NITech Topics 2025

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Group photo with folk dance ensemble “POLIGRODZIANIE”


Courtesy visit by Rector and Vice-Rector of Poznan University of Technology

TOPIC 01

NITech has deepened exchanges with many overseas universities

In 2025, many visitors from overseas universities visited Nagoya Institute of Technology (NITech).

○May 2025

On May 12th, NITech held “Poland Day” with Poznan University of Technology (PUT, Poland), one of our academic exchange partners.

A group of 14 faculty and staff members from PUT, including Professor Teofil Jesionowski, Ph.D., D.Sc., Rector, and Professor Mariusz Glabowski, Vice-Rector for International Relations, gave presentations on PUT and the PUT’s academic exchange initiatives through EUNICE, shared their research, and introduced programs for students interested in studying in Poland.

As part of the cultural program, the folk dance ensemble “POLIGRODZIANIE” delivered a vibrant and colorful performance showcasing traditional Polish culture. In addition, participants had the opportunity to join in the dancing themselves, creating a lively and engaging atmosphere that brought everyone together. Experiencing Polish culture firsthand–something rarely encountered in Japan–left a strong impression on attendees, many of whom commented that “the event was a lot of fun” and that “it deepened their interest in Poland”.

○May 2025

Two technical staff members from Szechenyi Istvan University in Hungary (hereinafter referred to as “the university”) visited NITech on May 12th and 13th, 2025.

On May 12th, the staff of International Affairs Division introduced NITech to them, and they also participated in a campus tour led by NITech students. This was a valuable opportunity for them to know about NITech, and for NITech students to interact with them.

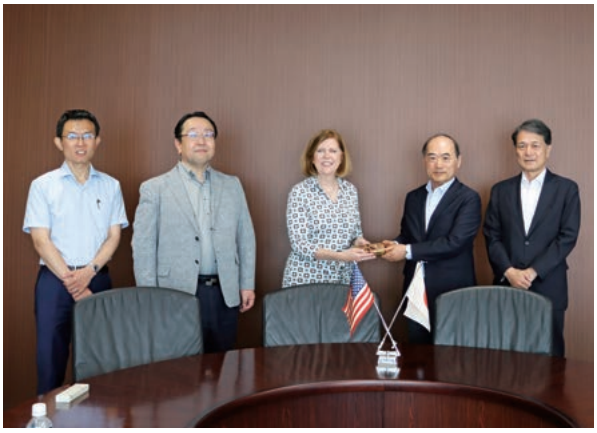
On May 13th, they observed a class “Advanced Theory of Knowledge Representation” taught by Professor INUZUKA Nobuhiro, who is the Director of Creative Engineering Education Center, and took part in the tour of the Information Technology Center. They learned about NITech network facilities and thin client information

infrastructure system, and exchanged opinions with the Technical Support Division's staff.
Afterwards, they had an opportunity to know the actual operation of the thin clients with the staff of Academic Affairs Division and Accounting Division. It had a meaningful chance to exchange opinions for them.

○July 2025

On July 8th, Dr. Cheryl Matherly, Vice President and Vice Provost for International Affairs at Lehigh University, our partner university, paid a courtesy visit to NITech. Lehigh University, located in Pennsylvania, USA, was founded in 1865 and is a comprehensive university offering a wide range of disciplines including engineering, business, and humanities.
Both universities signed Memorandum of Understanding for Academic Cooperation and Student Exchange Agreement in 2020. Student exchanges had already been actively taking place prior to the conclusion of these agreements.
During this visit, discussions were held on strengthening future cooperation, including the expansion of student exchange programs and the potential for research collaboration. Dr. Matherly also delivered a lecture introducing Lehigh University and its internship program. The lecture was attended not only by our faculty staff and students but also by exchange students from Lehigh University. Many questions were raised, and lively discussions took place involving all participants, making the event a valuable opportunity to deepen our understanding of Lehigh University and the importance of international education.


Technical staff members from Szechenyi Istvan University


Courtesy visit by Vice President and Vice Provost for International Affairs of Lehigh University

TOPIC 02

Expanding Our Global Network: Introducing New Partner Universities in 2025

In 2025, NITech signed academic exchange agreements with five new universities.
The newly added partner institutions are:

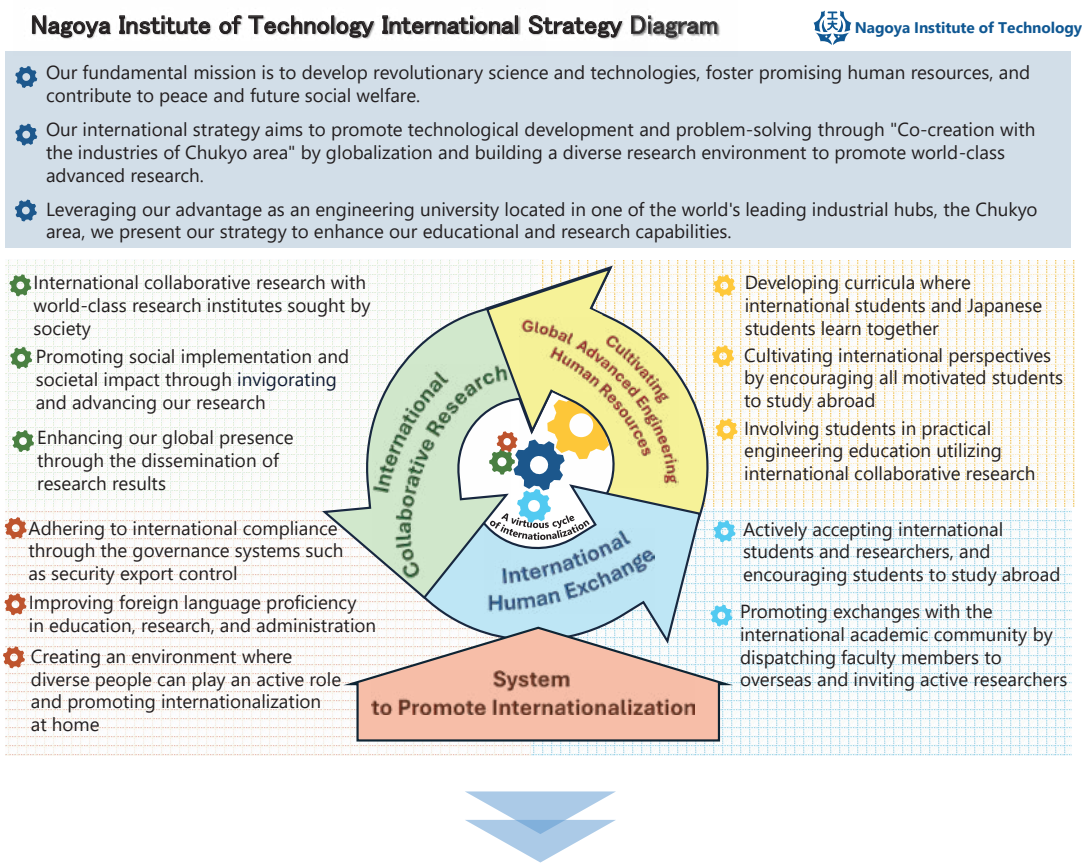
- Southeast University (China)
- Indian Institute of Technology Gandhinagar (India)
- Chennai Institute of Technology (India)
- Foreign Trade University (Vietnam)
- University of Bologna (Italy)

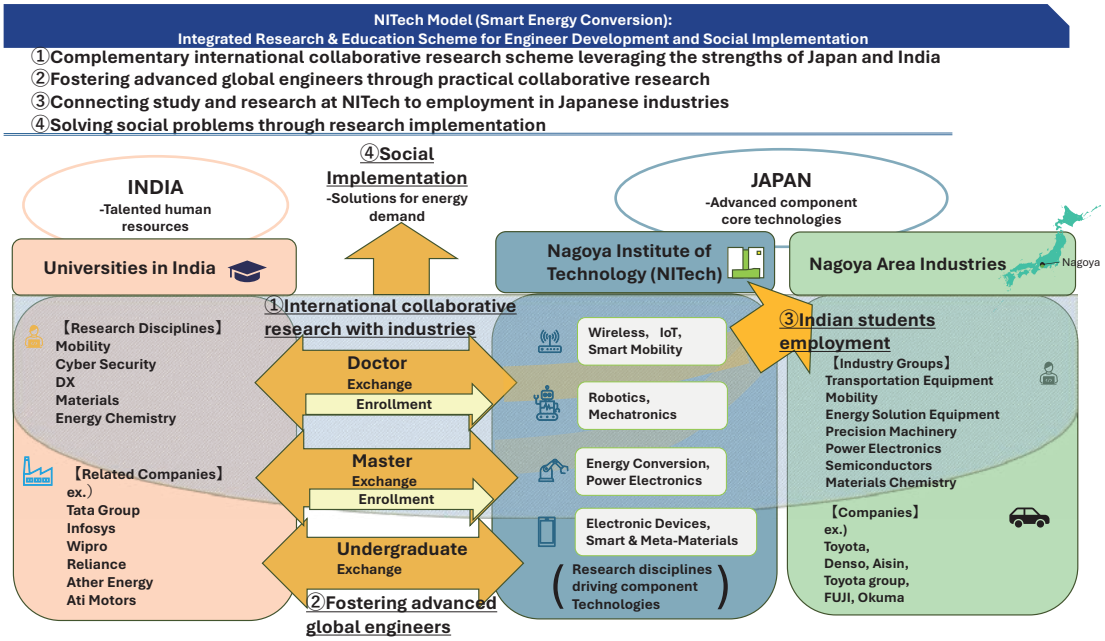
As of December 1, 2025, NITech has partnerships with 106 institutions in 37 countries (88 university partnerships and 18 department partnerships).
Leveraging these partnerships, NITech actively promotes diverse international collaboration initiatives, including student exchanges, joint research projects, and international symposia. Moving forward, we will continue to strengthen our global network and advance the internationalization of education and research.

TOPIC 03

Nagoya Institute of Technology International Strategy

We formulate Nagoya Institute of Technology International Strategy to strengthen international research networks and foster human resource development.
Based on this strategy, we are currently actively promoting student and faculty exchanges as well as international collaborative research with universities in India, including our academic exchange partner universities.





TOPIC 04

Global Recognition of NITech Researchers through Prestigious International Awards

Researchers at NITech have received high recognition from leading international academic societies.

• **Professor IWAMOTO Yuji**

Professor IWAMOTO recognized as an ACerS Global Ambassador by the American Ceramic Society (ACerS). The American Ceramic Society (ACerS) is a traditional society founded in 1899 and is one of the societies that plays an important role in the development of the field of inorganic materials science and engineering.

The title of ACerS Global Ambassador recognizes researchers who have demonstrated exceptional leadership in the ceramic materials research community around the world.

Professor IWAMOTO has been selected as an ACerS Global Ambassador for 2023/2024 in recognition of his effort to promote international collaborative research with educational and research institutions in the United States and Europe and achieve significant research accomplishments through the research and development of functional ceramics using chemical processes.

• **Professor HIRATA Akimasa**

Professor HIRATA received the 2025 IEEE EMC Society Motohisa Kanda Most Cited Paper Award. This award recognizes the most highly cited paper published in IEEE Transactions on Electromagnetic Compatibility between 2020 and 2024.

The awarded paper, *"Assessment of human exposure to electromagnetic fields: Review and future directions"* (published in October 2021), is the most cited among recent publications, demonstrating its significant influence in the research community.

NITech will continue to share its cutting-edge research with the world and contribute to the global academic community.

TOPIC 05

Showcasing NITech's Cutting-Edge Research at Expo 2025 Osaka, Kansai

In 2025, Osaka hosted the World Expo for the first time in 55 years, marking the sixth Expo held in Japan. The Expo is a global event where people, ideas, and innovations from around the world come together to address pressing challenges and shape a sustainable future.

At this international stage, Professor TANAKA Yoshihiro and Professor KATO Shohei from NITech showcased cutting-edge technologies. Their work represented innovative approaches toward realizing the society of the future and was shared with a global audience.

«Exhibit by Professor TANAKA» CrafTouch to Be Exhibited at JAPAN CRAFT EXPO - Osaka/Kansai Expo 2025—A Co-Creation Project for Digital Transmission of Traditional Craftsmanship Skills—

At the "Japan Craft Expo", held from June 16 to 18, 2025 as part of Expo 2025 Osaka, Kansai, Japan, the NITech Haptics Lab. showcased its skill-transmission technology in collaboration with the Japan Craft & Locality Association, Ikutoen, Co., Ltd., Keio University Graduate School of Media Design, and commissure Inc.

The project introduces cutting-edge haptic technologies capable of recording and reproducing human bodily sensations into traditional craft settings. By preserving artisans' techniques, transmitting them to successors, and enabling skill sharing beyond the limits of time and location, the project seeks new ways of conveying craft skills to future generations.

Based on the movements and sensory information of master potters, the team developed a robotic avatar that conveys ceramic-craft skills. By jointly operating this avatar with an artisan—essentially working in a "two-person, one-body" mode—users can intuitively experience the artisan's techniques and co-create pottery pieces. Many visitors enjoyed this new form of pottery experience and envisioned a future in which difficult-to-verbalize skills could be digitized, shared, and learned remotely at any time.

The exhibition by Professor TANAKA Yoshihiro

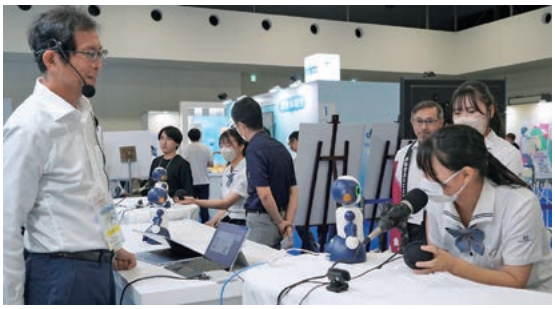
«Exhibit by Professor KATO» Engaging Young Innovators in AI and Robotics: Research Outcomes Presented at the EXPO 2025, Osaka, Kansai Japan

On October 3–4, 2025, The NITech Healthy Aging Society Creation Project (NITech HASC), jointly organized by the laboratories of Prof. KATO Shohei (Computational Intelligence) and Prof. TANAKA Yoshihiro (Mechanical Engineering) participated in the technology experience program "Explore the Future at the Expo", organized by the Japan Patent Attorneys Association and the

Japan Patent Office, and hosted at the EXPO Messe (WASSE) venue in the EXPO 2025 Osaka, Kansai, Japan. The event primarily engaged high school and technical college students with the objective of fostering deeper understanding of emerging technologies—such as XR, artificial intelligence, robotics, and smart mobility—through hands-on, experiential learning. By transitioning knowledge from abstract information to tangible experience, the program aimed to stimulate informed reflection on the future of society and the role of intellectual property in technological innovation.

NITech HASC presented a demonstration entitled "Creating a Healthy Life through Conversations with AI/Avatar Robots." The exhibition featured a multi-sensory I/O communication robot enabling interactive dialogue supported by speech and haptic responses and introduced seed technology related to a patented early-screening method for dementia based on speech analysis. Many visitors actively engaged in conversational interaction and tactile communication with the AI robot, generating lively discussion on future communication modalities and potential applications across social and industrial domains. The experience stimulated participants to envision new service concepts and technological possibilities for creating well-being and longevity society in the near future.

This project is conducted as part of a commissioned research program by the National Institute of Information and Communications Technology (NICT, Project No. 23306), in collaboration with Fujita Health University Hospital and Osaka University Hospital. Our goal is to develop an easy screening tool for clinical diagnostic-support of Alzheimer's disease, frontotemporal lobar degeneration, and mild cognitive impairment through the collection and analysis of speech and haptic data from outpatients and healthy elderlies during robot-assisted conversation.



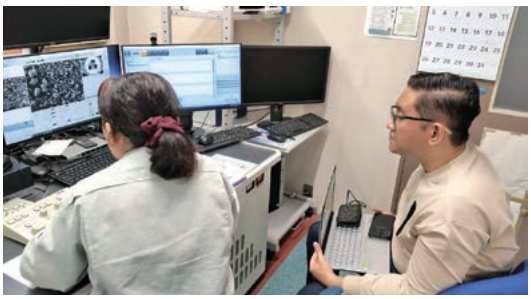
The exhibition by Professor KATO Shohei

TOPIC 06

Completion of JST Japan–ASEAN Y-tec Program: International Collaboration and Young Researcher Exchange

Under the "Japan-ASEAN Science, Technology and Innovation Platform: Young Researcher Exchange Program (Y-tec)" implemented by the Japan Science and Technology Agency (JST), our university has carried out a joint research project titled:
"Room-Temperature Synthesis and Demonstration of Next-Generation Energy Storage Materials Utilizing Palm Oil for a Circular Economy."
This project was selected in FY2024, with Associate Professor MIYAZAKI Hidetoshi from NITech serving as the principal investigator. On the ASEAN side, the project is conducted in collaboration with five institutions: Universiti Teknologi Malaysia (UTM) (Malaysia), Universiti Kebangsaan Malaysia (UKM) (Malaysia), Universiti Putra Malaysia (UPM) (Malaysia), Hanoi University of Science and Technology (HUST) (Vietnam), and University of Mataram (Indonesia).
Throughout the program, researchers and students from partner institutions conducted reciprocal visits and joint research activities. During their stay at NITech, participants carried out advanced measurements using XPS, FE-SEM, TEM, and synchrotron radiation at Aichi-SR. The collaborative work spanned a broad range of topics, including structural and electronic analysis of newly developed carbon-based materials, exploration of their potential in future energy systems, and assessment of practical implementation in real social and environmental contexts.
By integrating material development, device-level considerations, and practical deployment scenarios, the project created a comprehensive platform rarely achieved in a single initiative. Furthermore, the active exchange among young researchers and students significantly strengthened international ties and contributed to fostering the next generation of scientific talent.

Joint seminar with researchers and students from NITech, HUST, and University of Mataram



UTM (Malaysia) students conducting FE-SEM experiments at NITech

TOPIC 07

Connecting with the World: Internationalization and Student Exchange at NITech

In 2025, NITech continued to promote internationalization and enhance student exchange through a variety of initiatives. Events were held to encourage interaction between Japanese and international students, fostering an environment where each student can connect with the world and grow through global experiences.

○July; Visit to FPCO Chubu Recycling Plant and Gifu Park Excursion

On July 2nd, 15 students from 10 countries participated in the bus tour that included a visit to the FPCO Chubu Recycling Plant located in Ampachi District, Gifu, as well as a sightseeing excursion in Gifu City.

At the FPCO Chubu Recycling Plant, they learned about FPCO's food tray products and its circular recycling system, in place for over 30 years. A lively Q&A followed, covering topics from daily recycling habits to cost differences between recycling and non-recycling.

In the afternoon, the group visited Gifu Castle and strolled through the historic Kawaramachi district, fostering cultural exchange and stronger connections.

The tour broadened participants' perspectives on sustainability and provided valuable educational and cultural experience.

○October; "NITech Global Campus Connect" was held

On October 22nd, "NITech Global Campus Connect" was held at the Sky Cafeteria on the first floor of the University Hall. More than 100 faculty, staff, and students participated in this event, providing a valuable opportunity to deepen international exchange.

At the beginning of the event, President OBATA Makoto gave a speech in which he emphasized the importance of an international perspective.

At the venue, Japanese students reported on their study abroad experiences, and international students introduced their home countries and universities. Information on study abroad scholarships was also provided in the exhibition corner.

One of the participating international students commented that "It was a very good and nice opportunity to interact with other fellow international students." The event proved to be a great opportunity to deepen intercultural understanding.

Going forward, NITech remains committed to supporting the global growth and development of our students.

○November; Cultural Experience Bus Tour at Meiji Mura Museum

On November 29th, 47 international and Japanese students from Nagoya University of Economics, Nagoya University, and Nagoya Institute of Technology visited the Meiji Mura Museum in Inuyama City.

Supported by the "Regional Exchange Program for International Students" (Japan Student Services Organization (JASSO) & Nakajima Foundation), the event aimed to promote cultural exchange through a Cultural Experience Bus Tour.

Students explored Meiji-era heritage sites, enjoyed hands-on activities, and even rode an authentic steam locomotive, deepening their understanding of Japanese culture and history while fostering cross-cultural friendships.

Bus tour at Gifu Park

Bus tour at Meiji Mura Museum

Group photo at NITech Global Campus Connect