* **ICICIC2025 Schedule (Japan Time)**
* **August 26, 2025 (Tuesday)**

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| **Time** | **Event** | **Extended Details** |
| **14:00–**  **18:00** | **Registration& Expo** | **- Tiered check-in (Pre-registered/VIP/On-site) - Multi-language support (EN/JP/CN) - Package: Conference manual, USB drive (with 2025 Proceedings PDF)** |
| **18:30 – 20:00** | **Welcome Reception** | **Welcome Reception** |

* **August 27, 2025 (Wednesday)**

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| **Time** | **Event** | **Extended Details** |
| **08:30 – 12:00** | **Opening Ceremony and Remarks; Keynote Speeches** | **Opening Ceremony: - JSME President's Address (08:30-08:50) - Chinese Academy of Sciences Video Message (08:50-09:10) - METI Policy Speech (09:10-09:30) - Keynote Speech I: ▫️ Prof. Kou Yamada: "Failure Detection and Fault Tolerant Control System–Parameterization Approach" (Live demo from Mitsubishi Heavy Industries)**  **- Keynote Speech II：**  **▫️ Prof. Qidan Zhu:"Related Works about Intelligent Ship: Development of Situation Awareness System, Verification and Valuation System and Application of Digital Twin Technology"** |
| **13:00 – 15:00** | **Parallel Sessions** | **Tracks: - Robust Control Theory - Digital Twin Architecture - Autonomous Navigation Algorithms** |
| **15:20 – 17:20** | **Parallel Sessions** | **Tracks: - Industrial Failure Prediction - Human-Machine Safety Standards - Autonomous System Ethics Framework** |
| **18:30 – 20:30** | **Banquet** | **Free communication** |

* **August 28, 2025 (Thursday)**

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| **Time** | **Event** | **Extended Details** |
| **08:30 – 10:00** | **Parallel Sessions** | **- Workshop 1: Digital Twin Development Suite Tools: Unity3D+ROS+TensorFlow Deliverable: Ship Collision Avoidance Algorithm Prototype - Workshop 2: Fault Tree Analysis Competition Platform: ReliaSoft Weibull++** |
| **10:20 – 12:20** | **Parallel Sessions** | **- Theme: " Big Data Analysis and Data-Driven Intelligent Optimization" - Format: ▫️ 5-min Lightning Talks (30 presenters) ▫️ IEEE Fellow Panel (3 judges) ▫️ "Most Promising Research" Award** |
| **14:20 – 15:50** | **Young Scholars Forum** | **▫️ IEEE Fellow Panel (3 judges) ▫️ "Most Promising Research" Award** |
| **16:30-18:30** | **Technical Visit** | **- Tour Options: ▫️ Mitsubishi Heavy Industries R&D Center (Yokohama) ▫️ Yokohama Smart Port Operations - Highlights: ▫️ Live Failure Detection System Demo ▫️ Autonomous Container Crane Operations** |

* **August 29, 2025 (Friday)**

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| **Time** | **Event** | **Extended Details** |
| **08:30 – 17:00** | **Technical Visit** | **- Security-Cleared Options: A. Japan Maritime Self-Defense Force Control Center B. TEPCO Disaster Prevention System - Includes: ▫️ NDA Signing ▫️ 1:1 Expert Consultation** |
| **18:30 –20:30** | **Awards Ceremony and Farewell Party** | **- Award Settings:**  **▫️ Best Paper Award (IEEE CSS Recommended)**  **▫️ Industrial Innovation Award (jointly presented by Mitsubishi Heavy Industries and Harbin Engineering University)**  **▫️ Breakthrough Young Scholars Award (JSME Special Fund)** |

Keynote Speech I

Failure Detection and Fault Tolerant Control System

–Parameterization Approach–

Professor Kou Yamada

Gunma University, Japan

Abstract: In the real systems, sometimes failures occur. When control systems experience failure, there exist two methods. One is to design a control system that remains stable even if failure occurs. The other is to detect failure to control the system stable. The former methods are called simultaneous stabilization and strongly stabilization. Simultaneous stabilization is to control several plants using one controller. Therefore, when we find the plant models after failures, if we design a controller to stabilize all plant models, then even if the failure occurs, we can keep the system stable. The strongly stabilization problem is to make the control system stable using stable controllers. This method is safer even if the feedback loop is cut. The latter system includes failure detector. When the failure is detected, control system changes to make the control system stable. In this speech, we explain failure detection and fault tolerant control system using parameterization approach.

Biography of Professor Kou Yamada

Kou Yamada received his B.S. and M.S. degrees from Yamagata University, Yamagata, Japan in 1987 and 1989, respectively, and his Dr. Eng. degree from Osaka University, Osaka, Japan in 1997. From 1991 to 2000, he was with the Department of Electrical and Information Engineering, Yamagata University, Yamagata, Japan as a research associate. From 2000 to 2008, he was an associate professor in the Department of Mechanical System Engineering, Gunma University, Gunma, Japan. Since 2008, he has been a professor in the Department of Mechanical System Engineering, Gunma University, Gunma, Japan. He serves as the coordinator for Special Program “Education Program on Intelligence and Control for Developing Human Resources of Japanese Companies” in Gunma University. His research interests include robust control, repetitive control, process control, and control theory for inverse systems and infinite-dimensional systems. Dr. Yamada received the 2005 Yokoyama Award in Science and Technology, the 2005 Electrical Engineering/Electronics, Computer, Telecommunication, and Information Technology International Conference Best Paper Award, the Japanese Ergonomics Society Encouragement Award for an Academic Paper in 2007, the Electrical Engineering/Electronics, Computer, Telecommunication, Information Technology International Conference Best Paper Award in 2008, 2023 and 2024, the International Conference on Innovative Computing, Information and Control Best Paper Award in 2009 and 2019, and Outstanding Achievement Award from Kanto Branch of Japanese Society for Engineering Education in 2022, JSME (The Japan Society of Mechanical Engineers) Education Award in 2023. He is a member of IEEE, SICE, and a fellow of JSME.

Keynote Speech II

Related Works about Intelligent Ship: Development of Situation Awareness System, Verification and Valuation System and Application of Digital Twin Technology

Professor Qidan Zhu

Harbin Engineering University, China

Abstract: Intelligent ships emerge as an important development field nowadays; on-board situation awareness systems and decision-making support systems are crucial for intelligent ships. The work we have done in this technical field mainly covers the following aspects. The first one is about the development of on-board situation awareness systems, and simulation verification and evaluation systems for intelligent decision-making, including the composition, performance and key technologies of the systems. The second one is in the aspect of autonomous navigation control of intelligent ships. A probabilistic dynamic model of the ship was established by using digital twin technology to adapt to changes in various working conditions, such as different sea conditions, variations in ship load, and different control modes, to improve the control accuracy of the ship’s autonomous navigation. The above work has been applied on the independently developed “Dolphin 1” intelligent ship.

Biography of Professor Qidan Zhu

Qidan Zhu received the Ph.D. degree in Control Theory and Control Engineering from the Harbin Engineering University, China. He is now a professor at the College of Intelligent Systems Science and Engineering of Harbin Engineering University, director of the Key Laboratory of the Ministry of Education, member of the Application Committee of the National Association of Automation, standing director of the Heilongjiang Automation Society, chair of the College Academic Degree Committee, and member of the University Academic Degree Committee. His research interests include autonomous and robotic system, nonlinear control theory and application, image processing technology and application. Over the past decade, he has been awarded one Second Prize of the National Science and Technology Progress Award and six First Prizes at the provincial/ministerial level.

* **ICICIC2025 会议日程 (日本时间)**
* **2025年 8月 26日 (星期二)**

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| **时间** | **事件** | **扩展说明** |
| **14:00 – 18:00** | **注册登记** | **分设快速通道（提前注册/现场注册） - 提供多语言服务（中/英/日） - 领取材料清单：会议手册、胸牌、纪念U盘（含论文集PDF）** |
| **18:30 – 20:00** | **欢迎晚宴** | **欢迎招待会** |

* **2025年 8月 27日 (星期三)**

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| **时间** | **事件** | **扩展说明** |
| **08:30 – 12:00** | **开幕式暨主题演讲** | **- 开幕式流程： 1. 会议主席致辞（8:30-8:50） 2. 中国主办方视频贺词（8:50-9:10） 3. 日本经济产业省政策演讲（9:10-9:30） -主题演讲一：**  **山田寇教授：“故障检测和容错控制系统参数化方法”（三菱重工现场演示）**  **-主题演讲二：**  **朱启丹教授：“智能船舶相关工作：态势感知系统、验证评估系统的开发与数字孪生技术的应用”** |
| **13:00 – 15:00** | **平行会议A组** | **主题领域： - 鲁棒控制理论 - 数字孪生系统架构 - 船舶智能导航算法** |
| **15:20 – 17:20** | **平行会议B组** | **主题领域： - 工业故障预测系统 - 人机协作安全标准 - 自主系统伦理框架** |
| **18:30 – 20:30** | **晚宴** | **自由交流** |

* **2025年 8月 28日 (星期四)**

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| **时间** | **事件** | **扩展说明** |
| **08:30 – 10:00** | **平行报告** | **- Workshop 1：数字孪生开发工具实操 工具链：Unity3D+ROS+TensorFlow 成果输出：船舶避障算法原型 - Workshop 2：故障树分析（FTA）软件竞赛 软件平台：ReliaSoft Weibull++** |
| **10:20 – 12:20** | **平行报告** | **-主题：“大数据分析与数据驱动智能优化”**  **▫️5分钟闪电讲座（30人）** |
| **14:20-15:50** | **青年学者论坛** | **- 主题："下一代控制理论的突破方向" - 形式： ▫️ 5分钟快速演讲（30人） ▫️ 评委团（含IEEE Fellow 3人） ▫️ "最具潜力研究奖"评选** |
| **16:30-18:30** | **技术参观** | **- 参观对象： ▫️ 三菱重工横滨研发中心 ▫️ 横滨港智能物流系统 - 特色： ▫️ 在线故障诊断系统实时演示 ▫️ 无人码头装卸流程观摩** |

* **2025年 8月 29日 (星期五)**

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| **时间** | **事件** | **扩展细节** |
| **08:30 – 17:00** | **技术参观** | **- 备选方案： A. 日本海上自卫队智能指挥中心 B. 东京电力防灾控制系统 - 包含： ▫️ 保密协议签署 ▫️ 1:1专家咨询时段** |
| **18:40 –20:30** | **颁奖仪式和送别会** | **- 奖项设置： ▫️ 最佳论文奖（IEEE CSS推荐） ▫️ 工业创新奖（三菱重工/哈工程联合颁发） ▫️ 青年学者突破奖（JSME专项基金）** |

**主题演讲 I**  
故障检测与容错控制系统–参数化方法–  
山田光（Kou Yamada） 教授  
日本群马大学

摘要：  
在实际系统中，有时会发生故障。当控制系统发生故障时，存在两种方法：一种是设计一个即使发生故障也能保持稳定的控制系统；另一种是检测故障以使系统保持稳定。前一种方法被称为同时稳定和强稳定。同时稳定是指使用一个控制器控制多个被控对象。因此，当发生故障后找到被控对象模型时，如果设计一个能够稳定所有被控对象模型的控制器，那么即使发生故障，也可以保持系统的稳定性。强稳定问题则是通过使用稳定控制器使控制系统保持稳定。这种方法在反馈回路被切断时也更安全。后一种系统包含故障检测器。当检测到故障时，控制系统会切换以使系统保持稳定。在本次演讲中，我们将通过参数化方法解释故障检测与容错控制系统。

山田光教授简介

  
山田光教授于1987年和1989年分别获得日本山形大学山形校区的学士学位和硕士学位，1997年获得日本大阪大学工学博士学位。1991年至2000年，他在日本山形大学电气与信息工程系担任研究助理。2000年至2008年，任日本群马大学机械系统工程系副教授。自2008年起，任日本群马大学机械系统工程系教授。他目前是群马大学“面向日本企业人力资源开发的智能与控制教育项目”的协调人。其研究方向包括鲁棒控制、重复控制、过程控制以及逆系统和无限维系统的控制理论。  
山田教授曾获以下奖项：

2005年横山科学技术奖

2005年电气工程/电子、计算机、通信与信息技术国际会议最佳论文奖

2007年日本人体工学学会学术论文鼓励奖

2008年、2023年及2024年电气工程/电子、计算机、通信与信息技术国际会议最佳论文奖

2009年及2019年创新计算、信息与控制国际会议最佳论文奖

2022年关东地区日本工程教育学会杰出成就奖

2023年日本机械工程师学会（JSME）教育奖  
他是IEEE、SICE的成员，并担任JSME会士。

**主题演讲 II**  
智能船舶相关研究：态势感知系统、验证与评估系统的发展及数字孪生技术的应用  
朱琪丹 教授  
哈尔滨工程大学，中国

摘要：  
智能船舶如今已成为重要的发展领域；船载态势感知系统和决策支持系统是智能船舶的关键组成部分。我们在该技术领域的研究工作主要涵盖以下方面：

船载态势感知系统及智能决策验证与评估系统：包括系统的组成、性能及核心技术。

智能船舶自主导航控制：通过数字孪生技术建立船舶的概率动态模型，以适应不同工况变化（如海况差异、船舶载荷变化及控制模式切换），从而提升船舶自主导航的控制精度。  
上述研究成果已应用于我国自主研发的“海豚1号”智能船舶。

朱琪丹 教授简介

  
朱琪丹教授获哈尔滨工程大学控制理论与控制工程专业博士学位。现为哈尔滨工程大学智能系统科学与工程学院教授，教育部重点实验室主任，中国自动化学会应用委员会委员，黑龙江省自动化学会常务理事，学院学术学位委员会主席，校学术学位委员会委员。其研究方向包括自主与机器人系统、非线性控制理论与应用、图像处理技术与应用。过去十年中，他荣获国家科学技术进步奖二等奖1项、省部级一等奖6项。