10th
CIES
Technology
Forum VIRTUA

**Progress Report** 

March 17 (Mon) - 18 (Tue), 2025

March DAY1

Part 1 [Live] 9:00-12:20 (JST)

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9:00-9:05	Welcome address President, Tohoku Univ. Teiji Tominaga (Tohoku Univ.)					
9:05-9:35	Address President, SEMI Japan	Masahiko (Jim) Hamajima (SEMI Japan)				
	Address Director-General, Research and Development Bureau, MEXT	Yoshinori Horiuchi (MEXT)				
	Address Deputy Director-General, Innovation and Environment Policy Bureau, METI	Wataru Imamura (METI)				
	Address Director-General, Patent Examination Department (Electronic Technology), JPO	Soichi Yushina (JPO)				
9:35-10:10	CIES Overview	Tetsuo Endoh (Tohoku Univ.)				
10:10-10:30	Industry-academic collaboration STT-MRAM Aimed at Developing Non-Volatile Working Memory and its Manufacturing Technologies	Shoji Ikeda (Tohoku Univ.)				
10:30-10:50	Industry-academic collaboration Technologies to automatically design environments for low energy consumption and highly functional VLSI processors based on non-volatile memory	Takahiro Hanyu (Tohoku Univ.)				
10:50-11:10	Industry-academic collaboration Supersensitive Magnetic Sensors using Ferromagnetic Tunnel Junctions	Mikihiko Oogane (Tohoku Univ.)				
11:10-11:25	MEXT X-nics Innovative Spintronics X Semiconductor Research Hub	Tetsuo Endoh (Tohoku Univ.)				
11:25-11:40	JSPS Core-to-Core Spintronics/Vertical elements of two-dimensional materials	Hiroshi Naganuma (Tohoku Univ.)				
11:40-12:00	Industry-academic collaboration packaging integration technology	Yoshikazu Takahashi (Tohoku Univ.)				
12:00-12:15	MEXT INNOPEL (Innovative Power Electronics Technologies) Integrated Power Electronics for the Realization of a Decarbonized Society	Yoshikazu Takahashi (Tohoku Univ.)				
12:15-12:20	Closing Remarks Tetsuo Endoh (Tohoku Univ.)					

## Part 2 [Streaming] 17:00-19:45 (JST)

17:00-17:35	CIES Overview	Tetsuo Endoh (Tohoku Univ.)			
17:35-17:55	Industry-academic collaboration STT-MRAM Aimed at Developing Non-Volatile Working Memory and its Manufacturing Technologies	Shoji Ikeda (Tohoku Univ.)			
17:55-18:15	Industry-academic collaboration Technologies to automatically design environments for low energy consumption and highly functional VLSI processors based on non-volatile memory	Takahiro Hanyu (Tohoku Univ.)			
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19:05-19:25	Industry-academic collaboration packaging integration technology	Yoshikazu Takahashi (Tohoku Univ.)			
19:25-19:40	MEXT INNOPEL (Innovative Power Electronics Technologies) Integrated Power Electronics for the Realization of a Decarbonized Society  Yoshikazu Takahashi (Tohoku U				
19:40-19:45	Closing Remarks Tetsuo Endoh (T				

**Organizer**: Center for Innovative Integrated Electronic Systems (CIES), Tohoku Univ. **Co-sponsored**: Research Institute of Electrical Communication (RIEC), Tohoku Univ.

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March 17 (Mon) – 18 (Tue), 2025 International Symposium

## March 18(Tue) DAY2

## Part 1 [Live] 0:00-12:35 (IST)

Part 1 [Live] 9:00-12:35 (JSI)					
JST	PDT	CET			
9:00-9:15	March 17 17:00-17:15	1:00-1:15	Opening remarks Tetsuo Endoh (Tohoku Univ.)		
9:15-9:40	17:15-17:40	1:15-1:40	Invited talk 1 Hideo Ohno (Tohoku Univ.) Spintronics: From Physics, Through Memory, to Future Computing		
9:40-10:05	17:40-18:05	1:40-2:05	Invited talk 2 Seung H. Kang (Adeia) Semiconductor Systems for AI: Co-Optimization for Energy Efficiency and System Scalability		
10:05-10:30	18:05-18:30	2:05-2:30	Invited talk 3 Yasumitsu Orii (Rapidus) Challenges and Opportunities of Semiconductor Packaging in the Chiplet Era		
10:30-10:55	18:30-18:55	2:30-2:55	Invited talk 4 Jun Terada (NTT) IOWN and Photonics Electronics Convergence Devices		
10:55-11:20	18:55-19:20	2:55-3:20	Invited talk 5 Daichi Chiba (SRIS) NanoTerasu: A Catalyst for Science and Innovation		
11:20-11:45	19:20-19:45	3:20-3:45	Invited talk 6 Yasuhiro Okuma (Fuji Electric) Technological Trends in Power Supply Systems for Data Centers		
11:45-12:10	19:45-20:10	3:45-4:10	Invited talk 7 Johann W. Kolar (ETH Zurich) Novel 99+% Efficiency Datacenter Power Supplies Based on Bidirectional/Bipolar Power Transistors		
12:10-12:30	20:10-20:30	4:10-4:30	Invited talk 8 Yoshikazu Takahashi (Tohoku Univ.) Latest power module technology for EV/HEV being developed at Tohoku University CIES		
12:30-12:35	20:30-20:35	4:30-4:35	Closing remarks Tetsuo Endoh (Tohoku Univ.)		

## Part 2 [Streaming] 17:00-20:35 (JST)

JST	PDT	CET	
17:00-17:15	1:00-1:15	9:00-9:15	Opening remarks Tetsuo Endoh (Tohoku Univ.)
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20:10-20:30	4:10-4:30	12:10-12:30	at Tohoku University CIES
20:30-20:35	4:30-4:35	12:30-12:35	Closing remarks Tetsuo Endoh (Tohoku Univ.)

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