# PROGRAM GUIDE

## CISIS-2018

The 12-th International Conference on
Complex, Intelligent, and Software Intensive Systems

and

## IMIS-2018

The 12-th International Conference on
Innovative Mobile and Internet Services in Ubiquitous Computing

July $4^{th}$ - July $6^{th}$, 2018

Kunibiki Messe, Matsue, Shimane, Japan

Supported by:

松江市  島根県
Shimane Prefectural Government

Matsue City          Shimane Prefecture

Support Center for Advanced Telecommunications
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# Welcome Message of CISIS-2018 International Conference Organizers

Welcome to the 12-th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2018), which will be held from July 4 to July 6, 2018, at Kunibiki Messe, Matsue, Japan in conjunction with the 12-th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2018).

The aim of the conference is to deliver a platform of scientific interaction between the three interwoven challenging areas of research and development of future ICT-enabled applications: Software Intensive Systems, Complex systems and Intelligent Systems.

Software Intensive Systems are systems, which heavily interact with other systems, sensors, actuators, devices, other software systems and users. More and more domains are involved with software intensive systems, e.g. automotive, telecommunication systems, embedded systems in general, industrial automation systems and business applications. Moreover, the outcome of web services delivers a new platform for enabling software intensive systems. The conference is thus focused on tools, practically relevant and theoretical foundations for engineering software intensive systems.

Complex Systems research is focused on the overall understanding of systems rather than its components. Complex Systems are very much characterized by the changing environments in which they act by their multiple internal and external interactions. They evolve and adapt through internal and external dynamic interactions.

The development of Intelligent Systems and agents, which is each time more characterized by the use of ontologies and their logical foundations build a fruitful impulse for both Software Intensive Systems and Complex Systems. Recent research in the field of intelligent systems, robotics, neuroscience, artificial intelligence, and cognitive sciences are very important factor for the future development and innovation of software intensive and complex systems.

The CISIS-2018 is aiming at delivering a forum for in-depth scientific discussions amongst the three communities. The papers included in the proceedings cover all aspects of theory, design and application of complex systems, intelligent systems and software intensive systems. The conference received 201 papers and accepted 57 papers (about 28 % acceptance rate), which were selected after a careful review process.

We are very proud and honored to have 2 distinguished keynote talks by Dr. Farookh Khadeer Hussain, University of Technology Sydney (UTS), Australia and Prof. Takahiro Hara, Osaka University, Japan, who will present their recent work and will give new insights and ideas to the conference participants.

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 CISIS-2018 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers, the Program Committee Members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers. We are grateful to Honorary Chair Prof. Makoto Takizawa, Hosei University, Japan for his guidance and advices.

This year in conjunction with CISIS-2018 we have 8 International Workshops that complemented CISIS-2018 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 Donald Elmazi, Yi Liu, Miralda Cuka and Kosuke Ozera, Fukuoka Institute of Technology, Japan as Web Administrators for their excellent and timely work. Finally, we would like to thank: Matsue City, Shimane Prefecture, The Kajima Foundation, Japan, for their support.

We hope you will enjoy the conference and have a great time in Matsue City, Japan.

**CISIS 2018 Organizers**

**CISIS-2018 General Chair**
**Leonard Barolli**, *Fukuoka Institute of Technology (FIT), Japan*

**CISIS-2018 Program Committee Co-Chairs**
**Makoto Ikeda**, *Fukuoka Institute of Technology, Japan*
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**Isaac Woungang**, *Ryerson University, Canada*

## Welcome Message from CISIS-2018 Workshops Co-Chairs

Welcome to the Workshops of the 12-th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2018), which will be held from July 4 to July 6, 2018 at Kunibiki Messe, Matsue, Japan.

We are pleased that for this edition of CISIS International Conference we have 8 International Workshops. Some of these workshops are in 7-th, 8-th 9-th, 10-th, 11-th and 12-th editions. The objective was to complement as much as possible the main theme of CISIS 2018 with specific topics of different workshops in order to cover topics from the three challenging areas of ICT-enabled applications: Software Intensive Systems, Complex Systems and Intelligent Systems.

The list of workshops is as follows.

1. The 12-th International Workshop on Engineering Complex Distributed Systems (ECDS-2018)

2. The 11-th International Workshop on Engineering Parallel and Multi-Core Systems (ePaMus-2018)

3. The 11-th International Workshop on Intelligent Informatics and Natural Inspired Computing (IINIC-2018)

4. The 9-th International Workshop on Frontiers on Complex, Intelligent and Software Intensive Systems (FCISIS-2018)

5. The 9-th International Workshop on Virtual Environment and Network-Oriented Applications (VENOA 2018)

6. The 8-th Semantic Web/Cloud Information and Services Discovery and Management (SWISM-2018)

7. The 8-th International Workshop on Intelligent Computing In Large-Scale Systems (ICLS-2018)

8. The 2-nd International Workshop on Motion Capture and Classification (MC2-2018)

These workshops bring to the researchers conducting research in specific themes the opportunity to learn from this rich multi-disciplinary experience. The Workshop Co-Chairs would like to thank CISIS-2018 International Conference Organizers for their help and support. We are grateful to the workshops organizers for their great efforts and hard work in proposing the workshops, selecting the papers, the interesting programs and for the arrangements of the workshops during the conference days. We are grateful to Donald Elmazi, Yi Liu, Miralda Cuka and Kosuke Ozera, Fukuoka Institute of Technology, Japan for their excellent work and support as Web Administrators.

We hope you enjoy the workshops program and proceedings.

**Workshops Co-Chairs of CISIS-2018 International Conference**

**Hiroaki Nishino**, *Oita University, Japan*
**Nadeem Javaid**, *COMSATS Institute of IT, Pakistan*
**Olivier Terzo**, *Mario Boella Institute, Italy*

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# Welcome Message of IMIS-2018 International Conference Organizers

Welcome to the 12-th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2018), which will be held from July 4-th to July 6-th, 2018, at Kunibiki Messe, Matsue, Japan in conjunction with the 12-th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2018).

This International Conference focuses on the challenges and solutions for Ubiquitous and Pervasive Computing (UPC) with an emphasis on innovative, mobile and internet services. With the proliferation of wireless technologies and electronic devices, there is a fast growing interest in UPC. UPC enables to create a human-oriented computing environment where computer chips are embedded in everyday objects and interact with physical world. Through UPC, people can get online even while moving around, thus having almost permanent access to their preferred services. With a great potential to revolutionize our lives, UPC also poses new research challenges. The conference provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of UPC.

For IMIS-2018, we received many paper submissions from all over the world. The papers included in the proceedings cover important aspects from UPC research domain. This year, we received 168 submissions and after a careful review process of 3 independent reviews per submission, 47 papers were accepted (about 28% acceptance rate).

It is impossible to organize such a successful program without the help of many individuals. We would like to express our great appreciation to the authors of the submitted papers, the program committee members, who provided timely and significant reviews, and special session chairs for their great efforts. We are grateful to Honorary Chair: Prof. Makoto Takizawa, Hosei University, Japan for his advices and support.

This year in conjunction with IMIS-2018 we have 7 International Workshops that complemented IMIS-2018 program with contributions for specific topics. We would like to thank the Workshop Co-Chairs and all workshop organizers for organizing these workshops.

We thank Donald Elmazi, Yi Liu, Miralda Cuka and Kosuke Ozera, Fukuoka Institute of Technology, Japan for their excellent work and support as Web Administrators.

Finally, we would like to thank: Matsue City, Shimane Prefecture, Support Center for Advanced Telecommunications Technology Research (SCAT), Foundation, Japan, for their support.

We hope that all of you enjoy IMIS-2018 and find this a productive opportunity to learn, exchange ideas and make new contacts.

### IMIS-2018 International Conference Organizers

### IMIS-2018 General Chair
**Leonard Barolli**, *Fukuoka Institute of Technology (FIT), Japan*

### IMIS-2018 Program Committee Co-Chairs
**Tomoya Enokido**, *Rissho University, Japan*
**Nadeem Javaid**, *COMSATS Institute of IT, Pakistan*
**Hsing-Chung Chen**, *Asia University, Taiwan*

# Welcome Message from IMIS-2018 Workshops Co-Chairs

Welcome to the Workshops of the 12-th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2018), which will be held from July 4-th to July 6-th, 2018 at Kunibiki Messe, Matsue, Japan.

This year we have 7 workshops, which will be held together with IMIS-2018. The objective was to complement as much as possible the main themes of IMIS-2018 with the specific topics of the different workshops to cover many topics of Ubiquitous and Pervasive Computing (UPC).

The list of workshops follows below:

1. The 12-th International Workshop on Advances in Information Security (WAIS-2018)

2. The 8-th International Workshop on Mobile Commerce, Cloud Computing, Network and Communication Security (MCNCS-2018)

3. The 8-th International Workshop on Intelligent Techniques and Algorithms for Ubiquitous Computing (ITAUC-2018)

4. The 8-th international workshop on Future Internet and Next Generation Networks (FINGNet-2018)

5. The 7-th International Workshop on Frontiers in Innovative Mobile and Internet Services (FIMIS-2018)

6. The 7-th International Workshop on Sustainability Management of e-Business and Ubiquitous Commerce Engineering (SMEUCE-2018)

7. The 4-th International Workshop on Big Data and IoT Security (BDITS-2018)

We would like to thank IMIS-2018 International Conference Organizers for their help and support. We are grateful to the workshop organizers for their great efforts and hard work in proposing the workshops, selecting the papers, organizing interesting programs, and for the arrangements of the workshops during the conference days.

We are grateful to Donald Elmazi, Yi Liu, Miralda Cuka and Kosuke Ozera, Fukuoka Institute of Technology, Japan for their excellent work and support as Web Administrators.

We hope you enjoy the workshops programs and proceedings.

**Workshops Co-Chairs of IMIS-2018 International Conference**

**Hae-Duck Joshua Jeong**, *Korean Bible University, Korea*
**Hiroaki Kikuchi**, *Meiji University, Japan*
**Fang-Yie Leu**, *Tunghai University, Taiwan*

# CISIS-2018 & IMIS-2018 Keynote I



**Prof. Takahiro Hara, Osaka University, Japan**

**SNS as Social Sensors: Technologies for Extracting Knowledge from SNSs**

**Abstract:**   Due to surprisingly rapid popularization of smart phones and Social Network Services (SNSs), ordinary people generate and share a large amount of data using SNSs on smart phones. Recent studies have revealed that messages posted on SNSs such as twitter can be used for detecting various kinds of facts in the real world such as events, trends, and user sentiment, which can be considered as kinds of social sensor data. Social sensor data are very useful for Big Data analysis because these tell many things representing the real world, which cannot be known by only analyzing traditional Big Data.

   In this talk, we will present our recent studies on social sensing based on data mining on SNSs such as Twitter. We will start with our approaches for knowledge extraction from Twitter, and then move on to some fundamental techniques which can be used commonly for such knowledge extraction. We will also present our on-going work for building a framework to share not only social sensor data (i.e., SNS analytical results) but also definitions of social sensor data and analytical procedures. We will conclude this talk with some discussion on future research opportunities for social sensing.

# CISIS-2018 & IMIS-2018 Keynote II



**Dr. Farookh Khadeer Hussain, University of Technology Sydney (UTS), Australia**

**Fog Computing: A New Research Direction in Distributed Computing - Applications, Issues and Challenges**

**Abstract:** The objective of this talk is to introduce the emerging research area of 'Fog Computing' or 'Edge Computing' and discuss the research opportunities and research challenges in this area. In order to do so, firstly, this talk presents the transition in the discipline of Distributed Computing from 'Grid Computing' to 'Cloud Computing' to 'Cloud-of-Things' and then to a 'Fog computing' environment. It then highlights clearly the role of 'Internet-of Things' and 'Cloud Computing' in realizing 'Fog Computing'. Secondly, it briefly discusses some research issues and challenges associated with realizing and developing practical Fog Computing-driven solutions. Finally, it outlines and discusses the future role of 'Cloud-of-Things' in achieving business efficiencies in both developed and developing economies.

# CISIS-2018
# Main Conference and Workshops Program

**Wednesday, July 4, 2018**

## 08:00 Registration

## 09:00-10:00 Single Session: Opening Ceremony and CISIS-2018 & IMIS-2018 Keynote I

**CISIS-2018 & IMIS-2018 Keynote Talk I (PLENARY ROOM)**

**Prof. Takahiro Hara:** SNS as Social Sensors: Technologies for Extracting Knowledge from SNSs

## 10:00-10:30 Coffee Break

## 10:30-12:30 Parallel Sessions

## CISIS-S1: Cloud Computing

### Chair: Klodiana Goga, Istituto Superiore Mario Boella, Italy

1. Performance of WRF Cloud Resolving Simulations with Data Assimilation on Public Cloud and HPC Environments
   *Klodiana Goga, Luca Pilosu, Antonio Parodi, Martina Lagasio, Olivier Terzo*

2. Towards Energy Efficient Orchestration of Cloud Computing Infrastructure
   *Alberto Scionti, Klodiana Goga, Francesco Lubrano, Olivier Terzo*

3. Efficient Load Balancing and Integration Protocols for Mobile Cloud Computing in Disaster Situations
   *Yoshitaka Shibata, Masaki Otomo, Goshi Sato, Noriki Uchida*

4. Influence of Management and Sharing Protocols for Decision Making Processes in Cloud Computing
   *Urszula Ogiela, Makoto Takizawa, Lidia Ogiela*

5. Fall Detection System based on Deep Learning and Image Processing in Cloud Environment
   *Leixian Shen, Qingyun Zhang, Guoxu Cao, He Xu*

6. CRRP Analysis of Cloud Computing in Smart Grid
   *Rahim Ullah, Nadeem Javaid, Zafar Iqbal, Iftikhar Ahmad, Avais Jan, Yasir Khan Jadoon*

## CISIS-S2: Smart Grid and Energy Efficient Systems

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

1. Home Energy Management using Optimization Techniques
   *Isra Shafi, Nadeem Javaid, Yasir Amir, Asma Tahir, Kashif Naseem, Tariq Hanif*

2. An Eco IDMMV Migration Algorithm of Dynamic Virtual Machines in a Server Cluster
   *Dilawaer Duolikun, Ryo Watanabe, Tomoya Enokido, Makoto Takizawa*

3. Energy-Efficient Process Replication by Forcing Meaningless Replicas to Terminate in Virtual Machine Environment
   *Tomoya Enokido, Dilawaer Duolikun, Makoto Takizawa*

4. Application of Bird Swarm Algorithm for Solution of Optimal Power Flow Problems
   *Manzoor Ahmad, Nadeem Javaid, Iftikhar Azim Niaz, Sundus Shafiq, Obaid Ur Rehman, Hafiz Majid Hussain*

5. Load Prediction Based on Multivariate Time Series Forecasting for Energy Consumption and Behavioral Analytics
   *Mahnoor Khan, Nadeem Javaid, Muhammad Nabeel Iqbal, Muhammad Bilal, Syed Farhan Ali Zaidi, Rashid Ali Raza*

6. An Optimal Power Flow Approach for Stochastic Wind and Solar Energy Integrated Power Systems
   *Sundas Shafiq, Nadeem Javaid, Sikandar Asif, Farwa Ali, Nasir Hussain Chughtai, Nouman Khurshid, Yuehjen E. Shao, Shih-Chieh Lin*

## VENOA-S1: Innovative Applications 1

### Chair: Hiroaki Nishino, Oita University, Japan

1. Opening
   *Hiroaki Nishino and Yong-Moo Kwon*

2. A Proposal of Code Completion Problem for Java Programming Learning Assistant System
   *Htoo Htoo Sandi Kyaw, Shwe Thinzar Aung, Hnin Aye Thant, Nobuo Funabiki*

3. Web-based VR System for Operation Training of Medical Therapy Devices
   *Kotaro Kuroda, Kosuke Kaneko, Toshioh Fujibuchi, Yoshihiro Okada*

4. Efficient Query Transmission Using Route Selection Records and Multiple Dynamic Network Agents
   *Yukihiro Ito and Shinji Sugawara*

5. Design of a Supporting System for Consultation of Instructional Improvement
   *Yusei Suzuki, Ryuichi Matsuba, Katsuaki Suzuki, Toshihiro Kita, Shin-Ichiro Kubota, Hiroaki Nishino*

**FCISIS-S1: Complex Intelligent and Software Intensive Systems**

**Chair: Hiroshi Maeda, Fukuoka Institute of Technology**

1. Towards Real-time Opportunistic Scheduling of the Home Appliances using Evolutionary Techniques
   *Zunaira Nadeem, Nadeem Javaid, Asad Waqar Malik, Aqib Jamil, Itrat Fatima, Muhammad Usman Khalid*

2. Network System Integration Technique Research Based on DDS
   *Hai-wen Sun, Xiao-fang Xie, Wei Pang*

3. Channel Routing by T-shaped Branch Waveguide with Periodic Structure
   *Hiroshi Maeda*

4. Officer Profile Management System Using by Cloud Computing Services
   *Kyaw Zaw Ye, Kyaw Myo Htun, Zaw Htet, Soe Myint Maung*

5. A Deep Q-Network Based Simulation System for Actor Node Mobility Control in WSANs Considering Three-dimensional Environment: A Comparison Study for Normal and Uniform Distributions
   *Tetsuya Oda, Elis Kulla, Kengo Katayama, Makoto Ikeda, Leonard Barolli*

# 12:30-14:00 Lunch Break

# 14:00-16:00 Parallel Sessions

**CISIS-S3: Group Communication and Navigiation Systems**

**Chair: Akimitsu Kanzaki, Shimane University, Japan**

1. Proposal of Navigation System based on System Optimal Traffic Assignment
   *Weibin Wang, Minoru Uehara, Haruo Ozaki*

2. Evaluation of a Protocol to Prevent Malicious Information Flow in P2PPS Systems
   *Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*

3. A P2P-based Data Storing Method for Participatory Sensing
   *Akimitsu Kanzaki and Katsumi Kuwabara*

4. Measurement and Algorithm for Overlapping Community Partitioning in Bipartite Networks
   *Bo-Lun Chen, Yan Yuan, Yong-Jun Zhang, Fen-Fen Li, Qiang Yu*

5. Personalized Group Recommendation Model based on Argumentation Topic
   *Caiquan Xiong, Ke Lv, Hao Wang, Caiyun Qi*

6. A Fine-grained Ontology-based Sentiment Aggregation Approach
   *Monireh Alsadat Mirtalaie, Omar Khadeer Hussain, Elizabeth Chang, Farookh Khadeer Hussain*

**CISIS-S4: Intelligent Systems and Applications**

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

1. Hybrid Bacterial Foraging Tabu Search Energy Optimization Technique in Smart Homes
   *Muhammad Usman Khalid, Nadeem Javaid, Muhammad Nadeem Iqbal, Aqib Jamil, Naveed Anwar, Qazi Muhammad Fazal E Haq*

2. A Hybrid Tabu-Enhanced Differential Evolution Meta-heuristic Optimization Technique for Demand Side Management in Smart Grid
   *Nadeem Javaid, Syed Shahab Zarin, Ihtisham Ullah, Mohsin Kamal , Urva Latif, Rahim Ulla*

3. Performance Evaluation of WMN-PSOSA Considering Exponential and Weibull Distributions
   *Shinji Sakamoto, Admir Barolli, Kosuke Ozera, Leonard Barolli, Shusuke Okamoto, Makoto Takizawa*

4. A Fuzzy-based Plant Cultivation Support System
   *Gaku Tsuchiya, Eri Takebayashi, Makoto Ikeda, Leonard Barolli*

5. A Hybrid Bat-crow Search Algorithm based Home Energy Management in Smart Grid
   *Pamir Shams, Nadeem Javaid, Syed Muhammad Mohsin, Arshad Iqbal, Anila Yasmeen, Ihsan Ali*

6. A Fuzzy-based Approach for Selection of Actor Nodes in WSANs Considering Size of Giant Component as New Parameter
   *Donald Elmazi, Miralda Cuka, Makoto Ikeda, Leonard Barolli*

## VENOA-S2: Innovative Hardware and Software

## Chair: Yong-Moo Kwon, Korea Institute of Science and Technology, Korea

1. Draft Design of Distributed Ledger based Peer-to-Peer Business Platform
   *ByungRae Cha, Sun Park, ByeongChun Shin, JongWon Kim*

2. A Method of Hardware-Trojan Detection Using Design Verification Techniques
   *Yushiro Hiramoto and Satoshi Ohtake*

3. Classification of Arteriovenous Fistula Stenosis using Shunt Murmurs Analysis and Support Vector Machine
   *Daisuke Higashi, Keiko Tanaka, Satoko Shin, Keisuke Nishijima, Ken'ichi Furuya*

4. Reducing Computational Complexity of Multichannel Nonnegative Matrix Factorization Using Initial Value Setting for Speech Recognition
   *Taiki Izumi, Ryo Aihara, Toshiyuki Hanazawa, Yohei Okato, Takanobu Uramoto, Shingo Uenohara, Ken'ichi Furuya*

5. A Mechanism of Operation Monitoring for Motor-impaired Persons in Controlling a PC through a Mobile Touch-type Device
   *Shoma Fukuhara, Soichiro Yamasita, Shigeki Matsubara, Makoto Nakashima*

## MC2-S1: Motion Capture and Classification

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

1. Camshift Target Tracking Based on Gaussian Background Difference and Adaboost Combination
   *Bin Cong and Zhefu Wang*

2. Research on Modeling and Control of Carrier-based Aircraft Steam Ejection Take-off System
   *Dapeng Xiu and Shenquan Wang*

3. Feasibility Study on Deep Learning Scheme for Sign Language Motion Recognition
   *Kazuki Sakamoto, Eiji Ota, Tatsunori Ozawa, Hiromitsu Nishimura, Hiroshi Tanaka*

4. Motion Processing and Big Data
   *Kin Fun Li and Linlin Zhang*

5. Classification of Tennis Swing Motions using Deep Learning
   *Hayato Tsukiji, Huynh Chi, Kosuke Takano, Kin Fun Li*

# 16:00-16:30 Coffee Break

# 16:30-18:30 Parallel Sessions

## CISIS-S5: Multimedia Systems and Applications

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

1. Residual Reconstruction Algorithm Based on Sub-pixel Multi-hypothesis Prediction for Distributed Compressive Video Sensing
   *Rui Chen, Ying Tong, Jie Yang, Minghu Wu*

2. Robust Facial Expression Recognition Based on Local tri-Directional Coding Pattern
   *Ying Tong, Rui Chen, Jie Yang, Minghu Wu*

3. Storing and Compressing Video into Neural Networks by Overfitting
   *Hiroki Egawa and Yuichiro Shibata*

4. Thai Sentiment Resource Using Thai WordNet
   *Ponrudee Netisopakul and Kanlaya Thongiad*

5. A PCA Interpretation of the Glasgow Coma Scale in the Trauma Brain Injury PECARN Dataset
   *Orazio Gambino, Antonia India, Mariangela Sciandra, Roberto Pirrone*

6. Information Extraction for Cultural Heritage Knowledge Acquisition using Word Vector Representation
   *Watchira Buranasing and Suronapee Phoomvuthisarn*

## CISIS-S6: Security and Trsut Computing

## Chair: Fumiaki Sato, Toho University, Japan

1. Trust-Based Decision Support System for Planning among Food-Energy-Water Actors
   *Suleyman Uslu, Yefeng Ruan, Arjan Durresi*

2. Securing of Clouds Based on Lightweight Secure Multi-party Computation
   *Kouta Takahashi and Fumiaki Sato*

3. An Optimization Safety Solution For Sip Call Base On ESP
   *Wenchuan Yang, Zhen Fu, Jinxin Ma*

4. Network Malicious Behavior Detection using Bidirectional LSTM
   *Chen Wenwu, Su Yang, Wang Xu An, Zhang Wei, Zhang Jindan*

5. Fuzzing Test Method based on Constraint-conditions Priority for LTE-EPC Protocol
   *Jingling Zhao, Zhan Su, Jinxin Ma, Baojiang Cui*

## VENOA-S3: Innovative Applications 2

## Chair: Nobuo Funabiki, Okayama University, Japan

1. Tangible Social Content Service System: Making Digital Technology Easier to Use by Elderly and Its Usability Evaluation
   *Masooma Zehra Syeda, Meeree Park, Yujeong Kim, Yong-Moo Kwon*

2. A Method of Neural Style Transfer for Images with Artistic Characters
   *Kenta Goto and Hiroaki Nishino*

3. Evaluating Classification Methods in Snore Activity Detection
   *Keisuke Nishijima, Shingo Uenohara, Ken'ichi Furuya*

4. Study on Regional Transportation Linkage System that Enables Efficient and Safe Movement utilizing LPWA
   *Eiji Aoki, Shinji Otsuka, Takeshi Ikenaga, Masaaki Yatsuzuka, Kazuhiro Tokiwa*

5. A Safe Driving Support Method Using Olfactory Stimuli
   *Shinya Okazaki, Toshiyuki Haramaki, Hiroaki Nishino*

## IINIC-S1: Intelligent and Natural Inspired Computing

## Chair: Klodiana Goga, Istituto Superiore Mario Boella, Italy

1. Region Oriented Integrated Fog and Cloud based Environment for Efficient Resource Distribution in Smart Buildings
   *Itrat Fatima, Sakeena Javaid, Nadeem Javaid, Isra Shafi, Zunaira Nadeem, Rahim Ullah*

2. An Evaluation of Neural Netwoks Performance for Job Scheduling in a Public Cloud Environment
   *Klodiana Goga, Fatos Xhafa, Olivier Terzo*

3. An Enhanced Smart Card and Biometrics -based Authentication Scheme in Multi-server Environment
   *Xiao Haiyan and Wang Lifang*

4. Combining Vector Space Features and Convolution Neural Network for Text Sentiment Analysis
   *Wang Yun, Wang Xu An, Zhang Jindan, Chenghai Yu*

5. Short Term Load Forcasting using Heuristic Algorithm and Support Vector Machine
   *Orooj Nazeer, Nadeem Javaid, Abdul Basit Majeed Khan, Arif Hussain, Tariq Basheer, Muhammad Mukhtar Ahmed Ratyal*

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

- Kunibiki Messe

- Address: 1-2-1, Gakuenminami, Matsue-shi, Shimane, Japan, 690-0826

# Thursday, July 5, 2018

## 08:00 Registration

## 09:00-10:00 Single Session: CISIS-2018 & IMIS-2018 Keynote II

**CISIS-2018 & IMIS-2018 Keynote Talk II**

**Dr. Farookh Khadeer Hussain:** Fog Computing: A New Research Direction in Distributed Computing - Applications, Issues and Challenges

## 10:00-10:30 Coffee Break

## 10:30-12:30 Parallel Sessions

**CISIS-S7: FPGA Architecture and Robotics**

**Chair: Haruhi Eto, Nagasaki University, Japan**

1. FPGA Implementation of Lightweight Communication Protocol Processing for IoT
   *Ryouhei Tsugami and Yuichiro Shibata*

2. Light-weight Fine-grain Dynamic Partial Reconfiguration on Xilinx FPGAs
   *Kunihiro Ueda, Keisuke Dohi, Yuichiro Shibata*

3. A Study of FPGA Instance based PLC Architecture Design and Automatic Generation Algorithm of Logic Code
   *Renya Yamamoto, Masaharu Tanaka, Haruhi Eto, Fujio Kurokawa*

4. Discussion on High Level Synthesis FPGA Design of Camera Calibration
   *Kazuya Uetsuhara, Hiroki Nagayama, Yuichiro Shibata, Kiyoshi Oguri*

5. Web-Based Wireless Controlled Robot for Night Vision Surveillance using Shell Script with Raspberry Pi
   *Hasan Salman, Samuel Acheampong, He Xu*

6. Implementation of Omnidirectional Wheelchair Vision with Small Reflect Mirrors: Performance Evaluation for Tennis Ball Tracking Considering Different Mirror Angles
   *Keita Matsuo and Leonard Barolli*

**CISIS-S8: Wireless Networks and Applications**

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

1. Route Lifetime Prediction Method in VANET by using AODV Routing Protocol (AODV-LP)
   *Elis Kulla, Soushi Morita, Kengo Katayama, Leonard Barolli*

2. DNAR: Depth and Noise Aware Routing for Underwater Wireless Sensor Networks
   *Junaid Qadar, Anwar Khan, Hasan Mahmood*

3. Analysis of Localization Algorithms in Wireless Sensor Networks
   *Lu Dong, Peng Li, He Xu, Cheng Yang*

4. Deep Q-network for User Association in Heterogeneous Cellular Networks
   *Nan Zhao, Xiao He, Minghu Wu, Pengfei Fan, Menglin Fan, Chao Tian*

5. A User-Centric Wireless Networks' Optimization Method for Data Service
   *Jun Luo, WenAn Zhou, WenJi Zhang, Qiang Zhou, Yu Du*

6. Cooperative Spectrum Sensing Using Dual Nonparametric Cumulative Sum Algorithm
   *Jingcheng Miao, Hang Yang, Xiaoou Song, Zili Wang*

**ECDS-S1: Complex Distributed Systems**

**Chair: Minoru Uehara, Toyo University, Japan**

1. Improved Cooperative Spectrum Sensing Algorithm with Artificial Neural Network
   *Jingcheng Miao, Xiaoou Song, Zili Wang, Xu-an Wang*

2. A Survey on Platooning Techniques in VANETs
   *Elis Kulla, Ningling Jiang, Evjola Spaho, Noritaka Nishihara*

3. Web API-based NAT Traversal in Managed Network Blocks
   *Ryusei Saka and Minoru Uehara*

4. A Restart Diversification Strategy for Iterated Local Search to Maximum Clique Problem
   *Kazuho Kanahara, Kengo Katayama, Takeshi Okano, Elis Kulla, Tetsuya Oda, Noritaka Nishihara*

5. Differential Evolution: An Updated Survey
   *Nadeem Javaid*

# 12:30-13:30 Lunch Break

# 14:00-18:30 Trip to Izumo Taisha

# 19:00-21:00 Banquet Party

- Yuushien Garden in Daikonshima

- Address: 1206-2, Hanyuu, Yatsuka-cho, Matsue, Shimane, Japan, 690-1492

- Link: https://goo.gl/K8HSyD

# Friday, July 6, 2018

## 08:00 Registration

## 09:00-11:00 Parallel Sessions

### CISIS-S9: IoT, Fault Tolerance and Network Architectures

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

1. Ada-boosted Locally Enhanced Probabilistic Neural Network for IoT Intrusion Detection
   *Tony Jan*

2. Node Fault Detection Algorithm Based on Spatial and Temporal Correlation in Wireless Sensor Networks
   *Hanxiao Zhi, Peng Li, He Xu, Feng Zhu*

3. Conflict-free Multi-user Collaborative Editing System for 3D Models
   *Tasuku Takahashi, Kengo Imae, Naohiro Hayashibara*

4. Architecture and Implementation of Real-time Analysis System Based on Cold Chain Data
   *Wenkang Xie, Peng Li, He Xu*

5. IoT/M2M Application Development Method Using Real Object Oriented Model
   *Hiroyuki Suzuki and Akio Koyama*

### CISIS-S10: Artificial Intelligence and Bio-Inspired Computing

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

1. Negotiating Agents: A Model based on BDI Architecture and Multi-Context Systems using Aspiration Adaptation Theory as a Negotiation Strategy
   *Rodrigo Rodrigues Pires de Mello, Thiago Ângelo Gelaim, Ricardo Azambuja Silveira*

2. Prediction of Mechanical Properties of Polymer Materials Using Extreme Gradient Boosting on High Molecular Weight Polymers
   *Manop Phankokkruad and Sirirat Wacharawichanant*

3. iEnsemble2: Committee Machine Model-based On Heuristically-Accelerated Multiagent Reinforcement Learning
   *Arnoldo Uber Junior, Paulo José de Freitas Filho, Ricardo Azambuja Silveira, Juliano Mueloschat*

4. Cyber Kill Chain Defender for Smart Meters
   *Mikhail Simonov, Fabrizio Bertone, Klodiana Goga, Olivier Terzo*

5. Cooperative Energy Management using Coalitional Game Theory for Reducing Power Losses in Microgrids
   *Muhammad Usman Khalid, Nadeem Javaid, Muhammad Nadeem Iqbal, Ali Abdur Rehman, Muhammad Umair Khalid, Mian Ahmer Sarwar*

### ePaMus-S1: Parallel and Multi-core Systems

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

1. Modeling and Simulation of Ship Swaying Attitude Based on Linear System Theory
   *Hai-wen Sun, Cheng-cheng Wang, Wei Pang*

2. High-fidelity Reversible Data Hiding Algorithm Based on SVD
   *Li Tianxue, Zhang Minqing, Wang Jianping*

3. Research on Security Critical Task Scheduling Algorithm based on ARINC 653 Standard
   *Yi'an Zhu, Shuyan Luo, He Lin, Linlin Huang*

4. $\mu$ C/OS-II Based RTOS Kernel
   *Lian Li and Xianchen Shi*

5. An Improved Method for Voiceprint Recognition
   *Yang Wen-Shuai, Wang Xu An, Zhou Sha, Zhao Hong-Xu, Huang Jiaxing*

# 11:00-11:30 Coffee Break

# 11:30-13:30 Parallel Sessions

**SWISM-S1: Cloud Computing and Big Data**

**Chair: Beniamino Di Martino, University of Campania Luigi Vanvitelli, Italy**

1. A Tree-based Model of Energy-efficient Fog Computing Systems in IoT
   *Ryuji Oma, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*

2. A Proposal of a Cloud-oriented Security and Performance Simulator Provided as-a-Service
   *Valentina Casola, Alessandra De Benedictis, Massimiliano Rak, Umberto Villano*

3. Semantic Support for Model based Big Data Analytics-as-a-Service (MBDAaaS)
   *Domenico Redavid, Donato Malerba, Beniamino Di Martino, Antonio Esposito, Claudio Agostino Ardagna, Valerio Bellandi, Paolo Ceravolo, Ernesto Damiani*

4. A Federation of Cognitive Cloud Services for Trusting Data Sources
   *Flora Amato, Beniamino Di Martino, Fiammetta Marulli, Francesco Moscato*

**ICLS-S1: Intelligent Computing**

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

1. Intelligent Traffic System Based on Neural Network
   *Jian Zhao*

2. Research on data storage and processing optimization based on Federation HDFS and Spark
   *Fangzhou Chen, Peng Li, He Xu, Wenkang Xie*

3. Research on Rumors of Social Networks Considering Game between Nodes
   *Liu Yazhou, Pan Xiaozhong, Wang Jing, Fu Wei*

4. Coupling Relationship Construction of Key Elements in Emergency Intelligence with Big Data
   *Yan-Yu Duan, Xu An Wang, Fang Li, Jin-Dan Zhang*

5. Research on the Estimation Model of Soil Moisture Content Based on the Characteristics of Thermal Infrared Data
   *Fu Qiang Qin and Li Fang Wang*

# 13:30-14:30 Lunch Break

# IMIS-2018
# Main Conference and Workshops Program

**Wednesday, July 4, 2018**

## 08:00 Registration

## 09:00-10:00 Single Session: Opening Ceremony and CISIS-2018 & IMIS-2018 Keynote I

**CISIS-2018 & IMIS-2018 Keynote Talk I (PLENARY ROOM)**

**Prof. Takahiro Hara:** SNS as Social Sensors: Technologies for Extracting Knowledge from SNSs

## 10:00-10:30 Coffee Break

## 10:30-12:30 Parallel Sessions

**IMIS-S1: Intelligent Algorithms and Systems**

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

1. Intrusion Detection Model based on GA Dimension Reduction and MEA-Elman Neural Network
   *Ze Zhang, Guidong Zhang, Yongjun Shen, Yan Zhu*

2. Fast FFT-based Inference in 3D Convolutional Neural Networks
   *Bo Xie, Guidong Zhang, Yongjun Shen, Shun Liu, Yabin Ge*

3. Performance Analysis of Simulation System based on Particle Swarm Optimization and Distributed Genetic Algorithm for WMNs Considering Different Distribuions of Mesh Clients
   *Admir Barolli, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa*

4. A Hybrid Flower-grey Wolf Optimizer based home Energy Management in Smart Grid
   *Pamir Shams, Nadeem Javaid, Attiq ullah Khan, Syed Muhammad Mohsin, Yasir Khan Jadoon, Orooj Nazeer*

5. A Fuzzy-based Approach for Improving Peer Coordination Quality in MobilePeerDroid Mobile System
   *Yi Liu, Kosuke Ozera, Keita Matsuo, Makoto Ikeda, Leonard Barolli*

6. Classifying Malicious URLs using Gated Recurrent Neural Networks
   *Jingling Zhao, Nan Wang, Qian Ma, Zishuai Cheng*

**IMIS-S2: Multimedia and Web Computing**

**Chair: Tomoyuki Ishida, Fukuoka Institute of Technology, Japan**

1. Discrimination of Eye Blinks and Eye Movements as Features for Image Analysis of the Around Ocular Region for Use as an Input Interface
   *Shogo Matsuno, Masatoshi Tanaka, Keisuke Yoshida, Kota Akehi, Naoaki Itakura, Tota Mizuno, Kazuyuki Mito*

2. Proposal of a Disaster Support Expert System Using Accumulated Empirical Data
   *Tatsuya Ohyanagi, Tomoyuki Ishida, Noriki Uchida, Yoshitaka Shibata, Hiromasa Habuchi*

3. Proposal of a Regional Knowledge Inheritance System using Location-Based AR and Historical Maps
   *Hayato Ito, Tatsuya Ohyanagi, Tomoyuki Ishida, Tatsuhiro Yonekura*

4. Feature Selection and Extraction along with Electricity Price Forecasting using Big Data Analytics
   *Isra Shafi, Nadeem Javaid, Aqdas Naz, Yasir Amir, Israr Ishaq, Kashif Naseem*

5. A New Contents Delivery Network Mixing on Static/dynamic Heterogeneous DTN Environment
   *Shoko Takabatake and Tetsuya Shigeyasu*

6. Predicate Clustering-based Entity-Centered Graph Pattern Recognition for Query Extension on the LOD
   *Jongmo Kim, Junsik Kong, Daeun Park, Mye Sohn*

**SMEUCE-S1: Sustainability Management of e-Business**

**Chair: Kuei-Yuan Wang, Asia University, Taiwan**

1. The Effect of Personal Moral Philosophy on Perceived Moral Intensity in Hotel Industry
   *Chia-Ju Lu, Chiung-Chi Pen, Chiou-Shya Torng*

2. Study on Production & Marketing of Tea: A Company
   *Kuei-Yuan Wang, Xiao-Hong Lin, Chien-Kuo Han, Chi-Cheng Lin, Yi-Chi Liao, Tzu-Yun Ting, Ting-Shiuan Fang*

3. The Influence of U.S. FED's Interest Rate-Raising Event Announcements on the Abnormal Returns in the Taiwan Stock Market
   *Xiao-Hong Lin, Kuei-Yuan Wang, Chien-Kuo Han, Yu-Sin Huang, Yi-Chi Liao, Tzu-Yun Ting, Ting-Shiuan Fang*

4. The Relationship Between Dividend, Business Cycle, Institutional Investor and Stock Risk
   *Yung-Shun Tsai, Shyh-Weir Tzang, Chih-Hsing Hung, Chun-Ping Chang*

5. Commercial Real Estate Evaluation: the Real Options Approach
   *Shyh-Weir Tzang, Chih-Hsing Hung, Chun-Ping Chang, Yung-Shun Tsai*

# 12:30-14:00 Lunch Break

# 14:00-16:00 Parallel Sessions

## IMIS-S3: Mobile and Wireless Networks

## Chair: Noriki Uchida, Fukuoka Institute of Technology, Japan

1. Efficient Routing in Geographic and Opportunistic Routing for Underwater WSNs
   *Ghazanfar Latif, Nadeem Javaid, Aasma Khan, Aisha Fatima, Landing Jatta, Wahab Khan*

2. One-to-one Routing Protocols for Wireless Ad-hoc Networks Considering the Electric Energy Consumption
   *Emi Ogawa, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*

3. Implementation of WiFi P2P based DTN Routing and Gateway for Disaster Information Networks
   *Noriki Uchida, Haruki Kuga, Tomoyuki Ishida, Yoshitaka Shibata*

4. Evaluation of 13.56 MHz RFID System Considering Communication Distance Between Reader and Tag
   *Kiyotaka Fujisaki*

5. An Efficient Routing Protocol Via Depth Adjustment and Energy Gradation in Underwater Wireless Sensor Networks
   *Ghazanfar Latif, Nadeem Javaid, Arshad Iqbal, Javed Ahmad, Ather Abdul Jabbar, Muhammad Imran*

6. Implementation of Lane Detection Algorithm for Self-Driving Vehicles using Tensor Flow
   *Hyunhee Park*

## IMIS-S4: E-Learning Systems and Virtual Reality Technology

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

1. Design and Implementation of Cognitive System of Children's Education based on RFID
   *Hongyu Gan, Chenghao Wu, Jie Xu, Peng Li, He Xu*

2. Dynamic Group Formation for an Active Learning System Using Smartphone to Improve Learning Motivation
   *Noriyasu Yamamoto and Noriki Uchida*

3. Supporting Online/Offline Collaborative Work with WebRTC Application Migration
   *Fatos Xhafa, David Zaragoza, Santi Caballé*

4. A Spacecraft AIT Visualization Control System Based on VR Technology
   *Wei Peng, Zhang Liwei, Wu Qiong, Wang Miaoxin, Li Jian*

5. QoS Management for Virtual Reality Contents
   *Ko Takayama and Kaoru Sugita*

6. Improve Memory for Alzheimer Patient by Employing Mind Wave on Virtual Reality with Deep Learning
   *Marwan Kadhim Mohammed Al-shammari and Gao Tian Han*

## SMEUCE-S2: Ubiquitous Commerce and Operation Management

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

1. A Dynamic Model of Optimal Share Repurchase
   *Chun-Ping Chang, Yung-Shun Tsai, Shyh-Weir Tzang, Yong Zulina Zubairi*

2. Direct and Indirect Effects of Job Complexity of Senior Managers on their Compensation and Operating Performances
   *Ying-Li Lin and Yi-Jing Chen*

3. The Impact of Online Commentary on Young Consumer's Purchase Decision
   *Mei-Hua Huang, Wen-Shin Huang, Chiung-Yen Chen, An-Chi Kuan*

4.  Penalty or Benefit? The Effect of Dividend Taxes on Stock Valuation
    *Wen-hsin Huang, Suming Lin, Mei-Hua Huang*

5.  The Determinants of Admission Strategy and School Choice: A Case Study of a Private Senior Vocational School in Taiwan
    *Ling-Yi Chou and Yi-Yang Li*

6.  Professional Training and Operational Performance: Considering the Impact of CPA Disciplinary Incidents
    *Chiung-Yen Chen, Mei-Hua Huang, Zhen-Xin Xu*

# 16:00-16:30 Coffee Break

# 16:30-18:30 Parallel Sessions

**IMIS-S5: Security and Privacy**

**Chair: Kangbin Yim, SCH University, Korea**

1.  Vulnerability Analysis on the Image-based Authentication Through the PS/2 Interface
    *Insu Oh, Kyungroul Lee, Sun-Young Lee, Kyunghwa Do, Hyobeom Ahn, Kangbin Yim*

2.  A Webshell Detection Technology Based on HTTP Traffic Analysis
    *Wenchuan Yang, Bang Sun, Baojiang Cui*

3.  Enhanced Secure ZigBee Light Link Protocol Based on Network Key Update Mechanism
    *Jun Yang, Ruiqing Liu, Baojiang Cui*

4.  Location Privacy Protection Scheme Based on Random Encryption Period in VANETs
    *Tianhan Gao and Xin Xin*

5.  An Improvement RFID Security Authentication Protocol based on Hash Function
    *Haowen Sun, Peng Li, He Xu, Feng Zhu*

6.  A Fast PQ Hash Code Indexing
    *Jingsong Shan, Yongjun Zhang, Mingxin Jiang, Chunhua Jin, Zhengwei Zhang*

**IMIS-S6: Energy Saving Systems and Smart Grid**

**Chair: Dilawaer Duolikun, Hosei University, Japan**

1.  Virtual Machine Migration Algorithms to Reduce Electric Energy Consumption of a Server Cluster
    *Ryo Watanabe, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*

2.  An Efficient Home Energy Management and Power Trading in Smart Grid
    *Sheraz Aslam, Sakeena Javaid, Nadeem Javaid, Syed Muhammad Mohsin, Saad Sulman Khan, Mariam Akbar*

3.  Hierarchical based Coordination Strategy to Efficiently Exchange the Power among Micro-grids
    *Aqib Jamil, Nadeem Javaid, Zafar Iqbal, Muhammad Abdullah, Muhammad Zaid Riaz, Mariam Akbar*

4.  Dynamic Incentive Mechanism for Direct Energy Trading
    *Nan Zhao, Pengfei Fan, Minghu Wu, Xiao He, Menglin Fan, Chao Tian*

5.  Short Term Load Forecasting based on Deep Learning for Smart Grid Applications
    *Ghulam Hafeez, Nadeem Javaid, Safeer Ullah, Zafar Iqbal, Mahnoor Khan, Aziz Ur Rehman, Ziaullah*

**SMEUCE-S3: Sustainability Management and Service Innovation**

**Chair: Mei-Hua Liao, Asia University, Taiwan**

1. Constructing A System for Effective Implementation of Strategic Corporate Social Responsibility
   *Chiung-Yao Huang and Chung-Jen Fu*

2. Study of the Factors that Influence Brand Loyalty toward the Use of Tablets in Indonesia
   *Chien-Wen Lai, Candra Adi Kurnia, Shao-Chun Chiu, Ya-Lan Chan*

3. Five Elements and Stock Market
   *Mei-Hua Liao, Shih-Han Hong, Norihisa Yoshimura*

4. Asset Structure of Long-Lived Company
   *Mei-Hua Liao, Yi-Jun Guo, Hidekazu Sone*

5. An Inventory Policy for Perishable Products with Permissible Delay in Payment
   *Ya-Lan Chanand and Sue-Ming Hsu*

6. The Research on Lifestyle, Physical and Mental Health, and Potential Consumption for Elderly
   *Sue-Ming Hsu and Ya-Lan Chan*

# 19:00-21:00 Welcome Reception Party

- Kunibiki Messe

- Address: 1-2-1, Gakuenminami, Matsue-shi, Shimane, Japan, 690-0826

# Thursday, July 5, 2018

## 08:00 Registration

## 09:00-10:00 Single Session: CISIS-2018 & IMIS-2018 Keynote II

**CISIS-2018 & IMIS-2018 Keynote Talk II**

**Dr. Farookh Khadeer Hussain:** Fog Computing: A New Research Direction in Distributed Computing - Applications, Issues and Challenges

## 10:00-10:30 Coffee Break

## 10:30-12:30 Parallel Sessions

**IMIS-S7: Cloud and Fog Computing**

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

1. Cognitive Informatics Approaches for Data Sharing and Management in Cloud Computing
   *Marek R. Ogiela and Lidia Ogiela*

2. Weighted Cuckoo Search based Load Balanced Cloud for Green Smart Grids
   *Muhammad Hassan Rahim, Nadeem Javaid, Sahar Rahim, Muqaddas Naz, Mariam Akbar, Farhana Javed*

3. Delay Optimization for Mobile Cloud Computing Application Offloading in Smart Cities
   *Shan Guo, Ying Wang, Sachula Meng, Nan Ma*

4. Foged Energy Optimization in Smart Homes
   *Ayesha Anjum, Nadeem Javaid, Sana Mujeeb, Salman Ahmed, Malik Muhammad Shahid Ali, Waqar Ali*

5. Efficient Resource Allocation Model for Residential Buildings in Smart Grid using Fog and Cloud Computing
   *Aisha Fatima, Nadeem Javaid, Momina Waheed, Tooba Nazar, Shaista Shabbir, Tanzeela Sultana*

6. Joint User Association and Power Allocation for Minimizing Multi-bitrate Video Transmission Delay in Mobile-Edge Computing Networks
   *Hong Wang, Ying Wang, Ruijin Sun, Runcong Su, Baoling Liu*

**IMIS-S8: IoT and Smart Home**

**Chair: Toshihiko Yamakami, ACCESS, Japan**

1. A Fuzzy-based System for Selection of IoT Devices in Opportunistic Networks Considering IoT Device Contact Duration, Storage and Remaining Energy
   *Miralda Cuka, Donald Elmazi, Keita Matsuo, Makoto Ikeda, Leonard Barolli*

2. Cyber-physical Sensors and Devices for the Provision of Next-generation Personalized Services
   *Borja Bordel, Teresa Iturrioz, Ramón Alcarria, Diego Sánchez-de-Rivera*

3. Device Stand-by Management of IoT: A Framework for Dealing with Real-world Device Fault in City Platform as a Service
   *Toshihiko Yamakami*

4. Differential-evolution-earthworm Hybrid Meta-heuristic Optimization Technique for Home Energy Management System in Smart Grid
   *Nadeem Javaid , Ihtisham Ullah, Syed Shahab Zarin, Mohsin Kamal, Babatunji Omoniwa, Abdul Mateen*

5. An Energy Efficient Scheduling of a Smart Home Based on Optimization Techniques
   *Aqib Jamil, Nadeem Javaid, Muhammad Nadeem Iqbal, Muhammad Usman Khalid, Saad Rashid, Naveed Anwar, Zahoor Ali Khan*

6. Evaluating Motion and Heart Rate Sensors to Measure Intensity of Physical Activity
   *Miguel A. Wister, Pablo Pancardo, Ivan Rodriguez*

**FINGNet-S1: Next Generation Networks**

**Chair: Hyunhee Park, Korean Bible University, Korea**

1. A Localization Algorithm Based on Availability of Direct Signal from Neighbor Anchor Nodes in a Sensor Networks
   *Megumi Yamamoto and Shigetomo Kimura*

2. Prediction Model of Optimal Bid Price Based on Keyword Auction Data through Machine Learning Algorithms
   *Minjun Ji and Hyunhee Park*

3. Complex Activity Recognition using Polyphonic Sound Event Detection
   *Jaewoong Kang, Jooyeong Kim, Kunyoung Kim, Mye Sohn*

4. Dynamic Group Key Management for Efficient Fog Computing
   *Jiyoung Lim, Inshil Doh, Kijoon Chae*

5. A Network Slice Resource Allocation Process in 5G Mobile Networks
   *Andrea Fendt, Lars Christoph Schmelz, Wieslawa Wajda, Simon Lohmüller, Bernhard Bauer*

# 12:30-13:30 Lunch Break

# 14:00-18:30 Trip to Izumo Taisha

# 19:00-21:00 Banquet Party

- Yuushien Garden in Daikonshima
- Address: 1206-2, Hanyuu, Yatsuka-cho, Matsue, Shimane, Japan, 690-1492
- Link: https://goo.gl/K8HSyD

# Friday, July 6, 2018

# 08:00 Registration

# 09:00-11:00 Parallel Sessions

## ITAUC-S1: Intelligent Techniques and Ubiquitous Computing

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

1. Home Energy Management Using Hybrid Meta-Heuristic Optimization Technique
   *Orooj Nazeer, Nadeem Javaid, Adnan Ahmed Rafique, Sajid Kiani, Yasir Javaid, Zeeshan Khurshid*

2. On the Channel Congestion of the Shortest-Path Routing for Unidirectional Hypercube Networks
   *Tzu-Liang Kung, Chun-Nan Hung, Yuan-Hsiang Teng*

3. A Diagnosis Algorithm on the 2D-torus Network
   *Lidan Wang, Ningning Liu, Cheng-Kuan Lin, Tzu-Liang Kung, Yuan-Hsiang Teng*

4. Construction Schemes for Edge Fault-Tolerance of Ring Networks
   *Chun-Nan Hung, Tzu-Liang Kung, En-Cheng Zhang*

5. Review of RFID-based Indoor Positioning Technology
   *Jingkai Zhu and He Xu*

6. Designing a Cybersecurity Board Game Based on Design Thinking Approach
   *Shian-Shyong Tseng, Tsung-Yu Yang, Yuh-Jye Wang, Ai-Chin Lu*

## MCNCS-S1: Mobile Networks and Cloud Computing

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

1. Clickbait Detection Based on Word Embedding Models
   *Vorakit Vorakitphan, Fang-Yie Leu, Yao-Chung Fan*

2. A Micro Services Quality Measurement Model for Improving the Efficiency and Quality of DevOps
   *Sen-Tarng Lai and Fang-Yie Leu*

3. A Study on Firewall Services with Edge Computers of vEPC in 5G Networks
   *Fang-Yie Leu and Ping-Hung Chou*

4. The Study of MME Pool Management and Fault Tolerance in 5G Networks with SDN Controllers
   *Fang-Yie Leu and Cheng-Yan Gu*

## WAIS-S1: Information Security

### Chair: Kangbin Yim, Soonchunhyang University, korea

1. A Security-aware Fuzzy-based Cluster Head Selection System for VANETs
   *Kosuke Ozera, Kevin Bylykbashi, Yi Liu, Leonard Barolli*

2. Research on Food Safety Traceability Technology based on RFID Security Authentication and 2-Dimensional Code
   *Jie Ding, He Xu, Peng Li, Feng Zhu*

3. DoS Attack Pattern Mining Based on Association Rule Approach for Web Server
   *Hsing-Chung Chen and Shyi-Shiun Kuo*

4. Current Status on Elliptic Curve Discrete Logarithm Problem
   *Maki Inui and Tetsuya Izu*

5. Study on Signature Verification Process for the Firmware of an Android Platform
   *Eunseon Jeong, Junyoung Park, Byeonggeun Son, Myoungsu Kim, Kangbin Yim*

6. Detecting and Extracting Hidden Information from Stego-images: Based on JPG file on StegoMagic
   *Kyungroul Lee, Sun-Young Lee, Kyunghwa Do, Kangbin Yim*

# 11:00-11:30 Coffee Break

# 11:30-13:30 Parallel Sessions

### BDITS-S1: Big Data and IoT Security

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

1. A Cooperative Evaluation Approach Based on Blockchain Technology for IoT Application
   *Hsing-Chung Chen, Bambang Irawan, Zon-Yin Shae*

2. The Study and Realization of vulnerability-oriented Fuzzing Technology for ActiveX plug-ins
   *Baojiang Cui and Pin Mao*

3. An Open Source Software Defect Detection Technique Based on Homology Detection and Pre-identification Vulnerabilitys
   *Jun Yang, Xuyan Song, Yu Xiong, Yu Meng*

4. Analysis on Mobile Payment Security and its Defense Strategy
   *Simin Yin, Jingye Sheng, Tong Wang, He Xu*

### FIMIS-S1: Innovative Mobile and Internet Services

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

1. An Intelligent Opportunistic Scheduling of Home Appliances for Demand Side Management
   *Zunaira Nadeem, Nadeem Javaid, Asad Waqar Malik, Abdul Basit Khan, Muhammad Kamran, Rida Hafeez*

2. Fog Computing based Energy Management System Model for Smart Buildings
   *Saman Zahoor, Nadeem Javaid, Adia Khalid, Anila Yasmeen, Zunaira Nadeem*

3. A Novel Indoor Navigation System based on RFID and LBS Technology
   *Yizhuo Wang, Xuan Xu, Xinyu Wang, He Xu*

4. A Social Dimension View Model of Divergence of IoT Standardization
   *Toshihiko Yamakami*

5. Design and Implementation of a VANET Testbed: Performance Evaluation Considering DTN Transmission over VANETs
   *Shogo Nakasaki, Yu Yoshino, Makoto Ikeda, Leonard Barolli*

6. A Survey of Automated Root Cause Analysis of Software Vulnerability
   *JeeSoo Jurn, Taeeun Kim, Hwankuk Kim*

# 13:30-14:30 Lunch Break

CISIS-2018 and IMIS-2018 Session Schedule
July 4 – 6, 2018
Matsue, Shimane, Japan

| Wednesday (July 4, 2018) | | ROOM 1 | ROOM 2 | ROOM 3 | ROOM 4 | ROOM 5 | ROOM 6 | ROOM 7 |
|---|---|---|---|---|---|---|---|---|
| Slot | Time | Registration | | | | | | |
| Session 1 | 09:00 – 10:00 | CISIS-2018 and IMIS-2018 Keynote I (Plenary Room) | | | | | | |
| Coffee Break | 10:00 – 10:30 | | | | | | | |
| Session 2 | 10:30 – 12:30 | CISIS S1 | CISIS S2 | VENOA S1 | FCISIS S1 | IMIS S1 | IMIS S2 | SMEUCE S1 |
| Lunch | 12:30 – 14:00 | Lunch Break | | | | | | |
| Session 3 | 14:00 – 16:00 | CISIS S3 | CISIS S4 | VENOA S2 | MC2 S1 | IMIS S3 | IMIS S4 | SMEUCE S2 |
| Coffee Break | 16:00 – 16:30 | Coffee Break | | | | | | |
| Session 4 | 16:30 – 18:30 | CISIS S5 | CISIS S6 | VENOA S3 | IINIC S1 | IMIS S5 | IMIS S6 | SMEUCE S3 |
| Social Event | 19:00 – 21:00 | Welcome Reception Party | | | | | | |

| Thursday (July 5, 2018) | | ROOM 1 | ROOM 2 | ROOM 3 | ROOM 4 | ROOM 5 | ROOM 6 | ROOM 7 |
|---|---|---|---|---|---|---|---|---|
| Slot | Time | Registration | | | | | | |
| Session 1 | 09:00 – 10:00 | CISIS-2018 and IMIS-2018 Keynote II (Plenary Room) | | | | | | |
| Coffee Break | 10:00 – 10:30 | Coffee Break | | | | | | |
| Session 2 | 10:30 – 12:30 | CISIS S7 | CISIS S8 | ECDS S1 | | IMIS S7 | IMIS S8 | FINGNet S1 |
| Lunch | 12:30 – 13:30 | Lunch Break | | | | | | |
| | 14:00 – 18:30 | Trip to Izumo Taisha | | | | | | |
| Social Event | 19:00 – 21:00 | Banquet Party | | | | | | |

| Friday (July 6, 2018) | | ROOM 1 | ROOM 2 | ROOM 3 | ROOM 4 | ROOM 5 | ROOM 6 | ROOM 7 |
|---|---|---|---|---|---|---|---|---|
| Slot | Time | Registration | | | | | | |
| Session 2 | 09:00 – 11:00 | CISIS S9 | CISIS S10 | ePaMuS S1 | | ITAUC S1 | MCNCS S1 | WAIS S1 |
| Coffee Break | 11:00 – 11:30 | Coffee Break | | | | | | |
| Session 2 | 11:30 – 13:30 | SWISM S1 | ICLS S1 | | | BDITS S1 | FIMIS S1 | |
| Lunch | 13:30 – 14:30 | Lunch Break | | | | | | |