10th ICMLSC 2026

The 10th International Conference on MACHINE LEARNING AND SOFT COMPUTING

February 4-6 2026 Osaka, Japan

Supporters

香港教育大學
The Education University of Hong Kong

광주대학교
GWANGJU UNIVERSITY

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Welcome Message

On behalf of the Organizing Committees, it is our great pleasure to welcome you to the 10th International Conference on Machine Learning and Soft Computing (ICMLSC 2026). This year, ICMLSC is being held from February 4-6, 2026 in Osaka, Japan.

The conference is a unique platform that brings together educators, researchers, practitioners, and industry professionals from around the world to engage in meaningful dialogue and exchange innovative ideas in the fields of machine learning and soft computing. By hosting ICMLSC, we aim to foster a collaborative environment where participants can explore cutting-edge research, technological advancements, and emerging trends that are shaping the future of education.

Our program this year includes an impressive array of keynote speeches, oral sessions, oral flash sessions, designed to provide valuable insights and inspire new approaches to education. We are honored to feature prominent speakers who will share their expertise on various topics, including the latest advancements in data science and computing, medical imaging, and intelligent computing and application.

We extend our heartfelt gratitude to all participants, speakers, and committees whose contributions make the conferences possible. Your active engagement is crucial to the success of ICMLSC 2026, and we look forward to the enriching discussions, networking opportunities, and collaborative spirit that define our conferences.

Thank you for joining us in Tokyo. We wish you an enjoyable, productive, and inspiring experience at ICMLSC 2026.

Conference Committee

Conference Agenda (GMT+9)

Sign-in & Conference Materials Collection	**February 4th, 2026 | 14:00-17:00** Conference Center @ Room 803
Online Presentation Test	**February 4th, 2026 | 10:00-12:00** ZOOM @ 823 0628 0713

February 5th, 2026 | Thursday				
09:20-9:30	Welcome Message			Rooms 701–702
Keynote Speech				
09:30-10:10	**Prof. Jun WANG**, City University of Hong Kong, China **Speech Title**: The Advances in Neurodynamic Optimization			
10:10-10:40	Group Photo & Coffee Break			Foyer
10:40-11:20	**Prof. Chengzhong Xu**, University of Macau, China **Speech Title**: Robust Autonomous Driving in Mixed Traffic			Rooms 701–702
11:20-12:00	**Prof. Miguel A. González Ballester**, Universitat Pompeu Fabra, Barcelona, Spain **Speech Title**: Interpretable (Quantum) Deep Learning for Medical Image Analysis			
12:00-13:30	Lunch			
Technical Session				
	ROOM 801	**ROOM 802**		**ROOM 803**
13:30-15:30	Best Student Paper Award	Oral Session 1		Oral Session 2
15:30-16:00	Coffee Break			
16:00-18:00	Oral Session 3	Oral Session 4		Oral Flash(Poster) Session
18:00-20:00	**Gala Dinner**			
February 6th, 2026 | Friday				
Online Session-ZOOM				
10:00-12:00	Online Oral Session 1			ID: 823 0628 0713
14:00-16:00	Online Oral Session 2			

Session Information

Onsite Presentations	
Best Student Paper	Innovative Research in Applied Machine Learning
	M1112, M1163, M1326, M1426, M1581, M1882
Oral Session 1	Advanced Algorithms, Theory, and Computing Infrastructure
	M1256, M1286, M1431, M1642, M1724, M1965-A, M2103, M2297
Oral Session 2	AI in Healthcare, Medical Imaging, and Bioinformatics
	M1122, M1153-A, M1173-A, M1194, M1215-A, M1481-A, M1522, M2234
Oral Session 3	Industrial Engineering, IoT, and Cybersecurity
	M1043, M1336-A, M1367-A, M1417-A, M1471-A, M1512, M1632, M2244
Oral Session 4	AI for Media, Finance, and Consumer Experience
	M1132, M1205, M1235, M1246, M1266, M1346, M1461, M1935
Oral Flash (Poster) Session	Applied Machine Learning and Intelligent Systems Integration
	M1031-A, M1056, M1087-A, M1143, M1573-A, M1615, M1714, M1893, M1955-A, M1975-A, M2062, M2307, M2317, M2342
Online Presentations	
Online Oral Session 1	Advanced Neural Architectures and Algorithmic Optimization
	M1071-A, M1102, M1441, M1604, M1904, M2224, M2265, M2027
Online Oral Session 2	Intelligent Systems for Health, Industry, and Social Analytics
	M1092, M1184, M1357, M1704, M2072, M2193, M1296, M2354

Practical Information

Conference Registration

The conference registration fee includes admission to all keynote sessions and parallel sessions. It also includes lunch, coffee breaks and the dinner on the 5th February, 2026.

Registration/Information Desk

14:00-17:00, Wednesday, 4th February 2026. (GMT+9), Room 803.

Personal Belongs Safety

Please take care of your safety and all personal belongings and wear your name tags during the whole conference and lock the door when you leave the room or take a break. No responsibility or liability is accepted by the conference organizer in respect of any loss or damage.
Please turn your mobile phone silent before the meeting starts to keep the venue quiet.

Related Links

https://www.gco.co.jp/visitor/access/

Dress Code

All participants are required to dress formally.
Casual wear is unacceptable. National formal dress is acceptable.

Social Media

 icmlsc@163.com

 icmlsc_conference@lau_maggie96900

 iconf-cs-1

 +86-028-8652-8629| +001(626)-2004303

Onsite Conference Notice

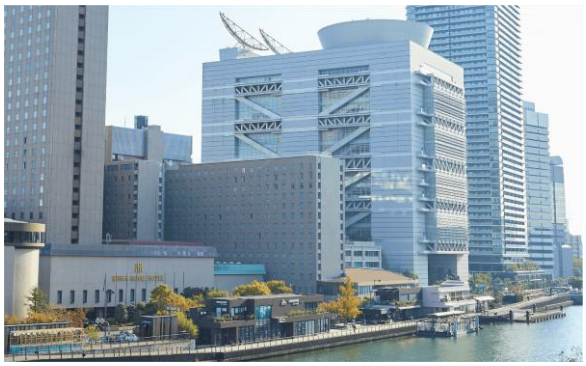
Conference Venue

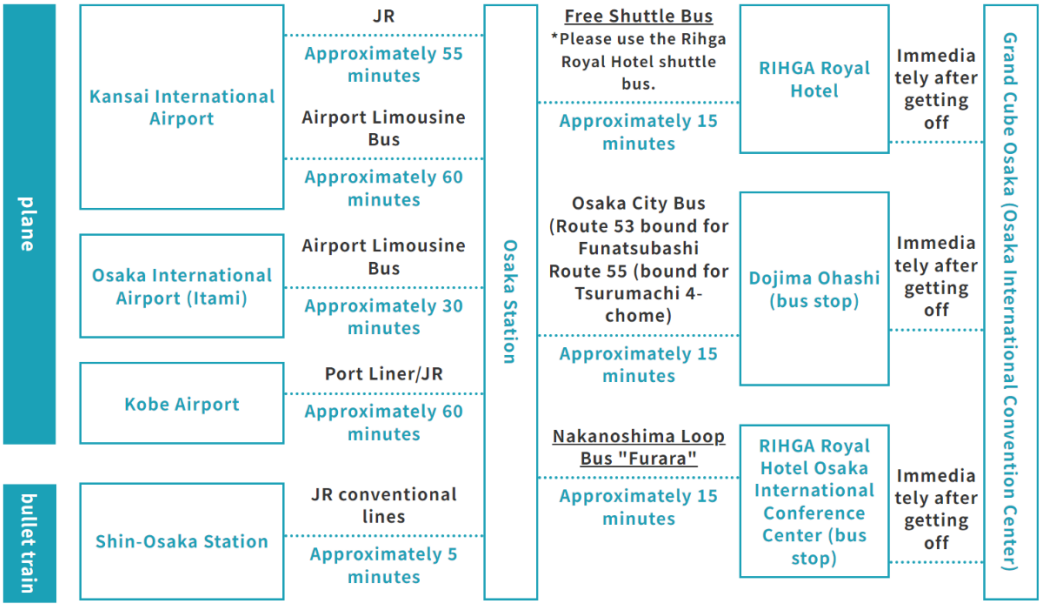
グランキューブ大阪
Osaka International Convention Center
（大阪府立国際会議場）

Osaka International Convention Center

Address: 5-3-51 Nakanoshima, Kita-ku, Osaka City, Osaka Prefecture, 530-0005 Japan

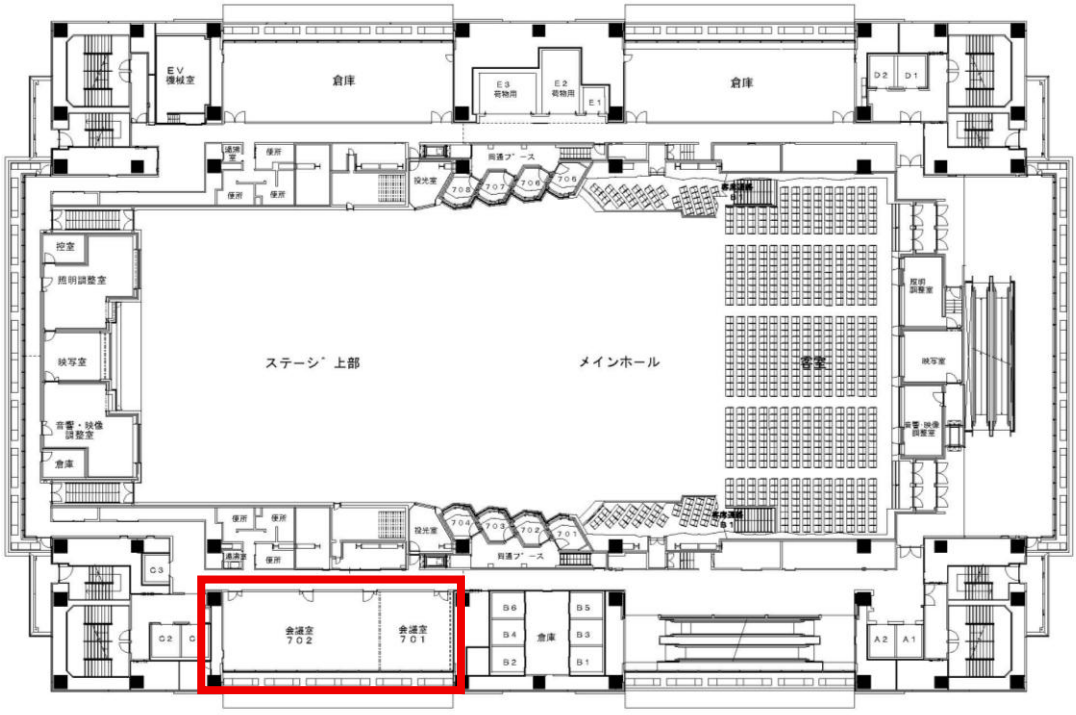
Map



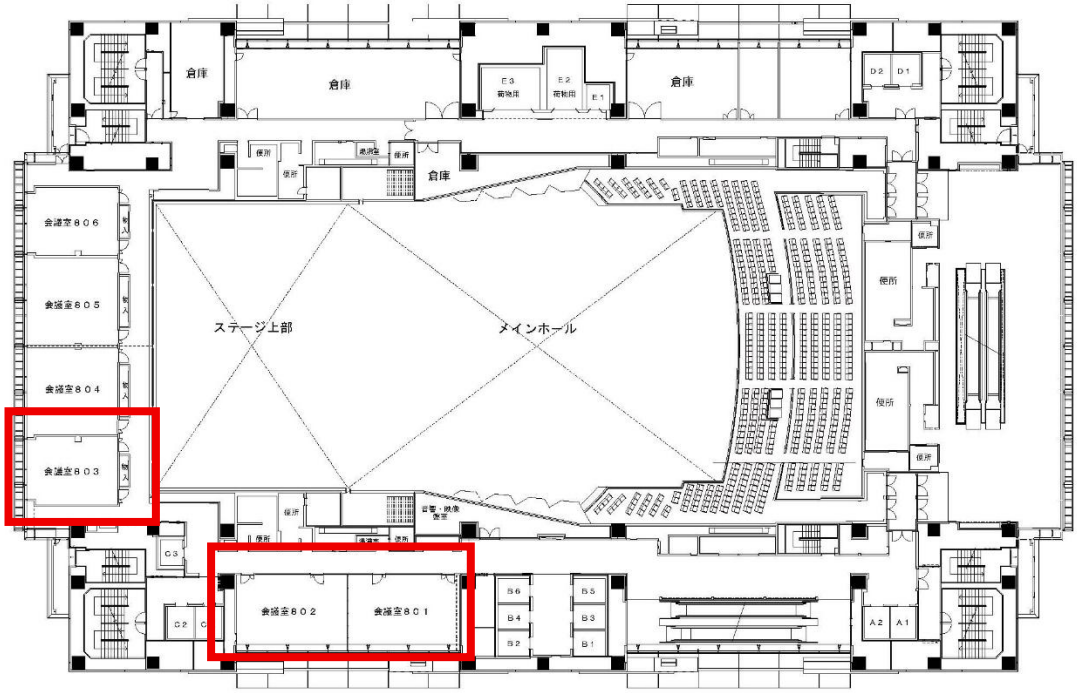


Conference Rooms Information

Floor Plan of 7F



Floor Plan of 8F



Onsite Presentation Guideline

Oral Presentations

- Keynote Speakers are limited to **40** minutes. (including Question & Answer).
  Best Student Paper Speakers are limited to **20** minutes. (including Question & Answer).

  Oral Presentations are limited to **15** minutes (including Question & Answer).
- Please schedule your presentation to allow about 5 minutes for questions from the audience.
- Your punctual arrival and active involvement in each session will be highly appreciated.

  Get your presentation PPT or PDF files prepared and backed up.
- Laptops, projector & screen, laser sticks will be provided by the conference orga nizer.

Oral Flash(Poster) Presentations

- Presenters shall prepare printed posters or PPT for oral flash presentation.
- The allotted time per each presenter is 5 minutes including Q&A, highlighting the key results presented in the poster.
- Poster size: A0, approximately (84 cm × 119 cm – W x H) in color print. Posters must be in portrait format(height>width). This cannot be modified. The poster should include Paper ID, Conference Name's Acronym, Significance of the research, the methods used, the main results obtained, and conclusions drawn
- Presenters shall arrive at the meeting room 15 minutes before the session starts.
- Please take your poster to the conference by yourself. The conference organizer won't send/keep any posters after the conference.
- After the Oral Flash session, presenters can discuss the works they presented.

Online Presentation Guideline

Test before Formal Meeting

Date: 10:00-12:00, 4th February 2026(GMT+9)
ZOOM ID: 823 0628 0713
Link: https://us02web.zoom.us/j/82306280713
Before the formal meeting, presenters shall join the test room to ensure everything is good.

Time Zone

Tokyo Time (GMT+9)
You're suggested to set up the time on your laptop in advance.

Equipment & Environment Needed

- A laptop with stable internet connection and camera
- Headphones ● A quiet place ● Proper lighting and background

Software

ZOOM Download:
https://zoom.us/download

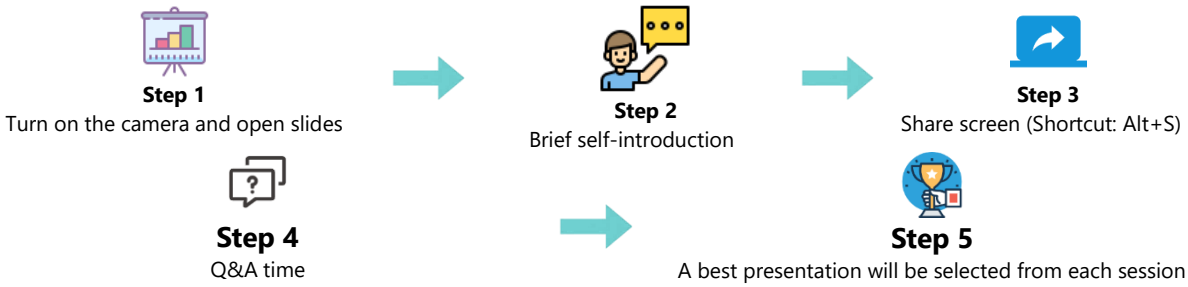
Presentation Tips

- Parallel Presentation Timing: a maximum of **15 minutes** in total, including 3 minutes for Q&A.
- It is suggested that the presenter email a copy of his/her video presentation to the conference email as a backup in case any technical problem occurs.

Conference Recording

- The whole conference will be recorded. We appreciate your proper behavior and appearance.
- The recording will be used for conference program and paper publication requirements. The video recording will be destroyed after the conference and it cannot be distributed to or shared with anyone else, and it shall not be used for commercial or illegal purposes. It will only be recorded by the staff and presenters have no rights to record.

Presentation Process by Zoom



Conference Committee

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University of Windsor, Canada

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Guandong Xu, The Education University of Hong Kong, China

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Sergei Gorlatch, University of Muenster, Germany

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Guennadi A. Kouzaev, Norwegian University of Science and Technology, Norway

History Overview (2017-2025)

ICMLSC 2025 (Tokyo, Japan | January 24-26, 2025)

The 9th International Conference on Machine Learning and Soft Computing (ICMLSC 2025) was successfully held on January 24-26, 2025 in Tokyo, Japan. The conference is organized by Chuo University, Japan, co-organized by Keiai University, Japan, and supported by University of Muenster, Germany and Concordia University, Canada.

ICMLSC 2024 (Singapore | January 26-28, 2024)

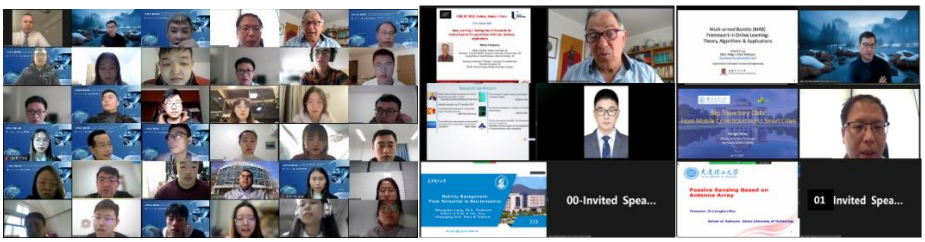
ICMLSC 2024 was held in Singapore during January 26-28, 2024. The conference adopted a combination of online and onsite modes to provide more diversified communication methods for everyone. 3 keynote speeches, 2 invited speeches and 6 sessions for oral presentations. According to paper topics, author presentations were divided into eight technical sessions, and each session selected one best presenter.

ICMLSC 2023 (Virtual | January 5-7, 2023)

ICMLSC 2023 was hosted by Chongqing University of Posts and Telecommunications, China. Due to the COVID-19, it was a pity that some of participants couldn't go to Chongqing for

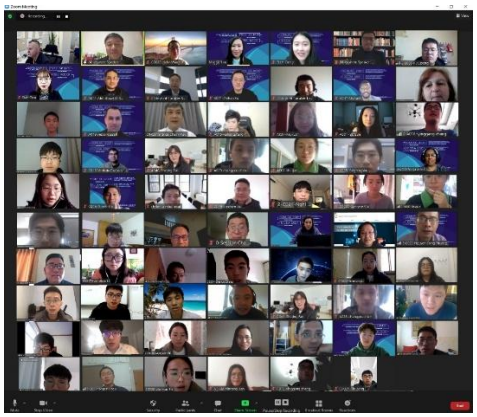
face-to-face communication and discussion. Therefore, the conference adopted a combination of online and onsite modes to provide more diversified communication methods for everyone. There were 3 keynote speeches, 2 invited speeches and 6 sessions for oral presentations from home and abroad delivered interesting and innovative invited speeches. The presenters of accepted papers were divided into eleven parallel sessions to deliver oral presentations about their papers. All participants had the chance to discuss with the speakers online, which provided advice and suggestions to improve their studies and research.

ICMLSC 2022 (Virtual | January 15-17, 2022)



ICMLSC 2022 was supposed to be held at Haikou, China. Due to continued COVID-19 disruption, ICMLSC 2022 was held online during January 15-17, 2022. It was sponsored by Ho Chi Minh City International University, Industrial University of Ho Chi Minh City and Hosei University. Besides, 3 keynote speeches, 3 invited speeches and 4 sessions shared with us their research works.

ICMLSC 2021 (Virtual | January 29-31, 2021)



ICMLSC 2021 was supposed to be held at Sanya, China during January 29-31, 2021. With COVID-19 spreads all over the world, finally it had to be held online. Participants, from Viet Nam, Japan, Peru, Spain, Thailand, Egypt, Poland, Indonesia, USA, etc., over 10 countries and regions around the world, had the chance to discuss with each other online.

This year, there were nearly 80 oral presentations divided into 10 sessions, 2 keynote speakers and 2 invited speakers to share with the participants their research works.

ICMLSC 2020 (Haiphong City, Vietnam | January 17-19, 2020)



ICMLSC 2019 (Da Lat, Vietnam | January 25-28, 2019)

ICMLSC 2018 (Phu Quoc Island, Vietnam | February 2-4, 2018)

ICMLSC 2017 (Ho Chi Minh City, Vietnam | January 13-16, 2017)

Keynote Speeches

9:30-10:10 | February 5th, 2026, | Rooms 701–702

Prof. Jun WANG

IEEE Fellow, IAPR Fellow, CAAI Fellow,
Fellow of the Hong Kong Academy of Engineering
City University of Hong Kong, China

Bio.: Jun Wang is a chair professor in the Department of Computer Science and the Department of Data Science at City University of Hong Kong. Prior to this position, he held various academic positions at Dalian University of Technology, Case Western Reserve University, University of North Dakota, and the Chinese University of Hong Kong. He also held various short-term visiting positions at USAF Armstrong Laboratory, RIKEN Brain Science Institute, Dalian University of Technology, Huazhong University of Science and Technology, and Shanghai Jiao Tong University. He published over 300 journal papers, 15 book chapters, 11 edited books, and numerous conference papers in these areas. He is the Editor-in-Chief of the IEEE Transactions on Artificial Intelligence and was the Editor-in-Chief of the IEEE Transactions on Cybernetics. He was an organizer of several international conferences, such as the General Chair of the 13th International Conference on Neural Information Processing (2006) and the 2008 IEEE World Congress on Computational Intelligence. He is an IEEE Fellow, IAPR Fellow, CAAI Fellow, a Fellow of the Hong Kong Academy of Engineering, a foreign member of Academia Europaea. He is a recipient of an IEEE Transactions on Neural Networks Outstanding Paper Award and APNNA Outstanding Achievement Award in 2011, Neural Networks Pioneer Award from IEEE Computational Intelligence Society in 2014, and Norbert Wiener Award from IEEE Systems, Man and Cybernetics Society in 2019, among others.

Speech Title: The Advances in Neurodynamic Optimization

Abstract: As an important tool for scientific research and engineering applications, optimization is omnipresent in a wide variety of settings. It is computationally challenging when optimization procedures have to be performed in real time to optimize the performance of dynamical systems. For such applications, classical optimization techniques may not be competent due to the problem dimensionality and the stringent requirement on computational time. New paradigms are needed. One very promising approach to optimization is to apply artificial neural networks. Because of the inherent nature of parallel and distributed information processing in neural networks, the convergence rate of the solution process does not decrease as the size of the problem increases. This talk will present the state of the art of neurodynamic optimization models and selected applications. Specifically, starting with the idea and motivation of neurodynamic optimization, I will review the historical review and present the state of the art of neurodynamic optimization with many individual models for convex and generalized convex optimization. In addition, I will present a multiple-time-scale neurodynamic approach to selected constrained optimization. Finally, I will introduce population-based collaborative neurodynamic approaches to constrained distributed and global optimization. By deploying a population of individual neurodynamic models with diversified initial states at a lower level coordinated by using some global search and information exchange rules based on swarm intelligence at an upper level, it will be shown that constrained optimization problems in science and engineering can be solved effectively and efficiently by means of neurodynamic optimization.

Keynote Speeches

10:40-11:20 | February 5th, 2026, | Rooms 701–702

Prof. Chengzhong Xu

IEEE Fellow, City University of Hong Kong, China

Bio.: Dr. Cheng-Zhong Xu is a Chair Professor of Computer Science and the Dean of the Faculty of Science and Technology, University of Macau. He served as Chief Scientist for key national projects on "Internet of Things for Smart City" (Ministry of Science and Technology of China) and "Intelligent Driving" (Macau SAR, China). He was also Director of Institute of Advanced Computing and Digital Engineering at the Shenzhen Institutes of Advanced Technology (SIAT), Chinese Academy of Sciences. Before these roles, he spent over 18 years as a faculty member at Wayne State University, USA. Dr. Xu's research focuses on parallel and distributed systems, cloud computing, intelligent driving and smart city applications. He has published over 600 papers and held more than 150 patents. His work has garnered over 24000 citations and has been cited in 340+ international patents, including 240 U.S. patents. Dr. Xu chaired IEEE Technical Committee of Distributed Processing from 2014 to 2020. He earned his B.S. and M.S. in Computer Science from Nanjing University and his Ph.D. from the University of Hong Kong in 1993. He is an IEEE fellow, due to contributions in resource management in parallel and distributed systems.

Speech Title: Robust Autonomous Driving in Mixed Traffic

Abstract: Autonomous driving is transitioning into a mature phase focused on robustness, leveraging cognitive edge AI technologies. This talk will first discuss the challenges for robust autonomous driving in mixed traffic where self-driving and human driving vehicles co-exist. It will then introduce University of Macau's MoCAD project, which develops core enabling technologies for robust autonomous driving in open and complex environments. Topics of generated AI for creating robust scenarios and world models for end-to-end driving simulation will be presented. Occupant emotional states and surrounding traffic behavior will also be discussed, as self-driving vehicles become moving robots on the road.

Keynote Speeches

11:20-12:00 | February 5th, 2026, | Rooms 701–702

Prof. Miguel A. González Ballester

Universitat Pompeu Fabra, Barcelona, Spain

Bio.: Prof. Miguel A. González Ballester holds a PhD in medical computer vision from the University of Oxford, UK (2000). He held senior research positions in Toshiba Medical Systems (Japan), INRIA (France), and the University of Bern (Switzerland). In 2008 joined the company Alma IT Systems in Barcelona (Spain), where he led the development of a new generation of computer tools for diagnosis and surgical planning. In 2013 he was awarded an ICREA Research Professorship, and joined the Department of Engineering at Universitat Pompeu Fabra in Barcelona, where he founded the Barcelona Center for New Medical Technologies (BCN Medtech). He has more than 150 publications in peer-reviewed scientific journals and 350 conference publications. He has supervised 27 PhD theses and has numerous research projects, including the ERC Synergy project Zee-Zoom-Zap. He is also co-founder and scientific advisor of the company MiWEndo Solutions S.L., and a Visiting Scientist at the QUANTIC research group of Barcelona Supercomputing Center, where he focuses his research on quantum machine learning.

Speech Title: Interpretable (Quantum) Deep Learning for Medical Image Analysis

Abstract: Deep learning has had a profound effect on the state of the art of computer vision, and particularly for medical imaging. The impressive performance of these methods is partly due to the development of very efficient approaches to solve highly overparameterized neural networks. Conversely, this leads to the problem of trust and interpretability of these models, which are key aspects in the medical domain. In this talk, we will see several works performed at the BCN Medtech team of Universitat Pompeu Fabra, Barcelona, Spain, focusing on explainability and uncertainty modelling for a variety of clinical applications. We will then delve into the interface between machine learning and quantum computing, and explore early works on the development of quantum machine learning approaches for healthcare.