

2nd IEEE International Conference on Device Technologies for Diversified Applications (IEEE DTDA 2026)

October 11-14, 2026



Sapporo, Japan



CALL FOR PAPERS

Important Dates

Abstract Submission Deadline: **July 31, 2026**

Notification of Acceptance: August 28, 2026

Final Paper Submission: December 25, 2026



<https://ieee-dtda.org/>

Venue

Sapporo Grand Hotel & Former Hokkaido Government Office Building
"Red Brick Building", Sapporo, Japan

Scope

DTDA aims to establish a premier platform for researchers, engineers, and industry professionals to converge and share their latest advancements in device technologies across diverse applications. This flagship conference will facilitate discussion, collaboration, and the exploration of innovative applications in the rapidly evolving field of electron devices and technologies.

DTDA is an annual conference sponsored by IEEE Electron Devices Society, dedicated to **application-driven** cutting-edge technologies. The conference goes beyond traditional approaches, incorporating non-conventional elements to engage attendees, foster innovation, and provide value to industry sponsors, including application sessions, interactive workshops, demo sessions, pitch and competition, art showcases, and various networking events where people interact and innovative ideas are born.

DTDA Event Activities — Unleashing Your Potential!

When DTDA is over, we aim for "Okay, let's get started," rather than "Goodbye, see you next time." Workshops and pitches will be held throughout the conference to generate new ideas and collaborations. At the exhibition, you will discover exciting technologies and possibilities that you may not have known existed. We also plan to demonstrate technological advances through an experience-based Art showcase. DTDA will provide you with an opportunity for growth and discovery. Let's start expanding our possibilities!

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Secretariat

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Papers for presentation at DTDA 2026 are invited in the following application areas. Authors must submit the final camera-ready papers of their original unpublished research work online on DTDA 2026 website. The guidelines and the downloadable template must be followed to prepare manuscripts.

Application Area 1: Unleashing Power of MEMS

Chair: Shinya Yoshida, Shibaura Inst. of Tech., Co-chair: Yuki Okamoto, AIST

Papers include practical MEMS and their applications for IoT, energy harvesting and power management, consumer electronics, telecommunications and 5G, as well as biomedical applications and environmental monitoring. Contributions are also encouraged on the role of MEMS in automotive and transportation systems, where they enhance safety and efficiency. Papers focused on advancements in MEMS fabrication and manufacturing are particularly welcome, as these innovations are essential for future realization.

Application Area 2: Biosensors, Bioelectronics, Biomedical Devices

Chair: Takashi Tokuda, Inst. of Science Tokyo, Co-chair: Yuhei Hayamizu, Inst. of Science Tokyo

Papers on the topics of biosensors, bioelectronics, medical devices, and healthcare monitoring are invited. The materials which are used for these devices include such as nanocarbon (CNTs, graphene, etc.), conductive materials, biocompatible polymers, hydrogels, and also DNA, proteins, and cells. The fabrication technologies of lithography, MEMS, laser fabrication, and also detection technologies of electrochemistry, optics, photonics, semiconductors are included.

Application Area 3: Robot for Smart Society

Chair: Masanori Muroyama, Tohoku Inst. of Tech., Co-chair: Chinthaka Premachandra, Shibaura Inst. of Tech.

Papers are invited in all areas of robotic technologies that enhance the quality of life, including assistive robots for home and healthcare, rehabilitation robots, and applications of robotics in telemedicine. Contributions on robots in smart factories that accelerate industrial automation, AI-driven optimization of production lines, and practical examples of collaborative robots are also welcomed. The scope of DTDA also includes applications of robots in education, AI-assisted teaching robots, robots in STEM education, and case studies from educational environments. Additionally, papers on robotic technologies for smart city infrastructure, optimization of public services, urban transportation systems, and security robots are encouraged. Submissions related to key components of practical robotic systems (AI, sensors, actuators, control systems, energy sources and efficiency, interface technologies) and their applications in various fields are highly welcome.

Application Area 4: Mobility

Chair: Chihiro Nakagawa, Osaka Metropolitan Univ., Co-chair: Naoya Kaneko, Toyota Motor Corporation

This area solicits papers on automotive and mobility technologies shaping future society. Topics include integrated control using sensors, ECUs, AI, and power electronics for electrification and autonomous driving, as well as reliability, degradation, on-board diagnostics (OBD), and lifecycle-oriented design including reuse and recycling. Contributions addressing simulation- and digital-twin-based design, predictive maintenance, and system integration are welcome. Research connecting mobility with urban and social infrastructures such as smart and woven cities, and studies leveraging extreme-environment mobility (e.g., lunar mobility) to advance terrestrial systems, are encouraged. Carbon-neutral achievement is regarded as an important background objective across all topics.

Application Area 5: Environmental Impact Mitigation, Energy Reduction and Water Risk Management

Chair: Shin Nakagawa, SCREEN, Co-chair: Slava Libman, FTD Solutions

Papers are invited showcasing innovative technologies and strategies to address critical challenges, such as pollution reduction, conservation of natural resources, climate resilience, water scarcity, infrastructure constraints, operational efficiency. Environmental Impact Mitigation: Use smart technologies for real-time monitoring. Identify pollution sources with data analysis software and AI, and build eco-friendly infrastructure using green materials. Energy Consumption Reduction: Optimize consumption with energy efficient technologies and reduce it through innovative ideas and engineering solutions. Water Risk Management: Develop water resource management systems to promote reuse, and improve water quality with purification technologies. Our goal is to lead the way towards a sustainable future by incorporating advanced device technologies.

Application Area 6: Smart Agriculture on the Ground and in Space

Chair: Mayumi B. Takeyama, Kitami Inst. of Tech., Co-chair: Kazuo Oki, The Univ. of Tokyo

Papers are invited in all areas of smart agriculture, including fully automated plant factories, waste-free plant cultivation systems, and technologies that minimize water consumption. Topics of interest also include technologies for controlling harvest timing and maintaining post-harvest freshness through real-time data acquisition and observations from drones, aircraft, and space-based platforms. Furthermore, submissions addressing emerging technologies that will enable next-generation plant production systems not only on Earth but also in space environments are highly encouraged.