
# GITW 2023 PROGRAM

*Final

Global information and Telecommunication Workshop
December 16th 2023
Tokyo, Japan (Hybrid)

Organizer

Co-Organizers

# About GITW 2023

## From General Chair of GITW

General chair
Global Information and Telecommunication Institute (GITI)
Shigeru SHIMAMOTO, Director

Research in the ICT field is ever-evolving, and global perspectives are becoming more important due to rapid international developments. The gap between research projects in companies, backed by large research funds and research at universities tends to widen. The tolerance of research at universities, research cooperation among universities, and personnel exchange may help support research in companies. In addition, they also have the advantage of being more flexible than companies in terms of taking on new themes.

Against this backdrop, Waseda University GITI has established GITW with the aim of expanding its existing exchanges with overseas universities and developing a more global presence. The GITW2022 was very successful with more than 80 participants from 20 universities in 10 countries, mainly from Asia.

However, last year, due to problems with the corona, presentations were made remotely, but this year we would like to hold GITW2023 in a hybrid format.

Many new universities from Europe, such as UK, and Canada also participated, making it possible to hold the conference on a more global scale. Through these multinational research presentations and discussions, we hope to achieve international research collaboration and to obtain major international research funds.

Due to the time difference, it may be difficult to adjust the time of presentations to each country, but we hope to establish this event as a valuable opportunity for exchange.

# About GITW 2023

## Chairs

General Chair : Professor Shigeru SHIMAMOTO (Waseda Univ.)
Co-Chairs :
HANYANG University, Professor Eun-Sol Kim
Universiti Malaysia Kelantan, Professor Rosilah Hassan
Tsinghua University,Professor Zhisheng NIU
National Taiwan University, Professor Robin Bing-Yu Chen

## Committee

Shigeru SHIMAMOTO, Jiang LIU, Zhenni PAN,
Megumi SAITO, Kazutoshi YOSHII, Mao WANG, Junlong WANG (Waseda university)

## Participating Universities

| | |
|---|---|
| **Australia** | Charles Sturt University |
| **Bangladesh** | Mawlana Bhashani Science and Technology University |
| **Canada** | Memorial University |
| **China** | Tsinghua University, Fudan University, Yangzhou University, Peking University, Shanghai Jiao Tong University, Tongji University, Zhejiang University |
| **Indonesia** | Institut Teknologi Sepuluh Nopember (ITS) |
| **Kazakhstan** | Nazarbayev University |
| **Korea** | HANYANG University |
| **Malaysia** | Malaysia Universiti Kebangsaan Malaysia (UKM) |
| **Norway** | NTNU - Norwegian University of Science and Technology, UiT - The Arctic University of Norway |
| **Taiwan** | Taiwan National Taiwan University, Chang Gung University |
| **UK** | UK Queen's University Belfast, University of Leeds |
| **JAPAN** | Waseda Univrersity |

# Venue and Zoom Information

## Location of the event

Classroom 710 and 711, 7F, Building-11, Waseda Campus
Waseda University
1-104 Totsukamachi, Shinjuku-ku, Tokyo, 169-8050, JAPAN
* The nearest station is Waseda Station (T04) on the Tokyo Metro Tozai Line.

- All visitors should register at the reception desk in front of classroom 710 on the 7th floor of Bldg. 11. Please tell the receptionist your name and you will receive a name tag.
- The reception desk opens at 8:30 am.

Map
- https://www.waseda.jp/top/en/access/waseda-campus
- https://maps.app.goo.gl/bjxYbKxbhsHbr8VN6


▲ Bldg. 11
Photos by
https://www.waseda.jp/fcom/soc/about/facility

# Venue and Zoom Information

## Zoom Information

These Zoom rooms will open from 8:30 a.m.

Room A

https://list-waseda-jp.zoom.us/j/91523603039?pwd=OHNtQzdIRVQrK1k4MEdJanQ5bXJ6UT09
Meeting ID: 915 2360 3039
Passcode: 527403

Room B

https://list-waseda-jp.zoom.us/j/97354669490?pwd=UGI1UWhuOG83ZnNmUFc2NXFIb0x4QT09
Meeting ID: 973 5466 9490
Passcode: 053139

# About the presentation

## Presentation time

Presentation time is 11min. (9 min for presentation + 2 min for question and answer)

## Presentation material (PPT)

For on-site participants:

If you would like to use your latest version PPT file for your presentation, please bring your USB flash drive or laptop on the venue.

On the other hand, the venue PCs will contain the submitted PPT files, so you can also use the submitted PPT file for your presentation.

For online participants:

This workshop will use Zoom.

Therefore, we would like to ask you to share a screen of your PPT in your presentation.

# About the presentation

## GITW Best Presentation Award

The GITW Award will be given to the most outstanding presentations of the entire workshop based on the rating from all the participants. The evaluation criteria for the selection process is denoted below.

### Criteria for the Best Presentation Award

We invite all the participants to give your valuable estimation to each presentation. Every presentation is evaluated by a weighted average that fairly takes into account both the importance and the number of evaluators. Each evaluator can give up to 5 points to one presentation. The final point is calculated from the marks of all evaluators in terms of the following weights:

| | |
|---|---|
| Faculty participant: 2 | Faculty from the same affiliation: 1 |
| Student participant: 1 | Student from the same affiliation: 0.5 |

### Rating and Submission Method

Please download the rating sheet from the following website and return your evaluation to the same website by the end of Dec. 18th.

https://gitw2023.w.waseda.jp/rating-sheet/

Note:

- Participants are encouraged to actively feedback their rating evaluations. However, please avoid rating a presentation that you have not observed.
- Only those who have registered can submit the evaluation sheet.

### Award Presentation

The winners will be announced on GITW website. All the winners will receive an electronic certificate via email contacted by the GITW committee.

# For on-site participants

## About lunch

Lunch break is 12:05-13:05.
Participants are free to choose their own lunch.
We have prepared lunch for participants.
In addition to regular lunches (beef curry, pork curry, and Japanese lunch box ), we have also prepared vegan lunches.
We will be handing out lunches in Room 815 on the 8th floor of Bldg. 11.
You can eat lunch in Classrooms 710 and 711.
(It is also possible to bring your own lunch to the venue.
Also, there are many restaurants around the venue so you can go to the restaurants of your choice.)

## About reception party

All participants are welcome to the reception party.
If you answered "absence" when you registered, you can join the party.
Let's have a fruitful and enjoyable party by interacting with each other.
We look forward to having you join us.
The reception party will be held at 7:00 p.m. at the following location.

- Restaurant “Mori no kaze” , 15F, Building 26, Waseda university, 516 Wasedatsurumakicho Shinjuku City Tokyo-to
  https://maps.app.goo.gl/QD1rhc8uSok1G1wc6

▲ Bldg. 26

# Program

## December 15

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|---|---|
| 18:00 | Welcome party (Faculty staff only) |

## December 16

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|---|---|
| Opening 9:00 - 9:45 | (Room 710, 7F, Bldg.11 and Zoom Room A)<br>9:00-9:05 Welcome Speech Prof. Shigeru Shimamoto (Waseda University)<br>9:05-9:45 Introductions of Participant Universities<br>Co-organizers :<br>Korea...HANYANG University<br>Malaysia...Universiti Kebangsaan Malaysia (UKM)<br>Taiwan...National Taiwan University<br>Participating Universities :<br>Australia...Charles Sturt University<br>Bangladesh...Mawlana Bhashani Science and Technology University<br>Canada...Memorial University<br>China... Fudan University<br>Yangzhou University<br>Peking University<br>Shanghai Jiao Tong University<br>Tongji University<br>Zhejiang University<br>Indonesia... Institut Teknologi Sepuluh Nopember (ITS)<br>University of Mataram and ITS Surabaya<br>Kazakhstan...Nazarbayev University<br>Norway...NTNU - Norwegian University of Science and Technology<br>UiT - The Arctic University of Norway<br>Taiwan...Chang Gung University<br>UK... Queen's University Belfast |
| Keynote Session 9:55 - 10:15 | (Room 710, 7F, Bldg.11 and Zoom Room A)<br>Mobility-Enhanced Edge inTelligence (MEET) for Smart and Green 6G Networks<br>Zhisheng Niu (Tsinghua University) |

| | | Session 1A (Bldg.11-710) (ZOOM Room A)<br>(Chair: Zhenni PAN, Waseda University) | | | Session 1B (Bldg.11-711) (ZOOM Room B)<br>(Chair: Wataru KAMEYAMA, Waseda University ) | | |
|---|---|---|---|---|---|---|---|
| Session 1 10:25 - 12:05 | 1 | Leye Wang | Peking University | An LLM-driven System for Constructing Paper-Dataset Networks | Dristi DATTA | Charles Sturt University | Novel Dry Soil and Vegetation Indices to Predict Soil Contents from Landsat 8 Satellite Data |
| | 2 | Yejin Yoon | Hanyang University | BlendX: Complex Multi-Intent Detection with Blended Patterns | Jiaqing Sun | yangzhou university | Performance Analysis of the V2V System Based on the Nakagami-m Fading Channel |
| | 3 | Yukuan Jia | Tsinghua University | MASS: Mobility-Aware Sensor Scheduling of Cooperative Perception for Connected Automated Driving | Mohamed Elsayed Mohamed Selim | Memorial University | Residual Neural Networks for Learning the Full-Duplex Self-Interference |
| | 4 | Heyi Zhang | Shanghai Jiao Tong University | Energy-Saving Privacy Preserving Trustworthy Edge AI Framework in Resource-Constrained IoT Using Zero-Knowledge Proof | Akihito SUETSUNA | WASEDA University | Analysis of physical and communication characteristics for realization of space elevator communication system |
| | 5 | Jae-Won Lee | Hanyang University | DeepFold: Enhancing Protein Structure Prediction | Kurnia Paranita Kartika Riyanti | Institut Teknologi Sepuluh Nopember | Artificial Periodic Structures for Bandwidth and Gain Enhancement of Vivaldi Antennas used in GPR Applications |
| | 6 | Tomohisa TABUCHI | WASEDA University | Improving Subspace Diffusion Generative Models | Made Sutha Yadnya | University of Mataram and ITS Surabaya | Preliminary Results from Spatial Characterization of Tropical Rain Using Weather Radar Data |
| | 7 | Weiping Li | Fudan University | Wireless Communication Outdoors: Achieving 50 Gbit/s at 320 GHz THz-Band with Photonics Assistance across 850 Meters. | Iljung Kim | Hanyang University | Variational Weighting for Kernel Density Ratios |
| | 8 | Chenyang LIU | WASEDA University | Speech Audio Based Anomaly Detection towards Mobile Healthcare System | Minseo KIM | HANYANG University | Compositional Video Learning with Spatiotemporal Graph Random Walk |
| | 9 | | | | | | |
| 12:05 - 13:05 | Lunch break (Classroom 710 and 711, Lunch will be distributed in Classroom 815) | | | | | | |

| | | Session 2A (Bldg.11-710) (ZOOM Room A) (Chair: Shih-Wei Li, National Taiwan University) | | | Session 2B (Bldg.11-711) (ZOOM Room B) (Chair: Zhaojun Nan, Tsinghua University) | | |
|---|---|---|---|---|---|---|---|
| Session 2 13:05 - 14:45 | 1 | Qingyue Wang | Yangzhou University | Cooperative Driving of CAVs on Multi-lane Highways to Resolve Deadlocks | Sadia Sabrin Nodi | Charles Sturt University | Determination of Munsell Soil Colour Using Smartphones |
| | 2 | Haruki FURUTANI | WASEDA University | Structural dissimilarity-aware random walk kernel for graph classification | Yi Wei | Fudan University | Demonstration of 60 Gbps 135 GHz Terahertz Signal Transmission over 4600-m Wireless Distance with Photonics-aided Technology |
| | 3 | Jongsoo Lee | Hanyang university | DuoGAT: Dual Time-oriented Graph Attention Networks for Accurate, Efficient and Explainable Anomaly Detection on Time-series | MD. Amirul Hasan Shanto | Mawlana Bhashani Science and Technology University | Intelligent reflecting surface assisted ultra reliable low latency communication |
| | 4 | YANG YUE | Hanyang University | UV-Texture Map Integration in 3D Facial Modeling using Neural Networks | Haotian Chen | ZHEJIANG Univeristy | Some Key Technologies of Phased Array for LEO Satellite Broadband Communications |
| | 5 | Alif Aditya Wicaksono | Sepuluh Nopember Institute of Technology | Patch Cubification for Multi Scale Detection of Tumors in 3D Scans | GANGRAE PARK | Hanyang University | Sample-Efficient Reference-Free Control Strategy for Multi-Legged Locomotion |
| | 6 | Feby Artwodini Muqtadiroh | Institut Teknologi Sepuluh Nopember | Intelligent Insights: Safeguarding Education through AI-Enhanced Decision-Making in the Face of COVID-19 | Parneet Kaur Dhindsa | Waseda University | RF Signal and Fisheye Camera Fusion for Robust Vehicular Detection |
| | 7 | Priscila Ung | Chang Gung University | A Contrastive Adversarial Domain Adaptation Approach for Brain Tumor Segmentation in MRI Images | Riandini | Institut Teknologi Sepuluh Nopember (ITS) | Segmentation of the heart on Cardiac MRI during End-Diastole and End-Systole using U-net |
| | 8 | Faranak Tohidi | Charles Sturt University | DYNAMIC POINT CLOUD COMPRESSION APPROACH USING HEXAHEDRON PARTITIONING | Hong-Kyun BAE | Hanyang University | LANCER: A Lifetime-Aware News Recommender System |
| | 9 | | | | | | |
| 14:45 - 14:55 | Break (10 min) | | | | | | |

| | | Session 3A (Bldg.11-710) (ZOOM Room A) (Chair: Hiroyuki Kasai, Waseda University) | | | Session 3B (Bldg.11-711) (ZOOM Room B) (Chair:ZHOU SHENG, Tsinghua University) | | |
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| Session 3 14:55 - 16:35 | 1 | Xun Su | WASEDA University | Feature Visualization based on Inverse Problem Solving with Diffusion Model | Baokang Fan | Tsinghua University | Robust Spatial-Domain Dynamic Coordination for Autonomous Vehicles at Multi-Lane Intersections |
| | 2 | Qicheng Zeng | Tsinghua University | Delay Optimization of Coded Computing With Hierarchical Task Partitioning | Jianming Huang | WASEDA University | Basis Optimal Transport for Fast Computation of Optimal Transport Problems on Multiple Distrbutions |
| | 3 | Somin Kim | Hanyang University | Effect of Augmented Reality Cues in Autonomous Vehicles: A Comparative Study according to Environment Factors | Micky Prathama | Institut Teknologi Sepuluh Nopember Surabaya Indonesia | Halal Traceability Systems in The Supply Chain for The Indonesia Cosmetics Industry |
| | 4 | Refik Caglar KIZILIRMAK | Nazarbayev University | Inter-satellite Relay Network Design and Analysis for Earth-Moon Links | Yuxin Qi | Shanghai Jiao Tong University | Privacy-Preserving Cross-Area Traffic Forecasting in ITS: A Transferable Spatial-Temporal Graph Neural Network Approach |
| | 5 | SYED HUSSAIN ALI KAZMI | Universiti Kebangsaan Malaysia (UKM) | Enhanced Framework for Intrusion Detection in Distributed Software Defined Networking using Deep Learning | Muhammad Rana | Charles Sturt University | A Key Management Scheme for Lightweight Block Ciphers in IoT Networks. |
| | 6 | Myung-Hwan Jang | Hanyang University | SAGE: A Storage-Based Approach for Scalable and Efficient Sparse Generalized Matrix-Matrix Multiplication | YASIR IBRAHEEM | Universiti Kebangsaan Malaysia (UKM) | FANET Based Data Gathering for Internet of Things Using Non-Dominated Sorting Genetic Algorithm |
| | 7 | Hao-Jung Wei | National Taiwan University | Zero-Copy Para-Virtualized I/O for Confidential Virtual Machine | Jungeun BAE | HANYANG University | Research on Motion-Based Autonomous Emotion Recognition System: A Preliminary Study according to Emotional Stimuli |
| | 8 | Tanzilal Mustaqim | Institut Teknologi Sepuluh Nopember | Superpixel-Driven Data Augmentation for Improved Deep Learning Performance | Dingjie PENG | WASEDA Univeristy | Simple and Efficient Vision Backbone Adapter for Image Semantic Segmentation |
| | 9 | | | | Yunho KIM | Hanyang University | POWERUP: Program Option-Aware Interleaving Fuzzing Platform for High Bug Detection |
| 16:35 - 16:45 | Break (10 min) | | | | | | |

| | | Session 4A (Bldg.11-710) (ZOOM Room A) (Chair:Shigeru Shimamoto, Waseda University) | | | Session 4B (Bldg.11-711) (ZOOM Room B) (Chair: Jiang Liu, Waseda University) | | |
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| Session 4 16:45 - 18:25 | 1 | Dongjin Kim | Hanyang University | Learning Controllable Degradation for Real-World Super-Resolution via Constrained Flows | Hiba Abdulrazzaq tarish | Universiti Kebangsaan Malaysia (UKM) | Network Security Multi Stage Automated Detection In IoMT Environment using Deep Learning Approach |
| | 2 | Trung Q. Duong | Queen's University Belfast | Edge Intelligence URLLC for 6G Digital Twin: Joint Communications and Computation Design | Yan Jintao | Tsinghua University | V2V-Assisted Transmission Scheme for Federated Learning |
| | 3 | Hilya Tsaniya | Institut Teknologi Sepuluh Nopember | Radiology report generator using Transformer with Image Enhancement analysis | Sungmin YOO | HANYANG University | Virtual Reality Mobility Disability Simulator for Implicit Bias of People without Disabilities: A Pilot Study |
| | 4 | Liang-Chun Chen & Yu Ting Wang | National Taiwan University | Cross Language Attacks against Rust for Linux | Myungwon KANG | HANYANG University | Advantages of Smartwatch Based Walking-Related Human-Activity-Recognition for People with Mobility Disabilities: A Pilot Study |
| | 5 | ABDULSALAM ALSHAQHAA | Universiti Kebangsaan Malaysia | Intrusion Detection in IoT Devices through Deep Learning Algorithm | Xiangxin Ji | TONGJI University | IACTS: An Intelligent Adaptive Communication Topology Switching Approach for SubT UAV |
| | 6 | Tu Dac Ho | UiT - The Arctic University of Norway | Expanding the Reach of Vehicle-to-Vehicle Visible Light Communication through Bidirectional Multi-Hop Relay System | Hayate OUCHI | WASEDA University | Estimation of the Ionospheric Environment from a Communications Perspective |
| | 7 | Md Ershadul Haque | Charles Sturt University | BLOCK-WISE QUANTUM GRAYSCALE IMAGE REPRESENTATION AND COMPRESSION SCHEME USING STATE CONNECTION | Kangkang Sun | Shanghai Jiao Tong University | Vehicular Digital Twin Context Offloading with Reinforcement Learning and Mean Field Game |
| | 8 | Selma Yahia, | NTNU - Norwegian University of Science and Technology | Optimal 3D UAV Deployment for Enhanced Coverage and Reliability of 5G Wireless Communication: An Enhanced Meta-Heuristic Approach | Miyu MATSUDA | WASEDA University | Estimation of blood pressure in a non-contact method using 2.4GHz microwaves signals |
| | 9 | Sicong LI | WASEDA Univeristy | Performance Evaluations on UAV optical communication under different weather conditions. | | | |

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| 19:00 | Reception party (“Mori no Kaze” (森の風) 15F, Building 26) |