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Jong-Shinn Wu (General Co-Chair of ICFD2020, National Chiao Tung University)
Kaoru Maruta (Director of IFS, Tohoku University)

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Conference Venue

ICFD2020 will be held as an online virtual conference.

Registration Fee

	Without Banquet
Registration Fee	GENERAL 15,000JPY STUDENT 3,000JPY

All participants are required to make a registration through the website.

Important Dates

- Aug. 15, 2020:** Deadline for **Presentation Submission**. Please present your paper title / author's name / keywords through Presentation Submission page of ICFD2020 website.
- Sep. 1, 2020:** Deadline for **Short Paper (A4) Submission**

Publication & Special Issues of International Journals

Please visit ICFD2020 website for the details.

ICFD Secretariat

For further details and related questions, please contact ICFD2020 Secretariat: icfd2020@grp.tohoku.ac.jp
ICFD2020 Secretariat, Institute of Fluid Science, Tohoku University
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TEL&FAX: (81)22-217-5301
<http://www.ifs.tohoku.ac.jp/icfd2020/>

This event is being held as a part of the Tohoku University Global Webinar Series. For more information about other events in the series, please visit the following website;

<https://ie.bureau.tohoku.ac.jp/tugw?lang=en>

Tohoku University
Global Webinar Series

The 17th International Conference on Flow Dynamics

Second Circular

As of August 6, 2020

<http://www.ifs.tohoku.ac.jp/icfd2020/>

Organized by
Executive Committee of ICFD

Supported by
Institute of Fluid Science,
Tohoku University



October 28 - 30, 2020

ICFD2020 will be held as an online virtual conference.



SCOPE

The 16th International Conference on Flow Dynamics (ICFD2020), in the annual series since 2004, will be held from October 28th to 30th, 2020 at the Sendai International Center, Sendai, Japan. The objectives of this conference are to explore new horizons in science and technology in Flow Dynamics by discussing and exchanging information related to the most advanced scientific fields and to cutting edge technologies. ICFD is now recognized by the researchers and engineers all over the world as one of the largest and the most important international conferences in the field of Flow Dynamics. It has also been playing an important role in promoting international research collaborations. Especially, ICFD2020 focus on energy related topics, such as renewable energy, hydrogen energy, natural energy, and so on. In addition, it should be noted that ICFD provides young researchers and students with unique opportunities to develop themselves through proactive participation in the conference and young researchers and students are encouraged by awards.

The first nine ICFDs were hosted by two Tohoku University COE Programs, "The 21st Century International COE on Fluid Dynamics (21COE, Year 2003 - Year 2007)" and its successor "Global COE Program World Center of Education and Research for Trans-disciplinary Flow Dynamics (GCOE, Year 2008 - Year 2012)". Institute of Fluid Science (IFS), Tohoku University, was responsible for both 21COE and GCOE programs. GCOE ended in March of 2013. In 2018, on the occasion of its 75th anniversary, IFS was reorganized as an even more powerful research institute, particularly in energy-related research, with three new research divisions and an Innovative Energy Research Center. In this new movement, IFS decided to continue to support this conference series, and ICFDs have been held annually since 2013. We pledge to maintain ICFD's dynamism and spirit as a meeting for distinguished scientists in Flow Dynamics as well as for future generations of scientists and engineers.

Flow Dynamics is a comprehensive scientific field which deals with flow and transport phenomena concerning electrons, molecules, nanoscale particles, any continuum fluid with and without chemical reaction, any material, energy, information, economic activity and so forth. It addresses multiscale, multiphysics and multidisciplinary problems and deals with all-natural phenomena including bio-processes, corrosion, weather, volcanic eruptions, earth magnetic field and tectonic motions, and in most human activities such as industrial processes, energy production & saving, and transportation. ICFD is expected to play a significant role in encouraging Flow Dynamics to become a major academic discipline, which deals with various difficult tasks that human society is facing, such as control of nuclear power generators, global warming, energy, resource and diseases. We

expect all scientists and engineers who are working or are interested in such areas to participate in ICFD2020 and extend their research areas and international human networks.

ICFD serves as a platform of discussion to reach scientific truth and engineering solutions for all the flow-relevant problems. Participants will know when they come to Sendai that a wide variety of technical sessions are available to provide the seeds and to fulfill the needs from a viewpoint of flow dynamics. We cordially invite researchers, teachers, students and planners exploring and studying in the relevant research and development fields of energy, bio-, nano-, material, environmental, planetary and earth sciences and technologies, particularly in the academic fields of mechanical engineering, aerospace engineering, nuclear engineering, physics, medical science and engineering, chemistry, chemical engineering and all other areas. Late October is a beautiful season in Sendai. We believe that you will enjoy beautiful and pleasant atmosphere of the autumn in Sendai.

Jun Ishimoto, Professor,

Tohoku University
and

Jong-Shinn Wu, Professor
National Chiao Tung University
General Co-Chairs, ICFD2020

Sessions

General Session:

GS1: General Session

Co-Organizers: J. Ishimoto, Y. Iga

Symposium / Workshop / Organized Sessions:

OS1 The Eighth International Symposium on Innovative & OS3: Energy Research I & III

OS1: Advanced Materials and its Energy Application

Co-Organizers: S. Samukawa, S. Orimo

OS3: Multiphase Energy Science and Technology (Combination of Monozukuri-Fluid Science / Engineering)

Organizer: J. Ishimoto

OS2: The Eighth International Symposium on Innovative Energy Research II: Combustion Technology and Fundamentals

Co-Organizers: P. Dagaut, H. Im, N. I. Kim, K. Maruta, S. Minaev

OS4: Flow Dynamics and Combustion Technology of Hybrid Rocket Propulsion, 12th Edition

Co-Organizers: T. Shimada, K. Sawada

OS5: Advanced Applications of Multi-functional Fluids
Co-Organizers: H. Takana, T. Fujino, K. Doi, N. Takeuchi

OS6: New Dimensions of Magnetic Suspension and Balance System

Co-Organizers: S. Obayashi, K. Asai

OS7: Fluid and Seismicity

Co-Organizers: Y. Mukuhira, T. Ito

OS8: Advanced Physical Stimuli and Biological Responses

Co-Organizers: T. Sato, T. Ohashi, S. Kawano, R. Shirakashi

OS9: Biomedical Flow Dynamics

Co-Organizers: H. Anzai, M. Zhang, K. Takashima, T. Nakayama, A. Qiao, M. Ohta

OS10: Biomolecular Dynamics

Co-Organizers: Y. Ikeda, K. Etchuya, M. Ohta

OS11: Microfluidics and Microphysiological Systems

Co-Organizers: K. Funamoto, T. Fukui

OS12: Supercritical Fluid

Co-Organizers: Y. Kanda, Y. Feng, A. Komiya

OS13: Flow Realization, Measurement and Visualization

Co-Organizers: N. Fujisawa, T. Yamagata, T. Hayase, S. Funatani, S. Iio

OS14: Porous Media

Co-Organizers: A. Suzuki, S. Tupin, M. Ohta

OS15: Turbulence: from Fundamentals to Applications

Co-Organizers: Y. Hattori, T. Ishihara, Y. Tsuji

OS16: Vortex Motion

Co-Organizers: Y. Hattori, S. Llewellyn Smith

OS17: Liaison Office Session

Co-Organizers: M. Ohta, T. Uchimoto, T. Tokumasu, A. Komiya

OS18: The 16th International Students / Young Birds Seminar on Multi-scale Flow Dynamics

Co-Organizers: K. Akita, Y. Higuchi, R. Yoshimura
Supervisors: A. Hayakawa, A. Suzuki, J. Okajima

OS19: The 20th International Symposium on Advanced Fluid Information (AFI-2020)

➤ **IFS Collaborative Research Forum**

Co-Organizers: H. Masuda, J. Ishimoto

➤ **Fluids Science Research Award Lectures**

OS20: AFI-2020 IFS Lyon Center Collaborative Research Forum

Organizer: T. Uchimoto