

Time schedule:

| June 11th (Thu) | | June 12th (Fri) | |
|-----------------|---|-----------------|--|
| 9:00 | Open the door, Preparation | 9:00 | Open the door and the front desk |
| 9:40 | Open the front desk | 9:20 | Session 5 |
| 10:20 | Opening | 10:20 | Robot motion (4 presentations) |
| 10:30 | Chair's talk (Prof. Atsushi Konno, Hokkaido University) | | Break |
| 11:00 | Break | 10:30 | Session 6 |
| 11:10 | Session 1 | 11:15 | Machine learning (3 presentations) |
| 11:55 | Actuator (3 presentations) | | Break |
| | Break | 11:25 | Invited talk (Prof. Giuseppe Quaglia, Politecnico di Torino) |
| 12:05 | General meeting for JC-IFTOMM members (Lunch time) | 11:55 | Lunch time, Sponsor's video |
| 13:05 | Break | 13:20 | Session 7 |
| | Break | 14:05 | Design (3 presentations) |
| 13:15 | Session 2 | | Break |
| 14:15 | Sensor (4 presentations) | 14:20 | Awarding ceremony, Closing |
| | Break | 14:40 | |
| 14:25 | Session 3 | | Finish |
| 15:10 | Human support (3 presentations) | 15:00 | Close the door |
| | Break | | |
| 15:20 | Session 4 | | |
| 16:05 | System (Online, 3 presentations) | | |
| 16:10 | Photo shoot | | |
| 16:30 | Move to the reception venue | | |
| 16:45 | Close the door | | |
| 17:00 | Reception | | |
| 19:00 | (in Shin Beijing (新北京)) | | |

All participants are welcome to attend the reception.

Venue of reception: Shin Beijing (新北京) <https://maps.app.goo.gl/aE7G6o6yK4AtDmyW6>

For lunch time, you can refer to following guides:

Waseda Town Guide: <https://www.waseda.jp/top/assets/uploads/2014/06/HP1.pdf>

早稲田大学周辺飲食店マップ (in Japanese):

<https://www.wasemachi-com.tokyo/images/wasemeshi-map2019.pdf>

Program:

Day 1: June 11th (Thu), 2026

Chair's talk (10:30-11:00): (Chair: Eiichiro Tanaka)

Prof. Atsushi Konno, Hokkaido University

Session 1 (11:10-11:55): Actuator (Chair: Yusuke Sugahara)

1-1 Design of a Spherical Ultrasonic Motor for the Module Tilting Mechanism

Takumi Okumura (Okayama University); Shunsuke Izuhara (Okayama University); Taro Shibasaki (Okayama University); Takateru Urakubo (Kobe University); Tomoaki Mashimo (Okayama University)

1-2 Design and Experimental Validation of a 2-DoF Stepper-Driven Active Ankle Prosthesis

Zhetenbayev Nursultan (Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev); Akhmejanov Sayat (Satbayev University); Sultan Aidos (Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev); Nurgizat Yerkebulan (Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev);

Sergazin Gani (ALT University named after Mukhamedzhan Tynyshpaev); Ozhikenov Kassymbek (Satbayev University)

1-3 2-DOF Motion of an Electromagnetic Sheet Actuator Featuring Spliced Magnetic Sheets and Layered Stator Conductors

Jiahe Li (The University of Tokyo); Fuminobu Kimura (The University of Tokyo); Akio Yamamoto (The University of Tokyo)

Session 2 (13:15-14:15): Sensor (Chair: Akio Yamamoto)

2-1 Enhancing the Pressure and Force Ranges of Variable Stiffness Soft Pneumatic Sensing Chambers via Deformable Reservoirs

Simone Duretto (Politecnico di Torino); Edoardo Selvaggi (Politecnico di Torino); Giovanni Colucci (Politecnico di Torino); Giuseppe Quaglia (Politecnico di Torino)

2-2 Development of a Longitudinal Slippage Detection Method for a Pseudo-omnidirectional UGV for Precision Agriculture

Giuseppe Quaglia (DIMEAS - Politecnico di Torino); Francesco Amodio (DIMEAS - Politecnico di Torino); Davide Danzi (DIMEAS - Politecnico di Torino); Andrea Botta (DIMEAS - Politecnico di Torino)

2-3 Test Bench for the Evaluation of Sensor Technologies and Control Strategies for Human-Robot Contact
Sae Shiraishi (Institute of Science Tokyo); Christian Mirz (RWTH Aachen University); Elodie Hüsing (RWTH Aachen University); Corves Burkhard (RWTH Aachen University); Tomohisa Tanaka (Institute of Science Tokyo)

2-4 Development of Force Sensor Integrated Hub Bearing for Human-Cooperative Object Transportation
Daisuke Matsuura (Institute of Science Tokyo)

Session 3 (14:25-15:10): Human support (Chair: Kenji Hashimoto)

3-1 Development of a Nonverbal Communication Support Tool for Individuals with Severe Disabilities
Aota Yamamoto (graduate school, Kanto Gakuin University); Tadashi Komatsu (Kanto Gakuin University)

3-2 Toward the Development of a Portable Handheld Device for Finger Interaction: Experimental Testing of PAL-HAND.Q

Giovanni Colucci (Politecnico di Torino); Simone Duretto (Politecnico di Torino); Giuseppe Quaglia (Politecnico di Torino)

3-3 Development of an Adaptive Support Strategy for Wearable Robotic Support Limbs

Wenrui Zhou (Institute of Science Tokyo); Zihan Ma (Institute of Science Tokyo); Ming Jiang (Institute of Science Tokyo); Yukio Takeda (Institute of Science Tokyo)

Session 4 (15:20-16:05): System (Online)(Chair: Kenjiro Takemura)

4-1 EPF-Based Risk-Aware Autonomous Emergency Steering with RL Planning and MPC Tracking

Tzu Yun Chao (Waseda University); Yilin Zhang (Waseda University); Kenji Hashimoto (Waseda University)

4-2 Education in kinematic analysis of mechanisms

Sebastiano Angelella (Università degli studi dell'Aquila); Michele Gabrio Antonelli (Università degli studi)

dell'Aquila); Silvia Logozzo (Università degli studi di Perugia); Maria Cristina Valigi (Università degli studi di Perugia)

- 4-3 A Novel Robotic Hand Integrating Dimension-Reduced Mechanism and Flexible Tactile Perception
RongXin Xie (East China Jiaotong University); Giuseppe Carbone (East China Jiaotong University); YiMing Hu (East China Jiaotong University); Dequan Zeng (East China Jiaotong University); Jinwen Yang (East China Jiaotong University)

Day 2: June 12th (Fri), 2026

Session 5 (9:20-10:20): Robot motion (Chair: Hiroyuki Ishii)

- 5-1 Creation of Various Fundamental Dance Steps for a Performance Robot Used in a Lunar Base
Ryunosuke Miyawaki (Kanto Gakuin University); Tadashi Komatsu (Kanto Gakuin University)
- 5-2 Necessity of Foot/Leg-Based Operation of Operator in Man-Riding Mobile Robot Equipped with Robotic Arms - Leg Motion During Leg Support Device Use -
Masaharu Komori (Kyoto University); Ikko Yasuda (Kyoto University); Zhongzheng Liang (Kyoto University)
- 5-3 A Practical Integrated Impedance Control Framework with Gravity and Friction Compensation for a 3-DoF Robotic Arm
Xiaotian Jiang (Waseda University); Ruitong Liu (Waseda University); Kenji Hashimoto (Waseda University)
- 5-4 Coverage-Aware Trajectory Generation for Manipulator-Based Body Screening
Tadamasa Kitahara (National Defense Academy of Japan); Satoko Abiko (Shibaura Institute of Technology); Teppei Tsujita (National Defense Academy of Japan)

Session 6 (10:30-11:15): Machine learning (Chair: Daisuke Matsuura)

- 6-1 A Deep Learning-Based Surrogate Model for Rapid 3D Flow Field Prediction
Haruki Matsuzaki (Shonan Institute of Technology); Tomoya Fukuyama (Shonan Institute of Technology); Kazuyuki Kojima (Shonan Institute of Technology)
- 6-2 A Hierarchical Multi-Agent Framework for Real-World Robot Navigation and Manipulation Using Multimodal Foundation Model
Jianan Xie (Waseda University); Qingao Wang (Waseda University); Weiyang Xu (Waseda University); Kenji Hashimoto (Waseda University)
- 6-3 Analysis of Dart Throwing Motion Using a Musculoskeletal Model and Motion Capture System
Shouei Ishimoto (The University of Tokyo); Emiko Uchiyama (The University of Tokyo); Gentiane Venture (The University of Tokyo); Vincent Hernandez (The University of Tokyo)

Invited talk (11:25-11:55): (Chair: Atsushi Konno)

Collaboration between IFToMM Italy and JC IFToMM, service robotics at PoliTo
Prof. Giuseppe Quaglia, Politecnico di Torino

Session 7 (13:20-14:05): Design (Chair: Shunsuke Komizunai)

- 7-1 Development of Differential Cartesian Robot and Conveyor-Type Stacker Crane
Tsutomu Tokumoto (Tsubakimoto Chain Co.)

- 7-2 Development and Evaluation of Torque Characteristics of the Micro Planetary Gear Reducer Using 3D Printing and MEMS Fabrication
Ryuga Ochi (Okayama university); Shunsuke Izuhara (Okayama universiy); Mohamed Khalil (Okayama university); Kyohei Terao (Kagawa university); Tomoaki Mashimo (Okayama university)
- 7-3 Proposal of a Fluidic Soft Sheet Ring Oscillator for Driving Mobile Robot
Yuki Origane (Institute of Science Tokyo); Koya Cho (Institute of Science Tokyo); Hideyuki Tsukagoshi (Institute of Science Tokyo)