

SCIENCE TOKYO Research Showcase 2025

Navigating the Future: Solutions for
an Aging Society



21 January 2025 | 1:30 - 4:30 PM

@ Kamolthip 1 at The Sukosol Hotel

 Institute of
SCIENCE TOKYO

 NSTDA

Navigating the Future: Solutions for an Aging Society

Symposium Overview

Japan, the world's most aged country, has 30% of its population aged 65 or older. Thailand is also aging rapidly and is expected to face a similar demographic shift within 20 years. Gerontology, the multidisciplinary study of aging, addresses the physical, mental, and societal challenges of aging, spanning fields such as medicine, engineering, nursing, psychology, and social sciences.

For this event, we have invited experts in urban engineering, robotics, and geriatric dentistry to showcase the broad scope of gerontology. While aging is a universal issue, its impact varies across countries, emphasizing the need for international collaboration to tackle this global challenge effectively.

Institute of Science Tokyo is committed to fostering international cooperation in gerontology, particularly through medical-engineering collaboration. We hope that today's lecture will serve as a valuable opportunity for all of you in Thailand to join this global effort.

Objectives

- To showcase the cutting-edge technologies developed by the Institute of Science Tokyo
- To foster stronger research collaboration between academia and industry in Thailand.

Registration

The event is free of charge, but please register in advance:

<https://forms.gle/f2aivQwGFk15jbHJ9>

Deadline: January 17, 2025



Inquiries

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Please note: This workshop will be recorded, and the recording will be uploaded to the Science Tokyo and NSTDA websites at a later date. Photographs may also be taken during the event by the organizers and used on the Science Tokyo and NSTDA websites.

About the Organizers

The Science Tokyo Research Showcase is organized by Science Tokyo ANNEX Bangkok, co-sponsored by the Institute of Science Tokyo and NSTDA and supported by JETRO Bangkok and the Tokyo Tech Alumni Association Thailand (Thai Kuramae Kogyokai).

- **Institute of Science Tokyo** was established on October 1, 2024, following the merger of Tokyo Medical and Dental University (TMDU) and Tokyo Institute of Technology (Tokyo Tech). Its mission is to “advance science and human well-being to create value for and with society.”
Website: <https://www.isct.ac.jp/en>
- **Science Tokyo ANNEX Bangkok** was established in 2018 to advance academia-industry collaborations between Thailand and Japan. Its mission is to facilitate the identification of potential seeds for international collaborative research with companies and organizations in Thailand and the surrounding region.

Program

- 13:00-13:30** **Registration**
- 13:30-13:45** **Opening Remarks**
Prof. Dr. Jun-ichi Takada,
Executive Vice President for Global Affairs, Institute of Science Tokyo
Dr. Somboon Sahasithiwat,
Executive Vice President, RDI Management, NSTDA
- 13:45-14:10** **Urban and Transport Planning for an Aged Society**
Prof. Yasunori Muromachi, Department of Civil and Environmental Engineering, School of Environment and Society, Institute of Science Tokyo
- 14:10-14:35** **Hands-Free Personal Mobility Vehicle for Elderly and Its Pedaling Exercise Load System**
Assoc. Prof. Dr. Yusuke Sugahara, Department of Mechanical Engineering, Institute of Science Tokyo
- 14:35-15:00** **Medical Robotics Research in Thailand**
Assoc. Prof. Dr. Jackrit Suthakorn, Center for Biomedical and Robotics Technology (BART LAB), Faculty of Engineering, Mahidol University
- 15:00-15:25** **Oral health in super aged society**
Assoc. Prof. Dr. Yuriko Komagamine, Gerodontology and Oral Rehabilitation, Institute of Science Tokyo
- 15:25-15:50** **Minimal invasive full mouth rehabilitation using real time navigation for better oral health well-being**
Prof. Dr. Athiphan Pimkhaokham, Department of Oral Surgery, Chulalongkorn University
- 15:50-16:00** **Closing Remarks**
Assist. Prof. Dr. Weerasak Putthasri, Chair, WEE HEALTH DEVELOPMENT Foundation
- 16:00-** **Networking**
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Jun-ichi Takada, Executive Vice President for Global Affairs at the Institute of Science Tokyo, is also a Professor in the School of Environment and Society. After earning his PhD in Electrical and Electronic Engineering from Tokyo Tech in 1992, he held various academic positions at Chiba University and Tokyo Tech. A prominent figure in international education and collaboration, he has played a pivotal role in advancing Tokyo Tech's global initiatives.



Somboon Sahasithiwat is the Executive Vice President for RDI Management at NSTDA. He holds a Ph.D. and M.S. in Macromolecular Science from Case Western Reserve University (1999, 2002) and a B.Sc. in Chemistry from Khon Kaen University, Thailand (1993). Dr. Sahasithiwat served as Vice President of NSTDA in 2022 and Executive Vice President in 2023.



Weerasak Putthasri is the Chair of WEE HEALTH DEVELOPMENT Foundation. He was a senior researcher of the International Health Policy Program for Health Policy and Systems Research, Deputy Secretary General of the National Health Commission, Senior Advisor for Department of Health Workforce at WHO/HQ, and Assistant Professor of Community Dentistry. His research interests include health systems research, health policy, and health economics

About the Speakers



Yusuke Sugahara

Department of Mechanical Engineering, Science Tokyo

He earned his Dr.Eng. degree in Engineering from Waseda University in 2006. He previously held positions as a Research Associate at Waseda University, an Assistant Professor at Tohoku University, and a Lecturer at Kokushikan University. Since 2015, he has been serving as an Associate Professor at the Tokyo Institute of Technology – now Institute of Science Tokyo. His research focuses on the design, control, and integration of robotic systems.



Yuriko Komagamine

Department of Gerodontology and Oral Rehabilitation, Science Tokyo

She earned her D.D.S. from Tokyo Medical and Dental University in 2006. Fueled by her passion for research, she went on to complete her Ph.D. in 2011. In 2014, she was appointed Assistant Professor in Gerodontology and Oral Rehabilitation, where she contributed to advancing research, clinical practice, and education, with a particular focus on oral health in aging societies. She was promoted to Junior Associate Professor in 2021. Since 2024, she has been serving as an Associate Professor in Gerodontology and Oral Rehabilitation at the Institute of Science Tokyo.



Yasunori Muromachi

Department of Civil and Environmental Engineering, School of Environment and Society, Science Tokyo

He earned his Master of Engineering and Doctor of Engineering degrees from the University of Tokyo in 1990 and 1995, respectively. In 2002, he was appointed Associate Professor at Tokyo Institute of Technology, now known as Institute of Science Tokyo, and has served as Professor there since 2023. His expertise lies in urban planning, transport planning, and climate change.



Jackrit Suthakorn

Center for Biomedical and Robotics Technology (BART LAB), Faculty of Engineering, Mahidol University

He holds a Ph.D. in Robotics from The Johns Hopkins University (2003), an M.S. in Control Engineering from Michigan Technological University (1997), and a B.Eng. in Mechanical Engineering from Mahidol University (1995). He established the Thailand's first for Medical Robotics Research Group at BART LAB (2004), and the Thailand's first Department of Biomedical Engineering at Mahidol University (2005). He was a Co-Founding, and the President of Thai Robotics Society (2007). He was the Trustee of International RoboCup, and currently the Present of RoboCup Thailand Robotics Association. His expertise includes medical robotics, surgical navigation and robots, rehabilitation exoskeleton robots, drug delivery and rescue robots, medical device and robot standards.



Atiphon Pimkhaokham

Department of Oral Surgery, Chulalongkorn University

He graduated from the Faculty of Dentistry, Chulalongkorn University in 1993 and completed his residency in Oral and Maxillofacial Surgery there. He earned a PhD and advanced OMFS training at Tokyo Medical and Dental University in 2002. A Diplomate of the Thai Board in OMFS, he has pursued further education in implant dentistry worldwide. Currently, he serves as Chairman of OMFS at Chulalongkorn University and Visiting Assoc. Prof. at the Institute of Science Tokyo. His research focuses on bone regeneration, computer-assisted implant surgery, and AI in dentistry.