

# PROGRAM GUIDE

## IEEE AINA 2017

The 31st IEEE International Conference on  
Advanced Information Networking and Applications



March 27-29, 2017

Tamkang University, Taipei, Taiwan

Sponsored by:

IEEE Technical Committee on Distributed Processing (TCDP)

Supported by:

Tamkang University



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## IEEE AINA 2017 Organizing Committee

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Makoto Takizawa, Hosei University, Japan

Leonard Barolli, Fukuoka Institute of Technology, Japan

## **Message from IEEE AINA 2017 Steering Committee Co-Chairs**

Welcome to the 31-st IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA 2017). It is our great pleasure and honor to held AINA 2017 at Tamkang University, Taipei, Taiwan from March 27 to March 29, 2017. On behalf of the AINA Steering Committee and IEEE AINA 2017 Organizing Committee, we would like to express to all participants our cordial welcome and high respect.

AINA is an International Forum, where scientists and researchers from academia and industry working in various scientific and technical areas of networking and distributed computing systems can demonstrate new ideas and solutions in distributed computing systems.

AINA was born in Asia, but it is now an International Conference with high quality thanks to the great help and cooperation of many international friendly volunteers. AINA is a very open society and is always welcoming international volunteers from any country and any area in the world. AINA is an International Conference sponsored by TCDP of IEEE Computer Society. In conjunction with IEEE AINA 2017 main conference, we have also 13 International Workshops.

An international conference can be organized by support and great voluntary efforts of many people and organizations and our main responsibility is to coordinate various tasks carried out with other willing and talented volunteers.

We would like to thank IEEE AINA 2017 General Co-Chairs, PC Co-Chairs, Workshops Co-Chairs, Track Area Chairs, PC Members, and Workshops Organizers for their great efforts to make IEEE AINA 2017 a very successful event. We have special thanks to Makoto Ikeda as Finance Chair, and Shinji Sakamoto and Donald Elmazi as Web administrators.

We would like to take opportunity to thank all members of the organization committee and program committee as well as all reviewers for their hard work to make the reviews on time and authors for submitting the papers. We would like to give special thanks to IEEE Computer Society TCDP, as Sponsor of IEEE AINA 2017.

Finally, we would like to thank Tamkang University and Local Arrangement Team of Tamkang University for the technical support and good local arrangement for the conference.

We do hope that you will have a great time in Taipei, Taiwan.

**IEEE AINA Steering Committee Co-Chairs**

**Makoto Takizawa**, Hosei University, Japan  
**Leonard Barolli**, Fukuoka Institute of Technology, Japan

## Message from IEEE AINA 2017 General Co-Chairs

It is our great pleasure to welcome you all at the 31-st IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA 2017), which will be held at Tamkang University, Taipei, Taiwan from March 27 to March 29, 2017.

IEEE AINA International Conference is a forum for sharing ideas and research work in the emerging areas of information networking and their applications. The area of advanced networking has grown very rapidly and the applications around it have experienced an explosive growth especially in the area of pervasive and mobile applications, sensor networks, ad-hoc networks, vehicular networks, multimedia computing and social networking, semantic collaborative systems, as well as Grid, P2P, IoT and Cloud Computing. This advanced networking revolution is transforming the way people live, work, and interact with each other, and is impacting the way business, education, entertainment, and health care are operating. The papers included in the proceedings covers theory, design and application of computer networks, distributed computing and information systems.

Each year AINA receives a lot of paper submissions from all around the world. It has maintained high quality accepted papers and is aspiring to be one of the main international conferences on the Information Networking in the world. In conjunction with IEEE AINA 2017 conference there are 13 workshops, which also accepted high quality papers.

An international conference of this size requires the support and help of many people. A lot of people have helped and worked hard to produce a successful IEEE AINA 2017 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers, the session chairs and distinguished keynote speakers. We are indebted to Program Area Chairs, Program Committee Members and reviewers, who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give our special thanks to Prof. Makoto Takizawa and Prof. Leonard Barolli, Co-Chairs of the Steering Committee for their strong encouragement, guidance and insights, and for spending a lot of energy for conference organization and shaping the conference program. We would like to thank PC Co-Chairs and Workshops Co-Chairs of AINA 2017 for their great contribution to the success of the conference. Our special thanks go to Makoto Ikeda as Finance Chair, and Shinji Sakamoto and Donald Elmazi as Web administrators.

Finally, we would like to thank the Local Arrangement Team of Tamkang University for the support and good local arrangement for the conference. We do hope that you will have a great time in Taipei, Taiwan.

### IEEE AINA 2017 General Co-Chairs

**Hui-Huang Hsu**, Tamkang University, Taiwan  
**Marek R. Ogiela**, AGH University of Science and Technology, Poland  
**Wenny Rahayu**, La Trobe University, Australia

## **Message from IEEE AINA 2017 Program Committee Co-Chairs**

Welcome to the 31-st IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA 2017), which will be held at Tamkang University, Taipei, Taiwan from March 27 to March 29, 2017.

The purpose of AINA conference is to bring together researchers, developers, and industrial experts to share new ideas and recent research results in the emerging areas of information networking and their applications. Nowadays, networks are going through a rapid evolution. The papers included in the proceedings cover all aspects of theory, design, and application of computer networks and distributed computing systems. Most of the papers deal with new trends in information networking, such as wireless sensor networks, ad-hoc networks, cloud computing, peer-to-peer systems, grid computing, pervasive and ubiquitous systems, multimedia systems, security, multi-agent systems, IoT and web-based systems.

This edition AINA received 561 paper submissions from all over the world. Each submission was peer-reviewed by program committee members or invited external reviewers. Finally, the program committee accepted 157 papers (about 28% acceptance ratio), which will be presented during the conference days. Unfortunately, many interesting and good papers could not be accepted in IEEE AINA 2017 due to the limited number of time slots allocated for presentations at the conference.

We are very proud and honored to have two distinguished keynote talks by Prof. Prof. Wanjiun Liao, National Taiwan University, Taiwan and Prof. Joseph Ng Hong Kong Baptist University, Hong Kong, who will present their recent work and will give new insights and ideas to the conference participants.

Organizing an international conference of this size is of course a team effort. Therefore, we gladly admit that we had the help of many very professional people. First of all, we would like to thank all the authors for their interesting contributions since they shape the program and make it interesting for the audience. Moreover, we would like to express our thankfulness to all program-vice chairs for their great efforts. Additionally, we would like to thank all program committee members and reviewers who carried out the most important work to evaluate the submitted papers. We also thank the Workshops Co-Chairs for organizing many excellent workshops and symposiums, which enrich the conference and provide additional opportunities for discussions and future co-operations.

The great success of the AINA conference series would not be possible without the enormous commitment and support of the steering committee co-chairs Prof. Makoto Takizawa and Prof. Leonard Barolli. Therefore, we would like to thank them for their strong encouragement and guidance.

The general coordination of an event such as AINA conference requires a lot of coordination effort as well as many other activities related to the conference organization. Here, we thank the General Co-Chairs for their great support and invaluable suggestions. We give special thanks to Makoto Ikeda, Shinji Sakamoto and Donald Elmazi for their great efforts and efficient work to deal with many conference matters.

We hope you will enjoy the conference and readings and have a great time in Taipei, Taiwan.

**IEEE AINA 2017 Program Committee Co-Chairs**

**Tomoya Enokido**, Risho University, Japan  
**Chi-Yi Lin**, Tamkang University, Taiwan  
**Isaac Woungangi**, Ryerson University, Canada



## Message from IEEE AINA 2017 Workshops Co-Chairs

Welcome to AINA 2017 Workshops to be held in conjunction with the 31-st IEEE International Conference on Advanced Information Networking and Applications (AINA 2017), at Tamkang University, Taipei, Taiwan from March 27 to March 29, 2017. The goal of AINA workshops is to provide a forum for international researchers and practitioners to exchange and share their new ideas, research results, and ongoing work on leading-edge topics in the different fields of information networks and their applications. Some of the accepted workshops deal with topics that open up perspectives beyond the ordinary, thus, enriching the topics usually addressed by the AINA conference.

For this edition, the following 13 symposiums and workshops will be held with AINA 2017.

1. The 13-th International Symposium on Frontiers of Information Systems and Network Applications (FINA 2017)
2. The 13-th International Workshop on Heterogeneous Wireless Networks (HWISE 2017)
3. The 12-th International Workshop on the Performance Analysis and Enhancement of Wireless Networks (PAEWN 2017)
4. The 10-th International Workshop on Information Technology for Innovative Services (ITIS 2017)
5. The 10-th International Symposium on Mining and Web (MAW 2017)
6. The 10-th International Workshop on Bio and Intelligent Computing (BICom 2017)
7. The 10-th International Workshop on Telecommunication Networking, Applications and Systems (TeNAS 2017)
8. The 9-th International Workshop on Disaster and Emergency Information Network Systems (IWDENS 2017)
9. The 5-th International Workshop on Collaborative Enterprise Systems (COLLABES 2017))
10. The 5-th International Workshop on Network Management and Monitoring (NetMM 2017)
11. The 2-nd International Workshop on Innovative Technologies in Informatics and Networking (WITIN 2017)
12. The 2-nd International Workshop on Big Data Processing in Online Social Network (BOSON 2017)
13. The 4-th International Workshop on Device Centric Cloud (DC2-2017)

We would like to thank the community for their great response to IEEE AINA 2017 workshops. The excellent technical program of the workshops was the result of a professional work from workshop chairs, workshop program committees, reviewers, and authors.

We would like to give our special thanks to Prof. Makoto Takizawa and Prof. Leonard Barolli, the Steering Committee Chairs of IEEE AINA International Conference for their strong encouragement and guidance to organize the AINA 2017 workshops and symposiums. We would like to thank IEEE AINA 2017 General Co-Chairs their advices to make possible organization of IEEE AINA 2016 workshops and symposiums. We are thankful to IEEE AINA 2017 Program Co-Chairs for their support and help to prepare the technical program of AINA 2017 workshops and symposiums. We would like to express special thanks to Makoto Ikeda, Shinji Sakamoto and Donald Elmazi for their timely and unlimited support as web administrators.

We wish all of you entertaining and rewarding experience in all workshops and the IEEE AINA 2017 International Conference.

**IEEE AINA 2017 Workshops Co-Chairs**

**Hsing-Chung Chen**, Asia University, Taiwan  
**Elis Kulla**, Okayama University of Science, Japan  
**Antonio Jara**, HES-SO, Switzerland

## IEEE AINA 2017 Keynote Talk I

**Prof. Wanjiun Liao, National Taiwan University, Taiwan**

### **Toward Green Wireless Networks: Computing, Caching, and Communications**

**Abstract:** Energy savings in cellular systems is increasingly important due to ever-deteriorating global warming. Heterogeneous networks (HetNets) composed of multiple tiers of cells can attain energy savings thanks to the lower operational and transmit power consumptions of small cells. To address the inter-cell interference problem while achieving network energy conservation, multicell cooperation facilitating cooperative transmission and sleep mode operation paves the way toward future green HetNets. To further alleviate the backhaul power consumption induced by cooperative transmission, proactively caching popular contents locally is regarded as a viable solution. In this talk, we will explore how energy-aware multicell cooperation in HetNets with content caching can be achieved, and we show that the place-then-transmit strategy is optimal to this problem. We will then talk about how green multicell cooperation and shareable caching in HetNets can be facilitated, and propose to solve it via a connect-then-cache strategy. Both of the above two problems are NP-hard; therefore, we are motivated to design approximate solutions and show that the achieved total power consumption can be upper-bounded. Finally, we show that our proposed solutions yield near-optimal total power consumption, and the impacts of content popularity and cache size on the energy-saving performance for green HetNets.

## IEEE AINA 2017 Keynote Talk II

**Prof. Joseph Ng, Hong Kong Baptist University, Hong Kong**

### **An Indoor Location Analytics System for Exhibition and Convention Industries in a Smart & Open City**

**Abstract:** For the past 40 years, the advance in computing has gone from traditional computation and data processing to location-based applications & services for pervasive/ubiquitous computing. Together with the advancement in networking, IoT, and Big Data Analysis, we are all projecting that we are about to get into a new era of computing by the concept of Ubiquitous Intelligent Community years – Smart City.

In Hong Kong, we agreed that a Smart City should emphasis on leveraging Information and Communications Technology to enhance the efficiency of a city’s systems, operations and services. But we also want to add user-centric and the degree of openness to the available services and data such that a Smart & Open City shall leverage human and social capital to facilitate the sustainable growth of the community and improve the quality of living. Hence, for the first part of the talk, we will describe the Smart City Projects and The Open City initiatives in Hong Kong. And in the latter part, we will talk about our recent research and development, under the Smart City framework, in merging two of the more important technologies – localization & tracking and big data analysis and put into practical use.

In Hong Kong, we agreed that a Smart City should emphasis on leveraging Information and Communications Technology to enhance the efficiency of a city’s systems, operations and services. But we also want to add user-centric and the degree of openness to the available services and data such that a Smart & Open City shall leverage human and social capital to facilitate the sustainable growth of the community and improve the quality of living. Hence, for the first part of the talk, we will describe the Smart City Projects and The Open City initiatives in Hong Kong. And in the latter part, we will talk about our recent research and development, under the Smart City framework, in merging two of the more important technologies – localization & tracking and big data analysis and put into practical use.

In the exhibition and convention industry, the more information and data you have about the visitor, the more likely you will succeed in your marketing strategy. And thus, the Indoor Location Analytics System (ILAS) is developed for better matchmaking between buyers and exhibitors in the exhibition industry. ILAS consists of 3 major components: 1) an indoor positioning system which use both Wifi-based and Mobile network based approaches to identify visitors’ location information, 2) a backend analytics system which combines the content-based recommendation and collaborative filtering approach for robust identification of visitors’ preference for enabling value-added services provisioning, and 3) a mobile apps allowing the system to communicate with the visitors to provide a just-in-time and personalized information according to the visitors’ current location. The proposed system adds values and opportunities to different stakeholders in the Exhibition and Convention Industry. On one hand, reducing the matchmaking cost between the buyers and exhibitors can enhance their levels of satisfaction. Also, based on the collected data, the backend analytics system can analyze the visitor flow patterns to provide decision support to the exhibition organizers for better venue design and booth pricing strategy. Furthermore, the introducing of “Femtocell” technology in the proposed solution allows seamless transition of mobile basestations from outdoor to indoor. It not only improve the positioning accuracy, but also opens up an opportunity to link up with mobile service providers for new business models like mobile advertisement and marketing.



## IEEE AINA 2017 Main Conference and Workshops Program

**Monday, March 27, 2017**

**08:00 Registration**

**09:00-10:20 Single Session: Opening and Keynote Talk I**

**IEEE AINA 2017 Keynote Talk I (PLENARY ROOM)**

**10:20-10:40 Coffee Break**

**10:40-12:40 Parallel Sessions**

### **AINA-S1: Network Protocols and Applications I**

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

1. On the Path Management of Multi-Path TCP in Internet Scenarios based on the NorNet Testbed  
*Kun Wang, Thomas Dreibholz, Xing Zhou, Fu Fa, Yuyin Tan, Xi Cheng, Qining Tan*
2. The Performance Impact of Buffer Sizes for Multi-Path TCP in Internet Setups  
*Feng Zhou, Thomas Dreibholz, Xing Zhou, Fa Fu, Yuyin Tan, Quan Gan*
3. On the Feasibility of Implementing TCP Using a Modular Architecture  
*Mohamed Oulmahdi, Nicolas Van Wambeke, Christophe Chassot, Abdelkamel Tari*
4. Performance Evaluation of a New Flexible Time Division Multiplexing Protocol on Mixed Traffic Types  
*Yangyang Song, Yonghao Wang, Peter Bull, Joshua D. Reiss*
5. A Downlink Resources Allocation Scheme for Multimedia Applications in OFDMA Wireless Systems  
*Mohamed Ouweis Kabaou, Mohamed Salim Bouhlef*
6. Fair and Efficient Listen Before Talk (LBT) Technique for LTE Licensed Assisted Access (LAA) Networks  
*Visali Mushunuri, Bighnaraj Panigrahi, Hemant Kumar Rath, Anantha Simha*

**AINA-S2: Multimedia Systems and Applications I****Chair: Nobuo Funabiki, Okayama University, Japan**

1. SwapItUp: A Face Swap Application for Privacy Protection  
*Sachit Mahajan, Ling-Jyh Chen, Tzu-Chieh Tsai*
2. A Proposal of Test Code Generation Tool for Java Programming Learning Assistant System  
*Nobuo Funabiki, Ryota Kusaka, Nobuya Ishihara, Wen-Chung Kao*
3. Multi-Domain Video over Software-Defined Networking (MDVSDN)  
*Harold Owens II, Arjan Durrezi*
4. A Proposal of Software Architecture for Java Programming Learning Assistant System  
*Nobuya Ishihara, Nobuo Funabiki, Minoru Kuribayashi, Wen-Chung Kao*
5. Different Worlds Broadcasting: A Distributed Internet Live Broadcasting System with Video and Audio Effects  
*Satoru Matsumoto, Yoshimasa Ishi, Tomoki Yoshihisa, Tomoya Kawakami, Yuuichi Teranishi*
6. An Advertising Reciprocal Platform for Microenterprises  
*Thi-Thanh-An Nguyen, Chiao-Min Hu, Shyan-Ming Yuan*

**AINA-S3: Energy Efficient Systems and Applications****Chair: Makoto Takizawa, Hosei University, Japan**

1. Energy-aware Virtual Machine Migration Models in a Scalable Cluster of Servers  
*Ryo Watanabe, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
2. An Approach toward Energy Consumption Optimization in Optical Transport Networks Using GMPLS Techniques  
*Mykola Kaidan, Natalia Kryvinska, Volodymyr Andrushchak, Mykhailo Klymash*
3. Differentiating the Starting Time of Computation Process Replicas in the Improved Redundant Delay Time-Based (IRDTB) Algorithm  
*Tomoya Enokido, Makoto Takizawa*
4. Energy efficiency of Cooperative MIMO in Wireless Sensor Networks over Rayleigh fading Channel  
*Lamia Grira, Ridha Bouallegue*
5. Simple and energy efficient image compression for pulse-based communication in THz band  
*Muhammad Agus Zainuddin, Eugen Dedu, Julien Bourgeois*
6. Multiagent control system for residential energy management under real time pricing environment  
*Muhammad Babar Rasheed, Nadeem Javaid, Sardar Mehboob Hussain, Mariam Akbar, Zahoor Ali Khan*

**AINA-S4: Distributed Systems and Internet Computing I****Chair: Toyoo Takata, Iwate Prefectural University, Japan**

1. Web Service Flash Crowd Mitigation Using Feedback to Users  
*Harumasa Tada, Masayuki Murata, Masaki Aida*
2. Construction and Maintenance of k-Hop CDS in Mobile Ad Hoc Networks  
*Jiahong Wang, Eiichiro Kodama, Toyoo Takata*
3. EDWiN : leveraging device-to-device communications for Efficient data Dissemination over Wi-Fi Networks  
*Lyes Hamidouche, Sebastien Monnet, Frederic Bardolle, Pierre Sens, Dimitri Refauvelet*
4. Hierarchical Small World Overlay for Efficient Forwarding in Volunteer Clouds  
*Fatma Hrizi, Anis Laouiti*
5. Middleware Adaptation through Process Mining  
*Nelson Souto Rosa*
6. Query-Adaptive Online Partitioning of Associated Data for Efficient Retrieval  
*Ting Zhang, Duc A. Tran*

**FINA-S1: Secure Systems and Networks****Chair: Tomoya Enokido, Rissho University, Japan**

1. Integrate Stepping-stone Intrusion Detection Technique into Cybersecurity Curriculum  
*Jianhua Yang, Yongzhong Zhang, Guoqing Zhao*
2. securing OppNets from packet integrity attacks using trust and reputation  
*Asma'a Ahmad, Robin Doss, Majeed Alajeely, Khlood Ahmad*
3. Improvement of Communication Traffic and Security of Proactive Secret Sharing Schemes and Combination Proactive Secret Sharing Scheme with an Asymmetric Secret Sharing Scheme  
*Naoto Kaneko, Keiichi Iwamura*
4. An Efficient and Secure User Authentication Scheme with Anonymity in Global Mobility Networks  
*R. Madhusudhan, K. S. Suvidha*

**WTIN-S1: Wireless and Mobile Networks****Chair: Hui-Huang Hsu, Tamkang University, Taiwan**

1. A Priority-Based Energy Replenishment Scheme for Wireless Rechargeable Sensor Networks  
*Chi-Ming Yang, Kuei-Ping Shih, Shih-Hao Chang*
2. Secure Data Collection Scheme for Wireless Sensor Networks  
*Ren-Junn Hwang*
3. BSQ: Barrier Coverage Mechanism for Guaranteeing Surveillance Quality in Wireless Sensor Networks  
*Xuemei Shao, Guilin Chen, Shenghui Zhao, Jinjun Liu, Chih-Yung Chang*
4. Applying a Fuzzy-based Dynamic Channel Allocation Mechanism to Cognitive Radio Networks  
*Ying-Hong Wang, Shou-Li Liao*
5. An Off-line Mobile Payment Protocol Providing Double-spending Detection  
*Raylin Tso, Chen-Yi Lin*

**HWISE-S1: Mobile and Wireless Communication Systems****Chair: Kazunori Uchida, Fukuoka Institute of Technology, Japan**

1. Context Aware Cell Selection in Heterogenous Radio Access Environment  
*Masafumi Katoh, Yoshiharu Tajima, Hiroaki Senoo, Dai Kimura*
2. Cloud RAN Architecture Model based upon Flexible RAN Functionalities Split for 5G Networks  
*Olfa Chabbouh, Sonia Ben Rejeb, Nazim Agoulmine, Zied Choukair*
3. Dijkstra-Algorithm Based Ray-Tracing by Controlling Proximity Node Mapping  
*Kazunori Uchida, Leonard Barolli*
4. Design and Implementation of a Simulation System Based on Deep Q-Network for Mobile Actor Node Control in Wireless Sensor and Actor Networks  
*Tetsuya Oda, Ryoichiro Obukata, Makoto Ikeda, Leonard Barolli, Makoto Takizawa*

**IWDENS-S1: Disaster Information Networking and Applications****Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. Disaster Information Sharing System Considering Communication Status and Elapsed Time  
*Yoshitaka Shibata, Tatsuya Goto, Goshi Sato, Koji Hashimoto*
2. Information Communication System Consisted of Multiple Unmanned Aerial Vehicles on Disaster  
*Yositaka Shibata, Norifumi Tanaka, Noriki Uchida*
3. Implementation of Shift Array Antenna Control Systems with Image Recognitions for Vehicle-to-Vehicle Networks  
*Noriki Uchida, Ryo Ichimaru, Kenta Ito, Tomoyuki Ishida, Yoshitaka Shibata*

4. Research on Realization of a Multi-hop Network based on Delay Tolerant Network on Disasters  
*Yoshitaka Shibata, Shinya Kitada, Goshi Sato*
5. IoT Based Mobility Information Infrastructure in Challenged Network Environment Toward Aging Society  
*Yoshitaka Shibata, Goshi Sato*

**12:40-13:40 Lunch Break**

**13:40-15:40 Parallel Sessions**

**AINA-S5: Network Protocols and Applications II**

**Chair: Isaac Woungang, Ryerson University, Canada**

1. Gazing Beyond Horizon: The Predict Active Queue Management for Controlling Load Transients  
*Ilpo Järvinen, Markku Kojo*
2. Towards an efficient file synchronization between Digital Safes  
*Mayssa Jemel, Mounira Msahli, Ahmed Serhrouchni*
3. Implementation and Evaluation of a Controller-based Forwarding Scheme for NDN  
*Elian Aubry, Thomas Silverston, Isabelle Christment*
4. Performance Management of Optical Transport Networks Through Time Series Forecasting  
*Jefferson Rodrigo Alves Cavalcante, Ahmed Patel, Joaquim Celestino*
5. IEEE 802.11ac MU-MIMO Wireless LAN cells with Legacy Clients  
*Mamun Abu-Tair, Saleem N. Bhatti*

**AINA-S6: Multimedia Systems and Applications II**

**Chair: Takehito Utsuro, University of Tsukuba, Japan**

1. Family Structure Attribute Estimation Method for Product Recommendation System  
*Chiaki Doi, Masaji Katagiri, Takashi Araki, Daizo Ikeda, Hiroshi Shigeno*
2. Sensing Activities and Locations of Senior Citizens toward Automatic Daycare Report Generation  
*Yukitoshi Kashimoto, Tatsuya Morita, Manato Fujimoto, Yutaka Arakawa, Hirohiko Suwa, Keiichi Yasumoto*
3. Analyzing and Forecasting the Performance of Video Service Providers  
*Jiali You, Yu Zhuo, Lixin Gao, Guoqiang Zhang, Hanxing Xue, Jinlin Wang*
4. Movie Summarization based on Alignment of Plot and Shots  
*Xueshan Li, Takehito Utsuro, Hiroshi Uehara*
5. An Adaptive Videoconferencing Framework for Collaborative Telemedicine  
*Ronnie Muthada Pottayya, Jean-Christophe Lapayre, Éric Garcia*
6. Dynamic Textures and Covariance Stationary Series Analysis using Strategic Motion Coherence  
*Kanoksak Wattanachote, Yong Wang, Timothy K. Shih, Hui-Huang Hsu, Wenyin Liu*

**AINA-S7: Wireless Sensor Networks**

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

1. On Full-View Area Coverage by Rotatable Cameras in Wireless Camera Sensor Networks  
*Yang-Pu Hsiao, Kuei-Ping Shih, Yen-Da Chen*
2. Maximizing Surveillance Quality for Barrier Coverage in Rechargeable Sensor Networks  
*Zaixiu Dong, Weimin Wen, Guilin Chen, Shenghui Zhao, Chih-Yung Chang*

3. A New Routing Protocol for Maximum Coverage in Square Field for Underwater WSNs  
*Arslan Zahoor, Nadeem Javaid, Mariam Akbar, Zahoor Ali Khan*
4. Selection of Actor Nodes in Opportunistic Networks: A Fuzzy-Based Approach  
*Miralda Cuka, Donald Elmazi, Kosuke Ozera, Tetsuya Oda, Leonard Barolli*
5. A New Flow Network Approach for Improving Clustering Protocols in Wireless Sensor Networks  
*Jose Henrique Brandao Neto, Joaquim Celestino Junior, Leonardo Sampaio Rocha*
6. MEES: Mobile Energy Efficient Square Routing for Underwater Wireless Sensor Networks  
*Adnan Walayat, Nadeem Javaid, Mariam Akbar, Zahoor Ali Khan*

### **AINA-S8: Distributed Systems and Internet Computing II**

#### **Chair: Naohiro Hayashibara, Kyoto Sangyo University, Japan**

1. Multi-Leader Election in a Clustered Graph for Distributed Network Control  
*Hideki Shindo, Hideo Kobayashi, Genya Ishigaki, Norihiko Shinomiya*
2. On Making Generalized Paxos Practical  
*Tuanir F. Rezende, Pierre Sutra, Rodrigo Q. Saramago, Lasaro Camargos*
3. Message Dissemination using Levy Flight on Unit Disk Graphs  
*Kenya Shinki, Masahiko Nishida, Naohiro Hayashibara*
4. Performance Evaluation of OS-level Virtualization Solutions for HPC Purposes on SoC-based Systems  
*David Willians dos Santos Cavalcanti Beserra, Manuele Kirsch Pinheiro, Carine Souveyet Jarosz, Luiz Angelo Steffemel, Edward David Moreno Ordonez*
5. Detecting and Tackling Run-Time Obstacles in Social Business Processes  
*Zakaria Maamar, Mohamed Sellami, Noura Faci, Sylvain Lefebvre*
6. Parallel Search Processing of Tree-Structured Data in a Big Data Environment  
*Lingxiao Li, David Taniar, Maria Indrawan-Santiago*

### **FINA-S2: Wireless Networks and Mobile Systems**

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

1. Low Complexity Variable Leaky Normalised Orthogonal Gradient Adaptive Algorithm  
*Suchada Sitjongsataporn, Piyaporn Nurarak*
2. A Two-stage Codebook Design Based on Beam Perturbation for Massive MIMO Systems  
*Jiangwei Yuan, Xiaohui Li, Wenjuan Pu, Ruiyang Yuan*
3. ECU Software Updating in Future Vehicle Networks  
*Yutaka Onuma, Yoshiaki Terashima, Ryoza Kiyohara*
4. Background Radiation Effect on Ground Sensor-to-UAV Free-Space Optical Link With Inexpensive Laser  
*Weilian Su, Tri Ha*
5. A Performant Funnel based Mobile Service Discovery and Exposure Model  
*Walid El Ayeb, Zied Choukair*

### **WITIN-S2: IoT and Networking**

#### **Chair: Yilang Wu, University of Aizu, Japan**

1. A Passive Localization Scheme Based on Channel State Information in an Indoor Environment  
*Hongli Yu, Guilin Chen, Shenghui Zhao, Chih-Yung Chang*
2. Campus Digital Signage: Connection of Correlated Information between Distributor and Receiver  
*Yilang Wu, Tatsuki Kawaguchi, Lei Jing, Junbo Wang, Zixue Cheng*
3. A Panorama-based Book Searching Service for Libraries  
*Hsuan-Pu Chang, Yue Li, Sheng-Hong Yu*



4. FPGA Implementation of VLC Communication Technology  
*Haochang Guo, Ka Lok Man, Qilei Ren, Qian Huang, Vladimir Hahanov, Eugenia Litvinova, Svetlana Chumachenko*
5. A Study of Content-aware Classification of POI  
*Chieh-Chi Chiu, Zhong-Xing Xie, Hsin-Wen Wei, Wei-Tsong Lee*

**HWISE-S2: VANETs and Wireless Sensor Networks****Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. Towards Safer Roads through Cooperative Hazard Awareness and Avoidance in Connected Vehicles  
*Fatma Outay, Faouzi Kammoun, Florent Kaisser, Mohamed Atiquzzaman*
2. SVC-based Cooperative Video Streaming in Highway Vehicular Networks  
*Ruijian An, Zhi Liu, Yusheng Ji*
3. Performance Evaluation of the Optimized Weighted Clustering Algorithm in Wireless Sensor Networks  
*Fatma Belabed, Ridha Bouallegue*
4. Energy Efficient Data Collection Scheme in Mobile Wireless Sensor Networks  
*Weimin Wen, Zaixiu Dong, Guilin Chen, Shenghui Zhao, Chih-Yung Chang*
5. A Balanced Energy Consuming and Hole Alleviating Algorithm for Wireless Sensor Networks  
*Naeem Jan, Ahmad Raza Hameed, Babar Ali, Rahim Ullah, Kaleem Ullah, Nadeem Javaid*

**IWDENS-S2: Disaster Information Systems****Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. An Implementation of Operation Method for Disaster GIS on Ultra Definition Display  
*Yoshitaka Shibata, Akira Sakuraba, Tomoyuki Ishida, Koji Hashimoto*
2. Road Surface Condition Understanding and Sharing System using Various Sensing Technologies  
*Yoshitaka Shibata, Kenta Ito*
3. Development of Light-weight Information Sharing System for Disaster Volunteer Headquarter  
*Hiroaki YUZE, Shinichi NABETA, Kazuki MATSUNAGA*
4. Proposal of a Disaster Information Cloud System for Disaster Prevention and Reduction  
*Yusuke Hirohara, Tomoyuki Ishida, Noriki Uchida, Yoshitaka Shibata*

**15:40-16:00 Coffee Break**

**16:00-18:00 Parallel Sessions**

**AINA-S9: Next Generation Wireless Networks I****Chair: Isaac Woungang, Ryerson University, Canada**

1. Supernova and Hypernova Misbehavior Detection Scheme for Opportunistic Networks  
*Sanjay K. Dhurandher, Arun Kumar, Isaac Woungang, Mohammad S. Obaidat*
2. A Study on Implementation of NDN to WSN  
*Tetsuro Kuniyasu, Tetsuya Shigeyasu*
3. Providing Collision-free and Conflict-free Communication in General Synchronous Broadcast/Receive Networks  
*Abdelmadjid Bouabdallah, Hicham Lakhlef, Michel Raynal, François Taïani*

4. Monitoring Dynamic Mobile Ad-hoc Networks: A Fully Distributed Hybrid Architecture  
*Jose Alfredo Alvarez Aldana, Stephane Maag, Fatiha Zaidi*
5. Reducing Energy Consumption in Provisioning of Virtual Sensors by Similarity of Heterogenous Sensors  
*Marcus Vinicius de Sousa Lemos, Carlos Giovanni Nunes de Carvalho, Douglas Lopes de Sousa Mendes, Ricardo de Andrade Lira Rabelo, Raimir Holanda Filho*

### **AINA-S10: Multimedia Systems and Applications III**

#### **Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. Push Typed Tourist Information System based on Beacon and Augmented Reality Technologies  
*Yoshitaka Shibata, Goshi Sato*
2. An Efficient Image Gathering Scheme with Quality Control in Disaster  
*Jun Nishiyama, Saki Tabata, Hiroshi Shigeno*
3. A System to Retrieve Photographs Showing Designated Points  
*Yuki Taniyama, Tomoki Yoshihisa, Takahiro Hara, Shojiro Nishio*
4. A Method for Personalized C Programming Learning Contents Recommendation to Enhance Traditional Instruction  
*Yu Yan, Kohei Hara, Takenobu Kazuma, Aiguo He*
5. Image Completion Using Sample Synthesis  
*Shwu-Huey Yen, Hsien-Yang Li, Po-Yen Kuo*
6. Ariadnima - Android Component Flow Reconstruction and Visualization  
*Dennis Titze, Konrad Weiss, Julian Schuette*

### **AINA-S11: Pervasive and Ubiquitous Computing**

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

1. Acoustic Localization without Synchronization  
*Jongtaek Jung, Kangho Kim, Woonghee Lee, Hwangnam Kim*
2. Tracking Indoor Activities of Patients with Mild Cognitive Impairment Using Motion Sensors  
*TSANG Wai-Hung Nelson, LAM Kam-Yiu, NG Kee-Yin Joseph, HAN Song, PAPAVALASILEIOU Ioannis*
3. Continuous d\_epsilon-Skyline Queries for Objects with Time-Varying Attribute in Road Networks  
*Yuan-Ko Huang*
4. Development of a Smart Floor for Target Localization with Bayesian Binary Sensing  
*Gongjin Lan, Jinhao Liang, Guocheng Liu, Qi Hao*
5. Infrastructure Mode Based Opportunistic Networks on Android Devices  
*Andre Ippisch, Kalman Graffi*
6. A GA-Based Simulation System for WMNs: Performance Analysis for Different WMN Architectures Considering Exponential Distribution, HWMP and TCP Protocols  
*Admir Barolli, Tetsuya Oda, Ryoichiro Obukata, Makoto Ikeda, Leonard Barolli, Makoto Takizawa*

### **AINA-S12: Network Services and Virtualization**

#### **Chair: Marek R. Ogiela, AGH University of Science and Technology, Poland**

1. Service Cost in Software Defined Networking (SDN)  
*Murat Karakus, Arjan Durrezi*
2. Usability of Composing REST Services on Smartphones  
*Gebremariam Mesfin, Tor-Morten Grønli, Gheorghita Ghinea, Muhammad Younas*
3. Maestro: An NFV Orchestrator for Wireless Environments Aware of VNF Internal Compositions  
*Ariel Galante Dalla-Costa, Lucas Bondan, Juliano Araujo Wickboldt, Cristiano Bonato Both, Lisandro Zambenedetti Granville*

4. Interactive Visualizations for Planning and Strategic Business Decisions in NFV-Enabled Networks  
*Muriel Figueredo Franco, Ricardo Luis dos Santos, Ricardo Cava, Eder John Scheid, Ricardo José Pfitscher, Carla Dal Sasso Freitas, Lisandro Zambenedetti Granville*
5. iMPROVE: Enhancing the Introduction of Services on Programmable Virtual Networks  
*Ricardo Luis dos Santos, Muriel Figueredo Franco, Eder John Scheid, Ricardo José Pfitscher, Lisandro Zambenedetti Granville, Liane Margarida Rockenbach Tarouco*
6. An Analytical Framework for Throughput Analysis of Real Time Applications in All-IP Networks  
*Shankar K. Ghosh, Sasthi C. Ghosh*

### **FINA-S3: Security and Privacy**

#### **Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Inject Stenography into Cybersecurity Education  
*Dianyuan Han, Jianhua Yang, Wayne Summers*
2. Security Evaluation on Secret Computation without Changing the Polynomial Degree  
*Ken Aoi, Takeshi Shingu, Keiichi Iwamura*
3. An Anonymous Authentication Protocol for Smart Grid  
*Hikaru KISHIMOTO, Naoto YANAI, Shingo OKAMURA*
4. Model-based Attack Tolerance  
*Fatiha Zaïdi, Ana R. Cavalli, Mounir Lallali*
5. Security Oriented Malicious Activity Diagrams to Support Information Systems Security  
*Othmar Othmar Mwambe, Isao Echizen*

### **WITIN-S3: Intelligent Data Analysis**

#### **Chair: Tun-Wen Pai, National Taiwan Ocean University, Taiwan**

1. Construction of a Metadata Schema for Medical Data in Networking Applications  
*Chi-Jane Chen, Tun-Wen Pai, Jhen-Li Huang, Ying-Tsang Lo, Shih-Syun Lin, Chun-Chao Yeh*
2. A MRT Daily Passenger Flow Prediction Model with Different Combinations of Influential Factors  
*Lijuan Liu, Rung-Ching Chen*
3. Extensible Activity Recognition System for Behavior Support  
*Tomoharu Imai, Matsui Kazuki*
4. Face Liveness Verification Based on Hyperspectrum Analysis  
*Yifei Liu, Min Zheng, Qingyong Li*
5. Adaptive Thresholding For Skin Lesion Segmentation Using Statistical Parameters  
*Ashmita Gupta, Ashish Issac, Malay Kishore Dutta, Hui-Huang Hsu*

### **NetMM-S1: Network Monitoring and Management**

#### **Chair: Stéphane Maag, TELECOM SudParis, France**

1. MRSIM: Mitigating Reducer Skew In MapReduce  
*Wei Lu, Xiaoping Che, Weiwei Xing, Liqiang Wang, Yong Yang*
2. Application-aware Realtime Monitoring with Data Visualization in OpenFlow-based Network  
*Yun-Zhan Cai, Chia-Ying Lin, Meng-Hsun Tsai*
3. Performance Implication and Analysis of the OpenFlow SDN Protocol  
*Aliyu Lawal Aliyu, Peter Bull, Ali Abdallah*
4. A Software Measurement Framework guided by Support Vector Machines  
*Sarah A. Dahab, Stéphane Maag, Xiaoping Che*

5. Toward a Flexible and Scalable Monitoring Framework in Software-Defined Networks  
*Xuan Thien Phan, Kensuke Fukuda*
6. The Regressive QoE Model for VoLTE  
*Ching Fang Yang*

**PAEWN-S1: Network Performance Analysis and Enhancement****Chair: David Newell, Bournemouth University, United Kingdom**

1. Comparison of Theoretical and Practical Performances with 802.11n and 802.11ac Wireless Networking  
*David Newell, Philip Davies, Russell Wade, Perry deCaux, Mak Shama*
2. Impact of cell load on 5GHz IEEE 802.11 WLAN  
*Mamun Abu-Tair, Saleem N. Bhatti*
3. A Testbed for Admission Control in WLANs: Effects of RSSI on Connection Keep-alive Time  
*Takaaki Inaba, Kosuke Ozera, Shinji Sakamoto, Tetsuya Oda, Makoto Ikeda, Leonard Barolli*
4. A Wireless Sensor Networks Balanced Energy Consumption Protocol  
*Naeem Jan, Ahmad Raza Hameed, Babar Ali, Rahim Ullah, Kaleem Ullah, Nadeem Javaid*

**18:30-20:30 Welcome Reception Party**

- Location: YIN-YIH Restaurant (銀翼餐廳)
- Address: 18 Jinshan South Road, Sec 2, Taipei City (台北市金山南路二段 18 號)

**Tuesday, March 28, 2017****08:00 Registration****09:00-10:30 Single Session: Keynote Talk II**

IEEE AINA 2017 Keynote Talk II (PLENARY ROOM)

**10:30-11:00 Coffee Break****11:00-13:00 Parallel Sessions****AINA-S13: Next Generation Wireless Networks II****Chair: Isaac Woungang, Ryerson University, Canada**

1. Residual Size-based Mobile Data Offloading for File Transmission on Mobile Devices  
*Tsung-Hui Chuang, Pei-Hua Su, Meng-Hsun Tsai*
2. Bandwidth Efficient Clock Skew Compensation in TDMA-based Star Topology Wireless Networks  
*Ashutosh Bhatia, Sudhanshu Singh*
3. An Underwater Routing Protocol with Void Detection and Bypassing Capability  
*Seyed Mohammad Ghoreyshi, Alireza Shahrabi, Tuleen Boutaleb*
4. Saving Resources in Discovery Protocol on Delay-Sensitive Rescue Mobile Networks  
*Janine Kniess, Luciana Arantes, Pierre Sens, Célio V. N. Albuquerque*
5. Adaptive Load-balancing Scheme Through Wireless SDN-based Association Control  
*Chia-Ying Lin, Wan-Ping Tsai, Meng-Hsun Tsai, Yun-Zhan Cai*
6. A Novel Multi-step Opportunistic Scheduling Scheme for Streaming Applications over OFDMA Wireless Systems  
*Mohamed Ouweis Kabaou, Mohamed Salim Bouhlef*

**AINA-S14: Distributed Database and Data Mining****Chair: Wenny Rahayu, La Trobe University, Australia**

1. CODE+: Building Common Ontology from Community Knowledge  
*Dhomas Hatta Fudholi, Wenny Rahayu, Eric Pardede*
2. Jointly Modeling Multi-Grain Aspects and Opinions for Large-Scale Online Review  
*Yang Zhang, Feilong Tang, Leonard Barolli, Yanqin Yang, Wenchao Xu*
3. A Compact-trie-based Structure for k-Nearest-neighbour Searching  
*Peng Gong, Wendy Osborn*
4. Searching Data Cube for Submerging and Emerging Cuboids  
*Viet Phan-Luong*
5. Optimizing Diverse Group Stock Portfolio without Setting A Number of Groups  
*Chun-Hao Chen, Jonathan Coupe, Tzung-Pei Hong*
6. Realtime Online Hot Topics Prediction in Sina Weibo for News Earlier Report  
*Sha Yuan, Zhe Tao, Tingshao Zhu, Shuotian Bai*

**AINA-S15: Grid, P2P and Scalable Computing****Chair: Shusuke Okamoto, Seikei University, Japan**

1. Utilization based Secured Dynamic Scheduling Algorithm for Real-Time Applications on Grid (u-SDSA)  
*Surendra Singh, Sachin Tripathi, Suvadip Batabyal*
2. A Distributed Calculation Scheme for Contents Categorization  
*Masaki Kohana, Hiroki Sakaji, Akio Kobayashi, Shusuke Okamoto*
3. CapSearch: Capacity-based Search in highly dynamic Peer-to-Peer Networks  
*Andreas Disterhöft, Kalman Graffi*
4. Evaluation of Protocols to Prevent Illegal Information Flow in Peer-to-Peer Publish/Subscribe Systems  
*Shigenari Nakamura, Lidia Ogiela, Tomoya Enokido, Makoto Takizawa*
5. A Fuzzy-based System for Qualified Voting in P2P Mobile Collaborative Team: Effects of Member Activity Failure  
*Yi Liu, Shinji Sakamoto, Leonard Barolli, Makoto Ikeda*

**AINA-S16: Cloud, Data Centers and Services Computing I****Chair: Makoto Takizawa, Hosei University, Japan**

1. Secure Deduplication in a Multiple Group Signature Setting  
*Ei Mon Cho, Takeshi Koshiba*
2. Smart Partitioning Mechanism for Dealing with Intermediate Data Skew in Reduce Task on Cloud Computing  
*Tzu-Chi Huang, Kuo-Chih Chu, Guo-Hao Huang, Yan-Chen Shen, Ce-Kuen Shieh*
3. Scheduling of Parallel Migration for Multiple Virtual Machines  
*Koichi Onoue, Satoshi Imai, Naoki Matsuoka*
4. Scheduling-Aware Data Prefetching for Data Processing Services in Cloud  
*Chien-Hung Chen, Ting-Yuan Hsia, Yennun Huang, Sy-Yen Kuo*
5. Service Scheduling Scheme Based Load Balancing for 5G/HetNets Cloud RAN  
*Olfa Chabbouh, Sonia Ben Rejeb, Nazim Agoulmine, Zied Choukair*
6. Quality of Service Scheme for Intra/Inter-Data Center Communications  
*Mamun Abu-Tair, Md Israfil Biswas, Philip Morrow, Sally McClean, Bryan Scotney, Gerard Parr*

**FINA-S4: Network Systems and Applications****Chair: Neil. Y. Yen, The University of Aizu, Japan**

1. Study of the Patterns of Automatic Car Washing in the Era of Internet of Things  
*Shigen Zhong, Liangjie Zhang, Hsing-Chung Chen, Huan Zhao, Ling Guo*
2. Adaptation of Information Retrieval Methods for Identifying of Destructive Informational Influence in Social Networks  
*Elena Okhapkina, Valentin Okhapkina, Oleg Kazarin*
3. A Trust Management Framework for Network Applications within an SDN Environment  
*Aliyu Lawal Aliyu, Peter Bull, Ali Abdallah*
4. A Survey on Sharing Economy and Its Effect on Human Behavior Changes  
*Moloud Abdar, Neil. Y. Yen*
5. Building A Social MANET based on an SNS Community Token  
*Koichi Hirai, Kazumasa Takami*
6. Ethical Hacking and Network Defense: Choose Your Best Network Vulnerability Scanning Tool  
*Yien Wang, Jianhua Yang*

**TeNAS-S1: Networks, Infrastructure and Billing****Chair: Teh-Sheng Huang, ChungHwa Telecom, Taiwan**

1. Space Time Block Codes Finite Feedback Schemes for Power-Line Communications  
*Shu-Ming Tseng, Chun-Chieh Chen*
2. A Dynamic Reward Model using SDP-based Mechanism  
*Wan Hsun Hu, Ying-Che Chen, Fang-Sun Lu, Jeu-Yih Jeng*
3. A Visible Light Vessel Navigation Mechanism for Waterway Management System  
*Shih-Hao Chang, Kuei-Ping Shih*
4. Heterogeneous Interconnection between SDN and Layer2 Networks based on NSI  
*Ta-Yuan Chou, Wun-Yuan Huang, Hui-Lan Lee, Te-Lung Liu, Joe Mambretti, Jim Hao Chen, Fei Yeh*

**BICOM-S1: Intelligent Algorithms****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Application of Deep Recurrent Neural Networks for Prediction of User Behavior in Tor Networks  
*Taro Ishitaki, Ryoichiro Obukata, Tetsuya Oda, Leonard Barolli*
2. A Meta-heuristic Home Energy Management System  
*Ayesha Zafar, Samia Shah, Rabiya Khalid, Sardar Mehboob Hussain, Hassan Rahim, Nadeem Javaid*
3. A Fuzzy Approach for Secure Clustering in MANETs: Effects of Distance Parameter on System Performance  
*Kosuke Ozera, Takaaki Inaba, Donald Elmazi, Shinji Sakamoto, Tetsuya Oda, Leonard Barolli*
4. Apply Deep Learning Neural Network to Forecast Number of Tourists  
*Yu-wei Chang, Chih-Yung Tsai*

**ITIS-S1: Information Sciences and Arts****Chair: Akio Koyama, Yamagata University, Japan**

1. Performance Evaluations of LXC based Educational Cloud in a Bare Metal Server  
*Minoru Uehara*
2. An Adaptive DTN Routing Protocol Considering Replication State  
*Yoshishige Kuronuma, Hiroyuki Suzuki, Akio Koyama*
3. Energy-aware Volunteer Computing using Solar Photovoltaics and Older models of Single board computers  
*Motoi Yamagiwa, Minoru Uehara*
4. Dependable Small World Network Architectures  
*Hideki Mori, Minoru Uehara*

**13:00-14:00 Lunch Break**

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

**AINA-S17: Next Generation Wireless Networks III****Chair: Bhed Bahadur Bista, Iwate Prefectural University, Japan**

1. Combined Power Control and Partially Overlapping Channel Assignment for Interference Mitigation in Dense WLAN  
*Babul P. Tewari, Sasthi C. Ghosh*

2. SONA: Software Defined Optical Networks Slicing Architecture  
*Tiago Portela de Souza, Jefferson Rodrigo A. Cavalcante, Ahmed Patel, Maxwell Eduardo Monteiro, Joaquim Celestino Junior*
3. Braided on Demand Multipath RPL in the Mobility Context  
*Fatma Soma, Ines El Korbi, Leila Azouz Saidane*
4. EA-PRoPHET: An Energy Aware PRoPHET-Based Routing Protocol for Delay Tolerant Networks  
*Bhed Bahadur Bista, Danda B. Rawat*
5. Empowering Drones' Teamwork with Airborne Network  
*Seungho Yoo, Jongtaek Jung, Albert Y. Chung, Kangho Kim, Jiyeon Lee, Seongjoon Park, Suk Kyu Lee, Hyung Kyu Lee., Hwangnam Kim*
6. SAMAR - Spectrum Aware Token MAC for Cognitive Radio Networks  
*Battula Ramesh babu, Avinash Reddy Avuthu, Venkata Narayana S*

### **AINA-S18: Internet of Things and Social Networking I**

**Chair: Feilong Tang, Shanghai Jiao Tong University, P.R. China**

1. A Smart Micro-Grid Architecture for Resource Constrained Environments  
*Anne V.D.M. Kayem, Christoph Meinel, Stephen D. Wolthusen*
2. Effect of Node Density on Actor Selection in WSANs: A Comparison Study for Two Fuzzy-based Systems  
*Donald Elmazi, Miralda Cuka, Tetsuya Oda, Makoto Ikeda, Leonard Barolli*
3. Exploiting Evolving Trust Relationships in the Modelling of Opinion Formation Dynamics in Online Social Networks  
*Rajkumar Das, Joarder Kamruzzaman, Gour Karmakar*
4. ALPAS: Analog-PIR-sensor-based Activity Recognition System in Smarthome  
*Yukitoshi Kashimoto, Masashi Fujiwara, Manato Fujimoto, Hirohiko Suwa, Yutaka Arakawa, Keiichi Yasumoto*
5. Information Gain Based Maximum Task Matching in Spatial Crowdsourcing  
*Jiantong Zhang, Feilong Tang, Leonard Barolli, Yanqin Yang, Wenchao Xu*
6. Fog Computing as a Resource-Aware Enhancement for Vicinal Mobile Mesh Social Networking  
*Chii Chang, Mohan Liyanage, Sander Soo, Satish Narayana Srirama*

### **AINA-S19: Security and Privacy I**

**Chair: Shou-Hsuan Stephen Huang, University of Houston, USA**

1. LLR-based Sentiment Analysis for Kernel Event Sequences  
*Robert Luh, Sebastian Schrittwieser, Stefan Marschalek*
2. K-aggregation: Improving Accuracy for Differential Privacy Synthetic Dataset by Utilizing K-anonymity Algorithm  
*Bo-Chen Tai, Szu-Chuang Li, Yennun Huang*
3. An Efficient Blacklistable Anonymous Credentials without TTPs Using Pairing-Based Accumulator  
*Yuu Aikou, Shahidatul Sadiah, Toru Nakanishi*
4. Malicious Apps May Explore a Smartphone's Vulnerability to Detect One's Activities  
*Xi Lu, Shou-Hsuan Stephen Huang*
5. Fully Secure Lattice-based Group Signatures with Verifier-local Revocation  
*Perera Maharage Nisansala Sevewandi, Takeshi Koshihira*
6. A Proposal of a Secure P2P-type Storage Scheme by using the Secret Sharing and the Blockchain  
*Masayuki Fukumitsu, Shingo Hasegawa, Junya Iwazaki, Masao Sakai, Daiki Takahashi*



**AINA-S20: Cloud, Data Centers and Services Computing II****Chair: Chi-Yi Lin, Tamkang University, Taiwan**

1. Time and Bandwidth-Aware Virtual Network Embedding and Migration in Hybrid Optical-Electrical Data Centers  
*Lekha Purushothaman, Tram Truong-Huu, Mohan Gurusamy*
2. Performance Overhead Comparison between Hypervisor and Container based Virtualization  
*Zheng Li, Maria Kihl, Qinghua Lu, Jens A. Andersson*
3. Cost Efficient Batch Processing in Amazon Cloud with Deadline Awareness  
*Kabin Tamrakar, Anis Yazidi, Hårek Haugerud*
4. Car Pooling based on Trajectories of Drivers and Requirements of Passengers  
*Fu-Shiung Hsieh*
5. Implementation of Lambda Architecture: A Restaurant Recommender System over Apache Mesos  
*Chung-Ho Lee, Chi-Yi Lin*
6. A process model to support continuous certification of cloud services  
*Immanuel Kunz, Philipp Stephanow*

**FINA-S5: Multimedia Systems and Web Applications****Chair: Tomoya Enokido, Rissho University, Japan**

1. Graph-Based Semantic Segmentation for 3D Digital Images  
*Dumitru Dan Burdescu, Marius Brezovan, Liana Stănescu, Cosmin Stoica Spahiu, Daniel Costin Ebâncă*
2. An Alternative Method of Pattern Recognition and Tracking of Moving Objects Using 3D Depth Sensors  
*Ningping Sun, Ryosuke Okumura*
3. New Approaches to Human Gait Simulation Using Motion Sensors  
*Ningping Sun, Yuya Sakai*
4. An enhanced differential evolution based energy management system for smart grids  
*Naveed ur Rehman, Nadeem Javaid, Zahoor Ali Khan*

**TeNAS-S2: Wireless and Mobile Technology****Chair: Shih-Hao Chang, Tamkang University, Taiwan**

1. Mobile Data Usage Prediction System and Method  
*Yueh-Ting Lai, Ya-Ping Wu, Chia-Hsuan Yu, Fang-Sun Lu, Chi-Hua Chen*
2. Location Recommendation and Power Adjustment for D2D Communication Underlying LTE Cellular Networks  
*Chiapin Wang, Fang-Ru Fu, Meng-Yuan Tsai*
3. Comparison Data Traffic Scheduling Techniques for Classifying QoS over 5G Mobile Networks  
*Mohammed Dighriri, Ali Saeed Dayem Alfoudi, Gyu Myoung Lee, Thar Baker, Rubem Pereira*

**BICom-S2: Intelligent Computing Systems****Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan**

1. Performance Evaluation of an IoT-Based E-Learning Testbed Using Mean-shift Clustering Approach Considering Delta Type of Brain Waves  
*Masafumi Yamada, Miralda Cuka, Yi Liu, Tetsuya Oda, Keita Matsuo, Leonard Barolli*
2. Performance Evaluation of an Aml Testbed for Improving QoL: Evaluation Using Clustering Approach Considering Distributed Concurrent Processing  
*Ryoichiro Obukata, Miralda Cuka, Donald Elmazi, Shinji Sakamoto, Tetsuya Oda, Leonard Barolli*
3. Evaluation of Spatial Trees for the Simulation of Biological Tissue  
*Ilya Dmitrenok, Viktor Drobnyy, Leonard Johard, Manuel Mazzara*
4. A Novel Pricing Mechanism for Demand Side Load Management in Smart Grid  
*Muhammad Babar Rasheed, Nadeem Javaid, Muhammad Awais, Mariam Akbar, Zahoor Ali Khan*

**ITIS-S2: Psycho-Informatics and Sports Informatics****Chair: Minoru Uehara, Toyo University, Japan**

1. An Evaluation of Psychological-Competitive Ability for Rugby Players Using the Analytic Hierarchy Process  
*Koichiro Aoki, Minoru Uehara, Chieko Kato, Hiroyuki Hirahara*
2. Design of a Sports Mental Cloud  
*Xu Gao, Minoru Uehara*
3. Research on Giant Isopod Concerning the Importance of Biodiversity and its Publicity by using ICT  
*Azusa Ono, Terutoshi Tada, Hiroyuki Kose*
4. Relationship between a Rugby Player's Personality, Length of Experience and Personality and Position  
*Natsumi Yamagata, Yoshinori Watanuki, Koichiro Aoki, Chieko Kato*

**16:00-16:30 Coffee Break****16:30-18:30 Move to Sheraton Hotel****19:00-21:00 Banquet Party**

- Location: Sheraton Grand Taipei Hotel (台北喜來登 B2F)
- Address: 12 Zhong Xiao East Road, Sec 1, Taipei City (台北市忠孝東路一段 12 號)

We show a map in information page (last page).

**Wednesday, March 29, 2017****08:00 Registration****9:00-11:00 Parallel Sessions****AINA-S21: VANETs and WSNs Applications****Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. Data Exchange Strategies for Aggregating Geographical Distribution of Demands for Location-Dependent Information Using Soft-State Sketches in VANETs  
*Akihiro Yamada, Susumu Ishihara*
2. In-Vehicle Cloudlet Computing System for Disaster Information based on Delay Tolerant Network Protocol  
*Yoshitaka Shibata, Masaki Otomo, Goshi Sato*
3. Performance Evaluation of Delayed ACK Method for Message Suppression in VANETs  
*Daichi Koga, Makoto Ikeda, Leonard Barolli*
4. Performance Optimization in Wireless Sensor Networks: A Novel Collaborative Compressed Sensing Approach  
*Muzammil Behzad, Yao Ge*
5. Performance Analysis of Sensor Fusion Models for Brake Pedal in a Brake-by-Wire System  
*Minsu Jo, Youngmi Baek, Ki-Dong-Kang, Seonghun Lee, Sang Hyuk Son*

**AINA-S22: Internet of Things and Social Networking II****Chair: Evangelos Pournaras, ETH Zürich, Switzerland**

1. Engineering Democratization in Internet of Things Data Analytics  
*Evangelos Pournaras, Jovan Nikolic, Alex Omerzel, Dirk Helbing*
2. Sensing and Mining Urban Qualities in Smart Cities  
*Danielle Griego, Varin Buff, Eric Hayoz, Izabela Moise, Evangelos Pournaras*
3. Mining Opinion Leaders in Big Social Network  
*Yi-Cheng Chen, Yi-Hsiang Chen, Chia-Hao Hsu, Hao-Jun You, Jianquan Liu, Xin Huang*
4. Performance Evaluation of Mahout Clustering Algorithms Using a Twitter Streaming Dataset  
*Fatos Xhafa, Adriana Bogza, Santi Caballé*
5. An IoT-Aware Architecture for Smart Healthcare Coaching Systems  
*Akba Amato, Antonio Coronato*
6. An Optimized Priority Enabled Energy Management System for Smart Homes  
*Samia Shah, Rabiya Khalid, Ayesha Zafar, Sardar Mehboob Hussain, Hassan Rahim, Nadeem Javaid*

**AINA-S23: Security and Privacy II****Chair: Takamichi Saito, Meiji University, Japan**

1. Performance Analysis of Sorting of FHE Data: Integer-wise Comparison vs Bit-wise Comparison  
*Harika Narumanchi, Dishant Goyal, Nitesh Emmadi, Praveen Gauravaram*
2. Enhancing Security Attacks Analysis using Regularized Machine Learning Techniques  
*Desta Haileselassie Hagos, Anis Yazidi, Øivind Kure, Paal Engelstad*

3. Mitigating Use-After-Free Attack with Application Program Loader  
*Takamichi Saito, Shuta Kondo, Hiroyuki Miyazaki, Wang Bing, Ryohei Watanabe, Ryota Sugawara, Masateru Yokoyama*
4. The 12th-order Differential Attack on the 10-Round Variants of Midori64 Block Cipher  
*Yusuke Takahashi, Yasutaka Igarashi, Toshinobu Kaneko*
5. Towards Continuous Security Certification of Software-as-a-Service Applications Using Web Application Testing Techniques  
*Philipp Stephanow, Koosha Khajehmoogahi*
6. Securing the Internet of Things: A Worst-Case Analysis of Trade-Off between Query-Anonymity and Communication-Cost  
*Kadhim Hayawi, Pin-Han Ho, Sujith Samuel Mathew, Limei Peng*

### **AINA-S24: Cloud, Data Centers and Services Computing III**

**Chair: Feilong Tang, Shanghai Jiao Tong University, P.R. China**

1. From Event to Evidence: An Approach for Multi-tenant Cloud Services' Accountability  
*Fatma Masmoudi, Mohamed Sellami, Monia Loulou, Ahmed Hadj Kacem*
2. Starvation Avoidance with Deadline Constraints in Hadoop Environments  
*Alexandru-Ciprian Farcasanu, Florin Pop, Mihaela-Catalina Nita, Ciprian Dobre*
3. An Eco Migration of Virtual Machines in a Server Cluster  
*Dilawaer Duolikun, Ryo Watanabe, Tomoya Enokido, Makoto Takizawa*
4. An Efficient Sampling and Classification Approach for Flow Detection in SDN-Based Big Data Centers  
*Feilong Tang, Lu Li, Leonard Barolli, Can Tang*
5. Unit and Integration Testing of Modular Cloud Services  
*Stelios Sotiriadis, Andrus Lehmetz, Euripides G.M. Petrakis, Nik Bessis*
6. Analysing Cloud Services Reviews Using Opining Mining  
*Asma Musabah Alkalbani, Lekhaben Gadhvi, Bhaumik Patel, Farookh Khadeer Hussain, Ahmed Mohamed Ghamry, Omar Khadeer Hussain*

### **BOSON-S1: Modeling and Simulation of Big Data Processing**

**Chair: Flora Amato, Università degli Studi di Napoli Federico II, Italy**

1. Correlation of Digital Evidences in Forensic Investigation by Semantic Technologies  
*Flora Amato, Giovanni Cozzolino, Antonino Mazzeo, Francesco Moscato*
2. Formal Procedural Content Generation in Games Driven by Social Analyses  
*Francesco Moscato*
3. A Deterministic Approach to Improve Inter-domain Parallelism of Clustered MPSoC Interconnects  
*Edoardo Fusella*
4. Multilayer Perceptron: An Intelligent Model for Classification and Intrusion Detection  
*Flora Amato, Nicola Mazzocca, Francesco Moscato, Emilio Vivencio*

### **MAW-S1: Mining and Web Application I**

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

1. Stacked Denoising Autoencoder-based Deep Collaborative Filtering Using the Change of Similarity  
*Yosuke Suzuki, Tomonobu Ozaki*
2. Sequential Representation of Clinical Data for Full-fitting Survival Prediction  
*Jianfei Zhang, Lifei Chen, Aurélien Bach, Josiane Courteau, Alain Vanasse, Shengrui Wang*
3. Extraction of Characteristic Sets of Ingredients and Cooking Actions on Cuisine Type  
*Tomonobu Ozaki, Xia Gao, Mako Mizutani*

4. Tracking Positions of Human Body Parts based on Distance Measurement with Sound Wave  
*Masatoshi Matsumoto, Kazumasa Kaneta, Miyabi Naruoka, Hiroshi Tanaka, Kosuke Takano*
5. A General Framework for Privacy Preserving Sequential Data Publishing  
*A S M Touhidul Hasan, Qingshan Jiang*

### **COLLABES-S1: Smart Environments and Information Systems**

#### **Chair: Tomoya Enokido, Rissho University, Japan**

1. Experimental Evaluation of a Fast Demand Response System for Small/Medium-Scale Office Buildings  
*Toshihiro Mega, Shinji Kitagami, Shigenori Kawawaki, Noriyuki Kushiro*
2. Load Experiment of the Cloud Type Virtual Policy Based Network Management Scheme for the Common Use between Plural Organizations  
*Kazuya Odagiri, Shogo Shimizu, Naohiro Ishii, Makoto Takizawa*
3. Microservice-based IoT for Smart Buildings  
*Kevin Khandu, Dilshat Salikhov, Kamill Gusmanov, Manuel Mazzara, Nikolaos Mavridis*
4. Group Detection Based on User-to-User Distance in Everyday life for Office Lunch Group Recommendation  
*Ryota Koshihara, Yuko Hirabe, Manato Fujimoto, Hirohiko Suwa, Yutaka Arakawa, Keiichi Yasumoto*
5. Developing Control and Monitor System with Recording of Operational Expense of Electrical Devices  
*Siti Sendari, Heru Wahyu Herwanto, Yuni Rahmawati, Dendi Mukti Putranto, Fauzy Satrio Wibowo, Indriyani Rachman, Matsumoto Toru*

### **DC2-S1: IoT and Cloud**

#### **Chair: Jaehoon Jeong, Sungkyunkwan University, Korea**

1. DNSv4: DNS Name Autoconfiguration for Internet-of-Things Devices in IPv4 Networks  
*Keuntae Lee, Seokhwa Kim, Jaehoon (Paul) Jeong*
2. Architecture for Automatic Generation of User Interaction Guides with Intelligent Assistant  
*Inchul Hwang, Jinhe Jung, Jaedeok Kim, Youngbin Shin, Jeong-Su Seol*
3. OCF: A New Open IoT Consortium  
*Soohong Park*

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

## **11:30-13:30 Parallel Sessions**

### **AINA-S25: Autonomic and Trustworthy Computing**

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

1. Data-Driven Approach for Evaluating Risk of Disclosure and Utility in Differentially Private Data Release  
*Chia-Mu Yu, Kang-Cheng Chen, Bo-Chen Tai, Szu-Chuang Li, Yennun Huang, Chia-Ming Lin, Yao-Tung Tsou*
2. FEAST: An Automated Feature Selection Framework for Compilation Tasks  
*Pai-Shun Ting, Chun-Chen Tu, Pin-Yu Chen, Ya-Yun Lo, Shin-Ming Cheng*
3. A Trust Management Framework for Cloud Computing Platforms  
*Yefeng Ruan, Arjan Durresi*
4. Adaptive Risk Management Framework for Cloud Computing  
*Manel Medhioub, Mohamed Hamdi, Tai-Hoon Kim*
5. A Trustworthiness-based Ad-hoc Routing Protocol in Wireless Networks  
*Emi Ogawa, Shigenari Nakamura, Makoto Takizawa*
6. A Trust Based Distributed Intrusion Detection Mechanism for Internet of Things  
*Zeeshan Ali Khan, Peter Herrmann*

**AINA-S26: Intelligent and Semantic Computing****Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan**

1. Performance Analysis by WMN-GA Simulation System for Different WMN Architectures Considering Exponential Distribution, Different Transmission Rates and OLSR Protocol  
*Keita Matsuo, Tetsuya Oda, Ryoichiro Obukata, Masafumi Yamada, Leonard Barolli*
2. Implementation of an Intelligent Hybrid Simulation System for Node Placement Problem in WMNs Considering Particle Swarm Optimization and Simulated Annealing  
*Shinji Sakamoto, Ryoichiro Obukata, Tetsuya Oda, Leonard Barolli, Makoto Ikeda*
3. Cluster-than-Label: Semi-supervised Approach for Domain Adaptation  
*Santosh Kumar, Xiaoying Gao., Ian Welch*
4. A Reuse-based Approach to Promote the Adoption of Visualizations for Network Management Tasks  
*Vinicius Tavares Guimaraes, Oscar Mauricio Caicedo Rendon, Glederson Lessa dos Santos, Guilherme da Cunha Rodrigues, Carla Maria Dal Sasso Freitas, Liane Margarida Rockenbach Tarouco, Lisandro Zambenedetti Granville*
5. Refining Visual Activity Recognition with Semantic Reasoning  
*Nathan Ramoly, Vincent Vassout, Amel Bouzeghoub, Mounim A. El Yacoubi, Mossaab Hariz*

**AINA-S27: Security and Privacy III****Chair: Fang-Yie Leu, TungHai University, Taiwan**

1. Privacy-Preserving Multiple Linear Regression of Vertically Partitioned Real Medical Datasets  
*Hiroaki Kikuchi, Chika Hamanaga, Hideo Yasunaga, Hiroki Matsui, Hideki Hashimoto*
2. Cognitive Keys in Personalized Cryptography  
*Marek R. Ogiela, Lidia Ogiela*
3. An MFCC-based Speaker Identification System  
*Leu, Fang-Yie, Guan-Liang Lin*
4. Access Control for Plugins in Cordova-based Hybrid Applications  
*Naoki Kudo, Toshihiro Yamauchi, Thomas H. Austin*
5. A Privacy-reserved Approach for Message Forwarding in Opportunistic Networks  
*Xiaojie Wang, Lei Wang, Zhaolong Ning*
6. Safety and Standardization of Data Sharing Techniques and Protocols for Management of Strategic Data  
*Lidia Ogiela, Marek R. Ogiela, Makoto Takizawa*

**FINA-S6: Scalable and High Performance Computing****Chair: Naohiro Hayashibara, Kyoto Sangyo University, Japan**

1. Algorithms to Energy-efficiently Select a Server for a General Process in a Scalable Cluster  
*Atsuhiro Sawada, Shigenari Nakamura, Hiroki Kataoka, Tomoya Enokido, Makoto Takizawa*
2. Simple Energy-aware Algorithms for Selecting a Server in a Scalable Cluster  
*Hiroki Kataoka, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*
3. A Comprehensive Analysis on Data Hazard for RISC32 5-Stage Pipeline Processor  
*Wei Pau Kiat, Kai Ming Mok, Wai Kong Lee, Hock Guan Goh, Ivan Andonovic*
4. Fair Adaptive Resource Allocation Scheme for an OpenFlow-based Virtual Network  
*Nihed Bahria El Asghar, Mounir Frikha*
5. Fault Tolerance in a Cloud of Databases Environment  
*Syrine Chatti, Habib Ounelli*
6. Merging Topic Groups of a Publish/Subscribe System in Causal Order  
*Yuta Yamamoto, Naohiro Hayashibara*

**BOSON-S2: Technologies for Online Social Network Data Processing****Chair: Flora Amato, Università degli Studi di Napoli Federico II, Italy**

1. A system for automatic personalization of the visiting path based on user's behaviour  
*Flora Amato, Antonio Picariello, Vincenzo Moscato*
2. DiG-Park: a smart parking availability searching method using V2V/V2I and DGP-class problem  
*Walter Balzano, Fabio Vitale*
3. Let's gossip: exploring malware zero-day time windows by social network analysis  
*Fiammetta Marulli, Francesco Mercaldo*

**MAW-S2: Mining and Web Application II****Chair: Kin Fun Li, University of Victoria, Canada**

1. Extraction of Characteristic Frequent Visual Patterns by Distributed Representation  
*Saki Kawanobe, Tomonobu Ozaki*
2. Improvement of the Interface of Smartphone for an Active Learning with High Learning Concentration  
*Noriyasu Yamamoto, Noriki Uchida*
3. The Need for Audit-Capable E-Voting Systems  
*Suzanne Mello-Stark, Edmund A. Lamagna*
4. Detecting Anomalies in the Data Residing Over the Cloud  
*Deepali Arora, Kin Fun Li*

**COLLABES-S2: Collaborative and Secure Systems****Chair: Tetsuya Shigeyasu, Prefectural University of Hiroshima, Japan**

1. Enterprise Digital Rights Management for Document Protection  
*Rajidi Satish Chandra Reddy, Srinivas Reddy Gopu*
2. Topic-based Selective Delivery of Event Messages in Peer-to-peer Model of Publish/Subscribe Systems in Heterogeneous Networks  
*Hiroki Nakayama, Emi Ogawa, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*
3. Effective Content Management Technique Based on Cooperation Cache Among Neighboring Routers in Content-Centric Networking  
*Miho Aoki, Tetsuya Shigeyasu*
4. Deep Learning Analysis of Amodal Completion CAPTCHA with Colors and Hidden Positions  
*Tomoka Azakami, Ryuya Uda*

**DC2-S2: Vehicular Networks and Security****Chair: Jaehoon Jeong, Sungkyunkwan University, Korea**

1. TOMS: TCP Context Migration Scheme for Efficient Data Services in Vehicular Networks  
*JunSik Jeong, Yiwen (Chris) Shen, Jaehoon (Paul) Jeong, Tae (Tom) Oh, Junghyun Jun, Sang Hyuk Son*
2. Design and Implementation of Vehicular Network Simulator for Data Forwarding Scheme Evaluation  
*Bien Aime Mugabarigira, Yiwen (Chris) Shen, Jaehoon (Paul) Jeong, Tae (Tom) Oh, Sang Hyuk Son*
3. An Assistive System for Android Malware Analysis to Increase Malware Analysis Efficiency  
*Tae Oh*
4. Design of a Secure Digital Recording Protection System with Network Connected Devices  
*Hyoungshick Kim*

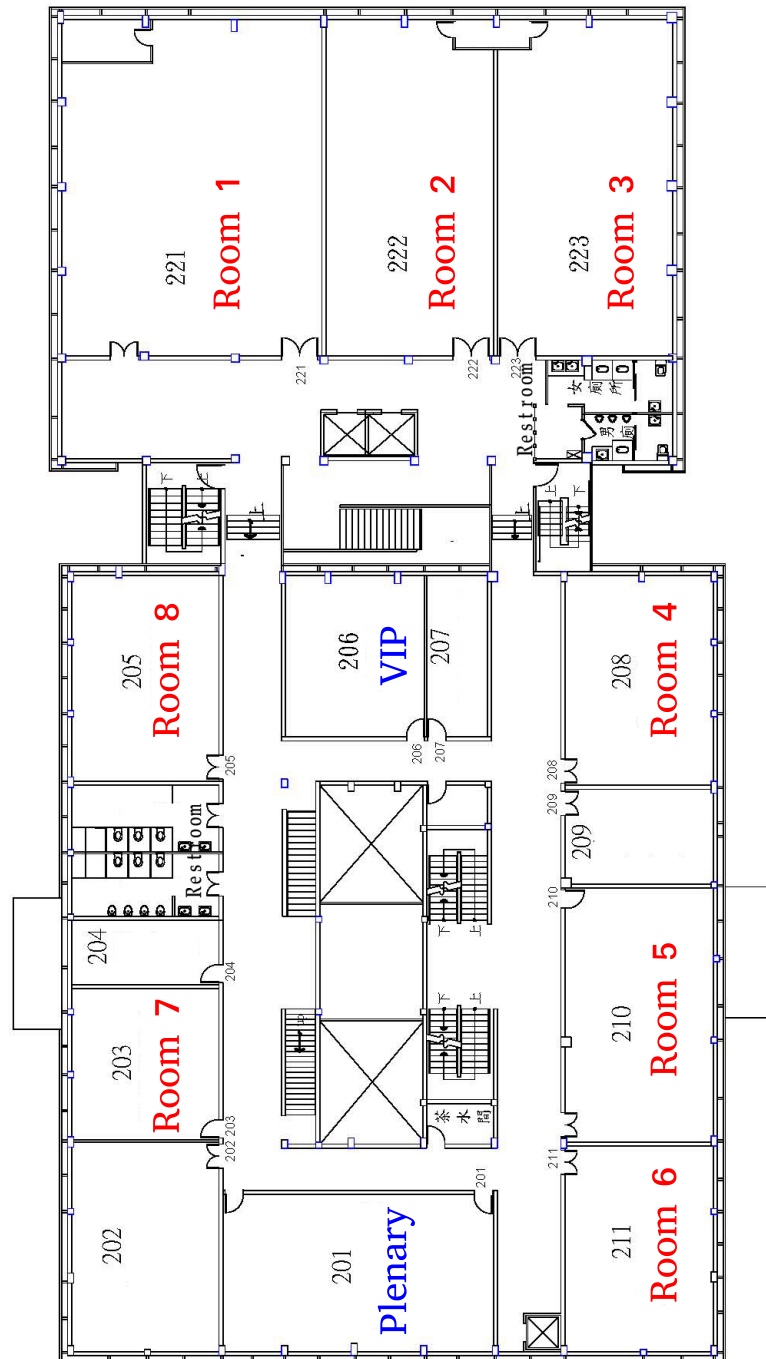
**AINA-2017 Session Schedule**  
**March 27 - 29, 2017**  
**Taipei, Taiwan**

<b>Monday (March 27, 2017)</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>ROOM 8</b>
<b>Slot</b>	<b>Time</b>	Registration							
<b>Session 1</b>	<b>09:00 - 10:20</b>	Opening Ceremony and AINA-2017 Keynote I (Plenary Room)							
Coffee Break	10:20 - 10:40	Coffee Break							
<b>Session 2</b>	<b>10:40 - 12:40</b>	AINA S1	AINA S2	AINA S3	AINA S4	FINA S1	WITIN S1	HWISE S1	IWDENS S1
Lunch	12:40 - 13:40	Lunch Break							
<b>Session 3</b>	<b>13:40 - 15:40</b>	AINA S5	AINA S6	AINA S7	AINA S8	FINA S2	WITIN S2	HWISE S2	IWDENS S2
Coffee Break	15:40 - 16:00	Coffee Break							
<b>Session 4</b>	<b>16:00 - 18:00</b>	AINA S9	AINA S10	AINA S11	AINA S12	FINA S3	WITIN S3	NeTMM S1	PAEWN S1
Social Event	18:30 - 20:30	Welcome Reception Party							

<b>Tuesday (March 28, 2017)</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>ROOM 8</b>
<b>Slot</b>	<b>Time</b>	Registration							
<b>Session 1</b>	<b>09:00 - 10:30</b>	AINA-2017 Keynote II (Plenary Room)							
Coffee Break	10:30 - 11:00	Coffee Break							
<b>Session 2</b>	<b>11:00 - 13:00</b>	AINA S13	AINA S14	AINA S15	AINA S16	FINA S4	TENAS S1	BICOM S1	ITIS S1
Lunch	13:00 - 14:00	Lunch Break							
<b>Session 3</b>	<b>14:00 - 16:00</b>	AINA S17	AINA S18	AINA S19	AINA S20	FINA S5	TENAS S2	BICOM S2	ITIS S2
Coffee Break	16:00 - 16:30	Coffee Break							
Social Event	<b>16:30 - 18:30</b>	Move to Sheraton Hotel							
	19:00 - 21:00	Banquet Party							

<b>Wednesday (March 29, 2017)</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>ROOM 8</b>
<b>Slot</b>	<b>Time</b>	Registration							
<b>Session 1</b>	<b>09:00 - 11:00</b>	AINA S21	AINA S22	AINA S23	AINA S24	BOSON S1	MAW S1	COLLABES S1	DC2 S1
Coffee Break	11:00 - 11:30	Coffee Break							
<b>Session 2</b>	<b>11:30 - 13:30</b>	AINA S25	AINA S26	AINA S27	FINA S6	BOSON S2	MAW S2	COLLABES S2	DC2 S2





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