

Title: An Invitation to Fluid Science

Instructors:

○ Prof. Takehiko Sato (TEL: 022-217-5320, Email: takehiko.sato.d7@tohoku.ac.jp), Professor Atsuki Komiya, Professor Kazuhiko Endo, Professor Daiki Nagai, Professor Hidetada Takana, Assistant Professor Yasushi Kaneko, Professor Makoto Ota, Associate Professor Hitomi Anzai, Associate Professor Takuya Mabuchi, Professor Kenichi Funamoto, Professor Hisashi Nakamura, Professor Takashi Tokumasu, Professor Kaoru Maruta, Assistant Professor Yuhi Morii, Professor Tetsuya Uchiichi, Associate Professor Keiko Abe, Associate Professor Anna Suzuki

Maximum Capacity: 15 students

Schedule: Third Quarter

First Session: Friday, October 3 at 16:40

Meeting Place for First Session: Meeting Room, 2F of the Bldg. 1, Institute of Fluid Science, Katahira Campus

From the Second Session Onward: Please follow the instructions provided by each assigned instructor.

Course Overview: Our everyday surroundings are filled with “flows,” yet the nature of these flows is far more complex and diverse than one might expect. This workshop offers an opportunity to explore a wide range of fluid phenomena, including:

- Novel water utilization systems using high-speed nano-droplets
- Visualizing the invisible using light
- Flows of semiconductors and information
- Flows around aircraft and spacecraft
- Functional flows influenced by electric and magnetic fields
- Flows within the human body
- Flow of biomolecules
- Cellular functions revealed through fluid science
- Flows and chemistry in propulsion, materials, and combustion
- Internal flows in next-generation batteries
- Flame dynamics
- Nondestructive inspection of carbon-fiber-reinforced plastics
- Aerodynamics and aircraft design
- Design for coexistence between humans and nature

By observing actual research environments, students will gain insight into how scientists attempt to understand the mysteries of fluid flows.