

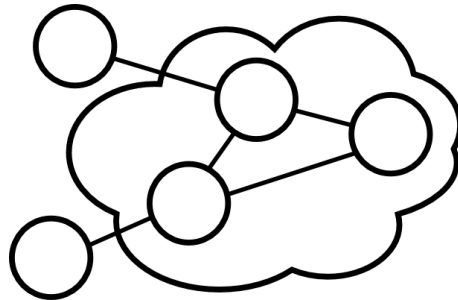
# PROGRAM GUIDE



## **BWCCA-2016**

The 11-th International Conference on  
Broad-Band and Wireless Computing, Communication and Applications

and



## **3PGCIC-2016**

The 11-th International Conference on  
P2P, Parallel, Grid, Cloud and Internet Computing

November 5<sup>th</sup> - November 7<sup>th</sup>, 2016

Soonchunhyang (SCH) University, Asan, Korea

Friends of the Conference:



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Lidia Ogiela, *AGH University of Science and Technology, Krakow, Poland*

Elis Kulla, *Okayama University of Science, Japan*

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Donald Elmazi, *Fukuoka Institute of Technology, Japan*

Yi Liu, *Fukuoka Institute of Technology, Japan*

**Local Organizing Co-Chairs**

Sunyoung Lee, *Soonchunhyang University, Korea*

Hwamin Lee, *Soonchunhyang University, Korea*

Yunyoung Nam, *Soonchunhyang University, Korea*

## Welcome Message from the BWCCA-2016 International Conference Organizers

Welcome to the 11-th International Conference on Broadband and Wireless Computing, Communication and Applications (BWCCA-2016), which will be held in conjunction with the 11-th 3PGCIC-2016 International Conference from November 5 to November 7, 2016 at Soonchunhyang (SCH) University, Asan, Korea.

This International Conference is a forum for sharing ideas and research work in the emerging areas of broadband and wireless computing. Information networking are going through a rapid evolution. Different kinds of networks with different characteristics are emerging and they are integrating in heterogeneous networks. For these reasons, there are many interconnection problems which may occur at different levels of the hardware and software design of communicating entities and communication networks. These kinds of networks need to manage an increasing usage demand, provide support for a significant number of services, guarantee their QoS, and optimize the network resources.

The success of all-IP networking and wireless technology has changed the ways of living the people around the world. The progress of electronic integration and wireless communications is going to pave the way to offer people the access to the wireless networks on the fly, based on which all electronic devices will be able to exchange the information with each other in ubiquitous way whenever necessary.

The aim of this conference is to present the innovative research and technologies as well as developments related to broadband networking, and mobile and wireless communications. BWCCA-2016 received 195 paper submissions and based on review results, we accepted 53 papers (about 27% acceptance ratio) for presentation in the conference and publication in the Springer Lecture Notes on Data Engineering and Communication Technologies Proceedings.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful BWCCA 2016 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers, Program Committee Members and reviewers who carried out the most difficult work by carefully evaluating the submitted papers.

This year in conjunction with BWCCA-2016 we have 7 International Workshops that complemented BWCCA-2016 program with contributions for specific topics. We would like to thank the Workshop Co-Chairs and all workshops organizers for organizing these workshops.

We thank Shinji Sakamoto, Donald Elmazi and Yi Liu, Fukuoka Institute of Technology (FIT), Japan, as Web Administrator Co-Chairs and Dr. Makoto Ikeda, FIT, Japan, as Finance Chair for their excellent work.

We would like to express our gratitude to Prof. Makoto Takizawa, Hosei University, Japan and Prof. Kyoil Suh, Soonchunhyang University, Korea as Honorary Co-Chairs of BWCCA-2016 for their support and help.

We give special thanks to Mr. Cheolsoo Ahn, Member of Korean Congress, Korea and Prof. Nobuo Funabiki, Okayama University, Japan for kindly accepting to be Keynote Speakers of BWCCA-2016.

Finally, we would like to thank the Local Arrangement Team for making excellent local arrangement for the conference.

We hope you will enjoy the conference and have a great time in Asan, Korea.

## BWCCA-2016 International Conference Organizers

### BWCCA 2016 General Co-Chairs

**Leonard Barolli**, *Fukuoka Institute of Technology (FIT), Japan*

**Fatos Xhafa**, *Technical University of Catalonia, Spain*

**Kangbin Yim**, *Soonchunhyang University, Korea*

### BWCCA 2016 Program Committee Co-Chairs

**Yunyoung Nam**, *Soonchunhyang University, Korea*

**Tetsuya Shigeyasu**, *Prefectural University of Hiroshima, Japan*

**Marek R. Ogiela**, *AGH University of Science and Technology, Krakow, Poland*

### **Welcome Message from BWCCA-2016 Workshops Co-Chairs**

Welcome to the Workshops of the 11-th International Conference on Broadband and Wireless Computing, Communication and Applications (BWCCA-2016), which will be held in conjunction with the 11-th 3PGCIC-2016 International Conference from November 5 to November 7, 2016 at Soonchunhyang (SCH) University, Asan, Korea.

This year 7 workshops will be held in conjunction with BWCCA-2016 International Conference. The workshops are very important part of the main conference and they cover specific topics related to next generation networks, network traffic analysis, sensor technologies, smart environments, complex systems, wireless communication, mobile networks and multimedia networking.

BWCCA-2016 workshops are listed in following:

1. The 18-th International Symposium on Multimedia Network Systems and Applications (MNSA-2016)
2. The 9-th International Workshop on Next Generation of Wireless and Mobile Networks (NGWMN-2016)
3. The 7-th International Workshop on Methods, Analysis and Protocols for Wireless Communication (MAPWC-2016)
4. The 7-th International Workshop on Cloud, Wireless and e-Commerce Security (CWECSS-2016)
5. The 5-th International Workshop on Robot Interaction, Control, Communication and Cooperation (RI3C-2016)
6. The 3-rd International Workshop on Secure Cloud Computing (SCC-2016)
7. The 3-rd International Workshop on Large Scale Networks and Applications (LSNA-2016)

These workshops bring to the researchers conducting research in specific themes the opportunity to learn from this rich multi-disciplinary experience.

The Workshop Chairs would like to thank the workshop organizers for their great efforts and hard work in proposing the workshop, selecting the papers, the interesting programs and for the arrangements of the workshop during the conference days.

We hope you enjoy the workshops programs and proceedings.

#### **BWCCA 2016 Workshop Co-Chairs**

**Cheonghil Kim**, *Namseoul University, Korea*

**Lidia Ogiela**, *AGH University of Science and Technology, Krakow, Poland*

**Elis Kulla**, *Okayama University of Science, Japan*

### **3PGCIC-2016 Conference Organizing Committee**

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Makoto Takizawa, *Hosei University, Japan*

Kyoil Suh, *Soonchunhyang University, Korea*

#### **General Co-Chairs**

Fatos Xhafa, *Universitat Politècnica de Catalunya, Spain*

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

Kangbin Yim, *Soonchunhyang University, Korea*

#### **Program Committee Co-Chairs**

Flora Amato, *University of Naples, Italy*

Tomoki Yoshihisa, *Osaka University, Japan*

Jonghyuk Lee, *Sangmyung University, Korea*

#### **Workshops Co-Chairs**

Xu An Wang, *Engineering University of CAPF, China*

Hyobum Ahn, *Kongju University, Korea*

Marek R. Ogiela, *AGH, Poland*

#### **Finance Chair**

Makoto Ikeda, *Fukuoka Institute of Technology, Japan*

#### **Web Administrator Co-Chairs**

Shinji Sakamoto, *Fukuoka Institute of Technology, Japan*

Donald Elmazi, *Fukuoka Institute of Technology, Japan*

Yi Liu, *Fukuoka Institute of Technology, Japan*

#### **Local Organizing Co-Chairs**

Sunyoung Lee, *Soonchunhyang University, Korea*

Hwamin Lee, *Soonchunhyang University, Korea*

Yunyoung Nam, *Soonchunhyang University, Korea*



## Message from the 3PGCIC-2016 Organizing Committee

Welcome to the 11th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC-2016), which will be held in conjunction with BWCCA-2016 International Conference, November 5-7, 2016, Soonchunhyang (SCH) University, Asan, Korea.

P2P, Grid, Cloud and Internet computing technologies have been very fast established as breakthrough paradigms for solving complex problems by enabling large-scale aggregation and sharing of computational, data and other geographically distributed computational resources.

Grid Computing originated as a paradigm for high performance computing, as an alternative to expensive supercomputers. Since late 80's, Grid computing domain has been extended to embrace different forms of computing, including Semantic and Service-oriented Grid, Pervasive Grid, Data Grid, Enterprise Grid, Autonomic Grid, Knowledge and Economy Grid, etc.

P2P Computing appeared as the new paradigm after client-server and web-based computing. These systems are evolving beyond file sharing towards a platform for large scale distributed applications. P2P systems have as well inspired the emergence and development of social networking, B2B (Business to Business), B2C (Business to Consumer), B2G (Business to Government), B2E (Business to Employee), and so on.

Cloud Computing has been defined as a "computing paradigm where the boundaries of computing are determined by economic rationale rather than technical limits". Cloud computing is a multi-purpose paradigm that enables efficient management of data centres, timesharing, and virtualization of resources with a special emphasis on business model. Cloud Computing has fast become the computing paradigm with applications in all application domains and providing utility computing at large scale.

Finally, Internet Computing is the basis of any large-scale distributed computing paradigms; it has very fast developed into a vast area of flourishing field with enormous impact on today's information societies. Internet-based computing serves thus as a universal platform comprising a large variety of computing forms.

The aim of the 3PGCIC conference is to provide a research forum for presenting innovative research results, methods and development techniques from both theoretical and practical perspectives related to P2P, Grid, Cloud and Internet computing.

Many people have helped and worked hard to produce a successful 3PGCIC-2016 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers, the PC members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers. Based on the reviewers' reports, the Program Committee selected 44 papers (29% acceptance rate) for presentation in the conference and publication in the Springer Lecture Notes on Data Engineering and Communication technologies Proceedings. The General Chairs of the conference would like to thank the PC Co-Chairs Flora Amato, University of Naples, Italy Tomoki Yoshihisa, Osaka University, Japan Jonghyuk Lee, Sangmyung University, Korea for their great efforts in organizing a successful conference and an interesting conference programme. We would like to appreciate the work of the Workshop Co-Chairs Xu An Wang, Engineering University of CAPF, China Hyobum Ahn, Kongju University, Korea and Marek R. Ogiela, AGH, Poland for supporting the workshop organizers. Our appreciations also go to all workshops organizers for their hard work in successfully organizing these workshops.

We thank Shinji Sakamoto, Donald Elmazi and Yi Liu, FIT, Japan, for their excellent work and support with the Web Submission and Management System of conference.

We are grateful to Prof. Kyoil Suh, Soonchunhyang University, Korea and Prof. Makoto Takizawa, Hosei University, Japan, Honorary Co-Chairs for their support and encouragement.

Our special thanks to Mr. Cheolsoo Ahn, Member of Korean Congress, Korea and Prof. Nobuo Funabiki, Okayama University, Japan for delivering inspiring keynotes at the conference.

Finally, we would like to thank the Local Arrangement Team for making excellent local arrangement for the conference.

We hope you will enjoy the conference and have a great time in Soonchunhyang University, Asan, Korea!

**3PGCIC-2016 General Co-Chairs**

**Fatos Xhafa**, *Technical University of Catalonia, Spain*  
**Leonard Barolli**, *Fukuoka Institute of Technology, Japan*  
**Kangbin Yim**, *Soonchunhyang University, Korea*

**3PGCIC-2016 Program Committee Co-Chairs**

**Flora Amato**, *University of Naples, Italy*  
**Tomoki Yoshihisa**, *Osaka University, Japan*  
**Jonghyuk Lee**, *Sangmyung University, Korea*

### Message from the 3PGCIC Workshops Chairs

Welcome to the Workshops of the 10th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC 2016), held November 5-7, 2016, Soonchunhyang (SCH) University, Asan, Korea. The objective of the workshops was to present research results, work on progress and thus complement the main themes of 3PGCIC 2016 with specific topics of Grid, P2P, Cloud and Internet Computing.

The workshops cover research on Simulation and Modelling of Emergent Computational Systems, Multimedia, Web, Streaming Media Delivery, Middleware of Large Scale Distributed Systems, Network Convergence, Pervasive Computing and Distributed Systems and Security.

The held workshops are as following:

1. The 9th International Workshop on Simulation and Modelling of Emergent Computational Systems (SMECS-2016)
2. The 7th International Workshop on Streaming Media Delivery and Management Systems (SMDMS-2016)
3. The 6th International Workshop on Multimedia, Web and Virtual Reality Technologies and Applications (MWVRTA-2016)
4. The 4th International Workshop on Cloud and Distributed System Applications (CADSA-2016)
5. The 3rd International Workshop on Distributed Embedded Systems (DEM-2016)
6. International Workshop on Business Intelligence and Distributed Systems (BIDS-2016)
7. International Workshop on Signal Processing and Machine Learning (SiPML-2016)
8. International Workshop On Analytics & Awareness Learning Services (A2LS-2016)

We would like to thank all workshop organizers for their hard work in organizing these workshops and selecting high quality papers for presentation at workshops, the interesting programs and for the arrangements of the workshop during the conference days.

We hope you will enjoy the conference and have a great time in Asan, Korea!

### 3PGCIC-2016 Workshops Chairs

**Xu An Wang**, *Engineering University of CAPF, China*

**Hyobum Ahn**, *Kongju University, Korea*

**Marek R. Ogiela**, *AGH, Poland*

## BWCCA-2016 & 3PGCIC-2016 Keynote I



**Mr. Cheolsoo Ahn, Member of Korean Congress, Korea**

**Title: Issues of IoT Security and the Revolution of Future Science Technology**

**Abstract:** Led by the self driving car, cell phones, refrigerators, robots, and almost every electronic products are expected to be connected via the Internet of Things (IoT) in the near future. While humans possess comfort via these technology, this can also bring serious threat to IoT security resulting a thorough preparation against any threat such as hacking. In addition, the fourth industrial revolution based on the scientific and technological development will soon rapidly eliminate the human work force. Many rapid changes will come in the near future. In this talk, I will propose some solutions for the future information technology in Korea.

**Short Bio:** Led by the self driving car, cell phones, refrigerators, robots, and almost every electronic products are expected to be connected via the Internet of Things (IoT) in the near future. While humans possess comfort via these technology, this can also bring serious threat to IoT security resulting a thorough preparation against any threat such as hacking. In addition, the fourth industrial revolution based on the scientific and technological development will soon rapidly eliminate the human work force. Many rapid changes will come in the near future. In this talk, I will propose some solutions for the future information technology in Korea.

## BWCCA-2016 & 3PGCIC-2016 Keynote II



**Prof. Nobuo Funabiki, Okayama University, Japan**

**Title: Java Programming Learning Assistant System: JPLAS**

**Abstract:** As a useful and practical object-oriented programming language, Java has been used in many practical systems including enterprise servers, smart phones, and embedded systems, due to its high safety and portability. Then, a lot of educational institutes have offered Java programming courses to foster Java engineers. We have proposed and implemented a Web-based Java Programming Learning Assistant System called JPLAS, to assist such Java programming educations. JPLAS supports three types of problems that have different difficulties to cover a variety of students: 1) element fill-in-blank problem, 2) statement fill-in-blank problem, and 3) code writing problem. For 1), we have proposed a graph-theory based algorithm to automatically generate element fill-in-blank problems that have unique correct answers. For 2) and 3), we have adopted the test-driven development (TDD) method so that the answer codes from students can be automatically verified using test codes for their self-studies. In this talk, we introduce outlines of JPLAS and its application results to the Java programming course in our department. Besides, we introduce some new features of JPLAS including the offline answering function and the coding rule learning function.

**Short Bio:** Nobuo Funabiki received the B.S. and Ph.D. degrees in mathematical engineering and information physics from the University of Tokyo, Japan, in 1984 and 1993, respectively. He received the M.S. degree in electrical engineering from Case Western Reserve University, USA, in 1991. From 1984 to 1994, he was with the System Engineering Division, Sumitomo Metal Industries, Ltd., Japan. In 1994, he joined the Department of Information and Computer Sciences at Osaka University, Japan, as an assistant professor, and became an associate professor in 1995. He stayed at University of California, Santa Barbara, in 2000-2001, as a visiting researcher. In 2001, he moved to the Department of Communication Network Engineering (currently, Electrical and Communication Engineering) at Okayama University as a professor. He is the chairman at IEEE Hiroshima Section from 2015. His research interests include computer networks, optimization algorithms, educational technology, and Web technology.



# **BWCCA-2016**

## **Main Conference and Workshops Program**

**Saturday, November 5, 2016**

**08:00 Registration**

**09:00-11:00 Parallel Sessions**

### **BWCCA-S1: Energy Efficient Systems**

**Chair: Makoto Takizawa, Hosei University, Japan**

1. Energy-aware Migration of Virtual Machines in a Cluster  
*Dilawaer Duolikun, Shigenari Nakamura, Ryo Watanabe, Tomoya Enokido, Makoto Takizawa*
2. An Energy-efficient Migration Model of Processes with Virtual Machines in a Server Cluster  
*Ryo Watanabe, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
3. Towards Heuristic Algorithms: GA, WDO, BPSO, and BFOA for Home Energy Management in Smart Grid  
*Mudassar Naseem, Samia Abid, Rabia Khalid, Ghulam Hafeez, Sardar Mahboob Hussain, Nadeem Javaid*

4. Energy-aware Server Selection Algorithms for Storage and Computation Processes  
*Atsuhiko Sawada, Hiroki Kataoka, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
5. An Energy-Efficient Macro-assisted Sleep-Mode Scheme in Heterogeneous Networks  
*Xuhui Yang, Wenan Zhou, Da Li*
6. An Energy-Efficient Process Replication Algorithm in Virtual Machine Environments  
*Tomoya Enokido and Makoto Takizawa*

### **BWCCA-S2: Security and Privacy I**

**Chair: Hsing-Chung Chen, Asia University, Taiwan**

1. A Comprehensive Security Analysis Checksheet for OpenFlow Networks  
*Yoshiaki Hori, Seiichiro Mizoguchi, Ryosuke Miyazaki, Akira Yamada, Yaokai Feng, Ayumu Kubota, Kouichi Sakurai*
2. A Smart Card-Based Three-Party Quantum Key Distribution Protocol  
*Heri Wijayanto, Hsing-Chung Chen, Wen Yen Lin*
3. Design and Implementation of Software Consistency Detection System Based on Netty Framework  
*Jun Yang, Haipeng Zhang, Lifang Han, Baojiang Cui, Guowei Dong*
4. The Generation of XSS Attacks Developing in The Detect Detection  
*Baojiang Cui, Yang Wei, Songling Shan, Jinxin Ma*
5. Security Assessment on The Mouse Data using Mouse Loggers  
*Hyeji Lee, Yeunsu Lee, Kyungroul Lee, Kangbin Yim*
6. Comparison of Biometric and Linguistic Secret Sharing Protocols  
*Lidia Ogiela, Marek R. Ogiela, Urszula Ogiela*

### **MNSA-S1: Multimedia Networking**

**Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Performance Evaluation of an IoT-Based E-Learning Testbed Using Mean Shift Clustering Approach Considering Electroencephalogram Data  
*Masafumi Yamada, Tetsuya Oda, Yi Liu, Keita Matsuo and Leonard Barolli*
2. A Testbed for Admission Control in WLAN: A Fuzzy Approach and Its Performance Evaluation  
*Takaaki Inaba, Shinji Sakamoto, Tetsuya Oda, Makoto Ikeda, Leonard Barolli*
3. Simple Energy-efficient Server Selection Algorithm in a Scalable Cluster  
*Hiroki Kataoka, Atsuhiko Sawada, Dilawaer Duolikun, Tomoya Enokido, and Makoto Takizawa*
4. An Energy-efficient and Reliable Protocol in Wireless Networks  
*Emi Ogawa, Shigenari Nakamura, and Makoto Takizawa*
5. Proposal of Collaborative Object Tracking Methods by Multi-Drones for Flight Surveillance Systems  
*Tomoki Okutake, Noriki Uchida, Noriyasu Yamamoto*
6. Performance Evaluation of a DTN Based Multi-hop Network for Disaster Information Transmission by Smart Devices  
*Shinya Kitada, Goshi Sato, Yoshitaka Shibata*
7. OpenFlow Mesh for Metabolic Computing  
*Minoru Uehara*

**11:00-11:30 Coffee Break****11:30-12:30 Single Session: Opening Ceremony and BWCCA-2016 & 3PGCIC-2016 Keynote I****BWCCA-2016 & 3PGCIC-2016 Keynote Talk I (PLENARY ROOM)**

**Mr. Cheolsoo Ahn:** Issues of IoT Security and the Revolution of Future Science Technology

**12:30-14:00 Lunch Break****14:00-16:00 Parallel Sessions****BWCCA-S3: Network Protocols and Models****Chair: Tomoya Enokido, Rissho University, Japan**

1. Topic-based Synchronization (TBS) Protocols to Prevent Illegal Information Flow in Peer-to-Peer Publish/Subscribe Systems  
*Shigenari Nakamura, Tomoya Enokido, and Makoto Takizawa*
2. Load-aware ACB Scheme for M2M Traffic in LTE-A Networks  
*Lijun Song, Wenan Zhou, Yanjun Hou, Mengyu Gao*
3. A QoE Estimation Model for Video Streaming over 5G Millimeter Wave Network  
*Yanjun Hou, Wenan Zhou, Lijun Song, Mengyu Gao*
4. Comparison Analysis by WMN-GA Simulation System for Different WMN Architectures, Distributions and Routing Protocols Considering TCP  
*Tetsuya Oda, Admir Barolli, Ryoichiro Obukata, Leonard Barolli, Fatos Xhafa, Makoto Takizawa*
5. TCP with Network Coding Meets Loss Burstiness Estimation for Lossy Networks  
*Nguyen Viet Ha, Kazumi Kumazoe and Masato Tsuru*
6. A Probabilistic Encounter and Distance-based Routing Protocol for Opportunistic Networks  
*Sanjay K. Dhurandher, Satya J. Borah, Isaac Woungang, Sahil Gupta, Pragma Kuchal, Makoto Takizawa, Leonard Barolli*

**BWCCA-S4: Security and Privacy II****Chair: Kangbin Yim, SCH University, Korea**

1. Cognitive Countermeasures against BAD USB  
*Yeunsu Lee, Hyeji Lee, Kyungroul Lee, Kangbin Yim*
2. The Detection Technology of LTE based Stratified Fuzz  
*Jun Yang, Haixia Yang, Qinshu Xiao*
3. Concealing Additional Secrets Using Sharing Approach in Steganography  
*Marek R. Ogiela, Katarzyna Koptyra*
4. Secure Multi-Protocol Mapping Gateway in Smart Grid  
*Kim Jin Cheol, Park Sung Wan, Lee Yong Gu, Lee Seung Won*



5. An Adaptive DoS Attack Mitigation Measure for Field Networks in Smart Grids  
*Gunee Lee, Yun-Sam Kim and Jungmin Kang*
6. Searchable Public Key Encryption Scheme with Data Integrity Checking  
*JunYang and Shujuan Li*

**MAPWC-S1: Mobile and Wireless Communication Systems****Chair: Hiroshi Maeda, Fukuoka Institute of Technology, Japan**

1. Design and Implementation of a Simulation System Based on Genetic Algorithm for Node Placement in Wireless Sensor Actor Networks  
*Kosuke Ozera, Tetsuya Oda, Donald Elmazi, Leonard Barolli*
2. VegeShop Tool: A Tool for Vegetable Recognition Using DNN  
*Yuki Sakai, Tetsuya Oda, Makoto Ikeda and Leonard Barolli*
3. A Fuzzy-Based Wireless Sensor and Actuator Network: Simulation and Experimental Results  
*Keisuke Ebisu, Takaaki Inaba, Donald Elmazi, Makoto Ikeda, Leonard Barolli, Elis Kulla*
4. Numerical Analysis of Resonance Characteristics in Cavities in Periodic Structure for WDM Telecommunication System  
*Hiroshi Maeda, Kazuya Tomiura, Jianming Jin*
5. Spectrum Analysis of Envelope Pulse After Propagating in Nonlinear Dielectric Material  
*Hiroshi Maeda, Jianming Jin and Kazuya Tomiura*

**16:00-16:30 Coffee Break****16:30-18:30 Parallel Sessions****BWCCA-S5: Multimedia and Web Applications****Chair: Nobuo Funabiki, Okayama University, Japan**

1. The Automatic Text Summarization Using Semantic Relevance and Hierarchical Structure of Wordnet  
*JunSeok Cha and PanKooKim*
2. A Workbook Design for Fill-in-Blank Problems in Java Programming Learning Assistant System  
*Nobuo Funabiki, Minako Dake, Khin Khin Zaw, and Wen-Chung Kao*
3. Korean Spelling Error Correction Using A Hangul Similarity Algorithm  
*SeungHyeon Bak and PanKoo Kim*
4. Building a Content Delivery Network among Tens of Nearby Devices Using Multihop Wireless Communication  
*Yuki Takeda, Syuhei Yamamoto, Ryo Nishide and Hideyuki Takada*
5. Enhance Robotics Ability in Hand Gesture Recognition by Using Leap Motion Controller  
*Alaa Ahmed Almarzuqi and Seyed Mohamed Buhari*
6. An Attack Detection System for Multiple Web Applications Based on Big Data Platform  
*Xiaohui Jin, Congxian Yin, Pengpeng Yang, Baojiang Cui*

**BWCCA-S6: Security and Privacy III****Chair: Kyungroul Lee, SCH University, Korea**

1. Analysis on Attack Scenarios and Countermeasures for Self-driving Car and Its Infrastructures  
*Dohyun Lim, Kitaek Park, Dongjun Choi, Jungtaek Seo*
2. Security Assessment of Keyboard Data Based on Kaspersky Product  
*Seungho Lee, Kyungroul Lee, Kangbin Yim*

3. Lightweight IEC 61850 Secure Communication Module for Microgrids  
*Yun-Sam Kim, Gunhee Lee, JungMin Kang*
4. A New Approach to Building a Disguised Server Using The Honey Port Against General Scanning Attacks  
*Hyun Soo Park, Young Bae Jeon, Ji Won Yoon*
5. Password Authentication Using One-Time Key-Based Signature and Homomorphic Encryption  
*Jong-Hyuk Im and Mun-Kyu Lee*
6. Real-Time Malicious Script Blocking Technology at The Host-Level  
*SangHwan Oh, HanChul Bae, Seongmin Park, HwanKuk Kim*

### **CWECS-S1: Security and Data Management**

**Chair: Fang-Yie Leu, Tunghai University, Taiwan**

1. Device Parameter based Secure User Authentication  
*Kun-Lin Tsai, Fang-Yie Leu, King-Shing Yip*
2. Data Preprocessing Quality Management Procedure for Improving Big Data Applications Efficiency and Practicality  
*Sen-Tarnng Lai, Fang-Yie Leu*
3. Inferring Smartphone User Demographics from Wi-Fi trace Logs: a Study of Users' Privacy Concerns  
*Cheng-Ying Hsu, Shang-En Yang, Hung-Yuan Chen, Fang-Yie Leu, Yao-Chung Fan*
4. Enhancing Security of LTE using a Double Masking Technique  
*Jung-Chun Liu, Yi-Li Huang, Fang-Yie Leu*

### **19:00-21:00 Welcome Reception Party**

Welcome Reception Party will be held at SCH University, Korea.

**Sunday, November 6, 2016****08:00 Registration****09:00-11:00 Parallel Sessions****BWCCA-S7: Vehicular and Ad-Hoc Networks****Chair: Evjola Spaho, Polytechnic University of Tirana, Albania**

1. Effect of Node Density and Node Movement Model on Performance of a VDTN  
*Kevin Bylykbashi, Evjola Spaho, Leonard Barolli and Makoto Takizawa*
2. A Fuzzy-Based Simulation System for Actor Selection in Wireless Sensor and Actor Networks Considering as a New Parameter Density of Actor Nodes  
*Donald Elmazi, Tetsuya Oda, Evjola Spaho, Elis Kulla, Makoto Ikeda, Leonard Barolli*
3. Impact of Delayed Acknowledgment for Message Suppression in Vehicular-DTN  
*Daichi Koga, Makoto Ikeda and Leonard Barolli*
4. In-Vehicle Cloudlet Computing based on Delay Tolerant Network Protocol for Disaster Information System  
*Masaki Otomo, Goshi Sato, Yoshitaka Shibata*
5. Design of an Adhoc Testbed for IoT and WSN Applications using Raspberry Pi  
*Hiroya Oda, Elis Kulla, Ryo Ozaki, Noritaka Nishihara*
6. Fast Signature Verification with Shared Implicit Certificates for Vehicular Communication  
*Hee-Yong Kwon, Mun-Kyu Lee*

**BWCCA-S8: Tools and Applications****Chair: Yunyoung Nam, SCH University, Korea**

1. On-line Voting System with Illegal Ballot Filtering Using Homomorphic Encryption  
*Mun-Kyu Lee and Jong-Hyuk Im*
2. A Fuzzy-based System for Qualified Voting in P2P Mobile Collaborative Team  
*Yi Liu, Tetsuya Oda, Keita Matsuo, Leonard Barolli, Fatos Xhafa*
3. C++ Memory Check Tool Based on Dynamic Binary Instrumentation Platform  
*JingLing Zhao, Lei He, Bing He*
4. A Program Behavior Recognition Algorithm Based on Assembly Instruction Sequence Similarity  
*Baojiang Cui, Chong Wang, GuoWei Dong, JinXin Ma*
5. Reputation based Access Control in Social Networks for Persona Management  
*Keonsoo Lee, Yunyoung Nam*
6. Reduction of Network Traffic by Using the Peer Cache Mechanism in Co-located Collaborative Web Search on Smartphones  
*Tsuyoshi Donen, Shingo Otsubo, Ryo Nishide, and Hideyuki Takada*

**NGWMN-S1: Next Generation Networks and Systems****Chair: Elis Kulla, Okayama University of Science, Japan**

1. Performance Evaluation of an AMI Testbed for Improving QoL: Evaluation Using Clustering Approach Considering Parallel Processing  
*Ryoichiro Obukata, Tetsuya Oda, Donald Elmazi, Makoto Ikeda, Leonard Barolli*
2. Variable Neighborhood Search Algorithms for the Node Placement Problem in Multihop Networks  
*Kengo Katayama, Yusuke Okamoto, Elis Kulla, Noritaka Nishihara*

3. Performance Evaluation of VANETs in Different Real Map Scenarios  
*Ryuji Ono, Elis Kulla and Evjola Spaho*
4. Error Performance of Successive Interference Cancellation Schemes in MIMO Systems  
*Sangjoon Park, Kangbin Yim, Byeong-Gwon Kang*
5. A Study on the Classification of Common Vulnerabilities and Exposures using Naive Bayes  
*Sarang Na, Taeun Kim, and Hwankuk Kim*
6. A Study on The Behavior-based Malware Detection Signature  
*Sungtaek Oh, Woong Go, and Taejin Lee*

### **11:00-11:30 Coffee Break**

### **11:30-12:30 Single Session: BWCCA-2016 & 3PGCIC-2016 Keynote II**

#### **BWCCA-2016 & 3PGCIC-2016 Keynote Talk II**

**Prof. Nobuo Funabiki:** Java Programming Learning Assistant System: JPLAS

### **12:30-14:00 Lunch Break**

### **14:00-16:00 Parallel Sessions**

#### **BWCCA-S9: Wireless Mesh and Sensor Networks**

##### **Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. Comparison Analysis by WMN-GA Simulation System for Different WMN Architectures, Normal and Uniform Distributions, DCF and EDCA Functions  
*Admir Barolli, Tetsuya Oda, Makoto Ikeda, Leonard Barolli, Fatos Xhafa, Makoto Takizawa*
2. A GA-Based Simulation System for WMNs: Performance Analysis for Different WMN Architectures Considering Uniform Distribution, Transmission Rate and OLSR Protocol  
*Keita Matsuo, Tetsuya Oda, Admir Barolli, Makoto Ikeda, Leonard Barolli, Fatos Xhafa*
3. An Integrated Simulation System Considering WMN-PSO Simulation System and Network Simulator 3  
*Shinji Sakamoto, Tetsuya Oda, Makoto Ikeda, Leonard Barolli, Fatos Xhafa*
4. Network Lifetime Maximization via Energy Hole Alleviation in Wireless Sensor Networks  
*Muhammad Awais Khan, Arshad Sher, Ahmad Raza Hameed, Naeem Jan, Junaid Shabir Abassi, Nadeem Javaid*
5. Enhanced Energy Conditioned Mean Square Error Algorithm for Wireless Sensor Networks  
*Duha Binte Asim, Nadeem Javaid*

#### **RI3C-S1: Robot Interaction and Communication**

##### **Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan**

1. The Effective Flock Control by Two Sheepdogs  
*Haruka Watanabe, and Kaoru Fujioka*
2. Design and Control of an Omnidirectional Wheelchair for Moving in Room Narrow Spaces  
*Keita Matsuo and Leonard Barolli*
3. Development of Training System for Pedaling Skill by Visualizing Muscle Activity Pattern  
*Takuhiro Sato, Shoma Kushizaki, Shimpei Matsumoto, Tomoki Kitawaki, Tatsushi Tokuyasu*
4. Proposal for A Strategy to Discover The Students with Need for A Learning Support by Using Text Analysis  
*Chicako Miyamoto, Naoko Furukawa, Tatsushi Tokuyasu*

**SCC-S1: Secure Cloud Computing and Systems****Chair: Xiaofeng Chen, Xidian University, China**

1. Construction of Boolean Functions With Optimal Algebraic Immunity  
*Hang Liu and Dong Zheng and Qinglan Zhao*
2. Location-Sensitive Data Sharing in Mobile Cloud Computing  
*Zhiwei Zhang, Yunling Wang, Jianfeng Wang, Xiaofeng Chen, and Jianfeng Ma*
3. Efficient and Expressive Anonymous Attribute-Based Encryption for Mobile Cloud Computing  
*Yinghui Zhang, Dong Zheng*
4. Flexible Attribute-Based Keyword Search Via Two Access Policies  
*Peilin Zhou, Zhenhua Liu, and Shuhong Duan*
5. Large Universe Revocable Fine-Grained Encryption with Public Auditing  
*Xuewei Yan, Hua Ma, Zhenhua Liu and Ting Peng*
6. A Privacy-preserving Personal Health Record with Searchability and Revocability Using Attribute-based Encryption  
*Shuhong Duan, Zhenhua Liu, and Peilin Zhou*
7. Security Analysis and Improvement of A Collusion-Resistant Identity-Based Proxy Re-Encryption Scheme  
*Linchao Zhang, Hua Ma, Zhenhua Liu, and Enting Dong*

**LSNA-S1: Network Protocols and Applications****Chair: Debiao He, Wuhan University, China**

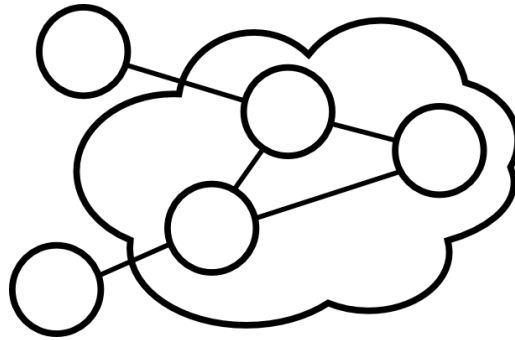
1. A Provably Secure Two-Factor Authenticated Key Exchange Protocol for Wireless Sensor Networks Based on Authenticated Encryption  
*Fushan Wei, Ruijie Zhang, Jian Shen*
2. Three Elliptic Curve Cryptography-based RFID Authentication Protocols for Internet of Things  
*Rui An, Hui Feng, Qin Liu, Li Li*
3. On the Security of Three-factor Authentication Scheme for Telecare Medical Information Systems  
*Qi Jiang, Bingyan Li, Jianfeng Ma*
4. Oblivious Transfer Protocols Based on Group Factoring Problem  
*Jing Li, Xiong Li, Licheng Wang, Debiao He, Xinxin Niu*
5. E-Voting Scheme Using Secret Sharing and K-Anonymity  
*Quanyu Zhao and Yining Liu*

**19:00-21:00 Banquet Party**

Banquet Party will be held at Onyang Hot Spring Hotel.  
<http://www.onyanghotel.co.kr/english/main.asp>

**Monday, November 7, 2016**

**BWCCA-2016 Organizing Committee Meeting and Discussion**



## 3PGCIC-2016

# Main Conference and Workshops Program

**Saturday, November 5, 2016**

**08:00 Registration**

**9:00-11:00 Parallel Sessions**

### **3PGCIC-S1: HPC and Cloud Computing**

**Chair: Omar Hussain, UNSW Canberra, Australia**

1. A Configurable Shared Scratchpad Memory for GPU-like Processors  
*Alessandro Cilardo, Mirko Gagliardi, Ciro Donnarumma*
2. Risk Management Framework to Avoid SLA Violation in Cloud from a Provider's Perspective  
*Walayat Hussain, Farookh Khadeer Hussain, Omar Khadeer Hussain*
3. Elastipipe: On Providing Cloud Elasticity for Pipeline-structured Applications  
*Rodrigo da Rosa Righi, Mateus Aubin, Cristiano André da Costa, Antonio Marcos Alberti and Arismar Cerqueira Sodre Junior*

4. Efficient Batch and Online Kernel Ridge Regression for Green Clouds  
*Bo-Wei Chen, Seungmin Rho, Naveen Chilamkurti*
5. Research of Double Threshold Collaborative Spectrum Sensing based on OFDM  
*Ruilian Tan*
6. Research on particle swarm optimization of variable parameter  
*Zhe Li, a, Ruilian Tan, Baoxiang Ren*

### **3PGCIC-S2: Intelligent Systems**

#### **Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Temporally Adaptive Co-operation Schemes  
*Jakub Nalepa and Mirosław Blocho*
2. An access control architecture for protecting health information systems  
*Angelo Esposito, Mario Sicuranza, Mario Ciampi*
3. Intelligent management system for small gardens Based on wireless sensor network  
*Xiao-hui Zeng, Man-sheng Long, Qing Liu, Xu-an Wang, Wen-lang Luo*
4. An AHP Based Study Of Coal-Mine Zero Harm Safety Culture Evaluation  
*Hongxia Li, Hongxi Di, Xu An Wang*
5. Toward Construction of Efficient Privacy Preserving Reusable Garbled Circuits  
*Xu An Wang*
6. Semantic Summarization of News from heterogeneous sources  
*Flora Amato, Antonio d'Acierno, Francesco Colace, Vincenzo Moscato, Antonio Penta, Antonio Picariello*

### **SiPML-S1: Machine Learning and Adaptive Computing**

#### **Chair: Ricardo Rodríguez Jorge, Autonomous University of Ciudad Juarez, Mexico**

1. Monitoring of Cardiac Arrhythmia Patterns by Adaptive Analysis  
*José Elías Cancino Herrera, Ricardo Rodríguez Jorge, Osllan Osiris Vergara Villegas, Vianey Guadalupe Cruz Sánchez, Jiri Bila, Manuel de Jesús Nandayapa Alfaro, Israel U. Ponce, Ángel Israel Soto Marrufo, Ángel Flores Abad*
2. Pakistan Sign Language Recognition and Translation System using Leap Motion Device  
*Nosheela Raziq, Seemab Latif*
3. Identifying stable objects for accelerating the classification phase of k-means  
*A. Mexicano, S. Cervantes, R. Rodríguez, J. Pérez, N. Almanza, M. A. Jiménez, A. Azuara*
4. Expert System To Engage CHAEA Learning Styles, ACRA Learning Strategies and Learning Objects into an E-Learning Platform for Higher Education Students  
*José Angel Montes Olguín, Francisco Javier Carrillo García, Ma. de la Luz Carrillo González, Antonia Mireles Medina, Julio Zenón García Cortés*

### **SMDMS-S1: Video Streaming and Broadcasting**

#### **Chair: Tomoki Yoshihisa, Osaka University, Japan**

1. QoE Assessment of Multi-View Video and Audio Transmission with a Packet Discarding Method over Bandwidth Guaranteed IP Networks  
*Keita Furukawa and Toshiro Nunome*
2. Evaluation of Division-based Broadcasting System over Wireless LAN  
*Yusuke Gotoh and Yuki Takagi*
3. High Quality Multi-path Multi-view Video Transmission considering Path Priority Control  
*Tetta Ishida, Takahito Kiro, Iori Otomo, Takuya Fujihashi, Yusuke Hirota, Takashi Watanabe*



4. A Recursive Continuous Query Language for Integration of Streams and Graphs  
*Yousuke Watanabe*
5. A Design of a Video Effect Process Allocation Scheme for Internet Live Broadcasting  
*Tomoya Kawakami, Yoshimasa Ishi, Satoru Matsumoto, Tomoki Yoshihisa, and Yuuichi Teranishi*

### **11:00-11:30 Coffee Break**

## **11:30-12:30 Single Session: Opening Ceremony and BWCCA-2016 & 3PGCIC-2016 Keynote I**

### **BWCCA-2016 & 3PGCIC-2016 Keynote Talk I (PLENARY ROOM)**

**Mr. Cheolsoo Ahn:** Issues of IoT Security and the Revolution of Future Science Technology

### **12:30-14:00 Lunch Break**

### **14:00-16:00 Parallel Sessions**

#### **3PGCIC-S3: Optimization and Decision Systems**

**Chair: Tomoki Yoshihisa, Osaka University, Japan**

1. A Heuristically Optimized Partitioning Strategy on Elias-Fano Index  
*Xingshen Song, Kun Jiang, and Yuexiang Yang*
2. Smart Underground: Enhancing Cultural Heritage Information Access and Management through Proximity-Based Interaction  
*Giuseppe Caggianese, Luigi Gallo*
3. Ciphertext-Policy Attribute Based Encryption with Large Attribute Universe  
*Siyu Xiao, Aijun Ge, Fushan Wei and Chuangui Ma*
4. Asymmetric Searchable Encryption from Inner Product Encryption  
*Siyu Xiao, Aijun Ge, Jie Zhang, Chuangui Ma and Xu'an Wang*
5. Discovering Syndrome Regularities in Traditional Chinese Medicine Clinical by Topic Model  
*Jialin Ma, Zhijian Wang*
6. Fuzzy on FHIR: a Decision Support service for Healthcare Applications  
*Aniello Minutolo, Massimo Esposito, Giuseppe De Pietro*

#### **3PGCIC-S4: Semantics, Services and Communication Systems**

**Chair: Florin Pop, University Politehnica of Bucharest, Romania**

1. Design of a Reconfigurable Parallel Nonlinear Boolean Function Targeted at Stream Cipher  
*Su Yang*
2. Electric Mobility in Green and Smart Cities  
*Adrian-Gabriel Morosan, Florin Pop, and Aurel-Florin Arion*
3. SR-KNN: An Real-time Approach of Processing k-NN Queries over Moving Objects  
*Ziqiang Yu, Yuehui Chen, Kun Ma*

4. Semantic integration and correlation of digital evidences in Forensic Investigations  
*Flora Amato, Giovanni Cozzolino, Nicola Mazzocca*
5. Intrusion Detection for WSN Based on Kernel Fisher Discriminant and SVM  
*Zhipeng Hu, Jing Zhang, Xu An Wang*
6. Automatic Verification of Security of OpenID Connect Protocol with ProVerif  
*Jintian Lu, Jinli Zhang, Jing Li, Zhongyu Wan, Bo Meng*
7. Low Power Computing and Communication System for Critical Environments  
*Luca Pilosu, Lorenzo Mossucca, Alberto Scionti, Giorgio Giordanengo, Flavio Renga, Pietro Ruiu, Olivier Terzo, Simone Cicciay, Giuseppe Vecchi*

**BIDS-S1: Optimisation and Bussiness Intelligence****Chair: Kin Fun Li, University of Victoria, Canada**

1. A Study of the Internet Financial Interest Rate Risk Evaluation Index System in Context of Cloud Computing–Rough Set-Particle Swarm-based Support Vector Machine (SVM) Technology  
*Mu Sheng-dong, Tian Yi-xiang, Lili, Xu An Wang*
2. A Dynamic System development Method for Startups Migrate to Cloud  
*Asmaa Abdelrehim Selim Ibrahim, Mohameed Mamdouh Awny*
3. Integrated Algorithms for Network Optimization of Dangerous Goods Transportation  
*Haixing Wang, Guiping Xiao, Tao Hai*
4. Study on Dynamic Monitoring System for Railway Gaseous Tank Cars Transportation  
*Haixing Wang, Jujian Wang, Chao Li*

**CADSA-S1: Architectures and Cloud Computing Systems****Chair: Flora Amato, University of Naples, Italy**

1. An Architecture for processing of Heterogeneous Sources  
*Flora Amato, Giovanni Cozzolino, Antonino Mazzeo, Sara Romano*
2. Modeling Approach for specialist domain  
*F. Amato, G. Cozzolino, F. Moscato, V. Moscato, A. Picariello*
3. Designing a Service Oriented System for social analytics  
*Angelo Chianese and Paolo Benedusi and Francesco Piccialli*
4. GPU Profiling of Singular Value Decomposition in OLPCA Method for Image Denoising  
*Salvatore Cuomo, Pasquale De Michele, Francesco Maiorano and Livia Marcellino*

**16:00-16:30 Coffee Break****16:30-18:30 Parallel Sessions****3PGCIC-S5: Agent based Computing and Cognitive Systems****Chair: Marek Ogiela, AGH University of Science and Technology, Poland**

1. Towards a coaching system for daily living activities: the use of kitchen objects and devices for cognitive impaired people  
*Alba Amato, Antonio Coronato, Giovanni Paragliola*
2. Application of Personalized Cryptography in Cloud Environment  
*Marek R. Ogiela, Lidia Ogiela*

3. A Review on Data Cleaning Technology for RFID Network  
*He Xu, Jie Ding, Peng Li, Wei Li*
4. Self Planning in Critical Multi-Agent Systems  
*Flora Amato, Nicola Mazzocca, Francesco Moscato*
5. An Efficient RFID Reader Network Planning Strategy Based on P2P Computing  
*He Xu, Weiwei Shen, Peng Li, Cong Qian*
6. Energy Optimization Algorithm of Wireless Sensor Networks based on LEACH-B  
*Peng Li, Wanyuan Jiang, He Xu, Wei Liu*

### **3PGCIC-S6: Information Retrieval and Data Analysis**

**Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Wellness & LifeStyle Server: a Platform for Anthropometric and LifeStyle Data Analysis  
*Giovanna Sannino, Alessio Graziani, Roberto Pratola, Giuseppe De Pietro*
2. Semantic Information Retrieval from Patient Summaries  
*Mario Sicuranza, Angelo Esposito, Mario Ciampi*
3. Adaptive Modular Mapping to Reduce Shared Memory Bank Conflicts on GPUs  
*Innocenzo Mungello, Francesco De Rosa*
4. On the Security of a Cloud-Based Revocable IBPRE Scheme for Data Sharing  
*Jindan Zhang, Baocang Wang*
5. Research on Decisive Mechanism of Internet Financial Interest Rate  
*Shengdong Mu, Yixiang Tian, Li Li, Xu An Wang*
6. Design and implementation of Data Center Network Global Congestion Price Calculating method based on Software Defined Networking  
*Shan Chun, Chen Long*

### **BIDS-S2: Web-based and Mobile Computing Systems**

**Chair: Kin Fun Li, University of Victoria, Canada**

1. Improvement of Study Logging System for Active Learning Using Smartphone  
*Noriyasu Yamamoto*
2. Identifying Primary Market based on Mobile Usage  
*Deepali Arora; Kin Fun Li*
3. NetFlow: Network Monitoring and Intelligence Gathering  
*Kin Fun Li; Vivek Ratan*
4. Company Web Site Analysis based on Visual Information  
*Kosuke Takano and Yurika Moriwaki*
5. A Study of the Standardization of Fire Forces Equipment Procurement  
*Zhang Jie*

### **CADSA-S2: Machine Learning and Social Networking**

**Chair: Flora Amato, University of Naples, Italy**

1. A machine learning approach for predictive maintenance for mobile phones service providers  
*A. Corazza, F. Isgrò, L. Longobardo, R. Prevete*
2. A Cloud-Based Approach for Analyzing Viral Propagation of Linguistic Deviations by Social Networking: Current Challenges and Pitfalls for Text Analysis Tools  
*Fiammetta Marulli, Alessandro Nardaggio, Adriano Racioppi, Luca Vallifuoco*

3. A Logic-Based Clustering Approach for Cooperative Traffic Control Systems  
*Walter Balzano, Maria Rosaria Del Sorbo, Aniello Murano, Silvia Stranieri*
4. Chain-of-Trust for Microcontrollers using SRAM PUFs: the Linux Case Study  
*Domenico Amelino, Mario Barbareschi, Antonino Mazzeo*

### **19:00-21:00 Welcome Reception Party**

Welcome Reception Party will be held at SCH University, Korea.

**Sunday, November 6, 2016****08:00 Registration****9:00-11:00 Parallel Sessions****3PGCIC-S7: Security and Encryption Techniques****Chair: Xu An Wang, Enginerring University of CAPF, China**

1. Enhancing Video Streaming Services by Studying Distance Impact on the QoS in Cloud Computing Environments  
*Amirah Alomari, Heba Kurdi*
2. A Novel Cloud Computing Architecture Oriented Internet of Vehicles  
*He Xu, Ye Ding, Peng Li, Ruchuan Wang*
3. Business Process Mining based Insider Threat Detection System  
*Taiming-Zhu, Yuanbo-Guo, Jun-Ma, Ankang-Ju*
4. Toward Construction of Encryption with Decryption Awareness Ability for Cloud Storage  
*Xu An Wang, Fatos Xhafa, GuangMing Wu, Wei Wang*
5. Queuing-Oriented Job Optimizing Scheduling In Cloud Mapreduce  
*Ting-Qin He, Li-Jun Cai, Zi-Yun Deng, Tao Meng, XuAn Wang*
6. Optimizing Machine Learning based Large Scale Android Malwares Detection by Feature Disposal  
*Lingling Zeng, Min Lei, Wei Ren, Shiqi Deng*
7. Analysis of Interval-Valued Reliability of Multi-State System in Consideration of Epistemic Uncertainty  
*Gang Pan, Chao-xuan Shang, Yu-ying Liang, Jin-yan Cai, Dan-yang Li*

**A2LS-S1: Learning Analytics and Prediction Systems****Chair: Santi Caballé, Open University of Catalonia, Spain**

1. Security Analysis of OpenID Connect Protocol with Cryptoverif in the Computational Model  
*Jinli Zhang, Jintian Lu, Zhongyu Wan, Jing Li, Bo Meng*
2. Towards a Particular Prediction System to Evaluate Student's Success  
*David Baneres*
3. Evaluation of an eLearning Platform Featuring Learning Analytics and Gamification  
*David Gañán, Santi Caballé, Robert Clarisó, Jordi Conesa*
4. MobilePeerDroid: A Platform for Sharing, Controlling and Coordination in Mobile Android Teams  
*Fatos Xhafa, Daniel Palou, Santi Caballé, Keita Matsuo and Leonard Barolli*

**SMECS-S1: Design, Simulation and Evaluation of Networking and Protocols****Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Design of Intermediate Frequency digital processing module based on AD9269  
*Li Mei*
2. Research on Adaptive Cooperative Spectrum Sensing  
*Ruilian Tan*
3. Research on Directional AF Cooperative Communication System Based on Outage Probability  
*Zhe Li, Ruilian Tan, Kai Shi, Baoxiang Ren*
4. Research on Efficient Fibre-Channel-based Token-Routing Switch-Network Communication Protocol  
*Wen-lang Luo, Jing-xiang Lv, Dong-sheng Liu, Xiao-hui Zeng*
5. Path Optimization of Coal Mining Machine Based on Virtual Coal-rock Interface  
*Dong Gang, Nie Zhen, Wang Peijun*

**DEM-S1: Scheduling and Networking****Chair: Peter Hellinx, Antwerp University, Belgium**

1. Hybrid Approach on Cache Aware Real-Time Scheduling for Multi-Core Systems  
*Thomas Huybrechts, Yorick De Bock, Haoxuan Li and Peter Hellinx*
2. Towards Recognising Activities of Daily Living through Indoor Localisation Techniques  
*Andriy Zubaliy, Anna Hristoskova, Nicolás González-Deleito, Elena Tsiporkova*
3. Powerwindow: a Multi-component TACLeBench Benchmark for Timing Analysis  
*Haoxuan Li, Paul De Meulenaere, Peter Hellinx*
4. Predictive Algorithms for Scheduling Parameter Sweep Calculations in a Cloud Environment  
*Glenn Maricaux, Stig Bosmans and Filip Van der Schueren*

**11:00-11:30 Coffee Break****11:30-12:30 Single Session: Opening Ceremony and BWCCA-2016 & 3PGCIC-2016 Keynote II****BWCCA-2016 & 3PGCIC-2016 Keynote Talk II****Prof. Nobuo Funabiki:** Java Programming Learning Assistant System: JPLAS**12:30-14:00 Lunch Break****14:00-16:00 Parallel Sessions****SMECS-S2: Optimisation and Intelligent Systems****Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Test Sequencing Optimization for a Kind of Radar Receiver  
*Liu Xiaopan, Cai Jinyan, Wu Shihao, Li Danyang*
2. A Method for the Detection of Singularity in Pulse  
*Wei Qi, Hongwei Zhuang, Liqiong Zhang*
3. Design of non-lethal kinetic weapon impact method based on hybrid-III dummy  
*Wei Qi, Hongwei Zhuang, Fadong Zhao*
4. Review and Research Development of Optimization Algorithms Based on Wolf Intelligence  
*Sun Yixiao, Zhan Renjun, Wu Husheng, Han Zhixin, Ma Yanbin*
5. SFCS-Broker: Supporting Feedback Credibility Brokering Service for Multiple Clouds Environments  
*Heba Kurdi, Sara Alfaraj, Asma Alatawi*

**MWVRTA-S1: Multimedia Systems and Services****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Numerical Simulation of Impact Acceleration on the Key Parts of Packing Ammunition on Condition of Dropping  
*Xue Qing*
2. Instruction Sequences Clustering and Analysis of Network Protocol's Dormant Behaviors  
*Yan-Jing Hu*
3. Consideration of Educational Multimedia Contents Introducing Multimedia Switching Function  
*Kaoru Sugita*

4. Mobile Spam Filtering base on BTM Topic Model  
*Jialin Ma, Yongjun Zhang, Lin Zhang*
5. Construction of an Electronic Health Record System for supporting a Zoo Veterinarian  
*Tatsuya Oyanagi, Misaki Iyobe, Tomoyuki Ishida*

**19:00-21:00 Banquet Party**

Banquet Party will be held at Onyang Hot Spring Hotel.  
<http://www.onyanghotel.co.kr/english/main.asp>

**Monday, November 7, 2016**

**3PGCIC-2016 Organizing Committee Meeting and Discussion**



**Information**

**BWCCA-2016 and 3PGCIC-2016 Session Schedule**  
**November 5-7, 2016**  
**Soonchunhyang (SCH) University, Asan, Korea**

<b>Saturday (November 5, 2016)</b>		<b>ROOM 1</b>	<b>ROOM 2</b>	<b>ROOM 3</b>	<b>ROOM 4</b>	<b>ROOM 5</b>	<b>ROOM 6</b>	<b>ROOM 7</b>
<b>Slot</b>	<b>Time</b>	<b>Registration</b>						
<b>Session 1</b>	<b>09:00 - 11:00</b>	BWCCA S1	BWCCA S2	MNSA S1	3PGCIC S1	3PGCIC S2	SiPML S1	SMDMS S1
<b>Coffee Break</b>	<b>11:00 - 11:30</b>	<b>Coffee Break</b>						
<b>Session 2</b>	<b>11:30 - 12:30</b>	<b>BWCCA-2016 and 3PGCIC-2016 Keynote I (Plenary Room)</b>						
<b>Lunch</b>	<b>12:30 - 14:00</b>	<b>Lunch Break</b>						
<b>Session 3</b>	<b>14:00 - 16:00</b>	BWCCA S3	BWCCA S4	MAPWC S1	3PGCIC S3	3PGCIC S4	BIDS S1	CADSA S1
<b>Coffee Break</b>	<b>16:00 - 16:30</b>	<b>Coffee Break</b>						
<b>Session 4</b>	<b>16:30 - 18:30</b>	BWCCA S5	BWCCA S6	SWECS S1	3PGCIC S5	3PGCIC S6	BIDS S2	CADSA S2
<b>Social Event</b>	<b>19:00 - 21:00</b>	<b>Welcome Reception Party</b>						

<b>Sunday (November 6, 2016)</b>		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
Slot	Time	Registration						
Session 1	09:00 - 11:00	BWCCA S7	BWCCA S8	NGWMIN S1	3PGCIC S7	A2LS S1	SMECS S1	DEM S1
Coffee Break	11:00 - 11:30	Coffee Break						
Session 2	11:30 - 12:30	BWCCA-2016 and 3PGCIC-2016 Keynote II (Plenary Room)						
Lunch	12:30 - 14:00	Lunch Break						
Session 3	14:00 - 16:00	BWCCA S9	RISC S1	SCC S1	LSNA S1		SMECS S2	MWVRTA S1
Social Event	19:00 - 21:00	Banquet Party						

<b>Monday (November 7, 2016)</b>		ROOM 1	ROOM 2	ROOM 3	ROOM 5	ROOM 6	ROOM 7	ROOM 8
Slot	Time	BWCCA-2016 and 3PGCIC-2016 Steering Committee Meeting and Discussion						