

PROGRAM GUIDE



CISIS-2020

The 14-th International Conference on
Complex, Intelligent, and Software Intensive Systems

and



IMIS-2020

The 14-th International Conference on
Innovative Mobile and Internet Services in Ubiquitous Computing

July 1st - July 3rd, 2020

Lodz, Poland

Technically Co-Sponsored by:



Lodz University of Technology

Lodz University of Technology



Fukuoka Institute of Technology

Contents

CISIS-2020 Organizing Committee	3
Welcome Message of CISIS-2020 International Conference Organizers	4
IMIS-2020 Conference Organizing Committee	5
Welcome Message of IMIS-2020 International Conference Organizers	6
CISIS-2020 & IMIS-2020 Keynote I	7
CISIS-2020 & IMIS-2020 Keynote II	8
CISIS-2020 Main Conference and Workshops Program	9
Wednesday, July 1, 2020	9
09:00 Registration	9
10:00-10:30 Single Session: CISIS-2020 & IMIS-2020 Opening Ceremony	9
10:30-11:00 Coffee Break	9
11:00-12:00 Single Session: CISIS-2020 & IMIS-2020 Keynote I	9
12:00-13:30 Lunch	10
13:30-15:30 Parallel Sessions	10
CISIS-S1: Next Generation Networking and Cloud Computing	10
CISIS-S2: Intelligent Systems and Deep Learning	10
IKIDW-S1: Knowledge Sharing and Innovation	10
15:30-16:00 Coffee Break	11
16:00-18:00 Parallel Sessions	11
CISIS-S3: Algorithms and Modeling	11
CISIS-S4: Wireless and Mobile Networking	11
IKIDW-S2: Knowledge Creation and Modeling	11
19:00-21:00 Welcome Reception Party	12
Thursday, July 2, 2020	13
10:30-11:00 Discussion & Registration	13
11:00-11:30 Coffee Break	13
11:30-12:30 Single Session: CISIS-2020 & IMIS-2020 Keynote II	13
12:30-13:30 Lunch Break	13
13:30-15:30 Parallel Sessions	13
CISIS-S5: Multimedia Systems and Applications	13
VENOA-S1: Multimedia and Web-based Applications	13
IKIDW-S3: Digital Platforms and Digital Transformation	14
15:30-16:00 Coffee Break	14
16:00-18:00 Parallel Sessions	14
FCISIS-S1: Data and Knowledge-Based Management Systems	14
SWISM-S1: Intelligent Systems and Machine Learning	15
HCCIEA-S1: IoI and Cloud Computing	15
19:00-21:00 Banquet Party	15
Friday, July 3, 2020	15
CISIS-2020 Organizing Committee Meeting and Discussion	15
IMIS-2020 Main Conference and Workshops Program	16
Wednesday, July 1, 2020	16
09:00 Registration	16
10:00-10:30 Single Session: CISIS-2020 & IMIS-2020 Opening Ceremony	16
10:30-11:00 Coffee Break	16
11:00-12:00 Single Session: CISIS-2020 & IMIS-2020 Keynote I	16
IMIS-S1: Secure Systems	17
IMIS-S2: IoT and Multimedia Applications	17

SMEUCE-S1: Sustainability Management of e-Business	17
15:30-16:00 Coffee Break	18
16:00-18:00 Parallel Sessions	18
IMIS-S3: Security Modeling and Analysis	18
IMIS-S4: Mobile Computing and Wireless Communication	18
SMEUCE-S2: Ubiquitous Commerce and Operation Management	18
19:00-21:00 Welcome Reception Party	19
Thursday, July 2, 2020	20
10:30-11:00 Discussion & Registration	20
11:00-11:30 Coffee Break	20
11:30-12:30 Single Session: CISIS-2020 & IMIS-2020 Keynote II	20
12:30-13:30 Lunch Break	20
13:30-15:30 Parallel Sessions	20
FIMIS-S1: Information Security and Control	20
ITAUC-S1: Intelligent Techniques and Ubiquitous Computing	20
BDITS-S1: Mobile Networks and Cloud Computing	21
15:30-16:00 Coffee Break	21
16:00-18:00 Parallel Sessions	21
WAIS-S1: Information Security	21
PISPIS-S1: Security and Internet Services	21
19:00-21:00 Banquet Party	22
Friday, July 3, 2020	22
IMIS-2020 Organizing Committee Meeting and Discussion	22
Time table	22

CISIS-2020 Organizing Committee**Honorary Co-Chairs**

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Welcome Message of CISIS-2020 International Conference Organizers

Welcome to the 14th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2020), which will be held from July 1st to July 3rd, 2020 at Lodz University of Technology, Poland in conjunction with the 14th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2020).

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

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

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

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

The CISIS-2020 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 Prof. Beniamino Di Martino, University of Campania "Luigi Vanvitelli", Italy and Prof. Shinji Sugawara, Chiba Institute of Technology, Japan, who will present their recent work and will give new insights and ideas to the conference participants.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful CISIS-2020 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 Co-Chairs Prof. Makoto Takizawa, Hosei University, Japan and Prof. Sławomir Wiak, Lodz University of Technology, Poland for their guidance and advices.

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

We hope you will enjoy the conference and have a great time in Lodz, Poland.

CISIS-2020 Organizers

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Tomoya Enokido, *Rissho University, Japan*

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Welcome Message of IMIS-2020 International Conference Organizers

Welcome to the 14th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2020), which will be held from July 1st to July 3rd, 2020, Lodz University of Technology, Poland in conjunction with the 14th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2020).

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-2020, we received many paper submissions from all over the world. The papers included in the proceedings cover important aspects from UPC research domain.

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

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

We hope that all of you enjoy IMIS-2020 and find this a productive opportunity to learn, exchange ideas and make new contacts.

IMIS-2020 International Conference Organizers

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CISIS-2020 & IMIS-2020 Keynote I



Prof. Beniamino Di Martino, University of Campania "Luigi Vanvitelli", Italy

Semantics, Patterns and Compiler Techniques for Portable App Development in Multiple Cloud and Big Data Platforms

Abstract: Cloud vendor lock-in and interoperability gaps arise (among many reasons) when semantics of resources and services, and of Application Programming Interfaces is not shared. The same issue arises with Big Data platforms: different programming, deployment and execution models, many different Machine Learning Libraries and related APIs. Standards and techniques borrowed from SOA and Semantic Web Services areas might help in gaining shared, machine readable description of Cloud and Big Data offerings (resources, Services at Platform and Application level, Libraries and their API groundings), thus allowing automatic discovery, matchmaking, and thus selection, brokering, interoperability end composition of Cloud Services among multiple Clouds, and seamless programming of analytics on multiple BigData platforms. This talk will in particular illustrate the outcomes of the EU funded projects mOSAIC (<http://www.mosaic-cloud.eu>) and TOREADOR (<http://www.toreador-project.eu>).

CISIS-2020 & IMIS-2020 Keynote II



Prof. Shinji Sugawara, Chiba Institute of Technology, Japan

Distributed Systems of the Day for Efficient Digital Data Exchange and Sharing: A System Transition from Peer-to-Peer to Cloud-Fog-Edge Computing

Abstract: With the recent increase of bandwidth for communication networks, the major improvement of computing processors, and the spread of cloud computing, the exchanges or sharing of various types of, and huge amount of data or digital contents has become very active among a great many users on a large-scale network represented by the Internet. For this, various distributed systems have been used so far, and major system architecture has been continuously changing according to the functions and purposes required at each time period. In this talk, we describe the historical changes and classifications of distributed systems used for searching, exchanging, storing, and sharing data deployed on networks, and their respective advantages, and introduce examples of systems actually implemented. Furthermore, we discuss the possibility of future development of distributed systems for data sharing.



CISIS-2020

Main Conference and Workshops Program

Wednesday, July 1, 2020

09:00 Registration

10:00-10:30 Single Session: CISIS-2020 & IMIS-2020 Opening Ceremony

10:30-11:00 Coffee Break

11:00-12:00 Single Session: CISIS-2020 & IMIS-2020 Keynote I

CISIS-2020 & IMIS-2020 Keynote Talk I (PLENARY ROOM)

Prof. Beniamino Di Martino: Semantics, Patterns and Compiler Techniques for Portable App Development in Multiple Cloud and Big Data Platforms

12:00-13:30 Lunch**13:30-15:30 Parallel Sessions****CISIS-S1: Next Generation Networking and Cloud Computing****Chair: Makoto Takizawa, Hosei University, Japan**

1. An Admission Control System for 5G Wireless Networks Considering Fuzzy Logic and Software-Defined Network Approaches
Phudit Ampririt, Yi Liu, Makoto Ikeda, Keita Matsuo, Leonard Barolli, Makoto Takizawa
2. Performance Comparison of Mesh Router Replacement Methods by WMN-PSOHC Simulation System Considering Linearly Decreasing Inertia Weight Method and Linearly Decreasing Vmax Method
Shinji Sakamoto, Admir Barolli, Seiji Ohara, Leonard Barolli and Shusuke Okamoto
3. A Topic-based Publish/Subscribe System in a Fog Computing Model for the IoT
Takumi Saito, Shigenari Nakamura, Tomoya Enokido, and Makoto Takizawa
4. Green Fog: Cost Efficient Real Time Power Management Service for Green Community
Rasool Bukhsh, Nadeem Javaid, Faisal Mehmood, Muhammad Ameer Hamza, Muhammad Inayat Ullah Imran, Shahzaib Choudri, Umair Ahmed
5. Real-Time Model of Computation over HPC /Cloud Orchestration - The LEXIS Approach
Thierry Goubier, Jan Martinovič, Paul Dubrulle, Laurent Ganne, Stéphanie Louise, Tomáš Martinovič and Kateřina Slaninová

CISIS-S2: Intelligent Systems and Deep Learning**Chair: Donald Elmazi, Fukuoka Institute of Technology, Japan**

1. A Load Balancing Aware Intelligent Hybrid Simulation System for WMNs Considering Different Number of Mesh Routers: A Comparison Study for Uniform and Exponential Distributions of Mesh Clients
Seiji Ohara, Admir Barolli, Shinji Sakamoto, Keita Matsuo, Leonard Barolli, and Makoto Takizawa
2. QuadCOINS-network: A Deep Learning Approach to Sound Source Localization
Simone Ciccìa, Alberto Scionti, Giacomo Vitali, Olivier Terzo
3. An Event Response Fuzzy-based System for Actor Node Selection in WSANs
Donald Elmazi, Miralda Cuka, Makoto Ikeda, Keita Matsuo, Leonard Barolli, Makoto Takizawa
4. Electricity Theft Detection using Machine Learning Techniques to Secure Smart Grid
Muhammad Adil, Nadeem Javaid, Zia Ullah, Mahad Maqsood, Salman Ali and Muhammad Awais Daud
5. A Fuzzy-based Adiantum Cultivation Support System Design
Daisuke Nishii, Shunsuke Sakamoto, Makoto Ikeda, Leonard Barolli

IKIDW-S1: Knowledge Sharing and Innovation**Chair: Olivia Fachrunnisa, Sultan Agung Islamic University, Indonesia**

1. Information Disclosure on Good Corporate Governance and Corporate Social Responsibility as Determinants of Firm Value
Maya Indriastuti, Winarsih, Naila Najihah
2. Knowledge of Psychological Work Attitudes to Improve Employee Performance
Yuni Siswanti, Ratna Tri Astuti
3. Islamic Intrinsic Motivation and Knowledge Conversion Process for Sales Team Performance: A Theoretical Framework
Ken Sudarti, Olivia Fachrunnisa

4. Corporate Social Responsibility, Normative Pressure and Firm Value: Evidence from Companies Listed on Indonesia Stock Exchange
Luluk Muhimatul Ifada, Imam Ghozali, Faisal
5. The Role of Organizational Communication and Organizational Learning to Human Resources Performance Through Knowledge Sharing
Siti Sumiati, Khoirun Nikmah
6. Impact of Knowledge Sharing and Innovation on Small Business Performance
Yuni Utami, Mochamad Rofik, Niken Wahyu Cahyaningtyas, Dwi Prastowo Darminto

15:30-16:00 Coffee Break

16:00-18:00 Parallel Sessions

CISIS-S3: Algorithms and Modeling

Chair: Tomoya Enokido, Rissho University, Japan

1. Energy-Efficient Quorum-Based Locking Protocol in Virtual Machine Environments
Tomoya Enokido and Makoto Takizawa
2. Deploy, Connect and Execute Scientific Models
Faisal Aleissa, Najat Alrashed, Sattam Alsuabiee, Anas Alfaris, Abel Sanchez and Ahmed Alabdulkareem
3. Control Theoretical Modeling of Trust-Based Decision Making in Food-Energy-Water Management
Suleyman Uslu, Davinder Kaur, Samuel J Rivera, Arjan Durrresi, Meghna Babbar-Sebens, and Jenna H Tilt
4. Extractive Summarization by Rouge Score Regression based on BERT
Bing-Hong Tsai, Yao-Chung Fan, and Fang-Yie Leu
5. Android Malware Detection Using Multi-Stage Classification Models
Md Faiz Iqbal Faiz, Md Anwar Hussain, and Ningrinla Marchang

CISIS-S4: Wireless and Mobile Networking

Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan

1. A Prototype System of Social Experiment for Actual Road State Information Platform based on Sensors and V2X Communication
Yoshitaka Shibata, Akira Sakuraba, Goshi Sato and Noriki Uchida
2. Software-oriented Routing Protocol for Energy-efficient Wireless Communications
Ryota Sakai, Takumi Saito, Shigenari Nakamura, Tomoya Enokido and Makoto Takizawa
3. An Autonomous Wireless Platform for the Remote Inspection of Pollutants
S. Ciccica, G. Caragnano, F. Bertone, G. Varavallo, A. Scionti, O. Terzo, D. Capello, A. Brajon
4. Simulation System of Autonomous Vehicles for Overtaking Service Using Smart Contract
Kosuke Kaneko, Ke Yan, Kouichi Sakurai
5. Security Measures in the Vehicular Ad-Hoc Networks in the Aspect of DoS Attack
Krzysztof St'epień and Aneta Poniszewska-Marañda

IKIDW-S2: Knowledge Creation and Modeling

Chair: Ardian Adhiatma, Sultan Agung Islamic University, Indonesia

1. External Funding Implications on SMEs Performance (A Conceptual Model)
Ibnu Khajar, Bedjo Santoso

2. The Effect of Corporate Social Responsibility and Environmental Cost on Financial Performance
Naila Najihah, Maya Indriastuti, Chrisna Suhendi
3. The Determinant of Tax Compliance in Indonesia
Devi Permatasari, Mutoharoh
4. A Model for Strengthening the Quality of Local Government Financial Statements
Khoirul Fuad, Winarsih, Khoirin Nisa
5. Online Customers Satisfaction on Repurchase Intention: Role of Mobile Shopping Perceived Customer
Hendar, Ken Sudarti and Happy Rhemananda

19:00-21:00 Welcome Reception Party

Thursday, July 2, 2020**10:30-11:00 Discussion & Registration****11:00-11:30 Coffee Break****11:30-12:30 Single Session: CISIS-2020 & IMIS-2020 Keynote II****CISIS-2020 & IMIS-2020 Keynote Talk II**

Prof. Shinji Sugawara: Intelligent Context Awareness in Internet of Agricultural Things

12:30-13:30 Lunch Break**13:30-15:30 Parallel Sessions****CISIS-S5: Multimedia Systems and Applications****Chair: Aneta Poniszewska-Marañda, Lodz University of Technology, Poland**

1. A Development Framework for RP-type Serious Games in a 3D Virtual Environment
Hikaru Yamamura, Reihaneh Morid, Nuren Abedin, Firouzeh Javadi, Daisuke Ikeda, Wei Shi, Yoshihiro Okada
2. Sound Source Separation based on Multichannel Non-negative Matrix Factorization with Weighted Averaging
Tsuyoshi Yamamoto, Shingo Uenohara, Keisuke Nishijima, Ken'ichi Furuya
3. IntelligentBox Based Training System for Operation of Radiation Therapy Devices
Yoshihiro Okada, Kosuke Kaneko, and Toshioh Fujibuchi
4. Learner-centred Pedagogical Approach based on Smart City Concept to Enhance the Development of STEM Skills of Children
Aneta Poniszewska-Marañda, Amanda Szukalska, and Łukasz Wilczyński
5. LEXIS Weather and Climate Large-scale Pilot
Antonio Parodi, Emanuele Danovaro, James Hawkes, Tiago Quintino Martina Lagasi, Fabio Delogu, Mirko D'Andrea, Andrea Parodi, Biagio Massimo Sardo, Andrea Ajmar, Paola Mazzoglio, Fabien Brocheton, Laurent Ganne, Rubén J. García-Hernández, Stephan Hachinger, Mohamad Hayek, Olivier Terzo, Jan Krenek, Jan Martinovic
6. Computer Support System for Choosing the Optimal Managing Strategy by the Mutual Investment Procedure in Smart City
Lakhno Valeriy, Malyukov Volodimir, Roskladka Andrii, Rzaieva Svitlana, Gamaliy Volodymir, Valeriy Kraskevich, Olha Kasatkin

VENOA-S1: Multimedia and Web-based Applications**Chair: Yoshihiro Okada, Kyushu University, Japan**

1. Development of Learning Materials for Routing by Using OpenFlow
Arisa Ishikawa, Kazuaki Yoshihara, Nobukazu Iguchi, Kenzi Watanabe
2. In-advance Replica Arrangement of Shared Data over Hybrid Peer-to-Peer Network According to Users' Locations and Preferences
Kazumasa Takahashi and Shinji Sugawara

3. A Method of Data Augmentation for Shunt Murmur Angiostenosis Detection
Keisuke Nishijima, Daisuke Higashi and Ken'ichi Furuya
4. Study on Visualization of Characteristics of Local Government by Open Data and Synesthesia in Cross-cutting and Systematic Regional Community Networks
Eiji Aoki, Miyuki Oka, Junji Hirooka, Hideyuki Inoue
5. Development of Training System for Dental Treatment Using WebAR and Leap Motion Controller
Kengo Kudo and Yoshihiro Okada
6. Impact of the Interactive e-Learning Instructions on Effectiveness of a Programming Course
Dahlan Nariman

IKIDW-S3: Digital Platforms and Digital Transformation

Chair: Olivia Fachrunnisa, Sultan Agung Islamic University, Indonesia

1. Digital Platform of Zakat Management Organization for Young Adults in Indonesia
Farikha Amilahaq, Provita Wijayanti, Noor Emilina Mohd Nasir, Suraya Ahmad
2. Collaborative Agility Capital: Concept and Development of Action Learning
Tri Wikaningrum
3. Impact of Covid-19 on Digital Transformation and Sustainability in Small and Medium Enterprises (SMEs): A Conceptual Framework
Winarsih, Maya Indriastuti, Khoirul Fuad
4. Innovative Work Behavior: The Role Of Self-Efficacy And Organizational Climates
Yuswanto Hery Purnama, Heru Kurnianto Tjahjono, Zainal Mustafa Elqadri, Wisnu Prajogo
5. Digital Transformation of Organizations: Perspectives from Digital Citizenship and Spiritual Innovative Leadership
Nurhidayati, Sri Wahyuni Ratnasari

15:30-16:00 Coffee Break

16:00-18:00 Parallel Sessions

FCISIS-S1: Data and Knowledge-Based Management Systems

Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan

1. An Energy-based Algorithm for Detecting Implicitly Faulty Replicas of a Process
Hazuki Ishii, Shigenari Nakamura, Takumi Saito, Tomoya Enokido, and Makoto Takizawa
2. Spiritual Welfare Creation for Knowledge Workers in Society 5.0: A Conceptual Model
Olivia Fachrunnisa, Ardian Adhiatma, Heru Kurnianto Tjahjono
3. A Value Creation Process for Sustainability of Knowledge Based-Society
Ardian Adhiatma, Olivia Fachrunnisa, Heru Kurnianto Tjahjono
4. Travel Destination Prediction based on Origin-destination Data
Shudong Liu, Liaoyuan Zhang
5. Knowledge Management Capability and Agile Leadership to Improve SMEs' Ambidexterity
Hasan Abdul Rozak, Olivia Fachrunnisa

SWISM-S1: Intelligent Systems and Machine Learning**Chair: Beniamino Di Martino, University of Campania "Luigi Vanvitelli", Italy**

1. Resource Management in SDN-VANETs Using Fuzzy Logic: Effect of Data Complexity on Coordination of Cloud-Fog-Edge Resources
Ermioni Qafzezi, Kevin Bylykbashi, Makoto Ikeda, Keita Matsuo, Leonard Barolli, Makoto Takizawa
2. Tweets Analysis with Big Data Technology and Machine Learning to Evaluate Smart and Sustainable Urban Mobility Actions in Barcelona
Beniamino di Martino, Luigi Colucci Cante, Mariangela Graziano, Regina Enrich Sard
3. An Ontology Framework for Evaluating e-Mobility Innovation
Beniamino Di Martino, Luigi Colucci Cante, Salvatore Venticinque
4. Machine Learning based Methodology for Automatic Annotation and Anonymisation of Privacy-related Items in Textual Documents for Justice Domain
Beniamino Di Martino, Fiammetta Marulli, Pietro Lupi, Alessandra Cataldi

HCCIEA-S1: IoI and Cloud Computing**Chair: Olivier Terzo, LINKS Foundation, Italy**

1. HAMS: An Integrated Hospital Management System to Improve Information Exchange
F. Lubrano, F. Stirano, G. Varavallo, F. Bertone, and O. Terzo
2. Multi-network Technology Cloud-based Asset-tracking Platform for IoT Devices
F. Lubrano, D. Sergi, F. Bertone, and O. Terzo
3. Production Scheduling in Industry 4.0
Yuanyuan Li, Klodiana Goga, Roberto Tadei, Olivier Terzo
4. Green Data Platform: an IoT and Cloud Infrastructure for Data Management and Analysis in Agriculture 4.0
F. Bertone, G. Caragnano, S. Ciccio, O. Terzo, E. Cremonese

19:00-21:00 Banquet Party**Friday, July 3, 2020****CISIS-2020 Organizing Committee Meeting and Discussion**



IMIS-2020

Main Conference and Workshops Program

Wednesday, July 1, 2020

09:00 Registration

10:00-10:30 Single Session: CISIS-2020 & IMIS-2020 Opening Ceremony

10:30-11:00 Coffee Break

11:00-12:00 Single Session: CISIS-2020 & IMIS-2020 Keynote I

CISIS-2020 & IMIS-2020 Keynote Talk I (PLENARY ROOM)

Prof. Beniamino Di Martino: Semantics, Patterns and Compiler Techniques for Portable App Development in Multiple Cloud and Big Data Platforms

IMIS-S1: Secure Systems**Chair: Hae-Duck J. Jeong, Korean Bible University, Korea**

1. Research on Association Analysis Technology of Attack Trace Based on Web Log
Shiyu Li, Baojiang Cui
2. Adaptive Architecture and Principles for Securing the Systems
Asif Qumer Gill, Ghassan Beydoun, Mahmood Niaz, Habib Ullah Khan
3. An Accounting Ledger System using the Fabric-based Blockchain
Jiha Kim, HyeWon Kim, WooSeok Hyun, and Hae-Duck J. Jeong
4. A Security Analysis Approach for Secure Color-Code Exchange Protocol by Using BAN Logic
Hsing-Chung Chen, Mosiur Rahaman and Cahya Damarjati
5. "Guess Who?" Large-Scale Data-Centric Study of the Adequacy of Browser Fingerprints for Web Authentication
Nampoina Andriamilanto, Tristan Allard, and Gaëtan Le Guelvouit

IMIS-S2: IoT and Multimedia Applications**Chair: Tomoyuki Ishida, Fukuoka Institute of Technology, Japan**

1. IoT Cryptosecurity: Overview and Potential Solutions
Jacek Wytębowicz, Michał Goworko
2. IoT Node Elimination and Selection for Tasks in Opportunistic Networks: A Fuzzy Logic Approach
Miralda Cuka, Donald Elmazi, Keita Matsuo, Makoto Ikeda, Leonard Barolli, Makoto Takizawa
3. Proposal of a Disaster Evacuation Support System using Beacon
Tomoyuki Ishida, Kanae Sakamoto
4. A Visual Particle System Based on Mechanism Model Data in Digital Twin
Zuan Gu, Tianhan Gao
5. An EEG Emotion Classification System Based on One-Dimension Convolutional Neural Networks and Virtual Reality
Xinbei Jiang, Tianhan Gao
6. A Fuzzy-based Simulation System for Driving Management in VANETs Considering Weather Condition as a New Parameter
Kevin Bylykbashi, Ermioni Qafzezi, Makoto Ikeda, Keita Matsuo, Leonard Barolli, Makoto Takizawa

SMEUCE-S1: Sustainability Management of e-Business**Chair: Kuei-Yuan Wang, Asia University, Taiwan**

1. Feasibility Study of Introducing Daily Rental Suites Business Model into Long-term Care Institutions
Kuei-Yuan Wang, Ying-Li Lin, Chien-Kuo Han, Tsung-Chih Hung
2. Black-Litterman Model and Momentum Strategy: Evidence of Taiwan Top 50 ETF
Shyh-Weir Tzang, Chun-Ping Chang, Chih-Hsing Hung, Yung-Shun Tsai
3. Investment Timing and External Effects
Chun-Ping Chang, Munkhnaran Duurenjargal, Zolzaya Batjargal, Shyh-Weir Tzang
4. The Choice between Foreign Direct Investment and Export with Industry Competition and Marginal Cost
Chun-Ping Chang, Yung-Shun Tsai, Shyh-Weir Tzang, Zolzaya Batjargal
5. Information Asymmetry, Market Liquidity and Abnormal Returns
Yung-Shun Tsai, Shyh-Weir Tzang, Chun-Ping Chang
6. Examining the Impacts of Strategic Alliance – Examples of the Taiwan Semiconductor Industry
Mei-Hua Huang, Chia-Hui Hsieh, Perng-Fei Huang, Chiung-Yen Chen

15:30-16:00 Coffee Break**16:00-18:00 Parallel Sessions****IMIS-S3: Security Modeling and Analysis****Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Design and Implementation of a Novel Testbed for Automotive Security Analysis
Youngho An, Junyoung Park, Insu Oh, Myoungsu Kim, Kangbin Yim
2. An UWB Cyclostationary Detection Algorithm Based Nonparametric Cusum
Xiao-ou Song, Xiao-rong Wang
3. A Convolutional Neural Network Model for Object Detection based on Receptive Field
Yifeng Dong and Tianhan Gao
4. The Study and Realization of A Binary-based Address Sanitizer Based on Code Injection
Yuchao Wang, Baojiang Cui
5. Modeling the Risk of Data Breach Incidents at the Firm Level
Kazuki Ikegami, Hiroaki Kikuchi
6. Ethical Use of Mobile Technology in the Academic Environment
Liliana Măță

IMIS-S4: Mobile Computing and Wireless Communication**Chair: Hyunhee Park, Korean Bible University, Korea**

1. Implementation of a Moving Omnidirectional Access Point Robot and a Position Detecting System
Atushi Toyama, Kenshiro Mitsugi, Keita Matsuo and Leonard Barolli
2. Uplink Resource Allocation Based on Short Block-Length Regime in Heterogeneous Cellular Networks for Smart Grid
Sai Wu, Zhihui Wang, Zhe Li, Zheng WeiJun, Weiping Shao, Baojuan Ma, Shunyu Yao, and Ying Wang
3. Multiuser Channel Access with RTS-CTS Algorithm for Li-Fi Communications
Hyunhee Park
4. A Hybrid Information-based Smartphone Indoor-Position Approach
Szu-Yin Lin, Fang-Yie Leu, Chia-Yin Ko, Ming-Chien Shih, Wei-Jia Tang
5. Performance Evaluation of WMN-PSOSA-DGA Simulation System Considering Linearly Decreasing Vmax Method and Rational Decrement of Vmax Method
Admir Barolli, Shinji Sakamoto, Seiji Ohara, Leonard Barolli and Makoto Takizawa
6. Protocol Design for Boarding Confirmation Arduino Sensing
Jiyeon Kim, Soobin Ahn, Jiyoung Lim

SMEUCE-S2: Ubiquitous Commerce and Operation Management**Chair: Mei-Hua Huang, Asia University, Taiwan**

1. The Relationship between Long-term Care Issues and Disability Insurance
Ying-Li Lin, Kuei-Yuan Wang, Li-Lu Hsu
2. Is Enforcing the Production and Filing of Corporate Social Responsibility Reports Conducive to Improving Corporate Performance?
Chiung-Yen Chen, Mei-Hua Huang, Kuan-Ling Li, Ho-Yun Chao, Ke-Jie Shen, Szu-Han Yu
3. An Inventory Model for Perishable Items under Upstream and Downstream Trade Credit
Ya-Lan Chan, Sue-Ming Hsu, Mei-Hua Liao

4. The Social Performance of University Social Responsibility Elderly Project: The Perspective of Social Return on Investment
Ya-Lan Chan, Sue-Ming Hsu, Neo Koe Hsin, Mei-Hua Liao
5. Investment Concentration and Home Bias
Mei-Hua Liao, Wei-Li Kuo, Ya-Lan Chan
6. Investor Sentiment and Governance Mechanisms
Mei-Hua Liao, Chieh-Lin He, Ruirui Cui, Ya-Lan Chan

19:00-21:00 Welcome Reception Party

Thursday, July 2, 2020**10:30-11:00 Discussion & Registration****11:00-11:30 Coffee Break****11:30-12:30 Single Session: CISIS-2020 & IMIS-2020 Keynote II****CISIS-2020 & IMIS-2020 Keynote Talk II**

Prof. Shinji Sugawara: Intelligent Context Awareness in Internet of Agricultural Things

12:30-13:30 Lunch Break**13:30-15:30 Parallel Sessions****FIMIS-S1: Information Security and Control**

Chair: Xu An Wang, Engineering University of CAPE, China

1. Theoretical Research and Practical Exploration on the Teaching Reform of Higher Mathematics
Yiyue Sun
2. Research on Experimental Teaching Reform of Technology Course
Chunming Zhang, Yiyue Sun, Xiaofeng Zhang
3. The Exploration and Research of Blended Teaching Mode Based on "Internet+" Big Data Cloud Platform
Xiang Ma, Xuhui Fan, Wei Li, Jiangtao Li, Qiong Li
4. The Analysis of Higher Mathematics Teaching Strategy based on the Innovative Teaching Mode
Xuhui Fan, Wei Li, Zhimin Wang, Yiyue Sun, Lili Su
5. Design of Gradient Push Algorithm in Time-varying Directed Graph
Qingchao Zhu, Yue Wang, Xiao-ou Song, Hongmei Huang
6. Generalized Snell's Law and Its Verification by Metasurface
Liming Zheng, Yi Zhao

ITAUC-S1: Intelligent Techniques and Ubiquitous Computing

Chair: Hsing-Chung Chen, Asia University, Taiwan

1. A Targeted Fuzzing Technique Based on Neural Networks and Particle Swarm Optimization
Yuyue Wang, Chen Chen, Baojiang Cui
2. Anomaly Network Traffic Detection Based on Transfer Learning
Pengfei Xiong, Baojiang Cui and Zishuai Cheng
3. Distributed Facial Feature Clustering Algorithm Based on Spatiotemporal Locality
Qitong Lin, Bihua Zhuo, Lili Jiao, Li Liao, Jiangtao Guo
4. Developing an AR-Based Ubiquitous Learning System for a Smart Campus
Shian-Shyong Tseng, Shih-Nung Chen, Tsung-Yu Yang
5. The Development and Evaluation of a Smart E-Learning Platform for Programming Instruction
Anthony Y. H. Liao, Shun-Pin Huang
6. Research on Logistics Distribution Model of E-commerce based on Improved Ant Colony Algorithm
Yue Wang, Qingchao Zhu, Xiao-ou Song, Hongmei Huang, Qiu Yang

BDITS-S1: Mobile Networks and Cloud Computing**Chair: Baojiang Cui, Beijing University of Posts and Telecommunications, China**

1. Reinforcement Learning-Based Fuzzing Technology
Zheng Zhang, Baojiang Cui and Chen Chen
2. Research on IoT Device Vulnerability Mining Technology based on Static Preprocessing and Coloring Analysis
Min Yao, Baojiang Cui, Chen Chen
3. Computer-aided English Education in China: An Online Automatic Essay Scoring System
Dapeng Li, Shaodong Zhong, Zhizhang Song, Yijia Guo
4. Survey of Cyberspace Resources Scanning and Analyzing
Yuanwei Hou, Xiaoxiao Chen, Yongle Hao, Zhiwei Shi, Shiyu Yang
5. Modeling and Analysis of Cyberspace Threat Sources Based on Vulnerabilities
Yijia Guo, Yuanwei Hou, Yongle Hao, Wenjue Xu
6. A Dynamic Instrumentation Technology for IoT Devices
Chen Chen, Weikong Qi, Wenting Jiang, Peng Sun

15:30-16:00 Coffee Break**16:00-18:00 Parallel Sessions****WAIS-S1: Information Security****Chair: Tianhan Gao, Northeastern University of China, China**

1. A Static Instrumentation Method for IoT Firmware ELF Binary Emulation Patching
Yiqi Sun, Baojiang Cui, Chen Chen, Yifei Wang
2. Pseudonym schemes based on location privacy protection in VANETs: A Survey
Tianhan Gao, Lei Zhao
3. Application of Blockchain Technology in Data Management of University Scientific Research
Xiao-Feng Zhang
4. Research on Vulnerability Site Location and Vulnerability Similarity Technology
Xiaochen Wang, Baojiang Cui, Xinda Xu, Qian Ma
5. Implementation of Digital Signature on QR Symbol by Area Division Using Rhombic Sub-cells
Nobuyuki Teraura, Isao Echizen, Keiichi Iwamura

PISPIS-S1: Security and Internet Services**Chair: Kangbin Yim, Soonchunhyang University, South Korea**

1. Logical Network Separation and Update Inducing Techniques of Non-updated Vaccine Host by Creating Flow Rule in SDN
Dohyeon Bak, Mintae Kim, Jonghoon Lim, Raeseung Jang, Wonyoung Jang, Sun-Young Lee
2. Group Delegated ID-based Proxy Re-encryption for PHR
Won-Bin Kim, Im-Yeong Lee, Kang-Bin Yim
3. Analysis on Account Hijacking and Remote Dos Vulnerability in the CODESYS-based PLC Runtime
Eunseon Jeong, Junyoung Park, Insu Oh, Myoungsu Kim, Kangbin Yim
4. Vestiges of Past Generation: Threats to 5G Core Network
Seongmin Park, Bomin Choi, Youngkwon Park, Dowon Kim, Eunseon Jeong, Kangbin Yim

19:00-21:00 Banquet Party

Friday, July 3, 2020

IMIS-2020 Organizing Committee Meeting and Discussion

CISIS-2020 and IMIS-2020 Session Schedule
July 1 – 3, 2020
Lodz, Poland

<u>Wednesday (July 1, 2020)</u>		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
Event	Time	Registration					
Opening Ceremony	10:00 – 10:30	CISIS-2020 and IMIS-2020 Opening Ceremony					
Coffee Break	10:30 – 11:00	Coffee Break					
Session	11:00 – 12:00	CISIS-2020 and IMIS-2020 Keynote I (Plenary Room)					
Lunch	12:00 – 13:30	Lunch Break					
Session 1	13:30 – 15:30	CISIS S1	CISIS S2	IKIDW S1	IMIS S1	IMIS S2	SMEUCE S1
Coffee Break	15:30 – 16:00	Coffee Break					
Session 2	16:00 – 18:00	CISIS S3	CISIS S4	IKIDW S2	IMIS S3	IMIS S4	SMEUCE S2
Social Event	19:00 – 21:00	Welcome Reception Party					
<u>Thursday (July 2, 2020)</u>		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
Event	Time	Registration					
Discussion & Registration	10:30 – 11:00	CISIS-2020 and IMIS-2020 Discussion and Registration					
Coffee Break	11:00 – 11:30	Coffee Break					
Session	11:30 – 12:30	CISIS-2020 and IMIS-2020 Keynote II (Plenary Room)					
Lunch	12:30 – 13:30	Lunch Break					
Session 1	13:30 - 15:30	CISIS S5	VENOA S1	IKIDW S3	FIMIS S1	ITAUC S1	BDITS S1
Coffee Break	15:30 – 16:00	Coffee Break					
Session 2	16:00 - 18:00	FCISIS S1	SWISM S1	HCCIEA S1	WAIS S1	PISPIS S1	
Social Event	19:00 – 21:00	Banquet Party					
<u>Friday (July 3, 2020)</u>		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
Slot	Time	CISIS-2020 and IMIS-2020 Steering Committee Meeting and Discussion					