

# JST-NSTC Joint Workshop on “Nanoelectronics and System Integration for AI”

**Date:** May 22 Thu., 2025

**Venue:** JST Tokyo headquarters Annex (K's Gobancho, 2F Seminar room)

7, Gobancho, Chiyoda-ku, Tokyo 102-0076 Japan (<https://www.jst.go.jp/EN/about/access.html>)

**Zoom:** To be sent separately

## Time

09:30 -	<b>Reception Open</b>
10:00 – 10:05	<b>Housekeeping Announcements</b> by JST Official
10:05 – 10:10	<b>Opening Remarks</b> by Toshihiko Kanayama (Program Officer, JST / Special Emeritus Adviser, AIST)
10:10 – 10:15	<b>Welcome Remarks</b> by Bing-Yu Chen (Deputy Minister, NSTC)
<b>Session I</b> Time allocated (10:15 – 12:15) <b>Completion presentation for 2nd call</b>	
10:15 – 12:15	<p><b>Session Facilitator:</b> Dr. Kanayama (JST / AIST)</p> <p><b>Completion Presentation on the 2nd call of Nanoelectronics and System Integration for AI by Project Principal Investigators (PIs) and their research team members</b>  25-min full presentation + 15-min Q&amp;A. Presentation should refer to: “Initial research concept,” “Academic results and implementation details of international joint research,” “Synergistic effects of international joint research,” “Ripple effects of international joint research and future prospects”, “Continuation and development of collaborative relationships”, and “Others (social implementation, community engagement, etc.)”.</p> <p>10:15 - 10:55 (25min+Q&amp;A15min)  <b>“Neuromorphic System using Thin-Film Memdevice and Spiking Computing”</b>  PI from Japan: Mutsumi Kimura (Professor, Ryukoku Univ.) (<b>Onsite</b>)  PI from Taiwan: Chih-Lung Lin (Distinguished Professor and Chairman, National Cheng Kung Univ.) (<b>Non-Participation</b>)</p> <p>10:55 – 11:35 (25min+Q&amp;A15min)  <b>“2D materials-based ultralow-power consumption nonvolatile memory for neuromorphic computing applications”</b>  PI from Japan: Mahito Yamamoto (Associate Professor, Kansai Univ.) (<b>Onsite</b>)  PI from Taiwan: Yen-Fu Lin (National Chung-Hsing Univ.) (<b>Non-Participation</b>)</p> <p>11:35 – 12:15 (25min+Q&amp;A15min)  <b>“Versatile neuromorphic system based on spin network controlled by hydrogenation”</b>  PI from Japan: Takashi Kimura (Professor, Kyushu Univ.) (<b>Zoom</b>)  PI from Taiwan: Wen-Chin Lin (Professor and Chairman, National Taiwan Normal Univ.) (<b>Onsite</b>)</p>
12:15 – 13:30	<b>LUNCH</b>

13:30 – 13:40	<b>Photo Session</b>
<b>Session II</b> Time allocated (13:40 – 14:25) <b>Panel Discussion with the PIs of 2nd Call</b>	
13:40 – 14:25	<p><b>Session Facilitator:</b> Dr. Kanayama (JST / AIST)</p> <p><b>Theme:</b> What we can expect from the Japan/Taiwan collaborations and how to maximize it?</p> <p><b>Panellists</b></p> <p>Mutsumi Kimura (Professor, Ryukoku Univ.): (Onsite)</p> <p>Mahito Yamamoto (Associate Professor, Kansai Univ.): (Onsite)</p> <p>Takashi Kimura (Professor, Kyushu Univ.): (Zoom)</p> <p>Wen-Chin Lin (Professor, National Taiwan Normal Univ.): (Onsite)</p>
<b>Sessio III</b> Time allocated (14:25 – 16:50) <b>Mid-term presentation for 3rd call</b>	
14:25 – 16:50	<p><b>Session Facilitator:</b> Po-Hung Chen (Professor, National Yang Ming Chiao Tung Univ.)</p> <p><b>Mid-term Presentation on the 3rd call of Nanoelectronics and System Integration for AI by Projects Principal Investigators (PIs) and their research team members</b></p> <p>15-min pitch + 10-min Q&amp;A. Pitchers should refer to: “Initial research plan,” “Research progress to date,” “Planned future activities,” and “Others”.</p> <p>14:25-14:50(15min+ Q&amp;A 10min)  <b>“Smart diagnosis and monitoring of early-stage oral cancer based on an integration of a magnetic Janus particle biosensor and AIoT”</b>  PI from Japan: Hiroaki Sakamoto (Associate Professor, Univ. of Fukui) (Onsite)  PI from Taiwan: Han-Sheng Chuang (Professor and Chairman, National Cheng Kung Univ.) (Zoom)</p> <p>14:50-15:15(15min+ Q&amp;A 10min)  <b>“Artificial Intelligence of Things (AIoT) with Holographic Biofluids Sensing and Diagnosis for Personal Health Care”</b>  PI from Japan: Tomoyoshi Shimobaba (Professor, Chiba Univ.) (Onsite)  PI from Taiwan: Chau-Jern Cheng, (Professor, National Taiwan Normal Univ.) (Non-Participation)</p> <p>15:15-15:40(15min+ Q&amp;A 10min)  <b>“Establishment of nutritional assessment and intervention using artificial intelligence of things for preventing sarcopenia in older adults with diabetes in Japan and Taiwan”</b>  PI from Japan: Yuko Yamaguchi (Associate Professor, Kobe Univ.) (Zoom)  PI from Taiwan: Hsin-Yen Yen (Associate Professor, Taipei Medical Univ.) (Onsite)</p> <p>15:40 – 16:00  <b>Coffee Break</b></p>

	<p>16:00-16:25(15min+ Q&amp;A 10min)</p> <p><b>“Creation of new preventive medicine using AIoT that connects "air pollution" and "medicine"”</b></p> <p>PI from Japan: Kojiro Shimada (Assistant Professor, Univ. of Ryukyu) (<a href="#">Non-Participation</a>)</p> <p>PI from Taiwan: Ta-Chih Hsiao (Professor, National Taiwan Univ.) (<a href="#">Zoom</a>)</p> <p>16:25-16:50(15min+ Q&amp;A 10min)</p> <p><b>“Development of Cuffless Blood Pressure Measurement and Nutritional Management System based on Edge Computing and Commercial Weight-Fat Scale”</b></p> <p>PI from Japan: Xin Zhu (Professor, Institute of Science Tokyo) (<a href="#">Onsite</a>)</p> <p>PI from Taiwan: Shing-Hong Liu (Distinguished Professor, Chaoyang Univ. of Technology) (<a href="#">Onsite</a>)</p>
16:50 – 16:55	<b>Summary Remarks</b> by Po-Hung Chen (Professor, National Yang Ming Chiao Tung Univ.)
16:55 – 17:00	<b>Closing Remarks</b> by Toshihiko Kanayama (Program Officer, JST / Special Emeritus Adviser, AIST)