Welcome Message from IMIS 2012 General Co-Chairs
Welcome Message from IMIS 2012 Program Committee Co-Chairs
Welcome Message from Workshops Co-Chairs of IMIS 2012 International Conference
IMIS 2012 Organizing Committee
IMIS 2012 Reviewers
Welcome Message from FIMIS-2012 International Workshop Co-Chairs
FIMIS-2012 Organizers
FIMIS-2012 Reviewers
Welcome Message from FINGNet-2012 International Workshop Organizers
FINGNet 2012 Organizing Committee
FINGNet-2012 Reviewers
Welcome Message from IFSN-2012 International Workshop Co-Chairs
IFSN-2012 Organizing Committee and Reviewers
Welcome Message from ITAUC-2012 International Workshop Organizers
ITAUC-2012 Organizing Committee
ITAUC-2012 Reviewers List
Welcome Message from MoMoPE 2012 International Workshop Organizers
MoMoPE 2012 Organizing Committee
The Sixth International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS 2012)

Session 1: Smart Spaces and Intelligent Environments

The 4W (What-Where-When-Who) Project Goes Social .................................................................1
   Mauro Migliardi and Marco Gaudina

Exploring Urban Dynamics Based on Pervasive Sensing: Correlation Analysis
of Traffic Density and Air Quality .................................................................................................9
   Wenzhu Zhang, Bing Zhu, Lin Zhang, Jian Yuan, and Ilsun You

A Privacy Preserving Model for Personal Information in Search Engine .....................................17
   Eun-Ae Cho, Kyungroul Lee, and Kangbin Yim

A Novel Search System for Protecting Search Word ....................................................................22
   Kyungroul Lee, Eun-Ae Cho, and Kangbin Yim
Session 2: Context and Location-Aware Computing

A Service Oriented Analysis Environment for Neuroimaging Studies ................................................................. 29
  Ashiq Anjum, Nik Bessis, Richard McClatchey, Kamran Munir, Irfan Habib,
  Andrew Branson, and Jetendra Shamdasani

Context-Awareness for IPTV Services Personalization ........................................................................................................... 37
  Marek Dabrowski, Justyna Gromada, and Hassnaa Moustafa

Collaborative Decision-Making Framework for Supporting Multi-mobile
Decision-Makers Using Ontology ............................................................................................................................................. 45
  Hyun Jung Lee and Mye Sohn

Session 3: Data Management Applications and Analysis

Neural Network Approach for Identification of Selected Brain Perfusion Abnormalities ............................................................... 52
  Tomasz Hachaj and Marek R. Ogiela

Cognitive Applications for Semantic and Cognitive Data Analysis .......................................................................................... 58
  Lidia Ogiela and Dorota Srebrny

Cognitive Analysis Systems for 3D Image Data Interpretation ................................................................................................ 64
  Lidia Ogiela and Marek R. Ogiela

Data Aggregation Techniques in Heart Vessel Modelling and Recognition of Pathological Changes ................................................................................. 69
  Miroslaw Trzupek and Marek R. Ogiela

Session 4: Signature and Control Schemes

A New Identity-Based Group Signature Scheme Based on Knapsack ECC ....................................................................................... 73
  Sazia Parvin, Song Han, Zia Ur Rehman, Abdullah Al Faruque,
  and Farookh Khadeer Hussain

An Efficient Identity-Based Strong Designated Verifier Signature without Delegatability ......................................................... 81
  Haibo Tian, Xiaofeng Chen, Fangguo Zhang, Baodian Wei, Zhengtao Jiang, and Yi Liu

A New Iterative Learning Control Scheme Based on Damped Newton Method for Nonlinear Systems ......................................................... 89
  Yu Han, Kangbin Yim, Xiaochen Lai, Guangwei Xu, Hui Liu, and Xilan Wang

An Access Control Mechanism for Remote Control of Home Security System ............................................................................. 93
  Seung-Hyun Seo and Taenam Cho
Session 5: Data Management Modelling and Representation

Biological Modelling in Semantic Data Analysis Systems .................................................99
Lidia Ogiela

Similarity Measurement between Objects and Activities for User Intention Modeling ...........................................103
Myunggwon Hwang, Sa-Kwang Song, Do-Heon Jeong, Hanmin Jung, and Jinhyung Kim

Random Graph Languages for Distorted and Ambiguous Patterns: Single Layer Model ................................108
Marek R. Ogiela and Marcin Piekarczyk

Session 6: Secure Algorithms and Systems

The Forensic Analysis of a False Digital Alibi .................................................................114
Aniello Castiglione, Giuseppe Cattaneo, Giancarlo De Maio, Alfredo De Santis, Gerardo Costabile, and Mattia Epifani

A Secure Secondary Backup Storage with an Isolated Authentication .................................................122
Kwangjin Bae, Ilsun You, Kangbin Yim, and Taeho Son

Analysis on Maliciousness for Mobile Applications ........................................................126
Seung-Hyun Seo, Dong-Guen Lee, and Kangbin Yim

A Slow Intelligent Approach for the Improvement of Intrusion Detection and Prevention System ........................................130
Francesco Colace, Massimo De Santo, and Salvatore Ferrandino

Session 7: Energy Aware Pervasive Systems, Knowledge Cities, and Smartphone Applications

Threshold-Based Energy-Efficient Data Transmission Policy for Mobile Devices .................................................138
Sung-Hwa Lim, Jungsup Oh, Byoung-Hoon Lee, and Mye Sohn

Delegation-Based Mutual Authentication Scheme for Multi-operator Wireless Mesh Network ........................................143
Tianhan Gao, Nan Guo, and Kangbin Yim

Towards a Context-Aware and Adaptable Room System for Intelligent “Trusted” Office-Spaces in Smart Cities .................................................................148
Tim French and Nik Bessis

Participatory Sensing in Environmental Monitoring—Experiences ....................................................155
Ville Kotovirta, Timo Toivanen, Renne Tergujeff, and Markku Huttunen

Session 8: Modeling, Simulation, and Performance in UPC

Characterization of Vision-Aided Indoor Localization and Landmark Routing .................................................163
Aaron Ballew, Shiva Srivastava, Nikolay Valtchanov, C.C. Lee, and Aleksandar Kuzmanovic
Document Classification through Building Specified N-Gram ........................................................... 171
   Byeongkyu Ko, Dongjin Choi, Chang Choi, Junho Choi, and Pankoo Kim

A Comparison between Single and Additive Contribution in RFID Reader-to-Reader Interference Models ................................................................................................................................. 177
   Linchao Zhang, Renato Ferrero, Filippo Gandino, and Maurizio Rebaudengo

Session 9: Reliable Transmission and Fault Tolerance
Performance Analysis of Reliable Transmission on Multiple Paths and Single Path ........................................ 185
   Fei Song, Huachun Zhou, Sidong Zhang, Hongke Zhang, and Ilsun You

Application-Aware Virtual Machine Placement in Data Centers ......................................................................... 191
   Fei Song, Daochao Huang, Huachun Zhou, and Ilsun You

Transient Fault Tolerance for ccNUMA Architecture .................................................................................. 197
   Xingjun Zhang, Endong Wang, Feilong Tang, Meishun Yang, Hengyi Wei, and Xiaoshe Dong

Fuzzy Fault Tree Based Fault Detection ........................................................................................................ 203
   Yuening Kang, Xingjun Zhang, Nan Wu, Weiguo Wu, and Xiaoshe Dong

Session 10: Network Analysis and Strategies
An Analysis of Strategies for Preventing Selfish Behavior in Mobile Delay Tolerant Networks ................................ 208
   Jingwei Miao, Omar Hasan, Sonia Ben Mokhtar, Lionel Brunie, and Kangbin Yim

ILSRO: Identifier/Location Split-Based Route Optimization for PMIPv6 .............................................................. 216
   Jianfeng Guan, Changqiao Xu, Kai Wang, Huachun Zhou, and Hongke Zhang

Extending Mesh Networks to Opportunistic Resource Sharing ..................................................................... 224
   Jeremy A. Hansen

Session 11: Mobile Ad Hoc Networks
Impacts of Internal Network Contexts on Performance of MANET Routing Protocols:
A Case Study ................................................................................................................................................... 231
   Longteng Yi, Yujia Zhai, Yue Wang, Jian Yuan, and Ilsun You

A Terrain-Awareness Based Mobility Model with Markov Random Disturbance for Tactical MANET ................................................................................................................................................. 237
   Bowen Deng, Yujia Zhai, Yue Wang, Jinhai Huo, Jian Yuan, and Ilsun You

Improved AODV Routing Protocol to Cope with High Overhead in High Mobility MANETs ............................................. 244
   Mohammad Ayash, Mohammad Mikki, and Kangbin Yim
Session 12: Cloud Computing
A Resource-Aware Pairing Device Framework for Ubiquitous Cloud Applications ......................................................252
  Liang (Ben) Chen and Maria Prokopi
Lazy Monitoring for Distributed Computing Environments ..................................................................................259
  Giulio Caravagna, Gabriele Costa, Luca Wiegand, and Giovanni Pardini
Balancing Resource Utilization for Continuous Virtual Machine Requests in Clouds ...........................................266
  Xin Li, Zhuzhong Qian, Ruiqing Chi, Bolei Zhang, and Sanglu Lu

Session 13: Distributed Systems and Applications
An Efficient Distributed Mobility Management Scheme Based on PMIPv6 .............................................................274
  Li Yi, Huachun Zhou, and Hongke Zhang
Minimizing Communication Traffic in Data Centers with Power-Aware VM Placement ....................................................280
  Bolei Zhang, Zhuzhong Qian, Wei Huang, Xin Li, and Sanglu Lu
A Novel Framework of Self-Adaptive Fault-Tolerant for Pervasive Computing .........................................................286
  Haibin Cai, Chao Peng, and Yue Zhang
Using Dynamic Probe for Deadlock Detection in Component-Based System ..........................................................292
  Chen Li, Linpeng Huang, Luxi Chen, and Weichao Luo

The Second International Workshop on Frontiers in Innovative Mobile and Internet Services (FIMIS 2012)

Session 1: Frontiers in Innovative Mobile and Internet Services
TCP Throughput of IPv6 and IPv4 on IEEE 802.11n Wireless Client Server LAN in Windows Vista/XP—Server 2008 Environment .................................................................300
  Navneet Chand and Samad Salehi Kolahi
Implementation and Test of PMIPv6 Dual Stack Protocol ..................................................................................305
  Fei Ren and Huachun Zhou
Text Interface Adaptation in Ubiquitous Applications ..........................................................................................311
  Luigi Benedicenti and Sheila Petty
A Cognitive Network for Intelligent Environments ...........................................................................................317
  Qian Li, Peter Quax, Kris Luyten, and Wim Lamotte
Geocast Routing Protocols for VANETs: Survey and Guidelines .................................................................323
  Salim Allal and Saadi Boudjit
The Second International Workshop on Future Internet and Next Generation Networks (FINGNet 2012)

Session 1: Architectures and Platforms of FINGNet

Future Internet in Taiwan: Design and Research Activities over TWAREN Network .................................................329  
Jen-Wei Hu, Win-Yuan Huang, Hui-Min Tseng, Hui-Lan Lee, Li-Chi Ku,  
Shu-Cheng Lin, Te-Lung Liu, and Chu-Sing Yang

A Multistep Process Model for Selecting and Composing Functional Blocks in a Future Internet Architecture .........................................................................................................................334  
Daniel Günther, Nathan Kerr, and Paul Müller

A Requirement-Based Socket API for a Transition to Future Internet Architectures .................................................................340  
Abbas Ali Siddiqui and Paul Mueller

Service Orientation Paradigm in Future Network Architectures ..................................................................................346  
Rahamatullah Khondoker, Abbas Siddiqui, Bernd Reuther, and Paul Mueller

Session 2: Security Issues and New Applications in FINGNet

Group Key Management for Secure Mobile IPTV Service ........................................................................................................352  
Inshil Doh, Jiyoung Lim, and Min Young Chung

Passive YouTube QoE Monitoring for ISPs ..................................................................................................................358  
Raimund Schatz, Tobias Hoßfeld, and Pedro Casas

Design and Implementation of Location-Based SNS Smartphone Application for the Disabled Population ........................................................................................................................................365  
Arisu An, Hae-Duck J. Jeong, Jiyoung Lim, and WooSeok Hyun

Content-Based Image Retrieval Using Wavelet Spatial-Color and Gabor Normalized Texture in Multi-resolution Database ...........................................................................................................371  
Yong-Hwan Lee, Sang-Burm Rhee, and Bonam Kim

The Second International Workshop on Frontiers of Secure Networks (IFSN 2012)

Session 1: Fundamental Theory

A Survey of Virtualization Technologies Focusing on Untrusted Code Execution .................................................................378  
Yan Wen, Jinjing Zhao, Gang Zhao, Hua Chen, and Dongxia Wang

Edges Immunization Strategy Based on Discrete PSO in Weighted Scale-Free Network ........................................................................................................................................384  
Bing Lin, Wenzhong Guo, and Guolong Chen

Identify Sentiment-Objects from Chinese Sentences Based on Skip Chain Conditional Random Fields Model .........................................................................................................................390  
Minjie Zheng, Zhicheng Lei, Yue Liu, Xiangwen Liao, and Guolong Chen
An Optimistic Protocol for Distributed Fair Exchange .......................................................... 395
Yang Zhao and Zhi-guang Qin

Session 2: Low Level Security
Reversing Engineering Data Structures in Binary Programs: Overview and Case Study .................. 400
Xiao Xia Sun, Hua Chen, Yan Wen, and Min Huan Huang

Network Security Situation Element Extraction Based on Projection Pursuit
Regression ...................................................................................................................................... 405
Bin Wen, Wenzhong Guo, and Guolong Chen

Research of Network Security Situation Prediction Based on Multidimensional Cloud
Model ........................................................................................................................................ 409
Rui-Fen Wu and Guo-Long Chen

Session 3: Internet Routing
The Relation on Prefix Hijacking and the Internet Hierarchy ...................................................... 415
Jinjing Zhao, Yan Wen, Xiang Li, Wei Peng, and Feng Zhao

Constructing Robust Dissemination Paths in Centralized Control Network ............................... 421
Dan Zhao, Hongjun Liu, Xiaofeng Hu, and Chunqing Wu

An Analytic Goodput Model for TCP Incast ............................................................................. 427
Zhenqian Feng, Bing Bai, Baokang Zhao, and Jinshu Su

A Distribute and Geographic Information Based Routing Algorithm for LEO Satellite
Constellation Networks ............................................................................................................ 433
Yanpeng Ma, Jinshu Su, Chunqing Wu, Jinshu Su, Xiaofeng Wang, Wanrong Yu,
Baokang Zhao, and Xiaofeng Hu

Session 4: Future Networking
Locating Routing Instability Based on Path Exploration ............................................................. 439
Hongjun Liu, Xiaofeng Hu, Dan Zhao, and Xicheng Lu

Qiang Liu, Li Liu, Xiaohui Kuang, and Yan Wen

Research on the Universal Platform for Aerospace Craft Simulation ........................................ 450
Dong Liu, Yi Li, Weiyan Xing, and Bo Wang
The Second International Workshop on Intelligent Techniques and Algorithms for Ubiquitous Computing (ITAUC 2012)

Session 1: Wireless Sensor Networks

Energy Efficient Block Division Methods for Data Aggregation in Wireless Sensor Networks ........................................... 454
Chia-Hsin Cheng, Hsinying Liang, Yung-Fa Huang, and Tian-Yue Wu

A Fuzzy-Based Cluster-Head Selection System for WSNs: A Comparison Study for Static and Mobile Sensors ................................................... 459
Leonard Barolli, Qi Wang, Elis Kulla, Fatos Xhafa, Bexhet Kamo, and Makoto Takizawa

A Low Complexity IR-UWB Receiver for Wireless Sensor Networks ................................................................. 465
Hsi-Chou Hsu and Jyh-Horng Wen

Session 2: Wireless Systems and Applications

Performance of Adaptive Partial Interference Cancellation for Near-Far Environments in OFDMA Systems .......................................................... 469
Yung-Fa Huang, Tan-Hsu Tan, and Chia-Hsing Cheng

A Simplified Wiener-Based SIC ICI Cancellation Scheme for OFDM Systems over Time-Varying Channels ........................................... 475
Yung-Cheng Yao, Ying-Chih Kuo, and Jyh-Horng Wen

Performance Study of IEEE 802.11 DCF with Optimal Contention Window ........................................................ 481
Chien-Erh Weng and Chun-Yin Chen

Modified Dummy Sequence Generator for DSI on PAPR Reduction in OFDM Systems .................................................. 485
Shu-Hong Lee and Ho-Lung Hung

Session 3: Modeling and Methods

Identifying Restricted-Faults in Multiprocessor Meshes under the PMC Diagnostic Model ........................................................... 489
Tzu-Liang Kung, Cheng-Kuan Lin, Jimmy J.M. Tan, Hon-Chan Chen, and Hsing-Chung Chen

Cognitive RBAC in Small Heterogeneous Networks ................................................................. 494
Hsing-Chung Chen and Marsha Anjanette Violetta

A Method to Improve the Accuracy of the TOA Position Location Solution in Multistatic Radar Systems ............................................ 500
Jheng-Sian Li, Yung-Cheng Yao, Chun-Hung Chen, and Jyh-Horng Wen

Three-Party Authenticated Quantum Key Distribution Protocol with Time Constraint ................................................ 506
Hsing-Chung Chen, Syuan-Zong Lin, and Tzu-Liang Kung
The Third International Workshop on Mobility Modeling and Performance Evaluation (MoMoPE 2012)

Session 1: Web Caching and Wireless Communication

A Novel Hybrid Approach for Web Caching .......................................................... 512
   Rajeev Tiwari and Neeraj Kumar

A Sparse Clustering Model of Wireless Communication Networks ......................... 518
   Wei-Shuo Li, Chun-Wei Tsai, Jong-Hyouk Lee, and Wen-Shyong Hsieh

A Cluster-Tree-Based GTS Allocation Scheme for IEEE 802.15.4 MAC Layer ................ 524
   Der-Chen Huang, Hsiang-Wei Wu, and Yi-Wei Lee

Session 2: Security and Protocol Analysis

Botnet Topology Reconstruction: A Case Study .................................................. 529
   Ming-Yi Liao, Jyun-Hao Li, Chu-Sing Yang, Min Chen, Chun-Wei Tsai, and Ming-Cho Chang

Performance Analysis of Mobile Publish-Subscribe Service Discovery on IPv6 over GeoNetworking ................................................................. 535
   Satoru Noguchi, Satoshi Matsuura, and Kazutoshi Fujikawa

Survey on Route Optimization Schemes for Proxy Mobile IPv6 ................................. 541
   Jianfeng Guan, Ilsun You, Changqiao Xu, Huachun Zhou, and Hongke Zhang


Session 1: Cloud Security and Energy Models

Cloud Computing-Based Building Energy Management System with ZigBee Sensor Network ............................................................... 547
   Insung Hong, Jisung Byun, and Sehyun Park

Energy-Efficiency and Security Issues in the Cisco Nexus Virtual Distributed Switching ................................................................. 552
   Benjamin Peterson, Sergio Ricciardi, and Jordi Nin

Large-Scale Coordinated attacks: Impact on the Cloud Security .............................. 558
   Damien Riquet, Gilles Grimaud, and Michaël Hauspie

Security of a Public Cloud ................................................................................... 564
   Irina Astrova, Stella Gatziu Grivas, Marc Schaaf, Arne Koschel, Jan Bernhardt, Mark Dennis Kellermeier, Stefan Nitz, Francisco Carriedo Scher, and Michael Herr
Session 2: Wireless and Mobile Security

A Secure Communication over Wireless Environments by Using a Data Connection
Core .......................................................... 570
  Ko-Chung Wei, Yi-Li Huang, and Fang-Yie Leu
A Novel Key Management of Two-Tier Dissemination for Wireless Sensor Network ........................................... 576
  Chin-Ling Chen, Yu-Ting Tsai, and Tzay-Farn Shih
ConSec: Context-Aware Security Framework for Smart Spaces .......................................................... 580
  Sumayah Al-Rabiaah and Jalal Al-Muhtadi
Copyright Protection for Images on Mobile Devices .......................................................................................... 585
  Raffaele Pizzolante and Bruno Carpentieri

Session 3: Forensic and Motion Detection/Monitoring

The Digital Profiling Techniques Applied to the Analysis of a GPS Navigation Device ......................................... 591
  Clara Maria Colombini, Antonio Colella, Aniello Castiglione, and Vincenzo Scognamiglio
Freight Train monitoring: A Case-Study for the pSHIELD Project ........................................................ 597
  Valentina Casola, Mariana Esposito, Nicola Mazzocca, and Francesco Flammini
Device Tracking in Private Networks via NAPT Log Analysis ............................................................................. 603
  Aniello Castiglione, Alfredo De Santis, Ugo Fiore, and Francesco Palmieri
Experiments on Improving Sensor Pattern Noise Extraction for Source Camera Identification ............................................................................. 609
  Giuseppe Cattaneo, Pompeo Faruolo, and Umberto Ferraro Petrillo

Session 4: System Security and E-commerce

A Proposal of a Mobile Payment System Based on Android ........................................................................... 617
  Alex Roehrs, Cristiano André da Costa, and Jorge Luís Victória Barbosa
Mobile Computer System with User Friendly Environment and Security Protection ..................................... 623
  Chu-Hsing Lin, Jung-Chun Liu, Wen-Chen Wu, Tsau-Wei You, and Ming-Hung Liu
Using ANFIS and FML for Deploying Transparent Services in Smart Environments .................................. 628
  Giovanni Acampora, Vincenzo Loia, and Autilia Vitiello
Security Paradigm in Ubiquitous Computing ................................................................................................. 634
  Antonio Colella and Clara Colombini
The Sixth International Workshop on Advances in Information Security (WAIS 2012)

Session 1: Access Control, Data Integrity, and Vulnerability

Proposal of the Hierarchical File Server Groups for Implementing Mandatory Access
Control .................................................................639
   Taketoshi Sakuraba and Kouichi Sakurai

Preventing the Access of Fraudulent WEB Sites by Using a Special Two-Dimensional
Code .................................................................645
   Nobuyuki Teraura and Kouichi Sakurai

Integrity Assurance for Real-Time Video Recording ........................................651
   Tetsuya Izu, Masahiko Takenaka, Jun Yajima, and Takashi Yoshioka

Countermeasures and Tactics for Transitioning against the SSL/TLS Renegotiation
Vulnerability ........................................................656
   Yuji Suga

Session 2: Information Security

Efficient Implementation of Evaluating Multivariate Quadratic System with GPUs ..........................660
   Satoshi Tanaka, Takashi Nishide, and Kouichi Sakurai

A Method for Embedding Secret Key Information in RSA Public Key and Its
Application ............................................................665
   Motoki Kitahara, Takashi Nishide, and Kouichi Sakurai

Privacy-Preserving Collaborative Filtering Using Randomized Response ..............................671
   Hiroaki Kikuchi and Anna Mochizuki

A Proposal to Realize the Provision of Secure Android Applications—ADMS: An
Application Development and Management System ......................................................677
   Harunobu Agematsu, Junya Kani, Kohie Nasaka, Hideaki Kawabata,
   Takamasa Isohara, Keisuke Takemori, and Masakatsu Nishigaki

The First International Workshop on Extending Seamlessly to
the Internet of Things (esIoT 2012)

Session 1: IPv6 and Internet of Things

Integrating Building Automation Systems and IPv6 in the Internet of Things ........................683
   Markus Jung, Christian Reinisch, and Wolfgang Kastner

Demand Forecasting and Smart Devices as Building Blocks of Smart Micro Grids ................689
   René Schumann and Dominique Genoud
Enabling Transparent Communication with Global ID for the Internet of Things .......................................................695
    Suho Jeong, Seong Hoon Kim, Minkeun Ha, Taehong Kim, Jinyoung Yang, Nam Giang, and Daeyoung Kim

Session 2: Lightweight Protocols and Applications

Constrained Application Protocol for Low Power Embedded Networks: A Survey .........................................................702
    Berta Carballido Villaverde, Dirk Pesch, Rodolfo De Paz Alberola, Szymon Fedor, and Menouer Boubekeur

Proposal of a REST-Based Architecture Server to Control a Robot ........................................................708
    Roger Esteller-Curto, Enric Cervera, Angel P. del Pobil, and Raul Marin

A Lightweight and Identity-Based Network Architecture for the Internet of Things ........................................711
    Pedro Martinez-Julia and Antonio F. Skarmeta

Session 3: Discovering the Internet of Things

Facilitating Sensor Deployment, Discovery and Resource Access Using Embedded Web Services ........................................................717
    Isam Ishaq, Jeroen Hoebeke, Jen Rossey, Eli De Poorter, Ingrid Moerman, and Piet Demeester

Smart Spaces and Smart Objects Interoperability Architecture (S3OiA) ..........................................................725
    Mario Vega-Barbas, Diego Casado-Mansilla, Miguel A. Valero, Diego López-de-Ipiña, José Bravo, and Francisco Flórez

Light-Weight Multicast DNS and DNS-SD (lmDNS-SD): IPv6-Based Resource and Service Discovery for the Web of Things ...........................................................................731
    Antonio J. Jara, Pedro Martinez-Julia, and Antonio Skarmeta

Session 4: Semantic Web of Things

DAAF: A Device Abstraction and Aggregation Framework for Smart Environments ........................................739
    A. Paz-Lopez, G. Varela, V. Sonora, and J.A. Becerra

Anticipating Health Hazards through an Ontology-Based, IoT Domotic Environment ........................................745
    Vittorio Miori and Dario Russo

Moving Application Logic from the Firmware to the Cloud: Towards the Thin Server Architecture for the Internet of Things .......................................................................................751
    Matthias Kovatsch, Simon Mayer, and Benedikt Ostermaier

An Analysis of M2M Platforms: Challenges and Opportunities for the Internet of Things ....................................................757
    Miguel Castro, Antonio J. Jara, and Antonio F. Skarmeta
Session 5: Accessing the Web of Things

Assessing Data Dissemination Strategies within Triple Spaces on the Web of Things ................................................. 763
   Aitor Gómez-Goiri and Diego López-de-Ipiña

Implementation of the EXI Schema on Wireless Sensor Nodes Using Contiki ................................................................. 770
   Domenico Caputo, Luca Mainetti, Luigi Patrono, and Antonio Vilei

Heterogeneous Sensors Become Homogeneous Things in Smart Cities ................................................................. 775
   M. Fazio, M. Paone, A. Puliafito, and M. Villari

Session 6: Securing the Internet of Things

Secure Identifiers and Initial Credential Bootstrapping for IoT@Work ................................................................. 781
   Kai Fischer, Jürgen Geßner, and Steffen Fries

IoT Access Control Issues: A Capability Based Approach ......................................................................................... 787
   S. Gusmeroli, S. Piccione, and D. Rotondi

Shifting Primes: Optimizing Elliptic Curve Cryptography for Smart Things ......................................................... 793
   Leandro Marin, Antonio Jara, and Antonio F. Skarmeta

Session 7: Identifying the Internet of Things (RFID and NFC)

The Smart University Experience: An NFC-Based Ubiquitous Environment ................................................................. 799

An Indoor Localization Mechanism Based on RFID and IR Data in Ambient Intelligent Environments ........................................ 805
   María V. Moreno, Miguel A. Zamora, José Santa, and Antonio F. Skarmeta

Internet of Things Architecture for an RFID-Based Product Tracking Business Model ........................................ 811
   Félix Jesús Villamueva, David Villa, Francisco Moya, María José Santofimia, and Juan Carlos López

Session 8: Mobile Internet of Things

Mixed Reality-Aware Service Architecture for Mobile Environments ................................................................. 817
   Augusto Morales Domínguez, Tomas Robles, Ramón Alcarria, and Edwin Cedeño

Resolving Coordination Challenges in Cooperative Mobile Services ..................................................................................... 823
   Ramón Alcarria, Tomás Robles, Augusto Morales Domínguez, and Edwin Cedeño

An Attitude-Based Reasoning Strategy to Enhance Interaction with Augmented Objects ................................................................. 829
   Josué Iglesias, David Gómez, Ana M. Bernardos, and José R. Casar

A Ubiquitous Model for Wireless Sensor Networks Monitoring ......................................................................................... 835
   André G.F. Elias, Joel J.P.C. Rodrigues, Luís M.L. Oliveira, and Bruno B. Zarpelão
Session 9: Internet of Things Applications

On Route Travel Assistant for Public Transport Based on Android Technology ................................................................. 840
  Carmelo R. García, Santiago Candela, Jonatan Ginory, Alexis Quesada-Arencibia, and Francisco Alayón

Web of Things as a Product Improvement tool: Furniture as Case Study ........................................................................... 846
  Andrés L. Bleda, Rafael Maestre, Guadalupe Santa, Antonio J. Jara, and Antonio Gomez Skarmeta

Marketing 4.0: A New Value Added to the Marketing through the Internet of Things ............................................................ 852
  Antonio J. Jara, María Concepción Parra, and Antonio F. Skarmeta

Enabling the Cloud of Things .................................................................................................................................. 858
  Salvatore Distefano, Giovanni Merlino, and Antonio Puliafito

Session 10: Performing the Internet of Things

A Test-Bed Internet Based Architecture Proposal for Benchmarking of Visual Servoing Techniques ........................................... 864
  Roger Esteller-Curto, Angel P. del Pobil, Enric Cervera, and Raul Marin

Fighting against Vampire Appliances through Eco-Aware Things .................................................................................. 868
  Juan López-de-Armentia, Diego Casado-Mansilla, and Diego López-de-Ipiña

Convergence of Utility Computing with the Internet-of-Things ...................................................................................... 874
  John Soldatos, Martin Serrano, and Manfred Hauswirth

Impact of Online Games and M2M Applications Traffic on Performance of HSPA Radio Access Networks .......................... 880
  Dejan Drajic, Srdjan Krco, Igor Tomic, Milica Popovic, Nenad Zeljkovic, Navid Nikaein, and Philipp Svoboda

Session 11: Mobile Health Applications

A Feasibility Study of Wrist-Worn Accelerometer Based Detection of Smoking Habits ..................................................... 886
  Philipp M. Scholl and Kristof van Laerhoven

Interaction of Patients with Breathing Problems through NFC in Ambient Assisted Living Environments .......................... 892
  Antonio J. Jara, Pablo López, David Fernández, Benito Úbeda, Miguel A. Zamora, and Antonio F.G. Skarmeta

Big Data on the Internet of Things: An Example for the E-health .............................................................................. 898
  Martín Diaz, Gonzalo Juan, Oikawa Lucas, and Alberto Ryuga
Session 12: Ambient Assisted Living

Self-StarMAS: A Multi-Agent System for the Self-Management of AAL Applications .................................................901
  Inmaculada Ayala, Mercedes Amor, and Lidia Fuentes

Home Telehealth Interventions for People with Asthma ..................................................................................................907
  Magdalena Kowalczyk, Antonio J. Jara, and Antonio F. Skarmeta

Evaluation of Bluetooth Low Energy Capabilities for Continuous Data Transmission from a Wearable Electrocardiogram ..........................................................................................................................912
  Antonio J. Jara, David Fernández, Pablo López, Miguel A. Zamora, Benito Ubeda, and Antonio G. Skarmeta

Session 13: Cloud Computing and Healthcare

Integrating Internet of Things and Cloud Computing for Health Services Provisioning:
The Virtual Cloud Carer Project ...........................................................................................................................................918
  Diego Gachet, Manuel de Buenaga, Fernando Aparicio, and Víctor Padrón

Bringing IoT and Cloud Computing towards Pervasive Healthcare .........................................................................................922
  Charalampos Doukas and Ilias Maglogiannis

Analysis of the Cloud Computing Paradigm on Mobile Health Records Systems ........................................................................927
  Gonzalo Fernández, Isabel de la Torre-Diez, and Joel J.P.C. Rodrigues

The First International Workshop on Sustainability Management of e-Business and Ubiquitous Commerce Engineering (SMEUCE 2012)

Session 1: The Success Case of e&u-Business Sustainability Management

Entrepreneurial Success for High-Tech Start-Ups—Case Study of Taiwan High-Tech Companies .................................................................933
  Ya-Wen Yu, Yu-Shing Chang, Yu-Fu Chen, and Li-Sheng Chu

Performance Implications of Knowledge Management: Mediating Roles of Dynamic Capability and Competitive Strategy .................................................................938
  Shu-Hui Chuang and Hong-Nan Lin

Session 2: The Interaction between e&u-Business Sustainability Management and Financial Environment

The Influence of Media Coverage on the Stock Returns and Momentum Profits ............................................................................943
  Kuei-Yuan Wang and Chien-Kuo Chen

Marriage, Education and Housing Price ...........................................................................................................................................948
  Mei-Hua Liao
Intangible Assets, Financial Performance, and Market Value—An Integrative Research of Financial Services Industry .................................................................952
Ying-Li Lin and Hsiu-Feng Huang

**Session 3: The Organizational Learning Application of e&u-Business Sustainability Management**

The Emerging Financial Pre-warning Systems ...................................................................................................................956
Mushang Lee, Ching-Hui Shih, and Tsui Chih Wu

Global Trends in Workplace Learning .................................................................................................................................962
Lung-Sheng Lee and Chun-Chin Lai

Automatic Bibliometric Analysis of Research Literature in Adult Education .................................................................965
Yao-Hua Wang and Yuen-Hsien Tseng

**Author Index**