PROGRAM GUIDE

CISIS-2023

The 17-th International Conference on
Complex, Intelligent, and Software Intensive Systems

and

IMIS-2023

The 17-th International Conference on
Innovative Mobile and Internet Services in Ubiquitous Computing

Virtual Conference (Online Presentation)
July 5^{th} - July 7^{th}, 2023

Technically Co-Sponsored by:

FIT Fukuoka Institute of Technology 福岡工業大学

Contents

CISIS-2023 Organizing Committee

Honorary Chair

Makoto Takizawa, *Hosei University, Japan*

General Co-Chairs

Isaac Woungang, *Toronto Metropolitan University, Canada*
Tomoya Enokido, *Rissho University, Japan*

Program Committee Co-Chairs

Marek Ogiela, *AGH University of Technology, Poland*
Naohiro Hayashibara, *Kyoto Sangyo University, Japan*
Sanjay Kumar Dhurandher, *Netaji Subhas University of Technology, India*

International Advisory Board

David Taniar, *Monash University, Australia*
Minoru Uehara, *Toyo University, Japan*
Arjan Durresi, *IUPUI, USA*
Beniamino Di Martino, *University of Campania "L. Vanvitelli", Italy*

Award Co-Chairs

Keita Matsuo, *Fukuoka Institute of Technology, Japan*
Kin Fun Li, *University of Victoria, Canada*
Olivier Terzo, *LINKS Foundation, Italy*

International Liaison Co-Chairs

Wenny Rahayu, *La Trobe University, Australia*
Markus Aleksy, *ABB AG Corporate Research Center, Germany*
Flora Amato, *University of Naples Frederico II, Italy*
Omar Hussain, *University of New South Wales, Australia*

Publicity Co-Chairs

Takahiro Uchiya, *Nagoya Institute of Technology, Japan*
Antonio Esposito, *University of Campania "Luigi Vanvitelli", Italy*
Farookh Hussain, *University of Technology Sydney, Australia*

Finance Chair

Makoto Ikeda, *Fukuoka Institute of Technology, Japan*

Local Arrangement Co-Chairs

Mehrdad Tirandazian, *Toronto Metropolitan University, Canada*
Glaucio Carvalho, *Toronto Metropolitan University, Canada*

Web Administrator Co-Chairs

Phudit Ampririt, *Fukuoka Institute of Technology, Japan*
Ermioni Qafzezi, *Fukuoka Institute of Technology, Japan*

Steering Committee Chair

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

Welcome Message of CISIS-2023 International Conference Organizers

Welcome to the 17th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2023), which will be held from July 5 to July 7, 2023, in conjunction with the 17th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2023).

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

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

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

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

This conference is aiming at delivering a forum for in-depth scientific discussions amongst the three communities. The papers included in the proceedings cover all aspects of theory, design and application of complex systems, intelligent systems and software intensive systems.

We are very proud and honored to have 2 distinguished keynote talks by Dr. Salvatore Venticinque, University of Campania "Luigi Vanvitelli", Italy and Prof. Sanjay Kumar Dhurandher, Netaji Subhas University of Technology, India, who will present their recent work and will give new insights and ideas to the conference participants.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful technical program and conference proceedings. First, we would like to thank all authors for submitting their papers, the Program Committee Members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers. We are grateful to Honorary Chair Prof. Makoto Takizawa, Hosei University, Japan for his guidance and support.

Finally, we would like to thank Web Administrator Co-Chairs for their excellent and timely work.

We hope you will enjoy the conference proceedings.

IMIS-2023 Organizing Committee

Honorary Chair

Makoto Takizawa, *Hosei University, Japan*

General Co-Chairs

Isaac Woungang, *Toronto Metropolitan University, Canada*
Hsing-Chung Chen, *Asia University, Taiwan*

Program Committee Co-Chairs

Kin Fun Li, *University of Victoria, Canada*
Tomoyuki Ishida, *Fukuoka Institute of Technology, Japan*

Advisory Committee Members

Vincenzo Loia, *University of Salerno, Italy*
Arjan Durresi, *IUPUI, USA*
Kouichi Sakurai, *Kyushu University, Japan*

Award Co-Chairs

Tomoya Enokido, *Rissho University, Japan*
Lidia Ogiela, *AGH University of Science and Technology, Poland*
Fang-Yie Leu, *Tunghai University, Taiwan*

International Liaison Co-Chairs

Elis Kulla, *Fukuoka Institute of Technology, Japan*
Farookh Hussain, *University of Technology Sydney, Australia*
Hyunhee Park, *Myongji University, Korea*

Publicity Co-Chairs

Kangbin Yim, *Soonchunhyang University, Korea*
Hiroaki Kikuchi, *Meiji University, Japan*
Keita Matsuo, *Fukuoka Institute of Technology, Japan*

Finance Chair

Makoto Ikeda, *Fukuoka Institute of Technology, Japan*

Local Arrangement Co-Chairs

Mehrdad Tirandazian, *Toronto Metropolitan University, Canada*
Glaucio Carvalho, *Toronto Metropolitan University, Canada*

Web Administrator Co-Chairs

Phudit Ampririt, *Fukuoka Institute of Technology, Japan*
Ermioni Qafzezi, *Fukuoka Institute of Technology, Japan*

Steering Committee Chair

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

Welcome Message of IMIS-2023 International Conference Organizers

Welcome to the 17th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2023), which will be from July 5 to July 7, 2023, in conjunction with the 17th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2023).

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

For IMIS-2023, we received many paper submissions from all over the world. The papers included in the proceedings cover important aspects of UPC research domain.

We are very proud and honored to have 2 distinguished keynote talks by Dr. Salvatore Venticinque, University of Campania "Luigi Vanvitelli", Italy and Prof. Sanjay Kumar Dhurandher, Netaji Subhas University of Technology, India, who will present their recent work and will give new insights and ideas to the conference participants.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful IMIS-2023 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers, the Program Committee Members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers. We are grateful to Honorary Chair Prof. Makoto Takizawa, Hosei University, Japan for his guidance and advices.

Finally, we would like to thank Web Administrator Co-Chairs for their excellent and timely work.We hope that all of you enjoy IMIS-2023 and find this a productive opportunity to learn, exchange ideas and make new contacts.

CISIS-2023 & IMIS-2023 Keynote I

Dr. Salvatore Venticinque, University of Campania "Luigi Vanvitelli", Caserta, Italy

Evolution of Intelligent Software Agents

Abstract: The talk will focus on the evolution of models, techniques, technologies and applications of software agents in the last years. Rapidly evolving areas of software agents range from programming paradigms to artificial intelligence. Driven by different motivations, an heterogeneous body of research is carried out under this banner. In each research area the acceptance of agents has always been at once critical or skeptical and enthusiastic for promising future opportunities. Nevertheless, the efforts have bee continuously spent to advance the research in this field. One example is the semantic Web vision, whereby machine readable Web data could be automatically actioned upon by intelligent software Web agents. Maybe it has yet to be realised, however semantic semantic enrichment of Web metadata of digital archives are constantly growing including links to domain vocabularies and ontologies by supporting more and more advanced reasoning.

CISIS-2023 & IMIS-2023 Keynote II

Prof. Sanjay Kumar Dhurandher, Netaji Subhas University of Technology, New Delhi, India

Securing Mobile Wireless Networks

Abstract: Almost every digital device either generates or consumes data in some form. The result is that the volumes of data collected grow exponentially each day. Data analytics proponents have mooted that it is now possible in some cases to actually predict future human behaviors based on data collected through tracking and various other means. On the other parallel, the question of privacy has become ever more important as users increasingly seek ways of guarding their personal data from exposure. This as such raises the question of what the distinction between privacy and security (data protection) is, and what the boundary between the two should be. For instance, the 2014 incident of a hacker faking the German minister of defense's fingerprints was considered to be a security breach. However, a closer look at this issue highlights the fact that distinguishing between whether or not this was a privacy breach that enabled a security breach, or vice versa, does not have a straight forward answer. In this talk, I aim to explain why in my view privacy is different from security and, while though both privacy and security are mutually interdependent, why it is important to make the distinction. The talk will be supported by various examples to characterize privacy and distinguish it from security. At the same time, I will also explain why the two concepts are in fact two sides of the same coin.

CISIS-2023
Main Conference and Workshops Program

Wednesday, 5 July, 2023

Parallel Sessions

13:00-14:30 (Japan Standard Time zone: UTC+9)
06:00-07:30 (CEST Time Zone (Rome, Italy):UTC+2)
21:00-22:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

CISIS-S1: Security and Trust Computing

Chair: Arjan Durresi, IUPUI, USA

1. Quantum Algorithms for Trust-Based AI Applications
   Davinder Kaur, Suleyman Uslu, Arjan Durresi
2. A Lightweight Botnet Exploiting HTTP for Control Flow Denial on Open-Source Medical Systems
   Wei Lu
3. Design and Performance Evaluation of a Fuzzy-based System for Assessment of Emotional Trust
   Shunya Higashi, Phudit Ampririt, Ermioni Qafzezi, Makoto Ikeda, Keita Matsuo, Leonard Barolli

4. A Strong Identity Authentication Scheme for Electric Power Internet of Things Based on SM9 Algorithm
   Deng Ji, Zhang Lili, Jiao Lili, Ren Yongjin, Lin Qiutong
5. Towards a Blockchain-based Crowdsourcing Method for Robotic Ontology Evolution
   Wafa Alharbi, Farookh Khadeer Hussain

IKIDW-S1: Knowledge Management and Sustainable Relationship

Chair: Olivia Fachrunnisa, Sultan Agung Islamic University, Indonesia

1. Issues and Challenges When Metaverse Replaces the Workplace
   Ardian Adhiatma, Nurhidayati, Olivia Fachrunnisa
2. Customer Engagement in Online Food Delivery
   Alifah Ratnawati, Sri Wahyuni Ratnasari
3. Human-AI-powered Strategies for Better Business Applications
   Josef Mayrhofer
4. Malakah Knowledge Quality: An Effort to Internalize Religious Values in Knowledge Creation and Implementation
   Hesti Widianti, Olivia Fachrunnisa, Bedjo Santoso
5. Improving Business Success Through The Use of Business Capital Management and Accounting Information
   Luluk Muhimatul Ifada, Rita Rosalina, Chrisna Suhendi
6. Islamic Psychological Inspirational Leadership (IPIL): A New Leadership Style Based on Religious Values in Work Contract and Achievement Motivation
   Ratih Candra Ayu, Olivia Fachrunnisa, Ardian Adhiatma

Parallel Sessions

15:00-16:30 (Japan Standard Time zone: UTC+9)
08:00-09:30 (CEST Time Zone (Rome, Italy):UTC+2)
23:00-00:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

VENOA-S1: Multimedia Systems and Applications

Chair: Yoshihiro Okada, Kyushu University, Japan

1. A Study of Visualization System for Learning QoS Control
   Kazuaki Yoshihara, Katsuhisa Fujii, Nobukazu Iguchi
2. A Study on Changing Consciousness of Post Coronavirus Pandemic in Fashion Society and Use of Digital Technology
   Momoko Sakaguchi, Eiji Aoki, Koichi Nagamatsu
3. Spatial Interpolation of Room Impulse Responses Using Information on Early Reflection Directions
   Ichizo Furusho, Keisuke Nishijima, Ken'ichi Furuya
4. Co-Browsing Cubic Gantt Charts with VR Goggles for Collaborative Immersive Visual Data Analytics
   Shohei Nakamura, Yoshihiro Okada
5. Hand Gesture Input Interface as Native Function of IntelligentBox Using Leap Motion Controller
   Takumi Takeshita, Yoshihiro Okada

Parallel Sessions

17:00-18:30 (Japan Standard Time zone: UTC+9)
10:00-11:30 (CEST Time Zone (Rome, Italy):UTC+2)
01:00-02:30 (Pacific Daylight Time (Victoria, CA):(UTC-7))

CISIS-S2: Intelligent Computing

Chair: Pavel Krömer, VSB - Technical University of Ostrava, Czech Republic

1. Comparing Sampling Strategies for the Classification of Bi-Objective Problems by FLACCO Features
   Pavel Kromer, Vojtech Uher
2. Efficient FPGA Implementation of a Convolutional Neural Network for Surgical Image Segmentation Focusing on Recursive Structure
   Takehiro Miura, Shuto Abe, Taito Manabe, Yuichiro Shibata, Taiichiro Kosaka, Tomohiko Adachi
3. A Mobile-Oriented GPU Implementation of a Convolutional Neural Network for Object Detection
   Yasutoshi Araki, Takuho Kawazu, Taito Manabe, Yoichi Ishizuka, Yuichiro Shibata
4. A Fuzzy-based Error Driving System for Improving Driving Performance in VANETs
   Ermioni Qafzezi, Kevin Bylykbashi, Shunya Higashi, Phudit Ampririt, Keita Matsuo, Leonard Barolli

SWISM-S1: Semantic Computing

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

1. Semantic Wrap and Personalized Recommendations for Digital Archives
   Alba Amato, Rocco Aversa, Dario Branco, Salvatore Venticinque
2. Towards the Interoperability of Metadata for Cultural Heritage
   Alba Amato
3. A Methodology for Formal Modeling and Evaluation of the Judicial Process
   Angelo Ambrisi, Rocco Aversa, Marta Maurino, Salvatore Venticinque
4. A Comparative Analysis of Formal Storytelling Representation Models
   Luigi Colucci Cante, Beniamino Di Martino, Mariangela Graziano
5. Towards the Reconstruction of the Evolutionary Behaviour of Finite State Machines in the Juridical Domain
   Dario Branco, Luigi Colucci Cante, Beniamino di Martino, Antonio Esposito, Vincenzo De Lisi
6. Reinforcement Learning-based Root Planner for Electric Vehicle
   Pietro Fusco, Dario Branco, Salvatore Venticinque

CISIS-2023 Keynote I

19:00-20:00 (Japan Standard Time zone: UTC+9)
12:00-13:00 (CEST Time Zone (Rome, Italy):UTC+2)
03:00-04:00 (Pacific Daylight Time (Victoria, CA):UTC-7)

CISIS-2023 Keynote Talk I

Dr. Salvatore Venticinque: Evolution of Intelligent Software Agents

Thursday, 6 July, 2023

Parallel Sessions

13:00-14:30 (Japan Standard Time zone: UTC+9)
06:00-07:30 (CEST Time Zone (Rome, Italy):UTC+2)
21:00-22:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

CISIS-S3: Multimedia and IoT Applications

Chair: Kin Fun Li, University of Victoria, Canada

1. A Novel hybrid Model based on CNN and Bi-LSTM for Arabic Multi-Domain Sentiment Analysis
   Mariem Abbes, Zied Kechaou, Adel M. Alimi
2. A Cost-Sensitive Ensemble Model for e-Commerce Customer Behavior Prediction with Weighted SVM
   Jing Ning, Kin Fun Li, Tom Avant
3. Solving University Course Scheduling with Varied Constraints Using Integer Linear Programming
   Seyed M Buhari, Jyothi Manoj
4. Ride-Sharing Allocation System and Optimal Path-Finding Algorithm for Marine Taxies in the Setouchi Inland Sea Area
   Shiojiri Ryota, Takegami Risa, Murakami Yukikazu, Tokunaga Hidekazu, Kimura Yuto
5. Fine-tuning VGG16 for Alzheimer's Disease Diagnosis
   Luong Hoang Huong, Phong Thanh Vo, Hau Cong Phan, Nam Linh Dai Tran, Hung Quoc Le, Hai Thanh Nguyen

Parallel Sessions

15:00-16:30 (Japan Standard Time zone: UTC+9)
08:00-09:30 (CEST Time Zone (Rome, Italy):UTC+2)
23:00-00:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

CISIS-S4: Virtual Machine Applications

Chair: Tomoya Enokido, Rissho University, Japan

1. Energy-Saving Multi-Version Timestamp Ordering Algorithm for Virtual Machine Environments
   Tomoya Enokido, Dilawaer Duolikun, Makoto Takizawa
2. An Energy-aware Dynamic Algorithm for Changing Tree Structure and Process Migration in the Flexible Tree-based Fog Computing Model
   Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
3. Design of Communication Protocol for Virtual Power Plant System in Distributed Environment
   Yoshitaka Shibata, Masahiro Ueda, Akiko Ogawa
4. CPU Usage Prediction Model: A Simplified VM Clustering Approach
   Rebeca Estrada, Irving Valeriano, Xavier Aizaga
5. An Adaptive Virtual Node Management Method for Overlay Networks Based on Multiple Time Intervals
   Tatsuya Kubo, Tomoya Kawakami

Parallel Sessions

17:00-18:30 (Japan Standard Time zone: UTC+9)
10:00-11:30 (CEST Time Zone (Rome, Italy):UTC+2)
01:00-02:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

CISIS-S5: Next Generation Wireless Networks

Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan

1. Performance Evaluation of FC-RDVM and RIWM Methods for WMNs by WMN-PSOHCDGA System Considering Different Instances and Subway Distribution
   Admir Barolli, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa
2. A Cuckoo Search Based Simulation System for Node Placement Problem in Wireless Mesh Networks
   Kaho Asakura, Shinji Sakamoto
3. Performance Evaluation of DTAG-based Recovery Method for DTN Considering a Real Urban Road Model
   Shura Tachibana, Shota Uchimura, Makoto Ikeda, Leonard Barolli
4. A CCM, SA and FDTD Based Mesh Router Placement Optimization in WMN
   Yuki Nagai, Tetsuya Oda, Kyohei Toyoshima, Chihiro Yukawa, Sora Asada, Tomoaki Matsui, Leonard Barolli

CISIS-2023 Keynote II

19:00-20:00 (Japan Standard Time zone: UTC+9)
12:00-13:00 (CEST Time Zone (Rome, Italy):UTC+2)
03:00-04:00 (Pacific Daylight Time (Victoria, CA):UTC-7)

CISIS-2023 Keynote Talk II

Prof. Sanjay Kumar Dhurandher: Securing Mobile Wireless Networks

---

Friday, 7 July, 2023

CISIS-2023 Organizing Committee Meeting and Discussion

IMIS-2023
Main Conference and Workshops Program

Wednesday, 5 July, 2023

Parallel Sessions

13:00-14:30 (Japan Standard Time zone: UTC+9)
06:00-07:30 (CEST Time Zone (Rome, Italy):UTC+2)
21:00-22:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

IMIS-S1: Multimedia Systems and Distributed Applications

Chair: Tomoyuki Ishida, Fukuoka Institute of Technology, Japan

1. An AOI-based Surface Painting Equipment
   Wei-Chun Hsu, Chao-Tung Yang, Hsing-Chung Chen, Kai-Ming Uang, Yan-Ting Chen, Jheng-Shun Chen
2. An Aircraft Assembly System Based on Improved YOLOv5
   Zhengji Yao, Tianhan Gao, Xinbei Jiang, Zichen Zhu
3. Advanced Mathematics Curriculum Reform Based on Nine Screen Method and CDIO Educational Concept
   Jiangtao Li, Xiaokang Liu, Yanyan Zhao, Qiong Li
4. Proposal of a Music Auditioning Application using Music Compact Disk Jacket as Augmented Reality Marker
   Naho Kuriya, Momoka Hagihara, Tomoyuki Ishida

5. Proposal of a Real-Time Video Avatar Generation Method for Metaverse Environment
Momoka Hagihara, Naho Kuriya, Tomoyuki Ishida

Parallel Sessions

15:00-16:30 (Japan Standard Time zone: UTC+9)
08:00-09:30 (CEST Time Zone (Rome, Italy):UTC+2)
23:00-00:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

IMIS-S2: Security and Privacy

Chair: Tianhan Gao, Northeastern University of China, China

1. Universal Intrusion Detection System on In-vehicle Network
Md Rezanur Islam, Insu Oh, Kangbin Yim
2. An Efficient Privacy-preserving Authentication Scheme Based on Shamir Secret Sharing for VANETs
Jiayu Qi, Tianhan Gao, Cong Zhao
3. The Comparison of Machine Learning Methods for Email Spam Detection
Gwonsik Kang, Kamronbek Yusupov, Md Rezanur Islam, Keunkyoung Kim, Kangbin Yim
4. A Lightweight Intrusion Detection System on In-vehicle Network Using Polynomial Features
Baatarsuren Sukhbaatar, Md Rezanur Islam, Kamronbek Yusupov, Insu Oh, Kangbin Yim
5. Fuzz Testing and Safe Framework Development for Vehicle Security Analysis
Tugsmandakh Nyamdelger, Munkhdelgerekh Batzorig, Esam Ali Albhelil, Yeji Koh, Kangbin Yim

Parallel Sessions

17:00-18:30 (Japan Standard Time zone: UTC+9)
10:00-11:30 (CEST Time Zone (Rome, Italy):UTC+2)
01:00-02:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

IMIS-S3: Wireless Networks and Mobile Computing

Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan

1. An Enhanced AI-based Vehicular Driver Support System Considering Hyperparameter Optimization
Hibiki Tanaka, Masahiro Miwata, Makoto Ikeda, Leonard Barolli
2. A Fuzzy-based System for Selection of Radio Access Technology in 5G Wireless Networks Considering QoE as a New Parameter
Phudit Ampririt, Shunya Higashi, Ermioni Qafzezi, Makoto Ikeda, Keita Matsuo, Leonard Barolli
3. Implementation of FC-RDVM in WMN-PSOHCDGA System Considering Two Islands Distribution of Mesh Clients: A Comparison Study of FC-RDVM and RDVM Methods for Small Scale and Middle Scale WMNs
Leonard Barolli, Shinji Sakamoto, Admir Barolli, Evjola Spaho
4. A Comparison Study of FBR and FBRD Protocols for Underwater Optical Wireless Communication Using Transporter Autonomous Underwater Vehicles
Keita Matsuo, Elis Kulla, Leonard Barolli

IMIS-2023 Keynote I

19:00-20:00 (Japan Standard Time zone: UTC+9)
12:00-13:00 (CEST Time Zone (Rome, Italy):UTC+2)
03:00-04:00 (Pacific Daylight Time (Victoria, CA):(UTC-7))

IMIS-2023 Keynote Talk I

Dr. Salvatore Venticinque: Evolution of Intelligent Software Agents

Thursday, 6 July, 2023

Parallel Sessions

13:00-14:30 (Japan Standard Time zone: UTC+9)
06:00-07:30 (CEST Time Zone (Rome, Italy):UTC+2)
21:00-22:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

ITAUC-S1 (Hybrid Presentation): Multimedia Systems and Network Applications

Chair: Hsing-Chung Chen, Asia University, Taiwan

1. Vulnerability of The Hypercube Network Based on P2-cuts
   Yuan-Hsiang Teng and Tzu-Liang Kung
2. Applications of Artificial Fish Swarm Algorithms for Indoor Positioning and Target Tracking
   Shu-Hung Lee, Chia-Hsin Cheng, Chien-Chih Lin, Patrick C. K. Hung, Yung-Fa Huang
3. Attacks and Threats Verification based on 4G/5G Security Architecture
   Lie Yang, Chien-Erh Weng, Hsing-Chung Chen, Yang-Cheng-Kuang Chen, Yung-Cheng Yao
4. Design of a Composite IoT Sensor Stack System for Smart Agriculture
   Meng-Chang Wu, Yung-Hoh Sheu, Shing-Hong Liu, Jen-Yu Shieh, Hui-Kai Su
5. The Implement of a Reconfigurable Intelligence Trust Chain Platform with Anti-counterfeit Traceable Version Function for the Customized System-Module-IC
   Hsing-Chung Chen, Yao-Hsien Liang, Jhih-Sheng Su, Kuen-Yu Tsai, Yu-Lin Song, Pei-Yu Hsu, Jia-Syun Cai
6. Prototyping of Haptic Datagloves for Deafblind People
   Patrick C. K. Hung, Kamen Kanev, Atsushi Nakamura, Ryuhei Takeda, Hidenori Mimura, Masakatsu Kimura

IMIS-S4: Intelligent Computing and Deep Learning

Chair: Shinji Sakamoto, Kanazawa Institute of Technology, Japan

1. Assessment of FC-RDVM and LDIWM Router Replacement Methods by WMN-PSOHC Hybrid Simulation System Considering Chi-Square Mesh Client Distribution
   Shinji Sakamoto, Admir Barolli, Yi Liu, Leonard Barolli, Makoto Takizawa
2. Hyperparameter Tuning and Comparison Analysis of the DNN model to Predict Wireless Network Conditions of Live Video Services
   SoYeon Lee and Dae-Young Kim
3. A Fuzzy Theory Based Attitude Control for Takeoff of Quadrotor
   Chihiro Yukawa, Kyohei Toyoshima, Yuki Nagai, Yuma Yamashita, Nobuki Saito, Tetsuya Oda, Leonard Barolli
4. Method of Facial De-identification Using Machine Learning in Real-time Video
   Si-On Kim, Da-Wit Jeong, Sun-Young Lee

Parallel Sessions

15:00-16:30 (Japan Standard Time zone: UTC+9)
08:00-09:30 (CEST Time Zone (Rome, Italy):UTC+2)
23:00-00:30 (Pacific Daylight Time (Victoria, CA):(UTC-7) - 1 day)

MCNCS-S1: Data Management and Intelligent Algorithms

Chair: Fang-Yie Leu, Tunghai University, Taiwan

1. The Design and Implementation of a Weapon Detection System Based on the YOLOv5 Object Detection Algorithm
   Tsung-Yu Su, Fang-Yie Leu
2. DR.QG: Enhancing Closed-Domain Question Answering via Retrieving Documents for Question Generation
   Zhi-Wei Tong, Yao-Chung Fan and Fang-Yie Leu
3. QoS-Oriented Uplink OFDMA Random Access Scheme for IEEE 802.11be
   Chia-Wen Chang and Fang-Yie Leu
4. Regression Testing Measurement Model to Improve CI/CD Process Quality and Speed
   Sen-Tarng Lai, Fang-Yie Leu

IMIS-S5: Distributed Computing and Network Applications

Chair: Tetsuya Shigeyasu, Prefectural University of Hiroshima, Japan

1. An Analysis of Theoretical Network Communication Speedup Using Multiple Fungible Paths
   David W. White, Isaac Woungang, Felix O. Akinladejo, Sanjay Kumar Dhurandher
2. General Dynamic Difficulty Adjustment System for Major Game Genres
   Qingwei Mi, Tianhan Gao
3. Softprocessor RISCV-EC for Edge Computing Applications
   Guillermo Montesdeoca, Víctor Asanza, Rebeca Estrada, Irving Valeriano, M A Muneeb
4. A Soldering Motion Analysis System for Monitoring Whole Body of People with Developmental Disabilities
   Kyohei Toyoshima, Chihiro Yukawa, Yuki Nagai, Genki Moriya, Kei Tabuchi, Tetsuya Oda, Leonard Barolli
5. A New Method for Improving Cache Hit Ratio by Utilizing Near Network Cache on NDN
   Akari Kanazawa and Tetsuya Shigeyasu

Parallel Sessions

17:00-18:30 (Japan Standard Time zone: UTC+9)
10:00-11:30 (CEST Time Zone (Rome, Italy):UTC+2)
01:00-02:30 (Pacific Daylight Time (Victoria, CA):(UTC-7))

SMEUCE-S1: Ubiquitous Commerce and Operation Management

Chair: Kuei-Yuan Wang, Asia University, Taiwan

1. A Study on the Abnormal Stock Returns of Listed Companies in Taiwan's Construction Sub-Industry Due to the Covid-19 Epidemic Announcement
   Kuei-Yuan Wang, Ying-Li Lin, Chien-Kuo Han, Hsieh-Jung Sung
2. The Business Model of Cross-Border E-Commerce: Source Globally, Sell Globally
   Ying-Li Lin and Shih-Chieh Lin
3. Impact of SARS and COVID-19 on Taiwan's Tourism Industry
   Ying-Li Lin, Shih-Chieh Lin, Kuei-Yuan Wang, Ching-Lun Lin

4. Using the Balanced Scorecard to Analyze Bank Operational Performance - Comparison of Domestic and Foreign Banks
   Ying-Li Lin, Shih-Chieh Lin, Ya-Yun Yang
5. The Influence of CEO/CFO Turnover on Company Value
   Mei-Hua Liao, Yen-Ju Chen, Yun-Hsuan Tsai, Ya-Lan Chan
6. The Relationships Between Underpricing and Turnover: The Study of Seasoned Equity Offerings
   Chun-Ping Chang, Yung-Shun Tsai, Shyh-Weir Tzang, Chih-Yun Liu
7. Research on the Influence of On-the-go Cross-store Access through APPs on Consumer Behavior
   Ya-Lan Chan, Po-Hung Chen, Sue-Ming Hsu, Mei-Hua Liao

IMIS-2023 Keynote II

19:00-20:00 (Japan Standard Time zone: UTC+9)
12:00-13:00 (CEST Time Zone (Rome, Italy):UTC+2)
03:00-04:00 (Pacific Daylight Time (Victoria, CA):(UTC-7))

IMIS-2023 Keynote Talk II

Prof. Sanjay Kumar Dhurandher: Securing Mobile Wireless Networks

---

Friday, 7 July, 2023

IMIS-2023 Organizing Committee Meeting and Discussion

Online Meeting Schedule for CISIS-2023 and IMIS-2023
July 5 - July 7, 2023

1st day: Wednesday, 5 July, 2023	Room #1 Meeting ID: 872 2244 0215		Room #2 Meeting ID: 862 7699 7113		Room #3 Meeting ID: 869 2550 7289	
	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair
Slot 1 13:00-14:30 (UTC+9) Japan Standard Time 06:00-07:30 (UTC+2) CEST Time Zone (Rome, Italy) 21:00-22:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**CISIS-S1**	Arjan Durresi, USA	**IKIDW-S1**	Olivia Fachrunnisa, Indonesia	**IMIS-S1**	Tomoyuki Ishida, Japan
Slot 2 15:00-16:30 (UTC+9) Japan Standard Time 08:00-09:30 (UTC+2) CEST Time Zone (Rome, Italy) 23:00-00:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)			**VENOA-S1**	Yoshihiro Okada, Japan	**IMIS-S2**	Tianhan Gao, China
Slot 3 17:00-18:30 (UTC+9) Japan Standard Time 10:00-11:30 (UTC+2) CEST Time Zone (Rome, Italy) 01:00-02:30 (UTC-7) Pacific Daylight Time (Victoria, CA)	**CISIS-S2**	Pavel Krömer, Czech Republic	**SWISM-S1**	Beniamino Di Martino, Italy	**IMIS-S3**	Keita Matsuo, Japan
Slot 4 19:00-20:00 (UTC+9) Japan Standard Time 12:00-13:00 (UTC+2) CEST Time Zone (Rome, Italy) 03:00-04:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	**CISIS-2023 and IMIS-2023 Keynote #1: Prof. Salvatore Venticinque** **Meeting ID: 872 2244 0215**					

2nd day: Thursday, 6 July, 2023	Room #1 Meeting ID: 872 2244 0215		Room #2 Meeting ID: 862 7699 7113		Room #3 Meeting ID: 869 2550 7289	
	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair
Slot 1 13:00-14:30 (UTC+9) Japan Standard Time 06:00-07:30 (UTC+2) CEST Time Zone (Rome, Italy) 21:00-22:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**CISIS-S3**	Kin Fun Li, Canada	**ITAUC-S1 (Hybrid Presentation)**	Hsing-Chung Chen, Taiwan	**IMIS-S4**	Shinji Sakamoto, Japan
Slot 2 15:00-16:30 (UTC+9) Japan Standard Time 08:00-09:30 (UTC+2) CEST Time Zone (Rome, Italy) 23:00-00:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**CISIS-S4**	Tomoya Enokido, Japan	**MCNCS-S1**	Fang-Yie Le, Taiwan	**IMIS-S5**	Tetsuya Shigeyasu, Japan
Slot 3 17:00-18:30 (UTC+9) Japan Standard Time 10:00-11:30 (UTC+2) CEST Time Zone (Rome, Italy) 01:00-02:30 (UTC-7) Pacific Daylight Time (Victoria, CA)	**CISIS-S5**	Makoto Ikeda, Japan	**SMEUCE-S1**	Kuei-Yuan Wang, Taiwan		
Slot 4 19:00-20:00 (UTC+9) Japan Standard Time 12:00-13:00 (UTC+2) CEST Time Zone (Rome, Italy) 03:00-04:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	**CISIS-2023 and IMIS-2023 Keynote #2: Prof. Sanjay Kumar Dhurandher** **Meeting ID: 872 2244 0215**					

3rd day: Friday, 7 July, 2023	Room #1		Room #2		Room #3	
	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair
	CISIS-2023 and IMIS-2023 Steering Committee Meeting and Discussion					