AWAD2023 Program

Monday, July 10

10:00	10:10	Opening Remarks

SESSION 1 : Advanced semiconductor technologies & Nano, 2D materials, wearable devices

	co-chair	T. Suwa (Tohoku Univ.), Seongjae Cho (Ewha Womans Univ.)

10:15	10:35	I-1	Taiichi Otsuji	Tohoku Univ.
			Physics of graphene Dirac plasmons and their terahertz device applications	
10:35	10:55	I-2	Young Joon Hong	Sejong University
			Unconventional epitaxy for fabricating high-density full-color micro-LEDs	
10:55	11:10	O-1	Seungwon Go	Sogang University
			Investigation on Ferroelectricicty in Zr-doped HfO2 (HZO) based Lamianated Structure with TEMA-Hf and Cp-Zr	
11:10	11:25	O-2	Hudzaifah Al Hijri	Shizuoka University
			Improvement of Output Power of Flexible Thermoelectric Power Generators Based on Conductive Fabrics	
11:25	11:40	O-3	Naoki Matsuda	AIST
			Surfactant-free gold nanoparticle dispersed aqueous solution for surface-enhanced Raman scattering spectroscopy	

11:40	13:00	Lunch break

SESSION 2 : Quantum devices and computing technologies & Neuromorphic devices and computing technologies

	co-chair	T. Futase (Western Digital), Joon Young Kwak (KIST)

13:00	13:20	I-3	Akira Fujiwara	NTT
			Metrology application of silicon single-electron pumps	
13:20	13:35	O-4	Kim Dong Hee	Kyung Hee University
			3-Terminal Synapse Transistor Array Architecture Based on HfO2 Electrolyte Gate Insulator for Implementing Synaptic Weighted-Sum Operation	
13:35	13:50	O-5	Seiya Kasai	Hokkaido Univ.
			Readout of Voluntary Motion From Myoelectric Signals Based On Reservoir Computing Framework	

13:50	14:05	Break

SESSION 3 : Power electronic devices & Compound semiconductor and wide bandgap devices

	co-chair	T. Terashima (Mitsubishi Electric), Sang Won Yoon (Hanyang Univ.)

14:05	14:25	I-4	Hyun-Seop Kim	Kunsan National Univ.
			Dynamic Ron Analysis with Substrate Bias in AlGaNGaN-on-Si Structures	
14:25	14:40	O-6	Gokhan Atmaca	Hongik University
			Recessed Gate β-Ga2O3 MOSFETs with BeO Gate Dielectric	
14:40	14:55	O-7	Yusaku Magari	Hokkaido University
			High-mobility In2O3:H thin films and thin-film transistors deposited under varied base pressure by pulsed laser deposition	
14:55	15:10	O-8	Myeongsu Chae	Hongik University
			Time-dependent degradation of p-GaN gate HEMTs under forward gate voltage stress	

15:10	15:25	Break

SESSION 4 : 30th Anniversary

	co-chair	S. Ohmi (Tokyo Tech), W. Y. Choi (Seoul National Univ.)

15:25	15:55	S-1	Hideo Hosono	Tokyo Tech
			Birth and Progress of IGZO-TFTs	
15:55	16:25	S-2	Tsunenobu Kimoto	Kyoto University
			Innovation and Physics of SiC Power Devices for Higher Energy Efficiency	
16:25	16:55	S-3	Ho-Young Cha	Hongik University
			Gallium nitride power devices and sensors	
16:55	17:25	S-4	Tamotsu Hashizume	Hokkaido University & Nagoya University
			MOS technologies for GaN power transistors	

17:25	17:45	Break
17:45	19:30	Networking Session (Lounge)

Tuesday, July 11

SESSION 5 : MOS logic and memory devices 1

	co-chair	H. Ikeda (Shizuoka Univ.), Garam Kim (Myongji Univ.)

9:30	9:50	I-5	Shinji Migita	AIST
			Status of Ferroelectric HfO2 as Emerging Memory	
9:50	10:10	I-6	Sihyun Kim	Sogang University
			Ferroelectric Devices as Next Generation Low-Power Logic Technology	
10:10	10:25	O-9	Eun-Ki Hong	Tokyo Institute of Technology
			Development of Etching Process for the N-doped LaB6/LaBxNy Stack Structure to Realize Floating-gate type Non-volatile Memory	
10:25	10:40	O-10	Yun-Ju Cho	Kyung Hee University
			Scaling Feasibility of Vertical-Channel Charge-Trap-Memory Thin-Film Transistors with 60-nm Channel Length by Using IGZO Active and ZnO Charge-Trap Layers	
10:40	10:55	O-11	Jin Ho Chang	Seoul National University
			Recessed Channel Hemi-Cylindrical Vertical NAND Flash Memory for the Improvement of the Program/Erase Efficiency and Memory Density	

10:55	11:15	Break

SESSION 6 : MOS logic and memory devices 2

	co-chair	K. Sakuma (Kioxia), Il Hwan Cho (Myongji Univ.)

11:15	11:35	I-7	Md. Hasan Raza Ansari	King Abdullah University of Science and Technology
			Transistor Architecture Evaluation for Standalone and Embedded 1T DRAM	
11:35	11:50	O-12	Shunsuke Shitakata	AIST, Keio University
			Additional High-Pressure Hydrogen Annealing Improving the Cryogenic Operation of Si (110)-oriented n-MOSFETs	
11:50	12:05	O-13	Jae Seung Woo	Seoul National University
			Effective Hot Carrier Injection Programming for TFET-Based Flash Memory	

12:05	13:05	Lunch break
13:05	14:05	Poster Session (Lounge)

	co-chair	T. Suwa (Tohoku Univ.), T. Futase (Western Digital), J. Heo (Ajou Univ.), S. Kim (Sogang Univ.)

14:05	14:25	Break

SESSION 7 : Optoelectronics, displays, imagers and sensors

	co-chair	T. Hosoi (Kwansei Gakuin Univ.), Donghwan Ahn (Kookmin Univ.)

14:25	14:45	I-8	Wataru Yashiro	Tohoku Univ.
			Recent Advances in Synchrotron X-ray Imaging and Tomography	
14:45	15:05	I-9	Kyusang Lee	University of Virginia
			Bio-inspired Neuromorphic Sensing: Perception and Cognition towards response	
15:05	15:20	O-14	Young Hoon Kim	Ajou university
			Improved photocurrent-to-dark current characteristics in AlGaN/GaN-based ultraviolet sensor	
15:20	15:35	O-15	Lingrui Li	Nagoya University
			Electron Emission Properties of 3-Dimensional Self-Ordered SiGe Nanodots	

15:35	15:55	Break

	co-chair	T. Mori (AIST), Donghwan Ahn (Kookmin Univ.)

15:55	16:15	I-10	Tomohiro Maegawa	Mitsubishi Electric
			Application of thermal diode infrared sensor to consumer products	
16:15	16:35	I-11	Daewon Lee	Myongji University
			Fluidic self-assembly transfer technology for MicroLED displays	
16:35	16:55	I-12	Yoshiharu Nakajima	Japan Display
			History and Future of System-on-Glass Technology Using TFT Device	

16:55	17:15	Closing Remarks / Award Ceremony