

# PROGRAM GUIDE



## NBiS-2015

The 18-th International Conference on  
Network-Based Information Systems  
and



*Intelligent Networking  
and Collaborative Systems*

## INCoS-2015

The 7-th International Conference on  
Intelligent Networking and Collaborative Systems  
Technically Supported by IEEE SMC  
September 2<sup>nd</sup> - September 4<sup>th</sup>, 2015  
Taipei Campus of Tamkang University, Taipei, Taiwan

Supported by:

中華民國科技廳

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## NBiS-2015 Organizing Committee

### General Co-Chairs

Hui-Huang Hsu, *Tamkang University, Taiwan*  
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Makoto Takizawa, *Hosei University, Japan*

## **Welcome Message from NBiS Steering Committee Co-Chairs**

Welcome to the 18-th International Conference on Network-Based Information Systems (NBiS 2015), which will be held at Tamkang University, Taipei, Taiwan from September 2 to September 4, 2015.

The main objective of NBiS is to bring together scientists, engineers, and researchers from both network systems and information systems with the aim of encouraging the exchange of ideas, opinions, and experiences between these two communities.

NBiS started as a workshop and was held for 12 years together with DEXA International Conference as one of the oldest among DEXA Workshops. The workshop was very successful and in 2009 edition the NBiS was held at IUPUI, Indianapolis, USA as an independent International Conference supported by many international volunteers. In following years, the NBiSs was held in Takayama, Gifu, Japan (2010), Tirana, Albania (2011) Melbourne, Australia (2012), Gwangju, Korea (2013), Salerno, Italy (2014).

In this edition of NBiS, many papers were submitted from all over the world. They were carefully reviewed and only high quality papers will be presented during conference days. In conjunction with NBiS 2015 are held also 8 International Workshops where specific and hot topics are deeply discussed.

Many volunteer people have kindly helped us to prepare and organize NBiS 2015. First of all, we would like to thank General Co-Chairs, Program Co-Chairs and Workshops Co-Chairs for their great efforts to make NBiS-2015 a very successful event. We would like to thank all NBiS 2015 Organizing Committee Members, Program Committee Members and other volunteers for their great help and support. We have special thanks also to Finance Chair and Web Administrator Co-Chairs. Finally, we thank the Local Organization Team at Tamkang University for their good arrangements.

We do hope that you will enjoy the conference and have a good time in Taipei, Taiwan.

### **NBiS Steering Committee Co-Chairs**

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

**Makoto Takizawa**, *Hosei University, Japan*

### **Welcome Message from NBiS 2015 General Co-Chairs**

We would like to welcome you to the 18-th International Conference on Network-Based Information Systems (NBiS 2015), which will be held at Tamkang University, Taipei, Taiwan from September 2 to September 4, 2015.

It is our honour to chair this prestigious conference, as one of the important conferences in the field. Extensive international participation, coupled with rigorous peer reviews, has made this an exceptional technical conference. The Technical Program and Workshops add important dimensions to this event. We hope that you will enjoy each and every component of this event and benefit from interactions with other attendees.

Since its inception, NBiS has attempted to bring together people interested in information and networking, in areas that range from the theoretical aspects to the practical design of new network systems, distributed systems, multimedia systems, Internet/web technologies, mobile computing, intelligent computing, pervasive/ubiquitous networks, dependable systems, semantic services, Grid, P2P, and scalable computing. For NBiS 2015, we have continued these efforts as novel networking concepts emerge and new applications flourish. NBiS 2015 consists of the main conference and 8 workshops. We received 209 papers, and out of them 59 were accepted (about 28% acceptance ratio), which will be presented during three days of the conference.

The organization of an international conference requires the support and help of many people. A lot of people have helped and worked hard for a successful NBiS 2015 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers. We are indebted to Track Co-Chairs, Program Committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give our special thanks to Prof. Leonard Barolli and Prof. Makoto Takizawa the chairs of the Steering Committee for giving us the opportunity to hold this conference and for their guidance on organizing the conference. We would like to thank Program Co-Chairs and Workshops Co-Chairs for their excellent work.

We would like to express our great appreciation to our keynote speakers: Prof. Sam Kwong, City University of Hong Kong, Hong Kong and Prof. Vincent S. Tseng, National Cheng Kung University, Taiwan for accepting our invitation as keynote speakers of NBiS 2015.

We would like to thank the Local Arrangements Chairs and Local Organization Team at Tamkang University for making good local arrangements for the conference.

We hope that you have an enjoyable and productive time during this conference, and have a great time in Taipei, taiwan.

#### **NBiS 2015 General Co-Chairs**

**Hui-Huang Hsu**, *Tamkang University, Taiwan*

**Tomoya Enokido**, *Rissho University, Japan*

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

## **Welcome Message from NBiS 2015 Program Committee Co-Chairs**

Welcome to the 18-th International Conference on Network-Based Information Systems (NBiS 2015), which will be held at Tamkang University, Taipei, Taiwan from September 2 to September 4, 2015.

The purpose of NBiS conference is to bring together developers and researchers to share ideas and research work in the emerging areas of network and information systems.

The contributions included in the proceedings of NBiS 2015 cover all aspects of theory, design and application of computer networks and information systems. There are many topics of information networking such as cloud computing, wireless sensor networks, ad-hoc networks, peer-to-peer systems, grid computing, social networking, multimedia systems and applications, security, distributed and parallel systems and mobile computing.

In this edition, 209 submissions were received from all over the world. Each submitted paper was peer-reviewed by Program Committee members and external reviewers who are experts in the subject area of the paper. Then, the Program Committee accepted 59 papers (about 28% acceptance ratio). In the conference program are also included the distinguished keynote addresses by Prof. Sam Kwong, City University of Hong Kong, Hong Kong and Prof. Vincent S. Tseng, National Cheng Kung University, Taiwan.

The organization of an International Conference requires the support and help of many people. First, we would like to thank all authors for submitting their papers. We would like to thank all Track Chairs and Program Committee Members, who carried out the most difficult work of carefully evaluating the submitted papers. We also would like to thank NBiS 2015 Workshops Chairs for organizing excellent workshops with NBiS 2015 conference.

We would like to give special thanks to Prof. Leonard Barolli and Prof. Makoto Takizawa the Chairs of the Steering Committee of NBiS for their strong encouragement, guidance, insights, and for their effective coordination of conference organization. We would like to greatly thank General Co-Chairs for their great support and invaluable suggestions to make the conference a very successful event. We would like to express our great appreciation to Dr. Makoto Ikeda for his great efforts and efficient work to deal with many conference matters.

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

### **NBiS 2015 Program Committee Co-Chairs**

**Chien-Fu Cheng**, *Tamkang University, Taiwan*  
**Ying-Hong Wang**, *Tamkang University, Taiwan*  
**Hiroaki Kikuchi**, *Meiji University, Japan*



## Welcome Message from NBiS 2015 Workshops Co-Chairs

Welcome to the NBiS 2015 workshops to be held in conjunction with the 18-th International Conference on Network-Based Information Systems (NBiS 2015), which will be held at Tamkang University, Taipei, Taiwan from September 2 to September 4, 2015.

The goal of NBiS 2015 workshops is to provide a forum for international researchers and practitioners to exchange and share their new ideas, research results, and ongoing work on leading-edge topics in the different fields of network-based information systems and their applications. Some of the accepted workshops deal with topics that open up perspectives beyond the ordinary, thus, enriching the topics usually addressed by the NBiS 2015 conference.

For this edition, the following workshops will be held with NBiS 2015.

1. The 10-th International Workshop on Network-based Virtual Reality and Tele-existence (INVITE-2015)
2. The 9-th International Workshop on Advanced Distributed and Parallel Network Applications (ADPNA-2015)
3. The 6-th International Workshop on Intelligent Sensors and Smart Environments (ISSE-2015)
4. The 6-th International Workshop on Trustworthy Computing and Security (TwCSec-2015)
5. The 6-th International Workshop on Heterogeneous Networking Environments and Technologies (HETNET-2015)
6. The 5-th International Workshop on Information Networking and Wireless Communications (INWC-2015)
7. The 4-th International Workshop on Web Services and Social Media (WSSM-2015)
8. The 4-th International Workshop on Advances in Data Engineering and Mobile Computing (DEMoC-2015)

We would like to thank the research community for their great response to NBiS 2015 workshops. The excellent technical program of the workshops was the result of a professional work from workshop chairs, workshop program committees, reviewers, and authors.

We would like to give our special thanks to Prof. Leonard Barolli and Prof. Makoto Takizawa the Steering Committee Chairs of NBiS conference for their strong encouragement and guidance to organize the NBiS 2015 workshops. We would like to thank NBiS 2015 General Co-Chairs for their advices to make possible organization of NBiS 2015 workshops. We are thankful to NBiS 2015 Program Co-Chairs for their support and help to prepare the technical program of NBiS 2015 workshops.

We would like to express special thanks to NBiS 2015 Web Administrator Chairs for their timely unlimited support for managing the conference systems.

We also would like to thank NBiS 2015 Local Arrangement Co-Chairs and Local Organization Team at Tamkang University for making the local arrangement for the conference and workshops.

We wish all of you entertaining and rewarding experience in all workshops and NBiS 2015 conference.

### NBiS 2015 Workshops Co-Chairs

**Fang-Yie Leu**, *Tunghai University, Taiwan*  
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**Steering Committee**

Fatos Xhafa, *Technical University of Catalonia, Spain*  
Leonard Barolli, *Fukuoka Institute of Technology, Japan*

## Welcome Message from 7<sup>th</sup> IEEE INCoS-2015 Conference Chairs

Welcome to the 7th IEEE International Conference on Intelligent Networking and Collaborative Systems (INCoS-2015), which is held from 2nd September to 4th September 2015 at Tamkang University, Taipei, Taiwan. As in all previous editions, the INCoS-2015 conference is technically sponsored by IEEE Systems, Man & Cybernetics (IEEE SMC Society).

INCoS is a multidisciplinary conference that covers latest advances in intelligent social networks and collaborative systems, intelligent networking systems, mobile collaborative systems, etc. Additionally, security, authentication, privacy, data trust and user trustworthiness behaviour has become crosscutting features of intelligent collaborative systems. With the fast development of the Internet, we are experiencing a shift from the traditional sharing of information and applications as the main purpose of the Web to an emergent paradigm, which locates people at the very centre of networks and exploits the value of people's connections, relations and collaboration. Social networks are also playing a major role in the dynamics and structure of intelligent Web-based networking and collaborative systems.

Virtual campuses, virtual communities and organizations strongly leverage intelligent networking and collaborative systems by a great variety of formal and informal electronic relations, such as business-to-business, peer-to-peer and many types of online collaborative learning interactions, including the emerging MOOCs systems. This has resulted in entangled systems that need to be managed efficiently and in an autonomous way. In addition, latest and powerful technologies based on Grid and wireless infrastructure as well as Cloud computing are currently enhancing collaborative and networking applications a great deal but also facing new issues and challenges. Well-known social networks lack of knowledge management and adaptive solutions and the information shared among peers is rather static. INCoS-2015 conference paid a special attention to security, privacy and trust in Social networking, Cloud Computing Services and Storage, Organization, Management and Autonomic Computing.

The principal aim of this conference is to stimulate research that will lead to the creation of responsive environments for networking and, at longer-term, the development of adaptive, secure, mobile, and intuitive intelligent systems for collaborative work and learning. INCoS-2015 addresses a large number of themes and focuses on the following research tracks:

- Data Mining, Machine Learning and Collective Intelligence
- Fuzzy Systems and Knowledge Management
- Grid and P2P Distributed Infrastructure for Intelligent Networking and Collaborative Systems
- Nature's Inspired Parallel Collaborative Systems
- Security, Organization, Management and Autonomic Computing for Intelligent Networking and Collaborative Systems
- Software Engineering, Semantics and Ontologies for Intelligent Networking and Collaborative Systems
- Wireless and Sensor Systems for Intelligent Networking and Collaborative Systems
- Service-based Systems for Enterprise Activities Planning And Management
- Ubiquitous and Sensor-based Context Awareness Computing
- Next Generation Network Protocols and Components
- Big Data Analytics for Networking and Collaborative Systems
- Cloud Computing: Services, Storage, Security and Privacy

- Intelligent Collaborative Systems for Work And Learning, Virtual Organization and Campuses
- Social Networking and Collaborative Systems
- Intelligent Sensor Networks for Environmental Monitoring

As in all previous editions, INCoS-2015 counted on with the support and collaboration of a large and internationally recognized TPC covering all main themes of the conference. After a careful peer review process, in which each paper was reviewed by at least two referees (in average three reviews per submission), there were accepted 44 regular papers (29% acceptance rate). Additionally, a number of workshops were organized in conjunction with the conference, in which 41 workshop papers were accepted.

The successful organization of the conference is achieved thanks to the great collaboration and hard work of many people and conference supporters. First and foremost, we would like to thank all the authors for their continued support to the conference by submitting their research work to the conference, for their presentations and discussions during the conference days. We would like to thank TPC members and external reviewers for their work by carefully evaluating the submissions and providing constructive feedback to authors. We would like to thank the track chairs for their work on setting up the tracks and the respective TPCs and also for actively promoting the conference and their tracks. We would like to appreciate the work of PC Co-chairs Chien-Chang Chen, Tamkang University, Taiwan and Vaclav Snasel, VSB-Technical University of Ostrava, Czech Republic. The Workshops Co-Chairs Mario Köppen, Kyushu Institute of Technology, Japan, Jin Li, Guangzhou University, China and Francesco Palmieri, University of Salerno, Italy are appreciated for the successful organization of workshops in conjunction with main conference. We would like to acknowledge the excellent work and support by the International Advisory Committee and its chairs Witold Pedrycz (chair), University of Alberta, Canada and Kuan-Ching Li (co-chair), Providence University, Taiwan.

Our gratitude and acknowledgment for the conference keynotes, Prof Sam Kwong, City University of Hong Kong and Prof. Vincent S. Tseng, National Chiao Tung University, Taiwan, for their interesting and inspiring keynote speeches.

We greatly appreciate the support by Web Administrators Tetsuya Oda, and Shinji Sakamoto, Fukuoka Institute of Technology (FIT), Japan and Finance Chair Makoto Ikeda, Fukuoka Institute of Technology (FIT), Japan.

We would like to give special thanks to the members of the local organizing committee from Tamkang University for excellent arrangements for the conference.

We are very grateful to IEEE SMC as well as several academic institutions for their technical sponsorship, endorsement and assistance. Finally, we hope that you will find these proceedings to be a valuable resource in your professional, research and educational activities!

We wish you will enjoy your stay in Taipei, Taiwan and look forward to seeing you again in forthcoming edition of INCoS conference!

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

**Fatos Xhafa**, *Technical University of Catalonia, Spain*  
**Leonard Barolli**, *Fukuoka Institute of Technology, Japan*  
**Hui-Huang Hsu**, *Tamkang University, Taiwan*

### **Welcome Message from the 7<sup>th</sup> INCoS-2015 Workshops Co-Chairs**

Welcome to Workshops of the 7th IEEE International Conference on Intelligent Networking and Collaborative Systems (INCoS-2015), which is held from 2nd September to 4th September 2015 at Tamkang University, Taipei, Taiwan. INCoS-2015 conference is technically sponsored by IEEE Systems, Man & Cybernetics (IEEE SMC Society).

Several workshops are now a consolidated part of the conference and offer to authors the possibility to present and discuss latest research finding, ideas and work on progress. In this edition of the conference, there are held eight workshops, which complemented the INCOS main themes with specific themes and research issues and challenges, as follows.

1. The 7-th International Workshop on Information Network Design (WIND 2015)
2. The 5-th International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional Approaches (ALICE 2015)
3. The 2-nd International Workshop on Semantic Technologies in Ubiquitous, Massive and Smart Learning (STUMS 2015)
4. International Workshop on Evolution of Social Networks (ESN-2015)
5. International Workshop on Intelligent Applications for Business Productivity (IABP-2015)
6. International Workshop on Theory, Algorithms and Applications of Big Data Science
7. International Workshop on Frontiers in Intelligent Networking and Collaborative Systems (FINCoS-2015)

We 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 are grateful to the INCoS-2015 Conference Chairs for inviting us to be the workshops co-chairs of the conference.

We hope you will enjoy the workshops programs and discussions during the conference days and enjoy your stay in Taipei, Taiwan!

#### **Workshops Co-Chairs of INCoS 2015 International Conference**

**Mario Köppen**, *Kyushu Institute of Technology, Japan*

**Jin Li**, *Guangzhou University, China*

**Francesco Palmieri**, *University of Salerno, Italy*

## NBiS-2015 & INCoS-2015 Keynote I



**Prof. Sam Kwong, City University of Hong Kong, Hong Kong**

**Title: Recent Research in Learning and Bargaining based Video Coding Optimization**

**Abstract:** In the last decades, the problems of learning decision making strategy and optimizing the resource allocation process in video coding systems have received a lot of attention. However, these two problems are still challenging due to the limited theoretical analysis tools.

Machine learning is a hotspot and widely applied in artificial intelligence, pattern recognition and signal processing, since it learns from lots of information which we probably could name it as big data in today's terminology. With this property, researchers attempted to apply this machine learning techniques to solve the decision making problem in video coding system for better performances. Besides, bargaining game theory has been proved to be a powerful technique for addressing the limited resource allocation problem among multiple players in the collaborative systems. Resource allocation problem in video coding system can be modeled as a bargaining problem, we attempt to investigate the optimal resource allocation strategy based on bargaining game theory.

In this talk, an overview of our recent research of learning and bargaining based video coding optimization will be presented. First, an overview on traditional video coding framework will be given and the fundamental optimization problems in video coding systems will also be discussed. Second, we will present the quad-tree coding unit (CU) depth decision process in High Efficiency Video Coding (HEVC) is modeled as a three-level of hierarchical binary decision problem. Then the flexible CU depth decision structure for each decision level are proposed to learnt about a model which will achieve better performances between the coding complexity and Rate Distortion (RD) performance. Third, we will talk about modeling the inner-layer bit allocation processes of spatial scalable video coding as bargaining problems. Then the bargaining game theoretic based approaches are proposed to solve the one-pass rate control optimization problems. Experiment results will be also presented to demonstrate the performance of our proposed approaches. Finally, we will discuss the potential optimization strategy for video coding system.

## NBiS-2015 & INCoS-2015 Keynote II

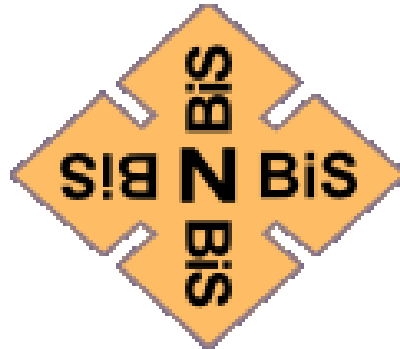


**Prof. Vincent S. Tseng, National Chiao Tung University, Taiwan**

**Title: Mining Connected Big Data: Opportunities and Challenges**

**Abstract:** In this big data era, large volume of data is being produced at unprecedented and explosive scale in a broad range of application areas. Analytics on such big data deliver amazing value and can drive nearly every aspect of our life. Many real-world data are linked in various forms like social networks, mobile networks and Internet of Things, while big data comprised of rich and interesting information sources like sensing data, moving trajectory, social media and social relationship networks, has been formed at the same time. New opportunities arise through mining of such connected big data, which however pose many challenges, too. In this talk, I will describe some grand opportunities and key challenges therein. Some recent developments in different domains like mobile and social networks, healthcare, environmental sensing, e-commerce, etc, will be introduced first. Furthermore, some key challenging issues will be investigated in-depth through various aspects, covering data quality and veracity, key features discovery, learning methodologies, post processing and incorporation of domain knowledge. Finally, some emerging research topics and potential opportunities underlying this topic will be addressed accordingly.





# **NBiS-2015**

## **Main Conference and Workshops Program**

**Wednesday, September 2, 2015**

**08:00 Registration**

**09:00-09:30 Single Session: Opening Ceremony**

**09:30-10:30 Single Session: NBiS-2015 & INCoS-2015 Keynote I**

**NBiS-2015 & INCoS-2015 Keynote Talk I (Room 6)**

**Prof. Sam Kwong:** Recent Research in Learning and Bargaining based Video Coding Optimization

**10:30-11:00 Coffee Break****11:00-13:00 Parallel Sessions****NBiS-S1: WSNs and MANETs - Room 1****Chair: Fang-Yie Leu, TungHai University, Taiwan**

1. A Novel Network Topology in Underwater Visible Light Sensor Networks  
*Shih-Hao Chang, Kuei-Ping Shih*
2. A Concentric-based Sleep Scheduling Scheme for Wireless Sensor Networks  
*Ying-Hong Wang, Yu-Hsuan Hsu, Yu-Yu Lin*
3. A Wireless Physiological Sensor Area Network  
*Chi-Lun Ho, Fang-Yie Leu*
4. Depth-Based Energy-Balanced Hybrid Routing Protocol for Underwater WSNs  
*Tayyaba Liaqat, Nadeem Javaid, Syed Muaraf Ali, Muhammad Imran, Mohammed Alnuem*
5. DTN Based MANET for Disaster Information Transport by Smart Devices  
*Shinya Kitada, Go Hirakawa, Goshi Sato, Noriki Uchida, Yoshitaka Shibata*

**NBiS-S2: Energy Efficient Networking - Room 2****Chair: Makoto Takizawa, Hosei University, Japan**

1. An Energy-Efficient Load Balancing Algorithm to Perform Computation Type Application Processes for Virtual Machine Environments  
*Tomoya Enokido, Makoto Takizawa*
2. Multi-level Computation and Power Consumption Models  
*Hiroki Kataoka, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
3. Towards Multiple Knapsack Problem Approach for Home Energy Management in Smart Grid  
*S. Rahim, S. A. Khan, N. Javaid, N. Shaheen, Z. Iqbal, G. Rehman*
4. An Energy Efficient Residential Load Management System for Multi-class Appliances in Smart Homes  
*M. B. Rasheed, M. Awais, N. Javaid, Z. Iqbal, A. Khurshid, F. A. Chaudhry, F. Ilahi*
5. A Hybrid Algorithm for Energy Management in Smart Grid  
*N. Shaheen, N. Javaid, Z. Iqbal, K. Muhammad, K. Azad, F. A. Chaudhry*

**WSSM-S1: Resource Management - Room 3****Chair: Shusuke Okamoto, Seikei University, Japan**

1. Extracting Polarity Comments from Nico Nico Douga  
*Hiroki Sakaji, Junya Ishibuchi, Hiroyuki Sakai*
2. Classification of Comments on Nico Nico Douga for Annotation Based on Referred Contents  
*Akihito Ikeda, Akio Kobayashi, Hiroki Sakaji, Shigeru Masuyama*
3. A New Method of Utilizing Video Content Structured on the Basis of the RDF: Combining Broadcasting Content with External Services Using RDF Triples  
*Makoto Urakawa, Masaru Miyazaki, Ichiro Yamada, Hiroshi Fujisawa, Toshio Nakagawa*
4. Document Management System Based on ISAD(G)  
*Tong-Jin Lee, Jun Iio*
5. A Scheduling Model of a Lunch Car  
*Hironori Harada, Masaki Kohana, Shusuke Okamoto*
6. Design and Practice of File Backup System Taking Advantage of Remotely Distributed Campus  
*Hiroshi Noguchi, Yasuhiro Ohtaki, Masaru Kamada*

**INVITE-S1: Multimedia - Room 4****Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. Roposal of the Disaster Information Transmission Common Infrastructure System intended to Rapid Sharing of Information in a time of Mega Disaster  
*Kazuhiro Takahagi, Tomoyuki Ishida, Akira Sakuraba, Kaoru Sugita, Noriki Uchida, Yoshitaka Shibata*
2. Healthcare Digital Signage Using Gamification Method  
*Tetsuro Ogi, Kenichiro Ito, Go Nakada*
3. Evaluation of a Communication Support Tool for Understanding Emotion in an Unstable Narrowband Network  
*Kaoru Sugita, Ken Nishimura*
4. Data gathering system for recommender system in tourism  
*Go Hirakawa, Goshi Sato, Kenji Hisazumi, Yoshitaka Shibata*

**13:00-14:00 Lunch Break****14:00-16:00 Parallel Sessions****NBiS-S3: Software Defined Networking and WMNs - Room 1****Chair: Bhed Bahadur Bista, Iwate Prefectural University, Japan**

1. Performance Analysis of Never Die Network based on Software Defined Disaster Resilient System  
*Goshi Sato, Noriki Uchida, Norio Shiratori, Yoshitaka Shibata*
2. A Proposal of QoS-Aware Power Saving Scheme for SDN-based Networks  
*Shingo Sasaki, Kanayo Ogura, Bhed Bahadur Bista, Toyoo Takata*
3. Performance Analysis of WMN-GA Simulation System for Different WMN Architectures and Routing Protocols Considering Weibull Distribution  
*Keita Matsuo, Tetsuya Oda, Admir Barolli, Leonard Barolli, Fatos Xhafa*
4. Application of WMN-HC Web Interface and NS-3 for Optimization and Analysis in WMNs Considering Different Number of Mesh Routers and Architectures  
*Algenti Lala, Tetsuya Oda, Admir Barolli, Vladi Kolic, Leonard Barolli, Xhafa*
5. Performance Evaluation of a WMN Testbed in Indoor Environment Considering Mobile Mesh Node Scenario  
*Tetsuya Oda, Keita Matsuo, Leonard Barolli, Makoto Ikeda, Makoto Takizawa*

**NBiS-S4: Network Algorithms and Protocols - Room 2****Chair: Makoto Takizawa, Hosei University, Japan**

1. Reduction of Unnecessarily Ordered Messages in Scalable Group Communication  
*Hiroaki Honda, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
2. A Two-Stage Reservoir Sampling Algorithm for Massive Network Graphs  
*Kai Cheng*
3. Eclipse: A New Dynamic Delay-based Congestion Control Algorithm for Background Traffic  
*Hakim Adhari, Thomas Dreibholz, Sebastian Werner, Erwin P. Rathgeb*
4. High-Speed Communication with Confidentiality by Compactification of Design Data  
*Shuji Shoji, Akio Koyama*
5. A Flexible Read-Write Abortion Protocol with Sensitivity of Roles  
*Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*

**WSSM-S2: Web Applications - Room 3****Chair: Shusuke Okamoto, Seikei University, Japan**

1. Web-based Location Sharing Service for a Group of People to Get Together  
*Shuji Ogawa, Michitoshi Niibori, Masaru Kamada*
2. Development of IslayPub3.0 – Educational Programming Environment Based on State-Transition Diagrams  
*Kazuomi Suzuki, Michitoshi Niibori, Adnan Saleh Rashed, Shusuke Okamoto, Masaru Kamada*
3. A Software Framework for Internet of Things  
*Takahiro Inui, Masaki Kohana, Shusuke Okamoto, Masaru Kamada*
4. Student Attendance Management System with Bluetooth Low Energy Beacon and Android Devices  
*Shota Noguchi, Michitoshi Niibori, Erjing Zhou, Masaru Kamada*
5. A System for Confirming Attendance at Work  
*Masaki Kohana, Shusuke Okamoto*
6. Library Navigation System with FeliCa Cards as Landmarks  
*Xiao-Lei Li, Osamu Saitou, Erjing Zhou, Masaru Kamada*

**INVITE-S2: Virtual Reality - Room 4****Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. Data reduction by generating 3D image  
*Hide Miyachi*
2. An Evaluation on Realistic Sensation in Ultra-resolution Video Tele-communication with Tiled Display Wall  
*Yasuo Ebara*
3. Application of Tiled Display Environment for High Presence Informal Communication  
*Satoshi Noda, Yu Ebisawa, Yasuo Ebara, Tomoyuki Ishida, Koji Hashimoto, Yoshitaka Shibata*
4. A Design of Interface Device for Counter Disaster GIS on Ultra High Definition Tiled Display Environment  
*Akira Sakuraba, Yasuo Ebara, Tomoyuki Ishida, Yoshitaka Shibata*

**16:00-16:30 Coffee Break****16:30-18:30 Parallel Sessions****NBiS-S5: Mobile and Wireless Networks - Room 1****Chair: Fumiaki Sato, Toho University, Japan**

1. Location Privacy Protection Considering the Location Safety  
*Kohei Kasori, Fumiaki Sato*
2. A Negotiated Virtual Role Hierarchical Solution in RBAC Scheme for Heterogeneous Wireless Networks  
*Hsing-Chung Chen*
3. Mitigating the Wrongful Bandwidth Occupation by Malicious Node in Public Wireless Access Network  
*Shohei Nitta, Tetuya Shigeyasu*
4. Wi-Fi Access Point Roaming: Challenges and Potential Solutions  
*Lian-Yuan Wang, Yu-Xuan Zhao, David Afolabi, Ka Man, Hai-Ning Liang, Da-Wei Liu, Yiu Lam, Charles Fleming, Moncef Tayahi*
5. Building a Secure Cross Platform Enterprise Service Mobile Apps Using HTML5  
*Hsin-Chang Lin, Guan-Ling Lee*
6. A Handover Prediction Mechanism Based on LTE-A UE History Information  
*Ying-Hong Wang, Jui-Lin Chang, Guo-Rui Huang*

**NBiS-S6: Cloud and Grid Computing - Room 2****Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan**

1. A Load-Balancing Algorithm for Hadoop Distributed File System  
*Chi-Yi Lin, Ying-Chen Lin*
2. Suggestion of the Cloud Type Virtual Policy Based Network Management Scheme for the common use between Plural organizations  
*Kazuya Odagiri, Shogo Shimizu, Naohiro Ishii, Makoto Takizawa*
3. An Extensible Home Automation Architecture based on Cloud Offloading  
*Yuichi Igarashi, Matti Hiltunen, Kaustubh Joshi, Richard Schlichting*
4. Distributed Synchronization over RESTful Web API  
*Daiki Murayama, Shouki Mizuno, Akihiro Fujii*
5. A Cloud-based Mobile Anger Prediction Model  
*Yuan-Chih Yu*
6. Mobile Cloud Computing on Delay Tolerant Network Protocol  
*Yosuke Kikuchi, Yoshitaka Shibata*

**DEMOC-S1: Data Engineering and Mobile Computing - Room 3****Chair: Yusuke Gotoh, Okayama University, Japan**

1. Sizzle Word Analysis from Multiple Internet Media  
*Daisuke Kato, Mai Miyabe, Eiji Aramaki, Akiyo Nadamoto*
2. A System for Querying RDF Data using LINQ  
*Kazumasa Kumamoto, Toshiyuki Amagasa, Hiroyuki Kitagawa*
3. Acquiring Application History for Successful Handover of Business Tasks  
*Takuya Okada, Yoshinari Nomura*
4. A Scheduling Method for Division Based Broadcasting of Multiple Video Considering Data Size  
*Yusuke Gotoh*
5. Dynamic Data Broadcasting Environments for Streaming Delivery on Hybrid Broadcasting Environments  
*Tomoki Yoshihisa*

**ADPNA-S1: Distributed and Parallel Systems - Room 4****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Dynamically Deploying Packet Processing Applications on Running Systems without Halting  
*Ralph Duncan, Peder Jungck, Kenneth Ross, Alfredo Chorro-Rivas, Jim Frandeen, Minh Nguyen*
2. Preparing HPC Applications for Exascale: Challenges and Recommendations  
*Erika Ábrahám, Costas Bekas, Ivona Brandic, Samir Genaim, Einar Broch Johnsen, Ivan Kondov, Sabri Pllana, Achim Streit*
3. Eco Models of Storage-based Servers  
*Atsuhiko Sawada, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
4. Risk Assessment in Cyber-physical System in Office Environment  
*Shoichi Yoneda, Shigeaki Tanimoto, Tsutomu Konosu, Hiroyuki Sato, Atsushi Kanai*

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

5F, Tamkang University Taipei Campus

**Thursday, September 3, 2015****08:00 Registration****09:30-10:30 Single Session: NBiS-2015 & INCoS-2015 Keynote II****NBiS-2015 & INCoS-2015 Keynote Talk II (Room 6)**

**Prof. Vincent S.Tseng:** Mining Connected Big Data: Opportunities and Challenges

**10:30-11:00 Coffee Break****11:00-13:00 Parallel Sessions****NBiS-S7: Multimedia, Web and Internet Applications- Room 1****Chair: Neil Y. Yen, The University of Aizu, Japan**

1. SSH: Salient Structures Histogram for Content Based Image Retrieval  
*Jamil Ahmad, Muhammad Sajjad, Irfan Mehmood, Sung Wook Baik*
2. Exploring the Cognitive Psychology Paradigm of a Programming Language and Identification of Emotion under Collective Intelligence: An Experience with an Ant Colony Metaphor  
*Eiman Tamah Al-Shammari, Soumya Banerjee, Dana Timar Balas, Neil Y. Yen*
3. Implementation and Evaluation of a Spatial Metadata Join Method Based on Camera-Viewing Area  
*Masato Kasahara, Shu Li, Kosuke Takano, Kin Fun Li*
4. A Method for Estimating a Stress State using a Pulse Sensor for QOL Visualization  
*Sayaka Akiyama, Yuka Kato*
5. IslayTouch: An Educational Visual Programming Environment Based on State-Transition Diagrams that Runs on Android Devices  
*Erjing Zhou, Shusuke Okamoto, Michitoshi Niibori, Masaru Kamada, Tatsuhiko Yonekura*

**NBiS-S8: Network Security and Privacy - Room 2****Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Business Resilient Vulnerability Analysis for Dynamic High Security Environment  
*Klaus Zaerens*
2. Security Authorization Scheme for Web Applications  
*Takamichi Saito, Daichi Miyata, Takafumi Watanabe, Yuta Nishikura*
3. CAPTCHA System by Differentiating the Awkwardness of Objects  
*Michitomo Yamaguchi, Takeshi Okamoto, Kikuchi Hiroaki*
4. An Attempt to Memorize Strong Passwords while Playing Games  
*Masahiro Fujita, Mako Yamada, Shiori Arimura, Yuki Ikeya, Masakatsu Nishigaki*
5. Personalized Cryptography in Data Sharing and Management  
*Marek R. Ogiela, Lidia Ogiela*

**INWC-S1: WSANs and Multimedia Applications - Room 3****Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. A Fuzzy-Based Testbed Design for Wireless Sensor and Actuator Networks  
*Keisuke Ebisu, Takaaki Inaba, Donald Elmazi, Makoto Ikeda, Leonard Barolli, Elis Kulla*
2. SAMI: A Sensor Actor Network Matlab Implementation  
*Elis Kulla, Tetsuya Oda, Makoto Ikeda, Leonard Barolli*
3. An Object Tracking System Based on SIFT and SURF Feature Extraction Methods  
*Yuki Sakai, Tetsuya Oda, Makoto Ikeda, Leonard Barolli*
4. Tibetan text Sentiment Classification Based on Rules  
*Tao Huang, Xiao-Dong Yan*
5. Research on Construction of Tibetan Emotion Dictionary  
*Xiao-Dong Yan, Tao Huang*
6. New Functions for an Active Learning System to Improve Students Self-learning and Concentration  
*Noriyasu Yamamoto*

**ADPNA-S2: Wireless Networks and Multimedia Applications - Room 4****Chair: Tomoya Enokido, Rissho University, Japan**

1. A Simulation System Based on ONE and SUMO Simulators: Performance Evaluation of Direct Delivery, Epidemic and Energy Aware Epidemic DTN Protocols  
*Tetsuya Oda, Donald Elmazi, Evjola Spaho, Vladi Kolici, Leonard Barolli*
2. Performance evaluation of routing method based on neighboring node information in WMN  
*Wataru Kobayashi, Kazunori Ueda, Yuta Maruoka*
3. Efficient Dynamic Load Balancing for Structured P2P Network  
*Atsushi Takeda, Takuma Oide, Akiko Takahashi, Takuo Suganuma*
4. An Assessment System for Student's Physical Expression in Nature Sound Ensemble with Narrative Pictures  
*Kaede Yamazaki, Shu Li, Kosuke Takano*

**13:00-14:00 Lunch Break****14:00-16:00 Parallel Sessions****NBiS-S9: Big Data and Data Mining- Room 1****Chair: Hui-Huang Hsu, Tamkang University, Taiwan**

1. Incrementally Mining Usage Correlations among Appliances in Smart Homes  
*Yi-Cheng Chen, Hsiu-Chieh Hung, Bing-Yang Chiang, Sheng-Yuan Peng, Peng-Jun Chen*
2. SAX-based Group Stock Portfolio Mining Approach  
*Chun-Hao Chen, Cheng-Yu Lu, Chih-Hung Yu*
3. Multivariate and Categorical Analysis of Gaming Statistics  
*Pin-Yu Chen, Zheng-Ling Qi, Yan-Xin Pan, Shin-Ming Cheng*
4. An Algorithm of City-level Landmark Mining Based on Internet Forum  
*Guang Zhu, Xiang-Yang Luo, Fen-Lin Liu, Jing-Ning Chen*
5. Rail Inspection Meets Big Data: Methods and Trends  
*Qing-Yong Li, Zhang-Dui Zhong, Zheng-Ping Liang, Yong Liang*
6. Push-Based Traffic-Aware Cache Management in Named Data Networking  
*Kenta Mori, Takashi Kamimoto, Hiroshi Shigeno*

**NBiS-S10: Paralle and Intelligent Computing - Room 2****Chair: Bo-Cheng Lai, National Chiao-Tung University, Taiwan**

1. A GPU-based Fast Solution for Riesz Space Fractional Reaction-Diffusion Equation  
*Qing-Lin Wang, Jie Liu, Chun-Ye Gong, Yang Zhang, Zuo-Cheng Xing*
2. Design of Application Specific Throughput Processor for Matrix Operations  
*Ping-Ju Wu, Chien-Yu Lin, Bo-Cheng Charles Lai*
3. Effectiveness Comparison of Kinect and Kinect 2 for Recognition of Oyama Karate Techniques  
*Tomasz Hachaj, Marek R Ogiela, Katarzyna Koptyra*
4. A New FACS for Cellular Wireless Networks Considering QoS: A Comparison Study of FuzzyC System with MATLAB  
*Takaaki Inaba, Shinji Sakamoto, Tetsuya Oda, Leonard Barolli, Makoto Takizawa*
5. Selection of Rendezvous Point in Content Centric Networks Using Fuzzy Logic  
*Donald Elmazi, Tetsuya Oda, Shinji Sakamoto, Elis Kulla, Evjola Spaho, Leonard Barolli*
6. An Efficient Genetic Algorithm Based Demand Side Management Scheme for Smart Grid  
*M. Awais, N. Javaid, N. Shaheen, Z. Iqbal, G. Rehman, K. Muhammad, I. Ahmad*

**INWC-S2: Wireless Communication Systems and Agent Technology - Room 3****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Transmission Characteristics in Two Dimensional Periodic Waveguide Structures with 45 Degree Bend  
*Hiroshi Maeda*
2. Development Tool of Q-Nash Learning Agent for Intelligent System  
*Masato Hibino, Takahiro Uchiya, Ichi Takumi, Tetsuo Kinoshita*
3. Design Monitoring Systems for Multi-Channel Technology in Wireless Sensor Networks  
*Chia-Hsin Cheng, Yeong-Long Shiue, Yi Yan, Chien-Chih Lin, Hsing-Chung Chen*
4. Development of Open-Campus System Using Voice Interaction Agent  
*Takahiro Uchiya, Masaki Yoshida, Daisuke Yamamoto, Ichi Takumi*
5. Performance of Hand Gesture Recognition Based on Received Signal Strength with Weighting Signaling in Wireless Communications  
*Yung-Fa Huang, Tsung-Yu Yao, Hua-Jui Yang*

**TwCSec-S1: Security and Privacy - Room 4****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Performance Evaluation of a Neural Network Based Intrusion Detection System for Tor Networks Considering different Hidden Units  
*Taro Ishitaki, Tetsuya Oda, Keita Matsuo, Leonard Barolli, Makoto Takizawa*
2. An Efficient Privacy Authentication Scheme based on Cloud Models for Medical Environment  
*Zhao-Qin Ying, Shin-Yan Chiou, Jun-Qiang Liu*
3. SPIKE: Scalable Peer Intermediaries for Key Establishment in Sensor Networks  
*Yumi Sakemi, Masahiko Takenaka, Tetsuya Izu*
4. New Publicly Verifiable Databases Supporting Insertion Operation  
*Mei-Xia Miao, Jian-Feng Wang, Jian-Feng Ma*
5. Secure Outsourcing of Modular Exponentiation with Single Untrusted Server  
*Jun Ye, Jian-Feng Wang*



**16:00-16:30 Coffee Break****16:30-18:30 Parallel Sessions****NBIS-S11: Next Generataion Networks - Room 1****Chair: Noriki Uchida, Fukuoka Institute of Technology, Japan**

1. Energy-Efficient Broadcast Protocols in Wireless Network  
*Miyu Sugino, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*
2. A Road Alert Information Sharing System with Multiple Vehicles Using Vehicle-to-Vehicle Communication Considering Various Communication Network Environment  
*Kenta Ito, Go Hirakawa, Yoshikazu Arai, Yoshitaka Shibata*
3. Efficient Remote Software Management Method based on Dynamic Address Translation for Internet-of-Things Software Execution Platform  
*Minwoo Jung, Daejin Park, Jeonghun Cho*
4. Selective Delivery of Event Messages in Peer-to-peer Topic-based Publish/Subscribe Systems  
*Hiroki Nakayama, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa*
5. Proposal of Connectivity Support Methods with Autonomous Flight Wireless Nodes for Never Die Network  
*Noriki Uchida, Goshi Sato, Yoshitaka Shibata, Norio Shiratori*

**HETNET-S1: Heterogeneous Networking and Applications - Room 2****Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. On Streaming Consistency of Big Data Stream Processing in Heterogenous Clusters  
*Fatos Xhafa, Victor Naranjo, Leonard Barolli, Makoto Takizawa*
2. Performance Evaluation of a Message Suppression Controller in Vehicular-DTN without Road-Side Units  
*Seiichiro Ishikawa, Taiki Honda, Makoto Ikeda, Leonard Barolli*
3. (k, e)-Anonymous for Categorical Data  
*Surapon Riyana, Nattapon Harnsamut, Torsak Soontornphand, Juggapong Natwichai*
4. Reliable Clustering on Uncertainty Multigraph  
*Pruet Boonma, Juggapong Natwichai*
5. Crowdsourcing Environment to Create Voice Interaction Scenario of Spoken Dialogue System  
*Yuichi Matsushita, Takahiro Uchiya, Ryota Nishimura, Daisuke Yamamoto, Ichi Takumi*

**ISSE-S1: Intelligent Sensors and Smart Environments - Room 3****Chair: Hui-Huang Hsu, Tamkang University, Taiwan**

1. A Token-based User Authentication Mechanism for Data Exchange in RESTful API  
*Xiang-Wen Huang, Chin-Yun Hsieh, Cheng Hao Wu, Yu-Chin Cheng*
2. Application of Incremental SVM Learning for Infant Cries Recognition  
*Chuan-Yu Chang, Yu-Chi Hsiao, Szu-Ta Chen*
3. Two-Phase Activity Recognition with Smartphone Sensors  
*Hui-Huang Hsu, Chin-Ting Chu, Ying-Hui Zhou, Zi-Xue Cheng*
4. Analysis of Parallel Sub-swarm PSO with the Same Total Particle Numbers  
*Tzung-Pei Hong, Jui-Chi Chen, Wen-Yang Lin, Chun-Hao Chen*

**TwCSec-S2: Trustworthiness and Secure Systems - Room 4****Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Analysis of Path ORAM toward Practical Utilization  
*Steven Gordon, Atsuko Miyaji, Chunhua Su, Karin Sumongkayyothin*
2. Trustworthiness in Peer-to-Peer Systems  
*Shota Nakahira, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa*
3. Evaluation of Peers Trustworthiness for JXTA-Overlay Considering Data Download Speed, Local Score and Security Parameters  
*Yi Liu, Shinji Sakamoto, Leonard Barolli, Makoto Ikeda, Fatos Xhafa*
4. Proposal of Rhythm Authentication Method using Users Classification by Self-Organizing Map  
*Yoshihiro Kita, Mirang Park, Naonobu Okazaki*

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

Formosa Restaurant, B1, Howard Plaza Hotel, Taipei

**Friday, September 4, 2015**

**NBiS-2015 Organizing Committee Meeting and Discussion**



*Intelligent Networking  
and Collaborative Systems*

# **INCoS-2015**

## **Main Conference and Workshops Program**

**Wednesday, September 2, 2015**

**08:00 Registration**

**09:00-09:30 Single Session: Opening Ceremony**

**09:30-10:30 Single Session: NBiS-2015 & INCoS-2015 Keynote I**

**NBiS-2015 & INCoS-2015 Keynote Talk I (Room 6)**

**Prof. Sam Kwong:** Recent Research in Learning and Bargaining based Video Coding Optimization

**10:30-11:00 Coffee Break**

**11:00-13:00 Parallel Sessions**

**INCoS-S1: Intelligent Collaborative Systems - Room 5****Chair: Christine Strauss, University of Vienna, Austria**

1. Collaboration and Locality in Crowdsourcing  
*Andreas Mladenow, Christine Bauer, Christine Strauss, Michal Gregus*
2. Application of SNS-based Collaboration Scheme into Reproductive Design Education and Collaborative Design with Information Sharing  
*Masatoshi Imari, Yoshiro Imai*
3. Collaborative Tool to Enhance Quality Evaluation of Higher Education Programmes  
*David Baneres, Montse Serra, M.Elena Rodriguez*
4. A Model of Mining Noise-Tolerant Frequent Itemset in Transactional Databases  
*Xiao-Mei Yu, Hong Wang, Xiang-Wei Zheng, Shuang-Shuang Liu*
5. An Efficiency Enhanced Cluster Expanding Block Algorithm for Copy-Move Forgery Detection  
*Cheng-Shian Lin, Chien-Chang Chen, Yi-Cheng Chang*

**INCoS-S2: Intelligent Networking Systems and Applications - Room 6****Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Chip Designed Health Transducer and Wireless Sensor for Intelligent Networking Application  
*Wen-Cheng Lai*
2. Proposing an Extended iBeacon System for Indoor Route Guidance  
*Akihiro Fujihara, Takuma Yanagizawa*
3. Performance Analysis of WMN-GA Simulation System for Different WMN Architectures and Routing Protocols Considering Exponential Distribution  
*Admir Barolli, Tetsuya Oda, Keita Matsuo, Leonard Barolli, Fatos Xhafa, Vincenzo Loia*
4. Management of Networking Systems Using Design Patterns  
*Viliam Malcher*
5. Comparison of Cognitive Information Systems Supporting Management Tasks  
*Lidia Ogiela, Marek R. Ogiela*
6. An Improved DCI-Closed Algorithm  
*Yong-Ming Miao, Hong Wang*

**ALICE-S1: Collaborative e-Learning Systems - Room 7****Chair: Nicola Capuano, University of Salerno, Italy**

1. A Knowledge Management Process to Enhance Trustworthiness-based Security in On-line Learning Teams  
*Jorge Miguel, Santi Caballé, Fatos Xhafa*
2. Towards a Multi-modal Emotion-awareness e-Learning System  
*Santi Caballé*
3. Improving e-Assessment in Collaborative and Social Learning Settings  
*Néstor Mora, Santi Caballé, Thanasis Daradoumis*

**ESN-S1: SNS - Room 8****Chair: Vaclav Snasel, VSB-Technical University of Ostrava, FEECS, Czech Republic**

1. Efficient Area Association using Space Filling Curves  
*Jan Platos, Pavel Kromer, Vaclav Snasel*
2. Computation of Kamada-Kawai Algorithm Using Barzilai-Borwein Method  
*Lukas Pospisil, Martin Hasal, Jana Nowakova, Jan Platos*
3. On Evaluation of Evolutionary Networks Using New Temporal Centralities Algorithm  
*Ivan Zelinka, Lukas Tomaszek, Vaclav Snasel*

**13:00-14:00 Lunch Break****14:00-16:00 Parallel Sessions****INCoS-S3: Services Systems - Room 5****Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Collaborative Composition of Production Services in Multi-agent Systems based on Auctions  
*Fu-Shiung Hsieh*
2. Process as a Service (PaaS) for Planning of Resources in Organizations  
*Michal Gregus, Peter Balco*
3. Application of WMN-SA Web Interface and NS-3 for Optimization and Analysis in WMNs Considering Different Number of Mesh Routers and Architectures  
*Vladi Kolicic, Tetsuya Oda, Admir Barolli, Algenti Lala, Leonard Barolli, Fatos Xhafa*
4. A Modified Efficient Certificateless Signature Scheme without Bilinear Pairings  
*Liang-Liang Wang, Ke-Fei Chen, Yu Long, Xian-Ping Mao, Hui-Ge Wang*
5. A GA-Based Simulation System for WMNs: Performance Analysis of WMN-GA System for Different WMN Architectures Considering DCF and EDCA  
*Tetsuya Oda, Makoto Ikeda, Leonard Barolli, Fatos Xhafa, Makoto Takizawa*

**INCoS-S4: Classification and Pattern Recognition - Room 6****Chair: Vaclav Snasel, VSB-Technical University of Ostrava, FEECS, Czech Republic**

1. A Novel Exemplar-based Image Inpainting Algorithm  
*Ying Liu, Chan-juan Liu, Hai-lin Zou, Shu-sen Zhou, Qian Shen, Tong-tong Chen*
2. Human Thermal Face Recognition Based on Random linear Oracle (RLO) Ensemble  
*Tarek Gaber, Alaa Tharwat, Abdelhameed Ibrahim, Václav Snášel, Aboul Ella Hassanien*
3. Muzzle-based Cattle Identification using Speedup Robust Feature Approach  
*Shaimaa Ahmed, Tarek Gaber, Alaa Tharwat, Aboul Ella Hassanien, Václav Snášel*

**ALICE-S2: Adaptive e-Learning Systems - Room 7****Chair: Santi Caballé, Open University of Catalonia, Spain**

1. Analytic Information Systems in the Context of Higher Education: Expectations, Reality and Trends  
*Isabel Guitart, Jordi Conesa*
2. An Semi-automatic System to Detect Relevant Learning Content for Each Subject  
*Isabel Guitart, Joaquim Moré, Jordi Duran, Jordi Conesa, David Baneres, David Gañan*
3. Adaptive Serious Games for Emergency Evacuation Training  
*Nicola Capuano, Richard King*
4. Towards a General Adaptive e-Assessment System  
*David Baneres, Xavier Baró, Ana-Elena Guerrero-Roldán, M.Elena Rodriguez*

**ESN-S2: Social IT tools - Room 8****Chair: Vaclav Snasel, VSB-Technical University of Ostrava, FEECS, Czech Republic**

1. Towards a Kansei Wordnet by Color Design SNS Evaluation  
*Kaori Yoshida, Dwilya Makiwan, Mario Köppen*
2. Differential Evolution Enhanced by the Closeness Centrality: Initial Study  
*Lenka Skanderova, Tomas Fabian, Ivan Zelinka*
3. Spam Detection Based on Nearest Community Classifier  
*Michal Prilepok, Milos Kudelka*

**16:00-16:30 Coffee Break****16:30-18:30 Parallel Sessions****INCoS-S5: Data mining - Room 5****Chair: Michal Gregus, Comenius University in Bratislava, Faculty of Management, Slovakia**

1. An Unusual Approach to Basic Challenges of Data Mining  
*Thomas H. Lenhard, Michal Greguš*
2. Composing and Solving General Differential Equations using Extended Polynomial Networks  
*Ladislav Zjavka, Václav Snášel*
3. Classification with Extreme Learning Machine on GPU  
*Tomáš Jeřowicz, Petr Gajdoš, Vojtěch Uher, Václav Snášel*
4. A Method of Image Classification with Optimized BP Neural Network by Genetic Algorithm  
*Qian Shen, Chan-Juan Liu, Hai-Lin Zou, Shu-Sen Zhou, Tong-Tong Chen*

**IABP-S1: Intelligent Applications for Business Productivity - Room 7****Chair: Omar Hussain, University of New South Wales, Australia**

1. Developing a Fuzzy Predictive Aid system in Contact Centres for Efficient Customer Recognition Process  
*Morteza Saberi, Zahra Saberi*
2. A Road Map to Risk Management Framework for Successful Implementation of Cloud Computing in Oman  
*Fatma Al-Musawi, Ali H. Al-Badi, Saqib Ali*
3. An Analysis of the Security Threats and Vulnerabilities of Cloud Computing in Oman  
*Amira M. AlZadjali, Ali H. Al-Badi, Saqib Ali*

**WIND-S1: The Sustainable Internet - Room 8****Chair: Mario Köppen, Kyushu Institute of Technology, Japan**

1. Recent Trends and Some Lessons for Serious Network Failures in Japan (Invited Talk)  
*Masato Uchida*
2. Polynomial-time Algorithm for Server Location Method for Keeping Small Distance from Clients to Servers During Failures  
*Shinya Kurimoto, Nao Maeda, Hiroyoshi Miwa*
3. Energy-Efficient Link and Node Power Control for Avoidance of Congestion in Accordance with Traffic Load Fluctuations  
*Yuya Kawata, Akira Noguchi, Hiroyoshi Miwa*
4. A Short Note on the Solution of the Prisoner's Dilemma  
*Mario Köppen, Masato Tsuru*

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

5F, Tamkang University Taipei Campus

**Thursday, September 3, 2015****08:00 Registration****09:30-10:30 Single Session: NBiS-2015 & INCoS-2015 Keynote II****NBiS-2015 & INCoS-2015 Keynote Talk II (Room 6)**

**Prof. Vincent S. Tseng:** Mining Connected Big Data: Opportunities and Challenges

**10:30-11:00 Coffee Break****11:00-13:00 Parallel Sessions****INCoS-S6: P2P and Social Networking - Room 5****Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Effects of Packet Loss on Reliability of JXTA-Overlay P2P Platform: A Comparison Study for Two Fuzzy-based Systems  
*Yi Liu, Shinji Sakamoto, Evjola Spaho, Keita Matsuo, Leonard Barolli, Fatos Xhafa*
2. Analysis of Trends in Authors Publication Activities  
*Martin Radvansky, Milos Kudelka, Václav Snášel*
3. Data Owner Based Attribute Based Encryption  
*Jin-Dan Zhang, Xu-An Wang, Jian-Feng Ma*
4. Development and Evaluation of Adobe Flash based CPU Scheduling Simulator Executable on Major Multiple Web Browsers  
*Yoshiro Imai, Kei Takeichi*
5. An ontology about emotion awareness and affective feedback in elearning  
*Marta Arguedas, Fatos Xhafa, Thanasis Daradoumis*

**INCoS-S7: Nature Inspired Algorithms - Room 6****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Design and Implementation of a Simulation System Based on Particle Swarm Optimization for Node Placement Problem in Wireless Mesh Network  
*Shinji Sakamoto, Tetsuya Oda, Makoto Ikeda, Leonard Barolli*
2. Evolutionary Algorithm based on Partition Crossover (EAPX) for the Vehicle Routing Problem  
*Takwa Tlili, Francisco Chicano, Saoussen Krichen, Enrique Alba*
3. Monte Carlo Schemata Searching for Physical Activity Recognition  
*Pedro Isasi, Alejandro Baldominos, Yago Saez, Bernard Manderick*
4. Parallel Hybrid Trajectory Based Metaheuristics for Real-World Problem  
*Gabriel Luque, Enrique Alba*
5. A Fundamental Study on Coded Aperture Design for Depth from Projector Defocus based on Evolutionary Multi-Objective Optimization  
*Yudai Mido, Yuki Horita, Kentaro Nakai, Taishi Megano, Satoshi Ono, Hiroshi Kawasaki*



**STUMS-S1: SNS - Room 7****Chair: Francesco Orciuoli, Via Ponte don Melillo & MOMA S.p.A., Italy**

1. Handling Continuity in Seamless Learning via Opportunistic Recognition and Evaluation of Activity Cohesion  
*Giuseppe D' Aniello, Angelo Gaeta, Francesco Orciuoli, Pier Giuseppe Rossi, Stefania Tomasiello*
2. A Smart Competence-Based Prioritisation for Learning Programmes  
*Matteo Gaeta, Antonio Marzano, Sergio Miranda, Kurt Sandkuhl*
3. Situation Awareness Enabling Decision Support in Seamless Learning  
*Giuseppe D'Aniello, Matteo Gaeta, Vincenzo Loia, Francesco Orciuoli, Demetrios G. Sampson*
4. Semi-automatic Generation of an Object-Oriented API Framework over Semantic Repositories  
*Daniele Toti, Marco Rinelli*
5. A Visual Ontology Management System for Handling, Integrating and Enriching Semantic Repositories  
*Daniele Toti, Andrea Longhi*

**FINCoS-S1: Security, Encryption and Authentication Services- Room 8****Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Video Steganography Algorithm Based on Trailing Coefficients  
*Ying-Nan Zhang, Min-Qing Zhang, Ke Niu, Jia Liu*
2. A Novel Information Hiding Algorithm Based on Grey Relational Analysis for H.264/AVC  
*Ying-Nan Zhang, Min-Qing Zhang, Jing-Jing Wang, Ke Niu*
3. Bit-pattern Based Integral Attack on ICEBERG  
*Yue-Chuan Wei*
4. Fine-Grained Privacy-Preserving Spatiotemporal Matching in Mobile Social Networks  
*Xiu-Guang Li, Kai Yang, Hui Li*
5. New Compact CCA Secure Elgamal Scheme in the Random Oracle Model  
*Xu-An Wang, Jian-Feng Ma, Xiao-Yuan Yang*

**13:00-14:00 Lunch Break****14:00-16:00 Parallel Sessions****INCoS-S8: Intelligen Sensor Networks - Room 5****Chair: Marek R Ogiela, AGH University of Science and Technology, Poland**

1. Estimating Harvestable Solar Energy from Atmospheric Pressure using Support Vector Regressio  
*Pavel Krömer, Petr Musilek, James Rodway, Marek Reformat, Michal Prauzek*
2. Energy Availability Forecasting for Harvesting-aware Wireless Sensor Networks: Analysis of Energy Demand of a Predictor Based on Evolutionary Fuzzy Rules  
*Michal Prauzek, Petr Musilek, Pavel Krömer, James Rodway, Martin Stankus, Jakub Hlavica*
3. Evaluation of Errors Caused by Lowering Frequency of Measurements of an Environmental Sensor Station  
*Obiora Sam Ezeora, Jana Heckenbergerova, Petr Musilek, Pavel Kromer*
4. On using palm and finger movements as a gesture-based biometrics  
*Marcin Piekarczyk, Marek R. Ogiela*
5. Performance Evaluation of Data Mining Frameworks in Hadoop Cluster Using Virtual Campus Log Files  
*Fatos Xhafa, Daniel Ramirez, Daniel Garcia, Santi Caballé*

**INCoS-S9: Networking Protocols and Content Delivery - Room 6****Chair: Hiroyoshi Miwa, Kwansai Gakuin University, Japan**

1. Contents Delivery Method Using Route Prediction in Traffic Offloading by V2X  
*Shunshuke Otsuki, Hiroyoshi Miwa*
2. Minimum Background Fairness for Quality Video Delivery over the LTE Downlink  
*Wen-Ping Lai, Ching-Hsiang Lin, En-Cheng Liou*
3. A Predicate Encryption Scheme Supporting Multiparty Cloud Computation  
*Zhen-Lin Tan, Zhang Wei*
4. Controlling Outsourcing Data in Cloud Computing with Attribute-Based Encryption  
*Shuai-Shuai Zhu, Yi-Liang Han, Yue-Chuan Wei*
5. Depth-Based Energy-Balanced Hybrid Routing Protocol for Underwater WSNs  
*Tayyaba Liaqat, Nadeem Javaid, Syed Muaraf Ali, Muhammad Imran, Mohammed Alnuem*
6. A BGN-type Multiuser Homomorphic Encryption Scheme  
*Zhang Wei*

**TALAP-S1: Big Data Techniques and Applications - Room 7****Chair: Marcello Trovati, University of Derby, United Kingdom**

1. A preliminary Investigation on a Semi-Automatic Criminology Intelligence Extraction Method: A Big Data Approach  
*Marcello Trovati, Philip Hodgson, Charlotte Hargreaves*
2. A Comprehensive Evaluation of a Novel Approach to Probabilistic Information Extraction from Large Unstructured Datasets  
*Marcello Trovati*
3. Fuzzy Partition Rules for Heart Arrhythmia Detection  
*Omar Behadada*
4. A Survey on Constructing Rosters for Air Traffic Controllers  
*Richard Conniss*
5. A Critical Analysis of the Efficiencies of Emerging Wireless Security Standards Against Network Attacks  
*Karolis Vilius, Lu Liu, John Panneerselvam, Thomas Stimpson*

**FINCoS-S2: Advanced Networking Algorithms - Room 8****Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Parallel NoSQL Entity Resolution Approach with MapReduce  
*Kun Ma, Bo Yang*
2. An Energy-saving Geographic Routing in Wireless Sensor Network  
*Xiao-Ou Song*
3. Analysis and Implementation of Modified Costas Loop for QPSK  
*Xiao-Ou Song*
4. A Novel Detection Scheme based on D-S Evidence Theory in Wireless Sensor Networks  
*Kai Yang, Shu-Guang Liu, Xiu-Guang Li*
5. Parallel Proxy-Signcryption Scheme in Cloud Environment  
*Wen-Ping Deng, Xu-Guang Wu*
6. Two-dimension Private Set Intersection in Big Data  
*Xiu-Guang Li, Feng Pan, Shu-Guang Liu*

**16:00-16:30 Coffee Break**

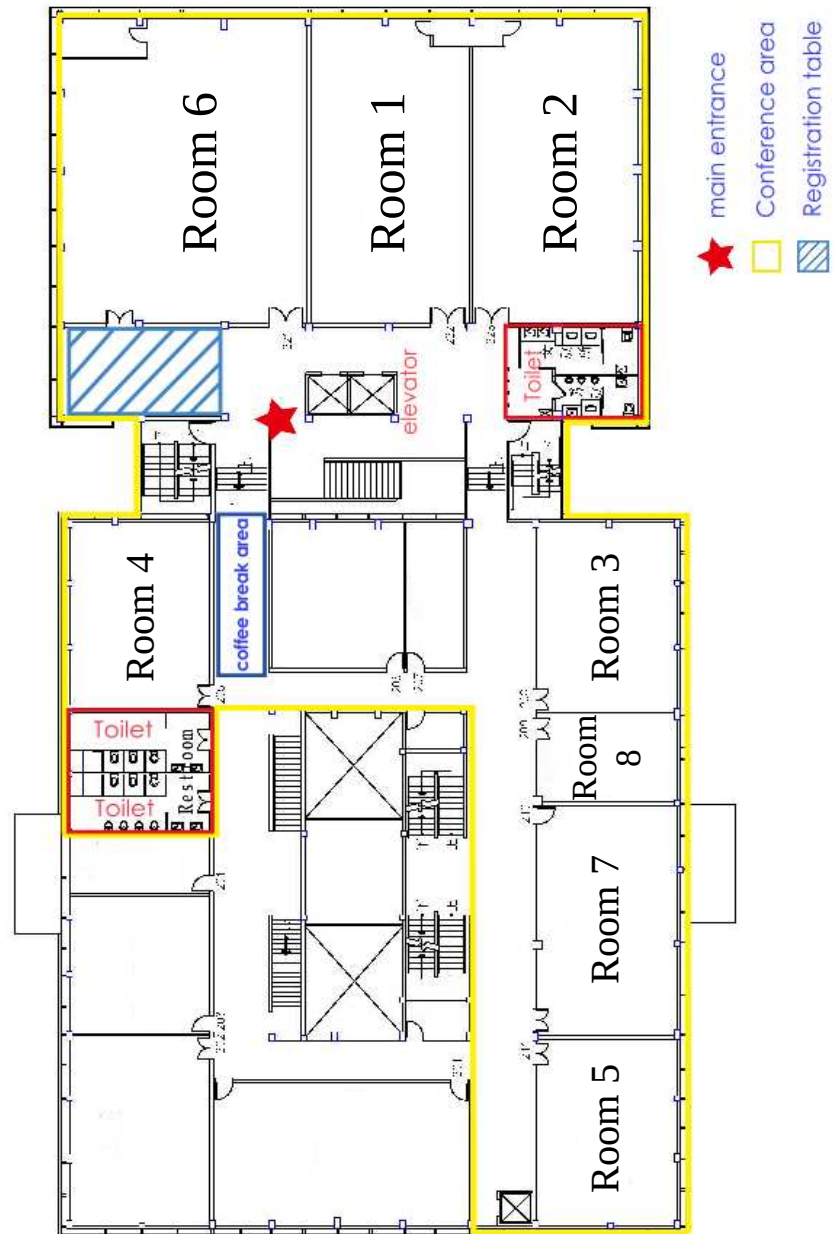
**19:00-21:00 Banquet Party**

Formosa Restaurant, B1, Howard Plaza Hotel, Taipei

**Friday, September 4, 2015**

**INCoS-2015 Organizing Committee Meeting and Discussion**

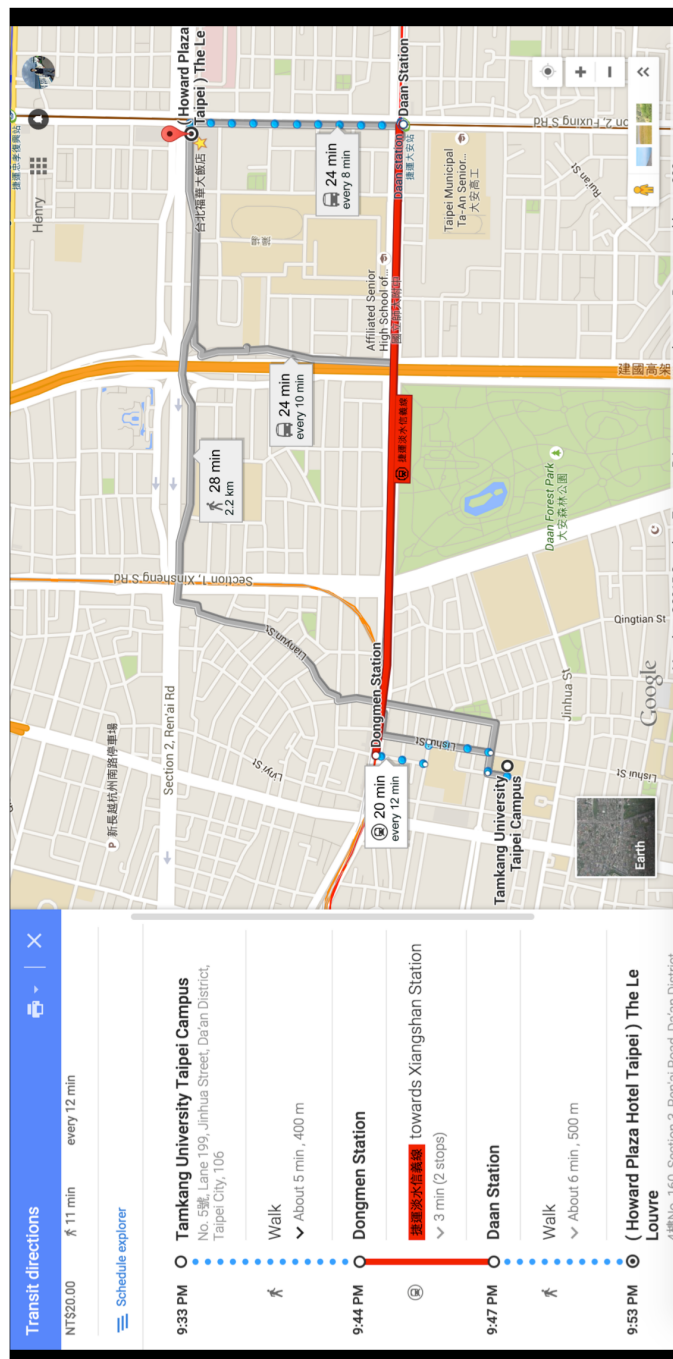
Information



2nd Floor plan of TKU Taipei Campus

From: Howard Plaza Hotel Taipei  
 To: Tamkang University Taipei Campus  
 Duration: about 20 minutes, cost: NTD \$20 yen

1. From Howard Plaza Hotel Taipei walk towards Xing-Yi Road about 6 minutes (500 m) to Daan MRT Station **Exit 4**.
2. Take MRT from Daan Station travel to Dongmen Station (only 2 stops, 3 minutes, towards to Tamsui MRT station)
3. From Dongmen MRT Station **Exit 5** (turn round to Lishui St.) and walks 400 meters towards Tamkang University Taipei Campus

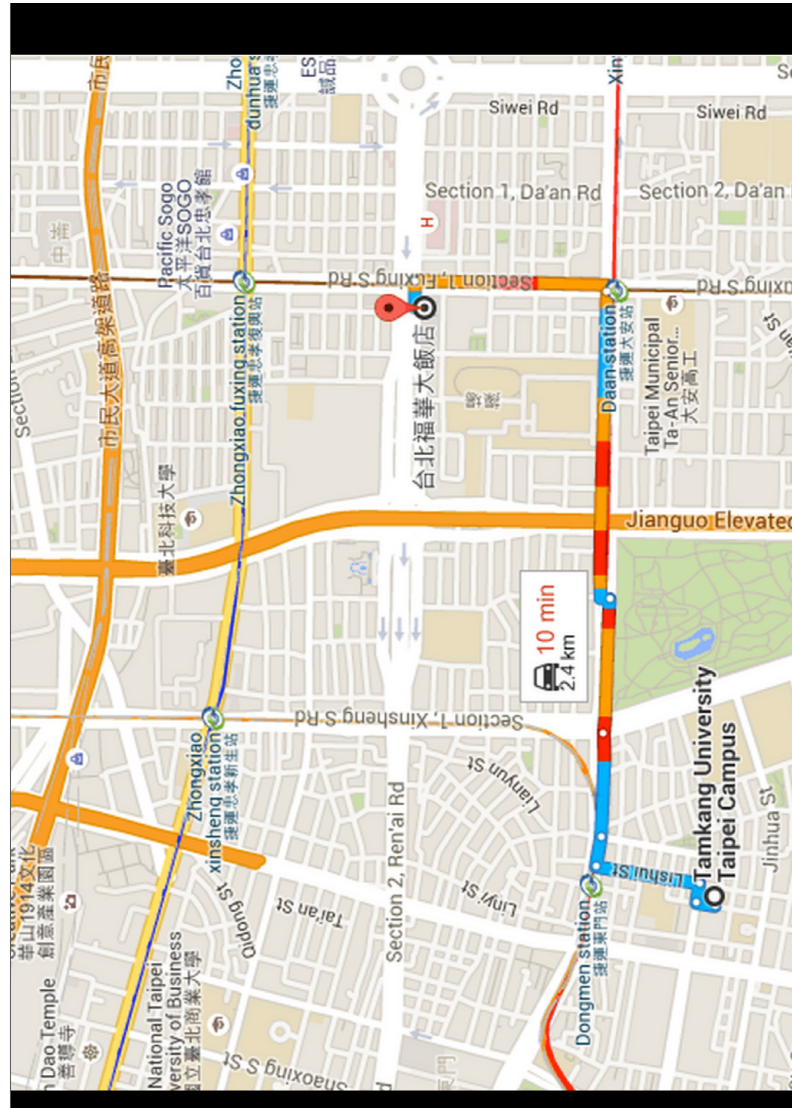


From: Tamkang University Taipei Campus  
 To: Howard Plaza Hotel Taipei

Taxi drive

Distance: 2.4 Km

Travel Duration: about 9 minutes, Cost: NTD \$100 yen



NBiS-2015 and INCoS-2015 Session Schedule  
September 2 - 4, 2015  
Taipei, Taiwan

	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7	ROOM 8
<b>Wednesday (September 2, 2015)</b>								
<b>Slot</b>	<b>Time</b>							
<b>Session 1</b>	09:00 - 10:30							
Coffee Break	Registration							
	NBiS-INCoS-2015 Keynote I (Room 6)							
	Coffee Break							
<b>Session 2</b>	NBiS S-1	NBiS S-2	WSSM S-1	INVITE S-1	INCoS S-1	INCoS S-2	ALICE S-1	ESN S-1
Lunch	Lunch Break							
<b>Session 3</b>	NBiS S-3	NBiS S-4	WSSM S-1	INVITE S-2	INCoS S-3	INCoS S-4	ALICE S-2	ESN S-2
Coffee Break	Coffee Break							
<b>Session 4</b>	NBiS S-5	NBiS S-6	DEMOG S-1	ADPNA S-1	INCoS S-5		IABP S-1	WIND S-1
Social Event	Welcome Reception Party							

<b>Thursday (September 3, 2015)</b>		<b>ROOM 1</b>	<b>ROOM 2</b>	<b>ROOM 3</b>	<b>ROOM 4</b>	<b>ROOM 5</b>	<b>ROOM 6</b>	<b>ROOM 7</b>	<b>ROOM 8</b>
<b>Slot</b>	<b>Time</b>	Registration							
<b>Session 1</b>	<b>09:30 - 10:30</b>	NBIS- INCoS-2015 Keynote II (Room 6)							
Coffee Break	10:30 - 11:00	Coffee Break							
<b>Session 2</b>	<b>11:00 - 13:00</b>	NBIS S-7	NBIS S-8	INWC S-1	ADPNA S-2	INCoS S-6	INCoS S-7	STUMS S-1	FINCoS S-1
Lunch	13:00 - 14:00	Lunch Break							
<b>Session 3</b>	<b>14:00 - 16:00</b>	NBIS S-9	NBIS S-10	INWC S-2	TwCSec S-1	INCoS S-8	INCoS S-9	TALAP S-1	FINCoS S-2
Coffee Break	16:00 - 16:30	Coffee Break							
<b>Session 4</b>	<b>16:30 - 18:30</b>	NBIS S-11	HETNET S-1	ISSE S-1	TwCSec S-2				
Social Event	19:00 - 21:00	Banquet Party							
<b>Friday (September 4, 2015)</b>		<b>ROOM 1</b>	<b>ROOM 2</b>	<b>ROOM 3</b>	<b>ROOM 4</b>	<b>ROOM 5</b>	<b>ROOM 6</b>	<b>ROOM 7</b>	<b>ROOM 8</b>
<b>Slot</b>	<b>Time</b>	Organizing Committee Meeting and Discussion							