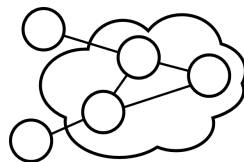


PROGRAM GUIDE



BWCCA-2018

The 13-th International Conference on
Broad-Band and Wireless Computing, Communication and Applications
and



3PGCIC-2018

The 13-th International Conference on
P2P, Parallel, Grid, Cloud and Internet Computing

October 27th - October 29th, 2018

Tunghai University, Taichung, Taiwan

Supported by:



科技
部

Ministry of Science and Technology



NAR Labs 國家實驗研究院

國家高速網路與計算中心
National Center for High-performance Computing



NetApp



菁智科技股份有限公司



建達國際



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BWCCA-2018 Organizing Committee**Honorary Chair**

Makoto Takizawa, *Hosei University, Japan*

Mao-Jiun Wang, *Tunghai University, Taiwan*

Jyh-Cheng Chen, *National Chiao Tung University, Taiwan*

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Donald Elmazi, *Fukuoka Institute of Technology, Japan*

Miralda Cuka, *Fukuoka Institute of Technology, Japan*

Yi Liu, *Fukuoka Institute of Technology, Japan*

Kosuke Ozero, *Fukuoka Institute of Technology, Japan*

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Steering Committee Co-Chairs

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Fatos Xhafa, *Technical University of Catalonia, Spain*

Welcome Message from the BWCCA-2018 International Conference Organizers

Welcome to the 13-th International Conference on Broadband and Wireless Computing, Communication and Applications (BWCCA-2018), which will be held in conjunction with the 13-th 3PGCIC-2018 International Conference from October 27 to October 29, 2018 at Tunghai University, Taichung, Taiwan.

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

The success of all-IP networking and wireless technology has changed the ways of living the people around the world. The progress of electronic integration and wireless communications is going to pave the way to offer people the access to the wireless networks on the fly, based on which all electronic devices will be able to exchange the information with each other in ubiquitous way whenever necessary. The aim of this conference is to present the innovative research and technologies as well as developments related to broadband networking, and mobile and wireless communications. This edition BWCCA-2018 received 134 paper submissions and based on review results, we accepted 35 papers (about 26% acceptance ratio) for presentation in the conference and publication in the Springer Lecture Notes on Data Engineering and Communication Technologies Proceedings.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful BWCCA-2018 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers, Program Committee Members and reviewers who carried out the most difficult work by carefully evaluating the submitted papers.

This year in conjunction with BWCCA-2018 we have 7 International Workshops that complemented BWCCA-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 Kevin Bylykbashi, Donald Elmazi, Yi Liu, Miralda Cuka and Kosuke Ozero, Fukuoka Institute of Technology (FIT), Japan, as Web Administrators Co-Chairs and Dr. Makoto Ikeda, FIT, Japan, as Finance Chair for their excellent work.

We would like to express our gratitude to Prof. Makoto Takizawa, Hosei University, Japan, Mao-Jiun Wang, Tunghai University, Taiwan and Jyh-Cheng Chen, National Chiao Tung University, Taiwan as Honorary Co-Chairs of BWCCA-2018 for their support and help. We give special thanks to Keynote Speakers of BWCCA-2018 and Local Arrangement Team of Tunghai University for making excellent local arrangement for the conference.

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

BWCCA-2018 International Conference Organizers

BWCCA-2018 General Co-Chairs

Li-Chih Wang, *Tunghai University, Taiwan*

Fang-Yie Leu, *Tunghai University, Taiwan*

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

BWCCA-2018 Program Committee Co-Chairs

Hsing-Chung Chen, *Asia University, Taiwan*

Tomoya Enokido, *Rissho University, Japan*

Farookh Hussain, *University of Technology Sydney, Australia*

Welcome Message from BWCCA-2018 Workshops Co-Chairs

Welcome to the Workshops of the 13-th IEEE International Conference on Broadband and Wireless Computing, Communication and Applications (BWCCA-2018), which will be held in conjunction with the 13-th 3PGCIC-2018 International Conference from October 27 to October 29, 2018 at Tunghai University, Taichung, Taiwan.

This year 7 workshops will be held in conjunction with BWCCA-2018 International Conference. The workshops are very important part of the main conference and they cover specific topics related to next generation networks, network traffic analysis, sensor technologies, smart environments, complex systems, wireless communication, mobile networks and multimedia networking.

BWCCA-2018 workshops are listed in following:

1. The 20-th International Symposium on Multimedia Network Systems and Applications (MNSA-2018)
2. The 11-th International Workshop on Next Generation of Wireless and Mobile Networks (NGWMN-2018)
3. The 9-th International Workshop on Methods, Analysis and Protocols for Wireless Communication (MAPWC-2018)
4. The 9-th International Workshop on Cloud, Wireless and e-Commerce Security (CWECS-2018)
5. The 7-th International Workshop on Robot and Vehicle Interaction, Control, Communication and Cooperation (RVI3C-2018)
6. The 4-th International Workshop on Advanced Techniques and Algorithms for Security and Privacy (ATASP-2018)
7. The 4-th International Workshop on Large Scale Networks and Internet Computing (LSNIC-2018)

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

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

We hope you enjoy the workshops programs and proceedings.

BWCCA 2018 Workshop Co-Chairs

Kun-Kin Tsai, *Tunghai University, Taiwan*
Elis Kulla, *Okayama University of Science, Japan*
Xiaofeng Chen, *Xidian University, China*

3PGCIC-2018 Conference Organizing Committee

Honorary Chair

Makoto Takizawa, *Hosei University, Japan*

Mao-Jiun Wang, *Tunghai University, Taiwan*

Jyh-Cheng Chen, *National Chiao Tung University, Taiwan*

General Co-Chairs

Li-Chih Wang, *Tunghai University, Taiwan*

Fang-Yie Leu, *Tunghai University, Taiwan*

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Massimo Ficco, *Campania University L. Vanvitelli, Italy*

Marcello Luiz Brocardo, *Santa Catarina State University, Brazil*

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Rubem Pereira, *Liverpool John Moores University, UK*

Juggapong Natwichai, *Chiang Mai University, Thailand*

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Miralda Cuka, *Fukuoka Institute of Technology, Japan*

Yi Liu, *Fukuoka Institute of Technology, Japan*

Kosuke Ozero, *Fukuoka Institute of Technology, Japan*

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Yu-Chen Hu, *Providence University, Taiwan*

Steering Committee Co-Chairs

Fatos Xhafa, *Technical University of Catalonia, Spain*

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

Message from the 3PGCIC-2018 Organizing Committee

Welcome to the 13th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC-2018), which will be held in conjunction with BWCCA-2018 International Conference, November 8-10, 2018, Open University of Catalonia, Barcelona, Spain.

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

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

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

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

Finally, Internet Computing is the basis of any large-scale distributed computing paradigms; it has very fast developed into a vast area of flourishing field with enormous impact on today's information societies. Internet-based computing serves thus as a universal platform comprising a large variety of computing forms. The aim of the 3PGCIC conference is to provide a research forum for presenting innovative research results, methods and development techniques from both theoretical and practical perspectives related to P2P, Grid, Cloud and Internet computing.

Many people have helped and worked hard to produce a successful 3PGCIC-2018 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers, the PC members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers. Based on the reviewers' reports, the Program Committee selected 24 papers for the main conference and 22 workshop papers for publication in the Springer Lecture Notes on Data Engineering and Communication Technologies Proceedings. The General Chairs of the conference would like to thank the PC Co-Chairs Chao-Tung Yang, Tunghai University, Taiwan, Massimo Ficco, Campania University L. Vanvitelli, Italy and Marcello Luiz Brocardo, Santa Catarina State University, Brazil. We would like to appreciate the work of the Workshop Co-Chairs Der-Jiunn Deng, National Changhua University of Education, Taiwan, Rubem Pereira, Liverpool John Moores University, UK and Juggapong Natwichai, Chiang Mai University, Thailand, for supporting the workshop organizers. Our appreciations also go to all workshops organizers for their hard work in successfully organizing these workshops.

We are grateful to Honorary Co-Chairs Prof. Makoto Takizawa, Hosei University, Japan, Mao-Jiun Wang, Tunghai University, Taiwan and Jyh-Cheng Chen, National Chiao Tung University, Taiwan, for their support and encouragement.

Our special thanks to Prof. Han-Chieh Chao, National Dong Hwa University, Taiwan, Dr. Nadeem Javaid, COMSATS Institute of IT, Islamabad, Pakistan and Dr. Jyh-Cheng Chen, Chair Professor, Department of Computer Science, National Chiao Tung University, Hsinchu, Taiwan for delivering inspiring keynotes at the conference.

Finally, we would like to thank the Local Organising Committee of Tunghai University, Taiwan, for making excellent local arrangement for the conference.

We hope you will enjoy the conference and have a great time in Taichung, Taiwan!

3PGCIC-2018 Organizing Committee

3PGCIC-2018 General Co-Chairs

Li-Chih Wang, *Tunghai University, Taiwan*

Fang-Yie Leu, *Tunghai University, Taiwan*

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

Message from the 3PGCIC Workshops Chairs

Welcome to the Workshops of the 13th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC 2018), held October 27-29, Tunghai University, Taichung, Taiwan. The objective of the workshops was to present research results, work on progress and thus complement the main themes of 3PGCIC 2018 with specific topics of Grid, P2P, Cloud and Internet Computing.

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

The held workshops are as following:

- The 11-th International Workshop on Simulation and Modelling of Emergent Computational Systems (SMECS-2018)
- The 9-th International Workshop on Streaming Media Delivery and Management Systems (SMDMS-2018)
- The 8-th International Workshop on Multimedia, Web and Virtual Reality Technologies and Applications (MWVRTA-2018)
- The 5-th International Workshop on Distributed Embedded Systems (DEM-2018)
- The International Workshop on Business Intelligence and Distributed Systems (BIDS-2018)

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

We hope you will enjoy the conference and have a great time in Taichung, Taiwan!

3PGCIC-2018 Workshops Organizing Committee

3PGCIC-2018 Workshops Chairs

Der-Jiunn Deng, *National Changhua University of Education, Taiwan*

Rubem Pereira, *Liverpool John Moores University, UK*

Juggapong Natwichai, *Chiang Mai University, Thailand*

BWCCA-2018 & 3PGCIC-2018 Keynote I



Prof. Jyh-Cheng Chen, National Chiao Tung University, Hsinchu, Taiwan

Title: Softwarization and Virtualization of 5G Core Networks

Abstract: It is envisioned in the future that not only smartphones will connect to cellular networks, but also all kinds of different wearable devices, sensors, vehicles, and so on. However, since the characteristics of different devices differ largely, people argue that future 5G communication systems should be designed to elastically accommodate these different scenarios. The evolution of core networks will be driven by integrating heterogeneous networking technologies with the ultimate goal of migrating toward a new form of softwarized and programmable network. In this talk, I will first present the evolution of cellular systems from 1st generation (1G) to 4th generation (4G), with focus on core networks. I will then discuss the softwarization and virtualization of 5G core networks.

Bio: Jyh-Cheng Chen has been a Faculty Member with National Chiao Tung University (NCTU), Hsinchu, Taiwan since 2010. Prior to that, he was with Bellcore/Telcordia Technologies in New Jersey, USA, and National Tsing Hua University (NTHU), Hsinchu, Taiwan. He is also now serving as the Convener, Computer Science Program, Ministry of Science and Technology, Taiwan. Dr. Chen received numerous awards, including the Outstanding Teaching Awards from both NCTU and NTHU, the Outstanding Research Award from the Ministry of Science and Technology, the Outstanding I. T. Elite Award, Taiwan, the K. T. Li Breakthrough Award from the Institute of Information and Computing Machinery, and the Telcordia CEO Award. He is a Fellow of the IEEE and a Distinguished Member of the ACM. He was a member of the Fellows Evaluation Committee, IEEE Computer Society.

BWCCA-2018 & 3PGCIC-2018 Keynote II



Prof. Han-Chieh Chao, National Dong Hwa University, Hualien, Taiwan

Title: Deep Learning Platform for B5G Mobile Network

Abstract: The 3G and 4G mobile communications had been developed for many years. The 5G mobile communication is scheduled to be launched in 2020. In the future, a wireless network is of various size of cells and different type of communication technologies, forming a special architecture of Heterogeneous Networks (HetNet). Under the complex network architecture, interference and handover problems are critical challenges in access network. How to efficiently manage small cells and to choose an adequate access mechanism for the better quality of service is a vital research issue. Traditional network architecture can no longer support existing network requirements. It is necessary to develop a novel network architecture. Therefore, this keynote speech will share a solution of deep learning-based B5G mobile network which can enhance and improve communication performance through combining some specific technologies. e.g., deep learning, fog computing, cloud computing, cloud radio access network (C-RAN) and fog radio access network (F-RAN).

Bio: Han-Chieh Chao received his M.S. and Ph.D. degrees in Electrical Engineering from Purdue University, West Lafayette, Indiana, in 1989 and 1993, respectively. He is currently a professor with the Department of Electrical Engineering, National Dong Hwa University, where he also serves as president. His research interests include IPv6, Cross-Layer Design, Cloud Computing, IoT, and 5G Mobile Networks. He has authored or co-authored 4 books and has published about 400 refereed professional research papers. He has completed more than 150 MSEE thesis students and 11 Ph.D. students. Dr. Chao has been invited frequently to give talks at national and international conferences and research organizations. He serves as the Editor-in-Chief for the Institution of Engineering and Technology Networks, the Journal of Internet Technology, the International Journal of Internet Protocol Technology, and the International Journal of Ad Hoc and Ubiquitous Computing. He is a Fellow of IET (IEE) and a Chartered Fellow of the British Computer Society. Due to Dr. Chao's contribution of suburban ICT education, he has been awarded the US President's Lifetime Achievement Award and International Albert Schweitzer Foundation Human Contribution Award in 2016.



BWCCA-2018

Main Conference and Workshops Program

Saturday, October 27, 2018

08:00 Registration

09:00-09:30 Opening Ceremony

09:30-10:30 BWCCA-2018 & 3PGCIC-2018 Keynote I

BWCCA-2018 & 3PGCIC-2018 Keynote Talk I (PLENARY ROOM)

Prof. Jyh-Cheng Chen: Softwarization and Virtualization of 5G Core Networks

10:30-11:00 Coffee Break**11:00-13:00 Parallel Sessions****BWCCA-S1: Cloud and Parallel Computing****Chair: Makoto Takizawa, Hosei University, Japan**

1. Group Migration of Virtual Machines in a Server Cluster
Dilawaer Duolikun, Tomoya Enokido, and Makoto Takizawa
2. Flexible Resource Management for Raft Clusters
Takuro Nakagawa and Naohiro Hayashibara
3. The Improved Transmission Energy Consumption Laxity-Based Algorithm with Parallel Data Transmission
Tomoya Enokido, Dilawaer Duolikun, and Makoto Takizawa
4. Efficient Scheduling for Concurrent Contents Searching with Idle Computational Resources
Chikara Miura and Shinji Sugawara
5. A Hybrid HS-Mean Technique for Efficient Load Balancing in Cloud Computing
Kainat Ansar, Nadeem Javaid, Maheen Zahid, Komal Tehreem, Hamida Bano, Momina Waheed

BWCCA-S2: Security and Privacy**Chair: Masakatsu Nishigaki, Shizuoka University, Japan**

1. Privacy Mining from IoT-based Smart Homes
Ming-Chang Lee, Jia-Chun Lin, Olaf Owe
2. Linguistic and Biometric Approaches for Data and Services Management in Cloud Computing
Urszula Ogiela, Makoto Takizawa, Lidia Ogiela
3. ASVG: Automated Software Vulnerability Sample Generation Technology Based on Source Code
Jun Yang, Peng Zhou, Yunze Ni
4. Automatic Examination-based Whitelist Generation for XSS Attack Detection
Keisuke Inoue, Toshiaki Honda, Kohei Mukaiyama, Tetsushi Ohki, and Masakatsu Nishigaki
5. A Proposal and the Evaluation of a Hands-on Training System for Cyber Security
Tamamichi Saito, Satoshi Yashiro, Kazuhisa Tanabe and Yuta Saito

LSNIC-S1: Large Scale and Internet Computing**Chair: Tetsuya Shigeyasu, Prefectural University of Hiroshima, Japan**

1. Priority Based Load Balancing in Cloud and Fog Based Systems
Subhan Tariq, Nadeem Javaid, Mahad Majeed, Fahad Ahmed, Saqib Nazir
2. Load Stabilizing in Fog Computing Environment using Load Balancing Algorithm
Sadam Hussain Abbasi, Nadeem Javaid, Muhammad Hassaan Ashraf, Mubashar Mehmood, Maria Naeem, Mubariq Rehman
3. A Virtual Machine Migration for Storage Processes
Naohiro Ogura, Dilawaer Duolikun, Tomoya Enokido, Ryo Watanabe, Makoto Takizawa
4. A Study on Reducing Network Traffic of Disaster Information Delivery System Based on DTN
Shoko Takabatake and Tetsuya Shigeyasu
5. Score-based Message Ferrying Approach for Evacuees on Delay Tolerant Networks
Kazuma Ikenoue and Kazunori Ueda

MAPWC-S1: Methods, Analysis and Protocols for Wireless Communication**Chair: Kazunori Uchida, Fukuoka Institute of Technology, Japan**

1. A Threshold-based Adaptive Method for Message Suppression Controller in Vehicular DTNs
Yu Yoshino, Shogo Nakasaki, Makoto Ikeda, Leonard Barolli
2. A Synchronization Protocol to Prevent Illegal Information Flow Based on Maximal Roles in the Role-based Access Control Model
Shohei Hayashi, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
3. Estimation of Propagation Order of Distance along Random Rough Surface
Kazunori Uchida and Leonard Barolli
4. Numerical Analysis of Optical Duplexer Composed of Photonic Crystal with Square Lattice
Keisuke Haari, Hiroshi Maeda, Xiang Zheng Meng, Naoki Higashinaka

13:00-14:00 Lunch Break**14:00-16:00 Parallel Sessions****BWCCA-S3: Next Generation Networks****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. A Fuzzy-based System for Actor Node Selection in WSNs Considering Load Balancing of Actors
Donald Elmazi, Miralda Cuka, Makoto Ikeda, Leonard Barolli
2. Performance Behavior of WMN-PSODGA Simulation System for WMNs Considering Uniform and Chi-square Client Distributions
Admir Barolli, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa
3. Evaluation of Object-based Information Flow Control in P2PPS Systems
Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa
4. A Prototype System for V2X Communication Platform for Safety Driving by IoT Technology
Yoshitaka Shibata, Goshi Sato, Noriki Uchida
5. Cooperation for Rechargeable Heterogeneous Sensor Networks
Li-Ling Hung

BWCCA-S4: Multimedia and Web Applications I**Chair: Hiroaki Nishino, Oita University, Japan**

1. On Semantic Annotation for Sports Video Highlights by Mining User Comments from Live Broadcast Social Network
Po-Fang Hsu, Yao-Chung Fan, and Huan Chen
2. A Real-time Robot Motion Generation System Based on Human Gesture
Toshiyuki Haramaki, Kenta Goto, Hokuto Tsutsumi, Akihito Yatsuda, Hiroaki Nishino
3. A Framework for Automatically Generating Medical Quizzes with Multi-Media Contents Based on Linked Data
Wei Shi, Kosuke Kaneko, Chenguang Ma, Yoshihiro Okada
4. Implementation of an Alternating Least Square Model Based Collaborative Filtering Movie Recommendation System on Hadoop and Spark Platforms
Jung-Bin Li, Szu-Yin Lin, Yu-Hsiang Hsu, Ying-Chu Huang
5. Web-based Operation Training System of Medical Therapy Devices using VR/AR Devices
Kotaro Kuroda, Kosuke Kaneko, Toshioh Fujibuchi, Yoshihiro Okada

CWECS-S1: Cloud, Wireless and e-Commerce Security**Chair: Fang-Yie Leu, Tunghai University, Taiwan**

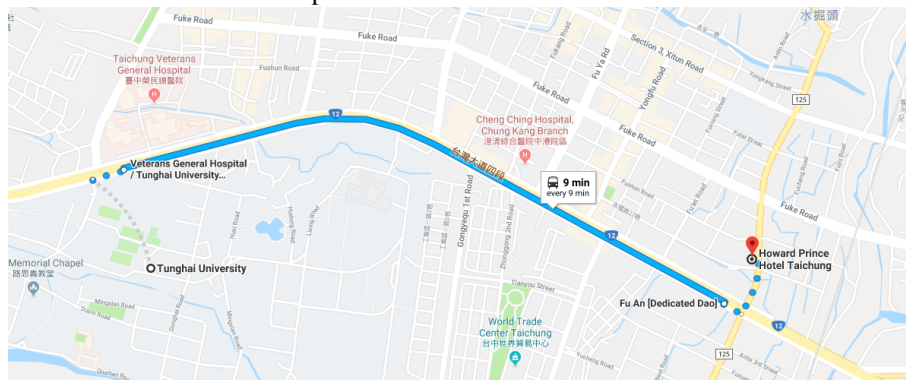
1. A Banking Chatbot Security Control Procedure for Protecting User Data Security and Privacy
Sen-Tarnng Lai, Fang-Yie Leu, Jeng-Wei Lin
2. A Survey of Authentication Protocols in VANET
Chin-Ling Chen, Yue-Xun Chen, Chin-Feng Lee, Yong-Yuan Deng
3. Migration of Edge Computing Services in 5G Networks - Firewall as a Service Example
Fang-Yie Leu, Heru Susanto, Ping-Hung Chou, Jeng-Wei Lin
4. Non-Contact Pulse Rate Measurement of Hand and Wrist Using RGB Camera
Chi-Heng Lu, Jen-Hua Low, Chiu-Ching Tuan
5. High Performance Grid Computing: Challenges and Opportunities of High Speed Networking
Heru Susanto, Leu Fang-Yie, Chin Kang Chen
6. Self-Parameter based Bilateral Session Key Exchange Method
Kun-Lin Tsai, Fang-Yie Leu, Shuo-Wen Chang

NGWMN-S1: Next Generation Wireless and Mobile Networks**Chair: Hsing-Chung Chen, Asia University, Taiwan**

1. Passive Neighbor Discovery with Scanning Mechanism for Mobile Ad hoc Devices in WUR Networks
Hyunhee Park
2. A Pseudonym Ring Building Scheme for Anonymous Authentication in VANETs
Tianhan Gao and Xinyang Deng
3. An Anonymous Access Authentication Scheme for VANETs Based on ID-based Group Signature
Tianhan Gao and Jiayu Qi
4. Vulnerability Analysis on a Secure USB: Based on a Commercial Product A
Kyungroul Lee, Insu Oh, Wonyoung Jang, Chang Choi, Kangbin Yim
5. Performance of Transmission Latency in Software Defined Vehicle Networks
Yung-Fa Huang, Hsing-Chung Chen, Bing-Chen He, Tan-Hsu Tan, Shao-Chieh Huang, Fengming Chang

16:00-16:30 Coffee Break**16:30-18:30 Move to Reception Hotel****19:00-21:00 Welcome Reception Party**

Welcome reception will be held at Howard Prince Hotel.



Sunday, October 28, 2018**08:00 Registration****09:30-10:30 Single Session: BWCCA-2018 & 3PGCIC-2018 Keynote II****BWCCA-2018 & 3PGCIC-2018 Keynote Talk II**

Prof. Han-Chieh Chao: Deep Learning Platform for B5G Mobile Network

10:30-11:00 Coffee Break**11:00-13:00 Parallel Sessions****BWCCA-S5: Network Algorithms and Applications**

Chair: Tetsuya Shigeyasu, Prefectural University of Hiroshima, Japan

1. A New Contents Migration Method for Reducing Network Traffic and Improving Cache Hit Rate on NDN
Yuya Nakata and Tetsuya Shigeyasu
2. Intersection Traffic Control Method Considering Remaining Distance to Destination and Congestion of Next Road Segment
Yusuke Okabe, Minato Dan, Hiroshi Shigeno
3. Development of Decision Algorithm for Road Surface Conditions by Crowd Sensing Technology
Takanori Ito, Akira Sakuraba, Yoshitaka Shibata
4. Uplink Multi-User Beamforming for Contention-based Wireless LAN
Yi-Hsiu Lee and Wen-Rong Wu
5. Big Data Analytics for Price and Load Forecasting in Smart Grids
Sana Mujeeb, Nadeem Javaid, Mariam Akbar, Rabiya Khalid, Orooj Nazeer, Mahnoor Khan

BWCCA-S6: Multimedia and Web Applications II

Chair: Yoshiro Okada, Kyushu University, Japan

1. Web based Interactive Viewer for 360VR Images/Videos Supporting VR/AR devices with Human Face Detection
Akira Haga, Wei Shi, Ginpei Hayashida and Yoshihiro Okada
2. Integration of CNN and Faster R-CNN for Tire Bubble Defects Detection
Chan-Yu Chang and Wei-Chun Wang
3. Monocular Camera Tracking Curve Optimization Algorithm In Augmented Reality
Tianhan Gao and Wei Jiang
4. An Implementation of Interactive RFID Positioning Healthcare System on Mobile Platform
Kuang-Yen Tai, Shun-Li Yen, Tzer-Shyong Chen, Yu-Hsuan Tseng
5. Leap Motion for Telerehabilitation: A Feasibility Study
Linlin Zhang, Kin Fun Li, Jingjing Lin, Jenna Ren

ATASP-S1: Advanced Techniques and Algorithms for Security and Privacy**Chair: Takamichi Saito, Meiji University, Japan**

1. Combining Features in Browser Fingerprinting
Kazuhisa Tanabe, Ryohei Hosoya, Takamichi Saito
2. Survey on Joint Operational Intelligence Support in Recent Local Wars
Pan Xiang, Xu Tianye, Xiao Zhiting, Guo Xuan
3. The Enlightenment of Nine Classical Cyber Warfare to the National Cyberspace Security Strategy
Pan Xiang, Xu Tianye, Xiao Zhiting, Guo Xuan
4. HACKFOSICS: Forensics Tool for Extract Live Remnant Data and Examine Dead Artifact
Tin Maung Maung and Mie Mie Su Thwin
5. Feature Recognition Method for Hand-Written Signature Image
Hsing-Chung Chen, Han-MI Chen

RVI3C-S1: Robot and Vehicle Interaction and Communication**Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan**

1. Performance Evaluation of a Fuzzy-Based Cluster-Management System for VANETs
Kosuke Ozera, Kevin Bylykbashi, Yi Liu, Makoto Ikeda, Leonard Barolli
2. A Multi Positions Detection System with Supersonic Sensors for Omnidirectional Wheelchair Tennis
Keita Matsuo and Leonard Barolli
3. A Fuzzy-based System for Safe Driving Information in VANETs
Kevin Bylykbashi, Yi Liu, Kosuke Ozera, Leonard Barolli, Makoto Takizawa
4. Proposal of Disaster Mitigation Method using Multiple Robots
Takahiro Uchiya, Ryuta Sugie, Kota Hayashi, Tetsuo Kinoshita

13:00-14:00 Lunch Break**14:00-16:00 Parallel Sessions****BWCCA-S7: Cloud and Cluster Computing****Chair: Naohiro Hayashibara, Kyoto Sangyo University, Japan**

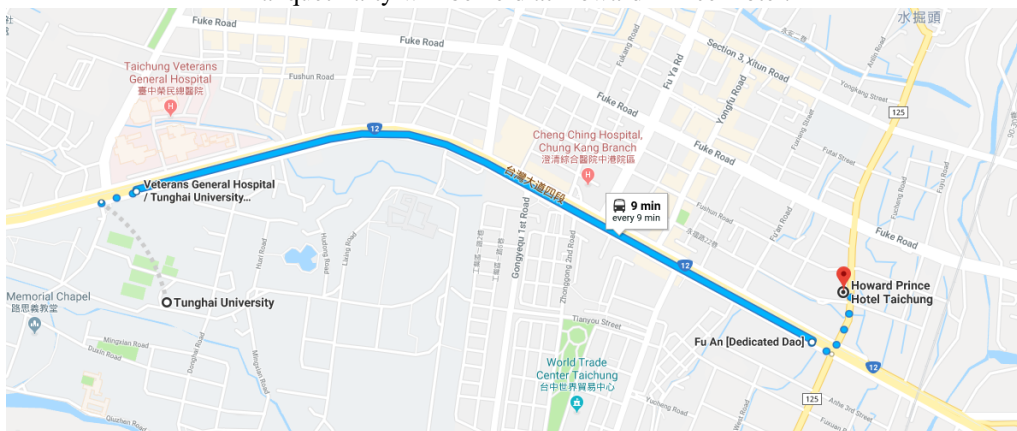
1. Shortest Job First Load Balancing Algorithm For Efficient Resource Management In Cloud
Moomina Waheed, Nadeem Javaid, Aisha Fatima, Tooba Nazar, Komal Tehreem, Kainat Ansar
2. Modified Shortest Job First for Load Balancing in Cloud-Fog Computing
Tooba Nazar, Nadeem Javaid, Moomina Waheed, Aisha Fatima, Hamida Bano, Nouman Ahmed
3. Efficient Resource Allocation for Residential Smart Buildings using Integrated Cloud and Fog Environment in Smart Grid
Amna Abbas, Nadeem Javaid, Muhammad Ismail, Maria Naeem, Zaheer Ahmed, Tamoor Wakeel
4. Min-Min Scheduling Algorithm for Efficient Resource Distribution using Cloud and Fog in Smart Buildings
Saniah Rehman, Nadeem Javaid, Sadia Rasheed, Kanza Hassan, Farkhanda Zafar, Maria Naeem
5. Cloud Computing Based Resource Allocation by Random Load Balancing Technique
Hamida Bano, Nadeem Javaid, Komal Tehreem, Kainat Ansar, Maheen Zahid, Tooba Nazar

MNSA-S1: Multimedia Network Systems and Applications**Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. Demand Side Management Scheduling of Appliances using Meta Heuristic Algorithms
Nasir Ayub, Nadeem Javaid, Assad Abbas, Adnan Ishaq, Anam Yousaf, Muhammad Awaiz Ishtiaq
2. Efficient Energy Management Assisted by Fog Computing
Shakeeb Murtaza, Nadeem Javaid, Muhammad KaleemUllah Khan, Farkhanda Zafar, Rameez Iqbal, Muhammad Abubaker Hamid
3. A Cloud Fog based Framework for Efficient Resource Allocation using Firefly Algorithm
Kanza Hassan, Nadeem Javaid, Farkhanda Zafar, Saniah Rehman, Maheen Zahid, Sadia Rasheed
4. Object-based Selective Delivery of Event Messages in Topic-based Publish/Subscribe Systems
Takumi Saito, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
5. 2 Wavelength V2X Cognitive Wireless Communication System
Akira Sakuraba, Takanori Ito, Yoshitaka Shibata

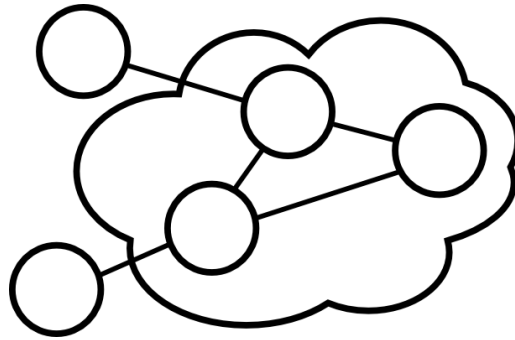
16:00-16:30 Coffee Break**16:30-18:00 Move to Banquet Hotel****19:00-21:00 Banquet Party**

Banquet Party will be held at Howard Prince Hotel.



Monday, October 29, 2018

BWCCA-2018 Organizing Committee Meeting and Discussion



3PGCIC-2018

Main Conference and Workshops Program

Saturday, October 27, 2018

08:00 Registration

09:00-09:30 Opening Ceremony

09:30-10:30 BWCCA-2018 & 3PGCIC-2018 Keynote I

BWCCA-2018 & 3PGCIC-2018 Keynote Talk I (PLENARY ROOM)

Prof. Jyh-Cheng Chen: Softwarization and Virtualization of 5G Core Networks

10:30-11:00 Coffee Break**11:00-13:00 Parallel Sessions****3PGCIC-S1: Cloud Computing****Chair: Pruet Boonma, Chiang Mai University, Thailand**

1. iDBP: A Distributed Min-Cut Density-Balanced Algorithm for Incremental Web-pages Ranking
Sumalee Sangamuang, Pruet Boonma, Juggapong Natwichai
2. Performance Analysis of WMN-PSOSA Simulation System for WMNs Considering Weibull and Chi-square Client Distributions
Shinji Sakamoto, Leonard Barolli, Shusuke Okamoto
3. Parameterized Pulsed Transaction Injection Computation Model And Performance Optimizer For IOTA-Tango
Bruno Andriamanalimanana, Chen-Fu Chiang, Jorge Novillo, Sam Sengupta and Ali Tekeoglu
4. Cloud-fog Based Load Balancing Using Shortest Remaining Time First Optimization
Muhammad Zakria, Nadeem Javaid, Muhammad Ismail, Muhammad Zubair, Muhammad Asad Zaheer, Faizan Saeed
5. WebSocket-based Real-time Single-page Application Development Framework
Hao Qu and Kun Ma
6. On Construction of a Caffe Deep Learning Framework based on Intel Xeon Phi
Chao-Tung Yang, Jung-Chun Liu, Yu-Wei Chan, Endah Kristiani, Chan-Fu Kuo

DEM-S1: Distributed Embedded Systems**Chair: Peter Hellinckx, University of Antwerp, Belgium**

1. Contact Detection and Localization for Social Networking of Small Animals
Ivan Herrera Olivares, Rafael Berkvens, Lucinda Kirkpatrick, Maarten Weyn
2. Introduction of Deep Neural Network in Hybrid WCET Analysis
Thomas Huybrechts, Thomas Cassimon, Siegfried Mercelis, Peter Hellinckx
3. Distributed Uniform Streaming Framework: Towards an Elastic Fog Computing Platform for Event Stream Processing
Simon Vanneste, Jens de Hoog, Thomas Huybrechts, Stig Bosmans, Muddsair Sharif, Siegfried Mercelis, Peter Hellinckx
4. Context-Aware Distribution In Constrained IoT Environments
Reinout Eyckerman, Muddsair Sharif, Siegfried Mercelis, Peter Hellinckx
5. Towards a Scalable Distributed Real-Time Hybrid Simulator for Autonomous Vehicles
Jens de Hoog, Manu Pepermans, Siegfried Mercelis, Peter Hellinckx
6. Challenges of modeling and simulating Internet of Things systems
Stig Bosmans, Siegfried Mercelis, Joachim Denil, Peter Hellinckx

13:00-14:00 Lunch Break**14:00-16:00 Parallel Sessions**

3PGCIC-S2: Distributed and Intelligent Systems**Chair: Dilawaer Duolikun, Hosei University, Japan**

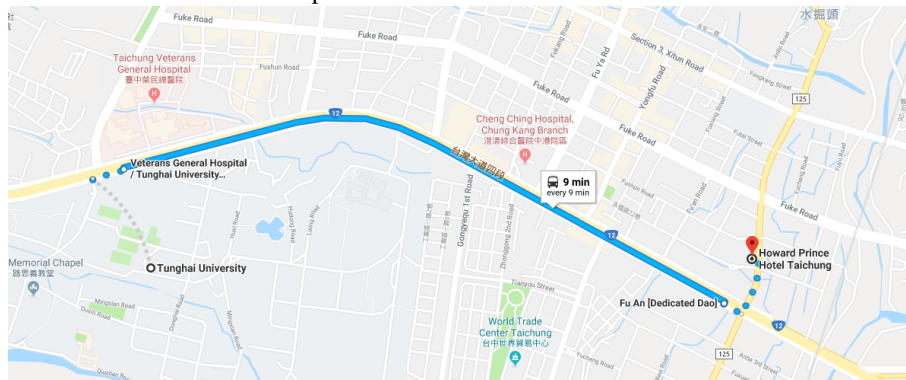
1. Fault-tolerant Fog Computing Models in the IoT
Ryuji Oma, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
2. Hill Climbing Load Balancing Algorithm on Fog Computing
Maheen Zahid, Nadeem Javaid, Kainat Ansar, Kanza Hassan, Muhammad KaleemUllah Khan, Mohammad Waqas
3. A Fuzzy-based Approach for MobilePeerDroid System Considering of Peer Communication Cost
Yi Liu, Kosuke Ozero, Keita Matsuo, Makoto Ikeda, Leonard Barolli
4. A Real-Time Fog Computing Approach for Healthcare Environment
Eliza Gomes, Mario Dantas, Patricia Plentz
5. Texture Estimation System of Snacks Using Neural Network Considering Sound and Load
Shigeru Kato, Naoki Wada, Ryuji Ito, Takaya Shiozaki, Yudai Nishiyama, Tomomichi Kagawa
6. The Implementation of a Hadoop Ecosystem Portal with Virtualization Deployment
Chao-Tung Yang, Chien-Heng Wu, Wen-Yi Chang, Whey-Fone Tsai, Yu-Wei Chan, Endah Kristiani, Yuan-Ping Chiang

SMDMS-S1: International Workshop on Streaming Media Delivery and Management Systems**Chair: Tomoki Yoshihisa, Osaka University, Japan**

1. Evaluation of Scheduling Method for Division Based Broadcasting of Multiple Video Considering Data Size
Ren Manabe and Yusuke Gotoh
2. A Design of Hierarchical ECA Rules for Distributed Multi-Viewpoint Internet Live Broadcasting Systems
Satoru Matsumoto, Tomoki Yoshihisa, Tomoya Kawakami, Yuuichi Teranishi
3. An Evaluation on Virtual Bandwidth for Video Streaming Delivery in Hybrid Broadcasting Environments
Tomoki Yoshihisa
4. A Load Distribution Method for Sensor Data Stream Collection Considering Phase Differences
Tomoya Kawakami, Tomoki Yoshihisa, Yuuichi Teranishi

16:00-16:30 Coffee Break**16:30-18:00 Move to Reception Hotel****19:00-21:00 Welcome Reception Party**

Welcome reception will be held at Howard Prince Hotel.



Sunday, October 28, 2018**08:00 Registration****09:30-10:30 Single Session: BWCCA-2018 & 3PGCIC-2018 Keynote II****BWCCA-2018 & 3PGCIC-2018 Keynote Talk II**

Prof. Han-Chieh Chao: Deep Learning Platform for B5G Mobile Network

10:30-11:00 Coffee Break**11:00-13:00 Parallel Sessions****3PGCIC-S3: Reliable and Trusted Systems**

Chair: Omar Hussain, University of New South Wales, Australia

1. Cognitive Codes for Authentication and Management in Cloud Computing Infrastructures
Marek R Ogiela and Lidia D Ogiela
2. A Model for Reasoning over IoT Streams at Edges of Internet
Reinout Van Hille, Fatos Xhafa, Peter Hellinckx
3. A Fuzzy-based System for Selection of IoT Devices in Opportunistic Networks Considering Number of Past Encounters
Miralda Cuka, Donald Elmazi, Kevin Bylykbashi, Keita Matsuo, Makoto Ikeda, Leonard Barolli
4. Semi-Synchronicity Enabling Protocol and Pulsed Injection Protocol For A Distributed Ledger System
Bruno Andriamanalimanana, Chen-Fu Chiang, Jorge Novillo, Sam Sengupta, Ali Tekeoglu
5. Blockchain-based Trust Communities for Decentralized M2M Application Services
Besfort Shala, Ulrich Trick, Armin Lehmann, Bogdan Ghita, Stavros Shiaeles
6. Automated Risk Analysis for IoT systems
Massimiliano Rak, Alessandra De Benedictis, Valentina Casola, Umberto Villano

BIDS-S1: Business Intelligence and Distributed Systems

Chair: Kin Fun Li, University of Victoria, Canada

1. Round Robin Inspired History Based Load Balancing Using Cloud Computing
Talha Saif, Nadeem Javaid, Mubariz Rahman, Hanan Butt, Muhammad Babar Kamal, Muhammad Junaid Ali
2. DAHS: A Distributed Data-as-a-Service Framework for Data Analytics in Healthcare
Pruet Boonma, Juggapong Natwichai, Krit Khwanngern, Panutda Nantawad
3. Outsourcing Online/offline Proxy Re-encryption for Mobile Cloud Storage Sharing
Xu An Wang, Nadia Nedjah, Arun Kumar Sangaiah, Chun Shan, Zuliang Wang
4. Cyber Incident Classification: Issues and Challenges
Marina Ibrishimova

13:00-14:00 Lunch Break**14:00-16:00 Parallel Sessions****SMECS-S1: Simulation and Modelling of Engineering & Computational Systems****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Integration of Cloud-Fog Based Platform for Load Balancing using Hybrid Genetic Algorithm Using Bin Packing Technique
Muhammad Zubair, Nadeem Javaid, Muhammad Ismail, Muhammad Zakria, Muhammad Asad Zaheer, Faizan Saeed
2. Load Balancing on Cloud Using Professional Service Scheduler Optimization
Muhammad Asad Zaheer, Nadeem Javaid, Muhammad Zakria, Muhammad Zubair, Muhammad Ismail, Abdul Rehman
3. Privacy Preservation for Re-publication Data by Using Probabilistic Graph
Pachara Tinamas, Nattapon Harnsamut, Surapon Riyana, Juggapong Natwichai
4. More Secure Outsource Protocol for Matrix Multiplication in Cloud Computing
Xu An Wang, Shuaishuai Zhu, Arun Kumar Sangaiah, Shuai Xue, Yunfei Cao

3PGCIC-S4: Security, Dependability and Reliability in IoT, Grids and Clouds**Chair: Marek R Ogiela, AGH University of Science and Technology, Poland**

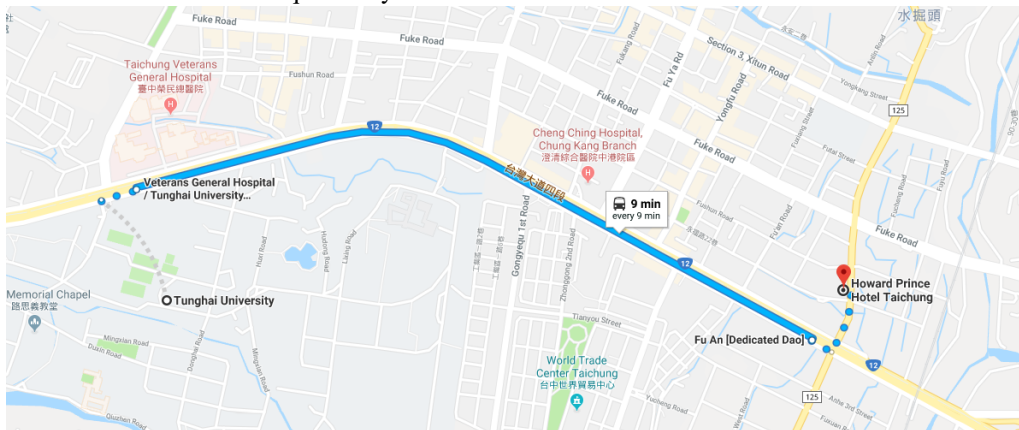
1. SQL Injection in Cloud: An Actual Case Study
Xiao Fu, Zhijian Wang, Yong Chen, Yunfeng Chen, Hao Wu
2. Smart Intrusion Detection with Expert Systems
Flora Amato, Francesco Moscato, Fatos Xhafa
3. Threshold Based Load Balancer for Efficient Resource Utilization of Smart Grid using Cloud Computing
Mubariz Rehman, Nadeem Javaid, Muhammad Junaid Ali, Talha Saif, Muhammad Hassaan Ashraf, Sadam Hussain Abbasi
4. A Brief History of Self-Destructing Data: From 2005 To 2017
Xiao Fu, Zhijian Wang, Yong Chen, Yunfeng Chen, Hao Wu
5. On the Security of a CCA-secure Timed-release Conditional Proxy Broadcast Re-encryption Scheme
Xu An Wang, Arun Kumar Sangaiah, Nadia Nedjah, Chun Shan, Zuliang Wang
6. Mining and Utilizing Network Protocol's Stealth Attack Behaviors
YanJing Hu, Xu An Wang, HaiNing Luo, Shuaishuai Zhu

MWVRTA-S1: Multimedia, Web and Virtual Reality Technologies and Applications**Chair: Kaoru Sugita, Fukuoka Institute of Technology, Japan**

1. Proposal of a Zoo Navigation AR Application using Markerless Image Processing
Hayato Sakamoto and Tomoyuki Ishida
2. Implementation of a Virtual Reality Streaming Software for Network Performance Evaluation
Ko Takayama, Yusi Machidori, Kaoru Sugita
3. Remote Voltage Controls by Image Recognitions for Adaptive Array Antenna of Vehicular Delay Tolerant Networks
Noriki Uchida, Ryo Hashimoto, Goshi Sato, Yoshitaka Shibata
4. A Collaborative Safety Flight Control System for Multiple Drones: Dealing with Weak Wind by Changing Drones Formation
Noriyasu Yamamoto and Noriki Uchida

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

Banquet Party will be held at Howard Prince Hotel.



Monday, October 29, 2018

3PGCIC-2018 Organizing Committee Meeting and Discussion

Time Table

BWCCA-2018 and 3PGCIC-2018 Session Schedule
October 27th – 29th, 2018
Tunghai University, Taichung, Taiwan

Saturday (October 27, 2018)		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
Slot	Time	Registration					
Opening	09:00 – 09:30	Opening Ceremony					
Session 1	09:30 – 10:30	BWCCA-2018 and 3PGCIC-2018 Keynote I					
Coffee Break	10:30 – 11:00	Coffee Break					
Session 2	11:00 – 13:00	BWCCA S1	BWCCA S2	LSNIC S1	MAPWC S1	3PGCIC S1	DEM S1
Lunch	13:00 – 14:00	Lunch Break					
Session 3	14:00 – 16:00	BWCCA S3	BWCCA S4	CWECS S1	NGWMN S1	3PGCIC S2	SMDMS S1
Coffee Break	16:00 – 16:30	Coffee Break					
Move	16:30 – 18:30	Move to Reception Hotel					
Social Event	19:00 – 21:00	Welcome Reception Party					

Sunday (October 28, 2018)		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
Slot	Time	Registration					
Session 1	09:30 – 10:30	BWCCA-2018 and 3PGCIC-2018 Keynote II					
Coffee Break	10:30 – 11:00	Coffee Break					
Session 2	11:00 – 13:00	BWCCA S5	BWCCA S6	ATASP S1	RV13C S1	3PGCIC S3	BIDS S1
Lunch	13:00 – 14:00	Lunch Break					
Session 3	14:00 – 16:00	BWCCA S7		MNSA S1	SMECS S1	3PGCIC S4	MWVRTA S1
Coffee Break	16:00 – 16:30	Coffee Break					
Move	16:30 – 18:30	Move to Banquet Hotel					
Social Event	19:00 – 21:00	Banquet Party					

Monday (October 29, 2018)		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
Slot	Time	BWCCA-2018 and 3PGCIC-2018 Steering Committee Meeting and Discussion					