

The 3rd 【ImPACT】 International Symposium on Spintronic Memory, Circuit and Storage

Program

DAY 1: Sept. 23, Saturday

《Registration desk open at 8:45am》

9:30	~	9:40	Opening Remarks	Prof. Masashi SAHASHI	ImPACT Program Manager (Tohoku Univ.)
9:40	~	9:50	Welcome Notes	Dr. Yuko Harayama	CSTI, Cabinet Office, Government of Japan
9:50	~	10:00		Dr. Michiharu NAKAMURA	Counselor to President of JST (Former President)
10:00	~	10:10		Prof. Susumu Satomi	President, Tohoku University
Keynote Speech I 【New Technology Trend】				Chair:Dr. Morihiro KURUSHIMA, JST	
10:10	~	10:50	Future Mobility Innovation by Vehicle Electrification and Intelligence	Dr. Kazuhiro Doi	NISSAN MOTOR, Japan
Keynote Speech II 【Recent Advances in MRAM Technologies】				Chair:Prof. Masashi SAHASHI, PM	
10:50	~	11:30	Spintronics Nanodevices for Low-power Integrated Circuits	Prof. Hideo Ohno	Tohoku University, Japan
11:30	~	12:10	Materials and Processes for Voltage-Torque MRAM	Dr. Shinji Yuasa	AIST, Japan
12:10	~	12:50	Electric-field controlled nucleation of magnetic skyrmions at room temperature	Dr. Hélène Béa	SPINTEC,France
12:50	~	14:45	Lunch(Poster Session)		
Luncheon Seminar 【Technical issues to be overcome and the challenges on the MRAM exit strategy】 Chair: Dr. Morihiro KURUSHIMA, JST					Only particular people can attend this luncheon seminar
13:00	~	13:40	Near-future MRAM applications: Emerging big market can be created?	Dr. Shinobu Fujita	Toshiba, Japan
Keynote Speech III 【New technology trends】				Chair:Dr. Shinobu FUJITA, Toshiba	
14:45	~	15:25	An Implementation of Ultra-Low-Standby Power SRAMs using 65 nm Silicon-on-Thin-Box (SOTB) for Smart IoT	Dr. Koji Nii	Renesas Electronics, Japan
15:25	~	16:05	Non-Volatile Memory Technologies for Present and Future Applications	Dr. Kazunari Ishimaru	Toshiba Memory, Japan
16:05	~	16:25	Coffee Break		
Keynote Speech IV 【New technology trends】				Chair:Prof. Tetsuo ENDOH, Tohoku Univ.	
16:25	~	17:05	CMOS-embedded STT-MRAM Technology in 2x nm Nodes for GP-MCU	Dr. Danny Shum	Globalfoundries, Singapore
17:05	~	17:45	Challenges in Resistive Memory Enabled Circuits and Systems: Memory, Nonvolatile Logics and AI Chips	Prof. Meng-Fan(Marvin) Chang	National Tsinghua University, Taiwan
17:45	~	20:00	Discussion and Poster Session with Welcome Reception		
20:00			Closing (Day 1)		

Invited Talk I 【R&D Topics in ImPACT and the related Studies】			Chair:Dr. Shinji YUASA, AIST	
9:00	~	9:40	Integrated technologies for CMOS/MTJ hybrid nonvolatile micro-controller unit (MCU) - From IC design tool & IP library to process technologies -	Prof. Tetsuo Endoh Tohoku University, Japan
9:40	~	10:20	Spin-orbit torque switching for high-speed nonvolatile memory applications	Prof. Shunsuke Fukami Tohoku University, Japan
10:20	~	11:00	VOLTAGE-CONTROL SPINTRONICS MEMORIES HAVING A POTENTIAL OF ULTRA-LOW ENERGY CONSUMPTION AS HIGH-DENSITY AND HIGH-SPEED WORKING MEMORIES	Dr. Hiroaki Yoda Toshiba, Japan
11:00	~	11:40	Voltage controlled magnetic anisotropy through magnetic dipole term induction	Prof. Shinji Miwa Osaka University, Japan
11:40	~	12:20	New spintronic materials for magnetic tunnel junctions	Dr. Kazuhiro Hono NIMS, Japan
12:20	~	15:00	Lunch&Coffee Break(Poster Session)	
Luncheon Seminar 【Readied for STT-MRAM Manufacturing】 Chair: Prof. Shoji IKEDA, Tohoku Univ.			Only particular people can attend this luncheon seminar	
12:30	~	13:10	STT-MRAM: ON THE CUSP OF MASS PRODUCTION	Dr. Yiming Huai Avalanche Technology, USA
13:10	~	13:50	Perpendicular STT-MRAM as an Emerging Embedded Non-volatile Memory with Data Retention through Solder Reflow Processing	Dr. William (Bill) Gallagher TSMC, Taiwan
Keynote Speech V 【New technology trends】			Chair:Prof. Hideo OHNO, Tohoku Univ.	
15:00	~	15:40	Phase Change Memory with Topological Functionalities	Dr. Junji Tominaga AIST, Japan
15:40	~	16:20	Applications of Emerging Nonvolatile Memory in Future Intelligent Storage and Computing	Prof. Yiran Chen Duke University, USA
Invited Talk II 【R&D Topics in ImPACT and the related Studies】			Chair:Dr. Hiroaki YODA, Toshiba	
16:20	~	17:00	Fast, low-current spin-orbit switching of magnetic tunnel junctions using Hf interface engineering	Dr. Yongxi Ou Cornell University, USA
17:00	~	17:40	Unconventional spin-orbit torques and their applications	Prof. Hyunsoo Yang National University of Singapore , Singapore
17:40	~	18:20	Electric Field and Strain Control of Magnetism: Towards Ultralow Energy Memory Devices	Prof. Nicholas Kioussis California State University Northridge, USA
18:20			Closing (Day2)	

Greetings				Chair:Dr. Morihiro KURUSHIMA, JST	
9:00	~	9:15	Greetings	Dr. Tomio Suzuki	Cabinet Office, Government of Japan
9:15	~	9:30		Mr. Atsuo HIRAI	Ministry of Economy, Trade and Industry
9:30	~	9:45		Prof. Hirotsugu TAKIZAWA	Tohoku University, Japan
Invited Talk Ⅲ 【R&D Topics in ImPACT and the related Studies】				Chair:Prof. Shunsuke FUKAMI, Tohoku Univ.	
9:45	~	10:25	Spintronics: A Potential Pathway to Enable an Exponential Scaling for the Beyond-CMOS Era	Prof. Jianping Wang	Minnesota University, USA
10:25	~	11:05	Roadmap of low dissipation spintronics technology	Prof. Kang L Wang,	UCLA,USA
Keynote Speech VI 【 New technology trends】				Chair:Prof. Masashi SAHASHI, PM	
11:05	~	11:45	Project for Development of Next-Generation Smart Devices - Development of over 1,000 GOPS/W Image Recognition Processor Platform Technologies -	Dr. Masahiro Nomura	Renesas Electronics, Japan
11:45		13:30	Lunch(Poster Session)		
Luncheon Seminar 【Readied for STT-MRAM Manufacturing】 Chair: Dr. Shinji Yuasa, AIST					Only particular people can attend this luncheon seminar
12:00	~	12:40	Advanced Manufacturing Technologies for STT-MRAM	Dr. Hiroki Maehara	Tokyo Electron, Japan
Keynote Speech VII 【New technology trends】				Chair:Prof. Masashi SAHASHI, PM	
13:30	~	14:10	Neuromorphic device for Cognitive Computing	Dr. Shintaro Yamamichi	IBM ,Japan
14:10	~	14:50	Towards a new computing paradigm	Dr. Yasunori Kimura	Fujitsu, Japan
14:50	~	15:30	Social Value Creation Acccelerated Heterogeneous Computing and Spintronics.	Dr.Yuichi Nakamura	NEC, Japan
15:40	~		2016year Best Poster Award Ceremony and Closing Remarks, “See you next year in Tokyo” (Day 3)		