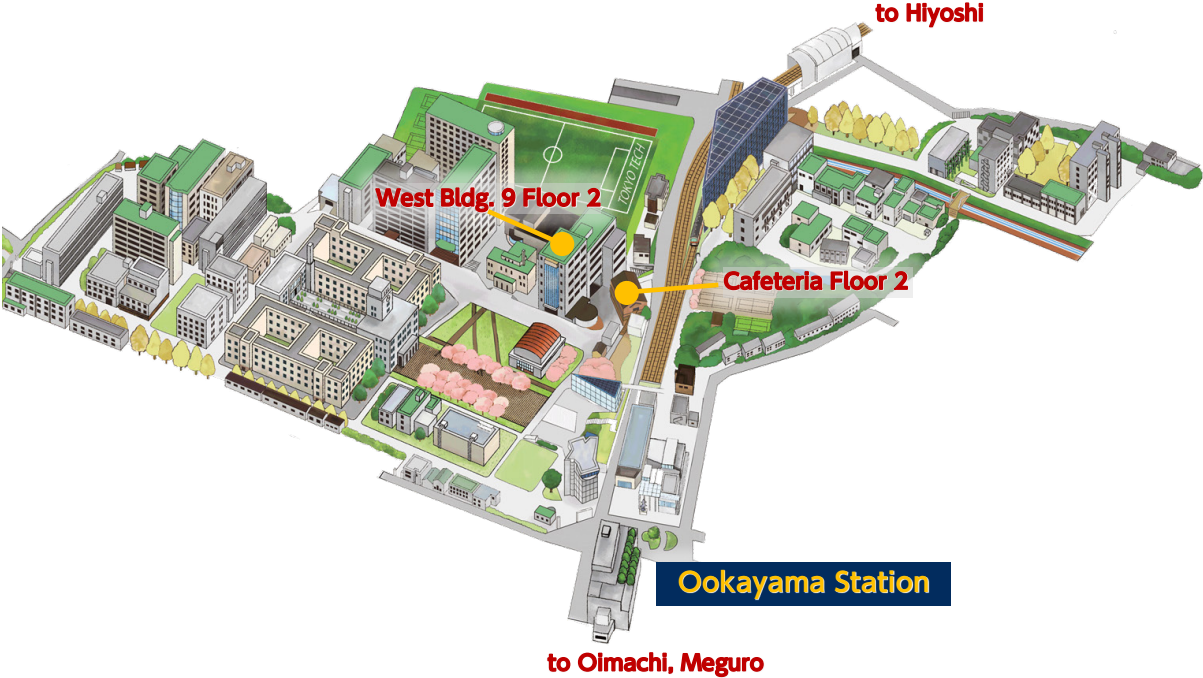


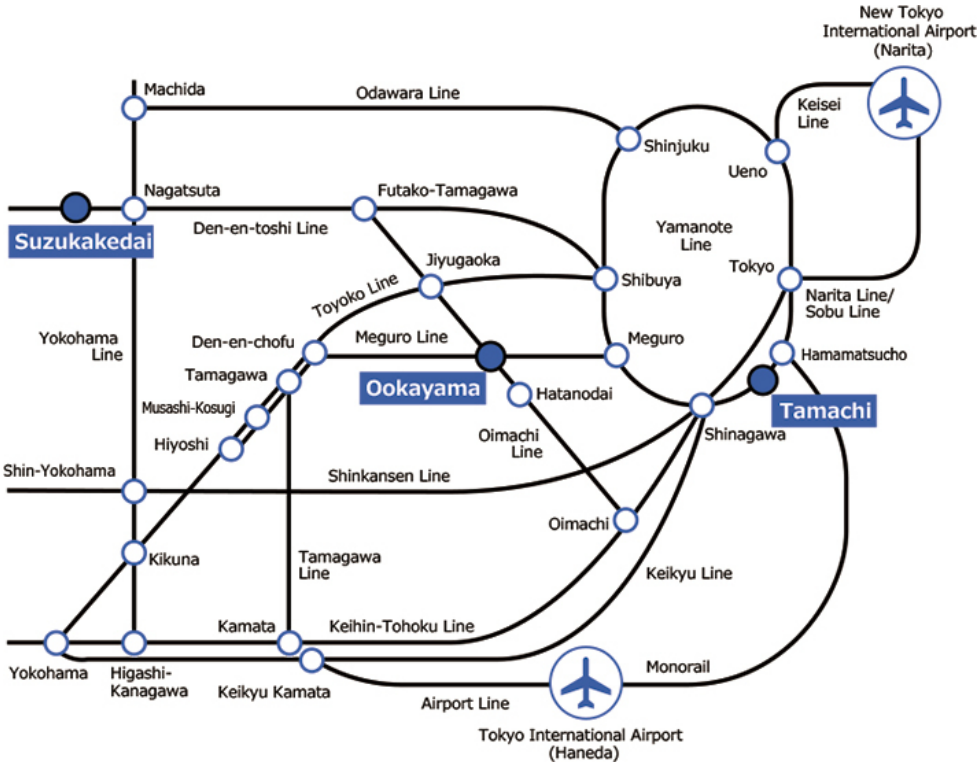
# Multi-Purpose Digital Hall (West Bldg. 9, Floor 2)



## Access to Ookayama Campus, Tokyo

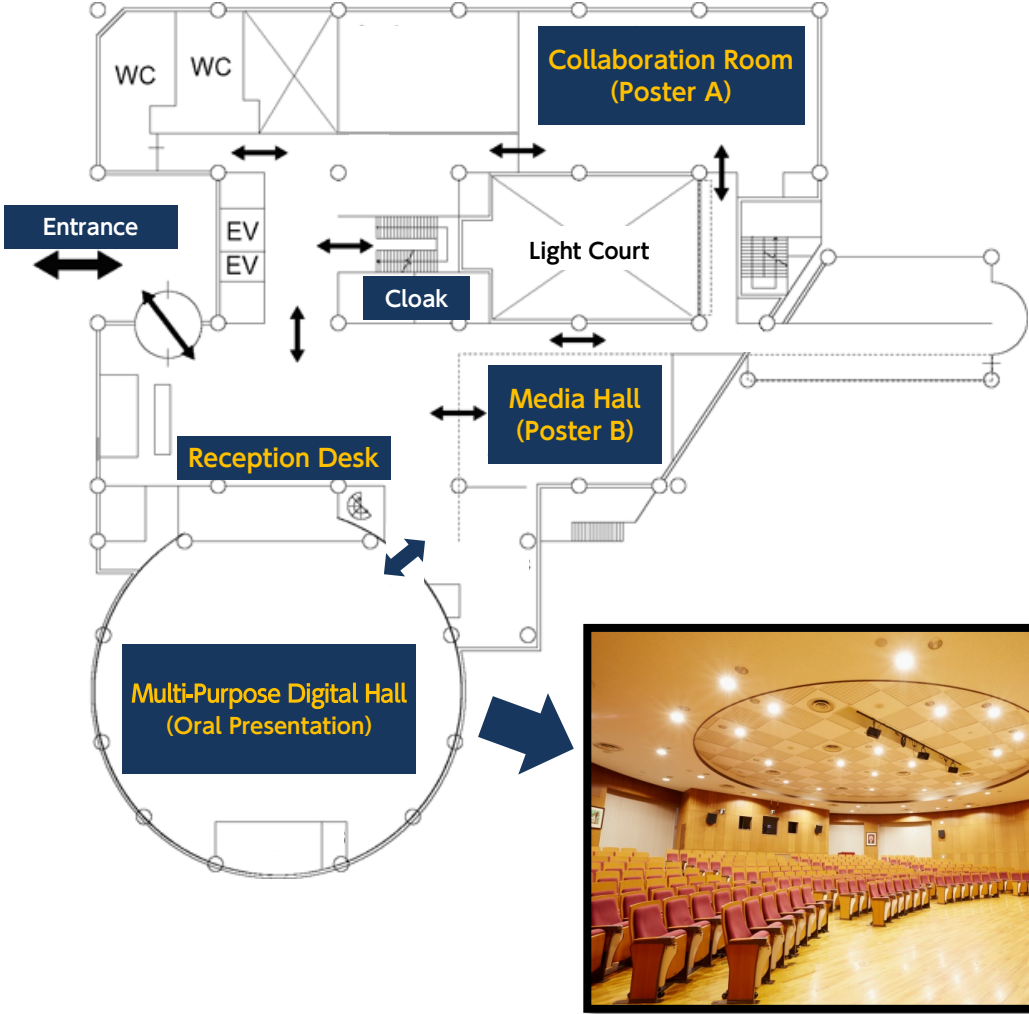
Location: 2-12-1 Ookayama, Meguro-ku, Tokyo, Japan (1 minute walk from the station)

Nearest station: Ookayama Station on the Tokyu Oimachi and Tokyu Meguro Lines.



**Oral Presentation:** Multi-Purpose Digital Hall (West Bldg. 9, Floor 2)

**Poster Presentation:** Collaboration Room & Media Hall (West Bldg. 9, Floor 2)



**Networking:** Communication Lounge (Cafeteria, Floor 2)

# The 2<sup>nd</sup> International Symposium on Biomedical Engineering

Sponsored by Ministry of Education, Culture, Sports, Science and Technology (MEXT)

## Organizers:

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

Laboratory for Future Interdisciplinary Research of Science and Technology, Tokyo Institute of Technology

Research Institute for Nanodevice and Bio Systems, Hiroshima University

Research Institute of Electronics, Shizuoka University

## Organizing Committee:

Yuji Miyahara, Tokyo Medical and Dental University

Kohji Mitsubayashi, Tokyo Medical and Dental University

Kenji Kawashima, Tokyo Medical and Dental University

Fumio Koyama, Tokyo Institute of Technology

Hideki Hosoda, Tokyo Institute of Technology

Shin Yokoyama, Hiroshima University

Hidenori Mimura, Shizuoka University

Koji Mori, Shizuoka University

## Technical Program Committee:

Yuji Miyahara, Tokyo Medical and Dental University

Kohji Mitsubayashi, Tokyo Medical and Dental University

Kenji Kawashima, Tokyo Medical and Dental University

Fumio Koyama, Tokyo Institute of Technology

Hideki Hosoda, Tokyo Institute of Technology

Shin Yokoyama, Hiroshima University

Hidenori Mimura, Shizuoka University

Koji Mori, Shizuoka University

Tadahiko Shinshi, Tokyo Institute of Technology

Masato Sone, Tokyo Institute of Technology

Hiroyuki Ito, Tokyo Institute of Technology

Natsue Yoshimura, Tokyo Institute of Technology

Yasuko Yanagida, Tokyo Institute of Technology

Marie Tabaru, Tokyo Institute of Technology

Kotaro Tadano, Tokyo Institute of Technology

Hayato Yoshioka, Tokyo Institute of Technology

Akira Umise, Tokyo Institute of Technology

# Program at a Glance

## November 9

- 13:00-13:20 Opening Session
- 13:20-14:45 Session A
- 14:45-16:15 Poster Session 1 and Coffee Break
- 16:25-18:05 Academic-Industrial Collaboration Session
- 18:15-20:00 Networking

## November 10

- 10:00-11:25 Session B
- 11:25-13:15 Poster Session 2 and Lunch (Light meals will be served.)
- 13:25-14:50 Session C
- 14:50-15:10 Coffee Break
- 15:10-16:35 Session D
- 16:35-16:50 Closing Session

# Program

**November 9**

## Opening Session

**Chair:** Fumio Koyama, Tokyo Institute of Technology

- 13:00-13:05 **Opening Remarks:** Yoshinao Mishima, President, Tokyo Institute of Technology
- 13:05-13:10 **Greeting:** Tomonori Nishii, Director, Scientific Research Institutes Division, Research Promotion Bureau, MEXT
- 13:10-13:20 Introduction of Research Center for Biomedical Engineering:  
Yuji Miyahara, Tokyo Medical and Dental University

## Session A

**Chair:** Masato Sone, Tokyo Institute of Technology

- 13:20-14:00 Etienne Burdet, Imperial College London (Invited)  
“Human-robot Interaction Control Framework for Neurorehabilitation”
- 14:00-14:15 Yasuharu Koike, Tokyo Institute of Technology  
“Neurorehabilitation with Brain-machine Interface”
- 14:15-14:30 Joon-wan KIM, Tokyo Institute of Technology  
“Micro/nano Patterning for Biomaterial Controlled by Electrostatic Force”
- 14:30-14:45 Hiroyasu Kanetaka, Tohoku University  
“Biomedical Engineering Investigation for Medical Application of Nickel-free Shape Memory and Super Elastic Alloy”
- 14:45-16:15 **Poster Session 1 and Coffee Break**

## Academic-Industrial Collaboration Session

**Chair:** Tadahiko Shinshi, Tokyo Institute of Technology

- 16:25-16:50 Takashi Yamane, Kobe University (Invited)  
“Development and Evaluation of Mechanical Circulatory Support Devices”
- 16:50-17:15 Akihiro Miyauchi, Hitachi Ltd. (Invited)  
“Formation of Surface Structure by Nanoimprint and Biomimetics”
- 17:15-17:40 Masayuki Tsuji, Cadence Design Systems (Invited)  
“Real-time Processing of Computer-Aided Diagnosis System for Colorectal Tumor Classification in NBI Endoscopy Using CNN Features by Implementing to Tensilica Vision P6 DSP”
- 17:40-18:05 Akifumi Koike, ANSeeN Inc. (Invited)  
“Material Identification CT Using X-ray Attenuation Length Detection Line Sensor”

## Networking

**Chair:** Takeshi Hatsuzawa, Tokyo Institute of Technology

18:15-20:00

## November 10

### Session B Chair: Kenji Kawashima, Tokyo Medical and Dental University

- 10:00-10:40 Wim E. Hennink, Utrecht University (Invited)  
“Nanogels for the Intracellular Delivery of Proteins for Cancer Treatment”
- 10:40-10:55 Yoshikazu Nakajima, Tokyo Medical and Dental University  
“Integration of Sensing, Simulation and AI Analysis in Medicine”
- 10:55-11:10 Koji Toma, Tokyo Medical and Dental University  
“Reusable Immunosensors Allowing Semi-continuous Measurement for Clinical and Environmental Medicine”
- 11:10-11:25 Horacio Cabral, The University of Tokyo  
“Ligand Strategies for Tumor-targeted Nanomedicine”

### 11:25-13:15 **Poster Session 2 & Lunch**

### Session C Chair: Takamaro Kikkawa, Hiroshima University

- 13:25-14:05 Emily Porter, National University of Ireland, Galway (Invited)  
“Microwave Radar for Breast Cancer Detection: Progress and Looking Towards the Future”
- 14:05-14:20 Shin Yokoyama, Hiroshima University  
“Biosensors Using Silicon Optical Resonators”
- 14:20-14:35 Shin-Ichiro Kuroki, Hiroshima University  
“4H-SiC Self-aligned Gate MOSFETs and Logic Inverters for Harsh Environment Electronics”
- 14:35-14:50 Takeshi Ohshima, National Institutes for Quantum and Radiological Science and Technology  
“Ultra-radiation-hardened Semiconductor Devices Using Silicon Carbide”

### 14:50-15:10 Coffee Break

### Session D Chair: Keiichiro Kagawa, Shizuoka University

- 15:10-15:50 Zhongping Chen, University of California, Irvine (Invited)  
“Advances in Integrated Multimodality Intravascular Imaging for Assessing and Characterizing Atherosclerotic Plaques”
- 15:50-16:05 Masahito Yamazaki, Shizuoka University  
“Mode of Action of Antimicrobial Peptides and Cell-penetrating Peptides — Single GUV Studies —”
- 16:05-16:20 Wataru Inami, Shizuoka University  
“Electron beam addressable potentiometric sensor for nanoscale imaging of ion distribution”
- 16:20-16:35 Keisuke Tominaga, Kobe University  
“Terahertz Spectroscopy and Theoretical Calculation on Biologically Important Molecules and Pharmaceutical Molecules”

### Closing Session Chair: Hideki Hosoda, Tokyo Institute of Technology

- 16:35-16:50 **Award Ceremony**  
**Closing Remarks:** Shin Yokoyama, Hiroshima University

# INSTRUCTIONS FOR POSTER PRESENTERS

## — PREPARATION OF YOUR POSTERS

Posters must be printed and brought by presenters.

Sending posters to the organizer in advance cannot be accepted. Recommended poster size meets the DIN A0 format:

**Height 118.9 cm and Width 84.1 cm**

Maximum poster size must fit to the board dimensions (The poster board size is 90 cm in width).

## — MOUNTING AND REMOVING YOUR POSTERS

Posters are displayed at the designated board with your poster numbers by the presenters. Locations are on the 2nd floor of the West Bldg. 9, Ookayama Campus, Tokyo Tech. The posters will be numbered and split between the two rooms: A and B.

Posters must be pinned on the boards by using detachable pins. The poster boards and pins are provided by the organizer.

### November 9

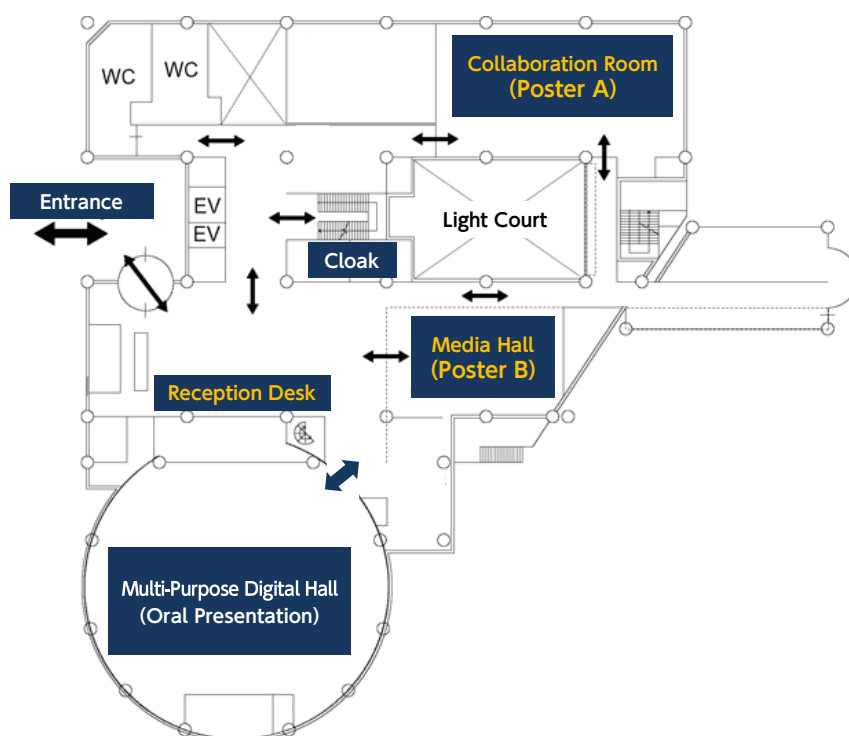
Location A is Collaboration Room: Poster Numbers from 9-A-1 to 9-A-44.

Location B is Media Hall: Poster Numbers from 9-B-45 to 9-B-67.

### November 10

Location A is Collaboration Room: Poster Numbers from 10-A-68 to 10-A-111

Location B is Media Hall: Poster Numbers from 10-B-112 to 10-B-135



## November 9

The posters must be mounted by 12:00 (JST) and removed at 16:15-16:25.

## November 10

The posters must be mounted by 9:00 (JST) and removed at 13:15-13:25.

Posters which are not picked up by required time will be removed and discarded by the organizer.

Do not leave anything valuable at the poster areas. The organizer cannot be responsible for lost or stolen items.

## — POSTER SESSION

The Poster Session 1 is held at 14:45-16:15 on Thursday, November 9, during Coffee Break.

The Poster Session 2 is held at 11:25-13:15 on Friday, November 10, during Lunch Break.

Numbers stand for date, location and presenter number.

	date	-	location	-	presenter number
ex.	9	-	A	-	1
ex.	10	-	B	-	1