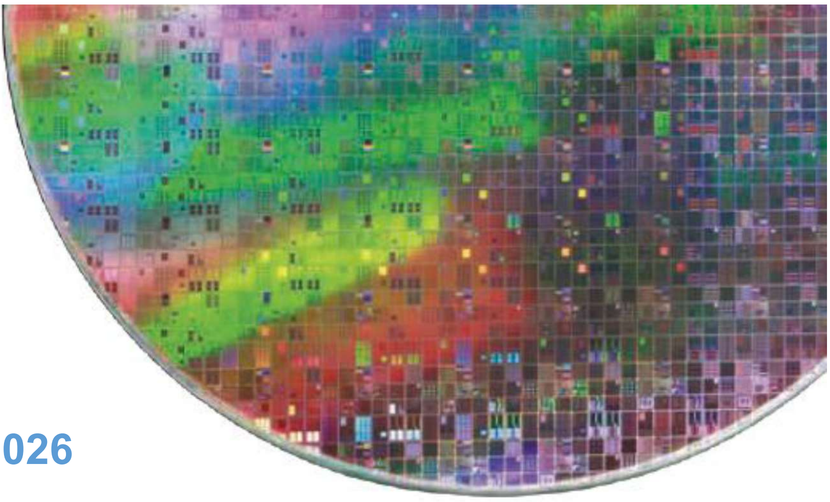
# 11th CIES Technology Forum



**March 23 (Mon) – 24 (Tue), 2026**

**Muromachi Mitsui Hall & Conference**

## Progress Report

March 23 (Mon) | DAY1

### Program

| | | |
|---|---|---|
| 13:30-13:35 | **Welcome address** President, Tohoku Univ. | Teiji Tominaga (Tohoku Univ.) |
| 13:35-13:55 | **Address** President, SEMI Japan | Masahiko (Jim) Hamajima (SEMI Japan) |
| | **Address** Director-General, Research and Development Bureau, MEXT | Shuichi Sakamoto (MEXT) |
| | **Address** Deputy Director-General, Innovation and Environment Policy Bureau, METI | Wataru Imamura (METI) |
| | **Address** Director-General, Patent Examination Department (Electronic Technology), JPO | Masahiro Nishina (JPO) |
| 13:55-14:30 | **CIES Overview** | Tetsuo Endoh (Tohoku Univ.) |
| 14:30-15:00 | Industry-academic collaboration<br>STT-MRAM Aimed at Developing Non-Volatile Working Memory and its Manufacturing Technologies | Shoji Ikeda (Tohoku Univ.) |
| 15:30-15:20 | Industry-academic collaboration<br>Brain-type processing circuit technologies | Tetsuo Endoh (Tohoku Univ.) |
| 15:20-15:40 | Industry-academic collaboration Supersensitive Magnetic Sensors using Ferromagnetic Tunnel Junctions | Mikihiko Oogane (Tohoku Univ.) |
| 15:40-15:55 | Break | |
| 15:55-16:10 | MEXT X-nics Innovative Spintronics X Semiconductor Research Hub | Tetsuo Endoh (Tohoku Univ.) |
| 16:10-16:25 | NEDO AIC<br>Design efficiency of AI processing semiconductors by CMOS/spintronics-hybrid technology and its applications | Takahiro Hanyu (Tohoku Univ.) |
| 16:25-16:45 | Industry-academic collaboration<br>Enabling the full potential of SiC bi-directional switches in upcoming power conversion applications | Alberto Castellazzi (Tohoku Univ.) |
| 16:45-17:00 | MEXT INNOPEL (Innovative Power Electronics Technologies)<br>Integrated Power Electronics for the Realization of a Decarbonized Society | Yoshikazu Takahashi (Tohoku Univ.) |
| 17:00-17:05 | **Closing Remarks** | Tetsuo Endoh (Tohoku Univ.) |

17:30-19:30 Banquet (Participation Fee Required) Venue: Foyer

**Organizer**:
Center for Innovative Integrated Electronic Systems (CIES), Tohoku University
**Co-sponsored**:
Research Institute of Electrical Communication (RIEC), Tohoku University
Tohoku University Semiconductor Creativity Hub (S-Hub)
**Sponsors**:
CAO, MEXT, METI, JPO, JSPS, JST, NEDO, INPIT

**Registration**: http://www.cies.tohoku.ac.jp/english/11th_forum/

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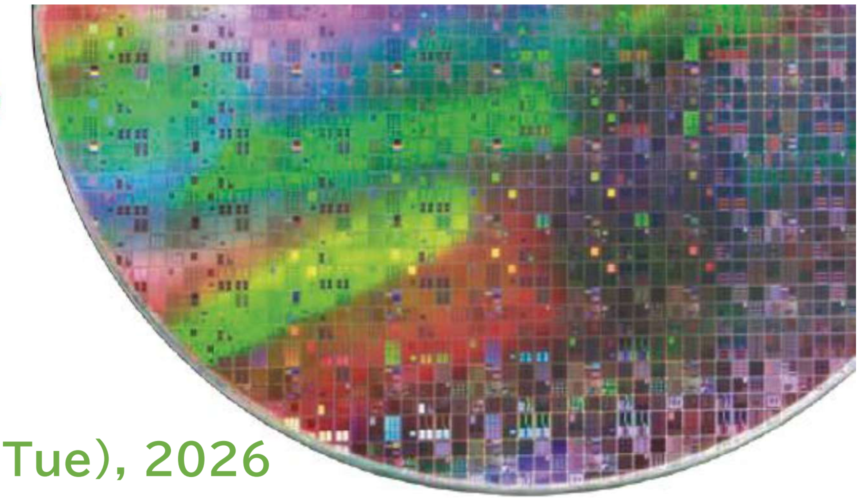

## March 23 (Mon) – 24 (Tue), 2026
## Muromachi Mitsui Hall & Conference

## International Symposium

**March 24 (Tue) | DAY2**

### Program

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|---|---|
| 9:00-9:10 | Opening remarks Tetsuo Endoh (Tohoku Univ.) |
| 9:10-9:35 | Invited talk 1 Hiroaki Kobayashi (Tohoku Univ.)<br>An MRAM-based Hybrid Memory Architecture: Possibilities and Challenges |
| 9:35-10:00 | Invited talk 2 Eric Wang (TSMC)<br>Demonstration of Embedded MRAM with sub-50 nm MTJ for RAM-like and MCU Applications |
| 10:00-10:25 | Invited talk 3 Kosuke Hatsuda (KIOXIA)<br>A 64Gb DDR4 STT-MRAM Using a Timing-Controlled Discharge-Reading Scheme for a 0.001681μm2 1Selector-1MTJ Cross-Point Cell |
| 10:25-10:50 | Invited talk 4 Daniel Worledge (IBM)<br>STT-MRAM for Last Level Cache |
| 10:50-11:15 | Invited talk 5 Yuichi Ikejiri (NTT)<br>AI Datacenters leveraging IOWN technologies |
| 11:15-11:35 | Invited talk 6 Johann W. Kolar (ETH Zurich)<br>Next Generation Solid-State-Transformer Concepts for AI Datacenters |
| 11:35-12:00 | Invited talk 7 Uwe Drofenik (TU Wien)<br>Exploring Reinforcement Learning Algorithms for Power Electronics |
| 12:00-12:25 | Invited talk 8 Takuya Kadoguchi (DENSO)<br>Technological Trends in Power Modules and Power Devices for automotive applications |
| 12:25-12:30 | Closing remarks Tetsuo Endoh (Tohoku Univ.) |

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