

PROGRAM GUIDE



NBiS-2023

The 26-th International Conference on
Network-Based Information Systems

and



*Intelligent Networking
and Collaborative Systems*

INCoS-2023

The 15-th International Conference on
Intelligent Networking and Collaborative Systems

Virtual Conference (Hybrid conferences)

September 6th - September 8th, 2023

Technically Co-sponsored by:



Chiang Mai University, Thailand



Fukuoka Institute of Technology, Japan

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Welcome Message from NBiS-2023 Organizing Committee

We would like to welcome you to the 26th International Conference on Network-Based Information Systems (NBiS-2023), which is held from September 6th to September 8th, 2023 in Chiang Mai, Thailand.

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 is 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, and scalable computing. For NBiS-2023, we have continued these efforts as novel networking concepts emerge and new applications flourish. 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.

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-2023 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 express our great appreciation to our keynote speakers for accepting our invitation as keynote speakers of NBiS-2023.

We hope that you have an enjoyable and productive time during the conference.

INCoS-2023 Conference Organizing Committee**Honorary Chair**

Makoto Takizawa, Hosei University, Japan

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Juggapong Natwichai, Chiang Mai University, Thailand
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Krit Kwanngern, Chiang Mai University, Thailand
Rattapol Pornprasit, Chiang Mai University, Thailand

Finance Chair

Makoto Ikeda, Fukuoka Institute of Technology, Japan

Steering Committee Chair

Leonard Barolli, Fukuoka Institute of Technology, Japan

Welcome Message from the INCoS-2023 Organizing Committee

Welcome to the 15th International Conference on Intelligent Networking and Collaborative Systems (INCoS-2023), which is held from September 6th to September 8th, 2023 in Chiang Mai, Thailand.

INCoS is a multidisciplinary conference that covers latest advances in intelligent social networks and collaborative systems, intelligent networking systems, mobile collaborative systems, secure intelligent cloud systems, and so on. Additionally, the conference addresses security, authentication, privacy, data trust and user trustworthiness behaviour, which have 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 networking systems 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 playing a major role as one of the drivers in the dynamics and structure of intelligent 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 virtual campuses and eLearning systems. Altogether, this has resulted in entangled systems that need to be managed efficiently and in an autonomous way. In addition, the conjunction of the technologies based on IoT, Cloud, mobile and wireless infrastructures are bringing new dimensions of collaborative and networking applications a great deal by facing new issues and challenges.

The aim of this conference is to stimulate research that will lead to the creation of responsive environments for networking and the development of adaptive, secure, mobile, and intuitive intelligent systems for collaborative work and learning.

The successful organization of the conference is achieved thanks to the great collaboration and hard work of many people and conference supporters. First, 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 PC Co-Chairs, Track Co-chairs, TPC members and external reviewers for their work by carefully evaluating the submissions and providing constructive feedback to authors.

We would like to acknowledge the excellent work and support by the International Advisory Committee. Our gratitude and acknowledgment for the conference keynotes for their interesting and inspiring keynote speeches.

We greatly appreciate the support by Web Administrator Co-Chairs. We are very grateful to Springer as well as several academic institutions for their endorsement and assistance.

Finally, we hope that you will find these proceedings to be a valuable resource in your professional, research and educational activities.

NBiS-2023 & INCoS-2023 Keynote I



Prof. Kazuya Tsukamoto, Kyushu Institute of Technology, Iizuka, Japan

Flexible Cyber-Physical Systems for Geolocation-centric Services

Abstract: In recent years, realizing Cyber-Physical Systems (CPS) has become necessary to solve social problems using IoT and Beyond 5G/6G technologies. In IoT and B5G/6G era, the growth of data variety is driven by cross-domain data fusion. Therefore, collecting and processing data generated from the various IoT devices become crucial for developing service and control policies. In our study, we advocate that the "Local Production for Local Consumption (LPLC) paradigm" can be an innovative approach to cross-domain data fusion. Then, we propose a new network infrastructure that fully utilizes Mobile Edge Computing architecture and Artificial Intelligence (AI) technologies by Beyond 5G and 6G, thereby realizing flexible CPS. The first part of my talk will introduce the concept of a Geolocation-centric Information Platform (GCIP) that can produce and deliver diverse Geolocation-centric Services. In the GCIP, an infrastructure-based geographic hierarchy edge network and an adhoc-based service retention system are interplayed to provide geolocation awareness and resiliency. However, since both the computational and communication, including wireless radio resources, in the B5G/6G edge network are relatively limited, we propose a new concept, Floating CPS (F-CPS), as the extended version of GCIP. The second part of my talk will introduce the details of F-CPS that can utilize local computing and communication resources in a distributed and autonomous manner. Finally, I will share some new research directions of the F-CPS, simulation results, and results of the preliminary experiments on the NICT Beyond 5G testbed deployed at our campus.

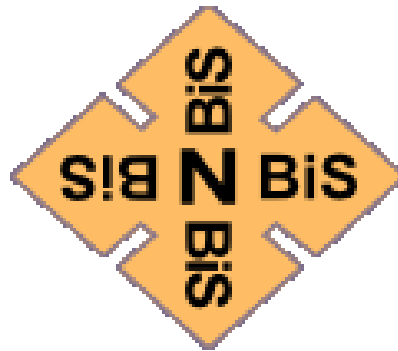
NBiS-2023 & INCoS-2023 Keynote II



Dr. Pruet Boonma, Chiang Mai University, Chiang Mai, Thailand

Improving Distributed PageRank with Balancing Partitioning

Abstract: PageRank is a well-known Web-page ranking algorithm. It performs iterative calculations of PageRank's value of each Web page based on the summation of PageRank's values of all Web pages with an incoming link to the page. The applications of PageRank are not limited to Web page ranking but are also in biology, chemistry, ecology, and physics. However, to make the algorithm scalable for real-life applications, the algorithm is often performed distributedly. In particular, the global Web graph is partitioned and a sub-graph is assigned to each computation node. However, because each node maintains only a partial graph, they must frequently exchange data for the PageRank calculation. This talk discusses an observation on the graph properties that can be used to improve distributed PageRank. In particular, a new mathematical model based on minimal cut and density balance partitioning is discussed, and efficient algorithms are considered and evaluated.



NBiS-2023

Main Conference and Workshops Program

Wednesday, September 6, 2023

NBiS-2023 Keynote I

10:00-11:00 (UTC+7) Indochina Time (Thailand)

12:00-13:00 (UTC+9) Japan Standard Time

05:00-06:00 (UTC+2) CEST Time Zone (Rome, Italy)

20:00-21:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

NBiS-2023 Keynote Talk I

Prof. Kazuya Tsukamoto: Flexible Cyber-Physical Systems for Geolocation-centric Services

Parallel Sessions

11:30-13:00 (UTC+7) Indochina Time (Thailand)

13:30-15:00 (UTC+9) Japan Standard Time

06:30-08:00 (UTC+2) CEST Time Zone (Rome, Italy)

21:30-23:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

NBiS-S1: Data Management and Analysis

Session Chair: Wendy K Osborn, University of Lethbridge, Canada

1. ERAWAN HPC: A High-Performance Computing Platform for Data Analysis
Pornnapa Panyadee, Suphakit Awiphan, Sirapat Aunkaew, Sajja Tanchanpong, Opas Muensan, Phanu Pinmas, Puttanan Meepowpan, Nopawit Khamto, Damrongsak Naparat, Chartchai Doungsa-ard, Juggapong Natwichai
2. The Effects of Scale and Distribution on a Deep Neural Network Iterative Classification System of Spatial Data Streams
Kurt Clarke, Wendy K Osborn
3. Data Quality Assessment Framework and Economic Indicators
Pranungwad Kiatkajitmun, Chanwit Chanton, Pairach Piboonrunroj, Juggapong Natwichai
4. Data System Architecture: Royal Project Foundation Case Study
Suphatchaya Autarrom, Kittayaporn Chantaranimi, Anchan Chompupoung, Pichan Jinapook, Waranya Mahanan, Jakkrit Mengkaw, Pathathai Na Lumpoon, Juggapong Natwichai, Surapong Phosu, Nitchanan Pra-paitrakul, Jirapawee Ruangsomboon, Rattasit Sukhahuta, Prompong Sugunnasil, Sumalee Sangamuang, Nasi Tantitharanukul, Pree Thiengburanathum, Chomchanok Yawana

INVITE-S1: Multimedia Applications

Chair: Tomoyuki Ishida, Fukuoka Institute of Technology, Japan

1. Development and Evaluation of My Timeline Application for Disaster Prevention Awareness
Tomoyuki Ishida, Kanaru Tsuda
2. Categorization of staying people's activities in public space on the road using camera footage
Hideo Miyachi, Arashi Kikuchi, Daisuke Mochizuki, Youichi Sueshige, Toshiyuki Sugimachi
3. Presence Communication Metaverse Conference System
Momoka Hagihara, Naho Kuriya, Tomoyuki Ishida
4. Development of Japanese Sake Promotion Application using Augmented Reality Technology
Naho Kuriya, Momoka Hagihara, Tomoyuki Ishida
5. Video Avatar Communication among HMD Users in Metaverse Environment
Tetsuro Ogi, Kazuma Sumida, Yuki Kida
6. Evaluation of User's Psychological Sense in Tele-Immersion Robot Avatar
Yuki Kida, Shujie Li, Yuto Ueda, Naoto Takayanagi, Kei Matsuoka, Tetsuro Ogi

Parallel Sessions

14:00-15:30 (UTC+7) Indochina Time (Thailand)

16:00-17:30 (UTC+9) Japan Standard Time

09:00-10:30 (UTC+2) CEST Time Zone (Rome, Italy)

00:00-01:30 (UTC-7) Pacific Daylight Time (Victoria, CA)

NBIS-S2: Distributed Models and Protocols

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

1. A Multipath Routing Algorithm Avoiding Congested Links According to the Link Usage Ratios on NDN
Natsuki Omitsu, Tetsuya Shigeyasu
2. Implementation of Collision avoidance system for Machine Tennis Game
Keita Matsuo, Elis Kulla, Leonard Barolli
3. An Empirical Study on Min-max External Ties to Improve Decentralized Social Graph Ranking Performance
Sumalee Sangamuang, Thepparit Sinthamrongruk, Waranya Mahanan
4. Capability-Based Access Control Model for Fog Computing Model
Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa

DEMoC-S1: Data Engineering and Mobile Computing I**Chair: Yusuke Gotoh, Okayama University, Japan**

1. A Method for Estimating the Number of Diseases in an Image Database: Utilization of Predicates and Application to a CT Database
Koji Sakai
2. AR-based Indoor Navigation: Hybrid Approach to Multi-floor Navigation
Yusuke Gotoh, Haiyin Wang
3. Automatic Generation of Funny-Dialog based on Cuisine Recipes
Amon Shimozaki, Junya Yamamoto, Akiyo Nadamoto
4. Toward Extracting Orientation of Personal Interest for Human Activity Recognition
Yoshihiro Nakaso, Manato Fujimoto, Shingo Ata

Parallel Sessions**16:00-17:30 (UTC+7) Indochina Time (Thailand)****18:00-19:30 (UTC+9) Japan Standard Time****11:00-12:30 (UTC+2) CEST Time Zone (Rome, Italy)****02:00-03:30 (UTC-7) Pacific Daylight Time (Victoria, CA)****NBiS-S3: Secure Systems and Trust Computing****Session Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Failure of Privacy Policy for Session Replay Services Used for Monitor Your Keystroke
Daichi Kajima, Hiroaki Kikuchi
2. Barriers to Blockchain Adoption by Saudi Higher Education Institutions: A Structural Equation Analysis
Mohrah Alalyan, Naif Jaafari, Farookh Khadeer Hussain
3. A Novel Attack Scenario Dataset Collection for Intrusion Detection System in CAN Network
Munkhdelgerkh Batzorig, Yeji Koh, Insu Oh, Kangbin Yim
4. A Fuzzy-based Approach for Assessment of Emotional Trust Considering Four Input Parameters for Implemented System
Shunya Higashi, Phudit Ampririt, Ermioni Qafzezi, Makoto Ikeda, Keita Matsuo, Leonard Barolli
5. Context-Aware Approaches in Cognitive Cloud and Cyber security
Urszula Ogiela, Makoto Takizawa, Marek R Ogiela

DEMoC-S2: Data Engineering and Mobile Computing II**Chair: Tomoki Yoshihisa, Shiga University, Japan**

1. Consideration of Tourist Spot Extraction by Combining Map Search Service and Social Media
Yui Ogawa, Manato Fujimoto, Shingo Ata
2. A Design and Development of Video-on-Demand System using Unicast and Broadcast
Tomoki Yoshihisa, Kouhei Keta
3. Corrective Method for Status-Quo Bias by User's Inputting Reason for Selection and Presenting Criticism Information
Tomoyuki Shimizu, Kyosuke Futami, Tsutomu Terada, Masahiko Tsukamoto
4. Evaluation of Division-Based Broadcasting System Considering Synchronous Delivery of Multiple Videos
Yusuke Gotoh, Souki Yamasaki

Reception Party

Green Nimman CMU Residence @UNISERV
<https://goo.gl/maps/oRRsarztCnxxvGp79>
Address: 239 Nimmanhemmin Road, Muang Chiang Mai, 50200 Thailand

Thursday, September 7, 2023

NBiS-2023 Keynote II

09:30-10:30 (UTC+7) Indochina Time (Thailand)
11:30-12:30 (UTC+9) Japan Standard Time
04:30-05:30 (UTC+2) CEST Time Zone (Rome, Italy)
19:30-20:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

NBiS-2023 Keynote Talk II

Dr. Pruet Boonma: Improving Distributed PageRank with Balancing Partitioning

Parallel Sessions

11:00-12:30 (UTC+7) Indochina Time (Thailand)
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)

NBiS-S4: Intelligent Computing

Session Chair: Shinji Sakamoto, Kanazawa Institute of Technology, Japan

1. A Fuzzy-based Error Driving System: Effect of Non Performance Error for Improving Driving Performance in VANETs
Ermoni Qafzezi, Kevin Bylykbashi, Shunya Higashi, Phudit Ampririt, Keita Matsuo, Leonard Barolli
2. Bandit Learning for Distributed Task Offloading in Fog Computing Networks: Literature Review, Challenges, and Open Research Issues
Tran Hoa, Dong Seong Kim
3. Performance Evaluation of FC-RDVM Router Placement Method for WMNs Considering Normal, Uniform, Chi-square and Weibull Distributions of Mesh Clients
Shinji Sakamoto, Admir Barolli, Yi Liu, Leonard Barolli, Makoto Takizawa
4. An Intelligent System for Optimization of Sensor Node Placement in Wireless Visual Sensor Networks: Performance Evaluation of CCM and CCM-based SA Methods
Yuki Nagai, Tetsuya Oda, Sora Asada, Kei Tabuchi, Chihiro Yukawa, Kyohei Toyoshima, Leonard Barolli

ISSE-S1: Intelligent and Smart Systems

Chair: Chuan-Yu Chang, National Yunlin University of Science and Technology, Taiwan

1. Energy-Aware Depth-Based Routing Protocol for Underwater Wireless Sensor Networks
Elis Kulla, Donald Elmazi, Keita Matsuo, Leonard Barolli
2. Object Recognition with Layer Slicing of Point Cloud
Chien-Chou Lin, Kuan-Chi Lin
3. Application of Mobilenetv3 for Detecting Resin Overflow Defects in Abrasive Wheel
Chuan-Yu Chang, Min-Yen Chuang, You-Da Su, Tzu-Hao Liu

4. Image Processing and Machine Learning in Air Hockey Interactive Control
Ching-Lung Chang

Parallel Sessions

13:30-15:00 (UTC+7) Indochina Time (Thailand)
15:30-17:00 (UTC+9) Japan Standard Time
08:30-10:00 (UTC+2) CEST Time Zone (Rome, Italy)
23:30-01:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

NBiS-S5: Energy-Efficient and Load Balancing Systems

Session Chair: Tomoya Enokido, Risscho University, Japan

1. Reducing Electric Energy Consumption of Servers in Multi-Version Timestamp Ordering Algorithm
Tomoya Enokido, Dilawaer Duolikun, Makoto Takizawa
2. Assesment of FC-RDVM and RIWM Router Placement Methods by WMN-PSODGA Hybrid Simulation System Considering Load Balancing and Chi-Square Distribution of Mesh Clients
Admir Barolli, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa
3. Evaluation of the FTBFC Model for Energy-efficient IoT
Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
4. Design and Performance Study of Virtual Power Plant Aggregation by Various Renewable Energies in a Regional Resident Area
Yoshitaka Shibata

WSSM-S1: Multimedia Applications

Chair: Jun Iio, Chuo University, Japan

1. Certificate Service for Unboxing Video Images
Kenshin Miyamoto, Michitoshi Niibori, Masaru Kamada
2. Analysis of Critical Comments on ChatGPT
Jun Iio
3. A JavaScript Library for User Interface by Tapping Smartphone Bodies
Shunsuke Takano, Michitoshi Niibori, Masaru Kamada
4. Development of a Reflection Facilitation System with Gamification Adapted to Community Activities
Yoshihiro Kawano, Yoshiha Goto

Parallel Sessions

15:30-17:00 (UTC+7) Indochina Time (Thailand)
17:30-19:00 (UTC+9) Japan Standard Time
10:30-12:00 (UTC+2) CEST Time Zone (Rome, Italy)
01:30-03:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

INWC-S1: Mobile Computing and Communication**Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. AAR-SpW: An Adaptive Anti-Packet Recovery (AAR) Method with Spray and Wait Protocol for DTN Considering Adaptive Message Recovery by Drones and Regular Vehicles
Makoto Ikeda, Shura Tachibana, Masaya Azuma, Leonard Barolli
2. Influence of Different Size of Parasitic Coil Placed on Table Type 13.56 MHz RFID Reader/Writer on Communication Performance
Kiyotaka Fujisaki
3. Numerical Analysis of Coupled Hexagonal Resonators in Photonic Crystal Waveguide for Demultiplexing of Wavelength Division Multiplexed Signals
Itsuki Ishibashi, Hiroshi Maeda
4. Method for Promoting the Introduction of DevSecOps to Improve Security Quality
Shigeaki Tanimoto, Yusuke Okuwaki, Kazuhiko Kato, Tsutomu Konosu, Hironori Takuma, Masao Toyama

WSSM-S2: Web-based Systems and Applications**Chair: Shusuke Okamoto, Seikei University, Japan**

1. An Early Warning System by PoseNet for Pedestrians
Taichi Tsukahara, Yudai Okui, Michitoshi Niibori, Masaru Kamada
2. IIm-japanese-dataset v0: Construction of Japanese Chat Dataset for Large Language Models and its Methodology
Masanori Hirano, Masahiro Suzuki, Hiroki Sakaji
3. A Preliminary Study of a Hybrid Data-Sharing Network for Web-based Virtual Worlds
Masaki Kohana, Shusuke Okamoto
4. A Proposal of Graphics Drawing Method based on Time Extensional Turtle Graphics with the Concept of Swimming
Kazunari Ito

Banquet Party

Center for the Promotion of Art Culture and Creative Lanna, Chiang Mai University
<https://goo.gl/maps/EAMQNnix7kxDpGFJ7>
Address: 239 Huai Kaeo Road Mueang Chiang Mai, Chiang Mai

Friday, September 8, 2023**NBiS-2023 Organizing Committee Meeting and Discussion**



INCoS-2023

Main Conference and Workshops Program

Wednesday, September 6, 2023

INCoS-2023 Keynote I

10:00-11:00 (UTC+7) Indochina Time (Thailand)

12:00-13:00 (UTC+9) Japan Standard Time

05:00-06:00 (UTC+2) CEST Time Zone (Rome, Italy)

20:00-21:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

INCoS-2023 Keynote Talk I

Prof. Kazuya Tsukamoto: Flexible Cyber-Physical Systems for Geolocation-centric Services

Parallel Sessions

11:30-13:00 (UTC+7) Indochina Time (Thailand)

13:30-15:00 (UTC+9) Japan Standard Time

06:30-08:00 (UTC+2) CEST Time Zone (Rome, Italy)

21:30-23:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

INCoS-S1: Data Management and Cloud-Fog-Edge Computing

Session Chair: Juggapong Natwichai, Chiang Mai University, Thailand

1. An Improvement of Data Flow for Business Intelligence: Royal Project Foundation Case Study
Suphatchaya Autarrom, Kittayaporn Chantaranimi, Anchan Chompupoung, Pichan Jinapook, Waranya Mahanan, Jakkrit Mengkaw, Pathathai Na Lumpoon, Juggapong Natwichai, Surapong Phosu, Nitchanan Pra-paitrakul, Jirapawee Ruangsomboon, Rattasit Sukhahuta, Prompong Sugunnasil, Sumalee Sangamuang, Nasi Tantitharanukul, Pree Thiengburanathum, Chomchanok Yawana
2. User-Oriented Solutions in Cybersecurity and Cloud-to-Things Applications
Marek R Ogiela, Makoto Takizawa, Lidia D Ogiela
3. An Edge Computing Storage and Distributed Data-driven Bridging Framework for Smart Agriculture Using Clustered InterPlanetary File System (IPFS)
Irawan Widi Widayat, Aprinaldi Bin Jasa Mantau, Mario Köppen
4. Classification of New Energy Vehicle Patent Texts Based on BERT-BILSTM
Zheng Cheng, Deng Na, Cui Ruiyi, Lin Hanhui

WIND-S1: Information Network Design

Session Chair: Masato Tsuru, Kyushu Institute of Technology, Japan

1. Research Recording System using Blockchain and AI Technologies
Kota Nakazawa, Yuki Samata, Hiroyoshi Miwa
2. Experimental Evaluation of Uplink Communication Performance in IEEE 802.11ax Wireless Local Area Network: OFDM vs. OFDMA
Tatsuya Oogami, Hitomi Tamura, Daiki Nobayashi, Kazuya Tsukamoto
3. Experimental Evaluation of Application Traffic Characteristics on WLAN in the IoT Era
Iori Magarifuchi, Hitomi Tamura, Kazuya Tsukamoto
4. Design and Implementation of Farmer Digital Twin Control in Smart Farming
Grathya Sri Mulyani, Yudhi Adhitya, Mario Köppen

Parallel Sessions

14:00-15:30 (UTC+7) Indochina Time (Thailand)

16:00-17:30 (UTC+9) Japan Standard Time

09:00-10:30 (UTC+2) CEST Time Zone (Rome, Italy)

00:00-01:30 (UTC-7) Pacific Daylight Time (Victoria, CA)

INCoS-S2: Data Mining and Machine Learning

Session Chair: Carson K. Leung, University of Manitoba, Canada

1. A Forward Collision Warning Model for Self-driving Car Using YOLOv7 and GCNDepth
Phat Nguyen Huu, Tri Nguyen Trung, Chau Nguyen Le Bao, Anh Tran Ha Dieu, Hung Le Quoc, Phuc Dao Xuan, and Thao Dao Le Thu
2. Skin Disease Classification based on Convolutional Neural Network
Feiyu Yao, Na Deng
3. Selecting a reduced set of features for supporting the stance detection task
Emanuele Damiano, Angelo Gaeta, Francesco Orciuoli
4. Dynamic Pricing for Parking Facility
Deyu Deng, Carson K. Leung and Adam G.M. Pazdor

MIDAP-S1: Medical Data Analysis and Intelligent Systems**Session Chair: Jana Nowaková, VSB - Technical University of Ostrava, Czech Republic**

1. A Real-World Clinical Data Mining of Post COVID-19 Patients
Arootin Gharibian, Jan Mizera, Bishu Shrestha, Zuzana Mikulkova, Samuel Genzor, Milan Sova, Milos Kudelka, Eva Kriegova
2. Large Language Models in Ambulatory Devices for Home Health Diagnostics: A case study of Sickle Cell Anemia Management
Oluwatosin Ogundare, Subuola Sofolahan
3. Detection of Dangerous Driver Health Problems Using HOG-Autoencoder
Radovan Fusek, Jakub Halman, Eduard Sojka, Jan Gaura
4. Retinal Vessel Segmentation by U-Net with VGG-16 Backbone on Patched Images with Smooth Blending
Martin Hasal, Marek Pecha, Jana Nowaková, Daniel Hernandez-Sosa, Vaclav Snasel, Juraj Timkovič
5. Design of Single Radio Frequency Fingerprint Identification Algorithm for Aviation Equipment
Zhu Qingchao, Song Xiaoou, Lei Ni, Qi Fengli, Liu Kexin, Li Shuyao, Zang Zhongyin

Parallel Sessions**16:00-17:30 (UTC+7) Indochina Time (Thailand)****18:00-19:30 (UTC+9) Japan Standard Time****11:00-12:30 (UTC+2) CEST Time Zone (Rome, Italy)****02:00-03:30 (UTC-7) Pacific Daylight Time (Victoria, CA)****INCoS-S3: Network Design and Simulation****Session Chair: Akihiro Fujihara, Chiba Institute of Technology, Japan**

1. Photovoltaic Power 24-hour Predictions Using PDE Component Models based on the L-transform Conversion Produced in Node-by-node Evolved Binomial Networks
Ladislav Zjavka, Vaclav Snasel
2. Estimating the Relationship between Block Size and Block Propagation Time in Bitcoin by Simulation
Akihiro Fujihara
3. Preliminary Evaluation of Random Walk Based Rendezvous Search on Facebook Social Networks
Nanami Tsuji, Yusuke Sakumoto, Hiroyuki Ohsaki
4. The Effect of Small Eigenvalues on the Effectivity of Laplacian Anomaly Detection of Dynamic Networks
Masataka Nagao, Eriko Segawa, Yusuke Sakumoto

BDS-S1: Algorithms and Applications for Big Data Science**Session Chair: Marcello Trovati, Edge Hill University, United Kingdom**

1. On the Security of a Cloud Auditing Storage Protocol
Xu An Wang, Xindi Ma, Zhiwei Zhang, Jindan Zhang
2. An Innovation Extraction Tool
Khalid Teli, Marcello Trovati
3. A Comparative Study on Improvement of MapReduce Performance with Skewed Data
Nakprad Kanteewong, Pruet Boonma
4. Research on BERT-based Text Entity Recognition Model for Customs Anti-smuggling
Tianhang Yuan, Xi Wen, Pengbo Zhao, Xinneng Wang, Yifan Chen, Mingyue Qiu
5. A Decision Tree and Logistic Regression Algorithm-based Model for Predicting Crimes Committed by Health Insurance Fraudsters
Tianhang Yuan, Dongyichen Li, Jiahong Sun, Xinneng Wang, Liangchen Shao, Mingyue Qiu

Reception Party

Green Nimman CMU Residence @UNISERV
<https://goo.gl/maps/oRRsarztCnxxvGp79>
Address: 239 Nimmanhemmin Road, Muang Chiang Mai, 50200 Thailand

Thursday, September 7, 2023

INCoS-2023 Keynote II

09:30-10:30 (UTC+7) Indochina Time (Thailand)
11:30-12:30 (UTC+9) Japan Standard Time
04:30-05:30 (UTC+2) CEST Time Zone (Rome, Italy)
19:30-20:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

INCoS-2023 Keynote Talk II

Dr. Pruet Boonma: Improving Distributed PageRank with Balancing Partitioning

Parallel Sessions

11:00-12:30 (UTC+7) Indochina Time (Thailand)
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)

INCoS-S4: Multimedia and Wireless Networking

Session Chair: Hiroyoshi Miwa, Kwansei Gakuin University, Japan

1. Automatic Generation of Handwritten Style Characters Including Untrained Characters
Haruna Shimomura, Hiroyoshi Miwa
2. Using CoPOI to Manage the Parking Problem Through Pricing Techniques
Walter Balzano, Silvia Stranieri
3. Recognition of Drum Music using Sound and Video
Kodai Hara, Hiroyoshi Miwa
4. Artifact Extraction Methods for In-Vehicle Infotainment System
Purevbaatar Ganbold, Insu Oh, Yoonji Kim, Kangbin Yim
5. Inspection Method of Building Surface Condition by Unmanned Aerial Vehicle under Challenged Communication Environment
Koki Adachi, Hiroyoshi Miwa

e-Business-S1: e-Business and Corporate Governance I

Session Chair: Olivia Fachrunnisa, UNISSULA, Indonesia

1. Metaverse and Modification Needs of Human Resources Management Practices and Policies: An Overview
Hasan Abdul Rozak, Olivia Fachrunnisa, Sugiharti, Taswan, Ika Rosyada Fitriati
2. FASCA Leadership: Alternative Leadership Styles in an Era of Change
Rita Kusumawati and Arief Dwi Saputra

3. Entrepreneurial Strategic: Existence on Orientation and Sustainable Competitive Advantage
Dina Lusianti, Mamik Indaryani, Mia Ajeng Alifiana, Mira Meilia Marka, Ahmad Nilnal Munachifdlil 'Ula
4. Motivation and Interest in Entrepreneurship? A Positivism Approach
Noor Indah Rahmawati, Keke Tamara Fahira, Nurul Rizka Arumsari, Indah Prasetyaningrum, Tina Rahayu

Parallel Sessions

13:30-15:00 (UTC+7) Indochina Time (Thailand)

15:30-17:00 (UTC+9) Japan Standard Time

08:30-10:00 (UTC+2) CEST Time Zone (Rome, Italy)

23:30-01:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

INCoS-S5: Intelligent Systems and Applications

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

1. A Fuzzy-based System for Estimation of Inland Flooding Risk
Kei Tabuchi, Tetsuya Oda, Tomoaki Matsui, Sora Asada, Yuki Nagai, Chihiro Yukawa, Leonard Barolli
2. A Fuzzy-based System for Selection of Radio Access Technologies in 5G Wireless Networks: Effect of Security Parameter on Quality of Experience Assessment
Phudit Ampririt, Shunya Higashi, Ermioni Qafzezi, Makoto Ikeda, Keita Matsuo, Leonard Barolli
3. Genetic Algorithm with Heuristic Mutation for Wireless Sensor Network Optimization
Amit Dua, Pavel Kromer, Zbigniew J. Czech, Tomasz Jastrzab
4. Assessment of Four Mesh Router Placement Methods by WMN-PSOHCDDGA Simulation System for Small and Middle Scale WMNs Considering Two Islands Distribution
Leonard Barolli, Shinji Sakamoto, Admir Barolli, Evjola Spaho

e-Business-S2: e-Business and Corporate Governance II

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

1. Case Study on eCommerce Blibli: Customer Engagement as a Variable Mediating the Effect of eWom on Purchasing Decisions
Ujang Himanto, Adhitya Yoga Prasetya, Rima Alifia, Agus Rifai, Fiqhi Aulia
2. An Analysis on the Impact of Financial Literacy, Self-Control, and Self-Concept on Consumptive Behavior
Wiwit Septiani, Yuyun Ristianawati, Rizky Cahyani Putri, Desi Ariyani Romadoni, Tyasa Putri Paramastri
3. Work Productivity: Compensation, Communication and Work Discipline
Risma Aprilia, Anis Turmudhi, Ratih Purwasih, Siti Maimunah, Splindi Yunggoli
4. How Do Financial Literacy, Lifestyle, And Self-Control Affect Consumptive Behavior?
Alien Akmalia, Salma Nur Fadilah Darmawanti

Parallel Sessions

15:30-17:00 (UTC+7) Indochina Time (Thailand)

17:30-19:00 (UTC+9) Japan Standard Time

10:30-12:00 (UTC+2) CEST Time Zone (Rome, Italy)

01:30-03:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

FINCoS-S1: Secure Systems and Applications**Session Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Research on Cross-Domain Authentication Scheme for V2G Networks Based on SM9 Signature Cryptography Algorithm and Consortium Blockchain Technology
Deng Jie, Jiao Lili, Zhang Lili, Ren Yongjin
2. A Design and Implementation of Cryptographic Algorithm Visualization in a Virtual Pavilion Based on Unity3D
Zimin Li, Feng Pan, Xuan Wang
3. An Improved Data Integrity Verification Scheme for Cloud Storage
Mingyu Zhou, Xu An Wang, Xiong Zhang, Xiaoxuan Xu, Jindan Zhang, PengLin Li
4. An All-round Route Planning Model based on Police Drones
Deming Guo, Yi Liang, Dianwei Zhang, Ximmeng Wang and Mingyue Qiu
5. High Availability Model Development for MANET Based on SDN
Zhu Qingchao, Song Xiaou, Zang Zhongyin
6. Survey of Security Proof of Public-Key Scheme
Cui Li, WenHua Bai, ShiWei Huo, Lin Shi

Banquet Party

Center for the Promotion of Art Culture and Creative Lanna, Chiang Mai University

<https://goo.gl/maps/EAMQNnix7kxDpGFJ7>

Address: 239 Huai Kaeo Road Mueang Chiang Mai, Chiang Mai

Friday, September 8, 2023**INCoS-2023 Organizing Committee Meeting and Discussion**

**Hybrid Meeting Schedule for NBIS-2023 and INCoS-2023
September 6 - 8, 2023**

1 st Day: Wednesday, 6 September, 2023	Room #1 Meeting ID: 823 8888 5956		Room #2 Meeting ID: 913 7896 9056		Room #3 Meeting ID: 869 3848 3537		Room #4 Meeting ID: 830 5478 3066	
	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair
Slot 1 10:00-11:00 (UTC+7) Indochina Time (Thailand) 12:00-13:00 (UTC+9) Japan Standard Time 05:00-06:00 (UTC+2) CEST Time Zone (Rome, Italy) 20:00-21:00 (UTC-7) -1 day: Pacific Daylight Time (Victoria, CA)	NBIS-2023 and INCoS-2023 Keynote #1: Prof. Kazuya Tsukamoto Meeting ID: 823 8888 5956							
Slot 2 11:30-13:00 (UTC+7) Indochina Time (Thailand) 13:30-15:00 (UTC+9) Japan Standard Time 06:30-08:00 (UTC+2) CEST Time Zone (Rome, Italy) 21:30-23:00 (UTC-7) -1 day: Pacific Daylight Time (Victoria, CA)	NBIS-S1	Wendy K Osborn, Canada	INVITE-S1	Tomoyuki Ishida, Japan	INCoS-S1	Juggapong Natwichai, Thailand	WIND-S1	Masato Tsuru, Japan
Slot 3 14:00-15:30 (UTC+7) Indochina Time (Thailand) 16:00-17:30 (UTC+9) Japan Standard Time 09:00-10:30 (UTC+2) CEST Time Zone (Rome, Italy) 09:00-01:30 (UTC-7) Pacific Daylight Time (Victoria, CA)	NBIS-S2	Keita Matsuo, Japan	DEMOc-S1	Yusuke Gotoh, Japan	INCoS-S2	Carson K. Leung, Canada	MIDAP-S1	Jana Nowaková, Czech Republic
Slot 4 16:00-17:30 (UTC+7) Indochina Time (Thailand) 18:00-19:30 (UTC+9) Japan Standard Time 11:00-12:30 (UTC+2) CEST Time Zone (Rome, Italy) 02:00-03:30 (UTC-7) Pacific Daylight Time (Victoria, CA)	NBIS-S3	Hiroaki Kikuchi, Japan	DEMOc-S2	Tomoki Yoshihisa, Japan	INCoS-S3	Akihiro Fujihara, Japan	BDS-S1	Marcello Trovati, United Kingdom
Social Event	Welcome Reception Party							
2nd Day: Thursday, 7 September, 2023	Room #1 Meeting ID: 823 8888 5956		Room #2 Meeting ID: 913 7896 9056		Room #3 Meeting ID: 869 3848 3537		Room #4 Meeting ID: 830 5478 3066	
Slot 1 09:30-10:30 (UTC+7) Indochina Time (Thailand) 11:30-12:30 (UTC+9) Japan Standard Time 04:30-05:30 (UTC+2) CEST Time Zone (Rome, Italy) 19:30-20:30 (UTC-7) -1 day: Pacific Daylight Time (Victoria, CA)	NBIS-2023 and INCoS-2023 Keynote #2: Prof. Pruet Boonma Meeting ID: 823 8888 5956							
Slot 2 11:00-12:30 (UTC+7) Indochina Time (Thailand) 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)	NBIS-S4	Shinji Sakamoto, Japan	ISSE-S1	Chuan-Yu Chang, Taiwan	INCoS-S4	Hiroshi Miwa, Japan	e-Business-S1	Olivia Fachrunnisa, Indonesia
Slot 3 13:30-15:00 (UTC+7) Indochina Time (Thailand) 15:30-17:00 (UTC+9) Japan Standard Time 08:30-10:00 (UTC+2) CEST Time Zone (Rome, Italy) 23:30-01:00 (UTC-7) -1 day: Pacific Daylight Time (Victoria, CA)	NBIS-S5	Tomoya Enokido, Japan	WSSM-S1	Jun Ito, Japan	INCoS-S5	Pavel Krömer, Czech Republic	e-Business-S2	Leonard Barolli, Japan
Slot 4 15:30-17:00 (UTC+7) Indochina Time (Thailand) 17:30-19:00 (UTC+9) Japan Standard Time 10:30-12:00 (UTC+2) CEST Time Zone (Rome, Italy) 01:30-03:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	INWC-S1	Makoto Ikeda, Japan	WSSM-S2	Shusuke Okamoto, Japan			FINCoS-S1	Leonard Barolli, Japan
Social Event	Banquet Party							
3rd Day: Friday, 8 September, 2023	NBIS-2023 and INCoS-2023 Steering Committee Meeting and Discussion							

Conference Venue

Conference Venue: Green Nimman CMU Residence @UNISERV

Address: 239 Nimmanhemmin Road, Muang Chiang Mai, 50200 Thailand

Contact Number: +66 53 – 942881-4, +66 81-8826411 Fax. +66 53- 942890

Map link: <https://goo.gl/maps/oRRsarztCnxxvGp79>

How to Travel to/from Chiang Mai International Airport

- **Personal/Rented car:** The hotel is 10 minutes by car from the airport. There are many rented car companies service in the airport. International driving license is honoured in Thailand.
- **Taxi/Limousine service:** There are two taxi/limousine services in the airport. The ride will take about 10-15 minutes, depend on the traffic. The fares is about 200 Baht (approximately 6 USD)
- **Red truck/Took took:** There are also local services outside the airport. The fare is about 50-200 Baht (1.5-6 USD approximately), depended on negotiation.