2014 IEEE 28th International Conference on Advanced Information Networking and Applications

(AINA 2014)

Victoria, British Columbia, Canada
13-16 May 2014

Pages 1-583

IEEE Catalog Number: CFP14AIN-POD
ISBN: 978-1-4799-3631-1

2014 IEEE 28th International Conference on Advanced Information Networking and Applications

AINA 2014

Table of Contents

Message from the Steering Committee Co-Chairs xvii
Message from the General Co-Chairs xviii
Message from the Program Committee Co-Chairs xix
Message from the Workshop Co-Chairs xx
Organizing Committee xxii
Program Committee xxv
Reviewers List xxxii
Keynote Talk I—Humanware: The Third Ware Which Creates Innovation in Information Technology xxxiv
Keynote Talk II—Video Game as a Service — Cloud Computing Enabled Video Gaming Anywhere on Any Device xxxv

---

Session 1: Communications Network and Protocols I

Delay Asymmetry Correction Model for Master-Slave Synchronization Protocols 1
Md. Arifur Rahman, Thomas Kunz, and Howard Schwartz

From Self-Regulate to Admission Control in Real-Time Traffic Environment 9
Hengky Susanto

End-to-End Measurement of Hop-by-Hop Available Bandwidth 17
Kazumasa Koitani, Go Hasegawa, and Masayuki Murata

An Analytical View of Multiple CDNs Collaboration 25
Moisés Rodrigues, Stenio Fernandes, Judith Kelner, and Djamel Sadok

Session 2: Ad-Hoc Networks I

PUSH: Proactive Unified Spectrum Handoff in CR-MANETs 33
S. Nejatian, S.K. Syed-Yusof, N.M. Abdul Latiff, and V. Asadpour

An Imperialist Competitive Algorithm for Interference-Aware Cluster-Heads Selection in Ad Hoc Networks 41
Mahboobeh Parsapoor and Urban Bilstrup

Dynamic Hierarchical Trust Management of Mobile Groups and Its Application to Misbehaving Node Detection 49
Ing-Ray Chen and Jia Guo

Available-Bandwidth-Based Routing in IEEE 802.15.4-Based Ad-Hoc Networks: Proactive vs. Opportunistic Technique 57
Muhammad Omer Farooq and Thomas Kunz

Session 3: Mobile and Wireless Networks I

Cooperative Mobile Live Streaming Considering Neighbor Reception 65
Sho Hatakeyama, Yoshiki Sakata, and Hiroshi Shigeno

Node Position Forecast in MANET with PheroCast 73
Paulo R. Coelho, Enrique Fynn, Luis F. Faina, Rafael Pasquini, and Lasaro Camargos

USABle—A Communication Framework for Ubiquitous Systems 81
Marcio E.F. Maia, Rossana M.C. Andrade, Carlos A.B. de Queiroz Filho, Reinaldo B. Braga, Saulo Aguiar, Bruno Gois Mateus, Rute Nogueira, and Fredrik Toorn

A Personalized Learning System with an AR Augmented Reality Browser for Ecosystem Fieldwork 89
Masato Kasahara, Kosuke Takano, and Kin Fun Li

Session 4: Security and Privacy I

A New Efficient and Secure POR Scheme Based on Network Coding 98
Kazumasa Omote and Tran Phuong Thao

Toward a Framework for Continuous Authentication Using Stylometry 106
Marcelo Luiz Brocardo, Issa Traore, and Isaac Woungang

Protecting Run-Time Filters for Network Intrusion Detection Systems 116
Victor C. Valgenti, Hai Sun, and Min Sik Kim

Security in Online Learning Assessment Towards an Effective Trustworthiness Approach to Support E-Learning Teams 123
Jorge Miguel, Santi Caballé, Fatos Xhafa, and Josep Prieto

Session 5: Communications Network and Protocols II

Innovating on Interdomain Routing with an Inter-SDN Component 131
Ricardo Bennesby, Edjard Mota, Paulo Fonseca, and Alexandre Passito

An Identifier-Locator Approach to Host Multihoming 139
Bruce Simpson and Saleem N. Bhatti

Joint Allocation of Nodes and Links with Load Balancing in Network Virtualization 148
André Palhares, Marcelo Santos, Patricia Endo, Jônatas Vitalino, Moisés Rodrigues, Glauco Gonçalves, Djamel Sadok, Azimeh Sefidcon, and Fetahi Wuhib

An Analysis of the Impact of Out-of-Order Recovery Algorithms on MPTCP Throughput 156
Amani Alheid, Dritan Kaleshi, and Angela Doufexi

Session 6: Ad-Hoc Networks II

CollabAssure: A Collaborative Market Based Data Service Assurance Framework for Mobile Devices 164
Bhanu Kaushik, Honggang Zhang, Xinyu Yang, Xinwen Fu, and Benyuan Liu

Efficient Beacon-Less Broadcasting in MANETs 172
Louisa Harutyunyan and Jaroslav Opatrny

FBMIS: A Fuzzy-Based Multi-interface System for Cellular and Ad Hoc Networks 180
Elis Kulla, Gjergji Mino, Shinji Sakamoto, Makoto Ikeda, Santi Caballé, and Leonard Barolli

HER-MAC: A Hybrid Efficient and Reliable MAC for Vehicular Ad Hoc Networks 186
Duc Ngoc Minh Dang, Hanh Ngoc Dang, Vandung Nguyen, Zaw Htike, and Choong Seon Hong

Session 7: Mobile and Wireless Networks II

Application-Aware Fast Dormancy in LTE 194
Jacques Bou Abdo, Imad Sarji, Imad H. Elhajj, Ali Chehab, and Ayman Kayssi

Determining Per-Mode Battery Usage within Non-trivial Mobile Device Apps 202
M. Abousaleh, D. Yarish, D. Arora, S.W. Neville, and T.E. Darcie

Clock Synchronization in Mobile Ad Hoc Networks Based on an Iterative Approximate Byzantine Consensus Protocol 210
Chuanyou Li, Yun Wang, and Michel Hurfin

Annotation-Based Access Control Approach for Ubiquitous Systems 218
Rhoney Benigno, Natan Pedrosa, Pedro Tomé, Wesley Araújo, José R. Torres Neto, Eucassio Júnior, Sávio Mota, José B. Filho, and Hervé Martin

Session 8: Security and Privacy II

Analyzing Cascading Failures in Smart Grids under Random and Targeted Attacks 226
Sushmita Ruj and Arindam Pal

A Spoofing Attack against a Cancelable Biometric Authentication Scheme 234
Tetsuya Izu, Yumi Sakemi, Masahiko Takenaka, and Naoya Torii

New Condition for Hierarchical Secret Image Sharing Scheme 240
Angelina Espejel Trujillo, Mariko Nakano Miyatake, and Hector Perez Meana

RFID Path Authentication, Revisited 245
Mohammad Saiful Islam Mamun and Atsuko Miyaji

Session 9: Communications Network and Protocols III

Transparent Multi-hop Protocol Termination 253
Michael Karl and Thorsten Herfet

ASN-FWD: Shrinking the IPv4 Share on the Forwarding Information Base 260
Marta C. C. Lacerda, Marcos Siqueira, Paulo R. S. L. Coelho, Luis F. Faina, Lásaro J. Camargos, Christian Esteve Rothenberg, and Rafael Pasquini

A Wi-Fi Simulation Model Which Supports Channel Scanning across Multiple Non-overlapping Channels in NS3 268
Jason B. Ernst, Stefan C. Kremer, and Joel J.P.C. Rodrigues

Congestion Control Scheme for Multimedia Streaming Service over High Bandwidth Delay Product Networks 276
Sunghee Lee and Kwangsue Chung

Session 10: Wireless Mesh Networks

WMN-SA System for Node Placement in WMNs: Evaluation for Different Realistic Distributions of Mesh Clients 282
Shinji Sakamoto, Tetsuya Oda, Albert Bravo, Leonard Barolli, Makoto Ikeda, and Fatos Xhafa

Analysis of Mesh Router Placement in Wireless Mesh Networks Using Friedman Test 289
Tetsuya Oda, Admir Barolli, Evjola Spaho, Leonard Barolli, and Fatos Xhafa

Simulation-Based Performance Evaluation of the MLSD Protocol for Infrastructure WMNs 297
Gledson Elias and Daniel Porto

On the Impact of Network Coding Delay for IEEE 802.11s Infrastructure Wireless Mesh Networks 305
Ernesto Carrillo and Victor Ramos

Session 11: Mobile and Wireless Networks III

Energy Usage of UDP and DCCP over 802.11n 313
Mamun Abu-Tair and Saleem N. Bhatti

Adaptive Decision-Making Scheme for Cognitive Radio Networks 321
Ismail Alqerm and Basem Shihada

Performance Evaluation of Cognitive Radio Networks under Licensed and Unlicensed Spectrum Bands 329
Salah Zahed, Irfan Awan, Andrea Cullen, and M. Younas

Analysis of WMN-GA Simulation Results: WMN Performance Considering Stationary and Mobile Scenarios 337
Makoto Ikeda, Taiki Honda, Tetsuya Oda, Shinji Sakamoto, and Leonard Barolli

Session 12: Security and Privacy III

A Scalable and Secure RFID Ownership Transfer Protocol 343
Mohammad Saiful Islam Mamun and Atsuko Miyaji

An Efficient and Transparent One-Time Authentication Protocol with Non-interactive Key Scheduling and Update 351
Arcangelo Castiglione, Alfredo De Santis, Aniello Castiglione, and Francesco Palmieri

Privacy-Preserving Hypothesis Testing for the Analysis of Epidemiological Medical Data 359
Hiroaki Kikuchi, Tomoki Sato, and Jun Sakuma

A Scalable Approach to Source Camera Identification over Hadoop 366
Giuseppe Cattaneo, Gianluca Roscigno, and Umberto Ferraro Petrillo

Session 13: Communications Network and Protocols IV

A Clustered SDN Architecture for Large Scale WSON 374
Manoel Camillo Penna, Edgard Jamhour, and Márcio L.F. Miguel

Augmented Reality for Improved Service Delivery 382
Markus Aleksy, Elina Vartiainen, Veronika Domova, and Martin Naedele

Periodic Control Update Overheads in OpenFlow-Based Enterprise Networks 390
Olatunde Awobuluyi

Towards SLA Policy Refinement for QoS Management in Software-Defined Networking 397
Cristian Cleder Machado, Lisandro Zambenedetti Granville, Alberto Schaeffer-Filho, and Juliano Araujo Wickboldt

AgNOS: A Framework for Autonomous Control of Software-Defined Networks 405
Alexandre Passito, Edjard Mota, Ricardo Bennesby, and Paulo Fonseca

Session 14: Wireless Sensor Networks I

Priority-Based Multi-event Reporting in Hybrid Wireless Sensor Networks 413
Israel Leyva-Mayorga, Mario E. Rivero-Angeles, and Chadwick Carreto Arellano

A Guaranteed Lifetime Protocol for Real-Time Wireless Sensor Networks 421
Babar Shah and Ki-Il Kim

Investigating Impact of ACK in Non-beacon Enabled Slotted IEEE 802.15.4 429
D. Mahmood, K. Latif, N. Javaid, S.U. Qureshi, I. Ahmed, U. Qasim, and Z.A. Khan

LAEEBA: Link Aware and Energy Efficient Scheme for Body Area Networks 435
S. Ahmed, N. Javaid, M. Akbar, A. Iqbal, Z.A. Khan, and U. Qasim

Session 15: Mobile and Wireless Networks IV

Efficient Hashing for Dynamic Per-Flow Network-Interface Selection 441
Paul A.S. Ward, Kshirasagar Naik, and Jakub Schmidtke

Design and Implementation of a Mobile Broadcast System 449
Agustinus Borgy Waluyo, Feng Zhu, David Taniar, and Bala Srinivasan

Reverse Nearest Neighbour by Region on Mobile Devices 457
Kiki Maulana Adhinugraha, David Taniar, Maria Indrawan Santiago, and Dirda M.K. Latjuba

Faster Translated Binary Execution on Mobile System through Virtualization 465
Min Choi, Wonjae Lee, Seong-jun Bae, Hyunwoo Lee, and Jong-Hyuk Park

Session 16: Security and Privacy IV

Combating Insider Attacks in IEEE 802.11 Wireless Networks with Broadcast Encryption 472
Joseph Soryal, Irippuge Milinda Perera, Ihab Darwish, Nelly Fazio, Rosario Gennaro, and Tarek Saadawi

MARD: A Framework for Metamorphic Malware Analysis and Real-Time Detection 480
Shahid Alam, R. Nigel Horspool, and Issa Traore

Channel Estimation for Secret Key Generation 490
Michael McGuire

A Rotation Session Key-Based Transposition Cryptosystem Scheme Applied to Mobile Text Chatting 497
Hsing-Chung Chen and Alpha Liezel V. Epa

Session 17: Communications Network and Protocols V

A Bandwidth-Feasibility Algorithm for Reliable Virtual Network Allocation 504
Rafael L. Gomes, Luiz F. Bittencourt, and Edmundo R.M. Madeira

IP Spoofing Detection Using Modified Hop Count 512
Ayman Mukaddam, Imad Elhajj, Ayman Kayssi, and Ali Chehab

New Heuristic for Message Broadcasting in Networks 517
Hovhannes A. Harutyunyan and Cosmin Jimborean

Conducting Network Research in Large-Scale Platforms: Avoiding Pitfalls in PlanetLab 525
Marcelo Santos, Stenio Fernandes, and Carlos Kamienski

Session 18: Wireless Sensor Networks II

A Power Assignment Method for Multi-sink WSN with Outage Probability Constraints 533
Marcelo E. Pellenz, Edgard Jamhour, Manoel C. Penna, Richard Demo Souza, and Glauber Brante

Integration of Push-Based and Pull-Based Connectivity Status Sharing for Efficient Data Forwarding towards Mobile Sinks in Wireless Sensor Networks 541
Takeshi Yoshimura, Kazuya Murao, Akimitsu Kanzaki, and Shojiro Nishio

HEX Clustering Protocol for Routing in Wireless Sensor Network 549
M. Liaqat, N. Javaid, M. Akbar, Z.A. Khan, L. Ali, S. Hafizah, and A. Ghani

TRP: Tunneling Routing Protocol for WSNs 555
M. Akbar, N. Javaid, S. Yousaf, A.H. Khan, Z.A. Khan, U. Qasim, and A.A. Khan

Session 19: Pervasive and Ubiquitous Computing

Processing Probabilistic K-Nearest Neighbor Query Using RIsd-Tree 560
Yuan-Ko Huang and Lien-Fa Lin

A Quality-Aware and Energy-Efficient Context Management Framework for Ubiquitous Systems 568
Vinícius Bezerra, Misael C. Júnior, Olga Valéria, Constantino D. Neto, Liliam Leal, Marcus Lemos, Carlos G. Carvalho, José Bringel Filho, Raimir Holanda, and Nazim Agoulmine

Optimizing Energy Consumption in Broker-Assisted Cyber Foraging Systems 576
Manjinder Nir, Ashraf Matrawy, and Marc St-Hilaire

A Distributed Architecture for Supporting Context-Aware Applications in UbiComp 584
João Lopes, Rodrigo Souza, Ana Pernas, Adenauer Yamin, and Cláudio Geyer

Session 20: Security and Privacy V

Efficient and Verifiable Algorithm for Secure Outsourcing of Large-scale Linear Programming 591
Haixin Nie, Xiaofeng Chen, Jin Li, Josolph Liu, and Wenjing Lou

TDFA: Traceback-Based Defense against DDoS Flooding Attacks 597
Vahid Aghaei Foroushani and A. Nur Zincir-Heywood

Secure Routing with an Integrated Localized Key Management Protocol in MANETs 605
Shrikant H. Talawar, Soumyadev Maity, and R.C. Hansdah

On the Use of Traffic Information to Improve the Coordinated P2P Detection of SLA Violations 613
Jéferson C. Nobre, Lisandro Z. Granville, Alexander Clemm, and Alberto Gonzalez Prieto

Session 21: Internet Computing and Web Applications I

DAT: Dependency Analysis Tool for Service Based Business Processes 621
Olfa Bouchaala, Mohamed Yangui, Samir Tata, and Mohamed Jmaiel

QoE Estimation for Web Service Selection Using a Fuzzy-Rough Hybrid Expert System 629
Jeevan Pokhrel, Felipe Lalanne, Ana Cavalli, and Wissam Mallouli

Mobile Application Platform Heterogeneity: Android vs Windows Phone vs iOS vs Firefox OS 635
Tor-Morten Grønli, Jarle Hansen, Gheorghita Ghinea, and Muhammad Younas

Unbiased Estimation Based on Biased Sampled Data of Communication Networks 642
Shigeo Shioda

Session 22: Wireless Sensor Networks III

Secure Data Transmission Protocol for Medical Wireless Sensor Networks 649
Soufiene Ben Othman, Abdullah Ali Bahattab, Abdelbasset Trad, and Habib Youssef

HADCC: Hybrid Advanced Distributed and Centralized Clustering Path Planning Algorithm for WSNs 657
Muhammad Aslam, Ehsan Ullah Munir, Muhammad Bilal, Muhammmad Asad, Asad Ali, Tauseef Shah, and Syed Bilal

A Synchronization and Routing Protocol for Rechargeable Sensor Networks 665
Fumiaki Sato

Mobile Sensor Networks for Leak and Backflow Detection in Water Distribution Systems 673
M. Agumbe Suresh, L. Smith, A. Rasekh, R. Stoleru, M.K. Banks, and B. Shihada

Session 23: Vehicular Networks and Applications

Improving Information Dissemination in Vehicular Networks by Selecting Appropriate Disseminators 681
Fabrício A. Silva, Thais R.M.B. Silva, Fabrício Benevenuto, Linnyer B. Ruiz, and Antonio A.F. Loureiro

Joint MAC and Network Layer Control for VANET Broadcast Communications Considering End-to-End Latency 689
Celimuge Wu, Satoshi Ohzahata, Yusheng Ji, and Toshihiko Kato

A Sensitive Metric for the Assessment of Vehicular Communication Applications 697
Robert Protzmann, Björn Schünemann, and Ilja Radusch

Mitigating Constant Jamming in Cognitive Radio Networks Using Hybrid FEC Code 704
Victor Balogun and Axel Krings

Session 24: Cloud and Services Computing I

Impact of MapReduce Task Re-execution Policy on Job Completion Reliability and Job Completion Time 712
Jia-Chun Lin, Fang-Yie Leu, Ying-Ping Chen, and Waqaas Munawar

Prototyping Incentive-Based Resource Assignment for Clouds in Community Networks 719
Amin M. Khan, Ümit C. Büyükşahin, and Felix Freitag

Architecture of Distributed Data Aggregation Service 727
Vlad Serbanescu, Florin Pop, Valentin Cristea, and Gabriel Antoniu

Reputation-Based Composition of Social Web Services 735
Alessandro Celestini, Gianpiero Costantino, Rocco De Nicola, Zakaria Maamar, Fabio Martinelli, Marinella Petrocchi, and Francesco Tiezzi

Session 25: Internet Computing and Web Applications II

Cache Replacement Algorithms for YouTube 743
Ming-Chang Lee, Fang-Yie Leu, and Ying-Ping Chen

CODE (Common Ontology DEvelopment): A Knowledge Integration Approach from Multiple Ontologies 751
Dhomas Hatta Fudholi, Wenny Rahayu, and Eric Pardede

Empowering the Healthcare Worker Using the Portable Health Clinic 759
Eiko Kai, Andrew Rebeiro-Hargrave, Sozo Inoue, Yasunobu Nohara, Rafiqul Islam Maruf, Naoki Nakashima, and Ashir Ahmed

Semantics-Enhanced Recommendation System for Social Healthcare 765
Nazia Zaman and Juan Li

Restrictions Affecting New Zealanders' Access to the Internet: A Local Study 771
Shadi Esnaashari, Ian Welch, and Brenda Chawner

Session 26: Wireless Sensor Networks IV

Evaluation of a Genetic Programming Approach to Generate Wireless Sensor Network Applications 775
Tales Heimfarth, João Paulo de Araujo, Renato Resende Ribeiro de Oliveira, and Raphael Winckler de Bettio

FEEL: Forwarding Data Energy Efficiently with Load Balancing in Wireless Body Area Networks 783
M.M. Sandhu, N. Javaid, M. Akbar, F. Najeeb, U. Qasim, and Z.A. Khan

OTICOR: Opportunistic Time Slot Assignment in Cognitive Radio Sensor Networks 790
Ons Mabrouk, Hanen Idoudi, Ichrak Amdouni, Ridha Soua, Pascale Minet, and Leila Saidane

A TDMA-Based Energy Aware MAC (TEA-MAC) Protocol for Reliable Multicast in WSNs 798
Ashutosh Bhatia and R.C. Hansdah

Session 27: Grid, P2P, and Scalable Computing

Performance Analysis of BitTorrent-Like P2P Networks for Video Streaming Services at the Chunk Level 806
Edgar E. Báez Esquivel, Mario E. Rivero-Angeles, and Izlian Y. Orea-Flores

Formal Verification of Fault-Tolerant and Recovery Mechanisms for Safe Node Sequence Protocol 813
Rui Zhou, Rong Min, Qi Yu, Chanjuan Li, Yong Sheng, Qingguo Zhou, Xuan Wang, and Kuan-Ching Li

Statistical Assessment of Sybil-Placement Strategies within DHT-Structured Peer-to-Peer Botnets 821
Deepali Arora, Adam Verigin, Teghan Godkin, and Stephen W. Neville

Trust Aware System for P2P Routing Protocols 829
Haidar Safa, Wassim El-Hajj, and Marwa Moutaweh

Session 28: Cloud and Services Computing II

Towards a Community Cloud Storage 837
Ying Liu, Vladimir Vlassov, and Leandro Navarro

Supersaturated Cloud for Multicore Systems 845
Minoru Uehara

A Cloud Trust Evaluation System Using Hierarchical Fuzzy Inference System for Service Selection 850
Chenhao Qu and Rajkumar Buyya

Robust Scheduling of Scientific Workflows with Deadline and Budget Constraints in Clouds 858
Deepak Poola, Saurabh Kumar Garg, Rajkumar Buyya, Yun Yang, and Kotagiri Ramamohanarao

Session 29: Network Traffic Control and Management

Header Field Based Partitioning of Network Traffic for Distributed Packet Capturing and Processing 866
Ruediger Gad, Martin Kappes, Robin Mueller-Bady, and Inmaculada Medina-Bulo

An Approach to Overcome the Complexity of Network Management Situations by Mashments 875
Oscar Mauricio Caicedo Rendon, Felipe Estrada Solano, and Lisandro Zambenedetti Granville

Design and Analysis of Symbol Detection Schemes with Imperfect CSI for SDF-Relay Networks 884
Ali Zarei Ghanavati and Daniel C. Lee

Determination of Delay Bound over Multi-hop Real-Time Switches with Virtual Output Queuing 892
Sanghwa Han, Kyungtae Kang, and Junhee Ryu

Session 30: Wireless Sensor Networks V

Greedy Flooding in Redoubtable Sensor Networks 899
Nesrine Ouled Abdallah, Mohamed Jmaiel, Mohamed Mosbah, and Akka Zemmari

Using Unmanned Aerial Vehicle to Connect Disjoint Segments of Wireless Sensor Network 907
Tales Heimfarth and João Paulo de Araujo

CEMob: Critical Data Transmission in Emergency with Mobility Support in WBANs 915
S. Yousaf, M. Akbar, N. Javaid, A. Iqba, Z.A. Khan, and U. Qasim

Energy Hole Analysis for Energy Efficient Routing in BANs 920
K. Latif, N. Javaid, A. Iqbal, Z.A. Khan, U. Qasim, and T.A. Alghamdi

Session 31: Intelligent and Dynamic Computing

Stabilizing Agent's Interactions in Dynamic Contexts 925
Pascal Francois Faye, Samir Aknine, Mbaye Sene, and Onn Sheory

A Simple Broadcast Algorithm for Recurrent Dynamic Systems 933
Michel Raynal, Julien Stainer, Jiannong Cao, and Weigang Wu

Evaluation of the Extended Improved Redundant Power Consumption Laxity-Based (EIRPCLB) Algorithm 940
Tomoya Enokido, Ailixier Aikebaier, and Makoto Takizawa

Reducing the Amount of Small Data Communication for Telematics Services 948
Hirohito Kakizawa and Ryozo Kiyohara

Session 32: Cloud and Services Computing III

Open Government Data Visualization System to Facilitate Evidence-Based Debate Using a Large-Scale Interactive Display 955
Nobuyuki Kukimoto

Automated Dynamic Resource Provisioning and Monitoring in Virtualized Large-Scale Datacenter 961
Sameera Abar, Pierre Lemarinier, Georgios K. Theodoropoulos, and Gregory M.P. O'Hare

Secure Deduplication Storage Systems with Keyword Search 971
Jin Li, Xiaofeng Chen, Fatos Xhafa, and Leonard Barolli

Holistic Modeling and Performance Evaluation for Converged Network-Cloud Service Provisioning 978
Qiang Duan and Zhen Zheng

Session 33: Multimedia and Social Networking

Capturing and Analyzing Pervasive Data for SmartHealth 985
Joseph Kee-Yin Ng, Jiantao Wang, Kam-Yiu Lam, Calvin Ho Chuen Kam, and Song Han

Personalized Healthcare Recommender Based on Social Media 993
Juan Li and Nazia Zaman

Computing Sammon's Projection of Social Networks by Differential Evolution 1001
Pavel Krömer, Miloš Kudêlka, Václav Snášel, Martin Radvanský, and Zdenêk Horák

Privacy and Node Cooperation in Mobile Social Networks 1007
Ahmed B. Altamimi and T. Aaron Gulliver

Session 34: Network Algorithms and Systems

A High-Performance DAG Task Scheduling Algorithm for Heterogeneous Networked Embedded Systems 1011
Guoqi Xie, Renfa Li, Xiongren Xiao, and Yuekun Chen

Redundant and Relay Assistant Scheduling of Small Satellites 1017
Lei Xia and Nenghai Yu

Peak Load Scheduling in Smart Grid Communication Environment 1025
M.A. Khan, N. Javaid, M. Arif, S. Saud, U. Qasim, and Z.A. Khan

A Tabu Search Algorithm for Ground Station Scheduling Problem 1033
Fatos Xhafa, Xavier Herrero, Admir Barolli, and Makoto Takizawa

Session 35: Distributed and Parallel Systems

On the Practicality to Implement Byzantine Fault Tolerant Services Based on Tuple Space 1041
Aldelir Fernando Luiz, Lau Cheuk Lung, and Luciana de Oliveira Rech

Combining Decomposition and Lumping to Evaluate Semi-hierarchical Systems 1049
Nils Müllner, Oliver Theel, and Martin Fränzle

Robust Parallel Redeployment Algorithm for MEMS Microrobots 1057
Hicham Lakhlef, Julien Bourgeois, and Hakim Mabed

Collision-Fast Atomic Broadcast 1065
Rodrigo Schmidt, Lasaro Camargos, and Fernando Pedone

Session 36: Database and Data Mining

Minimizing Cost of K-Replica in Hierarchical Data Grid Environment 1073
Yaser Mansouri, Saeed Talatian Azad, and Alireza Chamkori

XSM—A Tracking System for XML Schema Versions 1081
Abdullah Baqasah, Eric Pardede, and Wenny Rahayu

Efficient Distributed Spatial Semijoins and Their Application in Multiple-Site Queries 1089
Nawshad Farruque and Wendy Osborn

Semantic Graph Compression with Hypergraphs 1097
Arber Borici and Alex Thomo

Session 37: Intelligent Methods and Systems

Intelligent Electrocardiogram Monitoring System for Early Arrhythmia Detection 1105
Juyoung Park, Kuyeon Lee, and Kyungtae Kang

Graph Anonymization Using Machine Learning 1111
Maria Laura Maag, Ludovic Denoyer, and Patrick Gallinari

A Semantic Approach for Learning Situation Detection 1119
Ana Marilza Pernas, Adenauer C. Yamin, João L.B. Lopes, and José Palazzo M. de Oliveira

Prediction of Sensor Lifetime in Wireless Sensor Networks Using Fuzzy Logic 1127
Qi Wang, Elis Kulla, Gjergji Mino, and Leonard Barolli

Session 38: Network Modeling and Methods

Energy-Aware Replication Models of Mobile Agents 1132
Dilawaer Duolikun, Ailixier Aikebaier, Tomoya Enokido, and Makoto Takizawa

Role-Based Information Flow Control Models 1140
Shigenari Nakamura, Dilewaer Doulikun, Ailixier Aikebaier, Tomoya Enokido, and Makoto Takizawa

Node Placement in WMNs Using WMN-HC System and Different Movement Methods 1148
Xinyue Chang, Tetsuya Oda, Evjola Spaho, Makoto Ikeda, Leonard Barolli, and Fatos Xhafa

A Novel Method for the Interpretation of Spectrometer Signals Based on Delta-Modulation and Similarity Determination 1154
Petra Perner

Author Index