ifip
APMS conference

APMS 2025

IFIP International Conference on Advances in Production Management Systems

Cyber-Physical-Human Production Systems: Human-AI Collaboration and Beyond

Sun. August 31 – Thu. September 4, 2025
Kamakura, Japan

Preface

Welcome to the 2025 International Conference on “Advances in Production Management Systems” (APMS)! As the flagship annual event of the IFIP Working Group 5.7, we are honored to gather in the historic city of Kamakura, Japan, under the theme: “Cyber-Physical-Human Production Systems: Human-AI Collaboration and Beyond”.

Kamakura is an ancient center of government of Japan, where Minamoto no Yoritomo became the first Shogun in 1192 and established his shogunate, and for nearly 150 years it flourished as a political, military, diplomatic, and cultural capital. Kamakura is now a historic city where numerous human dramas have unfolded, and the atmosphere of samurai culture still strongly lingers. Time-forward, in present-day Japan, a science and technology policy under the banner of “Society 5.0” is currently being promoted. The aim of Society 5.0 is to create a human-centric, super-smart society that achieves both economic development and the resolution of social challenges through highly integrated systems under a cyber-physical system environment.

This vision aligns perfectly with our conference theme, which explores the evolution from Cyber-Physical Production Systems (CPPSs) to Cyber-Physical-HUMAN Production Systems (CPHPSs) in the context of Industry 5.0. While CPPSs

Preface

initially focused on connecting machines, sensors, and digital networks for automated, real-time monitoring, many industries have since recognized the limitations of fully automated systems in areas like creativity and complex decision-making. Our new direction, therefore, emphasizes the integration of humans as key intelligent agents. CPHPSs build on the foundation of CPPSs by enabling seamless collaboration between humans and machines through advanced technologies like collaborative robots, AI-driven decision support, and digital twins. This approach recognizes that optimal performance comes not from replacing human skills but from augmenting them through symbiotic interaction with technology.

This year's conference marks the 44th edition of APMS conference and was co-hosted by the Manufacturing Systems Division of the Japan Society of Mechanical Engineers (JSME) from August 31st to September 4th, 2025. We've come a long way since the first APMS conference in 1982, which assembled just a small group of participants. The IFIP Working Group 5.7, which was established in 1978 by the General Assembly of the International Federation for Information Processing (IFIP) and held its first meeting with only seven members in 1979, now celebrates its 54th annual meeting with 131 full and candidate members and 35 honorary members. The robust program for APMS 2025, which featured over 200 papers, demonstrates that our community continues to make significant contributions to the field as future factories and supply chains demand more human-centric, sustainable, and resilient systems.

We are deeply grateful to all who contributed to the success of APMS 2025. The international review board, composed of 240 recognized experts, provided an average of 2.6 single-

Preface

blind peer reviews for each paper over two rigorous rounds. This meticulous process ensured the highest scientific quality, with 227 out of 247 submissions selected for publication across six volumes of the conference proceedings. We extend our sincere thanks to all contributing authors for sharing their high-quality research, as well as to our International Reviewers, Program Committee Members, and Special Sessions Organizers for their outstanding work.

Bringing together leading international experts from academia, industry, and government, APMS 2025 once again played a crucial role in shaping a sustainable future for the manufacturing, service, and logistics sectors. To uniquely contextualize our theme, attendees had the opportunity to join industrial tours near Kamakura, which showcased real-world applications of CPHPSs for supply chain management, production planning, and circular economy design.

We trust this conference has provided valuable insights and fostered new collaborations.

August 2025

Hajime Mizuyama

Eiji Morinaga

Tomomi Nonaka

Toshiya Kaihara

Gregor von Cieminski

David Romero

Keynote Speakers

Mr. Yasuaki Matsunaga

Head of Function Unit,
Production Innovation Center

Monozukuri (Manufacturing) and digital transformation (DX) Promotion at an Automotive Component Manufacturer (DENSO)

Abstract

The mobility industry is undergoing significant transformations, driven by environmental considerations and the advancement of vehicle intelligence. In manufacturing in above industry, it is essential to prioritize environmental sustainability and human well-being, while achieving simultaneously flexibility and productivity. This session introduces automotive manufacturer, DENSO's *Monozukuri* and DX initiatives in response to these changes. In particular, it presents DX applications in factory management, data-driven *Kaizen*, and the engineering chain that links product development, production line development, and mass production. The presentation also highlights DX initiatives aimed at environmental sustainability, as well as the challenges encountered during DX implementation and the efforts to resolve them.

Biography

Mr. Yasuaki Matsunaga joined DENSO Corporation in 1997, developed several production systems for automotive components as production engineer, lead to develop machine module system and *Monozukuri* DX in DENSO. He was Managing Director in DENSO Haryana Pvt. Ltd. (India) 2020-2021 and Chairman and Managing Director in DENSO International India Pvt. Ltd. (india) 2023.

He is a member of the Japan Society of Mechanical Engineering and the International Academy for Production Engineering (CIRP).

Keynote Speakers

Prof. Dr. Yasushi Umeda

Full Professor at Department of
Precision Engineering,
School of Engineering,
the University of Tokyo, Japan

Digitalization of manufacturing systems by using Digital Triplet.

Abstract

Digitalization is eagerly required in all domains for increasing added value and decreasing costs including labor costs. This paper discusses digitalization in the domain of manufacturing systems.

Features of Japanese manufacturing style include high quality of products and continuous improvement of manufacturing systems. Both of them are driven by skilled workers and engineers, who are working together. Inappropriate digitalization may eliminate skilled workers and engineers and, as a result, the company cannot maintain the quality and cost-effectiveness of the product and high productivity of the manufacturing system. Moreover, the digitalization may bring about the stagnation of technological progress of the manufacturing system if the digitalization impedes the continuous improvement.

In order to avoid these problems, we have proposed the concept of Digital Triplet (D3), which records the process of problem-solving of skilled engineers, models the process, and reuses it. In addition to physical world and cyber world, which constitute the traditional digital twin, Digital Triple consists of intelligent activity world, where engineers solve problems using digital twin, in addition to the traditional digital twin.

This presentation introduces the concept of Digital Triplet with some cases we are dealing with and methods we are developing.

Biography

Prof. Yasushi Umeda is a Full Professor at Department of Precision Engineering, School of Engineering, the University of Tokyo, Japan. He holds BE, ME, and Dr. Eng. in Precision Machinery Engineering from the University of Tokyo. He authored/edited 29 books, over 150 peer-reviewed articles, and has 19 patents granted/pending. Five of his papers won best paper awards in scientific journals and international conferences. After receiving Dr. Eng. degree, he is appointed as a research associate at School of Engineering, the University of Tokyo in 1992, a lecturer in 1995, an associate professor at Department of Mechanical Engineering, Graduate School of Engineering, Tokyo Metropolitan University in 1999, and a professor at Department of Mechanical Engineering, Graduate School of Engineering, Osaka University in 2005. Since 2014, he serves as a professor at School of Engineering, the University of Tokyo.

He is a fellow of CIRP (International Academy for Production Engineering), a fellow of JSME (Japan Society of Mechanical Engineers), a director of JSPE (Japan Society for Precision Engineering), a member of ASME (American Society of Mechanical Engineers), ILCAJ (the Institute of Life Cycle Assessment, Japan), JSER (Japan Society of Energy and Resources), and JSDE (Japan Society for Design Engineering).

His research interests include circular economy, smart manufacturing systems, life cycle engineering, eco-design, sustainability science, and design theory.

Keynote Speakers

Mr. Masahiro Morioka

FANUC CORPORATION ROBOT
Research & Development Division
ROBOT Mechanical Research &
Development Division Chief Engineer

Automation in Manufacturing Sites with Collaborative Robots with Ease of Use even for First-time Robot Users

Abstract

At manufacturing sites facing labor shortages, where automation that can improve productivity even with a small number of workers is needed, the demand for collaborative robots that can work with humans without safety fences is rapidly increasing. Until now, industrial robots have driven the automation of production systems, but with the advent of collaborative robots, human workers will also play a role in production automation. I will introduce the features and application examples of collaborative robots with ease of use even for first-time robot users, and show you one aspect of the new production system.

Biography

Masahiro Morioka completed the master's program in Precision Machinery Engineering, Graduate School of Engineering, the University of Tokyo in 1999. In the same year, he joined FANUC CORPORATION, and engaged in mechanical design of robots at the Robot Laboratory. He was appointed the development manager at the Robot Laboratory in 2011, and the Chief Engineer at the Robot Mechanical Research & Development Division in 2019, continuing to work on robot development (present).

Keynote Speakers

Prof. Dr. Daryl Powell

Chief Scientist, SINTEF Manufacturing and Professor, University of South-Eastern Norway

The Future of Lean: Beyond Borders, Beyond Myths, Beyond Human Limits

Abstract

Lean manufacturing is often linked to its Japanese roots, yet the reality is far more complex – and far more exciting. While Toyota's principles sparked a global movement, lean is not bound by geography. In fact, many Japanese firms have never even heard of it, while companies worldwide have implemented lean with varying degrees of success, sometimes under entirely false assumptions. In this keynote, Professor Powell will unravel the myths and truths of lean, drawing on two decades of research and hands-on experience guiding organizations toward excellence. He will also share his latest insights into how digitalization is reshaping lean thinking and practice in manufacturing firms. But the real game-changer? Artificial Intelligence. AI is not here to replace human expertise – it is here to amplify it.

By enhancing organizational learning, AI can help manufacturers detect patterns, accelerate problem-solving, and drive continuous improvement at an unprecedented scale. The future of lean isn't just about efficiency; it's about creating smarter, more adaptive organizations that harness the power of technology to learn faster and perform even better.

Biography

Prof. Dr. Daryl Powell is a leading voice in the world of Digital Lean Manufacturing, blending cutting-edge research with real-world impact. As Chief Scientist at SINTEF Manufacturing and Professor at the University of South-Eastern Norway, he drives innovation at the intersection of lean thinking and digital transformation. He also holds a Visiting Professorship at the University of Bergamo in Italy. Recognized for his pioneering contributions and academic leadership, Powell was awarded the honorary title of Professor of Practice at the University of Wales Trinity Saint David in 2021. A celebrated author, he has earned both the Shingo Research Award and the Shingo Publication Award for his work on The Routledge Companion to Lean Management and The Lean Sensei respectively. Most recently, he co-edited The Research Agenda for Lean Management, shaping the future direction of the field. With a career dedicated to bridging the gap between academia and practice, Powell continues his mission to help people break their misconceptions of lean.

Keynote Speakers

Dr. Youichi Nonaka

Research & Development Group, Hitachi, Ltd. Corporate Chief Researcher

Are the benefits of digitalization, including Industrie 4.0 and AI, really contributing to the realization of a sustainable society? Introducing an international project focusing on the Human-Machine-Interaction

Abstract

Our world that has dramatically increased labor productivity through mechanization and automation. On the other hand, the world that has changed labor structure through mechanization and automation. So, how should human and machine including AI interact in the future digital society? Experts from Japan and Germany have been discussing this issue since 2017. As a result in 2019, we showed that when machines assist humans too much, the insight and creativity that humans should have is lost, and we published the result as a discussion paper in acatech that it will be important for humans and machines to share experience and knowledge, help each other, and continuously improve the productivity of human society in order to build a sustainable society.

However, after the COVID-19 pandemic, human society has undergone drastic changes not only in lifestyle but also in values. Far from enjoying the benefits of digitalization, we are in a polycrisis, with regional conflicts expanding and natural disasters such as climate change becoming more severe. In light of this reality, international experts are once again gathering to discuss the policy of what we should do, especially what we should do in collaboration with machines, including AI, to build a sustainable society. This presentation introduces the discussion history and developed technologies related to this.

Biography

Dr. Youichi Nonaka joined the Production Engineering Research Laboratory of Hitachi Ltd. in 1992, working in R&D for industrial robot application systems, digital engineering technology, and production control technology. He was a visiting researcher at the Massachusetts Institute of Technology in 2001. He serves as an international expert and Japan representative to convening ISO / IEC international standardization activities since 2014, served as the director of the Manufacturing Systems Division of the Japan Society of Mechanical Engineering in 2017, serves as an adjunct professor at the Graduate School of Informatics, Kyoto University since 2018, etc.

At the German Academy of Science and Engineering (acatech) in 2019, he promoted a Japanese-German industry-academia expert discussion on the new relationship between humans and machines in a digital society, and published it as a discussion paper from acatech.

He is a member of the Japan Society of Mechanical Engineering, the Japan Society of Precision Engineering, the Japan Academy of Engineering, the International Academy for Production Engineering (CIRP), and the Germany – Japan IoT collaboration project.

Keynote Speakers

Dr. Masaaki Mochimaru

Fellow of National Institute of Advanced Industrial Science and Technology

Development and Social implementation of Interverse services - circulating the value between the meta-verse and the universe -

Abstract

The national research program, SIP 3rd Period (2023-2028), “Establishment of foundational technologies and rules for expanding the virtual economy” was set as one of the 14 programs, and the speaker, Mochimaru, was selected as the program director. The virtual economy is an economic sphere that utilizes virtual space (metaverse), and is estimated to be a market size of 1 trillion dollars by 2030. It is expected that the virtual economy will be 30% financial market such as virtual currency, another 30% market such as online games, and the remaining 40% market that connects virtual space and real space. We named this third market “Interverse” and developed a strategy to utilize Japan’s strengths here. This aims to create Interverse services that expand value in virtual space and circulate it back to real space. We will promote research through concrete cases ranging from health, tourism,

manufacturing, and office work to improving the value of towns, and form a technology base and software platform to widely deploy its use. In addition, we will advance research into international standards, human resource development, and ELSI to support these businesses. I will introduce the concept and strategy of the Interverse, as well as the status of specific individual research and development projects based on it, and look ahead to the human-centered future society that the Interverse will bring about.

Biography

Dr. Masaaki Mochimaru studied Mechanical Engineering and Ergonomics at Keio University in Japan, where he received his Master in Mechanical Engineering and PhD in Engineering. In 1993, he joined The National Institute of Advanced Industrial Science and Technology (AIST) as a researcher. In 2001, he was assigned as the deputy director of Digital Human Laboratory of AIST. In 2010, he launched and directed Digital Human Research Center of AIST. Through 2015-2018, he directed Human Informatics Research Institute of AIST. After November 2018, he directs a new research center, Human Augmentation Research Center of AIST. In 2023, he was assigned a fellow of AIST. His research interests are related to measurement and modeling of human functions and their applications. In recent years, his research interests are expanded to service engineering and servitization. Through 1997 to 2016, he was the chair of ISO TC159 (ergonomics)/SC3 (anthropometry and biomechanics). He was appointed as the chair of ISO TC 324 (sharing economy) in 2019, and also appointed as the chair of ISO PC 329 (consumer incident investigation guideline).

Conference Program

Sun. August 31, 2025

09:00 – 13:30	Doctoral Workshop
From 14:00	Registration Open
15:00 – 17:30	IFIP WG5.7 Working Group Meeting
18:00 – 20:00	Welcome Reception

Mon. September 1, 2025

From 08:30	Registration Open
09:00 – 12:30	**Opening Ceremony & Keynotes 1 - 3**
12:30 – 13:30	Lunch
13:30 – 14:50	**Parallel Sessions 1**
14:50 – 15:00	Break
15:00 – 16:20	**Parallel Sessions 2**
16:20 – 16:50	Coffee Break
16:50 – 18:30	**Parallel Sessions 3**

Conference Program

Tue. September 2, 2025

From 08:30	Registration Open
09:00 – 12:00	Keynotes 4- 6
12:00 – 13:00	Lunch
13:00 – 14:40	Parallel Sessions 4 & APMS Talks 1
14:40 – 14:50	Break
14:50 – 16:30	Parallel Sessions 5 & APMS Talks 2
16:30 – 17:00	Coffee Break
17:00 – 18:00	Parallel Sessions 6 & Meet the Editors
18:30 – 21:00	Gala Dinner

Conference Program

Wed. September 3, 2025

From 08:30	Registration Open
08:30 – 12:30	Workshop Applications of Artificial Intelligence in Supply Chain Management - Challenges and Opportunities
09:00 – 10:20	Parallel Sessions 7
10:20 – 10:40	Break
10:40 – 12:00	Parallel Sessions 8
12:00 – 13:00	Lunch
13:00 – 14:00	Parallel Sessions 9
14:00 – 14:10	Break
14:10 – 15:30	Parallel Sessions 10
15:30 – 16:00	Coffee Break
16:00 – 17:00	Parallel Sessions 11
17:30 – 18:00	Closing Ceremony

Conference Program

Thu. September 4, 2025

08:45 – 12:00 Mitsubishi Industrial Tour

09:15 – 12:00 Hitachi Industrial Tour

09:30 – 12:00 Toshiba Industrial Tour

Presentation Schedule

Date: Sunday, 31/Aug/2025	
9:00am - 1:30pm	**Marco Garetti Doctoral Workshop** Location: **Rose A-B & Olive A-B**
3:00pm - 5:30pm	**WG5.7 Annual Meeting** Location: **Olive A-B** For WG members only
6:00pm - 8:00pm	**Welcome Reception** Location: **Shichirigahama 6-7**

Presentation Schedule

Date: Monday, 01/Sept/2025

9:00am - 9:30am	Opening Ceremony Location: **Shichirigahama 1-3**						
9:30am - 10:30am	Keynote Speech 1: Monozukuri (Manufacturing) and digital transformation (DX) Promotion at an Automotive Component Manufacturer (Mr. Yasuaki Matsunaga) Location: **Shichirigahama 1-3** Chair: **Toshiya KAIHARA**						
10:30am - 11:30am	Keynote Speech 2: Digitalization of manufacturing systems by using Digital Triplet (Prof. Dr. Yasushi Umeda) Location: **Shichirigahama 1-3** Chair: **Hajime Mizuyama**						
11:30am - 12:30pm	Keynote Speech 3: Automation in Manufacturing Sites with Collaborative Robots with Ease of Use even for First-time Robot Users (Mr. Masahiro Morioka) Location: **Shichirigahama 1-3** Chair: **Hironori Hibino**						
12:30pm - 1:30pm	Lunch						
1:30pm - 2:50pm	Transforming Engineer-to-Order Projects, Supply Chains, and Systems - Part 1 Location: **Rose A** Chair: **Martin Rudberg** Chair: **Jo Wessel Strandhagen**		Enhancing the Value Creation Mechanisms of Manufacturing Value Chains through Digital Platforms, Circular Strategies, and Servitization Principles - Part 1 Location: **Olive A** Chair: **Johan Stahre** Chair: **Federica Acerbi**	Designing Next Generation Lean Models Supporting Social, Sustainable, and Smart Production Systems - Part 1 Location: **Olive B** Chair: **Matteo Zanchi** Chair: **David Romero**	Smart Manufacturing Evolution: Integrating AI and the Digital Twin for Human-centric, Circular and Collaborative Production Systems Location: **Shichirigahama 1** Chair: **Stefan Alexander Wiesner** Chair: **Thor Wuest**	Human-centred Work Systems for the Operator 4.0/5.0 in Manufacturing, Logistics, and Service Domains - Part 1 Location: **Shichirigahama 2** Chair: **Tamas Ruppert** Chair: **Peter Thorvald**	Human-Centered Service Engineering and Digital Transformation for Sustainable Service Industries Location: **Shichirigahama 3** Chair: **Takeshi Shimmura** Chair: **Takeshi Takenaka**
2:50pm - 3:00pm	Break						
3:00pm - 4:20pm	Transforming Engineer-to-Order Projects, Supply Chains, and Systems - Part 2 Location: **Rose A** Chair: **Patrick Dallasega** Chair: **Martin Rudberg**	Shaping Human Capital for Industry 5.0: Skills, Knowledge and Technologies for Human-Centric, Resilient, and Sustainable Manufacturing Location: **Rose B** Chair: **Mariantonietta Ferrante** Chair: **Micaela Vitti**	Enhancing the Value Creation Mechanisms of Manufacturing Value Chains through Digital Platforms, Circular Strategies, and Servitization Principles - Part 2 Location: **Olive A** Chair: **David Romero** Chair: **Johan Stahre**	Designing Next Generation Lean Models Supporting Social, Sustainable, and Smart Production Systems - Part 2 Location: **Olive B** Chair: **Federica Costa** Chair: **Matteo Zanchi**	Digital Transformation Approaches in Production and Management - Part 1 Location: **Shichirigahama 1** Chair: **Selver Softic** Chair: **Ioan Turcin**	Human-centred Work Systems for the Operator 4.0/5.0 in Manufacturing, Logistics, and Service Domains - Part 2 Location: **Shichirigahama 2** Chair: **Peter Thorvald** Chair: **Tamas Ruppert**	Advancing Eco-efficient and Circular Industrial Practices - Part 1 Location: **Shichirigahama 3** Chair: **Albachiara Boffelli** Chair: **Beatrice Colombo**
4:20pm - 4:50pm	Coffee Break						
4:50pm - 6:30pm	Transforming Engineer-to-Order Projects, Supply Chains, and Systems - Part 3 Location: **Rose A** Chair: **Jo Wessel Strandhagen** Chair: **Patrick Dallasega**	Innovative approaches and methods for developing industry 4.0 and industry 5.0 skills Location: **Rose B** Chair: **Fabiana Pirola** Chair: **Emrah Arica**	Supply Network Planning and Optimization Location: **Olive A** Chair: **Jonghun Woo** Chair: **Hermann Lödding**	Circular and Green Manufacturing Location: **Olive B** Chair: **Kjeld Nielsen** Chair: **Konstantinos Kaparis**	Digital Transformation Approaches in Production and Management - Part 2 Location: **Shichirigahama 1** Chair: **Ugljesa Marjanovic** Chair: **Vlad I. Bocanet**	Human-centred Work Systems for the Operator 4.0/5.0 in Manufacturing, Logistics, and Service Domains - Part 3 Location: **Shichirigahama 2** Chair: **Peter Thorvald** Chair: **Tamas Ruppert**	Advancing Eco-efficient and Circular Industrial Practices - Part 2 Location: **Shichirigahama 3** Chair: **Yusuke Kishita** Chair: **Beatrice Colombo**

Presentation Schedule

Date: Tuesday, 02/Sept/2025

9:00am - 10:00am	**Keynote Speech 4: The Future of Lean: Beyond Borders, Beyond Myths, Beyond Human Limits (Prof. Dr. Daryl Powell)** Location: **Shichirigahama 1-3** Chair: **Tomomi Nonaka**						
10:00am - 11:00am	**Keynote Speech 5: Are the benefits of digitalization, including Industrie 4.0 and AI, really contributing to the realization of a sustainable society? Introducing an international project focusing on the Human-Machine-Interaction (Dr. Youichi Nonaka)** Location: **Shichirigahama 1-3** Chair: **Eiji Morinaga**						
11:00am - 12:00pm	**Keynote Speech 6: Development and Social implementation of Interverse services - circulating the value between the meta-verse and the universe - (Dr. Masaaki Mochimaru)** Location: **Shichirigahama 1-3** Chair: **Toshiya KAIHARA**						
12:00pm - 1:00pm	**Lunch**						
1:00pm - 2:40pm	**Digital Services and Smart Product-Service Systems** Location: **Rose A** Chair: **Regina Schrank** Chair: **Mike Freitag**	**Methods and Tools for Assessing the Value of Digital, Sustainable and Servitized Offerings of Manufacturing Companies** Location: **Rose B** Chair: **Claudio Sassanelli** Chair: **Giuditta Pezzotta**	**AI-Driven Decision Support and Human-AI Collaboration for Smart and Sustainable Supply Chains - Part 1** Location: **Olive A** Chair: **Giovanni Zenezini** Chair: **Maria Pereira**	**Digital Twins and AI for Dynamic Scheduling and Human-Centric Applications - Part 1** Location: **Olive B** Chair: **Yongkuk Jeong** Chair: **Magnus Wiktorsson**	**Digital Transformation Approaches in Production and Management - Part 3** Location: **Shichirigahama 1** Chair: **Selver Softic** Chair: **Ioan Turcin**	**Human-centred Work Systems for the Operator 4.0/5.0 in Manufacturing, Logistics, and Service Domains - Part 4** Location: **Shichirigahama 2** Chair: **Johan Stahre** Chair: **Vittaldas V. Prabhu**	**APMS Talks - Part 1** Location: **Shichirigahama 3**
2:40pm - 2:50pm	**Break**						
2:50pm - 4:30pm	**How Supply Chain Can React to Internal and External Disruptions? - Part 1** Location: **Rose A** Chair: **Giulio Mangano** Chair: **Chandima Ratnayake**	**Enabling Circularity in Batteries & E-Waste with Digital Technologies: From Production to Recycling - Part 1** Location: **Rose B** Chair: **Mélanie Despeisse** Chair: **Koteshwar Chirumalla**	**AI-Driven Decision Support and Human-AI Collaboration for Smart and Sustainable Supply Chains - Part 2** Location: **Olive A** Chair: **Eduardo e Oliveira** Chair: **Alexandra Lagorio**	**Digital Twins and AI for Dynamic Scheduling and Human-Centric Applications - Part 2** Location: **Olive B** Chair: **Jonghun Woo** Chair: **Erik Flores-García**	**Digital Transformation Approaches in Production and Management - Part 4** Location: **Shichirigahama 1** Chair: **Ugljesa Marjanovic** Chair: **Selver Softic**	**Artificial Intelligence / Machine Learning in Manufacturing - Part 1** Location: **Shichirigahama 2** Chair: **Boonserm Kulvatunyou** Chair: **Jürgen Lenz**	**APMS Talks - Part 2** Location: **Shichirigahama 3**
4:30pm - 5:00pm	**Coffee Break**						
5:00pm - 6:00pm	**How Supply Chain Can React to Internal and External Disruptions? - Part 2** Location: **Rose A** Chair: **Giulio Mangano** Chair: **Albachiara Boffelli**	**Enabling Circularity in Batteries & E-Waste with Digital Technologies: From Production to Recycling - Part 2** Location: **Rose B** Chair: **Koteshwar Chirumalla** Chair: **Mélanie Despeisse**	**Sustainable Product Design and Engineering** Location: **Olive A** Chair: **Alessia Napoleone** Chair: **Seyoum Eshetu Birkie**	**Simulation of Production and Supply Chains** Location: **Olive B** Chair: **Hyun Woo Jeon** Chair: **Daisuke Kokuryo**	**Meet the Editors: Design, Manufacturing & Production Management** Location: **Shichirigahama 1** Chair: **David Romero**	**Artificial Intelligence / Machine Learning in Manufacturing - Part 2** Location: **Shichirigahama 2** Chair: **Sang Do Noh** Chair: **Marcelo Tsuguio Okano**	
6:30pm - 9:00pm	**Gala Dinner** Location: **Shichirigahama 3&5-7**						

Presentation Schedule

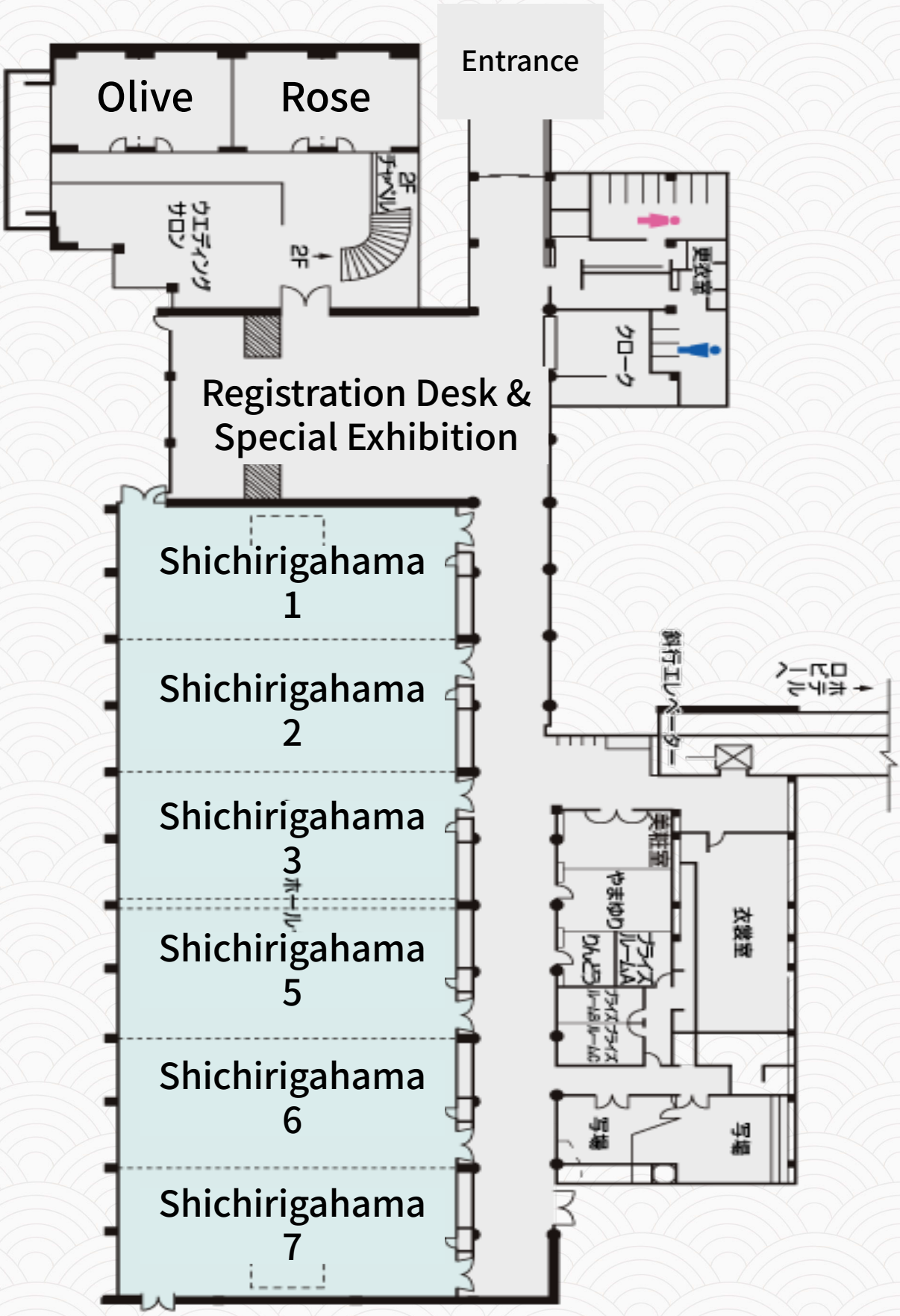
Date: Wednesday, 03/Sept/2025

8:30am - 12:30pm	Workshop: Applications of Artificial Intelligence in Supply Chain Management - Challenges and Opportunities Location: **Shichirigahama 2**					
9:00am - 10:20am	Maintenance and Asset Lifecycle Management for Sustainable and Human-centered Production - Part 1 Location: **Rose A-B** Chair: Jon Bokrantz Chair: Adalberto Polenghi	Upgrade Circular Economy for the manufacturing industry - Part 1 Location: **Olive A** Chair: Regina Schrank Chair: Emrah Arica	Scheduling and Production Planning in Smart Manufacturing - Part 1 Location: **Olive B** Chair: Takashi Tanizaki Chair: Koji Iwamura	Cloud and Collaborative Technologies Location: **Shichiriagahama 1** Chair: Marcelo Tsuguio Okano Chair: Georgios Zois		Cyber-Physical System-Based Approaches to Achieve Sustainability Location: **Shichirigahama 3** Chair: Wassim BOUAZZA Chair: Yasamin Eslami
10:40am - 12:00pm	Maintenance and Asset Lifecycle Management for Sustainable and Human-centered Production - Part 2 Location: **Rose A-B** Chair: Irene Roda Chair: Adalberto Polenghi	Upgrade Circular Economy for the manufacturing industry - Part 2 Location: **Olive A** Chair: Regina Schrank Chair: Tomiya Kimura	Scheduling and Production Planning in Smart Manufacturing - Part 2 Location: **Olive B** Chair: Koji Iwamura Chair: Takashi Tanizaki	Experiential Learning in Engineering Education - Part 1 Location: **Shichirigahama 1** Chair: Giovanni Romagnoli Chair: Matthias Kalverkamp		Industrial Data Spaces and Sustainability Location: **Shichirigahama 3** Chair: Oliver Antons Chair: Wiesław Urban
12:00pm - 1:00pm	Lunch					
1:00pm - 2:00pm		Mechanism Design for Production, Service and Supply Chain Management - Part 1 Location: **Olive A-B** Chair: Ryuichiro Ishikawa Chair: Nariaki Nishino		Experiential Learning in Engineering Education - Part 2 Location: **Shichirigahama 1** Chair: Jannicke Baalsrud Hauge Chair: Matthias Kalverkamp	Theoretical and Practical Advances in Human-Centric, Resilient, and Sustainable Supply Chain Management - Part 1 Location: **Shichirigahama 2** Chair: Aya Ishigaki Chair: Ziang Liu	Digital Technologies in Manufacturing and Logistics: Exploring Digital Twin, IoT, and Additive Manufacturing - Part 1 Location: **Shichirigahama 3** Chair: Eiji Morinaga Chair: Toshitake Tateno
2:00pm - 2:10pm	Break					
2:10pm - 3:30pm	Digital Track 1 Location: **Rose A-B** Chair: Eiji Morinaga Chair: Hironori Hibino	Mechanism Design for Production, Service and Supply Chain Management - Part 2 Location: **Olive A-B** Chair: Shota Suginouchi Chair: Ryuichiro Ishikawa		Enhancing Value Chain Resilience through Digital Technologies Location: **Shichirigahama 1** Chair: Thomas Brunø Chair: Kjeld Nielsen	Theoretical and Practical Advances in Human-Centric, Resilient, and Sustainable Supply Chain Management - Part 2 Location: **Shichirigahama 2** Chair: Ziang Liu Chair: Aya Ishigaki	Digital Technologies in Manufacturing and Logistics: Exploring Digital Twin, IoT, and Additive Manufacturing - Part 2 Location: **Shichirigahama 3** Chair: Tatsuhiko Sakaguchi Chair: Nestor Fabian Ayala
3:30pm - 4:00pm	Coffee Break					
4:00pm - 5:00pm	Digital Track 2 Location: **Rose A-B** Chair: Eiji Morinaga Chair: Tomomi Nonaka	Mechanism Design for Production, Service and Supply Chain Management - Part 3 Location: **Olive A-B** Chair: Nariaki Nishino Chair: Ryuichiro Ishikawa			Theoretical and Practical Advances in Human-Centric, Resilient, and Sustainable Supply Chain Management - Part 3 Location: **Shichirigahama 2** Chair: Aya Ishigaki Chair: Ziang Liu	Digital Technologies in Manufacturing and Logistics: Exploring Digital Twin, IoT, and Additive Manufacturing - Part 3 Location: **Shichirigahama 3** Chair: Tatsuhiko Sakaguchi Chair: Marvin Carl May
5:30pm - 6:00pm	Closing Ceremony Location: **Shichirigahama 1-2**					

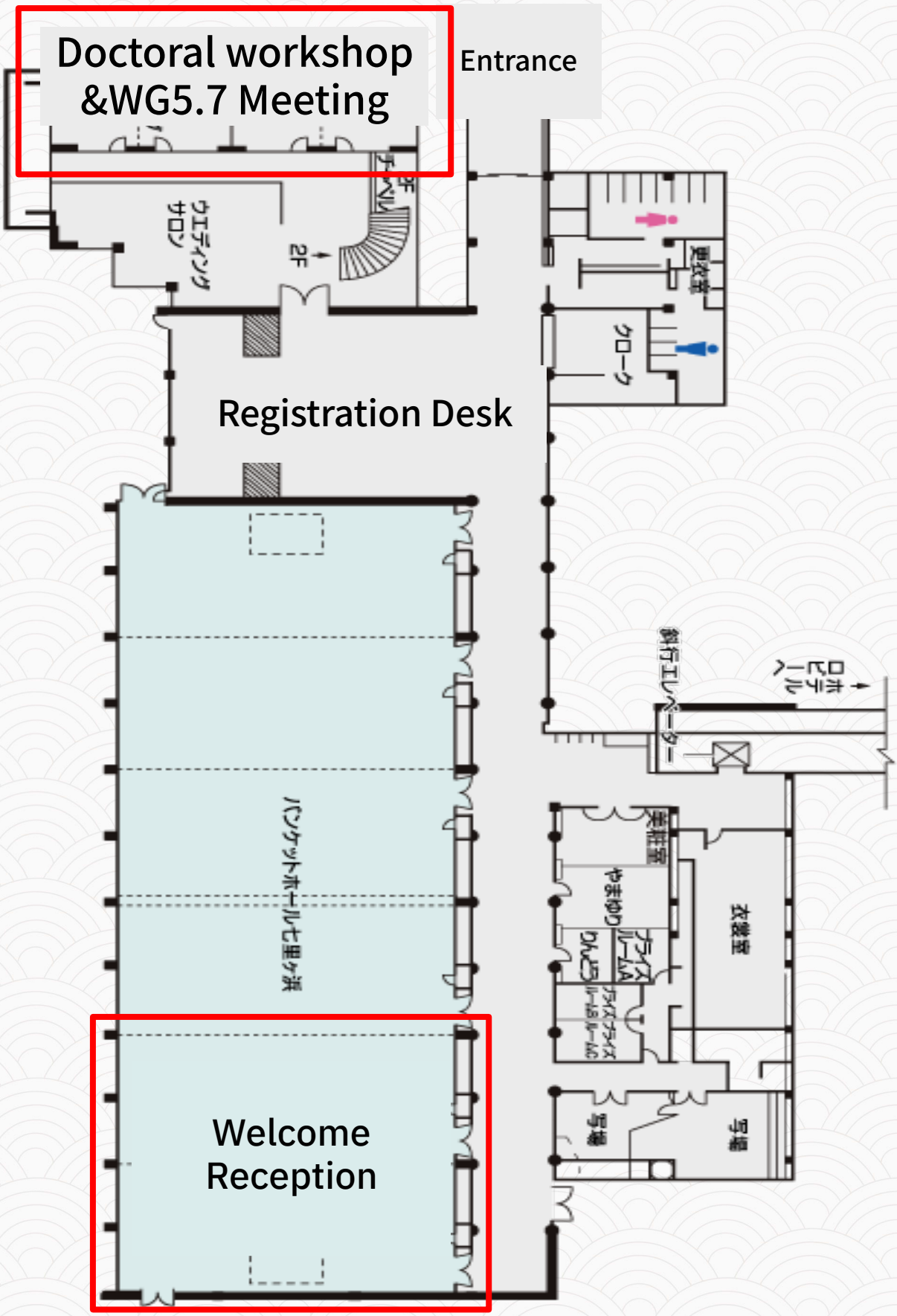
Presentation Schedule

Date: Thursday, 04/Sept/2025	
	Industrial Tour

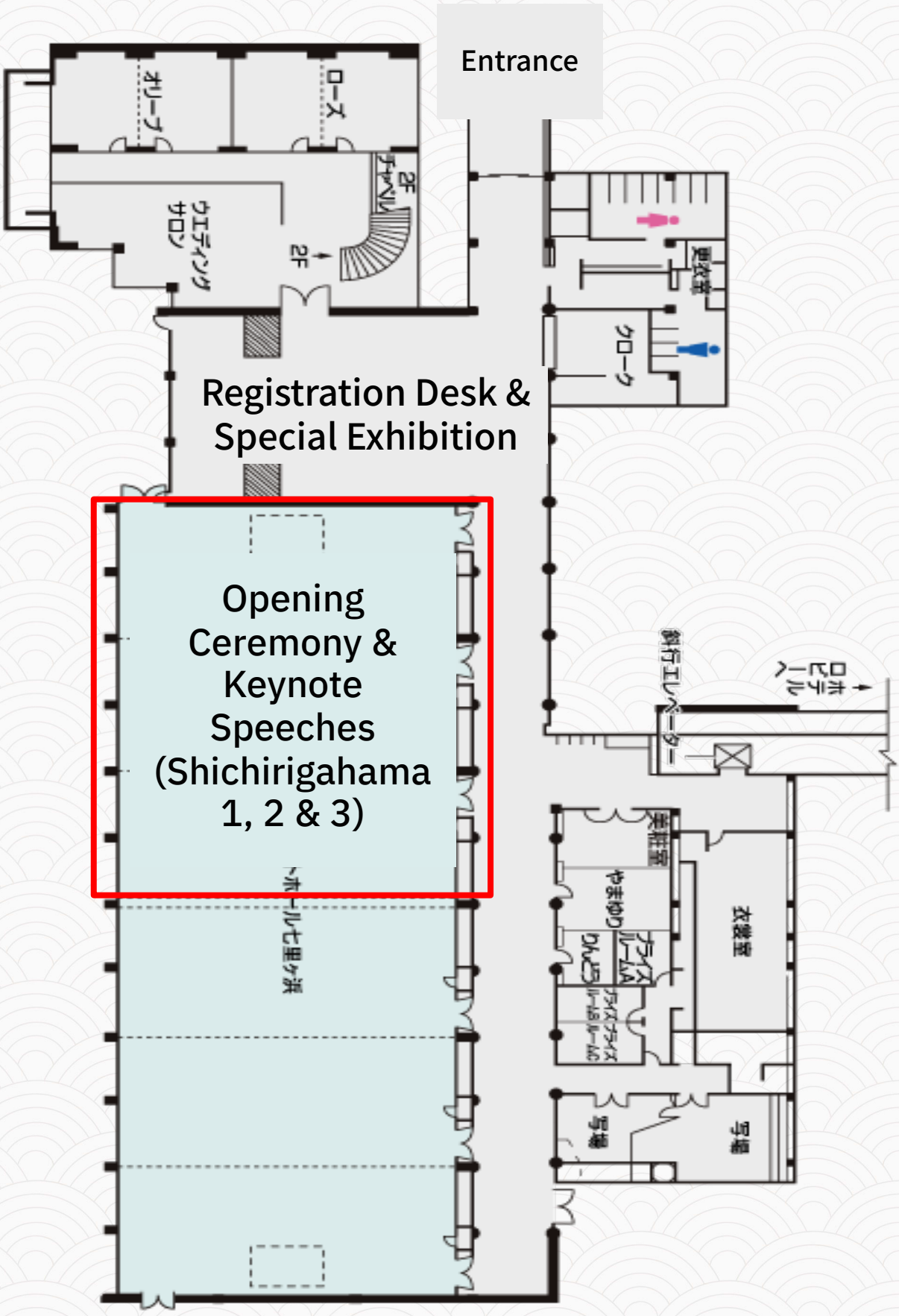
Site Map Overview



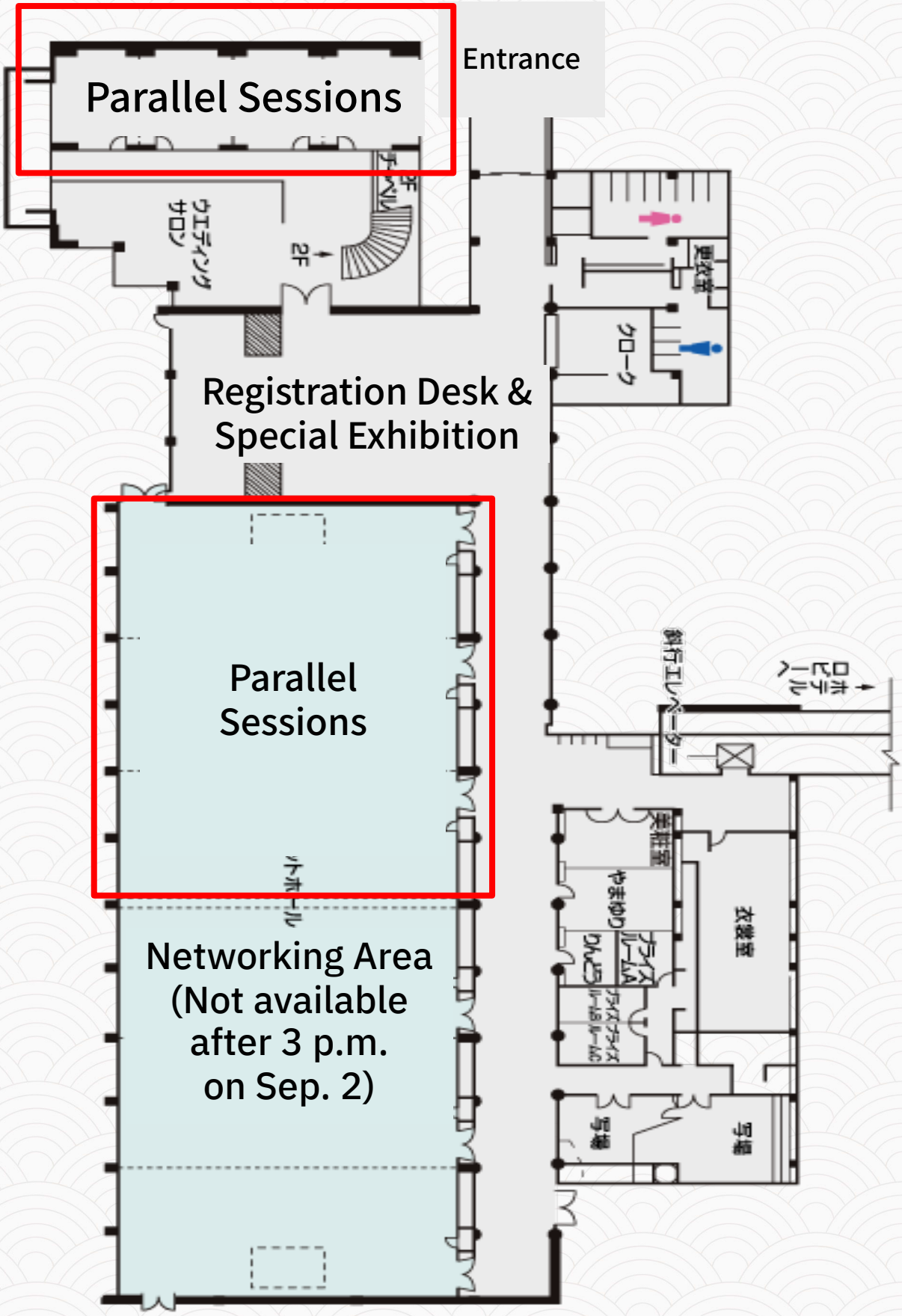
Site Map
August 31



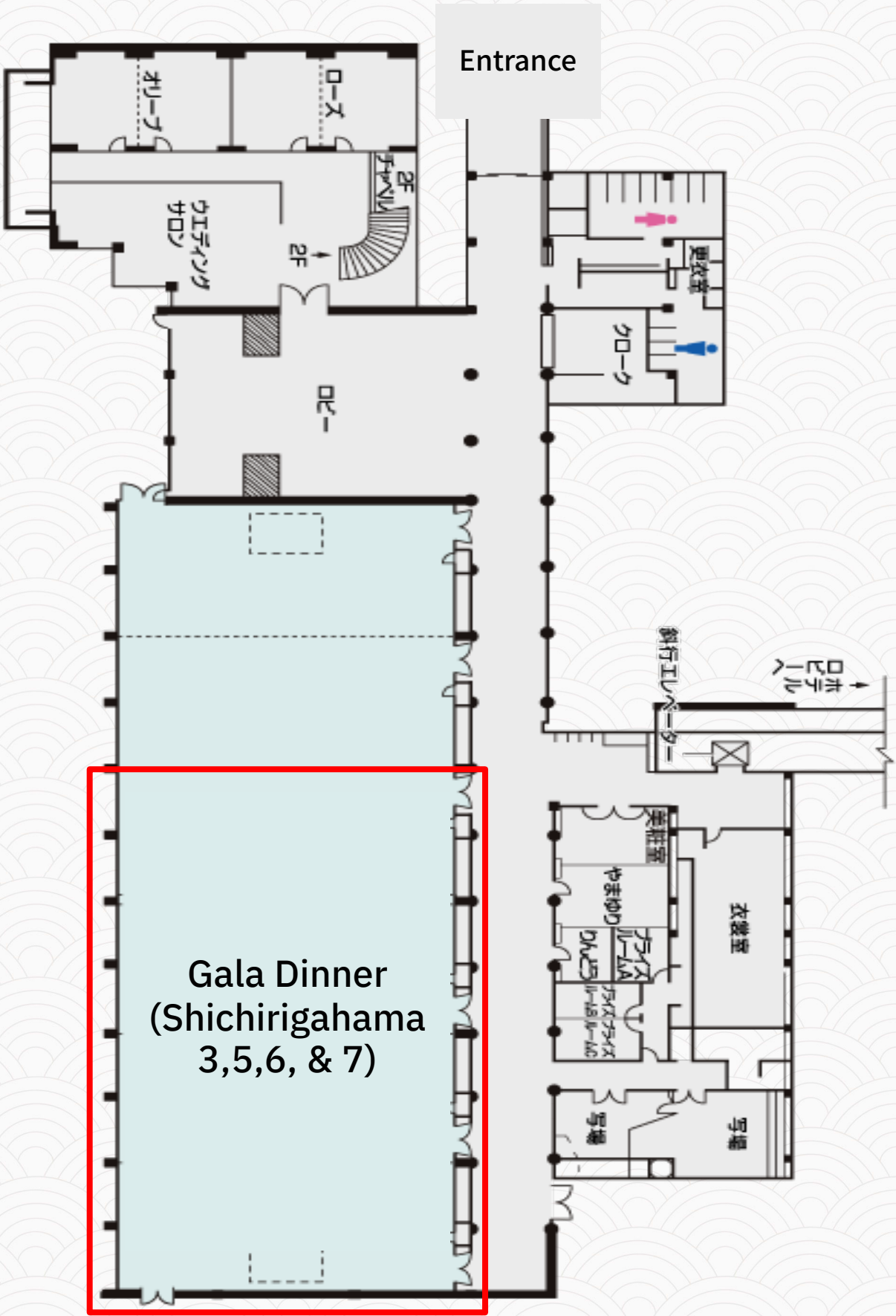
Site Map
Morning of Sep. 1 and 2



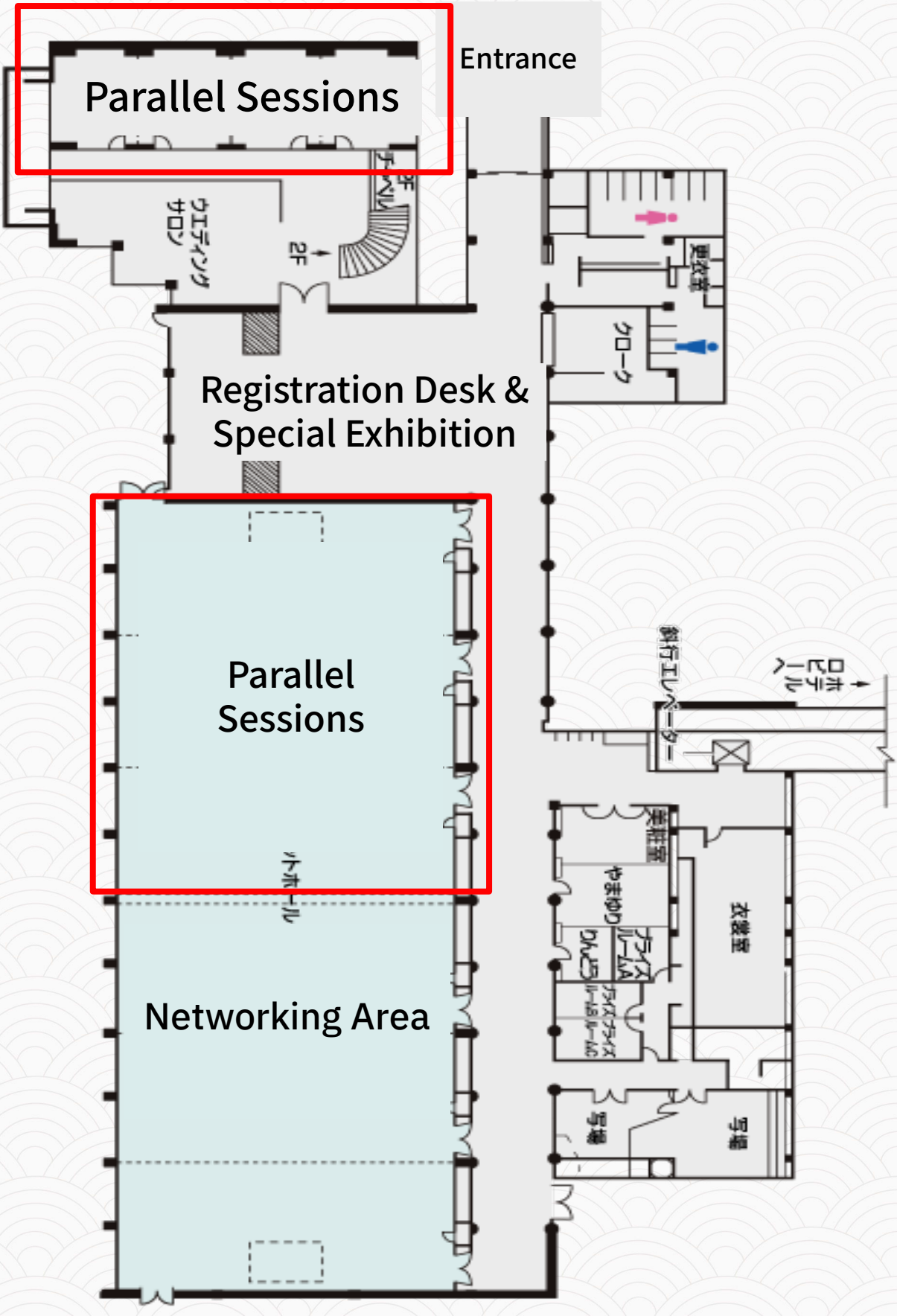
Site Map
Afternoon of Sep. 1 and 2



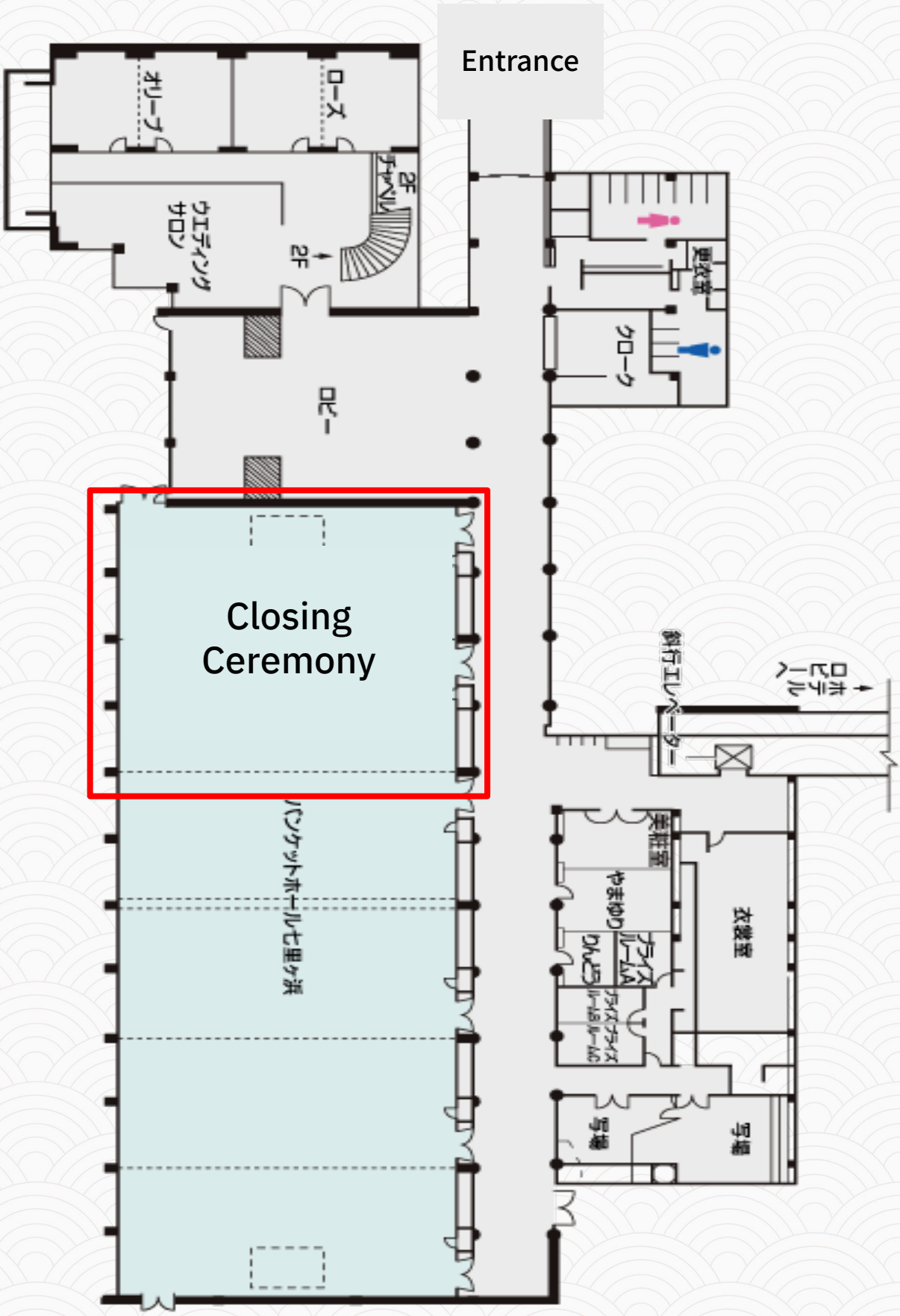
Site Map
Evening of Sep. 2



Site Map
September 3



Site Map
Evening of Sep. 3



Supporting Organizations

Publishing support

Springer

Co-hosted by

MSD Manufacturing Systems Division
JSME The Japan Society of Mechanical Engineers

Supported by

Information Processing Society of Japan

Tateisi Science and Technology Foundation

KDDI Foundation

College of Science and Engineering
Aoyama Gakuin University

Organized by

ifip
APMS conference

Link

APMS Conference

Important Location Map

Japan Transit Planner