, Ali Jaber, and Abbas Hijazi</i>	
NBTI in FinFET Circuits under the Temperature Effect Inversion .....	343
<i>Warin Sootkaneung, Pipatphon Lapamonpinyo, Sasithorn Chookaew, and Suppachai Howimanporn</i>	
Exact Diversity-Multiplexing-Delay Tradeoff of Diffusion Selection Cooperation Networks with ARQ .....	351
<i>Min Li, Xiaorui Zhao, and Heng Wang</i>	
 <b>CSE ACS: Applications of Computational Science</b>	
Identification of Sleep Apnea from Single-Lead Electrocardiogram .....	355
<i>Ahnaf Rashik Hassan and Md. Aynal Haque</i>	
A New Hybrid Approach on Blood Glucose Level Control Based on Palumbo Delayed Model .....	361
<i>Vahideh Heydari, Ali Karsaz, and Reza Heydari</i>	
Resource-Centered Distributed Processing of Large Histopathology Images .....	367
<i>Daniel Salas, Jens Gustedt, Daniel Racoceanu, and Isabelle Perseil</i>	
Galerkin Gradient Least Square Method for Sound Holography in Royaumont Abbey .....	371
<i>Hanyu Zhang, Peter Iványi, and Frédéric Magoulès</i>	
Spectral Domain Decomposition Method for Physically-Based Rendering of Royaumont Abbey .....	379
<i>Guillaume Gbikpi-Benissan, Patrick Callet, and Frédéric Magoulès</i>	

## **CSE ANA: Advanced Networking and Applications**

Grade Prediction in MOOCs .....	386
<i>Xiu Li, Lulu Xie, and Huimin Wang</i>	
MMDES: Multimedia Digital Ecosystem - New Platform for Collaboration and Sharing .....	393
<i>Solomon Asres Kidanu, Yudith Cardinale, Richard Chbeir, Victor De Ponte, Alejandro Figueroa, Ronier Rodriguez, and Carlos A. Raymundo Ibanez</i>	
TEMPORANA: Flexible Temporal Query Processing for Supporting System Behavior Detection across Complex Scenarios .....	401
<i>Alfredo Cuzzocrea, Ilaria D'Elia, Antonio De Nicola, Hugo Maldini, and Maria Luisa Villani</i>	

## **CSE NACS: Nonlinear Aspects in Computational Science**

Transconductance Filter Synthesis with NAM .....	408
<i>Chien-Ming Wang, Sujito, Yueh-Ling Lin, Hung-Yu Wang, and Huu-Duy Tran</i>	
Chattering-Free Simulation for Hybrid Dynamical Systems Semantics and Prototype Implementation .....	412
<i>Ayman Aljarbough, Yingfu Zeng, Adam Duracz, Benoit Caillaud, and Walid Taha</i>	
Leader-Follower Formation Control Using Cerebellar Perceptron Improved Model with Auto-structuring .....	423
<i>Masanao Obayashi, Takeshi Aridome, Takashi Kuremoto, and Shingo Mabu</i>	
Feature-Opinion Pairs Discovery for Chinese Review .....	432
<i>Xiu Li, HuiMin Wang, and Lulu Xie</i>	
Summary of Topological Study of Chaotic CBC Mode of Operation .....	436
<i>Abdessalem Abidi, Samar Tawbi, Christophe Guyeux, Belgacem Bouallègue, and Mohsen Machhout</i>	
Diffusion and Confusion of Chaotic Iteration Based Hash Functions .....	444
<i>Zhuosheng Lin, Christophe Guyeux, Qianxue Wang, and Simin Yu</i>	

## **CSE CCUQ: Computational Challenges in Uncertainty Quantification and Machine Learning**

Levelized Taxonomy Approach for the Job Seeking/Recruitment Problem .....	448
<i>Michaël Guedj</i>	
Indoor Massive MIMO: Uplink Pilot Mitigation Using Channel State Information Map .....	452
<i>Ahmad Abboud, Ali H. Jaber, Jean-Pierre Cances, and Vahid Meghdadi</i>	
Handling Missing Data in Multivariate Time Series Using a Vector Autoregressive Model Based Imputation (VAR-IM) Algorithm. Part II: VAR-IM Algorithm Versus Modern Methods .....	459
<i>Faraj Bashir and Hua-Liang Wei</i>	
Thing-Oriented Learning: Application to Mathematical Objects .....	464
<i>Sabah Al-Fedaghi</i>	

A Bitcoin Model for Evaluation of Clustering to Improve Propagation Delay in Bitcoin Network .....	468
<i>Muntadher Fadhil, Gareth Owenson, and Mo Adda</i>	
Modeling Human Behavior Using Feature Extraction and Class Prediction .....	476
<i>Ismail Elmoudden, Badreddine Benyacoub, Souad Elberoussi, and Mounir Ouzir</i>	
A Case-Based Reasoning Approach to Convert Natural Language into First Order Logic .....	480
<i>Isidoros Perikos and Ioannis Hatzilygeroudis</i>	
Echo State Networks-Based Reservoir Computing for MNIST Handwritten Digits Recognition .....	484
<i>Nils Schaetti, Michel Salomon, and Raphaël Couturier</i>	
Time-Delay Reservoir Computers and High-Speed Information Processing Capacity .....	492
<i>Lyudmila Grigoryeva, Julie Henriques, Laurent Larger, and Juan-Pablo Ortega</i>	
Reservoir Computing: Information Processing of Stationary Signals .....	496
<i>Lyudmila Grigoryeva, Julie Henriques, and Juan-Pablo Ortega</i>	
A Composite Lasso Penalty With an Application in Cosmology .....	504
<i>Jairo Diaz Rodriguez and Sylvain Sardy</i>	
Total Variation Minimization for Compressed Sensing with “Smoothly” Varying Covariates .....	508
<i>Stéphane Chrétien, Peter Harris, and Rami Tawil</i>	

## **CSE SPT: Security, Privacy, and Trust**

A General Multimedia Representation Space Model toward Event-Based Collective Knowledge Management .....	512
<i>Minale A. Abebe, Joe Tekli, Fekade Getahun, Gilbert Tekli, and Richard Chbeir</i>	
Cross Join Operation Over Large Quantities of Data Considering Data Locality and Data Replication .....	522
<i>Darlon Vasatay and Liria Matsumoto Sato</i>	
Transparent Redirection of File-Based Data Accesses for Distributed Scientific Applications .....	526
<i>Michael Hofmann, Gudula Rüenger, and Tommy Seifert</i>	
Dimensions of Internet Use and Threat Sensitivity: An Exploratory Study among Students of Higher Education .....	534
<i>Ali Farooq, Lalitha Balakrishnan, Muneeroh Phadung, Seppo Virtanen, Johanna Isoaho, Dhan Prasad Poudel, and Jouni Isoaho</i>	
Ham-Spam Filtering Using Different PCA Scenarios .....	542
<i>Issam Dagher and Rima Antoun</i>	
K-NN Classification under Homomorphic Encryption: Application on a Labeled Eigen Faces Dataset .....	546
<i>Mohamed Nassar, Nathalie Wehbe, and Bechara Al Bouna</i>	

A Model-Based Testing Approach for Security Protocols .....	553
<i>Pierre-Cyrille Héam, Frédéric Dadeau, Rafik Kheddam, Ghazi Maatoug, and Michael Rusinowitch</i>	
Design of a Secure BYOD Policy for the Greek School Network: A Case Study .....	557
<i>Vasileios Gkamas, Michael Paraskevas, and Emmanouel Varvarigos</i>	
A Proposition of Data Organization and Exchanges to Collaborate in an Autonomous Agent Context .....	561
<i>Laurent Lucien, Christophe Lang, Nicolas Marilleau, and Laurent Philippe</i>	

## **International Symposium on Distributed Computing and Applications to Business, Engineering, and Science (DCABES 2016)**

### **DCABES DPA: Distributed/Parallel Algorithms**

On the Stability and Performance of the Solution of Sparse Linear Systems by Partitioned Procedures .....	569
<i>Abal-Kassim Cheik Ahamed and Frédéric Magoulès</i>	
Study on Complex Kernel Function and Parameter Optimization of SVM in Transformer Fault Diagnosis .....	581
<i>Liping Qu, Yan Meng, and Haohan Zhou</i>	
On Unicyclic Graphs Spectra: New Results .....	586
<i>Makhlouf Hadji and Ming Chau</i>	
BFS Traversal on Multi-GPU Cluster .....	594
<i>Michaël Krajecki, Julien Loiseau, François Alin, and Christophe Jaillet</i>	
Power Analysis of Energy Efficient DES Algorithm and Implementation on 28nm FPGA .....	600
<i>Vandana Thind, Bishwajeet Pandey, and D.M. Akbar Hussain</i>	
Multi-objective Optimization Design of Dispensing Valves in Semiconductor Packaging Systems .....	604
<i>Lve Zhang, Hiroshi Yamaguchi, and Frédéric Magoulès</i>	
GPU Accelerated Substructuring Methods for Sparse Linear Systems .....	614
<i>Abal-Kassim Cheik Ahamed and Frédéric Magoulès</i>	
Scalable, Robust, Fault-Tolerant Parallel QR Factorization .....	626
<i>Camille Coti</i>	

### **DCABES ESA: Enterprise and Scientific Applications**

A Quality Assured Framework for Cloud Adaptation and Modernization of Enterprise Applications .....	634
<i>B. Althani, S. Khaddaj, and B. Makoond</i>	
ZDLC : Layered Lineage Report across Technologies .....	638
<i>Y.K. Makoondlall, S. Khaddaj, B. Makoond, and K. Kethan</i>	
User Experience Design in Web Applications .....	642
<i>Jay Kiruthika, Souheil Khaddaj, Darrel Greenhill, and Jarek Francik</i>	

Pricing Models for Recycling Used Home Appliances under Different Collecting Methods in China .....	647
<i>Ai Xu and Shufeng Gao</i>	
A Study on Perception of Managing Infectious Disease through Social Networking in the Kingdom of Saudi Arabia .....	652
<i>F.A. Alanezi, F. Hussain, and H.Q. Yu</i>	
Infectious Disease Management Systems in the Gulf Region: The Current Status and Potential Impact .....	656
<i>F.A. Alanezi, F. Hussain, and H.Q. Yu</i>	
Linguistics and Quantum Theory: Epistemological Perspectives .....	660
<i>Francesco Galofaro, Bich-Liên Doan, and Zeno Toffano</i>	

### **DCABES DS: Data Science**

Self-Adaptive Service Driven Architecture for Intelligent Transport System .....	669
<i>Nauman Ahmad Khan, Vesna Brujic-Okretic, and Souheil Khaddaj</i>	
Data Structure for Supporting Patch Refinement in Adaptive Isogeometric Analysis .....	673
<i>Anna Perduta and Roman Putanowicz</i>	
Framework of a New Low-Cost Multipurpose Building Operation Datalogger Measurement Network .....	677
<i>Alexis Zima, Sébastien Duprat, and Jean-Pierre Frangi</i>	
Personalizing Information Retrieval Using an Extension of a Dung Argumentation .....	681
<i>Youssef Meguebli, Bich-Liên Doan, and Fabrice Popineau</i>	

### **DCABES IPCN: Image Processing and Computer Networks**

Using OpenDX to Teach the Concept of Visualization Pipeline .....	687
<i>Anna Perduta and Roman Putanowicz</i>	
Secure Semantic Web Application Development: Present and Future .....	694
<i>Umara Noor and Zahid Rashid</i>	
Application of Communication Management System in Electric Power System .....	700
<i>Yang Yang, YangXiao Peng, and Li Yetian</i>	

### **1st International Workshop on Emerging Technologies Using Computer Sciences**

A Software Licenses Aware Job Scheduling and Management Approach on Multi-clusters .....	706
<i>Zhengxiong Hou, Jianhua Gu, Xingshe Zhou, and Tianhai Zhao</i>	
A State of Art on Biological Systems Modeling .....	712
<i>Mohamed Hachem Kermani and Zizette Boufaida</i>	
Tree-Based Data Aggregation Approach in Periodic Sensor Networks Using Correlation Matrix and Polynomial Regression .....	716
<i>Ibrahim Atoui, Abdallah Makhoul, Samar Tawbe, Raphaél Couturier, and Abbas Hijazi</i>	

Arabic Dialect Identification with an Unsupervised Learning (Based on a Lexicon). Application Case: ALGERIAN Dialect .....	724
<i>Imène Guellil and Faiçal Azouaou</i>	
Evaluation of Software Education Using Auto-generated Exercises .....	732
<i>Akiyoshi Wakatani and Toshiyuki Maeda</i>	
Sound Frequency Detection Using an Ultra-low Power MCU .....	N/A
<i>Jaehoon Choi and Yongjoo Chung</i>	
Analysis and Clustering of Workload in Google Cluster Trace Based on Resource Usage .....	740
<i>Mansaf Alam, Kashish Ara Shakil, and Shuchi Sethi</i>	
Parallelizing Ford Fulkerson Algorithm to Find Maximum Flow in a Graph Network .....	N/A
<i>Nguyen Dinh Lau and Tran Quoc Chien</i>	
Relative Time Synchronization of Distributed Applications for Software-in-the-Loop Simulation .....	753
<i>Sunghee Lee, Bueng Il Hwang, Kang-Bok Seo, and Woo Jin Lee</i>	
A Low Complexity Video Encoding Scheme Using DCT .....	N/A
<i>Cyrine Lahsini and Ammar Bouallegue</i>	
<b>Author Index</b> .....	<b>763</b>