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Message from Organizing Committee Chairs

On behalf of the Organizing Committee, we would like to take this opportunity to express our excitement at hosting ICUFN 2023 in Paris, France and online from 4 to 7 July 2023. ICUFN 2023 is organized by KICS and technically co-sponsored by IEEE Communications Society (ComSoC) and IEICE Communications Society. With 14 years of history, the ICUFN conference has served as a premier international forum to provide a great opportunity for exchanging the state-of-the-art research advances in ubiquitous and future communications & networking technologies and expanding the research community.

On behalf of the Organizing Committee, it is my great pleasure to welcome you to ICUFN 2023 in the beautiful city of Paris! Paris, often referred to as the "City of Light," is renowned for its rich history, captivating culture, and breathtaking landmarks. From the iconic Eiffel Tower, which offers panoramic views of the city, to the world-famous Louvre Museum, home to countless masterpieces, Paris never fails to captivate visitors with its timeless charm. Beyond its historical treasures, Paris is also a global hub for innovation and technology. The city has embraced the digital age while preserving its unique heritage, making it an ideal setting for discussing the latest advancements in ubiquitous and future networks. ICUFN 2023 will provide a platform for researchers, engineers, and industry professionals to exchange ideas, share knowledge, and foster collaborations in this ever-evolving field. We have prepared an exciting program for you in ICUFN 2023. Distinguished keynote speeches and tutorials on hot topics will also be delivered by highly prominent experts.

We would like to express our sincere gratitude to all committee members and referees who made tremendous contributions to this event. In particular, our special thanks go to Technical Program Committee Chairs, Professors Kyung-Joon Park, Xin WANG, Suguru Kameda, Kun Yang, Lingyang Song, Periklis Chatzimisios, and all TPC members for their great efforts in preparing the technical program. Special thanks are extended to all workshop organizers for preparing excellent workshops. We would also like to express special gratitude to ECE - Ecole d'Ingénieurs for their support in hosting the conference, especially to Prof. Assia Soukane and Prof. Jae Yun Jun Kim, whose dedication in overseeing the local arrangements is truly commendable.

We do hope that you will take this unique opportunity to attend the technical and workshop sessions, meet the authors, and foster greater collaboration with other researchers. The Organizing Committee put a lot of effort to make this conference greatly successful and enjoyable.

We look forward to seeing you at ICUFN 2023 in Paris or online!

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Message from TPC Chairs

We are delighted to welcome all of you to Paris, France, from July 4th to 7th, 2023, for the fourteenth International Conference on Ubiquitous and Future Networks (ICUFN 2023). ICUFN has been addressing all aspects of computing, networking, communications, and their convergence since 2009. ICUFN 2023 will also be a successful conference, covering a wide range of topics on ubiquitous and future network technologies.

This year, we received submissions from 32 countries worldwide. The submitted papers underwent a rigorous review process, with each paper receiving three or more independent reviews. Based on the reviews, we selected 68 papers for oral presentations and 97 papers for poster presentations during the main conference. Additionally, we chose 41 workshop papers for presentation. The accepted technical papers have been organized into 17 oral sessions and 4 poster sessions, along with 6 workshops. The authors of the 68 oral presentations represent 19 countries from around the world.

The program of ICUFN 2023 is designed to encompass a wide range of wireless and wired communications network technologies. It will cover topics such as cognitive radios, wireless sensor networks, Internet of Things (IoT), broadband wireless communications, future network issues, mobile multimedia networking, and emerging technologies like AI and ML. We are grateful for the contributions of distinguished authors from various parts of the world, whose expertise has greatly enriched this year's program. We would like to express our sincere appreciation to the technical program committee (TPC) members for their active participation and valuable time dedicated to reviewing and selecting the papers. Their efforts have played a vital role in shaping the high-quality content of the conference. Furthermore, we would like to extend our gratitude to our sponsors, KICS and IEEE Communications Society, for their generous support, which has contributed to the success of this event. Our heartfelt thanks go to the Organizing Committee Chairs, Prof. Seong Ho Jeong, Prof. Takeo Fujii, Prof. Mislav Grgic, Prof. Zary Segall, and Prof. Zdenek Becvar, for their continuous support and guidance in planning and organizing the conference. Lastly, we hope that all attendees will not only enjoy the splendid program of ICUFN 2023 but also appreciate the beautiful scenery and charm of Paris, adding to the overall experience of the conference.

Sincerely

Kyung-Joon Park
DGIST,
Korea

Xin WANG
Fudan Univ.,
China

Suguru Kameda
Hiroshima Univ.,
Japan

Kun Yang
Univ. of Essex,
UK

Lingyang Song
Peking Univ.
China

Periklis Chatzimisios
ATEITHE,
Greece

ICUFN 2023 Program at a Glance

July 3, 2023 (Monday)					
14:00 ~ 17:00	ICUFN Committee Meeting (IAC/SC/OC)				
Room	**Room A (EM317)**	**Room B (EM321)**	**Room C (EM323)**	**Room D (EM315)**	**Room E (EM316)**
July 4, 2023 (Tuesday)					
13:00 ~ 17:00	Registration (Eiffel 1, SC112)				
13:30 ~ 15:30	Workshop 1A The 1st International Workshop on Technologies for 5G-V2X based Enhanced Automotive Valet Parking I (EAVP 2023 I)	Workshop 1B The 3rd International Workshop on Artificial Intelligence for Information, Communications, and Applications (AIICA 2023)	Workshop 1C The 4th International Workshop on Smart Radio for IoT Era I (SRIoT 2023 I)	Workshop 1D The 1st International Workshop on Blockchain Intelligence Convergence I (BIC 2023 I)	Workshop 1E The 10th International Workshop on Intelligent Vehicles I (IV 2023 I)
15:30 ~ 16:00	Coffee Break				
16:00 ~ 18:00	Workshop 2A The 1st International Workshop on Technologies for 5G-V2X based Enhanced Automotive Valet Parking II (EAVP 2023 II)	Workshop 2B The 3rd International Workshop on B5G/6G Wireless Networks (B5G/6G 2023)	Workshop 2C The 4th International Workshop on Smart Radio for IoT Era II (SRIoT 2023 II)	Workshop 2D The 1st International Workshop on Blockchain Intelligence Convergence II (BIC 2023 II)	Workshop 2E The 10th International Workshop on Intelligent Vehicles II (IV 2023 II)

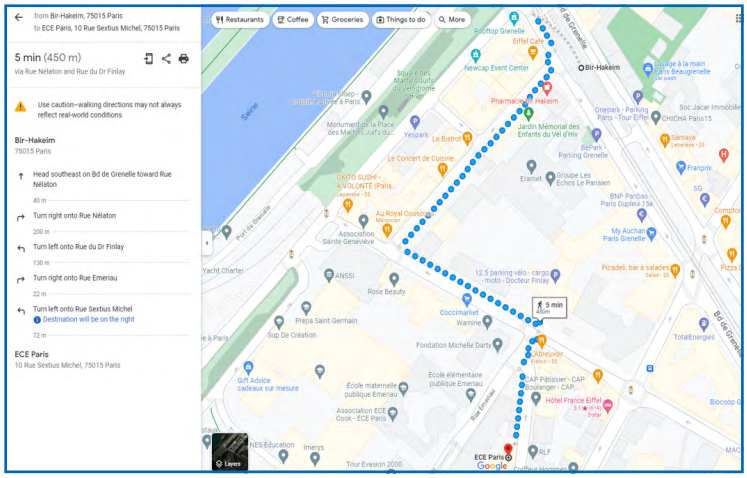
*The ending time of workshops may vary due to the different number of presentations.

July 5, 2023 (Wednesday)	
Room	**ROOM S1 (Eiffel 4 AUDITORIUM)**
09:00 ~ 09:30	Preparation, Registration, and Networking (with Coffee/Tea and Pastry, Eiffel 4 Auditorium)
09:30 ~ 10:30	Tutorial 1 Machine Learning in Digital Twin Edge Networks Prof. Yan Zhang, University of Oslo, Norway
10:30 ~ 11:30	Opening Address Prof. Seong Ho Jeong, Organizing Committee Chair Welcome Address 1 Prof. Een-Kee Hong, President of KICS Welcome Address 2 Prof. Catherine Kuszla, OMNES Education Research Dean Keynote Speech 1 Deep Gaussian Process Based Radio Map Construction and Localization Prof. Shiwen Mao, Auburn University, USA
11:30 ~ 13:30	Lunch (43 quai de Grenelle, 75015 Paris)

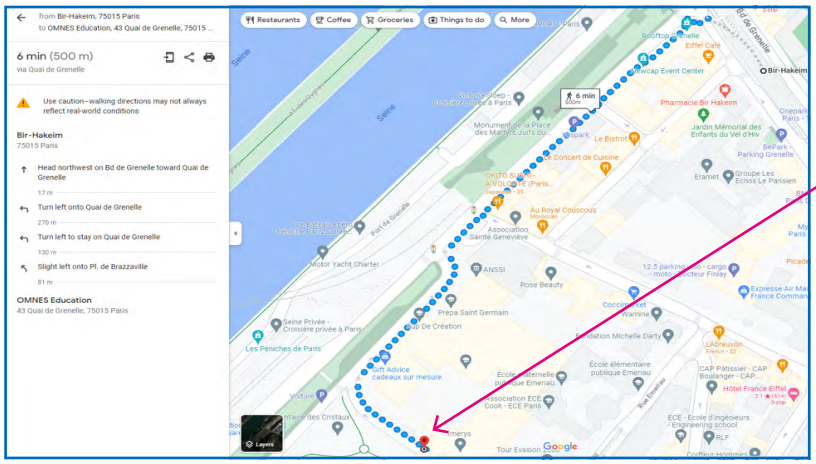
13:00 ~ 17:00	Registration (Eiffel 1, SC112)		
Room	**Room A (EM317)**	**Room B (EM321)**	**Rooms C (EM323)**
13:30 ~ 14:50	Oral Session 1A Wireless and Communication Networks I	Oral Session 1B AI/Machine Learning Applications I	Oral Session 1C Future Internet and Networks
14:50 ~ 15:00	Session Break		
15:00 ~ 16:20	Oral Session 2A Wireless and Communication Networks II	Oral Session 2B AI/Machine Learning Applications II	Oral Session 2C Security and Network Management
16:20 ~ 16:50	Coffee Break		
16:50 ~ 18:10	Oral Session 3A Mobile and Vehicular Networks, Autonomous Vehicles	Oral Session 3B Ubiquitous Computing and Sensor Networks	Oral Session 3C WLAN, WPAN, WBAN
18:30 ~ 20:30	Banquet (Novotel Paris Centre Tour Eiffel)		
July 6, 2023 (Thursday)			
Room	**ROOM S2 (Eiffel 1 AMPHITHEATER)**		
09:00 ~ 09:30	Preparation, Registration, and Networking (with Coffee/Tea and Pastry, Eiffel 1 Amphitheater)		
09:30 ~ 10:30	Keynote Speech 2 Large Language Models for Telecom: The Next Big Thing? Prof. Mérouane Debbah, Khalifa University of Science and Technology in Abu Dhabi, UAE		
10:30 ~ 11:30	Tutorial 2 Towards Extreme Band Communications to Super-Connect the Connected and Connect the Unconnected Prof. Mohamed-Slim Alouini, King Abdullah University of Science and Technology (KAUST), Saudi Arabia		
11:30 ~ 13:00	Lunch (43 quai de Grenelle, 75015 Paris)		
13:00 ~ 17:00	Registration (Eiffel 1, SC112)		
Room	**Room A (EM317)**	**Room B (EM321)**	**Rooms C, D, E (EM323, EM315, EM316)**
13:30 ~ 14:50	Oral Session 4A Wireless and Communication Networks III	Oral Session 4B e-Health	Poster Session 1
14:50 ~ 15:00	Session Break		
15:00 ~ 16:20	Oral Session 5A Wireless and Communication Networks IV	Oral Session 5B IoT	Poster Session 2
16:20 ~ 16:50	Coffee Break		
16:50 ~ 18:10	Oral Session 6A Machine Learning and Computational Intelligence	Oral Session 6B Computer Vision Applications	Poster Session 3
July 7, 2023 (Friday)			
09:00 ~ 09:40	Preparation, Registration, and Networking (with Coffee/Tea and Pastry, SC112)		
Room	**Room A (EM317)**	**Room B (EM321)**	**Rooms C, D, E (EM323, EM315, EM316)**
09:40 ~ 11:00	Oral Session 7A Wireless and Communications Networks V	Oral Session 7B 6G, 5G, PS-LTE, LTE-R, LTE-Advanced	Poster Session 4
Closing			

* Tentative Schedule, Subject to change

Bir-Hakeim (Metro 6 station)
↔
Eiffel 1, 10 rue Sextius Michel, 75015 Paris
(Rooms: A, B, C, D, E, S2)



Bir-Hakeim (Metro 6 station) ↔ Eiffel 4/Imerys, 43 quai de Grenelle, 75015 Paris (Room S1 and Lunch place)



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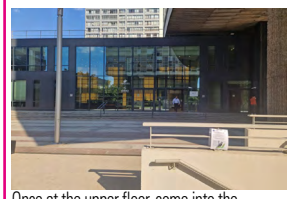

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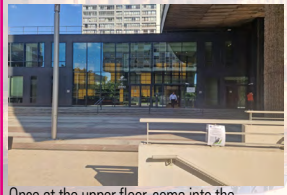
Eiffel 4, 43 quai de Grenelle, 75015 Paris (Room S1 and Lunch place) ↔ Eiffel 1, 10 rue Sextius Michel, 75015 Paris (Room A,B,C,D,E,S2)

Climb up to the upper floor using an escalator.



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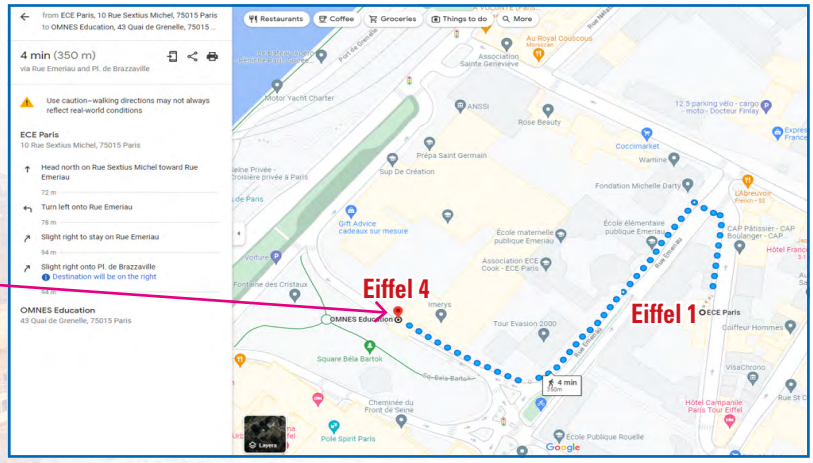
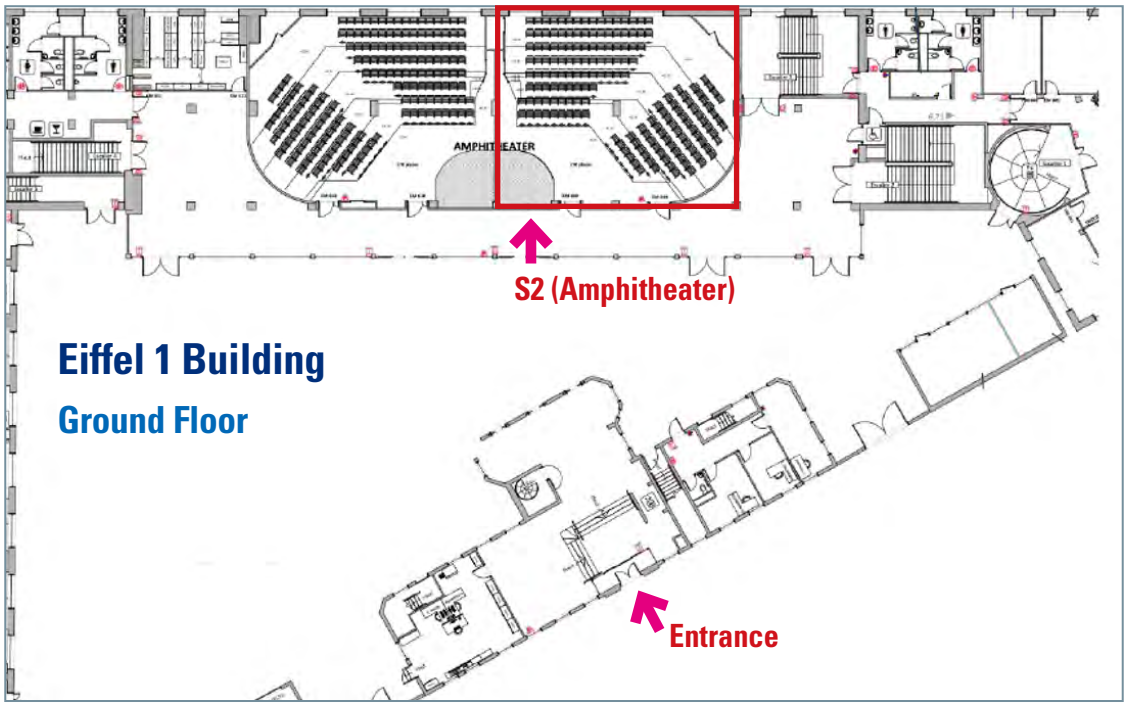
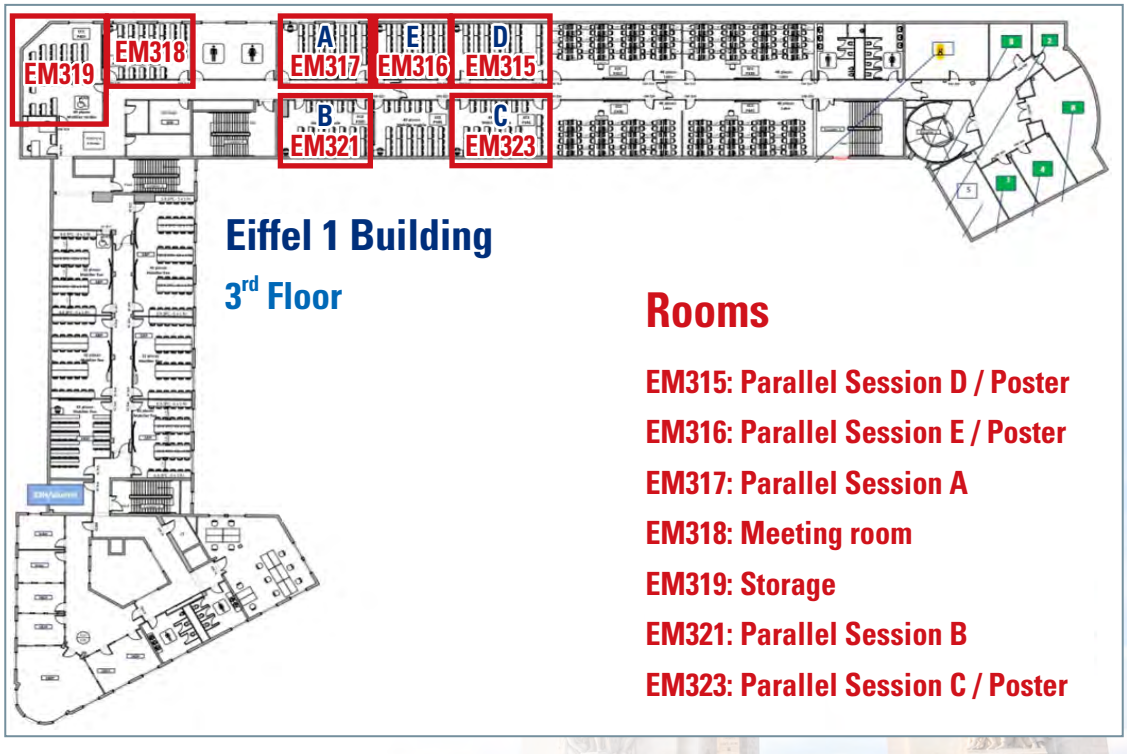


ECE Paris : 10 rue Sextius Michel, 75015 Paris





Rooms

- EM315: Parallel Session D / Poster
- EM316: Parallel Session E / Poster
- EM317: Parallel Session A
- EM318: Meeting room
- EM319: Storage
- EM321: Parallel Session B
- EM323: Parallel Session C / Poster

10:30 ~ 11:30, July 5, 2023 (Wednesday)

Room: ROOM S1 (Eiffel 4 AUDITORIUM)

Keynote Speech 1: Deep Gaussian Process Based Radio Map Construction and Localization

Speaker: Prof. Prof. Shiwen Mao, Auburn University, USA

Abstract:
With the increasing demand for location-based service, WiFi-based localization has become one of the most popular methods due to the wide deployment of WiFi and its relatively low cost. In this talk, we present a deep Gaussian process based indoor radio map construction and location estimation system. Received signal strength (RSS) samples, as well earth magnetic field readings, are used to generate accurate and fine-grained radio maps with confidence intervals using deep Gaussian process, while the model parameters are optimized with an offline Bayesian training method. Utilizing the maps, an LSTM based location prediction model is pre-trained with the artificial trajectory data and then fine-tuned with the signal measurements collected by the mobile device to be localized. Our extensive experiments demonstrate the excellent performance of the proposed system.

Biography

SHIWEN MAO is a professor and Earle C. Williams Eminent Scholar Chair, and Director of the Wireless Engineering Research and Education Center (WEREC) at Auburn University. His research interest includes wireless networks, multimedia communications, and smart grid. He is a Distinguished Lecturer of IEEE Communications Society and the IEEE Council of RFID. He is the editor-in-chief of IEEE Transactions on Cognitive Communications and Networking. He received the IEEE ComSoc TC-CSR Distinguished Technical Achievement Award in 2019 and NSF CAREER Award in 2010. He is a co-recipient of the 2021 Best Paper Award of Elsevier/KeAi Digital Communications and Networks Journal, the 2021 IEEE Communications Society Outstanding Paper Award, the 2021 IEEE Internet of Things Journal Best Paper Award, the IEEE Vehicular Technology Society 2020 Jack Neubauer Memorial Award, the 2004 IEEE Communications Society Leonard G. Abraham Prize in the Field of Communications Systems, and several conference best paper/demo awards. He is a Fellow of the IEEE and IET.

09:30 ~ 10:30, July 6, 2023 (Thursday)

Room: ROOM S2 (Eiffel 1 AMPHITHEATER)

Keynote Speech 2: Large Language Models for Telecom: The Next Big Thing?

Speaker: Prof. Mérouane Debbah, Khalifa University of Science and Technology in Abu Dhabi, UAE

Abstract:
Large Language Models (LLMs) have shown remarkable success in natural language processing (NLP) tasks, such as language translation, text summarization, and sentiment analysis. They can also help in identifying network faults, improving network security, and facilitating spectrum sharing. LLM-based solutions can be trained on large-scale datasets to capture the heterogeneity and diversity of wireless networks. These models can be deployed on resource-limited devices, such as smartphones, to provide intelligent wireless services. Based on our recent announcement of FALCON LLM in march 2023 (UAE-owned AI language model outperforms ChatGPT - ITP.net), which is a foundational large language model (LLM) with 40 billion parameters, outperforming GPT 3, developed by the AI and Digital Science Research Center at TII, we will discuss our recent progress on LLM features and the potential of FALCON LLM in enabling intelligent wireless communication systems.

Biography

Mérouane Debbah is Professor at Khalifa University of Science and Technology in Abu Dhabi, UAE. He received the M.Sc. and Ph.D. degrees from the Ecole Normale Supérieure Paris-Saclay, France. He was with Motorola Labs, Saclay, France, from 1999 to 2002, and then with the Vienna Research Center for Telecommunications, Vienna, Austria, until 2003. From 2003 to 2007, he was an Assistant Professor with the Mobile Communications Department, Institut Eurecom, Sophia Antipolis, France. Since 2007, he is a Full Professor at CentraleSupelec,

Gif-sur-Yvette, France. From 2007 to 2014, he was the Director of the Alcatel-Lucent Chair on Flexible Radio. From 2014 to 2021, he was Vice-President of the Huawei France Research Center. He was jointly the director of the Mathematical and Algorithmic Sciences Lab as well as the director of the Lagrange Mathematical and Computing Research Center. From 2021 to 2023, he was Chief Researcher at the Technology Innovation Institute and leading the AI & Digital Science Research centers at the Technology Innovation Institute. He was also Adjunct Professor with the Department of Machine Learning at the Mohamed Bin Zayed University of Artificial Intelligence in Abu Dhabi. Since 2023, he is Professor at at Khalifa University of Science and Technology in Abu Dhabi and founding director of the 6G center. He has managed 8 EU projects and more than 24 national and international projects. His research interests lie in fundamental mathematics, algorithms, statistics, information, and communication sciences research. He holds more than 40 patents. He is an IEEE Fellow, a WWRF Fellow, a Eurasip Fellow, an AAIA Fellow, an Institut Louis Bachelier Fellow and a Membre émérite SEE. He was a recipient of the ERC Grant MORE (Advanced Mathematical Tools for Complex Network Engineering) from 2012 to 2017. He was a recipient of the Mario Boella Award in 2005, the IEEE Glavieux Prize Award in 2011, the Qualcomm Innovation Prize Award in 2012, the 2019 IEEE Radio Communications Committee Technical Recognition Award and the 2020 SEE Blondel Medal. He received more than 30 best paper awards, among which the 2007 IEEE GLOBECOM Best Paper Award, the Wi-Opt 2009 Best Paper Award, the 2010 Newcom++ Best Paper Award, the WUN CogCom Best Paper 2012 and 2013 Award, the 2014 WCNC Best Paper Award, the 2015 ICC Best Paper Award, the 2015 IEEE Communications Society Leonard G. Abraham Prize, the 2015 IEEE Communications Society Fred W. Ellersick Prize, the 2016 IEEE Communications Society Best Tutorial Paper Award, the 2016 European Wireless Best Paper Award, the 2017 Eurasip Best Paper Award, the 2018 IEEE Marconi Prize Paper Award, the 2019 IEEE Communications Society Young Author Best Paper Award, the 2021 Eurasip Best Paper Award, the 2021 IEEE Marconi Prize Paper Award, the 2022 IEEE Communications Society Outstanding Paper Award, the 2022 ICC Best paper Award, the 2022 IEEE GLOBECOM Best Paper Award, 2022 IEEE TAOS TC Best GCSN Paper Award, the 2022 IEEE International Conference on Metaverse Best Paper Award, the 2023 IEEE Communications Society Fred W. Ellersick Prize, the 2023 ICC best paper award as well as the Valuetools 2007, Valuetools 2008, CrownCom 2009, Valuetools 2012, SAM 2014, and 2017 IEEE Sweden VT-COM-IT Joint Chapter best student paper awards. He is an Associate Editor-in-Chief of the journal Random Matrix: Theory and Applications. He was an Associate Area Editor and Senior Area Editor of the IEEE TRANSACTIONS ON SIGNAL PROCESSING from 2011 to 2013 and from 2013 to 2014, respectively. From 2021 to 2022, he served as an IEEE Signal Processing Society Distinguished Industry Speaker.

09:30 ~ 10:30, July 5, 2023 (Wednesday)

Room: ROOM S1 (Eiffel 4 AUDITORIUM)

Tutorial 1: Machine Learning in Digital Twin Edge Networks

Speaker: Prof. Yan Zhang, University of Oslo, Norway

Abstract:

In this talk, we mainly introduce our proposed new research direction: Digital Twin Edge Networks (DITEN). We first present the concept and model related to Digital Twin (DT) and DITEN. Then, we focus on new research challenges and results when machine learning is exploited in DITEN, including federated learing, deep reinforcement learning and transfer learning. DT building, DT placement and DT transfer as unique research questions, will be defined and analyzed. We are also expecting that the talk will help the audience understand the future development of edge computing, e.g., digital twin edge networks in the context of Metaverse.

Biography

Yan Zhang is currently a Full Professor with the Department of Informatics, University of Oslo, Norway. His research interests include next-generation wireless networks leading to 6G, green and secure cyber-physical systems. Dr. Zhang is an Editor for several IEEE transactions/magazine. He is a program/symposium chair in a number of conferences, including IEEE IWQoS 2022, IEEE ICC 2021, IEEE SmartGridComm 2021. Since 2018, Prof. Zhang was a recipient of the global "Highly Cited Researcher" Award (Web of Science top 1% most cited worldwide). He is Fellow of IEEE, Fellow of IET, elected member of Academia Europaea (MAE), elected member of the Royal Norwegian Society of Sciences and Letters (DKNVS), and elected member of Norwegian Academy of Technological Sciences (NTVA).

09:30 ~ 10:30, July 6, 2023 (Thursday)

Room: ROOM S2 (Eiffel 1 AMPHITHEATER)

Tutorial 2: Towards Extreme Band Communications to Super-Connect the Connected and Connect the Unconnected

Speaker: Prof. Mohamed-Slim Alouini, King Abdullah University of Science and Technology (KAUST), Saudi Arabia

Abstract:

A rapid increase in the use of wireless services over the last few decades has led to the problem of radio-frequency (RF) spectrum exhaustion. More specifically, due to this RF spectrum scarcity, additional RF bandwidth allocation, as utilized in the recent past over "traditional bands", is not anymore enough to fulfill the demand for more wireless applications and higher data rates. The talk goes first over the potential offered by extreme band communication (XB-Com) systems to relieve spectrum scarcity. Indeed, mm-wave, THz, and free space optics broadband wireless systems recently attracted several research interests worldwide due to the progress in electronics and photonics technologies. By utilizing these extreme frequency bands and employing extreme large bandwidths, the 6G target data rates over 100 Gbps could be achieved. The talk then summarizes some of the challenges that need to be surpassed before such kinds of systems can be deployed. For instance, it explains how the THz transmission band has immunity against the fog compared with the optical one, while being affected by the rain as it is the case for the mm-wave band. In addition, the role of ultra-massive multiple-input multiple-output (UM-MIMO) systems and reconfigurable intelligent surfaces in overcoming the distance problem at very high frequencies will be discussed. Finally, the talk offers an overview of some recent studies illustrating how these different XB-Com technologies can collaborate to increase emerging and future networks' reliability and coverage while maintaining their high capacity.

Biography

Mohamed-Slim Alouini is a Distinguished Professor of Electrical and Computer Engineering at King Abdullah University of Science and Technology (KAUST), Thuwal, Makkah Province, Saudi Arabia. His research interests include the modeling, design, and performance analysis of wireless, satellite, and optical communication systems. He is a fellow of the Institute of Electrical and Electronics Engineers (IEEE) and OPTICA (formerly known as the Optical Society of America (OSA).

July 4, 2023 (Tuesday)

Workshop 1A: The 1st International Workshop on Technologies for 5G-V2X based Enhanced Automotive Valet Parking I (EAVP I)

Session Chair: Prof. Duk Kyung Kim (Inha University, Korea)

Room A (EM317), Time 13:30 ~ 15:30

[W1A-1] Multi-Modal Fine-Grained Retrieval with Local and Global Cross-Attention
Qiaosong Chen, Ye Zhang and Junzhuo Liu (Chongqing University of Posts and Telecommunications, China); Zhixiang Wang (Maastricht University, The Netherlands); Xin Deng and Jin Wang (Chongqing University of Posts and Telecommunications, China)

[W1A-2] Cooperative Pedestrian Safety Framework Using 5G-NR V2P Communications
Mohammad Sajid Shahriar, Arati Kantu Kale and KyungHi Chang (Inha University, Korea (South))

[W1A-3] Occupant Attributes Recognition for Thermal Comfort in Passenger Car Cabin
Mingjie Liu and Zhengyan He (Chongqing University of Posts and Telecommunications, China); Fan Ren (Changan Automobile Intelligence Research Institute, China); Ping Liu (Chongqing University of Posts and Telecommunications, China); Jianbin Chen (Changan Automobile Intelligence Research Institute, China); Changhao Piao (Chongqing University of Posts and Telecommunications, China)

[W1A-4] Resource Allocation in NR-V2X Mode 2 Using Multi Agent DQN
Insung Lee and Duk Kyung Kim (Inha University, Korea (South))

[W1A-5] Two-Channel Image Dehazing Algorithm Based on the Improved Guided Filter
Ping Liu, Yang Luo, Mingjie Liu and Changhao Piao (Chongqing University of Posts and Telecommunications, China)

[W1A-6] Re-ID Technology for V2I Based Cooperative Driving Protocol
Junhyek Jang (Korea Electronic Technology Instituite, Korea (South)); Ki-Taeg Lim, Sang Hun Yoon, Soo Hyun Jang and Daewon Chae (Korea Electronics Technology Institute, Korea (South))

Workshop 1B: The 3rd International Workshop on Artificial Intelligence for Information, Communications, and Applications (AIICA 2023)

Session Chair: Prof. Seong Ho Jeong (HUFS, Korea)

Room B (EM321), Time 13:30 ~ 15:30

[W1B-1] Implementation of Danger Degree Calculation System for Public Safety Services
Hyunho Park and Eunjung Kwon (ETRI, Korea (South)); Sungwon Byon (Electronics and Telecommunication Research Insititute, Korea (South)); Minjung Lee (Electronic and Telecommunications Research Institute, Korea (South)); Young-Su Park and Eui-Suk Jung (ETRI, Korea (South))

[W1B-2] Adversarial Attacks on Deep Neural Networks Using Generative Perturbation Networks
Sudharman K Jayaweera (University of New Mexico & Bluecom Systems, USA)

[W1B-3] Evaluation of Neural Demappers for Trainable Constellation in an End-To-End Communication System
Nazmul Islam and Seokjoo Shin (Chosun University, Korea (South))

[W1B-4] A Machine Learning Approach for Analyzing and Predicting Suicidal Thoughts and Behaviors
Fahim Faisal and Mirza Muntasir Nishat (Islamic University of Technology, Bangladesh); Kazi Raine Raihan (IUT, Bangladesh); Ahmad Shafiullah and Sanjida Ali (Islamic University of Technology, Bangladesh)

[W1B-5] A Content Recommendation Platform for People with Intellectual Disability
Maria Papadogiorgaki (Technical University of Crete, Greece); Konstantinos Apostolidis (Centre for Research and Technology Hellas, Greece); George Livanos, Ekaterini S Bei, Stylianos Zafeiris and Georgios A. Klados (Technical University of Crete, Greece); Vasileios Mezaris (Information Technologies Institute / CERTH, Greece); Michalis Zervakis (Technical University of Crete, Greece)

Workshop 1C: The 4th International Workshop on Smart Radio for IoT Era I (SRIoT 2023 I)

Session Chair: Prof. Takeo Fujii (The University of Electro-Communications, Japan)

Room C (EM323), Time 13:30 ~ 15:30

[W1C-1] MPTCP Evaluation for Heterogeneous Wireless Networks
Naotaka Sakaguchi and Takenori Sumi (Mitsubishi Electric Corporation, Japan); Yukimasa Nagai (Mitsubishi Electric Corp., Japan); Jianlin Guo, Kieran Parsons and Philip Orlik (Mitsubishi Electric Research Laboratories, USA)

[W1C-2] Opportunistic Division and Allocation of Machine Learning Task for WSN
Eri Hosonuma (The University of Tokyo, Japan); Nobuyuki Tanaka and Takuma Yamazaki (Shibaura Institute of Technology, Japan); Akihito Taya and Yuuki Nishiyama (The University of Tokyo, Japan); Kaoru Sezaki (University of Tokyo, Japan); Takumi Miyoshi and Taku Yamazaki (Shibaura Institute of Technology, Japan)

[W1C-3] Implementation and Evaluation of Synchronized SS-CDMA Using Wireless Two-Way Interferometry (Wi-Wi)
Serena Akasaka (Hiroshima University, Japan); Suguru Kameda (Hiroshima University, Japan); Satoshi Yasuda and Nobuyasu Shiga (National Institute of Informations and Communications Technology, Japan)

[W1C-4] Initial Path Injection-Based Opportunistic Routing for Digital Twin-Enabled Smart Cities
Takuma Yamazaki (Shibaura Institute of Technology, Japan); Eri

Hosonuma and Shota Ono (The University of Tokyo, Japan); Taku Yamazaki and Takumi Miyoshi (Shibaura Institute of Technology, Japan)

[W1C-5] Observation Data and 3D Map-Based Radio Environment Estimation for Drone Wireless Communications
Shota Yamada, Takeo Fujii, Katsuya Suto and Koya Sato (The University of Electro-Communications, Japan)

[W1C-6] Water Level Monitoring System Based on 429MHz LoRa with Packet Level Index Modulation
Yudai Koike and Osamu Takyu (Shinshu University, Japan)

Workshop 1D: The 1st International Workshop on Blockchain Intelligence Convergence I (BIC 2023 I)

Session Chair: Prof. Ki-Hyung Kim (Ajou University, Korea)

Room D (EM315), Time 13:30 ~ 15:30

[W1D-1] An Analysis of the Threats Posed by Botnet Malware Targeting Vulnerable Cryptocurrency Miners
Joseph K Wrieden and Vassilios G. Vassilakis (University of York, United Kingdom (Great Britain))

[W1D-2] Smart Contract-Based Checkpoint for Initial PoW Network Security
Seungmin Kim, Gyeongdeok Maeng and Heung-No Lee (Gwangju Institute of Science and Technology, Korea (South))

[W1D-3] Home IoT Authority Control Method Based on DID Auth
Jae-Ho Choi, Jun-Hyuk Im, Hae-Jun Song and Ki-Hyung Kim (Ajou University, Korea (South))

[W1D-4] Enhancing UAV Network Reliability Through Blockchain-Based Information Sharing
Seoeun Choi, Seunghwan Lee and Hwangnam Kim (Korea University, Korea (South))

[W1D-5] Signature Analysis of SRAM-PUF for IoT Decentralized Identifier in Large-Scale Networks
Seungnam Han, Jeein Kim, Haewon Lee and Euiseok Hwang (Gwangju Institute of Science and Technology, Korea (South))

[W1D-6] A Comprehensive Study on Blockchain-Based Cloud-Native Storage for Data Confidence
Hannie Zang (Gwangju Institute of Science and Technology, Korea (South)); JongWon Kim (Gwangju Institute of Science & Technology, Korea (South))

Workshop 1E: The 10th International Workshop on Intelligent Vehicles I (IV 2023 I)

Session Chair: Prof. Dong Seog Han (Kyungpook National University, Korea)

Room E (EM316), Time 13:30 ~ 15:30

[W1E-1] Bimodal Speech Emotion Recognition Using Fused Intra and Cross Modality Features
Samuel Kakuba and Dong Seog Han (Kyungpook National University, Korea (South))

[W1E-2] MPNet: Multiscale Predictions Based on Feature Pyramid Network for Semantic Segmentation
Quyen Van Toan and Min Young Kim (Kyungpook National University, Korea (South))

[W1E-3] BANDA: A Novel Blockchain-Assisted Network for Drone Authentication
Simeon Ajakwe (Kumoh National Institute of Technology, Gumi, Korea (South)); Ikechi Saviour Igboanusi, Jung Hyeon Kim, Dong Seong Kim and Jae Min Lee (Kumoh National Institute of Technology, Korea (South))

Workshop 2A: The 1st International Workshop on Technologies for 5G-V2X based Enhanced Automotive Valet Parking II (EAVP II)

Session Chair: Dr. Soo-Hyun Jang (KETI, Korea)

Room A (EM317), Time 16:00 ~ 18:00

[W2A-1] An Interactive Decision-Making Method for Autonomous Valet Parking Based on Non-Cooperative Complete Information Static Game
Yongsheng Wang and Yugong Luo (Tsinghua University, China); Yanchen Ku (Audi China, China); Jia Shi and Mingyuan Bian (Tsinghua University, China)

[W2A-2] Multiple Camera Based Lightweight Localization Technology for Indoor Parking Lot
Soo Hyun Jang, Dae Kyo Shin and Jang Hyun Baek (Korea Electronics Technology Institute, Korea (South)); Junhyek Jang (Korea Electronic Technology Instituite, Korea (South))

Workshop 2B: The 3rd International Workshop on B5G/6G Wireless Networks (B5G/6G 2023)

Session Chair: Prof. Kyung-Joon Park (DGIST, Korea)

Room B (EM321), Time 16:00 ~ 18:00

[W2B-1] 2.4 Gbps Real-Time Visible Light Communication System Based on Blue Laser Diode
Jinheng Shao and Chao Zhang (Tsinghua University, China)

[W2B-2] An Energy-Efficient Ultra-Dense Network Cell Coverage Adjustment Algorithm
Young Jun Cho, Hyeon-Min Yoo, Yu-Vin Kim and Een-Kee Hong (Kyunghee University, Korea (South))

[W2B-3] Beamforming for Reduced-Rank MIMO Interference Channels in Dynamic TDD Systems
Amel Tibhirt and Dirk Slock (EURECOM, France); Yi Yuan-Wu (Orange Labs, France)

Workshop 2C: The 4th International Workshop on Smart Radio for IoT Era II (SRIoT 2023 II)

Session Chair: Prof. Takeo Fujii (The University of Electro-Communications, Japan)

Room C (EM323), Time 16:00 ~ 18:00

[W2C-1] Overcoming Environmental Challenges in CAVs Through MEC-Based Federated Learning
Zekun Wang (KTH Royal Institute of Technology, Sweden); Jin Nakazato (University of Tokyo, Japan); Muhammad Asad and Ehsan Javanmardi (The University of Tokyo, Japan); Manabu Tsukada (the University of Tokyo, Japan)

[W2C-2] Design and Implementation of a Throughput Improvement Method for Asynchronous Pulse Code Multiple Access
Atsushi Nakamura (Tokyo University of Science, Japan); Ferdinand Peper and Kenji Leibnitz (National Institute of Information and Communications Technology, Japan); Naoki Wakamiya (Osaka University, Japan); Mikio Hasegawa (Tokyo University of Science, Japan)

[W2C-3] Construction and Demonstration of Access Link for Millimeter Wave UAV Base Station Network
Ryunosuke Masaoka and Gia Khanh Tran (Tokyo Institute of Technology, Japan)

[W2C-4] Frame Design for Differential Packet-Level Index Modulation Implemented by LoRaWAN
Hitoshi Yamasaki (Fukuoka University, Japan); Hiroki Matsuura (NATANE eICT Lab., Japan); Mai Ohta and Makoto Taromaru (Fukuoka University, Japan)

[W2C-5] Hidden Node Recognition Utilizing Wireless LAN Sensing Data in Indoor Environments
Hayato Mukasa and Takeo Fujii (The University of Electro-Communications, Japan)

Workshop 2D: The 1st International Workshop on Blockchain Intelligence Convergence II (BIC 2023 II)

Session Chair: Prof. Ki-Hyung Kim (Ajou University, Korea)

Room D (EM315), Time 16:00 ~ 18:00

[W2D-1] A Study of Joint Framework for Robustness Against Noise on Speaker Verification System
Sangwook Han, Youngdo Ahn and Kyeongmuk Kang (Gwangju Institute of Science and Technology (GIST), Korea (South)); Jong Won Shin (Gwangju Institute of Science and Technology, Korea (South))

Workshop 2E: The 10th International Workshop on Intelligent Vehicles II (IV 2023 II)

Session Chair: Prof. Dong Seog Han (Kyungpook National University, Korea)

Room E (EM316), Time 16:00 ~ 18:00

[W2E-1] Fast Prototyping Platform for Human Machine Interfaces Design in Smart Vehicles
Jakub Pilch (University of Southern Denmark & Hamsø Engineering ApS, Denmark); Benaoumeur Senouci (North Dakota State University, USA); Morten Bøjskov Rothmann (Hamsø Engineering ApS, Denmark)

[W2E-2] Visual Tactile Sensor Based on Feature Tracking of Patterns for Soft Human-Machine Interaction
Jinhyuk Lee and Min Young Kim (Kyungpook National University, Korea (South)); Suwoong Lee (Korea Institute of Industrial Technology, Korea (South))

[W2E-3] Performance Evaluation of 24GHz FMCW Radar-Based Blind-Spot Detection and Lane-Change Assistance Under Dynamic Driving Conditions in a Vehicle Proving Ground
Jong hun Lee (DGIST (Daegu GyongBuk Institue of Science and Technology), Korea (South)); Young-Seok Jin (DGIST, Korea (South)); Sang-Dong Kim (Daegu Geongbuk Institute of Science and Technology, Korea (South)); Bong-seok Kim (DGIST, Korea (South)); Seongeon Song (DGIST radar lab., Korea (South))

[W2E-4] On-Device Deep Learning-Based Multiple Behavior Detection Using IMU Motion Sensors
Dong-Eon Kim (Kyungpook National University, Korea (South)); Dau Ngoc Mai (VISIONIN, Korea (South)); Dong Seog Han (Kyungpook National University, Korea (South))

July 5, 2023 (Wednesday)

Session 1A: Wireless and Communication Networks I

Session Chair: Prof. Junsu Kim (Tech University of Korea, Korea)

Room A (EM317), Time 13:30 ~ 14:50

[1A-1] A Cluster-Based OFDMA MAC Protocol Using Carrier-Sensing Scheme for IEEE 802.11ax WLANs
Yen-Da Chen (Lunghwa University of Science and Technology, Taiwan); Jia-Wei Lin, Mu-Hua Hsueh and Kuei-Ping Shih (Tamkang University, Taiwan)

[1A-2] Federated Learning-Based Joint Radar-Communication mmWave Beamtracking with Imperfect CSI for V2X Communications
Sanjay Bhardwaj (Kumoh National Institute of Technology & ICT Convergence Research Center, Korea (South)); Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

[1A-3] Optimal Adaptation of 3D Beamformers in UAV Networks
Kasun Prabhath (UNM, USA); Sudharman K Jayaweera (University of New Mexico & Bluecom Systems, USA)

[1A-4] Cooperative Beam Selection Based Fingerprint Database Using User Types in Unmanned Aerial Vehicle Supported Systems
Yuna Sim, Seungseok Sin and Jihun Cho (Chonnam National University, Korea (South)); Kyunam Kim (Alps Electric Korea Company Limited, Korea (South)); Sangmi Moon (Korea Nazarene University, Korea (South)); Intae Hwang (Chonnam National University, Korea (South))

Session 1B: AI/Machine Learning Applications I

Session Chair: Prof. Taesoo Jun (Kumoh National Institute of Technology, Korea)

Room B (EM321), Time 13:30 ~ 14:50

[1B-1] Real-Time Pill Identification with Prescription Confirmation Using Deep Learning on Embedded System
Roy Chaoming Hsu (National Chiayi University, Taiwan)

[1B-2] Transmit Antenna Selection Using CNN-Based Multiclass Classification with Linear Interpolation of Wideband Channels
Jaehong Kim and Jingon Joung (Chung-Ang University, Korea (South)); Eui-Rim Jeong (Hanbat National University, Korea (South))

[1B-3] Indoor Scene Recognition Using ARM-Based MobileNets Architectures
Wei-Lung Mao, Sung-Hua Chen, Yu-Tang Huang and Yao-Teng Yang (National Yunlin University of Science and Technology, Taiwan); Po-Heng Bone Chou (Research Center for Information Technology Innovation (CITI), Academia Sinica)

[1B-4] Efficient Malware Classification with Spiking Neural Networks: A Case Study on N-BaIoT Dataset
Yee Loo Foo, Muhammad Umair and Wooi Haw Tan (Multimedia University, Malaysia)

Session 1C: Future Internet and Networks

Session Chair: Prof. Junhee Seok (Korea University, Korea)

Room C (EM323), Time 13:30 ~ 14:50

[1C-1] A New Low-Rate DoS Attack Method Robust to Timing Skew for TCP Short Transfers
Ryuku Hisasue, Hiroshi Inamura and Shigemi Ishida (Future University Hakodate, Japan)

[1C-2] Coverage Probability Analysis of LEO Satellite Communication Systems with Directional Beamforming
Gyulim Kim (Tech University of Korea, Korea (South)); Lee Sangcheol (University of Wireless Communication & TUKorea, Korea (South)); Hyeongyong Lim (Agency for Defense Development, Korea (South)); Bang Chul Jung (Chungnam National University, Korea (South)); Seong Ho Chae (Tech University of Korea, Korea (South))

[1C-3] A New Congestion-Based Congestion Control for Low Latency and Low Packet Drop Rate
Satoshi Utsumi (Fukushima University, Japan); Go Hasegawa (Tohoku University, Japan)

[1C-4] D-MPQUIC: Optimizing Loss Detection in High RTT Variation Networks
Min-Ki Kim and You-Ze Cho (Kyungpook National University, Korea (South))

Session 2A: Wireless and Communication Networks II

Session Chair: Prof. Yun Hee Kim (Kyung Hee University, Korea)

Room A (EM317), Time 15:00 ~ 16:20

[2A-1] A Classification of Cross-Layer Optimization Approaches in LoRaWAN for Internet of Things
Carl Christian A Chaguile and Melchizedek Alipio (Czech Technical University in Prague, Czechia); Miroslav Bures (Czech Technical University in Prague, Czech Republic)

[2A-2] Age-Of-Information Aware Intelligent MAC for Congestion Control in NR-V2X
Malik Muhammad Saad, Muhammad Ashar Tariq, Junho Seo, Mahnoor Ajmal and Dongkyun Kim (Kyungpook National University, Korea (South))

[2A-3] Partial-Information Multiple Access Protocol for Orthogonal Transmissions
Alberto Rech, Stefano Tomasin and Lorenzo Vangelista (University of Padova, Italy); Cristina Emilia Costa (CNIT, Italy)

[2A-4] Unscented Kalman Filter-Based Beam Tracking in NR MIMO System Using Hybrid Beamforming
Seungseok Sin, Yuna Sim and Jihun Cho (Chonnam National University, Korea (South)); Kyunam Kim (Alps Electric Korea Company Limited, Korea (South)); Sangmi Moon (Korea Nazarene University, Korea (South)); Intae Hwang (Chonnam National University, Korea (South))

Session 2B: AI/Machine Learning Applications II

Session Chair: Prof. Hyunhee Park (Myongji University, Korea)

Room B (EM321), Time 15:00 ~ 16:20

[2B-1] Uplink Time Constrained Federated Learning over Wireless Networks
Ji Ho Choi and Dong In Kim (Sungkyunkwan University (SKKU), Korea (South))

[2B-2] Ingredient Detection, Title and Recipe Retrieval from Food Images
Snigdha Sinha, Bhavikha Chopra, Mahendra N and Gitika Jain (PES University, India); Natarajan S (VTU, India)

[2B-3] Various Object Trackers for UAV Chasing of Counter UAV Systems
Kyubin Kim (Chungang University, Korea (South)); Jaehong Kim, Han-Gyeol Lee and Jingon Joung (Chung-Ang University, Korea (South))

[2B-4] Deep Learning-Based Network Slice Recognition
Harun Ur Rashid and Seong-Ho Jeong (Hankuk University of Foreign Studies, Korea (South))

Session 2C: Security and Network Management

Session Chair: Prof. Seunghyun Park (Hansung University, Korea)

Room C (EM323), Time 15:00 ~ 16:20

[2C-1] A Robust Aggregation Approach for Heterogeneous Federated Learning
Dost Muhammad Saqib Bhatti and Haewoon Nam (Hanyang University, Korea (South))

[2C-2] A Lightweight Seamless Authentication Scheme for Edge-Assisted IoV Networks
Seunghwan Son, Myeonghyun Kim and YoungHo Park (Kyungpook National University, Korea (South))

[2C-3] Traffic Characterization to Provide Trust for Internet of Things Devices
Evandro Luiz Cardoso Macedo and Luis Felipe M. de Moraes (Federal University of Rio de Janeiro (UFRJ), Brazil)

[2C-4] How Reliable are the Deep Learning-Based Anomaly Detectors? A Comprehensive Reliability Analysis of Autoencoder- Based Anomaly Detectors
Manzoor Hussain, Jae-Won Suh, Bo-Seok Seo and Jang-Eui Hong (Chungbuk National University, Korea (South))

Session 3A: Mobile and Vehicular Networks, Autonomous Vehicles

Session Chair: Prof. Dong-Joon Shin (Hanyang University, Korea)

Room A (EM317), Time 16:50 ~ 18:10

[3A-1] Proposal of Enhanced Cell Range Expansion for Heterogeneous Mobile Networks
Kentaro Yoda and Hiroyuki Otsuka (Kogakuin University, Japan)

[3A-2] Mitigating Packet Collisions by Predicting Collective Perception Message Transmissions in Cellular V2X Environment
Songmu Heo and Hyogon Kim (Korea University, Korea (South))

[3A-3] Plenary Autonomous Intersection Management Protocol for Heterogeneous Connected Vehicles
Ashkan Gholamhosseinian (Technische Universität Ilmenau, Germany); Jochen Seitz (Technische Universitaet Ilmenau, Germany)

[3A-4] Application of Multi-Hop Time Synchronization on a Network of AUVs Performing Lawn Mower Trajectory
Ansa Shermin S and Sarang Dhongdi (Dept. of EEE, BITS Pilani K K Birla Goa Campus, Goa, India)

Session 3B: Ubiquitous Computing and Sensor Networks

Session Chair: Prof. Melchizedek Alipio (Czech Technical University in Prague, Czechia)

Room B (EM321), Time 16:50 ~ 18:10

[3B-1] Dynamic Programming-Based Antenna Resource Allocation Algorithm for Wireless Powered Sensor Networks
Mingfu Li, Guan-Yu Lu and Cheng-Bin Yao (Chang Gung University, Taiwan)

[3B-2] Low Collision Random Access in Underwater Acoustic Sensor Network for Harbor Surveillance
Sangman Han, Kwangyoung Chae and Hojun Lee (Hoseo University, Korea (South))

[3B-3] Read-Rate Improvement in 920MHz RFID System with Circular-Polarized 2D Beam Scan R/W Antenna
Yasushi Yamao and Sora Funayama (The University of Electro-Communications, Japan)

[3B-4] Performance Verification of the Digital Archive Subsystem for Digital Twin-Based Disaster Management Platform
Kisook Chung (ETRI, Korea (South))

Session 3C: WLAN, WPAN, WBAN

Session Chair: Prof. Seokjoo Shin (Chosun University, Korea)

Room C (EM323), Time 16:50 ~ 18:10

[3C-1] Joint Optimization of Channel Allocation and AP Selection for WLAN with Multi-Priority Transmissions
Xinwei Chen, Xiaofeng Zhong and Shidong Zhou (Tsinghua University, China); Jie Wei (Beijing Jiaotong University, China)

[3C-2] Experimental Study of Data Network in Confined Space of Vessel: Opportunities and Challenges
Woo-Sung Jung and Tae Hyun Yoon (ETRI, Korea (South)); Daeseung Yoo (Electronics and Telecommunications Research Institute, Korea (South))

[3C-3] Throughput Satisfaction-Based Multi-Priority Channel Allocation with Channel-Switching for WiFi
Xinwei Chen, Xiaofeng Zhong and Shidong Zhou (Tsinghua University, China); Jie Wei (Beijing Jiaotong University, China)

[3C-4] Interference Cancellation in RIS-Assisted FD Relay Transmission
Donghyeon Kim (AI and Robotics Tech Lab, Korea (South)); Wooyeol Choi and Chanjun Chun (Chosun University, Korea (South)); Yohan Kim (Dongseo University, Korea (South)); Yonggang Kim (Kongju National University, Korea (South))

July 6, 2023 (Thursday)

Session 4A: Wireless and Communication Networks III

Session Chair: Prof. Lorenzo Vangelista (University of Padova, Italy)

Room A (EM317), Time 13:30 ~ 14:50

[4A-1] Performance Analysis According to Segment Length and Buffer Length in Adaptive Video Streaming
Joon-Young Jung (ETRI, Korea (South))

[4A-2] Joint Impact of Limited Fronthaul and Pilot Length on Payload Data Rate of Cell-Free Massive MIMO
Sangwon Jo, Daesung Yu and Seok-Hwan Park (Jeonbuk National University, Korea (South))

[4A-3] Multi-Tag Selection for IRS-Assisted Ambient Backscatter Communication Networks
Jeong Woo Yoon, Junsu Kim and Su Min Kim (Tech University of Korea, Korea (South))

[4A-4] Exploiting Impact of Eavesdropping Attacks on Secrecy Performance in WPT-Based Secure Multi-Hop Transmission
Kyusung Shim (Hankyong National University, Korea (South)); Beongku An (Hongik University, Korea (South))

Session 4B: e-Health

Session Chair: Prof. Su Min Kim (Tech University of Korea, Korea)

Room B (EM321), Time 13:30 ~ 14:50

[4B-1] Recurrence Plot Based Person Identification with ECG Using CNN Model
Yeong Jun Jeon, Cheolhwan Lee and Soon Ju Kang (Kyungpook National University, Korea (South))

[4B-2] Smart Health Care Management System Diagnosis of Lungs Cancer
Ahed Ahed Abugabah (Zayed University, United Arab Emirates); Farah Shahid (University of Agriculture, United Arab Emirates); Amjad Alafeef (Ministry Of Culture, United Arab Emirates & Amman, Jordan); Rizwan Khan (Zhejiang Normal University, China)

[4B-3] A Study on Reducing Skin Irritation in Multi-Channel TES for Painless Force Feedback
Jin-Woo Yu, Bomin Kim and Jinmo Kim (DGIST, Korea (South)); Han-Joon Kim (Kumoh National Institute of Technology, Korea (South)); Ji-Woong Choi (DGIST, Korea (South))

[4B-4] Effect of En-Route Reassignment of Hospitals for Ambulances
Junghoon Lee (Jeju University, Korea (South))

Session 5A: Wireless and Communication Networks IV

Session Chair: Dr. Dost Muhammad Saqib Bhatti (Hanyang University, Korea)

Room A (EM317), Time 15:00 ~ 16:20

[5A-1] A Novel Approach to Collision Avoidance in LoRa Networks
Rao Muzamal Liaqat, Philip Branch and Jason But (Swinburne University of Technology, Australia)

[5A-2] SWIPT-Based Routing Protocol for Lifetime Extension of Wireless Sensor Networks
Gyoungmin Been, Su Min Kim and Junsu Kim (Tech University of Korea, Korea (South))

[5A-3] NGUB: Novel Greedy Algorithms for User and Beam Selection in mmWave Networks
Santosh Singh (Indian Institute of Technology (IIT) Bombay, India); Satyabrata Sahu, Ayushi Thawait and Prasanna Chaporkar (IIT Bombay, India); Gaurav S. Kasbekar (Indian Institute of Technology, Bombay, India)

[5A-4] Applications of Deep Learning and Deep Reinforcement Learning in 6G Networks
Tri-Hai Nguyen, Heejae Park, Kihyun Seol, Seonghyeon So and Laihyuk Park (Seoul National University of Science and Technology, Korea (South))

Session 5B: IoT

Session Chair: Prof. Ki-Hyung Kim (Ajou University, Korea)

Room B (EM321), Time 15:00 ~ 16:20

[5B-1] Privacy and Social Aware Hybrid Successive Relaying with Mixed Trustworthy Untrustworthy D2D Helpers
Jie Wei (Beijing Jiaotong University, China); Jianjing Wei (Beijing Jiaoda Signal Technology Co Ltd, China); Shaoling Hu and Wei Chen (Tsinghua University, China)

[5B-2] A Scheduling Method for Reducing Latency in Wi-SUN FAN Networks
Hee-Jun Lee and Sang-Hwa Chung (Pusan National University, Korea (South))

[5B-3] Composite Hazard Analysis of System of Systems for Mixed-Traffic Automation in Underground Mine
Nazakat Ali and Sasikumar Punnekkat (Mälardalens University, Sweden)

[5B-4] Signal of Opportunity Based TDOA Positioning Using Analog TV Signals
Khaled Walid Elgammal (Istanbul Medipol University, Turkey); Berke Can Turan (Sivas University of Science and Technology, Turkey); Oğuz Bedir (Istanbul Medipol University, Turkey); Hasari Celebi (Gebze Technical University, Turkey); Mehmet Kemal Ozdemir (Istanbul Medipol University, Turkey)

Session 6A: Machine Learning and Computational Intelligence

Session Chair: Prof. Kyung-Joon Park (DGIST, Korea)

Room A (EM317), Time 16:50 ~ 18:10

[6A-1] In Search of Distance Functions That Improve Autoencoder Performance for Intrusion Detection
Rémi Bouchayer and Jae Yun Jun Kim (ECE Paris, France); Hakima Chaouchi (Telecom Sud Paris-Institut Mines Telecom & CNRS SAMOVAR, France); Philippe Millet (Nexter Systems, France)

[6A-2] Here Comes SAID: A SOME/IP Attention-Based Mechanism for Intrusion Detection
Natasha Alkhatib (Institut Polytechnique de Paris, France); Hadi Ghauch (Royal Institute of Technology (KTH), Sweden); Jean-Luc Danger (Telecom Paris, France); Maria Mushtaq (Asssistant Professor, France)

[6A-3] A Hybrid System for Myocardial Infarction Classification with Derived Vectorcardiography
Wen-Whei Chang (National Yang Ming Chiao Tung University, Taiwan)

[6A-4] A Design of Lightweight Convolutional Neural Network Accelerator for IoT Devices
Yeon-Seob Song and Kang-Yoon Lee (Sungkyunkwan University, Korea (South))

Session 6B: Computer Vision Applications

Session Chair: Prof. Junghoon Lee (Cheju National University, Korea)

Room B (EM321), Time 16:50 ~ 18:10

[6B-1] Deep Learning-Based Traffic Sign Identification Using Multi-Scale Feature Fusion
Nikesh Devkota and Byung Wook Kim (Changwon National University, Korea (South))

[6B-2] Smart Application for Real Time Detection: An Improved Lightweight Detector for Real-Time Vehicle Detection
Ala Alsanabani (Xidian University, unknown); Ahed Abugabah (Zayed University, United Arab Emirates); Licheng Jiao (Xidian University, China)

[6B-3] Depth-Aware Feature Pyramid Network for Semantic Segmentation
Taehyeon Kim, Se-Ho Park and Kyung-Taek Lee (Korea Electronics Technology Institute, Korea (South))

[6B-4] Traffic Accident Detection and Classification in Videos Based on Deep Network Features
Zain Ul Arifeen, Jang-Eui Hong, Bo-Seok Seo and Jae-Won Suh (Chungbuk National University, Korea (South))

July 7, 2023 (Friday)

Session 7A: Wireless and Communications Networks V

Session Chair: Prof. Hovhannes A Harutyunyan (Concordia University, Canada)

Room A (EM317), Time 09:40 ~ 11:00

[7A-1] Route Planning of Fixed-Wing Unmanned Aerial Vehicles for Maritime Communication Coverage
Jingwei Li, Xiaofeng Zhong and Shidong Zhou (Tsinghua University, China); Xuemeng Gong and Jie Wei (Beijing Jiaotong University, China)

[7A-2] Optimization of Degree Distribution for Layer-Aligned Multipriority Rateless Codes Based on Safety Criteria of Ripple
Lien-En Hung, Chun-Kuan Lee and Hsu-Feng Hsiao (National Yang Ming Chiao Tung University, Taiwan)

[7A-3] Broadcasting in Chains of Rings
Narek Hovhannisyan, Hovhannes A Harutyunyan and Edward Maraachlian (Concordia University, Canada)

[7A-4] A Dynamic Reinforcement Learning Scheme for UAV-Based Joint Communication and Radar Systems
Soo Yeon Woo, Su Min Kim and Junsu Kim (Tech University of Korea, Korea (South))

Session 7B: 6G, 5G, PS-LTE, LTE-R, LTE-Advanced

Session Chair: Prof. Keun-Woo Lim (Telecom ParisTech, France)

Room B (EM321), Time 09:40 ~ 11:00

[7B-1] Efficient Throughput Degradation Prediction in Telco Networks Using Anomaly Detection
Rajiv Ranjan Sinha, Satish K Kolli, Sumit Soman and Koti Prasanna Maddala (Ericsson, India)

[7B-2] On the Optimization of User Allocation in Heterogeneous 5G Networks Using DUDe Techniques
Konstantinos Tsachrelias (University of Patras, Greece); Apostolos Gkamas (University Ecclesiastical Academy of Athens); Chrysostomos Athanasios Katsigiannis, Christos J Bouras and Vasileios Kokkinos (University of Patras, Greece); Philippos Pouyioutas (University of Nicosia, Cyprus)

[7B-3] Lightweight AP Selection Algorithm for Uniform Quality Everywhere in Cell-Free Massive MIMO
Akio Ikami, Yu Tsukamoto, Naoki Aihara, Takahide Murakami and Hiroyuki Shinbo (KDDI Research, Inc., Japan)

[7B-4] Self-Similarity of Traffic Within a 5G Standalone Network
Bryan Martin, Jacob G Snyder and Chad A Bollmann (Naval Postgraduate School, USA)

July 6, 2023 (Thursday)

Poster Session 1

Session Chair: Prof. Junbeom Hur (Korea University, Korea)

Rooms C, D, E (EM323, EM315, EM316), Time 13:30 ~ 14:50

[P1-1] Power Efficient Long Range IoT Communication of Wireless PPM System in ISM Band
Md. Moklesur Rahman and Heung-Gyoon Ryu (Chungbuk National University, Korea (South))

[P1-2] Building a Metaverse for Transportation Systems: A Brief Review
Judith Nkechinyere Njoku, Cosmas Ifeanyi Nwakanma and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

[P1-3] Fast Locking Dual Band PLL for NB-IoT with QPSK Modulation
Jaehyung Jung (Sungkyunkwan University & SKAIChips, Korea (South)); Kang-Yoon Lee (SKAIChips)

[P1-4] Interference-Limited Multiuser Photon-Counting Channel with Incomplete Information: A Bayesian Game Approach for Optimum Transmission
Sudhanshu Arya (Stevens Institute of Technology, USA & Pukyong National University, USA); Yeonho Chung (Pukyong National University, Korea (South)); Francisco Lopez Hernandez (CeDINt-UPM, Spain)

[P1-5] Authentication and Access Control in Cloud-Based Systems
Rajeshwari Gadathas Krishna Babu (Grisebachstrasse 7 Lutterterrasse & Sartorius Stedim Biotech GmbH, Germany); Aytaj Badirova (Georg-August-Universität Göttingen, Germany); Faraz Fatemi Moghaddam (GWDG - Georg-August-Universität Göttingen, Germany); Philipp Wieder (GWDG, Germany); Ramin Yahyapour (GWDG - University Göttingen, Germany)

[P1-6] Smart Block-Based Route Guidence Technology for the Visually Impaired
Jong Gyu Hwang (Korea Railroad Research Institute, Korea (South))

[P1-7] A Study on Safety Verification Methods and Procedures for Self-Driving Demonstration
Daekug Lee, Dong Hoon Lee and Choong-Ho Cho (Korea University, Korea (South)); Eun Young Cho (DSC Regional Innovation Platform, Korea (South))

[P1-8] Bluetooth Low Energy-Based Adaptive Scheme for IoT Services
Byeong-hee Roh, Gaoyang Shan and Geunkyung Choi (Ajou University, Korea (South))

[P1-9] Service-Based Optimal Group Resource Allocation Strategy
Chaeyeon Cha and Hyunggon Park (Ewha Womans University, Korea (South))

[P1-10] Design and Implementation of a Low-Area Reconfigurable and Synthesizable Digital Loop Filter for ADPLL
Nabeel Ahmad and Kang-Yoon Lee (Sungkyunkwan University, Korea (South))

[P1-11] A Location Estimation Algorithm Combined with TDOA and TOA Considering Repeaters
Seul-Bi Jeon, Heui-Seon Park, Tae-Ho Jo and Suk-seung Hwang (Chosun University, Korea (South))

[P1-12] Cloud Native Architecture of Network Quality Characteristic Analysis System in Wired and Wireless Convergence Network
Hyun-Soon Nam (Electrics and Telecommunications Research Institute, Korea (South)); Jin-Kyu Choi (ETRI, Korea (South)); Jongkuk Lee (Electronics and Telecommunications Research Institute, Korea (South)); HeaSook Park (ETRI, Korea (South))

[P1-13] AUV-Aided Isolated Sub-Network Prevention for Underwater Wireless Sensor Networks
Chandra Sukanya Nandyala (Kyungpook National University, Korea (South)); Ethungshan Shitiri (Universitat Politècnica de Catalunya, Spain); Ho-Shin Cho (Kyungpook National University, Korea (South))

[P1-14] Real-Time Video-Based Point Cloud Encoding System on a Distributed Platform
Yura Kim and Yonghwan Kim (Korea Electronics Technology Institute, Korea (South))

[P1-15] Streaming via SDN: Resource Forecasting for Video Streaming in a Software-Defined Network
Syed Muhammad Ammar Hassan Bukhari, Afaq Muhammad and Wang-Cheol Song (Jeju National University, Korea (South))

[P1-16] Development of Edge Camera System for Vehicle Detection System Using Local AI Optimizer Based on Minimum Network Resource
Yun-Won Choi (Electronics & Telecommunications Research Institute, Korea (South)); Jang Woon Baek (Electronics and Telecommunications Research Institute, Korea (South)); Jinhong Kim (ETRI, Korea (South)); Lee Joon-Goo (Electronics and Telecommunications Research Institute, Korea (South))

[P1-17] Smart Tourism Chatbot System Using Multi-Domain Tourism Information DST
Jeong Woo Jwa (Jeju National University, Korea (South))

[P1-18] Parallel Network Assisted Calibrated Beam Training for mmWave Communication Systems
Jihyung Kim (ETRI, Korea (South)); Soyoung Yoo and Junghyun Kim (Sejong University, Korea (South))

[P1-19] 5G Network Simulator for Network Caching
Dongju Kim, Joonyoung Lim and Younghwan Yoo (Pusan National University, Korea (South))

[P1-20] An Improved Residual Frequency Synchronization Method for Wireless Communication System
Yong-An Jung, Sang-Bong Byun, Dong-Cheul Han, Soo-Hyun Cho and Sung-hun Lee (Gumi Electronics & Information Technology Research Institute, Korea (South)); Jaeuk Kwon (Gumi Electronics and Information Technology Research Institute, Korea (South))

[P1-21] DeepASD: Facial Image Analysis for Autism Spectrum Diagnosis via Explainable Artificial Intelligence

Hyebin Kang, Minuk Yang and Geun-Hyeong Kim (Chungbuk National University Hospital, Korea (South)); Tae-Soo Lee (Chungbuk National University, Korea (South)); Seung Park (Chungbuk National University Hospital, Korea (South))

[P1-22] Potential Enabling Technologies for 6G Mobile Communication Networks: A Recent Review
Duc Nghia Vu, Dongwook Won (Chung-Ang University, Korea (South)), Nhu-Ngoc Dao (Sejong University, Korea (South)) and Sungrae Cho (Chung-Ang University, Korea (South))

[P1-23] Predictive Maintenance in Photovoltaic Systems Using Ensemble ML Empirical Analysis
Raihan Bin Mofidul, Syed Samiul Alam and Arbil Chakma (Kookmin University, Korea (South)); ByungDeok Chung (ENS. Co. Ltd., Korea (South)); Yeong Min Jang (Kookmin University, Korea (South))

[P1-24] Survey on Challenges and Solutions of C-V2X: LTE- V2X Communication Technology
Donghyeon Hur, Donghyun Lee, Junsuk Oh, Dongwook Won, Chihyun Song and Sungrae Cho (Chung-Ang University, Korea (South))

[P1-25] Scattering Matrix Design of Reconfigurable Intelligent Surface Based on Group Connected Impedance Network in MU- MIMO System
Min-A Kim, Seung-Geun Yoo, Hyoung-Do Kim, Kyeung-Ho Shin and Hyoung-Kyu Song (Sejong University, Korea (South))

[P1-26] Selective TSCH Autonomous Cell Scheduling Techniques Depending on the Power Supply
Jeongbae Park and Sang-Hwa Chung (Pusan National University, Korea (South))

Poster Session 2

Session Chair: Prof. Hyunggon Park (Ewha Womans University, Korea)

Rooms C, D, E (EM323, EM315, EM316), Time 15:00 ~ 16:20

[P2-1] An Efficient Microservices Architecture for MLOps
Seol Roh (Kyung Hee University, Korea (South)); Ki-Moon Jeong and HyeYoung Cho (Korea Institute of Science and Technology Information, Korea (South)); Eui-Nam Huh (Kyung Hee University, Korea (South))

[P2-2] Permanence Based Hidden Community and Graph Recovery in Social Networks
Jaeyoung Choi and Wooseok Sim (Gachon University, Korea (South))

[P2-3] Self-Defined Protocols for Ubiquitous Networks
Ichiro Satoh (National Institute of Informatics, Japan)

[P2-4] Reduction of Beam Pointing Error on Free Space Optical Communication Links Using Tree Based Machine Learning Multi-Output Regression Model
Nilesh Maharjan and Byung Wook Kim (Changwon National University, Korea (South))

[P2-5] A Study on the Private 5G Frequency Allocation Process Using NFT Based on Smart Contract
Won Seok Yoo and Won Cheol Lee (Soongsil University, Korea (South))

[P2-6] Authorization and Interoperability in Access Control Systems
Rajeshwari Gadathas Krishna Babu (Grisebachstrasse 7 Lutterterrasse & Sartorius Stedim Biotech GmbH, Germany); Aytaj Badirova (Georg-August-Universität Göttingen, Germany); Faraz Fatemi Moghaddam (GWDG - Georg-August-Universität Göttingen, Germany); Philipp Wieder (GWDG, Germany); Ramin Yahyapour (GWDG - University Göttingen, Germany)

[P2-7] A Deep Learning-Based Spectral Efficiency Maximization in Multiple Users Multiple STAR-RISs Massive MIMO-NOMA Networks
Ridho Hendra Yoga Perdana (Hongik University, Korea (South)); Toan-Van Nguyen (International University-VNU-HCM, Vietnam); Beongku An (Hongik University, Korea (South))

[P2-8] On the Security of PACMAN: Privacy-Preserving Authentication Scheme for Managing Cybertwin-Based 6G Networking
Myeonghyun Kim, Seunghwan Son and YoungHo Park (Kyungpook National University, Korea (South)); Kil-Houm Park (Kyungpook National University. Daegu, Korea, Korea (South))

[P2-9] MCS Selection Based on Convolutional Neural Network in Mobile Communication Environments
Eui-Rim Jeong, Jeong Eun Oh and A-Min Jo (Hanbat National University, Korea (South))

[P2-10] A Study on the Production Management System for Analyzing Operator Errors and Manufacturing Data in the Assembly Process
Sung-hun Lee, Yong-An Jung, Sang-Bong Byun, Dong-Cheul Han and Soo-Hyun Cho (Gumi Electronics & Information Technology Research Institute, Korea (South))

[P2-11] Development of an Intelligent IoT Platform for PV Power Plant Monitoring and Control
Ida Bagus Krishna Yoga Utama, Duc Hoang Tran and Muhammad Miftah Faridh (Kookmin University, Korea (South)); ByungDeok Chung (ENS. Co. Ltd., Korea (South)); Yeong Min Jang (Kookmin University, Korea (South))

[P2-12] A Review on Multimodal Fusion Method for Gesture Recognition
Dong Jae Lee and Sunwoong Choi (Kookmin University, Korea (South))

[P2-13] A 1.4mW Sigma Delta ADC with Configurable Filter for Sensor Applications
Mounika Phanidarapu, YoungGun Pu and Kang-Yoon Lee (Sungkyunkwan University, Korea (South))

[P2-14] Adversarial Attack of ML-Based Intrusion Detection System on In-Vehicle System Using GAN
Eunseong Seo, Jeongeun Kim, Wook Lee and Junhee Seok (Korea University, Korea (South))

[P2-15] Challenges in Promoting IoT Ecosystem for a Government
Wasinee Noonpakdee (Thammasat University, Thailand)

[P2-16] CTC: Content-Aware Tailoring of Adaptive Video Streaming Using Multi-Head Critic Network
Wangyu Choi and Jongwon Yoon (Hanyang University, Korea (South))

[P2-17] A Study on Latency Prediction in 5G Network
Seunghan Choi (Electronics and Telecommunications Research Institute, Korea (South)); Changki Kim (ETRI, Korea (South))

[P2-18] Phase Noise Estimation in Full-Duplex Orthogonal Frequency Division Multiplexing Systems
Fan-Shuo Tseng and Tsang-Yi Wang (National Sun Yat-sen University, Taiwan); Chun-Tao Lin (National Taipei University of Technology, Taiwan); Chun-Cheng Su (National Sun Yat-sen University, Taiwan)

[P2-19] Link-Level Performance Evaluation of Sidelink Synchronization Signal Block for 5G V2X
Daegun Jang, Subin Jo, Gayeon Kim, Jeonghoon Bae, Taejun Choi and Taehyoung Kim (Soonchunhyang University, Korea (South))

[P2-20] Implementation of WebRTC-Based Hybrid Transmission System for 3D Visualization
JungWook Wee, Minju Cho and Youn-Sung Lee (Korea Electronics Technology Institute, Korea (South))

[P2-21] Performance of Double Reconfigurable Intelligent Surface Assisted Communication System
Seung-Geun Yoo, Min-A Kim, Jin-Woo Kim, Sang-Wook Park and Hyoung-Kyu Song (Sejong University, Korea (South))

[P2-22] Design of a FHIR Interface for Wearable Healthcare Devices
Junghoon Lee (Jeju University, Korea (South))

[P2-23] Soft-Error Injection System for Processor on FPGA Platform
Jeahack Lee, Byung-Soo Kim, Kim Hyeonseong, Sihyeong Park and Hong Yun Pyo (Korea Electronics Technology Institute, Korea (South)); Seokhun Jeon (KETI, Korea (South))

[P2-24] A 316.5nA Quiescent Current of DC-DC Converter with 92.8% Peak Efficiency for a IoT Application
Juwon Oh (Sungkyunkwan University, Korea (South)); Jong Wan JO (University of Sungkyunkwan, Korea (South)); YeongHun Kim (Sungkyunkwan University, Korea (South)); Sung Jae Lee (SungKyunKwan University & SKAICHIPS Company, Korea (South)); YoungGun Pu (Sungkyunkwan University, Korea (South))

[P2-25] VTD-XML Parsing Performance Optimization Based on Helper Thread Sampling Prefetching
Jianxun Zhang, J. Zhang (Tianjin University of Technology and Education, China)

[P2-26] GAN-Based Image-To-Image Translation of Fundus Photography: Topcon to Eidon
Jaehan Joo (Pusan National University, Korea (South)); Jeongbin Seo (PUSAN National University, Korea (South)); Geonho Choi and Suk Chan Kim (Pusan National University, Korea (South))

[P2-27] Improving Network Performance in Semantic Communications: A Survey
Dongwook Won, Duc Nghia Vu, Jun Suk Oh, Chunghyun Lee, Chihyun Song, Taeyun Ha and Sungrae Cho (Chung-Ang University, Korea (South))

Poster Session 3

Session Chair: Prof. Sunwoong Choi (Kookmin University, Korea)

Rooms C, D, E (EM323, EM315, EM316), Time 16:50 ~ 18:10

[P3-1] A Design of Phase Shifting Phase Locked Loop with Dual Loop Structure for Beamforming Application
Nahyun Kim and KangYoon Lee (SKAIChips, Korea (South))

[P3-2] Fairness-Aware Data Offloading in Wireless Body Area Networks with QoS Constraint
Tri Gia Nguyen (FPT University, Vietnam); Amit Samanta (University of Utah, USA)

[P3-3] Design of Lighting Data Platform for Realization of Natural Light Reproducing Lighting
SeungTaek Oh, YangSoo Kim and JaeHyun Lim (Kongju National University, Korea (South))

[P3-4] MDRM Pattern: Relational Heterogeneous Metadata Management Patterns in a Microservice Environment
Dongmin Kim and Jaegi Son (Korea Electronics Technology Institute, Korea (South))

[P3-5] ADMM-Based Channel Estimation Methods for Millimeter Wave MIMO System
Prateek Saurabh Srivastav (Pukyong National University, Busan, South Korea, Korea (South)); Hoon Lee (Pukyong National University, Korea (South))

[P3-6] A Novel LLR Scaling Factor Selection Using LDL Bayes Classifier
Seunghun Yu (Samsung Electronics, Korea (South)); Kwon. Y Park (Samsung Electronics Co., Ltd., Korea (South)); Jongmin Cho and Kyusuk Mo (Samsung Electronics, Korea (South)); Si Chang No (Samsung, Korea (South)); Min-ho Shin (Samsung Electronics, Korea (South))

[P3-7] Channel Learning Based Relay Selection in Underwater Acoustic Sensor Network
SeungHwan Seol, Yongcheol Kim, Bonggyu Park and Jaehak Chung (Inha University, Korea (South))

[P3-8] Deep Learning Based RS-OFDM Scheme Considering Mobility Environment for Optical Camera Communication System
Huy Nguyen (Kookmin University, Korea (South)); ByungDeok Chung (ENS. Co. Ltd., Korea (South)); Yeong Min Jang (Kookmin University, Korea (South))

[P3-9] Topology Control of an Unmanned Aerial Vehicle in 3D Network
Sang-Chul Kim and Jabborov Akmaljon (Kookmin University, Korea (South))

[P3-10] Federated Learning Using Blockchain-Based Marketplace
Boyun Eom, Sunhwan Lim, Young-Ho Suh and Sungpil Woo (ETRI, Korea (South)); Chan-Won Park (Electronics and Telecommunications Research Institute, Korea (South))

[P3-11] Toward a Dynamic Tasks Offloading and Resource Allocation for the Metaverse in In-Network Computing
Ibrahim Aliyu, Seungmin Oh, Sangwon Oh, Hyeju Shin, Kwang-moo Chung and Tai-Won Um (Chonnam National University, Korea (South)); Young-Ae Jung (Sun Moon University, Korea (South)); Minsoo Hanh (Astana IT University, Kazakhstan); Jinsul Kim (Chonnam National University, Korea (South))

[P3-12] Provision of Defense 5G Mobile Communication Services Using Commercial Radio Access Network and Wireless Backhaul
Jin-Kyu Choi (ETRI, Korea (South)); Hyun-Soon Nam (Electrics and Telecommunications Research Institute, Korea (South)); Jongkuk Lee (Electronics and Telecommunications Research Institute, Korea (South)); HeaSook Park (ETRI, Korea (South))

[P3-13] Delay in Underwater Acoustic Networks
Andrej Stefanov (IBU Skopje, Macedonia, the former Yugoslav Republic of)

[P3-14] Overcoming Wireless Channel Modeling and Relay Signal Selection via Artificial Intelligence Techniques in the 5G and Beyond
Saud Alhajaj Aldossari (Vice Dean of Engineering College, Saudi Arabia & PSA University, Saudi Arabia); Abdallah Aldosary (Prince Sattam bin Abdulaziz University, Saudi Arabia); Kwang-Cheng Chen (University of South Florida, USA)

[P3-15] DNN-Based CSI-RS Port Virtualization Matrix Design in Massive MIMO System
Dongheon Lee (Yonsei, Korea (South)); Seongyeop Joung (School of Electrical and Electronic Engineering, Yonsei University, Korea (South)); Sooyong Choi (Yonsei University, Korea (South))

[P3-16] CNN-Based DMRS Pattern Optimization for 5G Vehicle-To-Everything Communications
Gayeon Kim, Taejun Choi, Jeonghoon Bae, Daegun Jang and Taehyoung Kim (Soonchunhyang University, Korea (South))

[P3-17] Radio Sensor Detection of Interference to Satellite Earth Station in Frequency Spectrum Sharing
Takatoshi Obata and Osamu Takyu (Shinshu University, Japan)

[P3-18] Channel Estimation with DnCNN in Massive MISO LEO Satellite Systems
Min Jeong Kang (Hankuk University of Foreign Studies, Korea (South)); Seong Ho Chae (Tech University of Korea, Korea (South)); Jung Hoon Lee (Hankuk University of Foreign Studies, Korea (South))

[P3-19] Towards Enhancing Cyber Security Awareness Using Gamification Escape Room
Basil Y Alothman (Kuwait College of Science and Technology (KCST), Kuwait); Khaznah Al-Khulifa, Reem Al-Shammari and Chibli C. Joumaa (Kuwait College of Science and Technology, Kuwait); Murad Khan (Kyungpook National University & Sarhad University of Science and Technology, Korea (South))

[P3-20] Power Control Scheme for NOMA Random Access with Imperfect SIC
Seok-Ju Byun and Ye Hoon Lee (Seoul National University of Science and Technology, Korea (South))

[P3-21] Study on the Vulnerability of Video Retargeting Method for Generated Videos by Deep Learning Model
Aro Kim, Dong-hwi Kim and Sang-hyo Park (Kyungpook National University, Korea (South))

[P3-22] Structured Medical Dataset Analysis Tool Based on ChatGPT
JinCheol Park (Chungbuk National University Hospital, Korea (South)); Ja-Hyun Nam and Jee-Woo Choi (Mediv Corp., Korea (South)); Yong-Goo Shin (Korea University, Korea (South)); Seung Park (Chungbuk National University Hospital, Korea (South))

[P3-23] Design of Precision Medicine Web-Service Platform Towards Health Care Digital Twin
Shivani Sanjay Kolekar, Chen Haoyu and Kyungbaek Kim (Chonnam National University, Korea (South))

[P3-24] Computational Complexity Analysis of Beamspace Transformation for Dual Array Antennas
Tae-yun Kim and Suk-seung Hwang (Chosun University, Korea (South))

July 7, 2023 (Friday)

Poster Session 4

Session Chair: Prof. Jae Yun Jun Kim (ECE Paris, France)

Rooms C, D, E (EM323, EM315, EM316), Time 09:40 ~ 11:00

[P4-1] 5G URLLC Evolving Towards 6G: Research Directions and Vision
Gweondo Jo and JaeSheung Shin (ETRI, Korea (South)); Sung-Min Oh (Electronics and Telecommunications Research Institute (ETRI), Korea (South))

[P4-2] A Survey of Deep/Machine Learning in Maritime Communications
Shrutika Sinha (Kookmin University, Seoul, South Korea, Korea (South)); Soo-Hyun Park (Kookmin University, Korea (South)); Soo Yeon Kwon (Korea Maritime Transportation Safety Authority, Korea (South))

[P4-3] Development of Edge AI Device Platform for Application Developer
SungJae Yoon and Seung Hyub Jeon (ETRI, Korea (South))

[P4-4] Design and Implementation of Autonomous Collaboration Service Between IoT Using Distributed Platform
Chang Su Lee (KOREA Univ, Korea (South)); U Seok Ji (RIWHA Networks co., Korea (South)); Mi Hyang Jeon (RIWHA Network co., Korea (South))

[P4-5] Airy YOLOv5 for Disabled Sign Detection
Akhrorjon Akhmadjon Ugli Rakhmonov and Barathi Subramanian (Kyungpook National University, Korea (South)); Taehun Kim (Dipvision Corporation, Korea (South)); Jeonghong Kim (Kyungpook National University, Korea (South))

[P4-6] Extended U-Net for Satellite Image Semantic Segmentation
Jin Won Jung and Yoan Shin (Soongsil University, Korea (South))

[P4-7] Relay Communication with Phase Dithering and Intentional Delay in SC-FDE Systems
Eui-Rim Jeong, Min-A Lee and Yu-ra Heo (Hanbat National University, Korea (South)); Oh Hyuk Jun (Kwangwoon University, Korea (South))

[P4-8] Low-Complexity Optimization for Two-User Uplink NOMA Empowered by a Large Intelligent Reflecting Surface
Luiggi Cantos and Yun Hee Kim (Kyung Hee University, Korea (South))

[P4-9] Low-Complexity Anomaly Detection Method Based on Feature Importance Using Shapley Value
Joohong Rheey and Hyunggon Park (Ewha Womans University, Korea (South))

[P4-10] DopeNet: Range-Doppler Radar-Based UAV Detection Using Convolutional Neural Network
Ali Aouto, Taesoo Jun, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

[P4-11] Design of a Fault Detection Circuit for One-Time Programmable Memories for Reducing Time
Hye Hyun Lee and Kang-Yoon Lee (Sungkyunkwan University, Korea (South))

[P4-12] A Solar Tracking System Using Feedback Controller and State Estimation Filter
Pyung Soo Kim and Su Yeol Kim (Tech University of Korea, Korea (South))

[P4-13] The Role of Microservices in the Internet of Things: Applications, Challenges, and Research Opportunities
Md. Delowar Hossain, Tangina Sultana, Ga-Won Lee and Eui-Nam Huh (Kyung Hee University, Korea (South))

[P4-14] Credit Card Default Prediction by Using Heterogeneous Ensemble
Wook Lee (Korea University, Korea (South)); Sangmin Lee (Kwangwoon University, Korea (South)); Junhee Seok (Korea University, Korea (South))

[P4-15] Deep Learning Image Analysis System on Embedded Platform
Hyok Song, In Kyu Choi and Min-Soo Ko (Korea Electronics Technology Institute, Korea (South)); Jisang Yoo (Kwangwoon University, Korea (South))

[P4-16] Noise-Robust Pipe Wall-Thinning Detection System Using Deep Learning
Jae Han Park (Kumoh National Institute of Technology, Korea (South)); Hun Yun and Jae Seong Im (KEPCO Engineering & Construction, Korea (South)); Munkyu Choi and Soo Young Shin (Kumoh National Institute of Technology, Korea (South))

[P4-17] Efficient Design and Implementation Method to Reduce NR-Based gNB Transmitter Development Time
Chan-Bok Jeong (Electronics and Telecommunications Research Institute (ETRI) & Chungbuk National University, Korea (South)); Hyungsik Ju (ETRI, Korea (South)); Youngil Jeon and Moon-Sik Lee (Electronics and Telecommunications Research Institute, Korea (South))

[P4-18] A Study on Asset Identification in Smart Buildings Automation Systems
Minsu Park and Seong-je Cho (Dankook University, Korea (South)); Hongeun Kim (Dongkuk University, Korea (South))

[P4-19] Performance Evaluation of Transport Protocols and Roadmap to a High-Performance Transport Design for Immersive Applications
Inayat Ali (Electronics and Telecommunications Research Institute (ETRI), Korea (South))

[P4-20] Predicting Heart Failure Prognosis Using Deep Learning Based on FT-Transformer
Geunho Kim, Minuk Yang, Geun-Hyeong Kim and Seonghwan Eom (Chungbuk National University Hospital, Korea (South)); Tae-Soo Lee (Chungbuk National University, Korea (South)); Seung Park (Chungbuk National University Hospital, Korea (South))

ECE – Ecole d'Ingénieurs

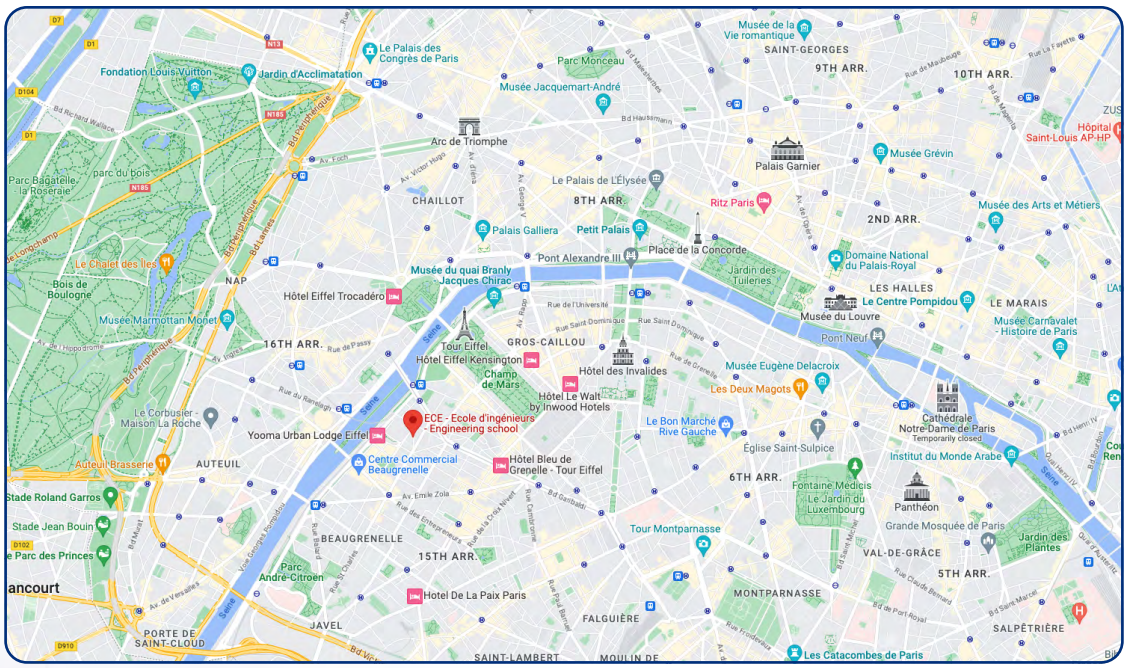
Address

10 Rue Sextius Michel, 75015 Paris, France

Introduction

The ECE was born in Paris in 1919. One of the strengths of the ECE is its strong link with the French capital. Still located in the heart of the city, the school is now only a few steps away from the Eiffel Tower, in the 15th arrondissement of Paris. By being in the heart of the cities, ECE offers its students an open, modern campus, permanently connected to the daily issues.

Map



Paris. Poets, artists, playwrights, writers, journalists, and more have all written about their love of this city. It's a place that exudes culture, sophistication, class, and style. Like the millions before me, I fell in love with this city the first time I visited. Settled by Gallic tribes around the 3rd century BCE, the region was conquered by the Romans a couple of centuries later, turning it into a prosperous settlement. By 508, Paris was made the capital of the Merovingian dynasty. The city was sacked by Vikings in 845 but recovered to repel further Viking incursions. By the 12th century, Paris was the economic and cultural hub of all of France. Today, Paris is one of the few iconic cities in the world that truly lives up to its hype. I've spent years visiting the city, have organized tours here, and even lived here for a bit. It is one of my absolute favorite places in the world. As Hemingway said, "If you are lucky enough to have lived in Paris as a young man, then wherever you go for the rest of your life, it stays with you, for Paris is a moveable feast." He wasn't wrong. As iconic as it is, Paris is also gigantic, with thousands of years of history and a plethora of things to see and do, from world-class museums to Disneyland Paris. It would take a lifetime to explore it all. Fortunately, with a little planning, you can see the highlights over just a few days.

Scale the Eiffel Tower

Built for the 1889 World Fair, the 300-meter tower is an engineering feat that was originally hated by locals. They called it "the metal asparagus" and hoped it would be torn down. Now, it's the most famous symbol of the city and every local will tell you they love it. It's a beautiful building. If you're going to go up to the top, get there early to avoid the lines. Tickets range from 16-26 EUR but I strongly suggest paying for direct access via an elevator that takes you to the top. It's worth spending the money on as the line can take upwards of an hour on busy days. You can also get joint Eiffel Tower and river cruise tickets which help you save if you plan on doing both activities.

Tour the Palace of Versailles

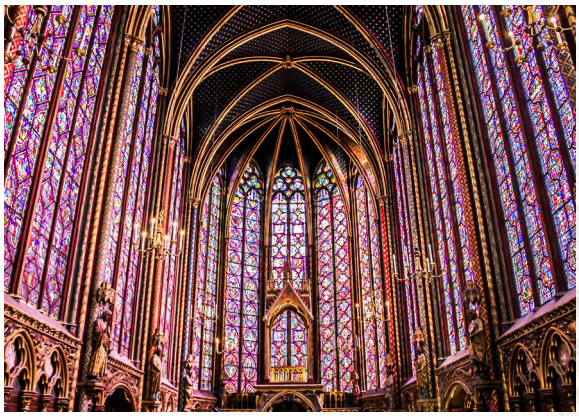
Visiting the famed 17th-century palace requires a whole day (don't skip Marie Antoinette's home or the spacious gardens that are located here). Originally, a hunting lodge, Louix XIV built this opulent palace to get the nobles out of Paris so they wouldn't plan any coups. It was expanded over the years and filled with tons of allegorical statues and symbols reminding people that the power of the state rested with the king! The palace gets super crowded so try to go during the weekday, though summer weekends are the best time to visit the gardens, as the fountains are set to music then. Admission to the palace is 18 EUR and admission to the entire complex (including the gardens) is 27 EUR. For a more in-depth experience, this Versailles tour is led by a local expert guide and includes round-trip transportation from Paris at a time that avoids most of the crowds. If you want to beat the crowds (which I highly recommend), skip-the-line tickets are available for 55 EUR. Since upwards of 10,000 people visit per day, skipping the line will save you a ton of time and help you get around the hordes of tourists that visit on tourist buses.

Explore the Louvre

The Louvre is the biggest museum in the world, with thousands of square feet of space and millions of artifacts and works of art (including the Mona Lisa and the Venus de Milo). To see it all, you need at least two full days, but you can do the highlights in a full afternoon (especially if you take the Louvre Highlights Tour, which includes skip-the-line entry). Admission costs 17 EUR, while timed skip-the-line tickets are an additional 17 EUR (if you're visiting on a weekend, skip-the-line tickets are a must!). If you want to really avoid the crowds, go on Wednesday night when the museum is open until 11pm. There's hardly anyone there after 7pm.

Wander the Latin Quarter

A historic area near the Notre Dame, the Latin Quarter is filled with tiny, winding streets that turn at weird angles to open into little cafe-lined squares. I love wandering around here; it always feels like you're stepping back a few hundred years in history. There are a lot of restaurants, bars, and jazz clubs here too. If you'd like to learn more about the area, this in-depth walking tour meanders through the Latin Quarter and includes skip-the-line tickets to the incredible Sainte-Chapelle, my favorite church in the city (read more below!). The tour is a perfect way to connect with a local guide who can share their insider tips and help you make the most of your visit.



Visit Sainte-Chapelle

This is my favorite church in Paris. Built in 1238 by Saint Louis, it was meant to house holy relics he found during the Crusades as well as serve as the Royal Chapel. I find this tiny Gothic chapel to be far more beautiful than the nearby Notre Dame. The (mostly) original interior décor is exquisite, including some of the few remaining examples of original stained glass in France. It's absolutely beautiful. Don't skip it! There's usually a long line, but museum pass holders can skip it. Entry costs 11.50 EUR and is likely to sell out so book your ticket in advance.

ICUFN 2023

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