

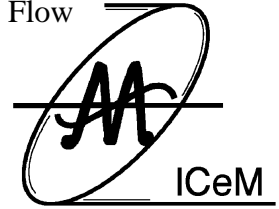


The International Information Center for Multiphase Flow

NEWSLETTER

No. 64, April 2026

The Japanese Society for Multiphase Flow



Japan-U.S. Seminar on Two-phase Flow Dynamics 2025 June 2-5, 2025, Tokyo, Japan

by Shuichiro Miwa

The Japan-U.S. Seminar on Two-phase Flow Dynamics 2025 (JUS2025) was held from June 2 to June 5, 2025, at the Sanjo Conference Hall on the Hongo Campus of The University of Tokyo, Japan. The seminar was chaired by Prof. Shuichiro Miwa (The University of Tokyo), co-chaired by Prof. Steven Ceccio (University of Michigan) and Prof. Gretar Tryggvason (Johns Hopkins University). The program was led by

Prof. Shu Takagi and Prof. Koji Okamoto (The University of Tokyo) as Program Chairs, with Prof. Xiaodong Sun (University of Michigan) serving as Program Co-Chair.

This seminar marked the 13th edition of the series since its inception in 1979. Originally established to address two-phase flow problems primarily related to nuclear reactor safety, the series has since expanded its scope. The 2025 seminar focused on reporting the



Photo 1: (Clockwise from top-left) Keynote lecture by Prof. Emilio Baglietto (MIT); group photo of seminar speakers during reception; presentation by Prof. Mamoru Ishii (Purdue); and the panel discussion on AI and two-phase flow.



Photo 2: (Clockwise from top-left) Participants enjoying the dinner banquet; a group photo during the Tokyo Bay Cruise with the Tokyo Skytree in the background; an overview of the technical session at Sanjo Conference Hall; and a presentation by Prof. Yang Liu (Virginia Tech).

latest progress in scientific research on two-phase flow dynamics and exchanging updated challenges encountered in both industry and thermo-fluid physics.

The technical program ran from June 2nd through June 4th. The sessions featured lively discussions on a wide range of topics involving two-phase flow phenomena. The seminar was highlighted by four distinguished Keynote Lectures given by Prof. Akio Tomiyama (Kobe University) and Prof. Seiichi Koshizuka (The University of Tokyo) from Japan, and Prof. Emilio Baglietto (MIT) and Prof. Yang Liu (Virginia Tech) from the U.S.

A special highlight of the technical program was

a dedicated panel session featuring Prof. Tomiyama, Prof. Igor Bolotnov (NC State), Prof. Yang Liu, and Prof. Shu Takagi. The panel engaged in a deep dive into the emerging challenges and opportunities of merging Artificial Intelligence (AI) with two-phase flow research, discussing the potential issues and complexities of integrating machine learning models into traditional thermo-fluid physics and computational frameworks.

In addition to the scientific exchange, the seminar fostered international networking through several social activities. A welcome banquet was held on the evening of June 2nd at Sanjo Conference Hall, and

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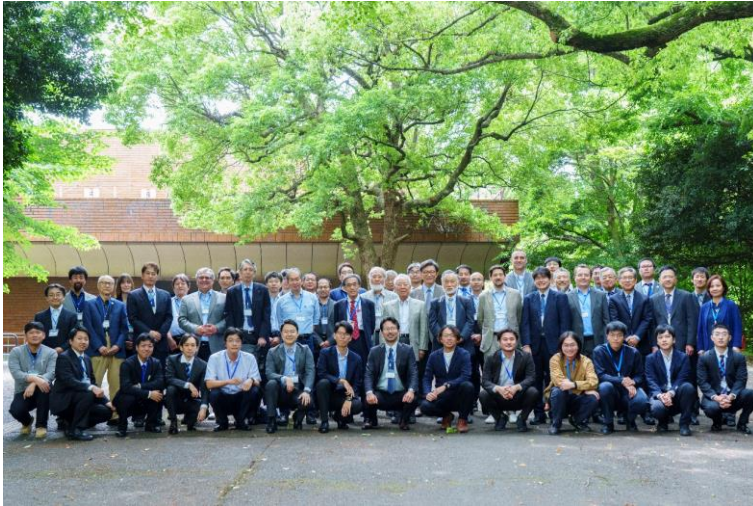


Photo 3: Group photograph of seminar participants

participants enjoyed a scenic Tokyo Bay Cruise on June 4th. On the final day, June 5th, a technical tour was organized, visiting the JAEA's High Temperature Engineering Test Reactor (HTTR), JOYO Experimental Fast Reactor and the Hitachi-GE Thermal-hydraulics R/D Center, providing attendees with valuable insight into cutting-edge experimental facilities.

On behalf of local organizing committee, I would like to end this column with special thanks to all the participants from both Japan and the U.S for their

contributions, and staff members who made this seminar possible.

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**The 21st International Topical Meeting on Nuclear Reactor Thermal Hydraulics
(NURETH-21)
Aug. 31 – Sept. 5, 2025, BEXCO, Busan, Korea
A Resounding Success**

By Chul-Hwa Song

The 21st International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-21) successfully concluded on September 5, 2025, in Busan, Korea. Hosted by the Korean Nuclear Society, NURETH-21 maintained its standing as the premier international forum for nuclear reactor thermal hydraulics and safety.

Under the theme, “Innovation in Thermal Hydraulics for Nuclear Future,” the meeting emphasized the critical role of nuclear reactor thermal hydraulics in advancing next-generation technologies, supporting carbon neutrality, and ensuring energy security.

The conference saw remarkable international engagement, welcoming over 960 registrants from 37 countries and 204 organizations. The robust technical program featured 721 technical papers, alongside 6 plenary speeches, 9 keynote lectures, and 8 panel sessions featuring over 40 panelists.

Technical analyses of the papers highlighted key trends: LWRs dominated the topics, making up 44% of the content, with significant coverage given to non-water-cooled reactors, including Molten Salt Reactors, Lead-cooled Fast Reactors, Sodium-cooled Fast Reactors.



Photo 1: New NURETH Scholars (Dr. Jinzhao Zhang, TRACTEBEL and Dr. Ki-Yong Choi, KAERI) Welcomed by Existing NURETH Scholars and Conference Organizers

tors, and High-Temperature Gas Reactors. An emerging trend was the application of AI with 72 papers focusing on AI-related topics.

Next meeting will be held in Denver in 2027.

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Photo 2: Scene of the Opening Ceremony

**The 13th International Symposium on Measurement Techniques for Multiphase Flows
(ISMTMF2025)
October 25-27, 2025, Dalian, China**

By Mao Ye and Yuichi Murai

The 13th International Symposium on Measurement Techniques for Multiphase Flows (ISMTMF2025), was held in Dalian, China from 25th to 27th October, 2025 at Kempinski Hotel Dalian. The chairman of the symposium was Prof. Mao Ye from Dalian Institute of Chemical Physics, Chinese Academy of Science, China, and the co-chairman was Prof. Yuichi Murai from Hokkaido University, Japan. The ISMTMF series has 30 years of history since South-East University in Nanjing, China, held the first meeting in 1995. The present symposium was organized by three academic societies: The Chinese Society of Measurement Techniques on Multiphase Flow, The Japan Society of Multiphase Flow (JSMF), and Dalian Institute of Chemical Physics (DICP)- Chinese Academy of Science.

The symposium welcomed 170 participants from seven countries. We had 75 oral presentations and 17 poster presentations. Six researchers were invited to

give a plenary lecture: Prof. Shusaku Harada (Hokkaido Univ.), Prof. Christos Markides (Imperial College), Prof. Huihe Qiu (Hong Kong Univ. Sci. Tech.), Prof. Niels Deen (Eindhoven Univ. Tech.), Prof. Zhangxing Chen (Univ. Calgary), and Prof. Mao Ye (Dalian Inst. Chem. Phys.). Technical sessions were held in three parallel rooms to discuss the following topics: 1) Advanced instruments and sensors, 2) Fundamentals of multiphase flow measurement, 3) Industrial applications of multiphase flow measurement, 4) AI for multiphase flow measurement, 5) Medical application for multiphase flow measurement, and 6) Special session by International multiphase flow technology forum (IMFTF). In these technical sessions, 16 keynote lectures were given by Prof. Tao Liu (Dalian Univ. Tech.), Prof. Hideki Murakawa (Kobe Univ.), Prof. Koji Hasegawa (Kogakuin Univ.), Prof. Qiang Guo (Inst. Process Eng.), Prof. Akiko Kaneko (Univ.



Photo 1: Symposium room view.



Photo 2: Organizing committee lunch around a big China turn table.

Tsukuba), Prof. Yuji Tasaka (Hokkaido Univ.), Prof. Shuichiro Miwa (Univ. Tokyo), Prof. Hong Qi (Harbin Inst. Tech.), Prof. Hongwei Li (Northeast Electric Power Univ.), Prof. Kosuke Hayashi (Kobe Univ.), Prof. Xizhong Chen (Shanghai Jiao Tong Univ.), Prof. Ying Huai (Dalian Inst. Chem. Phys.), Prof. Luhaibo Zhao (Shanghai Adv. Res. Inst.), Prof. Cheng Chang (China Univ. Petroleum), Prof. Jinhong Guo (Shanghai Jiao Tong Univ.), and Prof. Nan Xiang (Southeast Univ.).

In closing, 14 students received best oral presentation awards and 2 students received best poster awards. The next place to host the symposium was decided to be Muroran City, Hokkaido, Japan, being chaired by Prof. Yoshihiko Oishi (Muroran Inst. Tech., Japan) in 2027.

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Obituary

We regret to inform that Professor Yuichi Murai, who contributed significantly to the writing of this article, passed away in February 2026. We express our sincere gratitude for his invaluable contributions and extend our deepest condolences to his family and colleagues.

Future Meetings

Following list includes conference name, place, date and contact information.

International Conference on Power Engineering (ICOPE 2026)

Hangzhou, China, April 10-12, 2026

Chair: J. Yan (Zhejiang University), T. Nakagaki (Waseda University)

<https://www.icope2026.com/>

11th International Conference on Multiphase Flow and Heat Transfer (ICMFHT 2026)

Paris, France, April 14-16, 2026

Chair: L. Cheng (Sheffield Hallam University), T. G. Karayiannis (Brunel University London), S. Murshed (University of Lisbon)

<https://icmfht.com/index.html>

International Conference on Materials Design and Applications (ICMDA)

Sendai, Tohoku University, April 17-20, 2026

Chair: O. Tabata (Kyoto University of Advanced Science), T. Omatsu (Chiba University)

<https://www.icmda.org/com.html>

The 15th ERCOFTAC workshop on Direct and Large Eddy Simulation

Delft, Netherlands, May 20 – 22, 2026

Chair: S. Hickel (TU Delft), M. Meldi (University of Lille), L. Laguarda (TU Delft), C. Russo (TU Delft), M. V. Salvetti (University of Pisa)

<https://dles.ercofac.org/dles15/>

15th International Colloids Conference

Sitges, Spain, June 7-10, 2026

Chair: J. Eastoe (University of Bristol)

<https://www.elsevier.com/events/conferences/all/international-colloids-conference#0-about>

International Conference on Fluid Flow, Heat and Mass Transfer (ICFFHMT 2026)

Barcelona, Spain, June 9-11, 2026

Chair: B. Kruczek (University of Ottawa), W. H. Ahmed (University of Guelph), F. E.-Mozaffari (Toronto Metropolitan University)

<https://ffhmt.com/index.html>

17th International Conference on Thermal Engineering (ICTEA)

Valletta, Malta, June 22-26, 2026

Chair: M. Ziad Saghir (Toronto Metropolitan University), C. Yousif (University of Malta)

<https://www.ictea.ca/>

8th International Conference on Nanomaterials Science and Mechanical Engineering

Aveiro, Portugal, July 7 – 10, 2026

Chair: R. Valente et al. (University of Aveiro)

<https://www.rsc.org/events/detail/82307/8th-international-conference-on-nanomaterials-science-and-mechanical-engineering>

3rd International Multiphase Flow Technology Forum (IMFTMF2026)

University of Leeds, United Kingdom, July 28-30, 2026

Chair: Timothy Hunter (University of Leeds)

<https://fluids.leeds.ac.uk/events/international-multiphase-flow-technology-forum-imftf-2026/>

18th International Heat Transfer Conference (IHTC18)

Rio de Janeiro, Brazil, August 2-7, 2026

Chair: H. Orlande (Federal University of Rio de Janeiro)

<https://ihtc18.org/>

13th International Conference on Heat Transfer and Fluid Flow (HTFF 2026)

London, United Kingdom, August 18-20, 2026

Chair: H. Qiu (The Hong Kong University of Science

& Technology), Y. Zhang (University of Missouri), M. Iasiello (Università degli Studi di Napoli Federico II)
<https://htffconference.com/>

World Tribology Congress 2026 (WTC 2026)

Rio de Janeiro, Brazil, Sept. 20-25, 2026

Chair: J. D. B. De Mello (UFSC/UFU)

<https://www.wtc2026.org/>

The 15th International Topical Meeting on Nuclear Reactor Thermal-Hydraulics, Operation, and Safety (NUTHOS-15)

Kashiwa-no-ha, Japan, September 27-30, 2026

Chair: K. Okamoto (The University of Tokyo)

<https://www.nuthos.org/Organization.html>

International Conference on Heat and Mass Transfer in Porous Media: Fundamentals and Applications (HMT-PM 2026)

Prague, Czech Republic, October 19 – 23, 2026

Chair: K. Hooman (Delft University of Technology), M. Mobedi (Shizuoka University), W. Q. Tao (Xi'an Jiaotong University), M. Schmirler (CTU in Prague)

<https://hmt-pm2026.fs.cvut.cz/committees/>

The 7th International Conference on Fluid Flow and Thermal Science (ICFFTS 2026)

London, United Kingdom, October 28 – 30, 2026

Chair: S. Murshed (University of Lisbon), B. Kruczek (University of Ottawa)

<https://icffts.com/index.html>

The 22nd Multiphase Flow Workshop - Conference and Short Course (MPF2026)

Dresden, Germany, November 2 – 6, 2026

Organizer: Helmholtz-Zentrum Dresden-Rossendorf

<https://www.hzdr.de/db/Cms?pNid=890>

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