



제 31회 한국반도체학술대회

The 31st Korean Conference on Semiconductors

2024년 1월 24일(수)-26일(금) | 경주화백컨벤션센터(HICO)

2024년 1월 25일(목), 09:00-10:45

Room A(101), 1층

L. Analog Design 분과

[TA1-L] Analog Circuits

좌장: 엄지용 교수(금오공과대학교), 정영호 교수(대구대학교)

초청발표 TA1-L-1 09:00-09:30	2전극 측정을 위한 저 잡음 넓은 동적영역의 바이오 임피던스 판독회로 손현우 경상국립대학교
TA1-L-2 09:30-09:45	A Fully Differential LiDAR Receiver with On-chip APDs in 180-nm CMOS Yejin Choi ^{1,2} , Yunji Song ^{1,2} , Juntong Li ^{1,2} , Yeojin Chon ^{1,2} , Shinhae Choi ^{1,2} , Xinyue Zhang ^{1,2} , and Sung Min Park ^{1,2} ¹ Department of Electronic and Electrical Engineering, Ewha Womans University, ² Grauate Program in Smart Factory, Ewha Womans University
TA1-L-3 09:45-10:00	An 8x8 Optoelectronic Receiver Array in 180-nm CMOS for Elder-Care Short Range LiDAR Sensors Shinhae Choi ^{1,2} , Yeojin Chon ^{1,2} , Yunji Song ^{1,2} , Yejin Choi ^{1,2} , and Sung Min Park ^{1,2} ¹ Department of Electronic and Electrical Engineering, Ewha Womans University, ² Grauate Program in Smart Factory, Ewha Womans University
TA1-L-4 10:00-10:15	A Fully-Differential Optoelectronic Receiver in 180-nm CMOS Yunji Song ^{1,2} , Yejin Choi ^{1,2} , Juntong Li ^{1,2} , Shinhae Choi ^{1,2} , Yeojin Chon ^{1,2} , Xinyue Zhang ^{1,2} , and Sung Min Park ^{1,2} ¹ Department of Electronic and Electrical Engineering, Ewha Womans University, ² Grauate Program in Smart Factory, Ewha Womans University
TA1-L-5 10:15-10:30	Single-stage Wireless CC-CV Resonant Battery Charger with Coupling Range Extension Scheme for Implantable Biomedical Applications Byeong Woo Yoo, Joon Gyu Kim, Min Jae Kim, Min Sung Kim, and Sung Yun Park Pusan National University
TA1-L-6 10:30-10:45	A 2nd Order Delta-sigma Modulator for BMS DC Measurement Ji-Ho Park, Jae-Geun Lim, Hyoung-Jung Kim, Jae-Hyuk Lee, Seong-Bo Park, Byeong-Ho Yu, and Gil Cho Ahn Department of Electronic Engineering, Sogang University



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Room B(102), 1층

H. Display and Imaging Technologies 분과

[TB1-H] Display and Imaging Technologies I

좌장: 정윤영 교수(POSTECH), 진성훈 교수(인천대학교)

초청발표 TB1-H-1 09:00-09:30	Hybrid-Multiscale Materials Enabled Light-to-Frequency-Conversion Circuits Toward IoT Security Application Sung Hun Jin, Seung Gi Seo, Mokurala Krishnaiah, and Dhananjay Mishra I-Nanofab Center, Department of Electronic Engineering, Incheon National University
TB1-H-2 09:30-09:45	Effects of ZnMgO Surface UV Treatment on the Performance of InP-Based Inverted Quantum Dot Light-Emitting Diodes Hyeong Jin Kim ^{1,2} and Jeonghun Kwak ^{1,2} ¹ Department of Electrical and Computer Engineering, Seoul National University, ² ISRC, Seoul National University
TB1-H-3 09:45-10:00	Strategy for High Quantum-efficient AlGaInP/GaInP Micro-red LEDs and The Demonstration of 1700 PPI Ultra-high-resolution Mono-color Display through Monolithic 3D Integration Technology Juhyuk Park ¹ , Dae-Myeong Geum ² , Dong-Soon Jung ³ , Woojin Baek ¹ , Hyunsu Kim ¹ , and Sanghyeon Kim ¹ ¹ Electrical Engineering, KAIST, ² School of Electronics Engineering, Chungbuk National University, ³ RAONTECH Inc.
TB1-H-4 10:00-10:15	Solution-Processed NIR Sensing Ambipolar Organic Phototransistor HwaPyeong Noh, Yongju Lee, MiRiNae Lee, Hyo Won Jang, Swarup Biswas, and Hyeok Kim School of Electrical and Computer Engineering, University of Seoul
TB1-H-5 10:15-10:30	Vertically Stacked RGB Micro-LEDs Via Transfer Printed Semiconductor Sheets Seong Woo Hong and Yei Hwan Jung Department of Electronic Engineering, Hanyang University
TB1-H-6 10:30-10:45	Quantum Efficiency Enhancement by Using Guided-Mode Resonance Structure on eSWIR T2SL nBn Photodetector Dongho Gwak, Seung-Yeop Ahn, Jinha Lim, and Sang Hyeon Kim School of Electrical Engineering, KAIST



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Room C(103), 1층

J. Nano-Science & Technology 분과

[TC1-J] van der Waals Heterostructure Electronics

좌장: 이관형 교수(서울대학교), 이명재 교수(서울대학교)

초청발표 TC1-J-1 09:00-09:30	2D Materials Design for Angstrom-scale Multi-stack Devices Hyeon-Jin Shin SAIT
TC1-J-2 09:30-09:45	NMOS Inverter based on Vertically Stacked MoS ₂ n-MOSFET Using Semi-metallic PtSe ₂ Contacts Jae Eun Seo ¹ , Minseung Gyeon ² , Jisoo Seok ¹ , Kibum Kang ² , and Jiwon Chang ¹ ¹ Department of System Semiconductor Engineering and Department of Materials Science and Engineering, Yonsei University, ² Department of Materials Science and Engineering, KAIST
TC1-J-3 09:45-10:00	Atomic-Thin Dielectric Integration with Hexagonal Boron Nitride for Large Scale MoS ₂ Field Effect Transistors Woo-Ju Lee ^{1,2} , Min-Yeong Choi ^{1,2} , Seong-Jun Yang ¹ , and Cheol-Joo Kim ^{1,2} ¹ Center for Van der Waals Quantum Solids, IBS, ² Department of Chemical Engineering, POSTECH
초청발표 TC1-J-4 10:00-10:30	Reliable Transistors Fabricated via Two-dimensional Layer Transfer Assisted Heterogeneous Integration Techniques Hyun S. Kum Yonsei University
TC1-J-5 10:30-10:45	Two-dimensional Layer Induced Resistive Switching Properties of Hafnia-Based Heterostructure Donghyeon Lee ¹ , Seungmo Kim ^{2,3} , and Sanghan Lee ¹ ¹ School of Materials Science and Engineering, GIST, ² Center for Semiconductor Technology Convergence, POSTECH, ³ Department of Electrical Engineering, POSTECH



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Room D(104), 1층

P. Device for Energy (Solar Cell, Power Device, Battery, etc.) 분과

[TD1-P] 태양광 / 파워 디바이스

좌장: 유상우 교수(경기대학교), 박정웅 교수(가천대학교)

TD1-P-1 09:00-09:15	Chip Size Dependent Turn-off Behavior of SiC MOSFETs Yeonjun Kim and Hyemin Kang Department of Energy Engineering, KENTECH
TD1-P-2 09:15-09:30	Microstructure Design of n-type Bi ₂ Te ₃ Alloys via Selective Dissolution of KCl: Influence of Bi ₂ TeO ₅ Formation over an Eutectic Point Gwang Min Park ^{1,2} , Seunghyeok Lee ^{2,3} , Jun-Yun Kang ⁴ , Seung-Hyub Baek ² , Heesuk Kim ¹ , Jin-Sang Kim ¹ , and Seong Keun Kim ^{1,2} ¹ KU-KIST, Korea University, ² KIST, ³ Hanyang University, ⁴ KIMS
TD1-P-3 09:30-09:45	MoS _{2(1-x)} Te _{2x} / MoS ₂ Van Der Waals Heterojunctions for Ultra-Thin Photovoltaic Application Dong Hyun Seo ^{1,2} , Guen Hyung Oh ^{1,2} , Jong Min Song ^{1,2} , and TaeWan Kim ^{1,2} ¹ Department of Electrical Engineering, Jeonbuk National University, ² Smart Grid Research Center, Jeonbuk National University
초청발표 TD1-P-4 09:45-10:15	Efficient, Stable and Scalable Perovskite Solar Cells Jangwon Seo Department of Chemical & Biomolecular Engineering, KAIST
TD1-P-5 10:15-10:30	산화갈륨 기반 수직형 고전압 쇼트키 다이오드 구조 설계를 위한 해석적 모델 제안 Min-Jeoung Kim, Sung-Hoon Lee, Won-Chul Chol, Seung-Jun Oh, Ji-Ho Kim, and Ho-Young Cha School of Electronic and Electrical Engineering, Hongik University
TD1-P-6 10:30-10:45	ALD BeO Grown on (-201) and (001) β-Ga ₂ O ₃ Substrates for Power Devices Dohwan Jung ¹ , Yoonseo Jang ¹ , Sangoh Han ¹ , Christopher W. Bielawski ² and Jungwoo Oh ¹ ¹ School of Integrated Technology, Yonsei University, ² CMCM, IBS, Department of Chemistry, UNIST



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Room E(105), 1층

E. Compound Semiconductors 분과

[TE1-E] Compound Semiconductor - InP Electronic Devices

좌장: 이기원 교수(원광대학교)

초청발표 TE1-E-1 09:00-09:30	InP HEMT Based MMICs for Future Quantum Computing Applications Sang-jin Yoon ¹ , Sang-kuk Kim ¹ , Ted Kim ¹ , and Dae-hyun Kim ² ¹ QSI, ² School of Electronic and Electrical Engineering, Kyungpook National University
TE1-E-2 09:30-09-45	$L_g = 60$ nm 5-levels-stacked $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ MBCFETs with $Q = 258$ J.-H. Yoo ¹ , H.-B. Jo ^{1,2} , I.-G. Lee ¹ , S.-M. Choi ¹ , H.-J. Kim ¹ , W.-S. Park ¹ , H. Jang ³ , C.-S. Shin ³ , K.-S. Seo ³ , S. H. Shin ⁴ , H.-M. Kwon ⁴ , SK. Kim ⁵ , JG. Kim ⁵ , J. Yun ⁵ , T. Kim ⁵ , J.-H. Lee ¹ , and D.-H. Kim ¹ ¹ Kyungpook National University, ² KETI, ³ KANC, ⁴ Polytech, ⁵ QSI
TE1-E-3 09:45-10:00	Cryogenic InGaAs HEMTs with Nb Superconductor for RF Transistors and Routing Circuits in Quantum Computing Jaeyong Jeong ¹ , Seong Kwang Kim ¹ , Yoon-Je Suh ¹ , Nahyun Rheem ¹ , Jisung Lee ² , Joonyoung Choi ³ , Juhyuk Park ¹ , Joon Pyo Kim ¹ , Bong Ho Kim ¹ , Younjung Jo ³ , Seung-Young Park ² , Jongmin Kim ⁴ , and Sanghyeon Kim ¹ ¹ School of Electrical Engineering, KAIST, ² Center for Scientific Instrumentation, KBSI, ³ Department of Physics, Kyungpook National University, ⁴ KANC
TE1-E-4 10:00-10:15	Experimental Investigation of Scattering Mechanism in $\text{In}_{0.8}\text{Ga}_{0.2}\text{As}$ HEMTs at Cryogenic Temperature Seung-Woo Son ¹ , Ji-Hoon Yoo ¹ , Min-Seo Yu ¹ , Wan-Soo Park ¹ , In-Geun Lee ¹ , Jae-Hak Lee ¹ , Kyounghoon Yang ² , and Dae-Hyun Kim ¹ ¹ School of Electronic and Electrical Engineering, Kyungpook National University, ² KAIST
TE1-E-5 10:15-10:30	A Simple Yet Physical Model for Cutoff Frequency and Maximum Oscillation Frequency of High-electron-mobility Transistors In-Geun Lee ¹ , Su-Min Choi ¹ , Hyeon-Bhin Jo ^{1,2} , Wan-Soo Park ¹ , Ji-Hoon Yoo ¹ , Hyo-Jin Kim ¹ , Takuya Tsutsumi ³ , Hiroki Sugiyama ³ , Hideaki Matsuzaki ³ , Jae-Hak Lee ¹ , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² KETI, ³ NTT Device Technology Laboratories
TE1-E-6 10:15-10:45	Improved Thermal Reliability in Base Contact of Full 3-inch InP Double-HBTs with f_T and f_{max} in Excess of 300 GHz Yong-Soo Jeon ¹ , In-Geun Lee ¹ , Yonghyun Kim ² , Jacob Yun ² , Ted Kim ² , Hyuk-Min Kwon ³ , Seung Heon Shin ³ , Jae-Hak Lee ¹ , Kyounghoon Yang ⁴ , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² QSI, ³ Korea Polytechnics, ⁴ KAIST



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Room F(106), 1층

C. Material Growth & Characterization 분과

[TF1-C] Advanced Characterization of 2D Materials

좌장: 윤석준 교수(울산대학교), 이승훈 교수(부경대학교)

초청발표 TF1-C-1 09:00-09:30	Operando Electron Microscopy Investigation of Domain Dynamics in 2D Sliding Ferroelectrics Hyobin Yoo Sogang University
TF1-C-2 09:30-09:45	Graphene Capping Layer in Cu Back-End-Of-Line Keun Wook Shin, Yeonchoo Cho, and Kyung-Eun Byun SAIT
TF1-C-3 09:45-10:00	Modulating Polymorph Transition Metal Dichalcogenides through Controlled Thermal and Plasma Treatments Dongho Lee ¹ , Hyunho Seok ² , Sihoon Son ² , Hyunbin Choi ³ , Gunhyoung Kim ³ , and Taesung Kim ^{1,2,3} ¹ Department of Mechanical Engineering, Sungkyunkwan University, ² SAIT, Sungkyunkwan University, ³ Department of Semiconductor Convergence Engineering, Sungkyunkwan University
초청발표 TF1-C-4 10:00-10:30	Facile and Large-area Optical Characterization of Atomically Thin Films Jae-Ung Lee Ajou University
TF1-C-5 10:30-10:45	Thermal Property 3D Imaging System Using Frequency-domain Thermoreflectance Jihyun Kim, Jongwon Baek, and Jungwan Cho Sungkyunkwan University



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2024년 1월 25일(목), 09:00-10:45

Room G(201), 2층

K. Memory (Design & Process Technology) 분과

[TG1-K] RRAM and Neuromorphic Device I

좌장: 김수길 팀장(SK하이닉스), 권건우 교수(홍익대학교)

TG1-K-1 09:00-09:15	CMOS-compatible, 2DEG-Based Three-terminal Dynamic Memristor Woon Hyung Cheong, Geunyoung Kim, and Kyung Min Kim KAIST
TG1-K-2 09:15-09:30	A Memristor-Based Elementary Motion Detector for a Maneuver Prediction Min Gu Lee, Hanchan Song, Gwangmin Kim, Kyung Min Kim Department of Materials Science and Engineering, KAIST
TG1-K-3 09:30-09:45	Reconfigurable Two-dimensional Tellurene Artificial Synapse for Bio-inspired Wearable Edge Computing Bolim You ¹ , Jeechan Yoon ¹ , Yuna Kim ¹ , Mino Yang ² , Jina Bak ¹ , Jihyang Park ¹ , Jihoon Huh ¹ , Myung Gwan Hahm ¹ , and Moonsang Lee ¹ ¹ Inha University, ² Korea Basic Science Institute Seoul
TG1-K-4 09:45-10:00	Strategy to Improve Synaptic Behavior of Ion-actuated Synaptic Transistors – the Use of Ion Blocking Layer for Reliable Multilevel Retention Seonuk Jeon ¹ , Nayeon Kim ¹ , Eunryeong Hong ¹ , Hyun Wook Kim ¹ , Yunsur Kim ² , Hyeonsik Choi ² , Hyoungjin Park ² , Jiae Jeong ² , and Jiyong Woo ^{1,2} ¹ School of Electronic and Electrical Engineering, Kyungpook National University, ² School of Electronics Engineering, Kyungpook National University
TG1-K-5 10:00-10:15	Role of Oxide Barrier in a NbO _x Layer with Noninert Electrodes for High-yield Threshold Switching Characteristics Hyeonsik Choi ¹ , Hyun Wook Kim ² , Eunryeong Hong ² , Nayeon Kim ² , Seonuk Jeon ² , Yunsur Kim ¹ , Hyoungjin Park ¹ , Jiae Jeong ¹ , and Jiyong Woo ^{1,2} ¹ School of Electronic Engineering, Kyungpook National University, ² School of Electronic and Electrical Engineering, Kyungpook National University



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TG1-K-6 10:15-10:30	A 10T2R Non-Volatile SRAM Cell Design with High-Reliability So Yeon Kwon, Woon San Ko, Jun Ho Byun, Do Yeon Lee, and Ga Won Lee Chungnam National University
TG1-K-7 10:30-10:45	Impact of Al ₂ O ₃ Layer on Nonlinearity of Selector-less HfO _x -Based RRAM for Neuromorphic Computing Applications Yunsur Kim ¹ , Hyun Wook Kim ² , Eunryeong Hong ² , Nayeon Kim ² , Seonuk Jeon ² , Hyeonsik Choi ¹ , Hyoungjin Park ¹ , Jiae Jeong ¹ , and Jiyong Woo ^{1,2} ¹ School of Electronic Engineering, Kyungpook National University, ² School of Electronic and Electrical Engineering, Kyungpook National University



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2024년 1월 25일(목), 09:00-10:45

Room H(202), 2층

K. Memory (Design & Process Technology) 분과

[TH1-K] Processing In Memory

좌장: 구민석 교수(인천대학교)

초청발표 TH1-K-1 09:00-09:30	A Fully Integrated Hybrid Memristor-CMOS System for Efficient Vector-Matrix Multiplication Operations Seung Hwan Lee Kyung Hee University
TH1-K-2 09:30-09:45	Compact and High-performance 4T Ternary Content-addressable Memory Utilizing Dual-gate Metal Oxide Transistors Taewon Seo ¹ , Seongmin Park ¹ , and Yoonyoung Chung ^{1,2,3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
TH1-K-3 09:45-10:00	Device-algorithm Co-optimization for an On-chip Trainable Capacitor Based Synaptic Device with IGZO TFT and Retention-centric Tiki-Taka Algorithm Jaehyeon Kang ¹ , Jongun Won ¹ , Narae Han ¹ , Minseung Kang ¹ , Yeaji Park ¹ , Youngchae Roh ¹ , Hyeongjun Seo ¹ , Changhoon Joe ¹ , Ung Cho ¹ , Minil Kang ² , Minseong Um ² , Hyung-Min Lee ² , Saeroonter Oh ³ , and Sangbum Kim ¹ ¹ Seoul National University, ² Korea University, ³ Hanyang University
TH1-K-5 10:00-10:15	A Heater-embodying Rapid and Energy-efficient Mott True Random Number Generator Array for Secure Communication Gwangmin Kim, Jae Hyun In, and Kyung Min Kim Department of Materials Science and Engineering, KAIST



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2024년 1월 25일(목), 09:00-10:45

Room I(203), 2층

D. Thin Film Process Technology 분과

[TI1-D] Emerging Devices

좌장: 윤성민 교수(경희대학교), 이웅규 교수(송실대학교)

TI1-D-1 09:00-09:15	Oxide Based Synaptic Transistors Implementing Multi-valued Logic Function Jung Wook Lim ^{1,2} and Min A Park ¹ ¹ ETRI, ² University of Science and Technology
TI1-D-2 09:15-09:30	Study on Threshold Switching Behavior of Oxide Thin Film Based Devices; a New Type of Selector Ju Hwan Park ¹ , Ji Young Park ¹ , Hye Rim Kim ² , Tae Jung Ha ³ , Jeong Hwan Song ³ , Soo Gil Kim ³ , Tae Joo Park ² , and Byung Joon Choi ¹ ¹ Seoul National University of Science and Technology, ² Hanyang University, ³ SK hynix
TI1-D-3 09:30-09:45	Energy Efficient Electrolytic-gated Synapse Transistors Using InGaZnO/HfO ₂ Gate Stacks with Vertical Channel Configurations Dong-Hee Kim ¹ , Young-Ha Kwon ² , Nak-Jin Seong ² , Kyu-Jeong Choi ² , Jong-Heon Yang ³ , Chi-Sun Hwang ³ , and Sung-Min Yoon ¹ ¹ Kyung Hee University, ² NCD Co., Ltd., ³ ETRI
TI1-D-5 09:45-10:00	Self-Rectifying Resistive Switching Device for 1k Crossbar Array Structure Hyun Kyu Seo, Su Yeon Lee, Se Yeon Jeong, June hyuk Lee, Min Kyung Lee, and Min Kyu Yang Intelligent Electronic Device Lab, Sahmyook University
초청발표 TI1-D-6 10:00-10:30	Atomic Layer Deposition Approaches for High-Resolution/Performance Collidal Quantum Dot Display Applications Seong-Yong Cho, Joon Yup Lee, and Eun A Kim Department of Photonics and Nanoelectronics, Hanyang University ERICA



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Room J(204), 2층

A. Interconnect & Package 분과

[TJ1-A] Emerging Interconnect

좌장: 김병준 교수(한국공학대학교), 주지호 박사(한국전자통신연구원)

TJ1-A-1 09:00-09:15	나노 초 레이저 어닐링을 이용한 비아 플러그의 결정립 크기 증가 정재중 ¹ , 박영근 ¹ , 백용구 ¹ , 김희태 ¹ , 김동빈 ¹ , 김한욱 ² , 조병진 ¹ ¹ 한국과학기술원 전기 및 전자공학부, ² 한국기초과학지원연구원 소재분석연구부
TJ1-A-2 09:15-09:30	Atomic Layer Deposition of RuO ₂ for a Diffusion Barrier in Ru-interconnects Minsu Kim ¹ , Youn-Hye Kim ² , Ki-Seok An ³ , and Soo-Hyun Kim ⁴ ¹ Kyonggi University, ² Yeungnam University, ³ KRICT, ⁴ UNIST
TJ1-A-3 09:30-09:45	Electromigration Reliability of Barrierless Ruthenium and Molybdenum for Sub-10 nm Interconnection Jungkyun Kim, Hakseung Rhee, and Kyung Min Kim KAIST
TJ1-A-4 09:45-10:00	Reduced Size Effect of Resistivity in Cobalt-Palladium (CoPd) Alloys for Advanced Interconnection Applications Hyeong Jun Kim ¹ , Kiyoung Lee ² , Tae Won Jeong ³ , Keon Wook Shin ³ , Sang Won Kim ³ , and Changhwan Choi ¹ ¹ Division of Materials Science and Engineering, Hanyang University, ² Department of Materials Science and Engineering, Hongik University, ³ SAIT
TJ1-A-5 10:00-10:15	Selective Deposition of ALD Barrier Metal for Extremely Advanced Cu Interconnect 김기현, 장준기, 박경필, 박치범, 박은영, 이재호, 정은지, 박두환, 김진, 김락환, 하태홍, 안정훈, 이종호 Foundry Business, Samsung Electronics Co., Ltd.
초청발표 TJ1-A-6 10:15-10:45	Improving Mechanical-electrical Reliability of Cu Interconnects based on the Microstructure Analysis Seongi Lee ¹ , Jun Hyeok Hyun ² , and So-Yeon Lee ² ¹ Seoul National University, ² Kumoh National Institute of Technology



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Room K(205), 2층

G. Device & Process Modeling, Simulation and Reliability 분과

[TK1-G] Reliability & Power Device

좌장: 장지원 교수(연세대학교), 김성호 교수(세종대학교)

초청발표 TK1-G-1 09:00-09:30	Study on Reliability of Automotive Semiconductor Devices and Validation Technology Trends You-Cheol Jang HL Mando
TK1-G-2 09:30-09:45	Reliability Assessment of High-voltage FinFET Technology for RF Applications Kyoungwan Oh ¹ , Hyangwoo Kim ¹ , Wooyeol Maeng ² , Kangwook Park ² , Hyung-Jin Lee ² , Ju Hong Park ¹ , and Chang-Ki Baek ¹ ¹ POSTECH, ² Samsung Electronics Co., Ltd.
TK1-G-3 09:45-10:00	Numerical Investigation of GaN HMET Using Finite Element Method according to Process Parameters Na-Yeon Choi and Sung-Uk Zhang Digital Twin Laboratory, Dong-eui University
TK1-G-4 10:00-10:15	Simulation Study of a Full Turn-on RC-IGBT with Energy Loss Min Seok Jang ¹ , Jee Hun Jeong ¹ , Da Hui Yoo ¹ , Sung Mo Koo ² , and Ho Jun Lee ¹ ¹ Pusan National University, ² TRinno Technology Co., Ltd.
TK1-G-5 10:15-10:30	Wire Bonding 두께변화와 Die-attach Void에 따른 열 저항 변화 연구 Sang Min Nam and Sung-Uk Zhang Digital Twin Laboratory, Dong-Eui University
TK1-G-6 10:30-10:45	Compact Well RC Modeling Method for P1dB and Harmonic Distortion Simulation of the Multi-stacked Transistors on RF Switch Module Nakwon Yu, Jongmin Kim, Youngchul Kim, and Hyunchul Nah DB HiTek



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Room L(206), 2층

Q. Metrology, Inspection, Analysis, and Yield Enhancement 분과

[TL1-Q] Metrology, Inspection, and Yield Enhancement I

좌장: 강상우 소장(한국표준과학연구원), 정용우 TL(SK hynix)

초청발표 TL1-Q-1 09:00-09:30	SEM 영상을 활용한 패턴의 3차원 측정 방법 Younghoon Sohn Samsung Electronics Co., Ltd.
초청발표 TL1-Q-2 09:30-10:00	Skyrmionics Chanyong Hwang KRISS
TL1-Q-3 10:00-10:15	Metrology/Inspection System of Extra Ultraviolet (EUV) Material and Optical Components for Ultra-fine Semiconductor Patterning Wooram Kim ¹ , Eun Seok Choe ¹ , Do-Yeon Hwang ¹ , Hyo-Chang Lee ^{1,2} , Jung-Hyung Kim ¹ , Won Chegal ¹ , and Sang-Woo Kang ¹ ¹ Semiconductor Integrated Metrology Team, KRISS, ² Department of Electronics and Information Engineering, Korea Aerospace University
TL1-Q-4 10:15-10:30	The Study of Optical Measurement Technologies for the Advanced Packaging of the Semiconductor Manufacturing Process Joon Ho You and Chang Soo Kim Nexensor Inc.
TL1-Q-5 10:30-10:45	Development of ARDE Technology for HARC Using IEDF based on High-resolution VSEM Etch Profile Data Jihoon Park ¹ , Namjae Bae ¹ , Ji-Won Kwon ¹ , Taejun Park ¹ , Jaemin Song ² , and Gon-Ho Kim ¹ ¹ Seoul National University, ² Samsung Electronics Co., Ltd.



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2024년 1월 25일(목), 10:55-12:40

Room A(101), 1층

B. Patterning (Lithography & Etch Technology) 분과

[TA2-B] Advanced Plasma Etching I

좌장: 유신재 교수(충남대학교)

초청발표 TA2-B-1 10:55-11:30	TCAD Augmented Generative Adversarial Network for Optimizing a Chip Level Size Mask-layout Design in HARC Etching Process Hyoungcheol Kwon ¹ , Hyunsuk Huh ² , Hwiwon Seo ¹ , Songhee Han ¹ , Imhee Won ¹ , Dongyeon Oh ¹ , Felipe Iza ³ , Seungchul Lee ² , Sung Kye Park ¹ , and Seonyong Cha ⁴ ¹ Design Input Center, SK hynix, ² Department of Mechanical Engineering, POSTECH, ³ The Wolfson School of Mechanical, Electrical and Manufacturing Engineering, Loughborough University, ⁴ R&D Devision, SK hynix
TA2-B-2 11:30-11:45	Contact-hole Reduction Using Advanced Cyclic Etching Process in Heptafluoropropyl Methyl Ether Plasmas 유상현 ^{1,2} , 김창구 ^{1,2} ¹ Department of Chemical Engineering, Ajou University, ² Department of Energy Systems Research, Ajou University
TA2-B-3 11:45-12:00	Investigation of Etching Profile Transition in SiO ₂ Etching Using Ar/CF ₄ Discharges 정원녕 ¹ , 최병엽 ¹ , 김시준 ² , 이영석 ² , 성인호 ¹ , 조철희 ¹ , 최민수 ¹ , 설유빈 ² , 이우빈 ¹ , 서성현 ¹ , 유신재 ^{1,2} ¹ Department of Physics, Chungnam National University, ² IQS, Chungnam National University
초청발표 TA2-B-4 12:00-12:30	Plasma-Enhanced Atomic Layer Etching for Metals and Dielectric Materials Heeyeop Chae School of Chemical Engineering, Sungkyunkwan University
TA2-B-5 12:30-12:45	Plasma Atomic Layer Etching of Titanium Nitride with Surface Fluorination or Chlorination Heeju Ha ¹ , Hyeongwu Lee ² , Minsung Jeon ³ , and Heeyeop Chae ^{1,2,3} ¹ School of Chemical Engineering, Sungkyunkwan University, ² Department of Nano Science and Technology, SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, ³ Department of Semiconductor Convergence Engineering, Sungkyunkwan University



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2024년 1월 25일(목), 10:55-12:40

Room B(102), 1층

H. Display and Imaging Technologies 분과

[TB2-H] Display and Imaging Technologies II

좌장: 정예환 교수(한양대학교), 권혁인 교수(중앙대학교)

초청발표 TB2-H-1 10:55-11:25	Bio-inspired Electronic Eyes Using Flexible and Synaptic Optoelectronics Changsoon Choi Center for Opto-Electronic Materials and Devices, KIST
TB2-H-2 11:25-11:40	Effective Mg Doping in ZnO Nanoparticles via the Ultrasonic-assisted Synthesis for Quantum Dot Light-emitting Diodes Hyeonseung Ban ¹ , Yeongho Choi ^{2,3} , Hyo Geun Lee ¹ , Woon-ho Jung ^{2,3} , Jaehoon Lim ^{2,3,4} , and Seong-Yong Cho ¹ ¹ Department of Photonics and Nanoelectronics, Hanyang University ERICA, ² Department of Energy Science, Sungkyunkwan University, ³ Center for Artificial Atoms, Sungkyunkwan University, ⁴ SIEST, Sungkyunkwan University
TB2-H-3 11:40-11:55	P-type Cul Stacked IGZO-TFTs with Broadband Spectrum Responsivity Hyeon Jong Lee, Yun Sung Lee, Jong Joon Park, Gun Ho Bang, Jae Min Han, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University
TB2-H-4 11:55-12:10	Wavelength - Tunable Grating - Resonance InGaAs Narrowband Photodetector with Infrared Optical PCM, Antimony Triselenide (Sb ₂ Se ₃) Junho Jang ¹ , Il-Suk Kang ² , and SangHyeon Kim ¹ ¹ School of Electrical Engineering, KAIST, ² NNFC
TB2-H-5 12:10-12:25	Analyzing the Luminance Drop and Voltage Behavior of Indium Phosphide Quantum Dot Light-emitting Diodes Yeongmin Moon and Jeonghun Kwak ¹ Department of Electrical and Computer Engineering, Seoul National University, ² ISRC, Seoul National University



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TB2-H-6 12:25-12:40	ALD-Based Multinary Metal Oxide Electron Transport Layer for Quantum Dot Light-emitting Diodes Hyo Geun Lee^{1,2}, Yong Woo Kwon², Woon Ho Jung², Hyeonjun Lee⁴, Min Seok Kim¹, Hyun-Mi Kim⁵, Hyeongkeun Kim⁵, Hae Jin Kim⁶, Doh. C. Lee⁴, Jaehoon Lim^{2,3}, and Seong Yong Cho¹ ¹Department of Photonics and Nanoelectronics, Hanyang University, ²Department of Energy Science and Center for Artificial Atoms, Sungkyunkwan University, ³Institute of Energy Science and Technology (SIEST), Sungkyunkwan University, ⁴Department of Chemical and Biomolecular Engineering, KAIST Institute for the Nanocentury, KAIST, ⁵Korea Electronics Technology Institute, ⁶Department of Materials Science and Engineering, College of Engineering, Myongji University
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Room C(103), 1층

J. Nano-Science & Technology 분과

[TC2-J] 1D/2D Optoelectronics

좌장: 강기훈 교수(서울대학교), 박혜성 교수(고려대학교)

초청발표 TC2-J-1 10:55-11:25	Ultrathin Waveguides Realized with 2D Materials Myungjae Lee Seoul National University
TC2-J-2 11:25-11:40	Design and Fabrication of an In-situ Core/Shell Perovskite/MoS ₂ Heterostructure for High-performance Photodetection Sunggyu Ryoo ¹ , Jinwoo Sim ¹ , Joo Sung Kim ² , Juntae Jang ¹ , Tae-woo Lee ² , and Takhee Lee ¹ ¹ Department of Physics and Astronomy, Seoul National University, ² Department of Materials Science and Engineering, Seoul National University
TC2-J-3 11:40-11:55	Electronic Trap Measurement in QD Optoelectronics Gyu Weon Hwang, Tae Hwan Park, Jun Young Jin, and Kyung Won Seo KIST
초청발표 TC2-J-4 11:55-12:25	Efficient light Manipulation Using WS ₂ Multilayers Su-Hyun Gong Department of Physics, Korea University
TC2-J-5 12:25-12:40	An Analysis of Near-infrared Absorption in Silicon Nanowires with Wavy-sidewalls Minkeun Choi, Chang-Ki Baek, and Ju Hong Park Department of Convergence IT Engineering, POSTECH



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Room D(104), 1층

P. Device for Energy (Solar Cell, Power Device, Battery, etc.) 분과

[TD2-P] 수소 생산 / 미래 에너지

좌장: 박정웅 교수(가천대학교), 유상우 교수(경기대학교)

초청발표 TD2-P-1 10:55-11:25	MOF-Based Catalysts for Efficient Electrochemical Conversion of CO ₂ to CO Soo Young Kim Department of Materials Science and Engineering, Korea University
초청발표 TD2-P-2 11:25-11:55	Research of National Climate/Energy Policy, Strategy and R&D Planning Jeong In Lee National Climate Technology Center(NCTC), KIER
TD2-P-3 11:55-12:10	Electrochemical Nitrate Reduction to Ammonia on Facet-engineered Epitaxial Perovskite Oxide Jun Beom Hwang, Jiwoong Yang, and Sanghan Lee School of Materials Science and Engineering, GIST
TD2-P-4 12:10-12:25	Enhancing BiVO ₄ Photoanode Performance by Insertion of an Epitaxial BiFeO ₃ Ferroelectric Layer Yejoon Kim, Haejin Jang, and Sanghan Lee School of Materials Science and Engineering, GIST
TD2-P-5 12:25-12:40	Enhancing Zinc Cobalt Sulfide Catalysis via Heterojunction Design with Metallic Phase Molybdenum Sulfide for Water Splitting Mikiyas Mekete Meshesha ^{1,2} , Debabrata Chanda ^{1,2} , Ranjith Balu ^{1,2} , Jang Seok Gwon ^{1,2} , Shahbaz Ahmed ^{1,2} , and Bee Lyong Yang ^{1,2} ¹ School of Advanced Materials Science and Engineering, Kumoh National Institute of Technology, ² GHS Co., Ltd.



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Room E(105), 1층

E. Compound Semiconductors 분과

[TE2-E] Compound Semiconductor - High-Power Devices

좌장: 차호영 교수(홍익대학교), 문재경 교수(한국전자통신연구원)

TE2-E-1 10:55-11:10	P형 물질 (NiO_x, CuO_x) 특성에 따른 $\alpha\text{-Ga}_2\text{O}_3$ PN 접합 다이오드의 항복 전압 및 소자 특성변화 연구 Hyeon-Yeong Jeong¹, Hyun-Ho Jeong¹, Hyeon-Cheol Kim¹, Tae Hoon Jang², Kyu-Hwan Shim^{1,2}, and Chel-Jong Choi¹ ¹Jeonbuk National University ²R&D Division, Sigetronics, Inc.
TE2-E-2 11:10-11:25	MOCVD-grown Ga_2O_3-on-SiC, Ga_2O_3-on-Al_2O_3 이중 구조의 열전도도 측정 Taeyeon Kim¹, Jihyun Kim¹, Jonggu Lee¹, Hyeongyoon Kim², Jihyun Park², Daewoo Jeon², and Jungwan Cho¹ ¹School of Mechanical Engineering, Sungkyunkwan University, ²KICET
TE2-E-3 11:25-11:40	A New Method of Forming Junction Termination Extension through Epitaxial Growth for High Voltage SiC Power Devices Sangyeob Kim, Sumin Park, Gukhwa Jeon, Jinhun Kim, Kanghee Shin, Dusan Baek, and Ogyun Seok Kumoh National Institute of Technology
TE2-E-4 11:40-11:55	Improving the Surge Characteristics of SiC MOSFETs by Using Embedded Poly-Si SBDs Gyuhyeok Kang, Yeongeun Park, Hyowon Yoon, Chaeyun Kim, Sangyeob Kim, Gukhwa Jeon, and Ogyun Seok Kumoh National Institute of Technology
TE2-E-5 11:55-12:10	Turn-on 상태의 1.2 kV SiC MOSFET 의 감마선 조사 영향 분석 김채윤¹, 윤효원¹, 박영은¹, 김상엽¹, 강규혁¹, 전국화¹, 김동석², 석오균¹ ¹금오공과대학교, ²한국원자력연구원
TE2-E-6 12:10-12:25	Crystallographic Chemical Etching Behavior of GaN Nanostructures Hyesu Ryu¹, Hak-Jong Choi², Mandar Kulkarni⁴, Hokyun Rho³, Ga Eun Kim¹, Hyungjun Lim², Sang Wan Ryu⁴, and Sang Hyun Lee¹ ¹School of Chemical Engineering, Chonnam National University, ²Nano-Convergence Mechanical Systems Research Division, KIMM, ³Energy Convergence Core-Facility, Chonnam National University



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TE2-E-7

12:25-12:40

2kV Vertical GaN PiN Diode for High Power Device Applications

Hyung-Seok Lee, Donghan Kim, Sooyoung Moon, and Sung-Bum Bae

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Room F(106), 1층

C. Material Growth & Characterization 분과

[TF2-C] Functional Oxides

좌장: 유효빈 교수(서강대학교), 이재웅 교수(아주대학교)

초청발표 TF2-C-1 10:55-11:25	Functional Perovskite Oxides with Atomic Gradients Daesu Lee Department of Physics, POSTECH
TF2-C-2 11:25-11:40	Heat Management Using Mesoporous MgO for BEOL Interlayer Dielectric Anh-Duy Nguyen and Rino Choi 3D Convergence Center and Department of Materials Science and Engineering, Inha University
TF2-C-3 11:40-11:55	Fabrication of Hetero-epitaxy $\text{SrCoO}_{2.5}/\text{SrRuO}_3$ Freestanding Thin Films for RRAM Application Eun Seok Choi and Sanghan Lee School of Materials Science and Engineering, GIST
초청발표 TF2-C-4 11:55-12:25	Surface Triggered Stabilization of Metastable Charge-ordered Phase in SrTiO_3 Kitae Eom Department of Electronic Engineering, Gachon University
TF2-C-5 12:25-12:40	Dielectric-constant/Capacitive Weighted Memory Materials Yoon Seok Oh ¹ , Jun Han Lee ¹ , Nguyen Xuan Duong ² , Min-Hyoung Jung ³ , Hyun-Jae Lee ¹ , Ahyoung Kim ⁴ , Youngki Yeo ⁵ , Junhyung Kim ¹ , Gye-Hyeon Kim ¹ , Byeong-Gwan Cho ⁶ , Jaegyu Kim ⁵ , Furqan Ul Hassan Naqvi ⁷ , Jong-Seong Bae ⁹ , Jeehoon Kim ¹⁰ , Chang Won Ahn ² , Young-Min Kim ³ , Tae Kwon Song ¹¹ , Jae-Hyeon Ko ⁷ , Tae-Yeong Koo ⁶ , Changhee Sohn ¹ , Kibog Park ¹ , Chan-Ho Yang ⁵ , Sang Mo Yang ⁴ , Jun Hee Lee ¹ , Hu Young Jeong ¹ , and Tae Heon Kim ² ¹ UNIST, ² University of Ulsan, ³ Sungkyunkwan University, ⁴ Sogang University, ⁵ KAIST, ⁶ Pohang Accelerator Laboratory, ⁷ Hallym University, ⁹ KBSI, ¹⁰ POSTECH, ¹¹ Changwon National University



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Room G(201), 2층

K. Memory (Design & Process Technology) 분과

[TG2-K] RRAM and Neuromorphic Device II

좌장: 최신현 교수(KAIST), 김형진 교수(인하대학교)

TG2-K-1 10:55-11:10	Selector-less V-CBRAM with High Nonlinearity and Low-power Operation via Tunnel-gap Controllable Two-Dimensional Electron Gas (2DEG) Electrode Jiho Kim, Ohhyuk Kwon, and Hyunsang Hwang POSTECH
TG2-K-2 11:10-11:25	Robust Molybdenum Disulfide Nanograined Memristors Fabricated via PECVD Process Gunhoo Woo ¹ , Hyeong-U Kim ² , Byung Chul Jang ³ , Jae-joon Kim ⁴ , Hocheon Yoo ⁵ , and Taesung Kim ¹ ¹ Sungkyunkwan University, ² KIMM, ³ Kyungpook National University, ⁴ Seoul National University, ⁵ Gachon University
TG2-K-3 11:25-11:40	Fabrication and Resistive Switching Characterization of HfO _x -Based 4-layer VRRAM for High-density Synapse Array Subaek Lee ¹ , Sungjoon Kim ^{2,3} , Hyojin So ¹ , Gyeongpyo Kim ¹ , Doohyung Kim ¹ , Minkang Kim ¹ , Juri Kim ¹ , Hyesung Nah ¹ , Woo Young Choi ^{2,3} , and Sungjun Kim ¹ ¹ Division of Electronics and Electrical Engineering, Dongguk University, ² Department of Electrical and Computer Engineering, Seoul National University, ³ ISRC, Seoul National University
TG2-K-4 11:40-11:55	Superior Ion Retention of Divalent Magnesium-ion Based Si/MgF ₂ /WO _x Electrochemical RAM for Neuromorphic Systems Heebum Kang, Kyumin Lee, and Hyunsang Hwang Department of Material Science and Engineering, POSTECH



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TG2-K-5 11:55-12:10	Implementation of Multiple-weak-filaments Type Memristor based on Cu:Te/ TaO_x with a Te Interfacial Layer for Highly Reliable Artificial Synapse Keonhee Kim^{1,2,3}, Jae Gwang Lim^{1,2,3}, Sung Jae Park^{1,2,3}, Gyutaek Oh^{1,4}, Yeonjoo Jeong¹, Jaewook Kim¹, Suyoun Lee¹, Joon Young Kwak¹, Jongkil Park¹, Gyu Weon Hwang¹, Kyeong-Seok Lee¹, Seongsik Park¹, Hyun Jae Jang¹, Byeong-Kwon Ju^{2,3}, Jong Keuk Park¹, and Inho Kim¹ ¹Center for Neuromorphic Engineering, KIST, ²Display and Nanosystem Laboratory, Korea University, ³School of Electrical Engineering, Korea University, ⁴Division of Electronics and Electrical Engineering, Dongguk University
TG2-K-6 12:10-12:25	Investigating the Effect of Oxygen Vacancy Control in Sputter-Deposited Ta₂O_{5-x} Films on Synaptic Device Properties Chae Min Yeom¹, Hyuk Min Kwon², Hyeon Seung Lee¹, and Hi Deok Lee¹ ¹Chungnam National University, ²Semiconductor Convergence Campus of Korea Polytechnics College
TG2-K-7 12:25-12:40	Artificial Neuron based on Toxic Element-free SiO_x Threshold Switch for Unconventional Oscillatory Neural Networks Eunryeong Hong, Hyun Wook Kim, Seonuk Jeon, Nayeon Kim, and Jiyong Woo School of Electronic and Electrical Engineering, Kyungpook National University



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Room H(202), 2층

K. Memory (Design & Process Technology) 분과

[TH2-K] DRAM

좌장: 오정훈 마스터(삼성전자)

초청발표 TH2-K-1 10:55-11:25	Improvement of DRAM Cell Data Sensing Margin by Retargeting Local Misalignment and Process Skew Kyuseok Lee ¹ , Jungyoung Koh ¹ , Hyunju Sung ¹ , Jaehyun Yu ¹ , Hyunmi Ji ¹ , Yeongeun Kim ¹ , Hyewon Kim ¹ , Jae Bum Jeon ¹ , Jiseong Jeong ¹ , Sunha Baek ² , Ohhun Kwon ² , and Jemin Park ¹ ¹ Semiconductor R&D Center, Samsung Electronics Co., Ltd., ² Design Technology Team, Samsung Electronics Co., Ltd.
초청발표 TH2-K-2 11:25-11:55	Challenges and Issues of 2T-0C Device for DRAM Applications with Respect to Write/Read Operation and 3D Cell Architectures Dae Hwan Kang ^{1,4} , Juyoung Yun ² , Suwon Seong ² , Beongwoo Lee ³ , Junyoung Choi ³ , Jimin Lee ³ , Min-Su Cho ² , Yoonyoung Chung ^{1,2,4} , Sung Woong Chung ^{1,4} , and Seyoung Kim ^{1,3,4} ¹ Department of Semiconductor Engineering, POSTECH, ² Department of Electrical Engineering, POSTECH, ³ Department of Materials Science and Engineering, POSTECH, ⁴ CSTC, POSTECH
TH2-K-3 11:55-12:10	Computational Device Design of Cylindrical IGZO 2T0C DRAM Cell Sang-Mok Jeong and Sung-Min Hong School of Electrical Engineering and Computer Science, GIST
TH2-K-4 12:10-12:25	Mitigating Leakage Current Issues in 1-Row Hammer by Introducing Buried Oxide under the BCAT Structure Sang Hyun Lee, Yeon Seok Kim, Chang Young Lim, and Min-Woo Kwon Department of Electric Engineering, Gangneung-Wonju National University
TH2-K-5 12:25-12:40	A Novel 2T0C DRAM Cell Structure and Refresh Technique for Processing-in-memory Applications Seong Hwan Kong, Hui-Jae Choi, Chan-Gi Yook, and Wonbo Shim Seoul National University of Science and Technology



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2024년 1월 25일(목), 10:55-12:40

Room I(203), 2층

D. Thin Film Process Technology 분과

[TI2-D] Memory Capacitors

좌장: 전우진 교수(경희대학교), 이홍섭 교수(경희대학교)

초청발표 TI2-D-1 10:55-11:25	High-Performance Nanostructured Flexible Capacitor by Plasma-Assisted Atomic Layer Annealing at Low Temperature Jaehyeong Lee ¹ , Dohyun Go ¹ , Useng Lee ¹ , Jong. G Ok ¹ , and Jihwan An ² ¹ Department of Manufacturing Systems and Design Engineering, SeoulTech, ² Department of Mechanical Engineering, POSTECH
TI2-D-2 11:25-11:40	Low Temperature Crystallization of Atomic Layer Deposited SrTiO ₃ Films with Minimal Interfacial Reactions Hong Keun Chung ^{1,2} , Tae Joo Park ² , and Seong Keun Kim ^{1,3} ¹ Electronic Materials Research Center, KIST, ² Department of Materials Science and Chemical Engineering, Hanyang University, ³ KU-KIST Graduate School of Converging Science and Technology, Korea University
TI2-D-3 11:40-11:55	Improvement of Electrical Properties of ZrO ₂ /Al ₂ O ₃ Capacitors via Interfacial Defect Control Using Ar Plasma Treatment Hyeongjun Kim and Woongkyu Lee Department of Green Chemistry and Materials Engineering and Department of Materials Science and Engineering, Soongsil University
TI2-D-4 11:55-12:10	The Precise Control of the Interfacial Reactions in TiO ₂ /RuO ₂ -structured Capacitors for DRAM Applications Jihoon Jeon ^{1,2} , Taiky Kim ¹ , Myungsu Jang ^{1,2} , Hong Keun Chung ¹ , and Seong Keun Kim ^{1,2} ¹ Electronic Materials Research Center, KIST, ² KU-KIST Graduate School of Converging Science and Technology, Korea University
TI2-D-5 12:10-12:25	Fabrication of MoO ₂ Electrode by Thermal Atomic Layer Deposition for High-performance TiO ₂ -Based DRAM Capacitors Jae Hyeon Lee, Wangu Kang, Jeong Eun Shin, and Jeong Hwan Han Department of Materials Science and Engineering, Seoul National University of Science and Technology



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TI2-D-6

12:25-12:40

Plasma-enhanced Atomic Layer Deposition of TiN/Mo₂N Stacks for
Advanced Storage Nodes in Next-generation DRAM Capacitors

Wangu Kang, Ji Sang Ahn, Ha Young Lee, Byung Joon Choi, and Jeong Hwan Han
Department of Materials Science and Engineering, Seoultech



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2024년 1월 25일(목), 10:55-12:40

Room J(204), 2층

A. Interconnect & Package 분과

[TJ2-A] Advanced Packaging I

좌장: 최광성 책임(한국전자통신연구원), 여종석 교수(연세대학교)

TJ2-A-1 10:55-11:10	A Study on the Advancement of Advanced Package Process Technology Integrating Data Analytics and Machine Learning Methods Sang Yup Lee ¹ , Sung Hyun Yoon ² , and Je Hun Youn ² SK hynix
TJ2-A-3 11:10-11:25	The Development of Multiple Re-distribution Layer (RDL) Using FEOL Photolithography Process for the 2.xD Packaging Applications Sun Bum Kim ¹ , Chan Seul Lee ¹ , Gyu Lee Kim ¹ , Sangyeun Park ² , Doheon Koo ² , Yeongu Choi ² , Joo Young Pyun ² , Chang Hoon Lee ² , Hongyun So ² , Kwan Kyu Park ² , and Changhwan Choi ¹ ¹ Division of Materials Science and Engineering, Hanyang University, ² Department of Mechanical Engineering, Hanyang University
초청발표 TJ2-A-4 11:25-11:55	Low Temperature Cu-Cu Direct Bonding: A Key Technology in Advanced Semiconductor Packaging Technology Ju-Young Kim, Ji-Youn Kwak, and Youngju Sim UNIST
초청발표 TJ2-A-5 11:55-12:25	Global No.1 HBM2E, HBM3의 품질/수율 경쟁력 동시 확보 Look Back 및 차세대 제품에서의 도전 과제 Sung Woo Ma, Jin Hee Lee, and Woong-sun Lee WLP Technology Group, SK hynix



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Room K(205), 2층

G. Device & Process Modeling, Simulation and Reliability 분과

[TK2-G] Carrier Transport & Ab-initio Simulation

좌장: 정창욱 교수(울산과학기술원), 장지원 교수(연세대학교)

TK2-G-1 10:55-11:10	Neural Network-Assisted Acceleration of Full-Band Semi-Classical Monte Carlo Carrier Transport Simulation Dong Hyeok Lee ¹ and Jiwon Chang ^{1,2} ¹ Department of Materials Science and Engineering, Yonsei University, ² Department of System Semiconductor Engineering, Yonsei University
TK2-G-2 11:10-11:25	Cation Disorder Limited IGZO Mobility Calculation based on Density Functional Theory Seung Hyo Han, Deokhwa Seo, and Mincheol Shin School of Electrical Engineering, KAIST
TK2-G-3 11:25-11:40	Effects of the Gate Offset on Gate-all-around Negative Capacitance Field Effect Transistors with Self-heating Effect Yangjin Jung, Hyeongu Lee, and Mincheol Shin Department of Electrical Engineering, KAIST
TK2-G-4 11:40-11:55	Semi-Classical Monte Carlo Simulation of Electron/Hole Mobility in Monolayer MX ₂ (M=Mo, W; X=S, Se) Sukhyeong Youn ^{1,2} , Donghyeok Lee ^{1,2} , and Jiwon Chang ^{1,2} ¹ Department of System Semiconductor Engineering, Yonsei University, ² Department of Materials Science & Engineering, Yonsei University
TK2-G-5 11:55-12:10	Study of Non-equilibrium Energetics in Van der Waals Ferroelectric Tunnel Junctions Using Multi-space Density Functional Theory Kaptan Rajput, Ryong Gyu Lee, Tae Hyung Kim, and Yong-Hoon Kim School of Electrical Engineering, KAIST
TK2-G-6 12:10-12:25	Strain-Tuned Ferroelectric Transitions in HfO ₂ : A New Pathway to Ferroelectric Devices Il Young Lee ^{1,2} and Jae Jun Yu ^{1,2} ¹ Center for Theoretical Physics, Seoul National University, ² Department of Physics and Astronomy, Seoul National University



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TK2-G-7

12:25-12:40

Transport Simulation for Nanosheet FET with Extended Source and Drain Regions

Phil-Hun Ahn and Sung-Min Hong

School of Electrical Engineering and Computer Science, GIST



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Room L(206), 2층

V. Quantum Technology 분과

[TL2-V] AMO-based Quantum Technology

좌장: 이문주 교수(POSTECH)

초청발표 TL2-V-1 10:55-11:25	A Chip-scale Rb Two-photon Optical Clock Hyun-Gue Hong Time and Frequency Group, KRISS
TL2-V-2 11:25-11:40	Dark Resonances and Temperature Estimation of a Trapped-ion Qubit Hyegoo Lee, Keumhyun Kim, Noa Jeong, Yongha Shin, Myunghun Kim, Junhee Cho, and Moonjoo Lee Electrical Engineering, POSTECH
TL2-V-3 11:40-11:55	Coherent Control of an Optical Trapped-ion Qubit Keumhyun Kim, Hyegoo Lee, Yongha Shin, Noa Jeong, Myunghun Kim, Junhee Cho, and Moonjoo Lee Department of Electrical Engineering, POSTECH
TL2-V-4 11:55-12:10	Exploring Third-order Exceptional Point in An Ion-Cavity System Jinuk Kim ² , Taegyu Ha ¹ , Donggeon Kim ¹ , Dowon Lee ¹ , Ki-Se Lee ¹ , Jongcheol Won ¹ , Yougil Moon ¹ , and Moonjoo Lee ¹ ¹ Department of Electrical Engineering, POSTECH, ² Department of Physics, Yale University
TL2-V-5 12:10-12:25	Chaotic Motion of a Trapped-Ion Nonlinear Mechanical Oscillator Myunghun Kim, Junhee Cho, Sehyeon Gwon, Keumhyun Kim, Hyegoo Lee, and Moonjoo Lee Department of Electrical Engineering, POSTECH
TL2-V-6 12:25-12:40	Microfabrication of an Ion Trap Chip with Prevention of Direct Silicon Exposure of Sidewalls to Alleviate Laser-induced Charging SeungWoo Yoo ^{1,2,3} , KwangYeul Choi ^{1,2,3} , Suhan Kim ^{1,2,3} , Chiyoon Kim ^{1,2,3} , Changhyun Jung ^{1,2,3} , Roberts Berkis ⁴ , Tracy E. Northup ⁴ , and Taehyun Kim ^{1,2,3} ¹ Department of Computer Science and Engineering, Seoul National University, ² Automation and System Research Institute, Seoul National University, ³ ISRC, Inter-university Semiconductor Research Center, Seoul National University, ⁴ Institut für Experimentalphysik, Universität Innsbruck



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Room A(101), 1층

B. Patterning (Lithography & Etch Technology) 분과

[TA3-B] Advanced Plasma Etching II

좌장: 채희엽 교수(성균관대학교)

초청발표 TA3-B-1 15:30-16:00	나노식각 공정진단·제어기술 Real-Time PI-VM 소개 김곤호 ^{1,2} ¹ 서울대학교 원자핵공학과, ² 서울대학교 플라즈마 응용연구실
TA3-B-2 16:00-16:15	OLED 디스플레이 제조를 위한 다중 금속막 식각 공정의 PI-VM 기반 패턴 제어 박윤아 ¹ , 노연길 ¹ , 서라벌 ¹ , 송봉섭 ¹ , 김곤호 ² , 박설혜 ¹ ¹ 삼성디스플레이, ² 서울대학교
TA3-B-3 16:15-16:30	Enhancement of Plasma Uniformity in Adaptive Dry Etcher with Convex-Shaped Electrodes Sanghyun Kang ¹ , Seokchan Yoon ² , Jaehyuk Lim ¹ , and Changhwan Shin ² ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University, ² School of Electrical Engineering, Korea University
TA3-B-4 16:30-16:45	Observation of the Floating Sheath Distribution Adjacent to a DC-biased Metal Substrate NamJae Bae ¹ , Nam-Kyun Kim ² , Haneul Lee ¹ , Yunchang Jang ² , Seolhye Park ³ , and Gon-Ho Kim ¹ ¹ Seoul University, ² Samsung Electronics Co., Ltd., ³ Samsung Display Co., Ltd.
TA3-B-5 16:45-17:00	Nickel-silicide Alloy as an Alternative to Noble Metal Catalyst for Metal-assisted Chemical Etching of Si Haekyun Bong, Kyunghwan Kim, Sunhae Choi, and Jungwoo Oh School of Integrated Technology, Yonsei University
TA3-B-6 17:00-17:15	Correlation with the Microstructure and Synergistic Physiochemical Etching Resistance of Nanocomposites under CF ₄ /Ar/O ₂ Plasma Conditions in Plasma Etching Chamber Ho Jin Ma ¹ , Mi-Ju Kim ¹ , Ha-Neul Kim ¹ , Jae-Woong Ko ¹ , Jae-Wook Lee ¹ , Hyo-Chang Lee ² , and Young-Jo Park ¹ ¹ KIMS, ² Korea Aerospace University



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Room B(102), 1층

H. Display and Imaging Technologies 분과

[TB3-H] Display and Imaging Technologies III

좌장: 하만륜 상무(DB하이텍), 이재규 마스터(삼성전자)

TB3-H-1 15:30-15:45	Monolithic Integration of a-IGZO TFT and p-i-n a-Si:H Photodiode for Ultra Flexible and Semi-Transparent Image Sensors Donghyeong Choi ^{1,2} , Jong-Won Yoon ¹ , and Yonghun Kim ¹ ¹ Department of Energy & Electronic Materials, Surface & Nano Materials Division, KIMS, ² School of Materials Science and Engineering, Pusan National University
TB3-H-2 15:45-16:00	Noise Suppression Techniques for Low-Noise CMOS Image Sensors Gihwan Cho, Min-Woong Seo, Masamichi Ito, Sung-Jae Byun, Hyukbin Kwon, Sanggwon Lee, Daehee Bae, Heesung Shim, Jae-Kyu Lee, and Chang-Rok Moon Semiconductor R&D Center, Samsung Electronics Co., Ltd.
TB3-H-3 16:00-16:15	Partitioned CMS 기법을 이용한 저잡음 이미지 센서 윤수연, 김수연 동국대학교 반도체과학과
TB3-H-4 16:15-16:30	Improvement of Dark Current Caused by Thermionic Emission in Voltage-Domain Global Shutter CMOS Image Sensor Jae-Hoon Jeon, Je-Yeoun Jung, Sangyoon Kim, Seung-Sik Kim, Jae-Kyu Lee, and Chang-Rok Moon Semiconductor R&D Center, Samsung Electronics Co., Ltd.
TB3-H-5 16:30-16:45	Guard-ring Additional Implantation Technique for Reducing Dark Count Rate of Single-photon Avalanche Diode Sang-Hwan Kim, Juhwan Jung, Hangyu Lee, Dongil Kim, Changhun Han, Taewook Kang, Chulwoo Hwang, Harin Kang, Dongha Lee, Manlyun Ha and Yongchan Kim Technology Development Team 4, DB Hitek
TB3-H-6 16:45-17:00	640 x 480 In-direct Time-of-Flight Sensor 개발을 위한 5.0um Pixel 설계 Jaehyung Jang , Hoon-moo Choi , Jongchae Kim , Kyungsu Byun , Kyundo Kim , Minseok Shin , Hoon-sang Oh , and Chang-rock Song CIS Development, SK hynix Inc.



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TB3-H-7 17:00-17:15	A Backside-Illumination Technique to Enhance Near-Infrared Photon Detection Probability of Single-Photon Avalanche Diode Sang-Hwan Kim, Juhwan Jung, Hangyu Lee, Dongil Kim, Changhun Han, Chulwoo Hwang, Harin Kang, Dongha Lee, and Manlyun Ha Technology Development Team 4, DB Hitek
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Room C(103), 1층

M. RF and Wireless Design 분과

[TC3-M] RF and Wireless Design

좌장: 권구덕 교수(강원대학교), 한정환 교수(충남대학교)

TC3-M-1 15:30-15:45	N-path Filter-Based Wideband CMOS Low-Noise Amplifier Juhui Jeong, Yujung Kim, Junhyeop Kim, and Junghwan Han Department of Radio and Information Communications Engineering, Chungnam National University
초청발표 TC3-M-2 15:45-16:15	Analog Circuits in Samsung S.LSI Seunghyun Oh Samsung Electronics Co., Ltd.
초청발표 TC3-M-3 16:15-16:45	0.15um GaN HEMT 소자 및 MMIC PDK 개발 강동민 한국전자통신연구원 RF/전력부품연구실
초청발표 TC3-M-4 16:45-17:15	Introduction to High Performance LO Design Techniques in Modern Wireless Communication Systems Shinwoong Kim Handong Global University



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Room D(104), 1층

F. Silicon and Group-IV Devices and Integration Technology 분과

[TD3-F] Advanced Device Technology

좌장: 김경록 교수(울산과학기술원), 이용규 마스터(삼성전자)

초청발표 TD3-F-1 15:30-16:00	Analog Neuron Devices for Hardware-Based Spiking Neural Networks Sung Yun Woo School of Electronic and Electrical Engineering, Kyungpook National University
초청발표 TD3-F-2 16:00-16:30	Design and Fabrication of CMOS Compatible Dual Gate Synapse Array Myung-Hyun Ba Gangneung-Wonju National University
초청발표 TD3-F-3 16:30-17:00	Ferroic Field Effect Transistor for Low-Power Logic Technology Sihyun Kim Department of Electronic Engineering, Sogang University
TD3-F-4 17:00-17:15	* 특허청 특별발표 최첨단 초미세 반도체 소자 집적 기술 특허 동향 및 국가별 출원 집중도 분석 결과



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Room E(105), 1층

N. VLSI CAD 분과

[TE3-N] AI to VLSI CAD

좌장: 송대건 교수(경북대학교)

초청발표 TE3-N-1 15:30-16:00	Ternary VLSI Design: A Circuits and Systems Perspective Sunmean Kim School of Electronic and Electrical Engineering, Kyungpook National University
TE3-N-2 16:00-16:15	Artificial Schematic Creator with Generative Model Yewon Hwang, Jakang Lee, and Seokhyeong Kang POSTECH
TE3-N-3 16:15-16:30	Design-technology Co-optimization for Standard Cell Pin Length Modulation Junghyun Yoon and Heechun Park Kookmin University
TE3-N-4 16:30-16:45	Impact Analysis of Coupling Effect Induced by Through-silicon Via for Static Timing Analysis in 3D IC Euntaek Oh, Mujun Choi, and Juho Kim Sogang University
TE3-N-5 16:45-17:00	Pin Accessibility Aware Routability Prediction Using Graph Neural Network Jiyun Park, Jongho Yoon, and Seokhyeong Kang POSTECH
TE3-N-6 17:00-17:15	Unsupervised Learning-Based Legalization with Graph Neural Network Dho Ui Lim and Heechun Park Kookmin University



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Room F(106), 1층

I. MEMS & Sensor Systems 분과

[TF3-I] Recent Advances in MEMS

좌장: 강주훈 교수(성균관대학교)

초청발표 TF3-I-1 15:30-16:00	Evaporative Cooling-Based, Power-efficient Thermal Systems for Skin-interfaced Bioelectronic Devices Minsu Park Dankook University
초청발표 TF3-I-2 16:00-16:30	실시간 다중 감지 가능한 3차원 통합형 생체모사 전자 피부 시스템 이보연 KIMM
TF3-I-3 16:30-16:45	Design of Wireless Flexible Smart Gloves for Controlling Virtual and Augmented Reality Lurong Yang and Jeonghyun Kim Department of Electronic Convergence Engineering, Kwangwoon University
TF3-I-4 16:45-17:00	Sweat Permeable and Wearable Electronic Skins with All-inorganic Opto-devices for Long-term Photoplethysmogram Signal Monitoring Jeong Hyeon Kim ^{1,2} and Han Eol Lee ^{1,2} ¹ Division of Advanced Materials Engineering, Jeonbuk National University, ² Department of JBNU-KIST Industry-Academia Convergence Research, Jeonbuk National University
TF3-I-5 17:00-17:15	Use of Composite Materials in Flexible Sensors Wooseok Kim and Sang Min Won Sungkyunkwan University



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Room G(201), 2층

K. Memory (Design & Process Technology) 분과

[TG3-K] RRAM and Neuromorphic Device III

좌장: 김성준 교수(동국대학교), 권민우 교수(강릉원주대학교)

TG3-K-1 15:30-15:45	Optimized Chalcogenide Medium for Inherently Activated Resistive Switching Device Jin Joo Ryu ^{1,2} , Taeyong Eom ¹ , Hyunchul Sohn ² , and Gun Hwan Kim ^{2,3} ¹ Thin Film Materials Research Center, KRICT, ² Department of Materials Science and Engineering, Yonsei University, ³ Department of System Semiconductor Engineering, Yonsei University
TG3-K-2 15:45-16:00	Pseudo Synaptic Sampling: Energy-Efficient Algorithm for Spiking Hyunwoo Kim, Suyeon Jang, Uicheol Shin, and Sangbum Kim Department of Material Science and Engineering, Seoul National University
TG3-K-3 16:00-16:15	Design and Hardware Implementation of Memristive Based Neural Networks for Efficient Neuromorphic Computing Jae Gwang Lim ^{1,2} , Keonhee Kim ^{1,2} , Sung Jae Park ^{1,2} , Gyutaek Oh ¹ , Yeonjoo Jeong ¹ , Jaewook Kim ¹ , Su youn Lee ¹ , Joon Young Kwak ¹ , Jongkil Park ¹ , Gyu Weon Hwang ¹ , Kyeong-Seok Lee ¹ , Seongsik Park ¹ , Hyun Jae Jang ¹ , Byeong-Kwon Ju ² , Jong Keuk Park ¹ , and Inho Kim ¹ ¹ Center for Neuromorphic Engineering, KIST, ² Display and Nanosystem Laboratory, School of Electrical Engineering, Korea University
TG3-K-4 16:15-16:30	Implementing a Scalable Neural Network at the Device Level Using a 3D Vertical Structure for PIM Seojin Cho, Hyejin Kim, Minsu Kang, Sooho Kim, Sion Kim, Yuna Kim, and Daeseok Lee Department of Electronic Materials Engineering, Kwangwoon University
TG3-K-5 16:30-16:45	Unipolar and Bipolar 1S1M-Based MC-Dropconnect Hardware Implementation Do Hoon Kim, Woon Hyung Cheong, Hanchan Song, Jae Bum Jeon, and Kyung Min Kim KAIST



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TG3-K-6 16:45-17:00	Effect of the SiO ₂ Film Formation Process on the Recognition Rate in Pd/IGZO/SiO ₂ /p ⁺ -Si Memristors for Artificial Neural Network Application Dong Hyeop Shin, Seung Joo Myoung, Changwook Kim, Jong-Ho Bae, Sung-Jin Choi, Dong Myong Kim, and Dae Hwan Kim School of Electrical Engineering, Kookmin University
TG3-K-7 17:00-17:15	Sound Localization Using Brain-inspired Memristive Delay System for Active Speaker Detection Hanchan Song, Mingu Lee, Woojoon Park, Gwangmin Kim, and Kyung Min Kim Department of Materials Science and Engineering, KAIST



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2024년 1월 25일(목), 15:30-17:15

Room H(202), 2층

S. Chip Design Contest 분과

[TH3-S] Chip Design Contest

좌장: 조건희 교수(경북대학교), 장영찬 교수(금오공과대학교)

TH3-S-1 15:30-15:45	Design of Single-ended PAM-3 Transmitter with Crosstalk Cancellation Scheme for Memory Interface Dongwoo Kang and Kwanseo Park Yonsei University
TH3-S-2 15:45-16:00	Design Points of Period-modulation Capacitance-to-digital Converter for Continuous Glucose Monitoring System Donghyun Youn and Minkyu Je School of Electrical Engineering, KAIST
TH3-S-3 16:00-16:15	A Four-phase Time-Based Switched-Capacitor LDO With 13-ns Settling Time at 0.5-V Input for Energy-efficient Computing in SoC Applications Hyunjin Kim, Taehyeong Park, and Chulwoo Kim Department of Semiconductor System Engineering, Korea University
TH3-S-4 16:15-16:30	Hardware Implementation of a CNN-based Accurate and Efficient 3D Hand Pose Estimator Yongsoo Kim ¹ , Wencan Chen ² , Jaehyeon So ³ , Siyeon Kim ³ , Chanwook Hwang ³ , Jong Hwan Ko ³ , and Jaehyuk Choi ³ ¹ Department of Semiconductor and Display Engineering, Sungkyunkwan University, ² Department of Artificial Intelligence, Sungkyunkwan University, ³ Department of Electrical and Computer Engineering, Sungkyunkwan University



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2024년 1월 25일(목), 15:30-17:15

Room I(203), 2층

D. Thin Film Process Technology 분과

[TI3-D] Ferroelectrics

좌장: 최병준 교수(서울과학기술대학교), 김건환 교수(연세대학교)

TI3-D-1 15:30-15:45	Mitigation of Field-driven Dynamic Phase Evolution in Ferroelectric $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Films by Adopting Oxygen-supplying Electrode Younghwan Lee ¹ , Se Hyun Kim ² , Hyun Woo Jeong ² , Geun Hyeong Park ² , Jaewook Lee ² , Young Yong Kim ³ , and Min Hyuk Park ^{1,2} ¹ Research Institute of Advanced Materials, Seoul National University, ² Department of Materials Science and Engineering, Seoul National University, ³ Beamline Division, Pohang Accelerator Laboratory
TI3-D-2 15:45-16:00	Interface Engineering for Enhancement of Ferroelectricity in Sub-5 nm Ultrathin $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Films Se Hyun Kim ¹ , Younghwan Lee ² , Dong Hyun Lee ¹ , and Min Hyuk Park ^{1,2} ¹ Department of Materials Science and Engineering, Seoul National University, ² Research Institute of Advanced Materials, Seoul National University
TI3-D-3 16:00-16:15	Synergistic Impact of Al_2O_3 Capping Layer and Deposition Temperature for Enhancing the Ferroelectricity of Undoped HfO_2 Thin Films Sang Han Ko and Sung Min Yoon Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University
TI3-D-4 16:15-16:30	CF_4 Plasma Passivation on Laminated-ALD HZO MFIS-FeFET Kyungsoo Park ¹ , Chulwon Chung ² , Boncheol Ku ¹ , Seung Hyeon Yun ¹ , Junhyeok Park ¹ , Yu Jeong Choi ¹ , and Changhwan Choi ¹ ¹ Division of Materials Science and Engineering, Hanyang University, ² Department of Energy Engineering, Hanyang University
TI3-D-5 16:30-16:45	Development of Lab-Scale Pulsed Laser Annealing (PLA) System for $\text{Hf}_x\text{Zr}_{1-x}\text{O}_2$ Thin Film Crystallization Hyeonsik Kim ^{1,2} , Hyojin Yang ² , Sejun Park ² , Jong-Ho Bae ² , and Inhee Cho ¹ ¹ Korea-Russia Innovation Center, KITECH, ² School of Electrical Engineering, Kookmin University



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TI3-D-6 16:45-17:00	Ferroelectricity of $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Thin Film Induced at 350 °C by Thermally Accelerated Nucleation during Atomic Layer Deposition Jaewook Lee^{1,2}, Se Hyun Kim^{1,2}, Younghwan Lee³, Sang-Youn Park⁴, and Min Hyuk Park^{1,2,3} ¹Department of Materials Science and Engineering, Seoul National University, ²Inter-University Semiconductor Research Center, Seoul National University, ³Research Institute of Advanced Materials College of Engineering, Seoul National University, ⁴Pohang Accelerator Laboratory, POSTECH
TI3-D-7 17:00-17:15	The Impact of CF_4 Plasma Treatment on the Performance of HfO_2/IGZO Thin film Transistors (TFTs) Gyu Lee Kim, Sun bum Kim, Chan seul Lee, and Changhwan Choi Division of Materials Science and Engineering, Hanyang University



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Room J(204), 2층

A. Interconnect & Package 분과

[TJ3-A] Hybrid Bonding Technology

좌장: 이태익 선임(한국생산기술연구원), 이은호 교수(성균관대학교)

TJ3-A-1 15:30-15:45	Novel Method of Direct Cu Bonding Using Chemical Reducing Agents Jeehoo Na ^{1,2} , Eunhye Lee ¹ , So Jeong Lee ¹ , Dongwoo Lee ² , and Tae-Ik Lee ¹ ¹ Micro-Joining Center, Joining R&D Group, KITECH, ² Applied Mechanics and Materials Design Lab, School of Mechanical Engineering, Sungkyunkwan University
TJ3-A-2 15:45-16:00	Study on Employment of Au Film for Cu-Cu Low Temperature Bonding Ha-Hyung Pin ¹ , Hyun-Dong Lee ¹ , Hoon Choi ¹ , Ju-Hyeon Kim ³ , and Hoo-Jeong Lee ^{1,2,3} ¹ Department of Smart Fab. Technology, Sungkyunkwan University, ² Department of Advanced Materials Science & Engineering, Sungkyunkwan University, ³ Department of Semiconductor Convergence Engineering, Sungkyunkwan University
TJ3-A-3 16:00-16:15	하이브리드 본딩 기술 적용을 위한 저온 Cu-Cu 및 SiO ₂ -SiO ₂ 접합부의 정량적 계면접착에너지 평가 및 분석 권용범 ^{1,2} , 김가희 ^{1,2} , 김사라은경 ³ , 박영배 ^{1,2} ¹ 안동대학교 신소재공학부, ² 안동대학교 청정에너지소재기술연구센터, ³ 서울과학기술대학교 지능형반도체공학과
TJ3-A-4 16:15-16:30	구리/폴리머 하이브리드 본딩을 위한 화학적기계연마 기술 강석경 ¹ , 박주성 ² , 전찬수 ² , 김경민 ² , 김산하 ¹ ¹ Department of Mechanical Engineering, KAIST, ² Department of Material Science and Engineering, KAIST
TJ3-A-5 16:30-16:45	A Parametric Approach on HBM Hybrid Bonding Process Jae-Uk Lee ¹ , Sung-Hyun Oh ¹ , Sarah-Eunkyoung Kim ² , Hoo-Jeong Lee ¹ , and Eun-Ho Lee ¹ ¹ Sungkyunkwan University, ² Seoul National University of Science of Technology
TJ3-A-6 16:45-17:00	Effect of Cu Pad Density on Cu/SiCN Hybrid Bonding: A Finite Element Analysis Study So-Yeon Park ¹ , Hyunji Yoon ¹ , Cha-Hee Kim ¹ , Sarah Eunkyoung Kim ² , and Won-Jun Lee ¹ ¹ Department of Nanotechnology and Advanced Materials Engineering, Sejong University, ² Department of Semiconductor Engineering, Seoul National University of Science and Technology



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TJ3-A-7

17:00-17:45

Enhancing Si-bridge Performance: A Study on Signal Integrity and Structural Optimization

Ji Hoon Kang and Kee-Won Kwon

Department of Semiconductor Convergence Engineering, Sungkyunkwan University



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Room K(205), 2층

G. Device & Process Modeling, Simulation and Reliability 분과

[TK3-G] TCAD & Multiphysics Simulation

좌장: 이재우 교수(고려대학교), 김현우 교수(건국대학교)

TK3-G-1 15:30-15:45	The Quantum Mechanical Effect of Amorphous InGaZnO Transistors Compared with Silicon-on Insulator Transistors Ho Jung Lee, Donguk Kim, Changwook Kim, Dong Myong Kim, Sung-Jin Choi, Jong-Ho Bae, and Dae Hwan Kim School of Electrical Engineering, Kookmin University
TK3-G-2 15:45-16:00	Investigating Radioactive Ions Effect in The Complementary FET based on The Structure Jonghwa Jeong and Hyunwoo Kim Department of Electrical and Electronics Engineering, Konkuk University
TK3-G-3 16:00-16:15	Mitigation of Single Event Upset Effects in 3 nm Technology Node Gate-All-Around Nanosheet FET 6T SRAM cell Minji Bang, Jonghyeon Ha, Minki Suh, Dabok Lee, Minsang Ryu, and Jungsik Kim Department of Electrical Engineering, Gyeongsang National University
TK3-G-4 16:15-16:30	A Novel CT-DRAM with High Speed and High Retention at Low Power to Replace DRAM Dabok Lee, Jonghyeon Ha, Minki Suh, Minji Bang, Minsang Ryu, and Jungsik Kim Department of Electrical Engineering, Gyeongsang National University
TK3-G-5 16:30-16:45	Investigation of Filamentary Resistive Switching Using Finite Element Method with Phase-field and Multiphysics Simulation Dongmyung Jung and Yongwoo Kwon Department of Materials Science and Engineering, Hongik University
TK3-G-6 16:45-17:00	Computational Investigation on Quantum Information Processing Using Triple Quantum Dot Structures Ji-Hoon Kang and Hoon Ryu KISTI
TK3-G-7 17:00-17:15	Multiphysics Modeling of Thermal Disturbance in Three-Dimensional Stackable Phase-Change Memory Yechan Kim ¹ , Namwook Hur ² , Joonki Suh ² , and Yongwoo Kwon ¹ ¹ Hongik University, ² Ulsan National Institute of Science and Technology



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Room L(206), 2층

V. Quantum Technology 분과

[TL3-V] Solid State Quantum Technology

좌장: 이동현 교수(고려대학교), 차진웅 선임연구원(표준과학연구원)

초청발표 TL3-V-1 15:30-16:00	Cryo-CMOS Controller for Superconducting Quantum Processor Jae-Yoon Sim POSTECH
초청발표 TL3-V-2 16:00-16:30	Fast Calibration and Error Mitigation Applied to Spin Qubits in Silicon Dohun Kim ^{1,2} ¹ Department of Physics and Astronomy, Seoul National University, ² Institute of Applied Physics, Seoul National University
TL3-V-3 16:30-16:45	Implementation of Zero-noise Extrapolation in ²⁸ Si/SiGe Spin Qubits Jaewon Jung ¹ , Hanseo Sohn ¹ , Jaemin Park ¹ , Hyeongyu Jang ¹ , Lucas E. A. Stehouwer ² , Davide Degli Esposti ² , Giordano Scappucci ² , and Dohun Kim ¹ ¹ Department of Physics and Astronomy, Seoul National University, ² QuTech and Kavli Institute of Nanoscience, Delft University of Technology
TL3-V-4 16:45-17:00	Closed-loop Feedback and Sensor Dot Decoupling Technique for Suppressing Charge Noise in ²⁸ Si/SiGe Spin Qubit Hyeongyu Jang ¹ , Jaemin Park ¹ , Hanseo Sohn ¹ , Lucas E. A. Stehouwer ² , Davide Degli Esposti ² , Giordano Scappucci ² , and Dohun Kim ¹ ¹ Department of Physics and Astronomy, Seoul National University, ² QuTech and Kavli Institute of Nanoscience, Delft University of Technology
TL3-V-5 17:00-17:15	A Multi-physics Analysis to Calculate Energy Dissipation in Superconducting Qubit Systems with Continuum Mechanics Sung-Hyun Oh ¹ , Kyoung-Won Kim ³ , and Eun-Ho Lee ^{1,2} ¹ Department of Mechanical Engineering, Sungkyunkwan University, ² Department of Smart Fab. Technology, Sungkyunkwan University, ³ Keysight Technologies Korea Ltd.



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Room A(101), 1층

B. Patterning (Lithography & Etch Technology) 분과

[FA1-B] Lithography and photoresist I

좌장: 성명모 교수(한양대학교), 이진균 교수(인하대학교)

초청발표 FA1-B-1 09:00-09:30	Spin on Hardmask(SOC)의 소재 개발 동향 및 특성 Jin Gon Kim SKMP
FA1-B-2 09:30-09:45	Advanced Exposure Technology in ArF Immersion Photolithography Junchul Song ^{1,2} , Gyu-Won Han ¹ , Jeonghwan Kim ³ , and Ga-Won Lee ² ¹ NNFC, ² Division of Electronics Engineering, Chungnam National University, ³ SK Materials Performance
FA1-B-3 09:45-10:00	Multi Patterning Technique for Small Pitch of Logic Interconnection Chanhoo Park, Minkwon Choi, Hyejun Jin, Jeong Hoon Ahn, and Jong-Ho Lee Foundry Business, Samsung Electronics Co., Ltd.
초청발표 FA1-B-4 10:00-10:30	At Wavelength EUV Metrology and Inspection Technologies Sangsul Lee ^{1, 2} , Jiho Kim ¹ , and Geonhwa Kim ¹ ¹ Pohang Accelerator Laboratory, POSTECH, ² Department of Semiconductor Engineering, POSTECH
FA1-B-5 10:30-10:45	Shrinking Contact Hole Patterns by Resist Flow Process and Block Copolymer Technique: Simulation Study Sang-Kon Kim The Faculty of Liberal Arts, Hongik University



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Room B(102), 1층

O. System LSI Design 분과

[FB1-O] System LSI Design

좌장: 유호영 교수(충남대학교), 정준원 교수(숙명여자대학교)

초청발표 FB1-O-1 09:00-09:30	A Key Building Block of AI Accelerator: In-memory Computing Macros Dong-Jin Chang Chungnam National University
FB1-O-2 09:30-09:45	Efficient Hardware Implementation of a Non-Linear Activation Function Approximation ChanWoo Song, JoonSeok Kim, KyuMin Cho, and SeokHyung Kang Department of Electrical Engineering, POSTECH
FB1-O-3 09:45-10:00	Space-Time Transformation을 이용한 Systolic Tensor Array 분석 이동훈, 박지호, 유호영 충남대학교 전자공학과
초청발표 FB1-O-4 10:00-10:30	Application of Machine Learning for Embedded Memory Circuit Design & Characterization Hanwool Jeong ^{1,2} ¹ 광운대학교, ² 주식회사 아티크론
FB1-O-5 10:30-10:45	Programmable ALPG Architecture for High-Speed DRAM Testing Saeyeon Kim, Sunyoung Park, Seoyeon Park, Eunkyung Ham, and Ji-Hoon Kim Department of Electronic and Electrical Engineering, Ewha Womans University



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2024년 1월 26일(금), 09:00-10:45

Room C(103), 1층

J. Nano-Science & Technology 분과

[FC1-J] 2D Electronics

좌장: 김태욱 교수(전북대학교)

초청발표 FC1-J-1 09:00-09:30	2D Materials beyond the Limit of 3D Bulk Semiconductors Hyesung Park ^{1,2} ¹ Department of Integrative Energy Engineering, Korea University, ² Ku-Kist Graduate School of Converging Science and Technology, Korea University
FC1-J-2 09:30-09:45	Monolayer MoS ₂ Barristor with Covalently Bonded Semi-metal Contact Dong-Yeong Kim ^{1,2} , Min-Yeong Choi ^{1,2} , Gun Woo Yoo ^{1,2} , Ju-Hyun Jung ^{1,2} , Gunho Moon ^{1,3} , Moon-Ho Jo ^{1,3} , and Cheol-Joo kim ^{1,2} ¹ Center for Van der Waals Quantum Solids, IBS, ² Department of Chemical Engineering, POSTECH, ³ Department of Materials Science and Engineering, POSTECH
FC1-J-3 09:45-10:00	Anomalous Temperature Dependence of Current-Voltage Characteristics Observed in Graphene/n-Si(100) Junction Jiwan Kim ¹ , Hoon Hahn Yoon ² , Wonho Song ³ , Junhyung Kim ⁴ , Sungchul Jung ⁵ , Eunseok Hyun ¹ , and Kibog Park ^{1,6} ¹ Department of Physics, UNIST, ² School of Electrical Engineering and Computer Science, GIST, ³ LG Display, ⁴ Terrestrial & Non-Terrestrial Integrated Telecommunications Research Laboratory, ETRI, ⁵ SK hynix, ⁶ Department of Electrical Engineering, UNIST
초청발표 FC1-J-4 10:00-10:30	Improving the Graphene Conductivity: Exploring Doping Techniques Sukang Bae Functional Composite Materials Research Center, KIST
FC1-J-5 10:30-10:45	Enhanced Photocurrent Generation in Transition Metal Dichalcogenide Heterostructures under Optical Pulse Illumination Jung Woo Lee, Hyeon Sik Jang, Bhishma Pandit, Joung Woo Bong, Ki Hyun Kim, Hag Youl Bae, and Keun Heo School of Semiconductor Science & Technology, Jeonbuk National University



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Room D(104), 1층

F. Silicon and Group-IV Devices and Integration Technology 분과

[FD1-F] Advanced Integration Technology

좌장: 백명현 교수(강릉원주대학교), 우성윤 교수(경북대학교)

FD1-F-1 09:00-09:15	Heterogeneous 3D Vertical Inverter of MoS ₂ nFET on Si pMOSFET Using Sequential Fabrication Process Boncheol Ku ¹ , Shanmukh Kutagulla ² , Deji Akinwande ² , and Changhwan Choi ¹ ¹ Division of Materials Science and Engineering, Hanyang University, ² The Department of Electrical and Computer Engineering, The University of Texas at Austin
FD1-F-2 09:15-09:30	Impact of Low-temperature Deuterium Annealing for Poly-Si Channel Thin-Film Transistors Tae-Hyun Kil, Ju-Won Yeon, Hyo-Jun Park, and Jun-Young Park Chungbuk National University
FD1-F-3 09:30-09:45	그린 레이저를 이용한 모놀리식 3D 소자 제작 공정에서 상부 게이트 버퍼층 삽입을 통한 MOSFET 성능 개선 박영근, 정재중, 김희태, 김성호, 김동빈, 추준홍, 강창연, 조병진 한국과학기술원 전기 및 전자공학부
FD1-F-4 09:45-10:00	Simulation of Monolithic CFET Using In-house TCAD Process Emulator Seung-Woo Jung, In Ki Kim, Kwang-Woon Lee, and Sung-Min Hong School of Electrical Engineering and Computer Science, GIST
FD1-F-5 10:00-10:15	Numerical Simulation of Bottom Dielectric Isolated (BDI) Forksheet Field Effect Transistor (FSFET) with In-House TCAD Process Emulator and Device Simulator In Ki Kim and Sung-Min Hong School of Electrical Engineering and Computer Science, Gwangju Institute of Science and Technology
FD1-F-6 10:15-10:30	Monolithic 3-dimensional Static Random Access Memory Array Cell Consisting of Feedback Field-effect Transistor for Memory System Jong Hyeok Oh and Yun Seop Yu Major of ICT & Robotics Eng., Hankyong National University



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FD1-F-7 10:30-10:45	Thickness Scaling of Ferroelectric HfZrO_2 and Its Reliability on Germanium Substrate Jai-Youn Jeong ^{1,2} , Changhwan Shin ² , and Jae-Hoon Han ¹ ¹ Center for Opto-electronic Materials and Devices, KIST, ² Device and Circuit Laboratory, Korea University
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2024년 1월 26일(금), 09:00-10:45

Room E(105), 1층

N. VLSI CAD 분과

[FE1-N] VLSI CAD to Future Technologies

좌장: 송대건 교수(경북대학교), 현대준 교수(세종대학교)

FE1-N-1 09:00-09:15	A Novel Design of 8T Ternary SRAM for Low Power Jihyeong Yun and Sunmean Kim School of Electronic and Electrical Engineering, Kyungpook National University
FE1-N-2 09:15-09:30	High-throughput PIM (Processing in-memory) for DRAM Using Bank-level Pipelined Architecture Hyunsoo Lee ¹ , Hyundong Lee ¹ , Minseung Shin ² , Gyuri Shin ² , Sumin Jeon ² , and Taigon Song ^{1,2} ¹ School of Electronic and Electrical Engineering, Kyungpook National University, ² School of Electronics Engineering, Kyungpook National University
FE1-N-3 09:30-09:45	Mixed-Vth 셀을 활용한 누설전력 최적화 알고리즘 안진일 ¹ , 김경창 ² , 현대준 ¹ ¹ 세종대학교, ² 청주대학교
FE1-N-4 09:45-10:00	A Novel Ternary Flip-Flop for Low Area Overhead Ternary Scan Design Hayeon Lee and Sunmean Kim School of Electronic and Electrical Engineering, Kyungpook National University
FE1-N-5 10:00-10:15	GPFGCN : General-purpose Computing on High-speed and Fully-optimized GCN Accelerator Minseok Han and Taigon Song School of Electronic and Electrical Engineering, Kyungpook National University
FE1-N-6 10:15-10:30	Automated Bitstream Analysis Method for FPGA Reverse Engineering Mannhee Cho ¹ , Dongchan Lee ² , Sanghyun Lee ² , Youngmin Kim ² , and Hyung-Min Lee ¹ ¹ Korea University, ² Hongik University
FE1-N-7 10:30-10:45	타이밍 제약조건을 고려한 전력분배망 최적화 송정식, 오제영, 현대준 세종대학교 반도체시스템공학과



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2024년 1월 26일(금), 09:00-10:45

Room F(106), 1층

I. MEMS & Sensor Systems 분과

[FF1-I] Recent Advances in MEMS

좌장: 박윤석 교수(경희대학교), 유재영 교수(성균관대학교)

초청발표 FF1-I-1 09:00-09:30	3D Electrode-Based MEMS Sensors for Biomanufacturing and Biomedical Applications Hyun Soo Kim Kwangwoon University
초청발표 FF1-I-2 09:30-10:00	Photonic FPGA on Silicon Photonic MEMS Sangyoon Han and Min Gi Lim DGIST
FF1-I-3 10:00-10:15	Efficiency Improvement of Ternary Organic Photovoltaic for All-day Operation under Various Light Sources Se Lim Han ¹ , Hyeonjeong Choi ¹ , Joo Yeong Kim ² , Swarup Biswas ¹ , and Hyeok Kim ¹ ¹ School of Electrical and Computer Engineering, University of Seoul, ² Department of Intelligent Semiconductor Engineering, University of Seoul
FF1-I-4 10:15-10:30	Transfer Technology for Integrating High-Quality Single Crystal Relaxor-Ferroelectric Oxide on Flexible Si Min-Seok Kim ^{1,2} , Ruiguang Ning ¹ , Ho Won Jang ² , and Seung-Hyub Baek ¹ ¹ Electronic Materials Research Center, KIST, ² Department of Materials Science and Engineering, Research Institute of Advanced Materials, Seoul National University
FF1-I-5 10:30-10:45	Metal-Oxide Semiconductors for Chemiresistive-Type Gas Sensors Operating at Room Temperature Sang-Joon Park and Tae-Jun Ha Department of Electronic Materials Engineering, Kwangwoon University



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Room G(201), 2층

K. Memory (Design & Process Technology) 분과

[FG1-K] Process and Modeling of Memory

좌장: 성석강 마스터(삼성전자), 김시준 교수(강원대학교)

초청발표 FG1-K-1 09:00-09:30	Device Simulation of Phase-change and Resistive Memories by Modeling Mesoscale Behaviors of Active Materials Dongmyung Jung, Chanhoo Park, Yechan Kim, Hwanwook Lee, Sagar Khot, and Yongwoo Kwon Hongik University
FG1-K-2 09:30-09:45	Analysis of Conduction Mechanism and Stress-induced Dielectric Leakage Current in 1x-nm DRAM Cell Capacitor for Cryogenic Memory Operation Soohong Eo ¹ , Sangwon Lee ¹ , Jingyu Park ¹ , Seonhaeng Lee ² , and Dae Hwan Kim ¹ ¹ School of Electrical Engineering, Kookmin University, ² Memory Division, Samsung Electronics Co., Ltd.
FG1-K-3 09:45-10:00	Realization of Ultra-Low Leakage Current ($\sim 10^{-18}$ A/ μ m) in CVD Grown Monolayer MoS ₂ 1T1C DRAM Using Semimetal Bismuth Contact Jisoo Seok ¹ , Jae Eun Seo ¹ , and Jiwon Chang ^{1, 2} ¹ Department of Materials Science and Engineering, Yonsei University, ² Department of System Semiconductor Engineering, Yonsei University
FG1-K-4 10:00-10:15	3D Stackable Vertical-Sensing Electrochemical Random-Access Memory Using AP-PECVD-Grown WS ₂ Electrode for Neuromorphic Application Kyumin Lee ¹ , Seungkwon Hwang ^{1, 2} , Dongmin Kim ¹ , Jongwon Yoon ² , Jung-Dae Kwon ² , Yonghun Kim ² , and Hyunsang Hwang ¹ ¹ Center for Single Atom-based Semiconductor Device and the Department of Materials Science and Engineering, POSTECH, ² Department of Energy and Electronic Materials, Nanosurface Materials Division, KIMS
FG1-K-5 10:15-10:30	Modeling the Valence Change Mechanism and Drift Behavior of Oxygen Vacancies in HfO ₂ -Based Interlayer Memristor: A Simulation Approach Eun Young Kim, Juseong Park, Woojoon Park, Woon Hyung Cheong, and Kyung Min Kim KAIST



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FG1-K-6

10:30-10:45

Investigation of Hot Carrier Degradation of 1x-nm DRAM Peripheral PMOS Transistors for Cryogenic Memory Applications

Ha Young Bang¹, Hee Jun Lee¹, Jingyu Park¹, Seonhaeng Lee², and Dae Hwan Kim¹

¹School of Electrical Engineering, Kookmin University, ²Memory Division, Samsung Electronics Co., Ltd.



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Room H(202), 2층

U. Bio-Medical 분과

[FH1-U] Advanced Biomedical Integrated Circuits and Systems

좌장: 이정협 교수(DGIST), 송민영 교수(DGIST)

초청발표 FH1-U-1 09:00-09:30	An Impedance-measurement IC Achieving Wide Frequency Range and High Throughput for Real-time Biomedical Applications Soon-Jae Kweon The Catholic University of Korea
초청발표 FH1-U-2 09:30-10:00	CMOS Integrated Circuits for High-density Multi-functional Neural Interface Changhyuk Lee ^{1,2} ¹ Brain Science Institute, KIST, ² Institute for Conversions, Sungkyunkwan University , Sungkyunkwan University
FH1-U-3 10:00-10:15	Wireless System Miniaturization Solutions for Ingestible Sensors Chansoo Park and Minyoung Song DGIST
FH1-U-4 10:15-10:30	A Fully Integrated Wireless Stimulator SoC for Addressable Cortical Microimplant Chae-Eun Lee ¹ , Joonyoung Lim ² , and Yoon-kyu Song ² ¹ Department of Transdisciplinary Studies, Seoul National University, ² Department of Applied Bioengineering, Seoul National University
FH1-U-5 10:30-10:45	A 2 nd -Order Δ^2 - $\Delta\Sigma$ Modulation Based Current Sensing Front-End in Energy and Area Efficient form Factor with Dual PWM Current DAC Jee-Ho Park, Ji-Hyoung Cha, and Seong-Jin Kim UNIST



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Room I(203), 2층

D. Thin Film Process Technology 분과

[FI1-D] Atomic Layer Deposition - I

좌장: 엄태용 선임(한국화학연구원), 송봉근 교수(홍익대학교)

초청발표 FI1-D-1 09:00-09:30	Pt Thin Films by Atomic Layer Deposition Using Dimethyl(N,N-Dimethyl-3-Buten-1-Amine-N) Platinum and O ₂ Reactant towards Semiconductor Application Woo-Jae Lee ¹ Department of Nanotechnology Engineering, Pukyong National University
FI1-D-2 09:30-09:45	Growth of Rutile c-axis Oriented TiO ₂ Thin-films with Ultralow Equivalent Oxide Thickness and Leakage Currents Taiky Kim ¹ , Jihoon Jeon ^{1,2} , Myungsu Jang ^{1,2} , and Seong Keun Kim ^{1,2} ¹ Electronic Materials Research Center, KIST, ² KU-KIST Graduate School of Converging Science and Technology, Korea University
FI1-D-3 09:45-10:00	Improving Performance of TiO ₂ /ZrO ₂ /TiO ₂ Laminated Capacitor by Layer-by-layer Phase Control Using Atomic Layer Annealing Geongu Han ¹ , Kyoungjae Ju ² , Chanwook Choi ² , Hyong June Kim ³ , and Jihwan An ^{2,3} ¹ Department of Manufacturing Systems and Design Engineering, Seoul National University of Science and Technology, ² Department of Mechanical Engineering, POSTECH, ³ Institute of Energy and Environment, Seoul National University of Science and Technology
FI1-D-4 10:00-10:15	The Effect of Process Pressure on Improving Resistivity of Ru Thin Films Deposited by Atomic Layer Deposition Na-Gyeong Kang, Min-Ji Ha, and Ji-Hoon Ahn Department of Materials Science and Chemical Engineering, Hanyang University
FI1-D-5 10:15-10:30	Thermal Atomic Layer Deposition of Ru-incorporated MoCx Films as Cu Diffusion Barrier and Seed Layer Ji Sang Ahn and Jeong Hwan Han Department of Materials Science and Engineering, Seoul National University of Science and Technology



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F11-D-6

10:30-10:40

MoO₂ Film Fabrication via Atomic Layer Deposition with Mo(IV)
Precursor and Oxygen and Ozone Reactants for DRAM Applications
Ara Yoon, Hae Lin Yang, Sanghoon Lee, and Jin-Seong Park
Division of Materials Science and Engineering, Hanyang University



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Room J(204), 2층

A. Interconnect & Package 분과

[FJ1-A] Advanced Packaging II

좌장: 김주영 교수(울산과학기술원), 안상훈 수석(삼성전자)

FJ1-A-1 09:00-09:15	Electrochemical Study on Better Controllability of Cu Pad Topography in Cu/Ti CMP Seonwoo Go ¹ , Yoonji Ra ¹ , Jenasree Hazarika ¹ , Jum-Yong Park ² , Un-Byoung Kang ² , Tae-Gon Kim ¹ , and Jin-Goo Park ¹ ¹ Department of Materials Science and Chemical Engineering, Hanyang University ERICA, ² AVP Process Development Team, Samsung Electronics Co., Ltd.
FJ1-A-2 09:15-09:30	Optimization of Chemical Mechanical Polishing (CMP) for Die-to-Wafer Hybrid Bonding and the Impact of the SiCN Dielectric Layer Yeon Ju Kim, Sang Woo Park, Min Seong Jung, Ji Hun Kim, and Jong Kyung Park Department of Semiconductor Engineering, Seoul National University of Science and Technology
FJ1-A-3 09:30-09:45	3차원 반도체 패키지를 위한 저온 Cu-Cu 접합용 CuAg 합금 소재 및 신뢰성 평가 이승혁, 전주원, 마지수, 이용규, 김병준 한국공학대학교 신소재공학과
FJ1-A-4 09:45-10:00	Ar Carrier Gas SiN Film Deposition Process Optimization for WLPKG Chip Warpage Control Intae Whoang, Byung Yoon Lim, Jin Pyung Kim, Kijun Bang, and Seunghee Jo SK hynix
FJ1-A-5 10:00-10:15	The Impact of Surface Treatment on SiO ₂ Bonding for Cu/SiO ₂ Hybrid Bonding Injoo Kim ¹ , Siye Lee ² , Wookyung Lee ² , and Sungdong Kim ² ¹ Department of Mechanical Design and Robot Engineering, Seoul National University of Science and Technology, ² Department of Mechanical System Design Engineering, Seoul National University of Science and Technology
FJ1-A-6 10:15-10:30	Machine Learning-Based ML Image Classification for A.I Semiconductor Production Sung Hyun Yoon and Sang Yup Lee SK hynix



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FJ1-A-7

10:30-10:45

Study on the Chemical Durability and Defect Reduction Effects of Ceramic-Based CVD CMP Conditioners

Yeon-Je Gye¹, Joo-Han Lee², Sun-Gyu Park², Yu-Jeong Jin², Jin-Goo Park¹, and Tae-Gon Kim¹

¹Department of Materials Science and Chemical Engineering, Hanyang University ERICA, ²Technical Development Electronics BU, EHWA DIAMOND INDUSTRIAL CO. LTD.



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Room K(205), 2층

G. Device & Process Modeling, Simulation and Reliability 분과

[FK1-G] Device Characterization & Modeling I

좌장: 우지용 교수(경북대학교), 김성호 교수(세종대학교)

초청발표 FK1-G-1 09:00-09:30	Physical Modeling and Evaluation of 3D Memory: Interlayer Guarding Effects Jo-hak Jeong ¹ , Dongkyu Lee ¹ , Jin-Taek Lee ¹ , Ho Sung Lee ¹ , Sang Jun Hwang ¹ , Krishna Moorthy Ponnusamy ^{1,2} , Hyun-Sik Jang ¹ , S. Chandramohan ² , and Keun Heo ¹ ¹ School of semiconductor science & technology, Jeonbuk National University, ² Department of Physics and Nanotechnology, SRM Institute of Science and Technology
FK1-G-2 09:30-09:45	Carrier Transport in In _{0.8} Ga _{0.2} As HEMTs at Cryogenic Temperature from the Transconductance Modeling Technique in Saturation Min-Seo Yu ¹ , Ji-Hoon Yoo ¹ , In-Geun Lee ¹ , Jae-Hak Lee ¹ , Kyounghoon Yang ² , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² KAIST
FK1-G-3 09:45-10:00	Extraction of Individual Contact Resistance and Threshold Voltage in Carbon Nanotube Thin-film Transistors Jun-Ho Jang ¹ , Hanbin Lee ¹ , Jeonghee Ko ¹ , Yulim An ¹ , Hyo-In Yang ¹ , GyeongSu Min ¹ , So Jeong Park ¹ , Jeong Yeon Im ¹ , Dong Myong Kim ¹ , Dae Hwan Kim ¹ , Jong-Ho Bae ¹ , Min-Ho Kang ² , and Sung-Jin Choi ¹ ¹ School of Electrical Engineering, Kookmin University, ² Department of Nano-process, NNFC
FK1-G-4 10:00-10:15	Virtual-Source Based Modeling of Charge-dependent Source Resistance and Drain Current of In _x Ga _{1-x} As MBCFETs Su-Min Choi ¹ , Ji-Hoon Yoo ¹ , Hyeon-Bhin Jo ¹ , In-Geun Lee ¹ , Hyuk-Min Kwon ² , Takuya Tsutsumi ³ , Hiroki Sugiyama ³ , Hideaki Matsuzaki ³ , Jae-Hak Lee ¹ , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² Polytechnics, ³ NTT Co.
FK1-G-5 10:15-10:30	Experimental Demonstration of Tunable Synchronization in Coupled NbO _x Artificial Neuron Systems for Neuromorphic Pattern Recognition Hyun Wook Kim, Eunryeong Hong, Nayeon Kim, Seonuk Jeon, and Jiyong Woo School of Electronic and Electrical Engineering, Kyungpook National University



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FK1-G-6

10:30-10:45

Investigating Process-Dependent Variations in Amorphous IGZO TFTs for 2T-DRAM Application through Monochromatic Photonic C-V Analysis

Hyunwook Jeong, Junseong Park, Ha-Neul Lee, Yubin Choi, Sung-Jin Choi, Dong Myong Kim, Dae Hwan Kim, and Jong-Ho Bae

School of Electrical Engineering, Kookmin University



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Room L(206), 2층

Q. Metrology, Inspection, Analysis, and Yield Enhancement 분과

[FL1-Q] Metrology, Inspection, and Yield Enhancement II

좌장: 강상우 소장(한국표준과학연구원), 정용우 TL(SK 하이닉스)

초청발표 FL1-Q-1 09:00-09:30	반도체 계측 공정에서 영상 처리의 활용 이성일 DRAM Metrology Technology Team, Manufacturing Technology, SK hynix
초청발표 FL1-Q-2 09:30-10:00	A Zerogap Strain Sensor Mahsa Haddadi Moghaddam ^{1,2} and Dai-Sik Kim ^{1,2,3,4} ¹ Department of Physics, UNIST, ² Quantum Photonics Institute, UNIST, ³ Center for Angstrom Scale Electromagnetism, UNIST, ⁴ Department of Physics and Astronomy, Seoul National University
FL1-Q-3 10:00-10:15	Advancing Semiconductor Characterization: Dual Rotating Polarizers Ellipsometry Junho Choi, Jongkyoon Park, Sukhyun Choi, Yong Jai Cho, and Chegal Won Advanced Instrumentation Institute, KRISS
FL1-Q-4 10:15-10:30	AFM을 이용한 EUV Photoresist 프로파일 모니터링 김해리, 권광민, 최규진, 김규영 기반기술센터, 선행 Inspection 기술, SK hynix
FL1-Q-5 10:30-10:45	In-situ Monitoring of Contaminant Particles Generated during PECVD Process Using a Particle Beam Mass Spectrometer Seungjae Lee ¹ , Junggil Na ² , Kyunghwan Jung ² , and Taesung Kim ^{1,3} ¹ Mechanical Engineering, Sungkyunkwan University, ² JJ CNS, ³ SKKU Advanced Institute of Nano technology (SAINT), Sungkyunkwan University



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Room A(101), 1층

B. Patterning (Lithography & Etch Technology) 분과

[FA2-B] Lithography and photoresist II

좌장: 이상설 박사(POSTECH), 김진곤 박사(SKMP)

초청발표 FA2-B-1 13:45-14:15	Hybrid Multilayer EUV Dry Photoresist for 1.5 nm Technology Node Myung Mo Sung Hanyang University
FA2-B-2 14:15-14:30	Single EUV Patterning Margin Improvement Minkwon Choi, Hyejun Jin, Jeonghoon Ahn, and Jongho Lee Foundry Business, Samsung Electronics Co., Ltd.
FA2-B-3 14:30-14:45	EUV 펄리클의 Emissivity 에 대한 다층 Emission 구조의 영향 연구 강영우 ^{1,2} , 김하늘 ^{1,2} , 김원진 ^{1,2} , 김정연 ^{1,2} , 박영욱 ^{1,2} , 안진호 ^{1,2} ¹ 한양대학교 신소재공학과, ² EUV-IUCC
FA2-B-4 14:45-15:00	Fizeau Interferometry 를 이용한 EUV Attenuated Phase Shift Mask 평 가 기술 연구 이동기 ^{1,3} , 문승찬 ^{2,3} , 홍준호 ^{1,3} , 안진호 ^{1,2,3} ¹ 한양대학교 신소재공학과, ² 한양대학교 나노반도체공학과, ³ EUV-IUCC
초청발표 FA2-B-5 15:00-15:30	불소화 주석산화물 극자외선 레지스트 개발 이진균 ¹ , 구예진 ¹ , 안형주 ¹ , 김지호 ² , 이상설 ² , 이서현 ³ , 정병준 ³ , 고차원 ⁴ , 니시츠네히로 ⁴ , 김현우 ⁴ ¹ 인하대학교 고분자공학과, ² 포항공대 가속기연구소, ³ 서울시립대학교 신소재공학과, ⁴ Samsung Electronics Co., Ltd.



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Room B(102), 1층

H. Display and Imaging Technologies 분과

[FB2-H] Display and Imaging Technologies IV

좌장: 전우진 교수(경희대학교)

FB2-H-1 13:45-14:00	Development of High-Performance In_2O_3 -TFTs Using Atmospheric Pressure Spatial ALD toward High Throughput in Flexible Device Industry Chi-Hoon Lee, Kwang Su Yoo, Dong-Gyu Kim, and Jin-Seong Park Division of Materials Science and Engineering, Hanyang University
FB2-H-2 14:00-14:15	Improvement in Negative-Bias-Illumination-Stress Stability in Vertical TFTs Using ALD-IGZO Bilayer Channel Configuration Ji-Won Kang ¹ , Yeong-Ha Kwon ² , Nak-Jin Seong ² , Kyu-Jeong Choi ² , Chi-Sun Hwang ³ , Jong-Heon Yang ³ , and Sung-Min Yoon ¹ ¹ Kyung Hee University, ² NCD Co. Ltd, ³ ETRI
FB2-H-3 14:15-14:30	Enhancing Performance of Delta Conductance (Delta-C) Characteristics Utilizing Heterojunction Structure for Multi-Valued Logic Application Junho Lee, Chanwoo Jeong, and Jaekyoung Jeong Department of Electronic Engineering, Hanyang University
FB2-H-4 14:30-14:45	Eco-friendly Low Operation Voltage Organic Thin Film Transistors MiRiNae Lee ¹ , Min Jong Lee ² , Swarup Biswas ¹ , Jae Won Shim ² , and Hyeok Kim ¹ ¹ University of Seoul, ² Korea University
FB2-H-5 14:45-15:00	Mitigating Short-channel Effects for Nanoscale IGZO Transistor by Suppressing Oxygen Diffusion into Metal Utilizing Ultrathin Dielectric Barrier Juyoung Yun ¹ , Hyuk Park ¹ , Dae-Hwan Kang ^{2,3} , and Yoonyoung Chung ^{1,2,3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
FB2-H-6 15:00-15:15	Control of Subthreshold Gate Swing in a-IGZO Transistors through a during Plasma-Enhanced Atomic Layer Deposition Seong Hun Yoon and Jae Kyeong Jeong Department of Display Science and Engineering, Hanyang University



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FB2-H-7

15:15-15:30

Reliability Analysis of SU-8 Passivation on Biocompatible Parylene-Based Flexible PBTTT Organic Thin-Film Transistor

Ah-Hyun Hong and Dong-Wook Park

University of Seoul



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2024년 1월 26일(금), 13:45-15:30

Room C(103), 1층

J. Nano-Science & Technology 분과

[FC2-J] Nano Devices

좌장: 공수현 교수(고려대학교), 금현성 교수(연세대학교)

초청발표 FC2-J-1 13:45-14:15	In-Depth Analysis of Structural Effects on Polarization Switching of Amorphous InGaZnOx Ferroelectric Thin-Film Transistor Hyojin Yang, Sejun Park, Sanghyuk Yun, Haesung Kim, Ha Neul Lee, and Jong-Ho Bae School of Electrical Engineering, Kookmin University
FC2-J-2 14:15-14:30	Degradable Injectable and Tissue-conformable Soft MRI-compatible Brain-interfacing Array Kyuha Park ^{1,2} , Mikyung Shin ^{1,2} , and Donghee Son ^{1,2} ¹ Center for Neuroscience Imaging Research, IBS, ² Sungkyunkwan University
FC2-J-3 14:30-14:45	Utilizing the Dynamic Behavior Characteristics of Self-healing Electrodes as Memory for Skin Electronics Duhwan Seong, Hyunjin Jung, and Donghee Son Department of Electrical and Computer Engineering, Sungkyunkwan University
FC2-J-4 14:45-15:00	Magnetic Random-access Memory Based Physical Unclonable Functions Jaimin Kang ¹ , Donghyeon Han ¹ , Daekyu Koh ¹ , San Ko ¹ , Kyunchul Lee ² , Chando Park ³ , Jongsun Park ² , Kab-Jin Kim ¹ , Soogil Lee ¹ , Jisung Lee ⁴ , and Byong-Guk Park ¹ ¹ KAIST, ² Korea University, ³ Applied Materials, Inc., ⁴ Hyundai Motor Company
FC2-J-5 15:00-15:15	Ultrathin Skin-attachable TiO ₂ Synaptic Array Integrated with an Organic Proximity Sensor for Real-time Finger Gesture Recognition Haein Cho ¹ , Inho Lee ² , Jingon Jang ¹ , Jae-hyun Kim ² , Hanbee Lee ² , Sungjun Park ² , and Gunuk Wang ¹ ¹ Korea University, ² Ajou University



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Room D(104), 1층

F. Silicon and Group-IV Devices and Integration Technology 분과

[FD2-F] Advanced Device Characterizations

좌장: 김명수 교수(울산과학기술원), 권지민 교수(울산과학기술원)

FD2-F-1 13:45-14:00	Multivalued Negative Differential Resistance (NDR) ZnO Channel Thin Film Transistor (TFT) Integrated with Ag/HfO ₂ Threshold Switching Device Juho Sung ¹ and Changhwan Shin ² ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University, ² School of Electrical Engineering, Korea University
FD2-F-2 14:00-14:15	Investigation of Interface Trap Effect in Feedback Field Effect Transistor Hangwook Jeong, Minseon Park, Junhyeong Lee, and Min-Woo Kwon Department of Electronic Engineering, Gangneung-Wonju National University
FD2-F-3 14:15-14:30	Steep Slope Transistor with Negligible Hysteresis Achieved through Transient Negative Capacitance Sangho Lee, Giuk Kim, Hunbeom Shin, Yunseok Nam, and Sanghun Jeon School of Electrical Engineering, KAIST
FD2-F-4 14:30-14:45	Design and Characterization of a Double-Trench SiC MOSFET with Superb Current Rectification Yu Jin Kang and Seongjae Cho Department of Electronic and Electrical Engineering, Ewha Womans University
FD2-F-5 14:45-15:00	3D Analysis Methodology for Line Edge Roughness in V-NAND Structure Jaehyuk Lim ¹ and Changhwan Shin ² ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University, ² School of Electrical Engineering, Korea University
FD2-F-6 15:00-15:15	Enhancement Thermal Performance of Drain-extended FinFETs for SOC Applications Yeon Sil Yang and Jang Hyun Kim Department of Intelligence Semiconductor Engineering, Ajou University



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FD2-F-7

15:15-15:30

Improved Characteristics of Ag/Ni/HfO₂-Based Threshold Switching Device

Daeyoung Chu^{1,2}, Sanghyun Kang³, and Changhwan Shin¹

¹School of Electrical Engineering, Korea University, ²Samsung Electronics Co., Ltd.,

³Department of Electrical and Computer Engineering, Sungkyunkwan University



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2024년 1월 26일(금), 13:45-15:30

Room E(105), 1층

E. Compound Semiconductors 분과

[FE2-E] Compound Semiconductor - GaN HEMTs

좌장: 김동현 박사(한국나노기술원)

초청발표 FE2-E-1 13:45-14:15	The GaN HEMT Technology for beyond 5G and Energy Applications June Sik Kwak RFHIC Inc
FE2-E-2 14:15-14:30	$L_g = 50$ nm AlGaIn/GaN HEMTs on 4-inch SiC with $f_{max} > 300$ GHz Wan-Soo Park ¹ , Hyo-Jin Kim ¹ , Hyeok-Jun Lee ¹ , Sang-Kuk Kim ² , Jacob Yun ² , Ted Kim ² , Jae-Hak Lee ¹ , Kyoungsoon Yang ³ , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² QSI, ³ KAIST
FE2-E-3 14:30-14:45	Buffer-related Dynamic On-resistance Characteristics in AlGaIn/GaN-on-Si Structures Hyun-Seop Kim Kunsan National University
FE2-E-4 14:45-15:00	Thermal Management of GaN HEMTs through Electro-Thermal Modeling Changhwan Song ¹ , Sukwon Choi ² , and Jungwan Cho ¹ ¹ School of Mechanical Engineering, Sungkyunkwan University, ² Department of Mechanical Engineering, The Pennsylvania State University
FE2-E-5 15:00-15:15	Characterization of AlGaIn/GaN HEMTs on 4-inch SiC Substrate at Cryogenic Temperature Hyeok-Jun Lee ¹ , Wan-Soo Park ¹ , Hyo-Jin Kim ¹ , Jae-Hak Lee ¹ , Kyoungsoon Yang ² , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² KAIST
FE2-E-6 15:15-15:30	p-GaN/p-AlGaIn/AlGaIn/GaN Heterojunction Field-effect Transistor with High Threshold Voltage Dong Guk Kim, Jun Hyeok Yim, Min Gi Jeong, Min Kuen Lee, and Ho Young Cha School of Electronic and Electrical Engineering, Hongik University



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Room F(106), 1층

C. Material Growth & Characterization 분과

[FF2-C] Materials synthesis by design

좌장: 김태헌 교수(울산대학교)

초청발표 FF2-C-1 13:45-14:15	Study on Oxide Materials with Combinatorial Methods Seunghun Lee Department of Physics, Pukyong National University
FF2-C-2 14:15-14:30	Differences in Surface Chemical Behavior and Cleaning Mechanism of Si and SiC Yoonji Ra ¹ , Juyeol Lee ¹ , Jin-Goo Park ¹ , Jooyoung Yang ² , Tae-Uk Kim ² , and Tae-Gon Kim ¹ ¹ Department of Materials Science and Chemical Engineering, Hanyang University ERICA, ² Cleaning Development Team, SK Siltron Co., Ltd.
FF2-C-3 14:30-14:45	Optimization of CVD Growth Conditions for Uniform WS ₂ Thin-film Synthesis on a 4-inch Wafer Using a Chloride Precursor Hye Seong Park ¹ , Ta Gyu Ryu ¹ , Ha Yeon Choi ¹ , Hyuk Min Kwon ² , and Hi Deok Lee ¹ ¹ Department of Electronics Engineering, Chungnam National University, ² Semiconductor Convergence Campus of Korea Polytechnics College
초청발표 FF2-C-4 14:45-15:15	Bottom-up Synthesis of 2D Materials for Future Electronics Seok Joon Yun Department of Semiconductor, University of Ulsan
FF2-C-5 15:15-15:30	그래핀/N(질소)-극성 질화갈륨(GaN)의 열화학적 안정성과 원격 에피택시 최중훈, 홍영준 세종대학교 나노신소재공학과



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Room G(201), 2층

K. Memory (Design & Process Technology) 분과

[FG2-K] Charge Trap Flash Memory

좌장: 우성윤 교수(경북대학교), 정연주 박사(KIST)

FG2-K-1 13:45-14:00	A Fully Logic-compatible High-k Charge Trap Memory for sub-28nm Embedded Non-volatile Memory Technologies Jaehun Lee, Kyongsik Yeom, Jongsung Woo, Hyunik Park, Han-Hyeong Choi, Donghwi Hwang, Minji Seo, Hwanho Ma, Jeadong Jung, Jusang Lee, Juwoon Kim, Youngcheon Jeong, Changmin Jeon, Kangho Lee, and Hyunjo Kim Samsung Foundry, Samsung Electronics Co., Ltd.
FG2-K-2 14:00-14:15	Low-power Split-gate NOR Flash Cell Design and Non-ideality Analysis for Compute-in-memory Chan-Gi Yook, Seung-won Lee, and Wonbo Shim Seoul National University of Science and Technology
FG2-K-3 14:15-14:30	고분자 iCVD 증착 기술을 이용한 불소 도핑에 의한 a-InGaZnO 박막 트랜지스터 소자 특성 향상 오승현 ¹ , 이창현 ² , 조성행 ³ , 김희태 ¹ , 박정익 ² , 김민주 ⁴ , 박영근 ¹ , 정민규 ⁵ , 박세준 ⁵ , 임성갑 ² , 조병진 ¹ ¹ 한국과학기술원 전기 및 전자공학부, ² 한국과학기술원 신소재공학부, ³ 한국전자통신연구원 플렉시블전자소자연구실, ⁴ 단국대학교 전자전기공학부, ⁵ Samsung Electronics Co., Ltd.
FG2-K-4 14:30-14:45	Augmenting the Memory Window of Charge Trap Flash through Sputtering Substrate Bias-Induced Trap Generation Hyunyoung Cho ¹ , Seongmin Park ¹ , and Yoonyoung Chung ^{1,2,3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
FG2-K-5 14:45-15:00	Improvement on Program/Erase Performance of Amorphous Indium-gallium-zinc-oxide-Based Charge Trap Memory via TCAD Simulation Gyeongsu Min ¹ , Hanbin Lee ¹ , Yulim An ¹ , Jeonghee Ko ¹ , Hyo-In Yang ¹ , So Jeong Park ¹ , Jun-Ho Jang ¹ , Jeong Yeon Im ¹ , Dong Myong Kim ¹ , Dae Hwan Kim ¹ , Jong-Ho Bae ¹ , Min-Ho Kang ² , and Sung-Jin Choi ¹ ¹ School of Electrical Engineering, Kookmin University, ² Department of Nano-process, NNFC



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FG2-K-7

15:00-15:15

Investigation of Bias Temperature Instabilities of Peripheral pMOSFET and nMOSFET in CTF-NAND Flash Memories with COP Structure for Cryogenic Memory Applications

Jung Rae Cho¹, Jingyu Park¹, Tae Jun Yang¹, Seonhaeng Lee², and Dae Hwan Kim¹

¹School of Electrical Engineering, Kookmin University, ²Memory Division, Samsung Electronics Co., Ltd.



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Room H(202), 2층

K. Memory (Design & Process Technology) 분과

[FH2-K] Ferroelectric Memory I

좌장: 권용우 교수(홍익대학교), 정성엽 박사(차세대융합기술연구원)

FH2-K-1 13:45-14:00	Effect of Al Dopant Distribution in HfO_2 Layer on Ferroelectric Switching Characteristics Hyoungjin Park ¹ , Seonuk Jeon ² , Hyun Wook Kim ² , Eunryeong Hong ² , Nayeon Kim ² , Yunsur Kim ¹ , Hyeonsik Choi ¹ , Jiae Jeong ¹ , and Jiyong Woo ^{1,2} ¹ School of Electronic Engineering, Kyungpook National University, ² School of Electronic and Electrical Engineering, Kyungpook National University
FH2-K-2 14:00-14:15	Novel Dual Ferroelectric Stack with Wide-range Tunable Coercive Voltage for High-density 3D FeNAND Applications Jiae Jeong ¹ , Nayeon Kim ² , Hyunwook Kim ² , Eunryeong Hong ² , Seonuk Jeon ² , Yunsur Kim ¹ , Hyeonsik Choi ¹ , Hyoungjin Park ¹ , and Jiyong Woo ^{1,2} ¹ School of Electronic Engineering, Kyungpook National University, ² School of Electronic and Electrical Engineering, Kyungpook National University
FH2-K-3 14:15-14:30	La_2O_3 중간층을 이용한 Ferroelectric FET 의 성능 및 내구성 개선 강창연, 추준홍, 김성호, 박영근, 김승훈, 조병진 한국과학기술원 전기 및 전자공학부
FH2-K-4 14:30-14:45	Enhancing Non-Volatile Memory Performance: Dual Ferroelectric Gate Field-Effect Transistors with Recessed Channel Geometry Simin Chen ¹ , Dae-Hwan An ² , Seong Ui An ¹ , Tae Hyeon Noh ¹ , and Younghyun Kim ¹ ¹ Department of Photonics and Nanoelectronics, BK21 FOUR ERICA-ACE Center, Hanyang University, ² Center for Opto-electronic Materials and Devices, KIST
FH2-K-5 14:45-15:00	Demonstration of Programmable Low-Temperature Hf-Based Ferroelectric Amorphous Oxide Semiconductor FET for Emerging Memory Applications Tae Hyeon Noh ¹ , Dae-Hwan Ahn ² , Hyo-Bae Kim ³ , Taewon Jin ¹ , Seoung min Park ¹ , Seong Ui An ¹ , Xinkai Sun ¹ , Simin Chen ¹ , Ji-Hoon Ahn ³ , and Younghyun Kim ¹ ¹ Department of Photonics and Nanoelectronics, BK21 FOUR ERICA-ACE Center, Hanyang University, ² Center for Opto-electronic Materials and Devices, KIST, ³ Department of Materials Science and Chemical Engineering, Hanyang University



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FH2-K-6 15:00-15:15	Analysis of Hydrogen Effect on Ferroelectric (Hf,Zr)O ₂ Thin Films during Atomic Layer Deposition Process Seongbin Park ¹ , Seungbin Lee ¹ , Hye Ryeon Park ¹ , Jongmug Kang ¹ , Juntak Jeong ¹ , Yeseo Choi ¹ , Jin-Hyun Kim ² , Minjong Lee ² , Jiyoung Kim ² , and Si Joon Kim ¹ ¹ Kangwon National University, ² The University of Texas at Dallas
FH2-K-7 15:15-15:30	The Effect of Oxygen Vacancy Layer on Memory Performance of Hafnia Ferroelectric Tunnel Junction Junghyeon Hwang, Chaeheon Kim, Hunbeom Shin, and Sanghun Jeon School of Electrical Engineering, KAIST



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Room I(203), 2층

D. Thin Film Process Technology 분과

[FI2-D] Atomic Layer Deposition - II

좌장: 김성근 책임(한국과학기술연구원), 최병준 교수(서울과학기술대학교)

FI2-D-1 13:45-14:00	Modulation of Atomic Layer Deposition for Improvement of Conformality on High Aspect Ratio Substrates Jiwon Kim ¹ , Changbong Yeon ² , Deok-Hyeon Cho ² , Jaesun Jung ² , and Bonggeun Shong ¹ ¹ Hongik University, ² Soulbrain
FI2-D-2 14:00-14:15	Theoretical Screening of Tungsten Precursors toward Inherent Area-selective Atomic Layer Deposition of WO ₃ between Nitride Substrates Su-Jin Kwon, Junhui Choi, Ju Hyeon Jung, and Bonggeun Shong Chemical Engineering, Hongik University
FI2-D-3 14:15-14:30	Enhanced Deposition Selectivity of High-k Dielectrics by Vapor-Dosed Self-Assembled Monolayer Inhibitors Combined with Selective Lift-Off Jeong-Min Lee and Woo-Hee Kim Department of Materials Science and Chemical Engineering, Hanyang University
FI2-D-4 14:30-14:45	Theoretical Analysis on the Influence of Ge Precursors toward Atomic Layer Deposition of Germanium Tellurides Hyeon Cho and Bonggeun Shong Hongik University
FI2-D-5 14:45-15:00	Growth Characteristics of Plasma-Enhanced Atomic Layer Deposition of SiN _x by BTBAS and BDEAS with a Very High Frequency Plasma Source Young-Jin Lim ¹ , Min-Jeong Rhee ¹ , Ngoc Le Trinh ² , Han-Bo-Ram Lee ² , and Il-Kwon Oh ¹ ¹ Department of Intelligence Semiconductor Engineering, Ajou University, ² Department of Materials Science and Engineering, Incheon National University
FI2-D-6 15:00-15:15	Temperature-dependent Surface Reactions in Atomic Layer Deposition of Titanium Nitride Jae Min Jang, Ju Hyeon Jung, and Bonggeun Shong Hongik University



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FI2-D-7

15:15-15:30

Theoretical Analysis of Niobium Precursors toward Inherent Area-selective Atomic Layer Deposition between Nitride Substrates

Junhui Choi, Miso Kim, and Bonggeun Shong

Hongik University



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Room J(204), 2층

D. Thin Film Process Technology 분과

[FJ2-D] Thin Film Transistors - I

좌장: 안지훈 교수(한양대학교), 백인환 교수(인하대학교)

FJ2-D-1 13:45-14:00	Performance Enhancement of In-Ga-Zn-O Vertical-channel TFTs with a Channel Length of 40 nm via Al ₂ O ₃ Spacer Engineering Chae-Eun Oh ¹ , Young-Ha Kwon ² , Nak-Jin Seong ² , Kyu-Jeong Choi ² , and Sung-Min Yoon ¹ ¹ Kyung Hee University, ² NCD Co., Ltd.
FJ2-D-2 14:00-14:15	Back-End-of-Line Compatible Al ₂ O ₃ Passivated p-Type Copper(I) Oxide Thin Film Transistors with Enhanced Current On/Off Ratio Seohyeon Park ¹ , Jaewook Yoo ¹ , Hyeonjun Song ¹ , Soyeon Kim ¹ , Hongseung Lee ¹ , Seongbin Lim ¹ , Minah Park ¹ , Peide D. Ye ² , and Hagyoul Bae ¹ ¹ Jeonbuk National University, ² Purdue University
FJ2-D-3 14:15-14:30	IGZO 2T0C DRAM with Normally-off Operation Using Interfacial Dipole Suwon Seong ¹ , Seongmin Park ¹ , Taejun Ha ¹ , Hyunyoung Cho ¹ , Daehwan Kang ^{2,3} , and Yoonyoung Chung ^{1,2,3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
FJ2-D-4 14:30-14:45	High-performance Graphene-Based Field Effect Transistors Fabricated by UV-assisted Atomic Layer Deposition Geonwoo Park ¹ , Jeong Woo Shin ² , Dohyun Go ³ , and Jihwan An ⁴ ¹ Manufacturing Systems and Design Engineering, SEOULTECH, ² Department of Mechanical Engineering, Nanyang Technological University, ³ Department of Chemistry, U.C. San Diego, ⁴ Department of Mechanical Engineering, POSTECH
FJ2-D-5 14:45-15:00	The C-V-Based Investigation of Capacitive Coupling in the Sub-micron Amorphous InGaZnO Thin-film Transistors Depending on the Device Structure, Gate Dielectric Material, and Anneal Temperature Sae Him Jung ¹ , Seung Joo Myoung ¹ , Donguk Kim ¹ , Sangwook Kim ² , Kwang-Hee Lee ² , Moonil Jung ² , Narae Han ² , Jee-Eun Yang ² , Younjin Jang ² , and Dae Hwan Kim ¹ ¹ School of Electrical Engineering, Kookmin University, ² SAIT



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FJ2-D-6 15:00-15:15	Investigating Defects on Channel Surface of IGZO Thin-film Transistors under Ozone Annealing and UV Treatment Myeong Woo Ju^{1,2}, Changyong Oh^{1,2}, Taehyeon Kim³, Min Young Kim¹, So Hee Park¹, Geon Hyeong Lee¹, and Bo Sung Kim^{1,2} ¹Department of Applied Physics, Korea University, ²E·ICT·Culture·Sports Track, Korea University, ³Memory Diffusion Technology Team, Samsung Electronics Co., Ltd.
FJ2-D-7 15:15-15:30	Rapid Thermal Annealing (RTA) to Recover the Radiation Damage of a-IGZO TFTs for Highly Reliable DRAM Cell Transistors Minah Park, Jaewook Yoo, Hyeonjun Song, Soyeon Kim, Hongseung Lee, Seongbin Lim, Seohyeon Park, Yoon Kyeong Lee, Keun Heo, and Hagyoul Bae Jeonbuk National University



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Room K(205), 2층

G. Device & Process Modeling, Simulation and Reliability 분과

[FK2-G] TCAD & Compact Modeling

좌장: 최성진 교수(국민대학교), 김현우 교수(건국대학교)

초청발표 FK2-G-1 13:45-14:15	Enhancing AC Degradation Modeling by considering the Degradation Profile Induced by DC Stress in SiON pMOSFETs Yeohyeok Yu Department of Information and Communication Technology Engineering, Jeonju University
FK2-G-2 14:15-14:30	Physical Compact Model of Double-Gate MOSFET with a-IGZO Channel for Cell Array Transistor in 3-Dimensional DRAM Tae-Hyun Park and Ji-Woon Yang Department of Electronics and Information Engineering, Korea University
FK2-G-3 14:30-14:45	Quasi 2-Dimensional Compact Model of Channel-All-Around MOSFETs for 3-Dimensional DRAM Chae-Young Kim and Ji-Woon Yang Department of Electronics and Information Engineering, Korea University
FK2-G-4 14:45-15:00	Intrinsic Delay Optimization on Lateral Source/Drain Growth Profile for NanosheetField-effect Transistor Jae Woog Jung, Hwi Seung Park, and Hyun Woo Kim Department of Electrical and Electronics Engineering, Konkuk University
FK2-G-5 15:00-15:15	Exploring the Impact of Channel Tapered Angle and Number of Channel Stacks in Nanosheet and Forksheet FETs Yonghwan Ahn, Junjong Lee, Jinsu Jeong, Seunghwan Lee, Sanguk Lee, and Rock-Hyun Baek Department of Electrical Engineering, POSTECH
FK2-G-6 15:15-15:30	Accelerated Device Simulation of Gate-all-around Nanosheet MOSFETs Using Quasi-1D Model Kwang-Woon Lee and Sung-Min Hong School of Electrical Engineering and Computer Science, GIST



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Room L(206), 2층

Q. Metrology, Inspection, Analysis, and Yield Enhancement 분과

[FL2-Q] Metrology, Inspection, and Yield Enhancement III

좌장: 강상우 소장(한국표준과학연구원), 정용우 TL(SK 하이닉스)

FL2-Q-1 13:45-14:00	Wafer Inspection with High-speed Microdeflectometry Manh Nguyen The ¹ , Young-Sik Ghim ^{1,2} , and Hyug-Gyo Rhee ^{1,2} ¹ KRISS, ² UST
FL2-Q-2 14:00-14:15	FTIR 및 기계학습을 활용한 SiN에 미치는 방사선 영향 분석 Dong-Hyeon Kim and Sung-Uk Zhang Digital Twin Laboratory, Dong-Eui University
FL2-Q-3 14:15-14:30	Strain-enhanced Ion Drift Localization of 2D Van der Waals Ferroelectric Heterojunction via Tip-induced Strain Engineering Jinhyoung Lee ¹ , Gunhoo Woo ^{2,3} , Jinill Cho ¹ , Yoonseok Noh ⁵ , Hyelim Shin ⁵ , Donghyuk Choi ⁶ , and Taesung Kim ^{1,2,3,4,5} ¹ School of Mechanical Engineering, Sungkyunkwan University, ² SKKU Advanced Institute of Nanotechnology, Sungkyunkwan University, ³ Department of Nano Science and Technology, Sungkyunkwan University, ⁴ Department of Nano Engineering, Sungkyunkwan University,
FL2-Q-4 14:30-14:45	Development of Physical Force-Assisted Wet Cleaning Process for Removing Highly Chemically Resistant Organic Residue Jae-Hyeong Lee ¹ , Tae-Yoon Jung ¹ , Kyoung-Chae Seo ² , Byoung-Pil Lee ² , Eun-Jin Kim ² , Han-Ku Cho ² , Jin-Goo Park ¹ , and Tae-Gon Kim ¹ ¹ Department of Materials Science and Chemical Engineering, Hanyang University ERICA, ² FST, Fine Semitech Corp.
FL2-Q-5 14:45-15:00	경화 공정 수율 증대를 위한 다물리기반 경화 해석 및 답러닝 네트워크 김경빈 ¹ , 이은호 ^{1,2} ¹ 성균관대학교 기계공학과, ² 성균관대학교 지능형 펩테크 융합전공



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FL2-Q-6 15:00-15:15	Thermo-reflectance Microscope and Semiconductor Applications Ki Soo Chang ¹ , Dong Uk Kim ¹ , Chan Bae Jeong ¹ , Ilkyu Han ¹ , Dong Mok Kim ¹ , Seung-Woo Lee ² , and Byung-Seon Chun ² ¹ Division of Scientific Instrumentation, KBSI, ² Nanoscope Systems, Inc.
FL2-Q-7 15:15-15:30	Anomaly Classification for Multivariate Time-Series with Noisy Labels: A Semi-Supervised Approach Jun Hui Lee and PooGyeon Park Department of Electrical Engineering, POSTECH



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Room A(101), 1층

R. Semiconductor Software 분과

[FA3-R] Semiconductor Software

좌장: 강동현 교수(가천대학교), 김재호 교수(경상국립대학교)

초청발표 FA3-R-1 15:40-16:10	Multi-tenant를 지원하는 Flash Storage 기술 트렌드와 전망 In Hwan Doh Samsung Electronics Co., Ltd.
FA3-R-2 16:10-16:25	Eyana: The SSD Simulator Exploring the Inner Workings of Solid-State Drives Habibur Rahman ¹ , Jaeho Kim ¹ , and Omar Faroque ² ¹ Department of AI Convergence Engineering, Gyeongsang National University, ² Department of Computer Science, University of Texas at Austin
FA3-R-3 16:25-16:40	Can Remote Compaction Improve Performance in LSM-KV Store? Honghyeon Yoo, Jeeseob Kim, Seungjae Lee, Hongsu Byun, and Sungyong Park Department of Computer Science and Engineering, Sogang University
FA3-R-4 16:40-16:55	Offloading Erasure Coding to CSD in Hyperledger Fabric Junghyun Ryu ¹ , Hongsu Byun ¹ , Myungcheol Lee ² , Jinchun Choi ² , and Youngjae Kim ¹ ¹ Sogang University, ² Smart Data Research Section, ETRI
FA3-R-5 16:55-17:10	Can a Block Cache in LSM-KV Store Accelerates Stateful Query? Dongjae Lee, Yeonwoo Jeong, Sungyong Park Department of Computer Science and Engineering, Sogang University



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Room B(102), 1층

H. Display and Imaging Technologies 분과

[FB3-H] Display and Imaging Technologies V

좌장: 권혁인 교수(중앙대학교)

FB3-H-1 15:40-15:55	Partially Transparent Flexible IGZO TFT with PEDOT:PSS Gate and Parylene-C Gate Dielectric Yoojeong Ko and Dong-Wook Park University of Seoul
FB3-H-2 15:55-16:10	Extracting Bulk Trap Density of Oxide Semiconductor Thin Films Using Space Charge Limited Current Changeon Jin ¹ , Taewon Seo ¹ , and Yoonyoung Chung ^{1,2,3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
FB3-H-3 16:10-16:25	Fabrication and Applications of a-ITZO Charge-Trapping TFTs Using Al ₂ O ₃ and HfO ₂ in Memory-In-Pixel Display Technology Seoungmin Park ¹ , Taehyeon Noh ¹ , Youngyeong Lee ² , and Younhyun Kim ¹ ¹ Department of Photonics and Nanoelectronics, BK21 FOUR ERICA-ACE Center, Hanyang University, ² HANA Optronics, Inc.
FB3-H-4 16:25-16:40	Controllable, Large Gamut Sensitivity for Stretchable Strain Sensors With One Dimensional Single Walled Carbon Nanotubes Hyeonbin-Jo, Yujin Choi, Taeho Kang, Gyubeen Kim, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University
FB3-H-5 16:40-16:55	Ambipolar Organic Inverter based on Non-fullerene Acceptor Seungyeon Koh, MiRiNae Lee, HwaPyeong Noh, Swarup Biswas, and Hyeok Kim School of Electrical and Computer Engineering, University of Seoul
FB3-H-6 16:55-17:10	Low-hydrogen SiO _x N _y Thin Film via Plasma-enhanced Atomic Layer Deposition Using a Hydrogen-free Silicon Precursor and N ₂ Plasma : Growth Mechanism and Dielectric Properties Chae-Yeon Park ¹ , Hae Lin Yang ¹ , Tae-Yeon Kim ¹ , Gi-Beom Park ¹ , Ara Yoon ¹ , Jongryul Park ² , Taehyeong Kang ^{2,3} , Yongjoo Park ³ , and Jin-Seong Park ¹ ¹ Division of Materials Science and Engineering, Hanyang University, ² SK Trichem Co., Ltd.



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FB3-H-7

17:10-17:25

Copper-Iodide Film Formation via Physical Vapor Deposition Method
and Their Electrical Contact and Sheet Resistance Properties

Geun Lee, Da Han Lee, Tae Ho Kang, Tae Won Jin, Woo In Kim, and Sung Hun Jin
Department of Electronic Engineering, and I-Nanofab Center, Incheon National
University



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Room C(103), 1층

T. AI 분과

[FC3-T] Artificial Intelligence

좌장: 김병수 센터장(한국전자기술연구원)

초청발표 FC3-T-1 15:40-16:10	Challenges on Efficient Inference of Large Language Models Se Jung Kwon NAVER Cloud
초청발표 FC3-T-2 16:10-16:40	An Efficient Inference Using Synchronization-Aware NAS and CUTLASS GEMM Optimization on Mobile Systems Yongjun Park Yonsei University
FC3-T-3 16:40-16:55	A Real-time 3D Hand Pose Based Control System Using Lightweight Point Cloud Inference on a Mobile GPU Jaehyeon So, Johnny Rhe, and Jong Hwan Ko Department of Electrical and Computer Engineering, Sungkyunkwan University
FC3-T-4 16:55-17:10	Efficient Source-Free Subject Feature Adaptation for Generalizing EEG-Based Motor Imagery Classification Models Chanwook Hwang and Jong Hwan Ko Department of Electrical and Computer Engineering, Sungkyunkwan University
FC3-T-5 17:10-17:25	Column-Major and Input-Stationary Mapping for Efficient In-memory Inference of Depth-Wise Convolutional Layers Juhong Park and Jong Hwan Ko Department of Electrical and Computer Engineering, Sungkyunkwan University



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Room D(104), 1층

F. Silicon and Group-IV Devices and Integration Technology 분과

[FD3-F] Advanced Device Applications

좌장: 김시현 교수(서강대학교), 우성윤 교수(경북대학교)

FD3-F-1 15:40-15:55	TiO ₂ 층이 삽입된 시냅스용 플래시 메모리 소자의 가중치 선형성 개선 연구 이성현, 이왕주, 김진하, 김상훈, 박정우, 박민아, 정순규, 손민균, 서동우 한국전자통신연구원
FD3-F-2 15:55-16:10	CMOS-compatible Room-temperature Waveguide-integrated Photodetector based on Ge-on-insulator Photonic Platform for Mid-infrared Applications Joonsup Shim, Jinha Lim, Inki Kim, and SangHyeon Kim KAIST
FD3-F-3 16:10-16:25	Free-standing Germanium Photonic Crystal Waveguide for Mid-infrared On-chip Gas Sensor Inki Kim, Jinha Lim, Joonsup Shim, and SangHyeon Kim School of Electrical Engineering, KAIST
FD3-F-4 16:25-16:40	An Ultra-low Power 3D DRAM based on SiGe Heterojunction Hyangwoo Kim ¹ , Ju Hong Park ² , and Chang-Ki Baek ² ¹ Future IT Innovation Laboratory, POSTECH, ² Department of Convergence IT Engineering, POSTECH
FD3-F-5 16:40-16:55	Low-power and Tunable Leaky Integrate-and-Fire Neuron Using Resistive Switching Transistor based on Silicon-Germanium Heterojunction Yijoon Kim, Ju Hong Park, and Chang-Ki Baek Department of Convergence IT Engineering, POSTECH
FD3-F-6 16:55-17:10	Self-rectifying Characteristics by Metal Work Functions at TiO ₂ /HfO ₂ Multilayer RRAM Chan-Hyeok Nam and Myung-Hyun Baek Gangneung-Wonju National University



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FD3-F-7

17:10-17:25

Research on Electrical Characteristics of Neuromorphic Device with Pt/Cr/HfO₂/Pt/Cr/HfO₂/SiO₂/Si Gate Stack

Jeong Mok Yang¹, So Yeon Jeong¹, Jae Min Kim¹, Tae Hwan Koo¹, Su Hyeon Chae¹, and Moon Gyu Jang^{1,2}

¹School of Nano Convergence Technology, Hallym University, ²Center of Nano Convergence Technology, Hallym University



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Room E(105), 1층

E. Compound Semiconductors 분과

[FE3-E] Compound Semiconductor - Modeling & Process

좌장: 이종원 박사(NNFC)

FE3-E-1 15:40-15:55	Investigation on Carrier Transport Properties for AlGaIn/GaN HEMTs on SiC from the L_g Scaling Behavior of Transconductance in Saturation Hyo-Jin Kim ¹ , In-Geun Lee ¹ , Wan-Soo Park ¹ , Hyeok-Jun Lee ¹ , Jae-Hak Lee ¹ , Kyoungsoon Yang ² , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² KAIST
FE3-E-2 15:55-16:10	Enhancing Carrier Transport In AlGaIn/GaN HEMTs Through Structural Optimization And Transconductance Modeling Hyo-Joung Kim, Walid Amir, Surajit Chakraborty, Hyeon-Cheol Jeong, Myeong-Jun You, and Tae-Woo Kim School of Electrical and Electronic Engineering, University of Ulsan
FE3-E-3 16:10-16:25	Comprehensive Analysis of Self-heating Effects in Multi-finger GaN-on-SiHEMTs Jaeyong Jeong ¹ , Sung Joon Choi ¹ , Joonsup Shim ¹ , Eunjung Kim ¹ , Seong Kwang Kim ¹ , Bong Ho Kim ¹ , Joon Pyo Kim ¹ , Yoon Je Suh ¹ , Nahyun Rheem ¹ , Woo jin Beak ¹ , Dae Myeong Geum ² , Yumin Koh ³ , Donghyun Kim ³ , and Sanghyeon Kim ¹ ¹ School of Electrical Engineering, KAIST, ² School of Electronic Engineering, Chungbuk National University, ³ KANC
FE3-E-4 16:25-16:40	The Impact of T-Gate Head Size on Radiation Tolerance in GaN HEMTs Sung-Jae Chang ¹ , Dong-Seok Kim ² , Hyun-Wook Jung ¹ , Dohyun Kim ¹ , Il-Gyu Choi ¹ , Youn-Sub Noh ¹ , Sang-Heung Lee ¹ , Seong-Il Kim ¹ , Ho-Kyun Ahn ¹ , Jong-Won Lim ¹ , and Dong-Min Kang ¹ ¹ Photonic/Wireless Convergence Research Department, ETRI, ² Korea Multi-Purpose Accelerator Complex, KAERI
FE3-E-5 16:40-16:66	Extraction of Effective Mobility for $\text{In}_{0.8}\text{Ga}_{0.2}\text{As}/\text{In}_{0.52}\text{Al}_{0.48}\text{As}$ QW HEMTs at Cryogenic Temperature Sang-Pyeong Son ¹ , Ji-Hoon Yoo ¹ , Seung-Woo Son ¹ , In-Geun Lee ¹ , Jae-Hak Lee ¹ , Kyoungsoon Yang ² , and Dae-Hyun Kim ¹ ¹ Kyungpook National University, ² KAIST



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FE3-E-6 16:55-17:10	AlGaIn/GaN 이중 접합 트랜지스터의 격리 공정을 위한 이온주입 공정 연구 Jun-Hyeok Yim, Seung-Heon Shin, Min-Jeoung Kim, Dong-Ik Oh, Min-Keun Lee, Min-Gi Jeong, and Ho-Young Cha School of Electronic and Electrical Engineering, Hongik University
FE3-E-7 17:10-17:25	Next Generation Infrared Detector based on Type-II Superlattice Hyun-Woo Jang ¹ , Jun-Ho Eom ¹ , Byung-Hyuk Kim ¹ , Han Jung ¹ , Sun Ho Kim ² , Jun Hee Choi ³ , Sang-Sun Yong ⁴ , and Young Ho Kim ¹ ¹ i3system, Inc., ² Agency of Defense Development, ³ KRIT, ⁴ Korea Aerospace Research Institute



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Room F(106), 1층

I. MEMS & Sensor Systems 분과

[FF3-I] Recent Advances in Sensor Geometry and Materials

좌장: 박윤석 교수(경희대학교)

FF3-I-1 15:40-15:55	Dielectrically-modulated Thyristor Based Biosensor for Enhanced Sensitivity Chan Heo ¹ , Sein Oh ¹ , Hyeongyu Kim ¹ , Keun Heo ² , and Kihyun Kim ¹ ¹ Division of Electronic Engineering, Jeonbuk National University, ² Department of Semiconductor Science and Technology, Jeonbuk National University
FF3-I-2 15:55-16:10	Flexible Pressure Sensor with High Performance and Durability based on Porous Polymer Thin-Film Sehwan Park ¹ , Sanghoon Park ² , Haechang Lee ³ , Seunghyup Yoo ² , and Hanul Moon ¹ ¹ Department of Chemical Engineering (BK21 FOUR Graduate Program) & Department of Semiconductors, Dong-A University, ² School of Electrical Engineering, KAIST, ³ Center for Biomaterials, Biomedical Research Institute, KIST
FF3-I-3 16:10-16:25	Hybrid Energy Harvesting System to Improve Power Efficiency of Organic Photovoltaics in Indoor Light Sources with Triboelectric Nanogenerator Hyojeong Choi ¹ , Selim Han ¹ , Jooyeong Kim ² , Biswas Swarup ¹ , and Hyeok kim ¹ ¹ School of Electrical and Computer Engineering, University of Seoul, ² Department of Intelligent Semiconductor Engineering, University of Seoul
FF3-I-4 16:25-16:40	Micro-Electronic Mechanical Switch (MEMS) Based Field-Programmable Photonic Gate Array (FPPGA) Hyug Su Kwon ¹ , Seok Chan Eom ² , Sangyeol Oh ² , Sunghoon Jang ¹ , Changku Kim ¹ , Youngseok Bae ¹ , Younghoon Chun ² , and Sangyoon Han ³ ¹ Agency for Defense Development, ² LIG NEX ¹ Co., Ltd., ³ DGIST
FF3-I-5 16:40-16:55	Sulfur-assisted WO ₃ Nanospheres for Enhancement of NO ₂ Gas Sensing Jun-Cheol Park and Sanghan Lee School of Materials Science and Engineering, GIST



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FF3-I-6 16:55-17:10	Broadband Ultrahigh Responsivity Photodetector based on Topological Insulator/TMD Heterostructure Hyeon seung Jo ^{1,2} , Sang il Kim ³ , and Tae wan Kim ^{1,2} ¹ Department of Electrical Engineering, Jeonbuk National University, ² Smart Grid Research Center, Jeonbuk National University, ³ Department of Materials Science and Engineering, University of Seoul
FF3-I-7 17:10-17:25	Modulative Artificial Nociceptor based on Double Charge Trap Layer Structure Geunyoung Kim and Kyung Min Kim Department of Materials Science and Engineering, KAIST



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Room G(201), 2층

K. Memory (Design & Process Technology) 분과

[FG3-K] NAND Flash Memory

좌장: 강대웅 교수(서울대학교), 김동찬 교수(SK Hynix University)

초청발표 FG3-K-1 15:40-16:10	Next Evolution through the Properties of 3D NAND Flash Dongchan Kim, Jinkook Kim SK hynix
FG3-K-2 16:10-16:25	HfAlO ₂ 기반의 이중 메모리 메커니즘을 가지는 V-NAND Flash 소자의 메모리 윈도우 및 열적 안정성 개선 추준홍, 신의중, 강창연, 김승훈, 조병진 한국과학기술원 전기 및 전자공학부
FG3-K-3 16:25-16:40	Quantitative Analysis on Z-interference Using Reprogram Scheme in 3D NAND Flash Memory V _{th} Distribution Jooyoung Lee ¹ and Hyungcheol Shin ^{1,2} ¹ Seoul National University, ² Integra Semiconductor Co., Ltd.
FG3-K-4 16:40-16:55	Simulation Study on the Electrical Characteristics of 3D NAND String with a Locally Deformed Memory Cell Geon-Tae Jang and Sung-Min Hong School of Electrical Engineering and Computer Science, GIST
FG3-K-5 16:55-17:10	Program Strategy of 3D NAND Flash to Mitigate Threshold Voltage Distribution Widening at Cross-Temperature Jiyeon Kim, Chanyang Park, Kihoon Nam, Donghyun Kim, Hyunseo You, and Rock-Hyun Baek Department of Electrical Engineering, POSTECH
FG3-K-6 17:10-17:25	Impacts of Hydrogen Profile on The Reliability Characteristics of Flash Memory Using SiO ₂ /Si ₃ N ₄ /SiO ₂ Stack Film by Post Annealing Sehyeon Choi ¹ , Sejin Kim ¹ , San Park ¹ , Boncheol Ku ¹ , Hanmei Choi ² , Hyungjun Kim ² , Jaehyun Yang ² , and Changhwan Choi ¹ ¹ Division of Materials Science & Engineering, Hanyang University, ² Memory Process Development Team, Samsung Electronics Co., Ltd.



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2024년 1월 26일(금), 15:40-17:25

Room H(202), 2층

K. Memory (Design & Process Technology) 분과

[FH3-K] Ferroelectric Memory II

좌장: 김상범 교수(서울대학교), 배종호 교수(국민대학교)

FH3-K-1 15:40-15:55	High-Performance and Disturb-Free Charge Trap Flash with Capacitance Boosting by Negative Capacitance Giuk Kim, Taeho Kim, Sangho Lee, Hunbeom Shin, Lingwei Zhang, Hyojun Choi, Yunseok Nam, Sangmok Lee, Woongjin Kim, Jihye Ock, Sujeong Lee, Hyunjun Kang, and Sanghun Jeon School of Electrical Engineering, KAIST
FH3-K-2 15:55-16:10	Energy Efficient Computing In Memory with Metal-Ferroelectric-Metal-Insulator-Silicon (MFMIS) Ferroelectric FET Giuk Kim, Sangho Lee, Hunbeom Shin, Lingwei Zhang, Hyojun Choi, Yunseok Nam, Sangmok Lee, Woongjin Kim, Jihye Ock, Sujeong Lee, Hyunjun Kang, and Sanghun Jeon School of Electrical Engineering, KAIST
FH3-K-3 16:10-16:25	Comparative Analysis of Polarization Switching Characteristics in Channel and Contact Regions of Ferroelectric InGaZnOx Thin Film Transistor Sejun Park, Hyojin Yang, Haesung Kim, Sanghyuk Yun, Ha Neul Lee, Dong Myong Kim, Dae Hwan Kim, Sung-Jin Choi, and Jong-Ho Bae School of Electrical Engineering, Kookmin University
FH3-K-4 16:25-16:40	A Strategy for Controlling Imprint Field in Hafnia Ferroelectric Device Hunbeom Shin, Junghyeon Hwang, Giuk Kim, Sangho Lee, Lingwei Zhang, Hyojun Choi, Sujeong Lee, and Sanghun Jeon School of Electrical Engineering, KAIST
FH3-K-5 16:40-16:55	Long-lifespan HfZrO ₄ Random-access Memory with Degradation Suppressing Layer Do Yeon Lee, Woon San Ko, Jun Ho Byun, So Yeon Kwon, and Ga Won Lee Chungnam National University
FH3-K-6 16:55-17:10	Termination Topologies of the Split Signal Lines for High-speed V-NAND Package Test Ungjin Jang, Jahwan Ku, Hyucksoo Jeon, and Sehyun Seo Samsung Electronics Co., Ltd.



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FH3-K-7

17:00-17:25

Voltage Summation-Based Processing-In Memory SRAM Macro with
4-Bit Weight and 4-Bit Input Using Input-Bit Slicing Method

Jung Nam Kim¹, Yong Woo Kim¹, Minsuk Koo², and Yoon Kim¹

¹Department of Electrical and Computer Engineering, University of Seoul,

²Department of Computer Science and Engineering, Incheon National University



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2024년 1월 26일(금), 15:40-17:25

Room I(203), 2층

D. Thin Film Process Technology 분과

[FI3-D] Emerging Films Growth Technique

좌장: 엄태용 선임(한국화학연구원), 한정환 교수(서울과학기술대학교)

초청발표 FI3-D-1 15:40-16:10	Multifunctional Oxide Thin Films for Novel Electronics Seung-Hyub Baek Electronics Materials Research Center, KIST
초청발표 FI3-D-2 16:10-16:40	High-quality Thin Film Quantum Materials Yoon Jang Chung Department of Chemical and Biological Engineering, Korea University
FI3-D-3 16:40-16:55	Revolutionizing SnS Thin Films Fabrication for Advanced Electronics Seung Ho Ryu ^{1,2} , Minki Choe ³ , Taeyong Eom ⁴ , Taek-Mo Chung ⁴ , In-Hwan Baek ³ , and Seong Keun Kim ^{1,2} ¹ KU-KIST Graduate School of Converging Science and Technology, Korea University, ² Electronic Materials Research Center, KIST, ³ Department of Chemical Engineering, Inha University, ⁴ Division of Advanced Materials, KRICT



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2024년 1월 26일(금), 15:40-17:25

Room J(204), 2층

D. Thin Film Process Technology 분과

[FJ3-D] Thin Film Transistors - II

좌장: 이웅규 교수(송실대학교), 백인환 교수(인하대학교)

FJ3-D-1 15:40-15:55	Role of Post-annealing in Transistors with Oxide Channel/High-k Dielectric Stacks for 3D Stackable Memory Applications Nayeon Kim, Hyunwook Kim, Eunryeong Hong, Seonuk Jeon, and Jiyong Woo School of Electronic and Electrical Engineering, Kyungpook National University
FJ3-D-2 15:55-16:10	Impact of Channel and Blocking Layers for Fast-Speed and Low-Power Operations of Vertical Charge-Trap Memory Using InGaZnO Channel Yun-Ju Cho ¹ , Young-Ha Kwon ² , Nak-Jin Seong ² , Kyu-Jeong Choi ² , Hee-Ok Kim ³ , Jong-Heon Yang ³ , Chi-Sun Hwang ³ , and Sung-Min Yoon ¹ ¹ Kyung Hee University, ² NCD Co., Ltd., ³ ETRI
FJ3-D-3 16:10-16:25	Asymmetrical Self Heating Behavior of Vertical Thin-Film Transistors with Different Source and Drain Electrode Configuration Dong-Hee Lee ¹ , Young-Ha Kwon ² , Nak-Jin Seong ² , Kyu-Jeong Choi ² , and Sung-Min Yoon ¹ ¹ Kyung Hee University, ² NCD Co., Ltd.
FJ3-D-4 16:25-16:40	Effect of Source/Drain Metal-dependent Oxygen Scavenging on the Density of States and Lateral Profile of Carrier Concentration in InGaZnO TFTs Seungki Kim, Wonjung Kim, Changwook Kim, Dong Myong Kim, Sung-Jin Choi, Jong-Ho Bae, and Dae Hwan Kim School of Electrical Engineering, Kookmin University
FJ3-D-5 16:40-16:55	Comparative Analysis of Zinc-Tin-Oxide Films Grown by Atomic Layer Deposition by Varying Chemical Composition Ratio for Improved TFT Performance Dong-Hyun Lim ¹ , Ae-Rim Choi ² , Yi-Ji Jeong ¹ , Young-Bae Ahn ³ , Seung-Wook Ryu ³ , Do-Hee Kim ³ , and Il-Kwon Oh ^{1,2} ¹ Department of Electrical and Computer Engineering, Ajou University, ² Department of Intelligence Semiconductor Engineering, Ajou University, ³ Revolutionary Technology Center, R&D Division, SK hynix



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FJ3-D-6 16:55-17:10	Intrinsic Device Characteristics of Oxide TFT with Morphotropic Phase Boundary High- κ Gate Insulator by Fast ID-VG Measurement Taeseung Jung and Sanghun Jeon School of Electrical Engineering, KAIST
FJ3-D-7 17:10-17:25	Improved MOSFETs Performance and Reliability by Low-temperature Deuterium Annealing Ju-Won Yeon, Tae-Hyun Kil, Hyo-Jun Park, and Jun-Young Park Chungbuk National University



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Room K(205), 2층

G. Device & Process Modeling, Simulation and Reliability 분과

[FK3-G] Device Characterization & Modeling II

좌장: 신흥식 수석(DB하이텍), 최성진 교수(국민대학교)

FK3-G-1 15:40-15:55	Effect of Oxygen Content on the Density of States and Lateral Profile of Dopant Concentration in InGaZnO FETs regarding Oxygen Scavenging Seong Hoon Jeon, Won Jung Kim, Changwook Kim, Jong-Ho Bae, Sung-Jin Choi, Dong Myong Kim, and Dae Hwan Kim School of Electrical Engineering, Kookmin University
FK3-G-2 15:55-16:10	Characterization of the Effects of Hydrogen and Oxygen Contents on Current Stress-induced Instability in the Sub-micron Amorphous InGaZnO Thin-film Transistors based on the AC Bias Real-time Current Probe Do Hun Kim ¹ , Jingyu Park ¹ , Seoung Joo Myoung ¹ , Sangwook Kim ² , Kwang-Hee Lee ² , Jee-Eun Yang ² , Younjin Jang ² , and Dae Hwan Kim ¹ ¹ School of Electrical Engineering, Kookmin University, ² SAIT
FK3-G-3 16:10-16:25	Abnormal Hump Characteristic under Gated-Diode Pulse Stress and its Oxygen Content Effect in Sub-Micron IGZO TFTs Su Han Noh ¹ , Jingyu Park ¹ , Seoung Joo Myoung ¹ , Sangwook Kim ² , Kwang-Hee Lee ² , Jee-Eun Yang ² , Younjin Jang ² , and Dae Hwan Kim ¹ ¹ School of Electrical Engineering, Kookmin University, ² SAIT
FK3-G-4 16:25-16:40	Annealing Process for Improving Electrical Properties of a-IGZO TFTs with Underlap-channel So-Jeong Park ¹ , Hanbin Lee ¹ , Jeonghee Ko ¹ , Yulim An ¹ , Hyo-In Yang ¹ , Gyoung-Su Min ¹ , Jun-Ho Jang ¹ , Jeong-Yeon Im ¹ , Dong Myong Kim ¹ , Dae Hwan Kim ¹ , Jong-Ho Bae ¹ , Min-Ho Kang ² , and Sung-Jin Choi ¹ ¹ School of Electrical Engineering, Kookmin University, ² Department of Nano-process, NNFC
FK3-G-5 16:40-16:55	Highly Reliable Hump-free Multiple Channel a-InGaZnO Thin-film Transistor on 8-inch Wafer Hyo-In Yang ¹ , Hanbin Lee ¹ , Jeonghee Ko ¹ , Yulim An ¹ , Gyoung-Su Min ¹ , So-Jeong Park ¹ , Jun-Ho Jang ¹ , Jeong-Yeon Im ¹ , Dong Myong Kim ¹ , Dae Hwan Kim ¹ , Jong-Ho Bae ¹ , Min-Ho Kang ² , and Sung-Jin Choi ¹ ¹ School of Electrical Engineering, Kookmin University, ² Department of Nano-process, NNFC



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FK3-G-6 16:55-17:10	Quantitative Analysis based on Subgap Density-of-States (DOS) for Deuterium Annealing Effect in a-IGZO TFTs by TCAD and Experimental Characterization Seongbin Lim¹, Hyeonjun Song¹, Jaewook Yoo¹, Hongseung Lee¹, Soyeon Kim¹, Jo Hak Jeong¹, Kiyoun Lee³, Hyeon-Sik Jang¹, Minah Park¹, Seohyeon Park¹, Keun Heo¹, Jun-Young Park², Yoon Kyeung Lee¹, and Hagyoul Bae¹ ¹Jeonbuk National University, ²Chungbuk National University, ³Hongik University
FK3-G-7 17:10-17:25	Low-Frequency Noise and DC I-V Characterization for IrradiationInduced Degradation and Trap Behaviors in a-IGZO TFTs Hongseung Lee¹, Jaewook Yoo¹, Hyeonjun Song¹, Soyeon Kim¹, Seongbin Lim¹, Seohyeon Park¹, Minah Park¹, Kiyoun Lee², Yoon Kyeung Lee¹, Keun Heo¹, and Hagyoul Bae¹ ¹Jeonbuk National University, ²Hongik University



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2024년 1월 26일(금), 15:40-17:25

Room L(206), 2층

V. Quantum Technology 분과

[FL3-V] Hybrid Platform for Quantum Technology

좌장: 김도현 교수(서울대학교)

초청발표 FL3-V-1 15:40-16:10	Hybrid Quantum Devices with Superconducting Microwave Circuits Jinwoong Cha Quantum Technology Institute, KRISS
초청발표 FL3-V-2 16:10-16:40	Quantum Acoustics: Surface Acoustic Waves-driven Single-photon Source Seok-Kyun Son ^{1,2} ¹ Department of Physics, Kyung Hee University, ² Department of Information Display, Kyung Hee University
초청발표 FL3-V-3 16:40-17:10	Graphene Straintronics for Quantum Nanodevices toward Tunable Quantum Information Nojoon Myoung Department of Physics Education, Chosun University
FL3-V-4 17:10-17:25	Tailoring of Single-electron Wave Packet along the Energy Axis Min-Sik Kim ^{1,2} , Bum-Kyu Kim ² , Ju-Jin Kim ¹ , and Myung-Ho Bae ² ¹ Department of Physics, Jeonbuk National University, ² KRISS



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[TP1] 포스터세션

2024년 1월 25일(목) 09:00-17:55

[저자 Q&A 세션: 17:15-17:55](#)

D. Thin Film Process Technology 분과

ZONE 1 (1층 전시장)

TP1-001	Mimicking IR Visionary System via 0D-2D Heterojunction of InAs QD/WSe₂ Artificial Synapse Soobin Shim¹, Hyeongtae Kim¹, Seongchan Kim², Nuri Oh², and Jun Hong Park¹ ¹School of Materials Science & Engineering, Gyeongsang National University, ²Division of Materials Science & Engineering, Hanyang University
TP1-002	Charge Trap Engineering and Synaptic Behavior of Transition Metal Dichalcogenides Transistor, via Molecular Dynamics MiJi Kwon¹, Hyeongtae Kim¹, Suyeon Cho², and Junhong Park¹ ¹School of Materials Science & Engineering, Gyeongsang National University, ²Department of Materials Engineering and Convergence Technology, Gyeongsang National University
TP1-003	Van Der Waals Interface Engineering for Enhancement of Semiconductor Device Performance Su-yeon Cho¹, Do-Hyeon Lee², and Jun Hong Park¹ ¹School of Materials Science & Engineering, Gyeongsang National University, ²Department of Materials Engineering and Convergence Technology, Gyeongsang National University
TP1-004	Centimeter Scaled Growth and Electric Characteristics of Layered NiTe₂ Wonbeom Kim¹, Hyeongtae Kim², Yeonjin Je³, Eunjeung Kim⁴, and Junhong Park² ¹School of Materials Science & Engineering, Gyeongsang National University, ²Materials Engineering and Convergence Technology, Gyeongsang National University, ³Ceramic Engineering, Gyeongsang National University, ⁴LLNL
TP1-005	Investigation of Annealing Effect on Indium-Zinc-Oxide (IZO) Thin Film Transistor (TFT) by Gamma-ray Radiation Do-Kywn Kim¹, Dong-Seok Kim², Min-Ju Kim¹, Tae-Eon Kim¹, and Seung Heon Shin³ ¹Department of Semiconductor Materials and Applications, Korea Polytechnics, ²Korea Multi-Purpose Accelerator Complex, KAERI, ³Department of Semiconductor Process Equipment, Korea Polytechnics



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TP1-006	듀얼 게이트 a-ITGZO 박막 트랜지스터의 채널 구조에 따른 전기적 특성 연구 설민혁¹, 조경아¹, 강민구¹, 김상섭², 김상식¹ ¹고려대학교 전기전자공학과, ²Samsung Display Co., Ltd.
TP1-007	a-ITGZO 박막트랜지스터의 성능 향상을 위한 Al₂O₃/SiO₂ 게이트 절연막의 적용 강민구¹, 조경아¹, 김상섭², 김상식¹ ¹고려대학교 전기전자공학과, ²Samsung Display Co., Ltd.
TP1-008	HfO₂/InGaZnO Double-layered Transistor with Low-powered Switching Enabled by Quasi-two-dimensional Electron Channel Seyoung Oh^{1,2} and Byungjin Cho^{1,2} ¹Department of Urban, Energy, and Environmental Engineering, Chungbuk National University, ²Department of Advanced Material Engineering, Chungbuk National University
TP1-009	Influence of TiO₂ Thin Film Grown by Atomic Layer Deposition on N-Type Bi₂Te₃Se_{0.3} Thermoelectric Powders Su Min Eun¹, Ji Hyeon Hwang², and Byung Joon Choi¹ ¹Department of Material Science and Engineering, Seoul National University of Science and Technology, ²Department of Optometry, Seoul National University of Science and Technology
TP1-010	The Enhancement of the Electrical Properties of a-ZTO Thin-Film Transistors through Metal Capping Process Jin Woo Lee, Se-Hyeong Lee, So-Young Bak, Dongki Baek, Chan-Yeong Park, Hyeongrok Jang, and Moonsuk Yi Pusan National University
TP1-011	Optimization for Enhanced Electrical Properties of ZrO₂/HfO₂ Laminated Structure for Metal-Insulator-Metal Capacitors Yoonchul Shin, Seung Won Lee, and Ji-Hoon Ahn Department of Materials Science and Chemical Engineering, Hanyang University
TP1-012	Wafer-scale Thin Film Grown WSe₂ via Molten Salt Method and Device Applications Sojeong Park¹, Hyeongtae Kim², Soobin Shim², and Jun Hong Park² ¹Department of Energy and Mechanical Engineering, Gyeongsang National University, ²School of Materials Science and Engineering, Gyeongsang National University



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TP1-013	Two Step Surface Engineering of Transition Metal Dichalcogenide Heterojunction with Metal Oxide-formation and Reduction Processes Mingu Kang¹ and Jun Hong Park^{1,2} ¹School of Materials Science and Engineering, Gyeongsang National University, ²Department of Materials Engineering and Convergence Technology, Gyeongsang National University
TP1-014	Optically Simulated Synaptic Behaviors of HfS₂ Grown via Molten Salt Flux Method Seunghye Kim¹, Mi Ji Kwon², Jung Young Cho³, and Jun Hong Park^{1,2} ¹School of Materials Science and Engineering, Gyeongsang National University, ²Department of Materials Engineering and Convergence Technology, Gyeongsang National University, ³Nano Convergence Materials Center, KICET
TP1-015	Low Temperature Processed, Highly Stable CMOS Inverter by integrating Zn-ON and Tellurium Thin-Film Transistors : Journal of Information Display Taeung Kim, Muhammad Naqi, Yongin Cho, and Sunkook Kim ¹Multifunctional Nano Bio Electronics Lab, Sungkyunkwan University, ²School of Advanced Materials Science and Engineering, Sungkyunkwan University
TP1-016	Intense Pulsed Light을 이용한 선택적 어닐링을 통한 Top-gate Self-aligned 구조의 IGZO TFT 성능 개선 김희태¹, 박서학¹, 정재중¹, 박영근¹, 김동빈¹, 조성행², 최성율¹, 조병진¹ ¹한국과학기술원 전기 및 전자공학부, ²한국전자통신연구원 플렉시블전자소자연구실
TP1-017	Unlocking the Functionality of Multi-phase Tungsten Disulfide for Negative Differential Resistance and Random-access Memory Devices Jinill Cho¹, Gunhoo Woo², Jinhyeong Lee¹, and Taesung Kim^{1,2} ¹School of Mechanical Engineering, Sungkyunkwan University, ²SKKU Advanced Institute of Nanotechnology, Sungkyunkwan University
TP1-018	Multi-stack Ferroelectric Capacitor based on Fluorite Structure Materials for Neuromorphic Computing Hyo-Bae Kim and Ji-Hoon Ahn Department of Materials Science and Chemical Engineering, Hanyang University
TP1-019	Multilevel Block Copolymers and Polymer Colloids Composites for Sensitive Gas Sensor Dong Won You, Geon Gug Yang, and Sang Ouk Kim Department of Material Science & Engineering, KAIST



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TP1-020	Tungsten Diselenide (WSe₂) Ambipolar Transistor with Al₂O₃ Passivation Supported by Ultrathin Al layer for High-stability Logic device Joo-On OH and Sunkook Kim School of Advanced Materials Science & Engineering, Sungkyunkwan University
TP1-021	Composition-controllable Growth of GeTe Thin Films by Hollow Cathode Plasma-assisted Atomic Layer Deposition Min Gyoo Cho, Ju Hwan Park, Si Eun Jung, and Byung Joon Choi Department of Material Science and Engineering, Seoul National University of Science and Technology
TP1-022	High-performance of Hydrogenated Spinel Phase InZnSnO Thin-Film Transistors Gwang-Bok Kim and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
TP1-023	Hydrogen Behavior in Oxide TFTs with Gate Insulator Variation by High-pressure Hydrogen Annealing Jin Won Bak and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
TP1-024	Hydrogen Doped a-IGZTO TFTs with Excellent Reliability and High Field-effect Mobility Sang Won Chung and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
TP1-025	Effect of Ti Interlayer on Ferroelectric HZO Thin Film Jaeyoung Joo, Ju-young Jeong, Yoogeun Han, and Hyunchul Sohn Department of Materials Science and Engineering, Yonsei University
TP1-026	Optimization of Al-doped HfO₂/ZrO₂ Layered Structure for Improving Electrical Characteristics Yeon-Ji Jeon, Seung Won Lee, and Ji-Hoon Ahn Department of Materials Science and Chemical Engineering, Hanyang University
TP1-027	Investigation of IWO TFT for Enhanced Electrical Performance and Long-term Stability Compared to IGZO TFT Hyun-Sik Choi, Ki-Ju Park, and Won-Ju Cho Department of Electronic Materials Engineering, Kwangwoon University



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TP1-028	Inherent Area-selective Atomic Layer Deposition of SiO₂ Quang Khanh Nguyen, Juyeong Lee, and Myung Mo Sung Department of Chemistry, Hanyang University
TP1-029	Inducing the Tetragonal-phase HfO₂ in ZrO₂/HfO₂ Stack by Introducing the Controlled Interfacial Layer Woo Young Park^{1,2}, In kyu Lee^{1,2}, Young Uk Ryu^{1,2}, and Woojin Jeon^{1,2} ¹Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, ²Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University
TP1-030	Hybrid Reactant of HfO₂ Atomic Layer Deposition Process for Metal-insulator-metal Capacitor Applications In Gyu Lee^{1,2}, Woo Young Park^{1,2}, Young Uk Ryu^{1,2}, and Woojin Jeon^{1,2} ¹Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, ²Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University
TP1-032	Effects of Electrode Configuration on the Electrical Properties of PEALD HZO Ferroelectric capacitors Ha Jeong Kim, Won Ji Park, and Hee Chul Lee Department of Advanced Materials Engineering, Tech University of Korea
TP1-033	Characterization of HZO Films Prepared by Co-Plasma Atomic Layer Deposition for Ferroelectric Memory Application Won Ji Park, Jae Hoon Yu, and Hee Chul Lee Department of Advanced Materials Engineering, Tech University of Korea
TP1-034	Study of Reactant Gas Characteristics of Silicon Nitride Thin Film Deposited Using 27.12 MHz Frequency B.J. Lee^{1,2}, H.C. Cho^{1,2}, M.H. Cheon^{1,2}, H.S. Ru^{1,2}, H.C. Moon^{1,2}, R. Woo^{1,2}, D.W. Seo^{1,2}, and J.W. Choi^{1,2} ¹Vacuum Equipment R&D Division, Hanwha Corporation, ²Semiconductor Research Center, Hanwha Corporation
TP1-035	Failure Analysis of Ovonic Threshold Switch from a Thermal Perspective Ju Hwan Park¹, Myeong Jun Jung¹, Hyun Wook Kim¹, Su Yeon Lee², Jae Hyuck Jang³, Gun Hwan Kim⁴, Min Kyu Yang², and Byung Joon Choi¹ ¹Dept. of Materials Science and Engineering, Seoul National University of Science and Technology, ²Division of AI Convergence Engineering, Sahmyook University, ³Electron Microscopy and Spectroscopy Team, KBSI, ⁴Dept. of Materials Science and Engineering,



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TP1-036	Superior Infrared Reflectance and Sheet Resistance of ITO/Ag/ITO/Ag/ITO(IAIAI) Structure as Electrode of Transparent Photovoltaics Chanhyuk Choi, JungHyun Lee, and Joondong Kim Department of Electrical Engineering, Incheon National University
TP1-037	Functional Design of Optically Transparent Windows by Using Macleod Simulation JungHyun Lee, ChanHyuk Choi, and Joondong Kim Incheon National University
TP1-038	Implementation of Integrate-and-Fire (IF) Characteristics Using Oxide-based 1T-Neuron Jaehee Lee ^{1,2} , Jieun Kim ^{1,2} , and Jung Wook Lim ^{1,2} ¹ ETRI, ² UST
TP1-039	Development of Visible-NIR Responsive Nanoporous Morphology on Large-scale IGZO and Realization of High-performance Image Sensor Jaeseong Kim, Anamika Sen, Chaeyoung Im, and Sunkook Kim Department of Advanced Materials Science Engineering, Sungkyunkwan University
TP1-040	TiO ₂ Interlayer를 이용한 Al/ZnO 접촉저항 개선 윤성빈 ^{1,2} , 김기영 ^{1,2} , 이해원 ^{1,2} , 김민재 ^{1,2} , 황현준 ^{1,2} , 이병훈 ^{1,2} ¹ CSTC, POSTECH, ² Department of Electrical Engineering, POSTECH
TP1-041	Enhanced Performance and Stability of 2D Sn Halide Perovskite Transistor by Incorporating Alkylammonium Halide Additives Hakjun Kim, Bum Ho Jeong, Jongmin Lee, and Hui Joon Park Department of Organic and Nano Engineering, Hanyang University
TP1-042	극박막 상복합 ZnO 영미분전도소자의 1/f 노이즈 특성 연구 이해원 ^{1,2} , 김승모 ^{1,2} , 이용수 ^{1,2} , 김민재 ^{1,2} , 전재현 ^{1,2} , 황현준 ^{1,2} , 이병훈 ^{1,2} ¹ CSTC, POSTECH, ² Department of Electrical Engineering, POSTECH
TP1-043	Performance Improvement of Indium Oxide TFTs with Tungsten Doping Juwon Kim ¹ , Hyun-Sik Choi ² , Won-Ju Cho ² , and Hamin Park ¹ ¹ Department of Electronic Engineering, Kwangwoon University, ² Department of Electronic Materials Engineering, Kwangwoon University



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TP1-044	플라즈마 처리를 이용한 Tellurium FET 의 히스테리시스 개선 김규현^{1,2}, 김민재^{1,2}, 이용수^{1,2}, 김승모^{1,2}, 이해원^{1,2}, 황현준^{1,2}, 이병훈^{1,2} ¹CSTC, POSTECH, ²Department of Electrical Engineering, POSTECH
TP1-045	수직 적층 공정을 이용한 ZnO/Te 상보형 전계 효과 트랜지스터 김기영^{1,2}, 김민재^{1,2}, 이용수^{1,2}, 이해원^{1,2}, 전재현^{1,2}, 윤성빈^{1,2}, 황현준^{1,2}, 이병훈^{1,2} ¹CSTC, POSTECH, ²Department of Electrical Engineering, POSTECH
TP1-046	Stable Ferroelectric Properties of Sub-5 nm Hafnium-Zirconium-Oxide Thin Films Deposited via Atomic Layer Deposition Gunho Kim¹, Hyo-Bae Kim¹, Wonwoo Kho², Yoomi Kang², Seung-Eon Ahn³, and Ji-Hoon Ahn¹ ¹Department of Materials Science and Chemical Engineering, Hanyang University, ²Department of IT · Semiconductor Convergence Engineering, Tech University of Korea, ³Department of Nano & Semiconductor Engineering, Tech University of Korea
TP1-047	Fabrication of TiO₂ Dispersion Strengthened Nb-based Alloy by Atomic Layer Deposition Ji Young Park, Ji Hyeon Jeon, Sumin Eun, Eui Seon Lee, Eunho Ma, Min Seob Jeong, Byoungchul Hwang, Jongmin Byun, Sung-Tag Oh, and Byung Joon Choi Department of Materials Science and Engineering, Seoul National University of Science and Technology
TP1-048	Thermal ALD Novel Mo Precursor for Low Resistivity MoN Thin Film Formation Myeong-Ho Kim, Yun-Gyeong Yi, Su-min Kim, In-Jae Lee, and Jin-Sik Kim UP Chemical
TP1-049	Physical Properties of GeS_x Thin Films Deposited by RF Sputtering Ju Sung Kim, Wan Sun Kim, and Hyunchul Sohn Department of Materials Science and Engineering, Yonsei University
TP1-050	Threshold Switching Characteristics of (ZnTe)_x(ZnS)_{1-x} Chalcogenide Alloy Deposited by RF Sputtering Wansun Kim, Jusung Kim, and Hyunchul Sohn Department of Materials Science and Engineering, Yonsei University



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TP1-051	Achieving Molecular Alignment in Semiconducting Polymers: A Step towards Improved Electrical Performance Jin Seok Yoon, Nak Hee Kang, Sam Nyung Yi, Hyung Soo Ahn, Kyung Hwa Kim, and Young Tea Chun Division of Electronics and Electrical Information Engineering, Korea Maritime and Ocean University
TP1-052	Atomic Layered Deposition of SnO₂ Thin Films Using a Novel Sn Precursor Jeong Eun Shin¹, Heesun Kim², Bo Keun Park², and Jeong Hwan Han¹ ¹Department of Materials Science and Engineering, Seoul National University of Science and Technology, ²Thin Film Materials Research Center, KRICT
TP1-053	Effect of Electrodes on (NiO)_x(La₂O₃)_{1-x} Thin Films Jeongwoo Lee and Hyunchul Sohn Department of Materials Science and Engineering, Yonsei University
TP1-054	40.68 & 60 MHz 주파수를 이용한 2단계 PE-ALD 공정이 적용된 Silicon Nitride 박막의 특성 비교 Da-Eun Bae¹, Hyung Min Kim¹, Sang Ick Lee², Jae Ho Choi¹, and Jae Hak Jeong¹ ¹CN¹ Co., Ltd., ²DNF Co., Ltd.
TP1-055	Random-Network Silicon Nanowire Channel Based High-Performance Ca²⁺-Selective Dual-Gate Ion Sensitive Field-Effect Transistors Tae-Gyu Hwang, Tae-Hwan Hyun, and Won-Ju Cho Department of Electronic Materials Engineering, Kwangwoon University
TP1-056	Morphotropic Phase Boundary 구조를 갖는 Hf 유전막 특성 연구 이찬빈, 김승모, 황현준, 이병훈 CSTC, Department of Electrical Engineering, POSTECH
TP1-057	Thermal Annealing of Solution-Processed P-type NiO Transistor Yerim Lee¹, Tae-Gyu Hwang², Won-Ju Cho², and Hamin Park¹ ¹Department of Electronic Engineering, Kwangwoon University, ²Department of Electronic Materials Engineering, Kwangwoon University
TP1-058	Supercycle of AlO and HfO Using Atomic Layer Deposition for Nanolaminate Capacitor Hyunseok Son, Beomhee Yoon, Hyunho Lee, and Hamin Park Department of Electronic Engineering, Kwangwoon University



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TP1-059	LiNbO₃ Thin Film for Photonics Devices by Sputtering Method Namhoon Kim^{1,2}, Seunghwi Koo^{1,2}, Haeri Park^{1,3}, Roju Chae^{1,3}, Heonjin Choi², and Donghee Park¹ ¹KIST, ²Department of Material Science and Engineering, Yonsei University, ³School of Electrical Engineering, Korea University
TP1-060	Study of Metal-doped Zinc Oxide-Based Electron Extraction Layer to Improved Performance of Inverted Organic Photodetectors Jaebum Jeong and Jun Young Kim Department of Semiconductor Engineering, Gyeongsang National University
TP1-061	A Study of Defect Control Through Heat Transfer in a Furnace System Daeman Seo^{1,2}, Sungman Lee¹, Sungho Jegal¹, Seungjae Baek¹, and Inho Lee² ¹Device Solution, Samsung Electronics Co., Ltd., ²Major of Electronic Engineering, Hankyong National University
TP1-062	Analysis of Growth Behavior and Electrical Property of TiO₂ Thin Film by Atomic Layer Deposition Jae Hun Hwang, Jong ho Song, and Taeyong Eom Thin Film Materials Research Center, KRICT
TP1-063	Demonstration of Atomic Layer Deposition of BeO Using Discrete Feeding Method JongHyun Bae¹, YoonSeo Jang¹, Juyung Chae¹, Christopher W. Bielawski², and Jungwoo Oh¹ ¹School of Integrated Technology, Yonsei University, ²CMCM IBS, Department of Chemistry, UNIST

D. Thin Film Process Technology 분과

ZONE 2 (2층 로비)

TP1-064	Understanding Al₂O₃ Infiltration in PDMS via Atomic Layer Deposition Pengfei Liu¹ and In Soo Kim^{1,2} ¹KIST, ²Sungkyunkwan University
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TP1-065	Accurate Regulation of Dopant Distribution in both Lateral and Vertical Directions in Sn-doped In_2O_3 Grown via Atomic Layer Deposition Tae Seok Kim^{1,2}, Han Kim^{1,2}, and Seong Keun Kim^{1,2} ¹KU-KIST Graduate School of Converging Science and Technology, Korea University, ²Electronic Materials Research Center, Korea Institute of Science and Technology
TP1-066	Growth Characteristics and Film Properties of Molybdenum Oxide Thin Films by Atomic Layer Deposition with Different Oxygen Sources Haram Yang¹, Hyeongjun Kim², and Woongkyu Lee¹ ¹Department of Materials Science and Engineering, Soongsil University, ²Department of Green Chemistry and Materials Engineering, Soongsil University
TP1-067	Novel Molybdenum N-alkoxy Carbothioamide Complexes for 2D MoS_2 Thin Films Sung Kwang Lee^{1,2}, Seung Uk Son², and Taek-Mo Chung^{1,3} ¹Thin Film Materials Research Center, Korea Research Institute of Chemical Technology, ² Department of Chemistry, Sungkyunkwan University, ³Department of Chemical Convergence Materials, UST
TP1-068	Inhibitor Assisted Si-HfO_2 ALD Process to Improve Si Doping Uniformity Duck Hyeon Seo, Jae Min Kim, Ha Na Kim, Ji Yeon Han, Hyeon Sik Cho, Ju Hwan Jung, Hyun Ju Jung, Sun Young Baik, and Kyu Ho Cho EGTM Co. R&D Center
TP1-069	Characterization of Capacitors with ITO/$\text{HfAlO}(\text{HAO})$/ITO Structures Deposited by RF-sputtering Operated at Low Frequency In-Pyo Hong, He Rui, Ma-Ro Kim, and Chung Wung Barki Gachon University
TP1-070	Improving Electrical Properties Using New Al Precursor for Doping Sung-Woo Ahn, Jae-Young Min, Ki-Chang Song, and Dr. Jin-Sik Kim UP Chemical
TP1-071	Characteristics of Molybdenum Dioxide Atomic Layer Deposition Process Hyun-June Park, Min-Su Cho and Sung-Woong Chung POSTECH
TP1-072	Experimental Realization Strain-induced Room Temperature Ferroelectricity in SrMnO_3 Thin Films on Si and Nb-SrTiO_3 Substrates through RF-sputtering High-Temperature Deposition Rui He, Maro Kim, and ChungWung Bark Gachon University



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TP1-073	Delay Time Variation with Applied Voltage Pulses in Te-Based Ovonic Threshold Switching Selectors Sangyeop Kim^{1,2}, Young-Min Kim^{1,2}, Su-Bong Lee¹, and Jong-Souk Yeo^{1,2} ¹School of Integrated Technology, College of Computing, Yonsei University, ²BK21 Graduate Program in Intelligent Semiconductor Technology
TP1-074	Growth of Scandium – doped Aluminum Nitride Thin Films by Plasma Enhanced Atomic Layer Deposition Seung Hoon Oh, Hyoeun Roh, and Taeyong Eom Thin Film Materials Research Center, Korea Research Institute of Chemical Technology
TP1-075	Ferroelectricity of HfxZr_{1-x}O₂ Thin Films Deposited on Epitaxial TiN Bottom Electrodes Yoogeun Han, Ju-Young Jeong, Jaeyoung Joo, and Hyunchul Sohn Department of Materials Science and Engineering, Yonsei University
TP1-076	New Tin Sulfide Precursor for Semiconductor Materials Heenang Choi^{1,2} and Taek-Mo Chung^{1,3} ¹Thin Film Materials Research Center, KRICT, ²Department of Chemistry, SKKU, ³Department of Chemical Convergence Materials, UST
TP1-077	Atomic Layer Deposition of In₂O₃ with Different Temperatures for n-Type Oxide Semiconductors Kyunghun Lyu¹, Jaejun Lee², and Woongkyu Lee^{1,2} ¹Department of Materials Science and Engineering, Soongsil University, ²Department of Green Chemistry and Materials Engineering, Soongsil University
TP1-078	Combined Experimental and DFT Analysis of Initial Adsorption Behavior in ZrHfO₂ Thin Films on TiN Surface Jeong Hyeon Park, Jenam Kim, and Woojin Jeon Department of Advanced Materials Engineering for Information and Electronics, and Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University



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TP1-079	Enhancement of Resistance Switching Behavior of Au/TiO₂/Au Memristors on PDMS Substrate with Pyramid Structure Jaejun Lee¹, Kyunghun Lyu², and Woongkyu Lee^{1,2} ¹Department of Green Chemistry and Materials Engineering, Soongsil University, ²Department of Materials Science and Engineering, Soongsil University
TP1-080	Effects on Electrical Properties of TiO₂-Based Capacitors by Improving Bulk and Interface Properties Taehyun Kim¹, Daeun Lim², Juan Hong², and Woongkyu Lee^{1,2} ¹Department of Green Chemistry and Materials Engineering, Soongsil University, ²Department of Materials Science and Engineering, Soongsil University
TP1-081	Contact Resistance Improvement of a-IGZO TFT by Inserting ALD Based AZO Interlayer Dongseon Kim and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
TP1-082	Development of High-performance Broadband Photodetectors Using Hydrogen Plasma-treated IGZO Thin Films Hyun yeol Rho¹, Arindam Bala², and SunKook Kim¹ ¹Multifunctional Nano Bio Electronics Lab, School of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Swiss Federal Institute of Technology Lausanne
TP1-083	Growth of Highly Dense and Conformal GeSe Thin Films by Thermal Atomic Layer Deposition Ye Bin Weon¹, Hyunwook Kim¹, Junyoung Lim², David Ahn², and Byung Joon Choi¹ ¹Department of Materials Science and Engineering, Seoul National University of Science and Technology, ²R&D Division, SK hynix Inc.
TP1-084	Study on Multi-layer Stacking Effects of Oxide-Based Thin-films Jinyeong Lee, Sungbin Jo, and Jaewook Jeong School of Information and Communication Engineering, Chungbuk National University
TP1-085	Atomic Layer Deposition of Ir Thin Films with Tricarbonyl (1,2,3-η)-1,2,3-tri(tert-butyl)-cyclopropenyl Iridium (TICP) and O₃ Han Kim^{1,2}, Hong Keun Chung^{2,3}, Tae Seok Kim^{1,2}, and Seong Keun Kim^{1,2} ¹KU-KIST Graduate School of Converging Science and Technology, Korea University, ²Electronic Materials Research Center, KIST, ³Department of Materials Science and Chemical Engineering, Hanyang University



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TP1-086	Enhancing the Electrical Properties of TiN/ZrO₂/TiN MIM Capacitor with In₂O₃ Buffer Layer by Atomic Layer Deposition Yoon Choi^{1,2}, Seungwoo Lee^{1,2}, Donghyun Kim³, Hansol Oh³, Yongjoo Park³, and Woojin Jeon^{1,2} ¹Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, ²Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University, ³Advanced Research Development Team, SK Trichem Co., Ltd.
TP1-087	Controlling Electrical Properties of ZrO₂-Based Metal-insulator-metal Capacitor via Gd Doping without Sacrificing Tetragonality Seungwoo Lee^{1,2}, Yoon Choi^{1,2}, Jonghwan Jeong^{1,2}, Jihun Nam^{1,2}, Hansol Oh³, Hanbyul Kim³, Yongjoo Park³, and Woojin Jeon^{1,2} ¹Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, ²Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University, ³Advanced Research Development Team, SK Trichem Co., Ltd.
TP1-088	Thermal Atomic Layer Deposition of Aluminum Nitride Thin Film Using Tris(dimethylamido)aluminum and Ammonia Okhyeon Kim, Hyunmin Han, Yerim Choi, Jian Heo, Changgyu Kim, Hye-Lee Kim, and Won-Jun Lee Department of Nanotechnology and Advanced Materials Engineering, Sejong University
TP1-089	Thermal Atomic Layer Deposition of Gallium Nitride Films Using Tris(dimethylamido)gallium and Ammonia Yerim Choi, Okhyeon Kim, Jian Heo, Hye-Lee Kim, and Won-Jun Lee Department of Nanotechnology and Advanced Materials Engineering, Sejong University
TP1-090	Study of Electrical Properties of Vanadium Dioxide Thin Films on TiN by Reactive Sputtering Seunghwi Koo^{1,2}, Haeri Park^{1,3}, Namhoon Kim^{1,2}, Roju Chae^{1,3}, Heonjin Choi², and Donghee Park¹ ¹Center for Opto-Electronic Materials and Devices, Post-Silicon Semiconductor Institute, KIST, ²Materials Science and Engineering, Yonsei University, ³School of Electrical Engineering, Korea University



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TP1-091	Preparation of Cubic-phase-stabilized Y-doped ZrO₂ Nanoparticles and Thin Films by Solution Methods for SOFC Application Taeyoon Kim¹, Yunbin Kim², and Sangmoon Park^{1,2,3} ¹Department of Electronics-Energy Materials, Silla University, ²Division of Energy and Chemical Engineering Major in Energy and Applied Chemistry, Silla University, ³Department of Fire Protection and Safety Management, Silla University
TP1-092	Strategies for Precision Control of the Interfacial Layer in ZrO₂(or HfO₂)/TiN Structures for DRAM Capacitors Myoung Su Jang^{1,2}, Ji Hoon Jeon^{1,2}, Taikyung Kim², and Seong Keun Kim^{1,2} ¹KU-KIST Graduate School of Converging Science and Technology, Korea University, ²Electronic Materials Research Center, KIST
TP1-093	Variation in Carrier Concentration and Sheet Resistance of Atomic-Layer Deposited InGaSnO Thin Films with Controlling Process Temperatures Jae-Hyuk Yoo¹, Shin-Ho Noh¹, Young-Ha Kwon², Nak-Jin Seong², Kyu-Jeong Choi², and Sung-Min Yoon¹ ¹Kyung Hee University, ²NCD Co., Ltd.
TP1-094	Effects of Crystal Structures of TiO_{2-x} Film on Their Thermistor Resistance Haeri Park^{1,2}, Jeongeun Mo^{1,3}, Wonjun Choi¹, Gyutae Kim², and Donghee Park¹ ¹KIST, ²School of Electrical Engineering, Korea University, ³School of Advanced Materials Science and Engineering, Sungkyunkwan University
TP1-095	Dielectric Engineering for High-Performance Top Gate SnO Thin-Film Transistors toward Vertically Stacked Complementary Inverters MinKi Choe¹, Seung Ho Ryu^{2,3}, Taeyong Eom⁴, Taek-Mo Chung⁴, Seong Keun Kim^{2,3}, and In-Hwan Baek¹ ¹Department of Chemical Engineering, Inha University, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, ³Electronic Materials Research Center, KIST, ⁴Division of Advanced Materials, KRICT
TP1-096	Area-selective-deposition (ASD) of Ruthenium (Ru) Thin Film Using Self-assembled Monolayer (SAM) through Surface Modification Ji hyeon Sim, Chae Won Kim, Hyun Jin Lim, Ki Sub Kim, Hyeong Jun Kim, Hyo Jin Ahn, and Changhwan Choi Division of Materials Science and Engineering, Hanyang University



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TP1-097	Tailoring of Ferroelectric Coercive Field and Polarization of MFM Capacitors with $\text{Hf}_x\text{Zr}_{1-x}\text{O}_2$ Bilayer Structure Geon Park and Rino Choi 3D Convergence Center and Materials Science and Engineering, Inha University
TP1-098	Optoelectronic-synaptic Properties of $\text{ReS}_2/\text{MoS}_2$ Hetero-structure Synthesized by Chemical Vapor Deposition Dong Geun Kim, Seung Won Lee, and Ji-Hoon Ahn Department of Materials Science and Chemical Engineering, Hanyang University
TP1-099	Correlation between I-V and C-V Characteristics of InGaZnO TFTs Having AlO_x Gate Insulator Jaehyun Ahn, Seungkyun Ham, and Jaewook Jeong School of Information and Communication Engineering, Chungbuk National University
TP1-100	The Effect of Seed Layer Engineering on the Performance of HZO-Based Ferroelectric Field Effect Transistor (FeFET) JunHyeok Park¹, Chulwon Chung², Boncheol Ku¹, Seung Hyeon Yun¹, Kyungsoo Park¹, Yu Jeong Choi¹, and Changhwan Choi¹ ¹Division of Materials Science and Engineering, Hanyang University, ²Department of Energy Engineering, Hanyang University
TP1-101	8-inch MgO Thin Film Technology for Next-Generation Memory Applications Giryun Hong, Beomjoo Ham, Jongseo Park, Jehyun An, Bohyeon Kang, Sung-min Ahn, and Rock-Hyun Baek Department of Electrical Engineering, POSTECH
TP1-102	Development of ALD Based VO_2 Thin Film Formation Process Technology and Implementation of Firing Type Threshold Switching Device Yong Tae Kim¹, Yewon Seo², Pyeongkang Hur², Junwoo Son², and Jaeyeong Heo¹ ¹Chonnam National University, ²POSTECH
TP1-103	Vertical Side-Wall MoS_2 Channel Transistors : Thicknesses of 0.65nm and 6.5nm Ki Han Kim¹, Huimin Lee², Joonki Suh², and Byung Chul Jang¹ ¹School of Electronic and Electrical Engineering, Kyungpook National University, ²Department of Materials Science and Engineering, UNIST



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TP1-104	Multiply and Accumulate Operation with 1 Selector 1 RRAM Device 1K Crossbar Arrays June Hyuk Lee, Su Yeon Lee, Hyun Kyu Seo, Se Yeon Jeong, Min Kyung Lee, and Min Kyu Yang Intelligent Electronic Device Lab, Sahmyook University
TP1-105	HfO_x-Based Synaptic Memristor for Neuromorphic Computing Se Yeon Jeong, Hyun Kyu Seo, Su Yeon Lee, June hyuk Lee, Min Kyung Lee, and Min Kyu Yang Intelligent Electronic Device Lab, Sahmyook University
TP1-106	High Mobility Oxide Thin Film Transistor with Amorphous In-Ga-Sn-O Fabricated by RF-magnetron Sputtering Hyunil Jo¹, Juhan Kim¹, Sumi Kim¹, Eunji Kim¹, Yugyu Jang¹, Myeongcheol Jo¹, Boram Shin¹, Yiryeong Choi¹, Joon-Hyung Lee¹, Byeong-Seong Jeong², and Young-Woo Heo¹ ¹School of Materials Science and Engineering, Kyungpook National University, ²Department of Hydrogen and Renewable Energy, Kyungpook National University
TP1-107	Methane Gas Detection Sensors based on Carbon Nano Tube Da Gyo Yoo, Kyung Eun Kim, Ryang Ha Kim, and Young Lae Kim Department of Electronic Engineering, Gangneung-Wonju National University
TP1-108	Nitric Oxide Gas Detection and Analysis by Single-walled Carbon Nanotubes-Based Sensor Kyung Eun Kim, Ryang Ha Kim, and Young Lae Kim Gangneung-Wonju National University
TP1-109	Mechanism of Hydrogen-Induced Negative Threshold Voltage Shift in InSnZnO TFT under Positive Bias Temperature Stress Seong-In Cho and Sang-Hee Ko Park KAIST
TP1-110	Non-volatile Behavior in ZrO₂-Based Ferroelectric-like Memory Devices Using Asymmetric Metal Work-function Engineering SeungHyeon Yun¹, Chulwon Chung², Boncheol Ku¹, Junhyeok Park¹, Kyungsoo Park¹, Yu Jeong Choi¹, and Changhwan Choi¹ ¹Division of Materials Science and Engineering, Hanyang University, ²Department of Energy Engineering, Hanyang University



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TP1-111	Improved DRAM Electrode/Dielectric Interface Properties Using Nb ₂ O ₅ and Ta ₂ O ₅ Ultrathin Layer Yong ju Kwon, Woo hyuk Kim, and Woo-Hee Kim Department of Materials Science and Chemical Engineering, BK ²¹ FOUR ERICA-ACE Center, Hanyang University
TP1-112	Develop Behavior of Low Temperature Chemical Vapor Deposited Sn-Based Inorganic Dry Resist for Next-generation EUV Lithography Hye Kyung Kim and Woo-Hee Kim Department of Materials Science and Chemical Engineering, Hanyang University
TP1-113	Multilevel Switching Behavior in Physically Transient Memristor for Biodegradable Electronics Mohammad Tauquir Alam Shamim Shaikh ^{1,2} and You Seung Rim ^{1,2} ¹ Department of Semiconductor Systems Engineering, Sejong University, ² Department of Intelligent Mechatronics Engineering and Convergence Engineering for Intelligent Drone, Sejong University
TP1-114	Morphology Engineering in Mo-Hf _{0.5} Zr _{0.5} O ₂ -Mo Metal-ferroelectric-metal Capacitor with Surface Pre-treatment Seung Yeon Kim, Dong Hee Han, and Woojin Jeon Department of Advanced Materials Engineering for Information and Electronics, Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University

F. Silicon and Group-IV Devices and Integration Technology 분과

ZONE 1 (1층 전시장)

TP1-115	수직 적층 실리콘 나노와이어 FBFET의 메모리 특성 연구 류승호 ¹ , 조경아 ² , 김상식 ^{1,2} ¹ 고려대학교 반도체시스템공학과, ² 고려대학교 전기전자공학과
TP1-116	피드백 전계효과 트랜지스터 기반 링 오실레이터 동작 특성 연구 손재민, 조경아, 김상식 고려대학교 전기전자공학과
TP1-117	나노시트 피드백 전계효과 트랜지스터의 Neural Oscillation 동작 연구 허효주 ¹ , 신연우 ¹ , 류승호 ² , 조경아 ¹ , 김상식 ^{1,2} ¹ 고려대학교 전기전자공학과, ² 고려대학교 반도체시스템공학과



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TP1-118	Radiofrequency Switches based on Vanadium Oxide Dahyeon Kim¹, Jiyeon Ryu², Changwoo Pyo¹, Seung Chan Lee¹, Tae-Sik Yoon^{2,3}, and Myungsoo Kim^{1,2} ¹Department of Electrical and Computer Engineering, UNIST, ²Graduate School of Semiconductor Materials and Devices Engineering, UNIST, ³Department of Materials Science and Engineering, UNIST
TP1-119	Characterization Si Micro-single Crystals with Chiral Properties Jeongbin Heo¹, Kyoung Hwa Kim¹, Suhyun Mun¹, Seonwoo Park¹, Hyung Soo Ahn¹, Jae Hak Lee^{1,2}, Min Yang¹, Young Tea Chun¹, Sam Nyung Yi¹, Yeon-Suk Jang³, Won Jae Lee³, Myeong-Cheol Shin⁴, and Sang-Mo Koo⁴ ¹Department of Nano-Semiconductor Engineering, Korea Maritime and Ocean University, ²LNBS Co., Ltd., ³Department of Advanced Materials Engineering, Dong-Eui University, ⁴Department of Electronic Materials Engineering, Kwangwoon University
TP1-120	HV CMOS 공정에서 인접 소자 영향으로 인한 Parasitic Leakage 개선 강형근, 이도현, 고대현, 황수진, 이문영, 남명희, 박정수 Department of Technology Development, SK hynix system ic
TP1-121	Impact of Work-function Variation in Ferroelectric Field-Effect Transistor Su Yeon Jung and Jang Hyun Kim Department of Intelligence Semiconductor Engineering, Ajou University
TP1-122	Effects of Pre-heating Zone on Dopant Activation by Continuous-wave Laser at High Scan Speed Dong Hyeok Choi¹, Seung Hwan Kim¹, Nak Sun Sung¹, Sung Wook Jang², and Sang Hee Yang³ ¹Laser Advanced Technology Team, AP Systems Co., Ltd., ²Laser Equipment Department, AP Systems Co., Ltd., ³Display Equipment Division, AP Systems Co., Ltd.
TP1-123	메쉬 타입 플로팅게이트를 이용한 시냅스 트랜지스터 제작 정소연¹, 양정목¹, 김재민¹, 채수현¹, 구태환¹, 장문규^{1,2} ¹School of Nano Convergence Technology, Hallym University, ²Center of Nano Convergence Technology, Hallym University
TP1-124	금 나노 입자 양자점을 이용한 플래시 메모리 기반 시냅스 단일 소자 전기적 특성 연구 Jae Min Kim¹, Jeong Mok Yang¹, So Yeon Jung¹, Su Hyeon Chae¹, Tae Hwan Koo¹, and Moon Gyu Jang^{1,2} ¹School of Nano Convergence Technology, Hallym University, ²Center of Nano Convergence Technology, Hallym University



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TP1-125	Large-LRS Vertical ReRAM with Network Semiconductor CNT-Edge Electrodes for Large-scale Array Size Sungmin Eum¹, Haksoon Jung², Hyunho Gu¹, and Jimin Kwon¹ ¹Department of Electrical Engineering, UNIST, ²Department of Chemical Engineering, POSTECH
TP1-126	Achieving Both Enhancement-mode Operation and Large On-current in Bottom-gate Indium Tin Oxide Transistors Hyeonho Gu¹, Haksoon Jung², and Jimin Kwon¹ ¹Department of Electrical-Engineering, UNIST, ²Department of Chemical Engineering, POSTECH
TP1-127	The Impact of Interconnect Resistance on DC measurement of Test Vehicle at Sub-3nm Technology Node Jung Su Kim and Changhwan Shin School of Electrical Engineering, Korea University
TP1-128	Quantitative Analysis on Read/Write Performance in GAAFET-Based 6T-SRAM Bit Cell Changwoo Han¹, Yejoo Choi², and Changhwan Shin¹ ¹School of Electrical Engineering, College of Engineering, Korea University, ²Department of Electrical and Computer Engineering, Sungkyunkwan University
TP1-129	밀리미터파 III-V/Si 단일 3차원 (M3D) 집적을 위한 고성능 Si 수동소자 집적 기술 개발 성민경¹, 박민식², 정재용³, 임정택⁴, 송재혁⁴, 송종현^{1,4}, 이원철^{1,4}, 심갑섭^{1,4}, 서동주¹, 임유리¹, 고형호⁴, 김철영⁴, 설우석¹, 김상현³, 이종원¹ ¹나노종합기술원, ²한밭대학교, ³한국과학기술원, ⁴충남대학교
TP1-130	Investigation of Oxygen-Scavenging Effect on Hf_{0.5}Zr_{0.5}O₂ Metal-Ferroelectric-Insulator-Semiconductor (MFIS) Stack with CMOS Compatible Gate Structure Jinhwan Jung, Seonggeun Kim, and Sangwan Kim Department of Electronic Engineering, Sogang University
TP1-131	Charge Storage Memory Utilizing Ge Quantum Dots Gyu Bin Lee, Gyeong Min Seo, and Byoung Don Kong Department of Electrical Engineering POSTECH



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TP1-132	Impact of RTA on the Way of Forming Filaments in Oxide RRAM Bit Cell Gwon Kim¹ and Changhwan Shin² ¹Department of Electrical and Computer Engineering, Sungkyunkwan University, ²School of Electrical Engineering, Korea University
TP1-133	Optimization of T-CMOS Based Ternary Content-Addressable Memory Cell for High-density Application Jun Young Park¹, Young-Eun Choi¹, Woo-Seok Kim¹, Myoung Kim¹, Yesong Jeong¹, Sang Hun Yeo¹, Kwan Yong Lee¹, In Jun Jang¹, Min Woo Ryu^{1,2}, Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.
TP1-134	Study of Spacer Material Effects on 3D NAND Flash Memory Characteristics in Retention State Yun-Jae Oh¹, Yunejae Suh², Inyoung Lee¹, Daewoong Kang³, and Il Hwan Cho¹ ¹Department of Electronic Engineering, Myongji University, ²Department of Electronic Engineering, Soongsil University, ³Department of Next Generation Semiconductor Convergence and Open Sharing System, Seoul National University
TP1-135	Analysis of Interface Trap Density in Metal-Ferroelectric-Insulator - Semiconductor (MFIS) Capacitor with High-k Dielectrics Chankoo Kim¹, Dong Keun Lee¹, Seonggeun Kim¹, Tae-Hyeon Kim², Sihyun Kim¹, and Sangwan Kim¹ ¹Department of electronic engineering, Sogang university, ² School of Electrical and Computer Engineering, Georgia Institute of Technology
TP1-136	모오스 구동 싸이리스터 기반 전기자동차용 전자식 프리차지 스위치 모듈 정동윤¹, 박건식¹, 김상민², 원종일¹, 장현규¹, 이용하³ ¹한국전자통신연구원 반도체소부장기술센터, ²갑승파워시스템, ³(주)와이테크
TP1-137	Analysis on the Impact of Charge Traps in FeTFET Yun Seo Choi¹, Seungwon Go¹, Tae-Hyeon Kim², Sihyun Kim¹, and Sangwan Kim¹ Department of Electronic Engineering, Sogang University, ² School of Electrical and Computer Engineering, Georgia Institute of Technology
TP1-138	A Simulation Study of Heterojunction FeFET with SiGe Body for Efficient Erase Operation Taegun Kim, Dong Keun Lee, Sihyun Kim, and Sangwan Kim Department of Electronic Engineering, Sogang University



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TP1-139	Multi-bit Vertical Ferroelectric-Metal Field-Effect Transistor (V-FeMFET) Weight Cell for Neuromorphic Computing Heebum Kang¹, Seungmin Kang¹, Tae-Hyeon Kim², Sangwan Kim¹, and Sihyun Kim¹ ¹Department of Electronic Engineering, Sogang University, ²School of Electrical and Computer Engineering, Georgia Institute of Technology
TP1-140	The Impact of Annealing Conditions on the Switching Performance and Grain Size of Metal-Ferroelectric (Hf_{0.5}Zr_{0.5}O₂)-Metal Capacitor Jiyeong Yoon and Changhwan Shin School of Electrical Engineering, Korea University
TP1-141	Impact of Vertical Core Oxide on the Electrical Characteristics of Junctionless Nanosheet FET Hyeonjung Park¹ and Changhwan Shin² ¹Department of Electrical and Computer Engineering, Sungkyunkwan University, ²School of Electrical Engineering, Korea University
TP1-142	Simulation Studies of Gate-injection Ferroelectric Flash (GI FeFlash) Yelim Jeon¹, Hyungju Noh¹, Tae-Hyeon Kim², Sihyun Kim¹, and Sangwan Kim¹ ¹Department of Electrical Engineering, Sogang University, ²School of Electrical and Computer Engineering, Georgia Institute of Technology
TP1-143	An Artificial Multimodal Neuron with Associative Learning Capabilities: Acquisition, Extinction, and Spontaneous Recovery Sangheon Kim^{1,2}, Unhyeon Kang^{1,3}, Young Woong Lee¹, Seungmin Oh^{1,3}, Jaewook Kim^{1,3}, Daseung Jeong¹, Jingyeong Hwang¹, and Suyoun Lee^{1,5} ¹Center for Neuromorphic Engineering, KIST, ²Department of Materials Science and Engineering, Korea University, ³Materials Science & Engineering, Seoul National University, ⁴Department of Materials Science & Engineering, Seoul National University of Science and Technology, ⁵Division of Nano & Information Technology, Korea University of Science and Technology
TP1-144	T-CMOS SPICE Compact Modeling for Low Power Ternary-SRAM Design Young-Eun Choi¹, Woo-Seok Kim¹, Myoung Kim^{1,2}, Sang Hun Yeo¹, Kwan Yong Lee¹, Jun Young Park¹, Yesong Jeong¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.
TP1-145	Simulation Study on Accumulation Mode GAAFET with Low Threshold Voltage Eungyo Jang and Changhwan Shin School of Electrical Engineering, Korea University



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TP1-146	Machine-learning Model to Predict the LER (line-edge-roughness)-induced Random Variation in GAAFET Myongjin Kim and Changhwan Shin Department of Electrical Engineering, Korea University
TP1-147	Analysis of Photoresponse with Asymmetry Ratio for High-performance based on Trantenna Min Jae Kim¹, Sang Hyo Ahn¹, Yoo Bin Song¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp
TP1-148	Non-uniform Interface Trap Density by Halo Ion-implantation Process for Flicker Noise Estimation Yoo Bin Song, Sang Hyo Ahn, Min Jae Kim, Min Woo Ryu, and Kyung Rok Kim Department of Electrical Engineering, UNIST
TP1-149	Roadmap for Ferroelectric NAND Flash Memory Taebaek Lee and Changhwan Shin Department of Semiconductor System Engineering, Korea University
TP1-150	Comparative TCAD Analysis of Single-event Transients in Forksheet FETs and Bottom Dielectric Isolation-integrated Forksheet FETs Gunhee Choi and Jongwook Jeon Department of Electrical and Computer Engineering, Sungkyunkwan University
TP1-151	Effects of Tunnel Oxide on Reliability in Charge Trap Flash Memory Devices Jaekyun Son¹, Jae Yeon Park¹, Tae-Hyeon Kim², Sihyun Kim¹, and Sangwan Kim¹ ¹Department of Electronic Engineering, Sogang University, ²School of Electrical and Computer Engineering, Georgia Institute of Technology
TP1-152	Analysis of Memory Characteristics in Charge Trap Flash Devices Depending on Tunnel Oxide Jinhong Lee¹, Jae Yeon Park¹, Jaekyun Son¹, Tae-Hyeon Kim², Sihyun Kim¹, and Sangwan Kim¹ ¹Department of Electronic Engineering, Sogang University, ²School of Electrical and Computer Engineering, Georgia Institute of Technology
TP1-153	High-Speed THz Imager for Low-Noise THz Imaging Applications Sang Hyo Ahn¹, Min Jae Kim¹, Yoo Bin Song¹, Myoung Kim¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.



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TP1-154	Characteristics of Molybdenum and Molybdenum Dioxide Thin Films for IGZO-Based Transistors Min-Su Cho, Hyun-June Park, and Sung-Woong Chung POSTECH
TP1-155	Ohmic Contact of TiN and N-type Ge Yeji Kim¹, Hwayong Choi¹, and Junseok Heo^{1,2} ¹Department of Intelligence Semiconductor Engineering, Ajou University, ²Department of Electrical and Computer Engineering, Ajou University
TP1-156	M3D Hybrid Inverter Using Si p-FETs and Indium-Based Oxide Semiconductor n-TFTs Sun Bum Kim¹, Chan Seul Lee¹, Gyu Lee Kim¹, Jae Seok Hur², Ho Young Lee³, Jae Kyeong Jeong², and Changhwan Choi¹ ¹Division of Materials Science and Engineering, Hanyang University, ²Department of Electronic Engineering, Hanyang University, ³Department of Nanoscale Semiconductor Engineering, Hanyang University
TP1-157	A Novel Hybrid Ferroelectric Charge Trap Layer Gate-Injection Flash Hyungju Noh, Yelim Jeon, Sihyun Kim, and Sangwan Kim Department of Electrical Engineering, Sogang University
TP1-158	A 28-nm Ternary Dual-Port SRAM Cell for Area and Power Efficient On-chip Memory Myoung Kim^{1,2}, Young Eun Choi¹, Woo-Seok Kim¹, Yesong Jeong¹, Jun Young Park¹, Sang Hun Yeo¹, Kwan Yong Lee¹, In Jun Jang¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.
TP1-159	Binary-to-Ternary and Ternary-to-Binary Data Converters for Ternary Memory Interface Yesong Jeong¹, Myoung Kim^{1,2}, Young-Eun Choi¹, Woo-Seok Kim¹, Jun Young Park¹, Sang Hun Yeo¹, Kwan Yong Lee¹, In Jun Jang¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.



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TP1-160	Heterogeneous Inverter Using N-type IGTO TFT Prepared by Atomic-layer Deposition with Various Channel Compositions on the P-type Si FET Chan Seul Lee, Sun Bum Kim, Gyu Ri Kim, and Changhwan Choi Division of Materials Science and Engineering, Hanyang University
TP1-161	Investigation of Self-heating Effects in SOI L-shaped MOSFET with Various Position of the Al₂O₃ Heat Sink Using 3-D TCAD Simulation Un-hyun Im¹, Dogyun Ahn¹, Tae-young Yun¹, Jang Hyun Kim¹, and Sangwan Kim² ¹Ajou University, ²Sogang University
TP1-162	Implementing Excitatory and Inhibitory Properties in a Neuron Circuit Using Feedback Field Effect Transistor Minseon Park, Junhyeong Lee, and Min-Woo Kwon Department of Electronic Engineering, Gangneung-Wonju National University
TP1-163	TCAD-Based Analysis and Modeling of Process Variations in 28-nm Ternary-CMOS Technology Kwan Yong Lee¹, Woo-Seok Kim¹, Young-Eun Choi¹, Myoung Kim^{1,2}, Sang Hun Yeo¹, Ye song Jeong¹, Jun Young Park¹, In Jun Jang¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.
TP1-164	A Novel Variation Tolerant Silicon-Based Source/Channel Junctionless Ternary Tunnel FET for Energy Efficient Logic and Memory Applications Sang Hun Yeo¹, Woo-Seok Kim¹, Young-Eun Choi¹, Myoung Kim^{1,2}, Kwan Yong Lee¹, In Jun Jang¹, Jun Young Park¹, Yesong Jeong¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.
TP1-165	Foundry Platform Demonstration of Ternary Logic Circuits by Exploiting Halo Implantation for Ternary-Binary Hybrid System Integration Woo-Seok Kim¹, Young-Eun Choi¹, Myoung Kim^{1,2}, Sang Hun Yeo¹, Kwan Yong Lee¹, In Jun Jang¹, Jun Young Park¹, Yesong Jeong¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.
TP1-166	Highly Scalable Nanosheet Based Ternary-CMOS Technology In jun Jang¹, Woo-Seok Kim¹, Young-Eun Choi¹, Myoung Kim¹, Sang Hun Yeo¹, Kwan Yong Lee¹, Jun Young Park, Yesong Jeong¹, Min Woo Ryu^{1,2}, and Kyung Rok Kim^{1,2} ¹Department of Electrical Engineering, UNIST, ²Ternell Corp.



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TP1-167	Nanohole Patterning by Inner-Sidewall Spacer through Time-Controlled Dry Etching Soomin Kim¹, Gyuhoon Lee², Yeji Lee³, Sungjun Kim², and Seongjae Cho¹ ¹Department of Electronic and Electrical Engineering, Ewha Womans University, ²Department of Electronics and Electrical Engineering, Dongguk University, ³Department of Electrical and Electronic, and Control Engineering, Hankyung National University
TP1-168	A Single-Body Integrated Ultra-Low-Power Logic-Memory Cell Gyuhoon Lee¹, Soomin Kim², Yeji Lee³, Myounggon Kang⁴, Sungjun Kim¹, and Seongjae Cho² ¹Department of Electronics and Electrical Engineering, Dongguk University, ²Department of Electronic and Electrical Engineering, Ewha Womans University, ³Department of Electrical and Electronic, and Control Engineering, Hankyung National University, ⁴Department of Electronics Engineering, Korea National University of Transportation

I. MEMS & Sensor Systems 분과

ZONE 1 (1층 전시장)

TP1-169	A Microfabrication Technology Platform of MEMS Actuating Structure and its Pull-in Voltage Characteristics Ju Chan Choi, Kwan Soo Kim, Seung Han Ryu, Ji Do Kim, Kwang Woong Jeong, Tae Won Lee, Jung Hun Choi, Myung Hee Nam, and Jeong Soo Park SK hynix system ic
TP1-170	MEMS Microphone의 Wafer Level Pull-in Voltage 측정 안정화를 위한 Probe Station의 Wafer Edge Vacuum 방식 Chuck 적용 효과 Keun Hye Choi, Ju Chan Choi, Jung Hun Choi, Myung Hee Nam, and Jeong Soo Park SK hynix system ic
TP1-171	Wafer Level Test에서 Probe Tip의 Contact 압력 및 위치에 따른 MEMS Microphone의 Pull In Voltage 특성 변화 Se Been Jung, Ju Chan Choi, Jung Hun Choi, Myung Hee Nam, and Jeong Soo Park SK hynix system ic
TP1-172	Ultra-Sensitive Charge Based Antibiotics Detection Inside a Micro-Dielectrophoretic Device Young Woo Gwak, Gyeong Jun Min, Jin Seon Park, and Sang Woo Lee Department of Biomedical Engineering, Yonsei University
TP1-173	HMDSO Poisoning Prevention with CeO₂-rGO/Pd/ZnO MOS Film Rajesh Gudala, Seung Jun Jeon, Gab Joong Jeong, and Yun Sik Lee SensorWithU Co., Ltd.



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TP1-174	Nanoporous MoS₂ FET-based Bioelectric Sensor Capable of Highly Selective and Sensitive Detection of Ethanol by Mimicking Drosophila Olfactory System Junoh Shim, Anamika Sen, Heekyeong Park, Arindam Bala, Mincheol Park, and Sunkook Kim Department of Advanced Materials Science and Engineering, Sungkyunkwan University
TP1-175	Effective Detection of BSA with High-performance DG-ISFET and Surface Treated Sensing Membranes Dong-Gyun Mah, Yeong-Ung Kim, and Won-Ju Cho Department of Electronic Materials Engineering, Kwangwoon University
TP1-176	pH-dependent Tunable Sensitivity in Electric-Double-Layer Transistors with Extended-Gate for Neuromorphic Biosensors Dong Hee Lee, Hwi-Su Kim, and Won-Ju Cho Department of Electronic Materials Engineering, Kwangwoon University
TP1-177	Nano-physical Unclonable Function Created by Nanopatterns from Block Copolymer Self-assembly Hyeon Ju Ko, Jang Hwan Kim, and Sang Ouk Kim Department of Material Science & Engineering, KAIST
TP1-178	High-current, Large-area Organic Photovoltaics for Indoor Applications Jooyeong Kim¹, Hyojeong Choi², Selim Han², Biswas Swarup², and Hyeok Kim² ¹Dept. of Intelligent Semiconductor Engineering, University of Seoul, ²School of Electrical and Computer Engineering, University of Seoul
TP1-179	Magnetic Hydrogel를 활용한 초소형 생분해성 로봇 구동 이어진, 정구윤, 유정민, 박윤석 경희대학교 정보전자신소재공학과
TP1-180	Bioinspired Artificial Photonic Synapses based on β-Ga₂O₃ for Neuromorphic Computing Youngbin Yoon, Youngki Kim, Wan Sik Hwang, and Myunghun Shin Korea Aerospace University



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TP1-181	환경 반응형 마이크로 액추에이터 허연희, 유정민, 박윤석 경희대학교 정보전자신소재공학과
TP1-182	인체 움직임 감지를 위한 압저항 PDMS 스펀지 김수현, 허연희, 박윤석 경희대학교 정보전자신소재공학과
TP1-183	마이크로 칩의 선택적 전사를 위한 다공성 스탬프 강가은, 박윤석 경희대학교 정보전자신소재공학과
TP1-184	Versatile Motion Feedback Systems via Epidermal Device Networks Sang Uk Park and Sang Min Won Electrical and Computer Engineering, Sungkyunkwan University
TP1-185	Magnetically Actuated TENG for Wireless Energy Transfer Junyeop Kim ¹ , Hongjoon Yoon ² , and Yoonseok Park ¹ ¹ Department of Advanced Martials Engineering for Infomation & Electronics, Kyunghee University, ² Department of Electronic Engineering, Gachon University
TP1-186	자기 구동식 생체 영감 심장판막 시스템 유정민, 정구윤, 박윤석 경희대학교 정보전자신소재공학과
TP1-187	가변적 강성 구조의 3 차원 자성 기계적 메타물질 정구윤, 김준엽, 최태훈, 박윤석 경희대학교 정보전자신소재공학과
TP1-188	Piezoresistive 2-dimensional In ₂ Se ₃ nanosheets for flexible pressure sensor Shenawar Ali Khan and Woo Young Kim Department of Electronic Engineering, Jeju National University



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TP1-189	Effect of Forming Gas Annealing on Reliability of Embedded Poly-silicon Micro-heater Jinwoo Park, Gyuweon Jung, Wonjun Shin, Chayoung Lee, Donghee Kim, Kangwook Choi, Hunhee Shin, Min-Kyu Park, Joon Hwang, Jae-Joon Kim, and Jong-Ho Lee Department of Electrical and Computer Engineering and ISRC Seoul National University
TP1-190	Dry EEG Electrodes Integrated with Earphones Byeong Woon Lee and Sang Min Won Department of Electrical and Computer Engineering, SKKU
TP1-191	Wireless, Epidermal Platform for Diagnosing Pulmonary Disease Hee Kyu Lee and Sang Min Won Department of Electrical and Computer Engineering, Sungkyunkwan University
TP1-192	인체부착형 마찰전기 기반 움직임 감지 센서 한윤승¹, 윤홍준², 박윤석¹ ¹경희대학교 정보전자신소재공학과, ²가천대학교 전자공학부
TP1-193	Enhancement of Gas Sensing Performance in CuO Resistor-type Gas Sensors via Pre-Bias Voltage Kangwook Choi, Gyuweon Jung, Wonjun Shin, Jinwoo Park, Chayoung Lee, Donghee Kim, Hunhee Shin, Woo Young Choi, and Jong-Ho Lee Department of Electrical and Computer Engineering and Inter-university Semiconductor Research Center, Seoul National University
TP1-194	Thermally Managed Composites Assisted Wireless Body Temperature Sensor Doyoung Kim and Sang Min Won Department of Electrical and Computer Engineering, Sungkyunkwan University
TP1-195	Self-driven Resistive Pulse Sensing System for Point-of-care Diagnostic Hyunjun Kim, June Soo Kim, Jae Yong Lee, Seung Deok Kim, Noah Jang, Jiajie Wang, Da Ye Kim, Yujin Nam, Jinkyung Kim, Maeum Han, and Seong Ho Kong Kyungpook National University



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TP1-196	Wearable Capacitive Type Hydration Sensor Packaged in Porous PDMS for Breathability Hyejun Kim, Seongu Kim, and Jeonghyun Kim Department of Electronics Convergence Engineering, Kwangwoon University
TP1-197	Development of Flexible and Transparent Bilayer Electrodes for Aptamer Biosensors Using Graphene and PEDOT:PSS Sookyeong Kim and Dong-Wook Park School of Electrical and Computer Engineering, University of Seoul
TP1-198	IZO/ZnO Nanowire Heterostructure for Enhanced Biomolecule Sensing Performance of Heterostructure-Based TFT June Soo Kim, Jae Yong Lee, Seung Deok Kim, Da Ye Kim, Hyunjun Kim, Noah Jang, Jiajie Wang, Yujin Nam, Jinkyung Kim, Maeum Han, and Seong Ho Kong School of Electronics and Electrical Engineering, Kyungpook National University
TP1-199	Nanostructured Zinc Oxide Thin Film : An Innovative pH Sensing Solution Noah Jang, June Soo Kim, Maeum Han, Seung Deok Kim, Jae Yong Lee, Jiajie Wang, Hyunjun Kim, Da Ye Kim, Yujin Nam, Jinkyung Kim, and Seong Ho Kong School of Electronic and Electrical Engineering Kyungpook National University
TP1-202	SPAD-Based LiDAR Sensor with Adaptive Power Saving Scheme Dahwan Park¹, Eun-chang Lee¹, Min-Kyu Kim¹, Sang-Young Lee¹, Yong-Seop Lee¹, Min-Seok Shin¹, and Hoesam Jeong¹ SK hynix
TP1-203	A Smart Ring for Real-Time Blood Pressure Monitoring Junyeong Lee, Minjoo Lee, and Jeonghyun Kim Department of Electronic Convergence Engineering, Kwangwoon University
TP1-204	Non-Invasive Real-Time Blood Glucose Monitoring for Reducing Variations in Diabetes Care Seongu Kim and Jeonghyun Kim Department of Electronic Convergence Engineering, Kwangwoon University
TP1-205	Integration of Semiconductor Components Using 3D Stacking Technology and Sensory-Neuromorphic Application Se Gi Lee and Sang Min Won Sungkyunkwan University



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TP1-206	Application of Innovative Wiring Method of In-vivo Experiments Janghoon Joo and Sang Min Won Sungkyunkwan University
TP1-207	Flexible Artificial Tactile System Using Morphotropic Phase Boundary of $\text{Hf}_x\text{Zr}_{1-x}\text{O}_2$ Thin Film by Low-Temperature Annealing Seungyeob Kim, Minhyun Jung, Jinwook Ha, and Sanghun Jeon School of Electrical Engineering, KAIST
TP1-208	단일 벽 탄소 나노튜브를 이용한 황화수소 가스 센서의 제작과 검출 Ryang Ha Kim, Kyung Eun Kim, Beom Jun Jung, and Young Lae Kim Electronic Engineering, Gangneung-Wonju National University
TP1-209	Wireless, Battery Free Temperature Sensor based on Morphotropic Phase Boundary of $\text{Hf}_x\text{Zr}_{1-x}\text{O}_2$ Thin Film Ketong Yang, Seungyeob Kim, Minhyun Jung, and Sanghun Jeon KAIST
TP1-210	In-Situ Electron Density Measurement in Inductively Coupled Plasma Using Microwave Reflectometer by Wi-Fi Antenna on Wafer Seong-Yong Lim, Gi-Won Shin, Woo-Jae Kim, Hee-Tae Kwon, Ji-Hwan Kim, In-Young Bang, Jae-Hyeon Kim, Hyeon-Jo Kim, Seong-Hee Cho, Seo-Yeon Kim, and Gi-Chung Kwon Department of Electrical and Biological Physics, Kwangwoon University
TP1-211	P-Type Copper Oxide-Based Solar-blind Ultraviolet (UV) Photodetector Capable of Low-Photocurrent Operation with Plasma-Enhanced Atomic Layer Deposition (PEALD) Minah Park ¹ , Jaewook Yoo ¹ , Hyeonjun Song ¹ , Soyeon Kim ¹ , Hongseung Lee ¹ , Seongbin Lim ¹ , Seohyeon Park ¹ , Peide D. Ye ² , and Hagyoul Bae ¹ ¹ Jeonbuk National University, ² Purdue University

O. System LSI Design 분과

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TP1-212	Two-step Classification Neuron Circuits for Highly Integrated SNN Systems Dahyeon Youn and Soo Youn Kim Department of Semiconductor Science, Dongguk University
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TP1-213	An Automatic Salt-water-spray Roadway-deicing System with Surface Detection Ki-Duk Kim ¹ and Hyung-Min Lee ² ¹ C&Tech Co., Ltd., ² Korea University
TP1-214	Aggregator Hardware Design for Preventing Backdoor Attacks in Federated Learning YeJi Lee, JoonSeok Kim, KyuMin Cho, and SeokHyung Kang Department of Electrical Engineering, POSTECH
TP1-215	50G-PON 용 LDPC 부호기 FPGA 구현 최정원 ¹ , 김광욱 ² , 두경환 ² , 정환석 ² , 이영주 ¹ ¹ 포항공과대학교 전자전기공학과, ² 한국전자통신연구원 입체통신연구소 네트워크연구본부 광네트워크연구실
TP1-216	HDL Code Coverage Verification Method 엄유진, 양희훈, 김도훈, 유호영 충남대학교 전자공학과
TP1-217	GPS CRC-24Q 디코더 구현 황용택, 황지우, 유호영 충남대학교 전자공학과
TP1-218	노외중성자속 감시계통 검증을 위한 FPGA 신호생성기 개발 신건, 양희훈, 박요한, 노윤진, 유호영 충남대학교 전자공학과
TP1-219	링 오실레이터 인버터 수에 따른 PUF 성능 분석 박지호, 양희훈, 유호영 충남대학교 전자공학과
TP1-220	Verification Methodology for Rate Control Unit in VDC-M Decoder Jiyoung Lee, Huijin Roh, Sohyeon Kim, Saeyeon Kim, Hannah Yang, and Ji-Hoon Kim Department of Electronic and Electrical Engineering, Ewha Womans University



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TP1-221	Multi-Stage Rate Control Architecture for VDC-M Decoder Huijin Roh, Jiyoung Lee, Sohyeon Kim, Saeyeon Kim, Hannah Yang, and Ji-Hoon Kim Department of Electronic and Electrical Engineering, Ewha Womans University
TP1-222	Design of Custom DRAM Memory Controller for ALPG Testing Seoyeon Park, Saeyeon Kim, Eunkyung Ham, Sunyoung Park, and Ji-Hoon Kim Department of Electronic and Electrical Engineering, Ewha Womans University
Q. Metrology, Inspection, Analysis, and Yield Enhancement 분과 ZONE 3 (2층 로비)	
TP1-223	비 균일 격자 마크를 이용한 라지 오버레이 문제 개선 방법 Hyun Chul Lee ^{1,3} , Hyun Jin Chang ¹ , Ho Sung Woo ² , and Won Gyu Lee ³ ¹ AUROS Technology, Inc., ² Korea National Open University, ³ Korea University
TP1-224	Power Spectral Density Analysis for SEM Line Pattern Roughness Ra Seong Ki ¹ , Jong Hoi Cho ¹ , Sung Hun Lim ¹ , Jun Ho Lee ¹ , Hyun Jin Lee ¹ , Ran Alkoken ² , You Jin Kim ² , Jeong Ho Yeo ² , Jung Woo Sung ³ , Kyung Ju Han ³ , and Kyu Young Kim ¹ ¹ SK hynix, ² PDC business group, Applied Materials, Israel, ³ PDC business group, Applied Materials, Korea
TP1-225	Fourier Transform Infrared Spectroscopy(FTIR) in Characterizing Borophosphosilicate Glass(BPSG) MinYoung Lee Semilab Korea Co., Ltd.
TP1-226	Development of Dual-rotating Polarizer Spectroscopic Ellipsometry Jongkyoon Park, Sukhyun Choi, Yong Jai Cho, Junho Choi, and Chegal Won Division of Advanced Instrumentation Institute, KRISS
TP1-227	CMOS Image Sensors의 암 전류를 감소시키는 Shallow Trench Isolation(STI) Sac Oxide Process Module 적용 Cheoleon Park, Jea Young Park, Ki Young Kim, Sun Choi, and Won Ho Lee R&D Division, SK hynix system ic
TP1-228	Determination of Outdoor Airborne Nano-particle Impact on Defect by Development of New Data Processing Algorithm Jongmin Lee ^{1,2} , Jungtae Park ^{1,2} , Il-Jin Kim ² , Haeun Lee ² , and Sehoon Park ² ¹ Department of Materials Science & Engineering, Yonsei University, ² Samsung Electronics Co., Ltd.



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TP1-229	CIS (CMOS Image Sensor) BSI 제품 ML (Micro Lens) Stripe Defect 개선 방법 Joo Young Jeong, Ki Young Kim, Han Yi Jin, Sun Choi, and Won Ho Lee R&D Division, SK hynix system ic
TP1-230	Real-time 3D Surface Reconstruction of Deflectometry Using Deep Learning In-Kyu Park^{1,2}, Young-Sik Ghim^{1,2}, and Hyug-Gyo Rhee^{1,2} ¹KRISS, ²Department of Precision Measurement, UST
TP1-231	In-depth DOS Profiles in Solution-processed IZO Semiconductor Depending on the In Doping Using Photocurrent Spectroscopy Dongwook Kim¹, Hyeonju Lee¹, Soo-Kyoung Cha², Chanhoo Jeong², Youngjun Yun², and Jaehoon Park² ¹School of Information Science, Hallym University, ²School of Semiconductor·Display Technology, Hallym University
TP1-232	Contact Holes in Vertical Electrode Structures Analyzed by GISAXS Gyungtae Kim¹, Tae Gun Kim¹, Young Jun Chang², and Young Yong Kim³ ¹National Nanofab Center, ²University of Seoul, ³Pohang Accelerator Laboratory
TP1-233	Physically Unclonable Functions via Disordered Heteronanostructure of 2D Semiconducting Material: Enhancing Entropy and Parameter Space Jaeseo Park¹, Jun Oh Kim¹, Won Chegal¹, and Sang-Woo Kang^{1,2} ¹Advanced Instrumentation Institute, KRISS, ²Precision Measurement, UST
TP1-234	Enhancement of Electrical Properties in MOCVD-Grown MoS₂-Based Field-Effect Transistors: A Comparative Study of Contact Strategies Junghyun Lee^{1,2}, Jaeseo Park¹, Hyeonji Kim^{1,3}, Bongjoong Kim², Sang-Woo Kang^{1,4}, and Jun Oh Kim¹ ¹KRISS, ²Hongik University, ³Kyungpook National University, ⁴UST
TP1-235	EUV 펄리클에 포집된 임계 크기의 입자가 마스크 이미지 전사특성에 미치는 영향에 대한 실험적 연구 문승찬^{1,3}, 이동기^{2,3}, 홍준호^{2,3}, 안진호^{1,2,3} ¹한양대학교 나노반도체공학과, ²한양대학교 신소재공학과, ³EUV-IUCC



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TP1-236	Parameter Optimization for Precision Improvement in Thickness Measured with Spectroscopic Ellipsometry Inhee Joh, Seojin Park, Myeongrok Oh, Hwanseong Moon, Mita Park, Kyusik Kim, and Tae Dong Kang AUROS Technology, Inc.
TP1-237	Imaging Spectroscopic Ellipsometer based on One-piece Polarizing Interferometer: Characterization of the 2D Van Der Waals Materials Suk Hyun Choi ^{1,2} , Guk Hyeon Hwang ¹ , Saeid Kheiryzadehkhaghah ¹ , Yong Jai Cho ² , Junho Choi ² , Jongkyoon Park ² , Won Chegal ² , and Dae Suk Kim ¹ ¹ Jeonbuk National University, ² KRISS
TP1-238	Optical Simulation of Measurement Sensitivity on Critical Dimension of Cu Micro-bumps for Semiconductor Packaging Process Shinyoung Ryu ¹ , Jiwon Lee ¹ , Minhyeok Lee ¹ , Kwangwoo Kim ² , Jongjeong Kim ² , and Tae Dong Kang ¹ ¹ AUROS Technology, Inc., ² Haedosa, Inc.
TP1-239	Development of High Precision Micro-ellipsometer Enhanced by Pixelated Polarizing Camera Dong-Geun Yang ^{1,2} , Young-Sik Ghim ^{1,2} , and Hyug-Gyo Rhee ^{1,2} ¹ Optical Imaging and Metrology Team, KRISS, ² Department of Measurement Engineering, UST
TP1-240	반사형 대물렌즈를 이용한 분광 타원계측기 편광상태 변화 보정 서선일 , 주기남 조선대학교
TP1-241	고분해능 3차원 패턴 조사 현미경 조민서, 박종규, 주기남 조선대학교
TP1-242	In-situ Liquid Cell TEM Study for Water Splitting Using Mesoporous Graphitic Carbon Nitride Hetero-structures V. Navakoteswara Rao, Jung Ho Yoo, and Jun-Mo Yang Nano-convergence Technology Division, National Nanofab Center, KAIST



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TP1-243	Reverse Engineering Case Study Using Atomic Layer Ion Beam Delayer Jon Won Koh, Myung Keun Lee, Seung Joon Cha, and Yun Chang Park NNFC
TP1-244	터보분자펌프 성능 평가 지표의 신뢰성 향상을 위한 계측기 보정 및 분산 데이터의 통계학적 프로세싱 방법에 관한 연구 민병현 ^{1,3} , 임성규 ² , 문지훈 ¹ , 강상우 ^{1,3} ¹ 한국표준과학연구원 첨단측정장비연구소, ² 나노종합기술연구원 나노공정기술부, ³ 과학기술연합대학원대학교 정밀측정전공
TP1-245	벽면 오염에 따른 식각 드리프트 제어 운전 알고리즘 개발 이인규, 유상원, 권지원, 박지훈, 김곤호 서울대학교 공과대학 에너지시스템공학부
TP1-246	TLB Coalescing Using Page Table Compression Tran Dai Duong and Jae Young Hur Department of Electronic Engineering, Jeju National University
TP1-247	점진적 패리티로 대용량 NAND Flash Memory의 Open Block 문제 완화 Min-Jin Oh ¹ and Jaeho Kim ^{1,2} ¹ School of Aerospace and Software Engineering, Gyeongsang National University, ² Department of AI Convergence Engineering, Gyeongsang National University
TP1-248	Deep Learning Computation Acceleration through Automatic Tuning of Execution Code Yongin Kwon ^{1,2} ¹ ETRI, ² UST
TP1-249	ZNS SSD의 자원 경쟁 분석 Gyupin Moon and Donghyun Kang Gachon University
TP1-250	Improved Mobile Application Performance through Database Redesign Jung Kyu Park ¹ , and Eun Young Park ² ¹ Changshin University, ² Shinhan University



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TP1-251	PoP-Cache: Hit ratio예측과 사전 퇴출에 의한 캐시 교체 정책의 성능 향상 Hyemi Jeong¹, Kyeongmin Kim¹, and Jaeho Kim^{1,2} ¹School of Aerospace and Software Engineering, Gyeongsang National University, ²Department of AI Convergence Engineering, Gyeongsang National University,
S. Chip Design Contest 분과	
ZONE 1 (1층 전시장)	
TP1-252	An Arbitrary-Waveform-Capable Neural Stimulator in Standard CMOS Jeongyoon Wie and Junghyup Lee Electrical Engineering and Computer Science, DGIST
TP1-253	A Pulse Counting Digital FOCV-based 41ms Fast Startup Compact Boost Converter for TEG in 28 nm CMOS Seong-Yeon Moon, R. M. I. U. Rajapaksha, and Jong-Wook Lee Department of Electronics and Information Convergence Engineering, Kyung Hee University
TP1-254	Object Tracking Lensless Light Field Image Sensor through a Parallel Bank of Pulse Computational Blocks and Post DNN Using Robot Arm-based Data Collection Sang Hoon Hong, Eon Gyeong Lee, and Han Joon Kim Kyung Hee University
TP1-255	Wide Bandwidth Continuous-time Noise Shaping SAR ADC Sein Oh, Gichan Yun, and Minkyu Je School of Electrical Engineering, KAIST
TP1-256	Wide Bandwidth and High PSR Capacitorless LDO Regulator based on Flipped-voltage Follower Jaerim Baek, Daejeong Kim, and Hyun sun Mo Kookmin University
TP1-257	Design of a Phase-locked Loop with Improved Jitter Performance Using Phase-lock Detector Young Hun Kim, Dae Jeong Kim, and Hyun Sun Mo Kookmin University



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TP1-258	A 1.4-8 Gb/s Low Power Quarter-rate Single-loop Reference-less Clock and Data Recovery Circuit with Unlimited Capture Range Jin-Ho Kim, Yujin Na, and Jin-Ku Kang Department of Electrical and Computer Engineering, Inha University
TP1-259	부채널 신호 분석을 위한 하드웨어 백도어 IC 칩 설계 Sun Bhin Kim, Jun Hui Nam, and Dong Kyue Kim Department of Electronics Engineering, Hanyang University
TP1-260	Power Management IC for Supercapacitor Applications Donghyun Kim, Jaehyeong Lee, Jinwoo Oh, Seungyeon Lee, Jeonghee Jeon, and Joongho Choi University of Seoul
TP1-261	Portable Functional Brain Imaging Chip for Frequency-Domain NIRS Method Bumjun Koh, Kyeongha Kwon, and Hyeon-Min Bae KAIST
TP1-262	A Mobile 3D-CNN Processor with Dual-Grained Sparsity-Aware Computation Utilizing Inter-Frame Variation Seungbin Kim, Hoichang Jeong, Wuyoung Jang, Keonhee Park, Bokyoung Seo, Jueun Jung, and Kyuho Lee UNIST
TP1-263	A 8GHz Delay Locked Loop with 16 Multi-phases in 65nm CMOS for BOST Skew Compensation Jinsoo Bae, Jongchan An, Gwangmyeong An, Hyunsu Jang, Taeho Kim, Myeongju Park, Yoonsang Lee, Songi Cheon, Hyanghee Park, Yunseo Song, and Junyoung Song Department of Electronics Engineering, Incheon National University
TP1-264	Buck Converter for Driving GaN Switches Ji Ho Moon, Byeong Ik Kim, and Jeong Jin Roh Hanyang University
TP1-265	Dual-band CMOS Down-conversion Mixer for 5G NR FR2 Applications Eunsoo Kim, Segyeong Kim, Gyuwon Kim, and Junghwan Han Chungnam National University



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TP1-266	A Temperature Insensitive 4GS/s 7-bit Time-domain ADC Using Replica Feedback Loop Gyuchan Cho and Jintae Kim Konkuk University
TP1-267	Binary Neural Networks Using Nanoelectromechanical Memory Switches Geun Tae Park ^{1,2} and Woo Young Choi ^{1,2} ¹ Department of Electrical and Computer Engineering, Seoul National University, ² ISRC, Seoul National University
TP1-268	Switching Voltage Analysis of Nanoelectromechanical Memory Switches Jin Wook Lee ^{1,2} and Woo Young Choi ^{1,2} ¹ Department of Electrical and Computer Engineering, Seoul National University, ² ISRC, Seoul National University
TP1-269	Energy-efficient Computing-in-memory Based System-on-chip Controlled by RISC-V Processor Jihoon Park ¹ , Hyunmyung Oh ² , Jehun Lee ¹ , Jaeyong Jang ¹ , Sanghyeok Han ¹ , and Jae-Joon Kim ¹ ¹ Seoul National University, ² POSTECH
TP1-270	Upper-mid Band 6GHz 커플러 기반 차동 신호 보상 기법이 적용된 전압제어 발진기 소형화 연구 윤태영 ^{1,2} , 오정석 ^{1,2} ¹ 서울대학교 전기정보공학부, ² 서울대학교 뉴미디어통신공동연구소
TP1-271	Seamless Noise Buck-boost Converter with Continuous Input/Output Current Seokhee Han, Jaewon Ryu, and Chulwoo Kim Department of Electrical Engineering, Korea University
TP1-272	Efficient CNN Accelerator: Enabling Inference and Training Geonhui Jang, SangBo Park, GiTae Park, Thaising Taing, Bogeun Jung, and Hyungwon Kim Chungbuk National University
TP1-273	A 4-GS/s 6-bit PVT-Variation Tolerant Time-Domain ADC with Delay Locked Loop Doona Song, Gyuchan Cho, and Jintae Kim Konkuk University



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TP1-274	Triple-stacked Distributed Amplifiers Using CMOS 28 nm Process Hosung Kang, Cheonsang Song, and Jihoon Kim Kyonggi University
TP1-275	Area Efficient DAC with Switched Capacitor Amplifier Scheme for AMOLED Source Driver IC Min-Woo Kim, Sang-Min Lee, Yu-Guan Kim, Won-Jo Lee, Yun-Su Kim, and Byung-do Yang Department of Electronics Engineering, Chungbuk National University
TP1-276	A D-band Low Noise Amplifier based on 28-nm CMOS Technology Wooyong Keum, Jaeman Lee, Giyeong Nam, Jaewon Jang, Minsuk Choi, and Jae-Sung Rieh School of Electrical Engineering, Korea University
TP1-277	180nm 공정을 사용한 최대 1.6A의 전류를 구동할 수 있는 다상 통합 전압 레귤레이터 설계 김기원, 김경민, 정현준, 김소영 성균관대학교 정보통신대학
TP1-278	A Single-TL, Simultaneous, Bi-directional, Skew-compensated and Multi-access Transceiver Link System Seong-Min Ko, Jun-Hyeok Park, and Dong-Woo Jee Ajou University
TP1-279	시스템 EMI 노이즈 분석을 위한 On-chip Embedded 오실로스코프의 설계 Kyung Hoon Lee and Jin Gook Kim UNIST
TP1-280	LR-SoC: A Lightweight RISC-V SoC Min Young Lee ¹ , Soo Min Rho ¹ , Chan Hoon Kim ¹ , Dae Eun Wi ¹ , Sang Soo Park ² , and Ki-Seok Chung ¹ ¹ Hanyang University, ² Device Solutions, Samsung Electronics Co., Ltd.
TP1-281	다중 분할 병렬 결합 변압기를 사용한 5G 고효율 전력증폭기 설계 김근태, 오규택, 유상진, 이옥구 부산대학교 전기전자공학과



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TP1-282	Highly Sensitive Plasmonic Terahertz Detector with Integrated Sub-wavelength Aperture based on Trantenna Min Jae Kim ¹ , Sang Hyo Ahn ¹ , Yoo Bin Song ¹ , Min Woo Ryu ^{1,2} , and Kyung Rok Kim ^{1,2} ¹ Department of Electrical Engineering, UNIST, ² Ternell Corp.
TP1-283	저전력 37uW 10-bit 모노토닉 축차비교형 아날로그-디지털 변환기 신솔몬 ¹ , 최예광 ¹ , 권미정 ¹ , 박유현 ¹ , 이원제 ² , 장성민 ² , 김영식 ¹ ¹ 한동대학교 전산전자공학부, ² 한동대학교 전산전자공학과
TP1-284	A 28-Gb/s ISI-Resistant Digital CDR with Extended Pattern Utilization Suil Kang and Kwanseo Park Yonsei University
TP1-285	A 57-66 GHz Up-converter in 65-nm CMOS for WiGig Applications Geon Woo Park, Jin Man Myung, Ho Kim, Seungjik Lee, and Ilku Nam Pusan National University
TP1-286	Two-stage Operational Transconductance Amplifier with Controllable Reference Voltage Jiwon Lee and Byoungcho Kim Hanyang University
TP1-287	저전력 센서 어플리케이션을 위한 Glitch-free 포스트 디바이더를 포함한 광대역 주파수 생성기 정상돈, 전정훈 Department of Semiconductor and Display Engineering, Sungkyunkwan University
TP1-288	A 230-GHz ×12 Frequency Multiplier Chain in 250-nm InP HBT Technology Giyeong Nam, Wooyong Keum, Jaeman Lee, Jaewon Jang, Minseok Choi, Myeongjae Kim, and Jae Sung Rieh School of Electrical Engineering, Korea University
TP1-289	Electromagnetic Analysis Countermeasure Circuit for AES Crypto Module Dongmin Lee and Byong-Deok Choi Dept. of Electronic Engineering, Hanyang University



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TP1-290	교차 쌍대의 증폭 구조를 활용한 소형화된 Upper-mid 대역 이득 가변 가능한 능동형 양방향 위상천이기 박의찬 ^{1,2} , 오정석 ^{1,2} ¹ 서울대학교 전기정보공학부, ² 서울대학교 뉴미디어통신공동연구소
TP1-291	실시간 저면적 BDS B1C 수신기 구현 황용택, 황지우, 이유석, 유호영 충남대학교 전자공학과
TP1-292	A Low Power and Compact 12bit 17MS/s SAR-ADC with Dual-Split Capacitor DAC Taell Hwang, Malik Summair Asghar, and HyungWon Kim Department of Electronic Engineering, Chungbuk National University
TP1-293	A Low-Power, Low-Noise 3rd-Order Delta-Sigma ADC Using an Inverter- Based Pseudo-Pseudo Differential Integrator Dong-Jick Kim and Jae Hoon Shim Kyungpook National University
TP1-294	A Bandwidth and Resolution Reconfigurable Noise-Shaping SAR ADC for PIM Applications Dongwook Kim, Donggu choi, Junghyup Lee, and Jong-hyeok Yoon DGIST
TP1-295	Charge Sharing Based Computation-In-Memory for Energy Efficient Machine Learning Algorithm Jaehyeon Woo ¹ , Dongho Kim ¹ , Seokhun Kim ¹ , Hongwon Kim ¹ , Taesung Kim ¹ , Sangheon Lee ¹ , Junseo Lee ¹ , Jihwan Park ¹ , Inseong Jeon ¹ , Ijun Jang ¹ , Jisu Kang ¹ , Jaeseung Baik ¹ , and Hanwool Jeong ^{1,2} ¹ Kwangwoon University, Republic of Korea, ² Articron Inc.
TP1-296	Efficient Pillar-Based 3D Object Detection Accelerator Minjae Lee, Dowon Kim, and Jungwook Choi Hanyang University
TP1-297	A 7-Bit 32x Time-Interleaved SAR ADC with 2-Then-1-Bit/Cycle Conversion Kyungmin Lee, Jonghyun Kim, and Hyungil Chae Konkuk University



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TP1-298	Low-voltage Charge Pump based on Internal Gate-bias Boosting for Energy Harvesting Systems So-Bin Lee and Ickjin Kwon Department of Electrical and Computer Engineering, Ajou University
TP1-299	A Low-Power IR-UWB CMOS Transmitter for Energy Harvesting Application Dong-Won Lee and Ickjin Kwon Department of Electrical and Computer Engineering, Ajou University
TP1-300	A Scalable Dual-chip Neural Interface System Joonyoung Lim, Chae-Eun Lee, Chieun Choi, and Yoon-Kyu Song Graduate School of Convergence Science and Technology, Seoul National University
TP1-301	A Low-power 8-b 500MS/s Loop-unrolled SAR ADC with Comparator Offset Calibration Seunghyun Kim and Minjae Lee School of Electrical Engineering and Computer Science, GIST
TP1-302	A 500-kSPS Split-SAR ADC for Foreground Calibration Myeong Gyu Gil ¹ and Byoung Ho Kim ¹ Hanyang University
TP1-303	A Wideband LO Generator for 5G FR1 Using a Single LC-VCO-Based SSPLL and a Ring-VCO-Based Fractional-Resolution Frequency Multiplier Yongwoo Jo ¹ , Juyeop Kim ¹ , Yuhwan Shin ¹ , and Jaehyouk Choi ² ¹ KAIST, ² Seoul National University
T. AI 분과	
ZONE 1 (1층 전시장)	
TP1-304	Dedicated Processing Engines for Depth-wise Separable Convolution Hyeon Seok Hong ^{1,2} and Hyun Kim ^{1,2} ¹ Department of Electrical and Information Engineering, Seoul National University of Science and Technology, ² Research Center for Electrical and Information Technology, Seoul National University of Science and Technology



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TP1-305	SRAM-Based Near-Memory Computing for Accelerators for Efficient and Accurate Floating Point Computations Myeong Eun Kwon, Je Hun Lee, and Jae-Joon Kim Seoul National University
TP1-306	웨이블릿 계수 분포를 활용한 Fast Domain Generalization Jin Shin ^{1,2} and Hyun Kim ^{1,2} ¹ Department of Electrical and Information Engineering, Seoul National University of Science and Technology, ² Research Center for Electrical and Information Technology, Seoul National University of Science and Technology
TP1-307	정확하고 효율적인 부동소수점 행렬-곱 연산을 위한 정수 기반 이상치 인지 시스템 스톨릭 배열 뉴럴 네트워크 가속기 Jehun Lee and Jae-Joon Kim Seoul National University
TP1-308	A CNN Accelerator based on 3D NAND Flash Memory with Input Reuse In-Seok Lee, Jae-Joon Kim, and Jong-Ho Lee Department of Electrical and Computer, Seoul National University
TP1-309	Analog 기반 Triplet-Based STDP 학습 알고리즘 On-chip Learning 구조 설계 Hyeon-Seong Im and Jung-Hoon Chun Department of Semiconductor and Display Engineering, Sungkyunkwan University
TP1-310	Neural Network Framework - SW Architecture and Implementation for a Hardware Accelerator for Deep Reinforcement Learning Dohyun Kim, Junghwan Choi, and Shiho Kim ¹ School of Integrated Technology, Yonsei University, ² BK21 Graduate Program in Intelligent Semiconductor, Yonsei University
TP1-311	플래시 메모리 기반의 SNN 인공지능칩 연구 이왕주, 이성현, 김진하, 김상훈, 박정우, 박민아, 정순규, 손민균, 서동우 한국전자통신연구원



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TP1-312	Optimizing Cu-CMP via Deep Learning to Predict Polyurethane Pad Durability Seunghwan Lee¹, Jaewon Lee¹, Pengzhan Liu¹, Sanghuck Jeon¹, and Taesung Kim^{1,2} ¹School of Mechanical Engineering, Sungkyunkwan University, ²SKKU Advanced Institute of Nano Technology, Sungkyunkwan University
TP1-313	Highly Linear Charge Trap/Detrap of Charge Trap FET Using Regulated Pulse Jeong-In Choi and Kee-Won Kwon Department of Electrical and Computer Engineering, Sungkyunkwan University
TP1-314	Training-Aware Fixed-Point Simulation for Deep Learning Model Seung Hwan Yoon and Young Ho Seo Kwangwoon University
TP1-315	Effects of Nonlinear Conductance Update of Synaptic Devices on On-Chip Learning in Hardware Neural Network Seung Whan Kim, Jae-Joon Kim, and Jong-Ho Lee Seoul National University
TP1-316	CNN Preprocessing Based Embedded AI Strawberry Classifier Jinyeol Kim, Jongwon Oh, Joungmin Park, and Seung Eun Lee Department of Electronic Engineering, Seoul National University of Science and Technology
TP1-317	keti.re.kr Neural Network Accelerator with Quantization for Edge Computing Ji Hun Joe, Min Geon Shin, Han Ul Ryu, and Sung Ho Lee KETI
U. Bio-Medical 분과	
ZONE 1 (1층 전시장)	
TP1-318	Granular Adhesive for Injection-on-skin Interface Jaepyo Jang¹, Sungjun Yoon², and Donghee Son^{1,2} ¹Department of Electrical and Computer Engineering, Sungkyunkwan University, ²Department of Artificial Intelligence System Engineering, Sungkyunkwan University



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TP1-319	Enhanced Sensitivity of Si BioFETs with Ag Nanowire for CHIKV Virus Detection Jongmin Son, Wonyoung Choi, Seonghwan Shin, Jeonghyeon Do, and Jeong-Soo Lee Department of Electrical Engineering, POSTECH
TP1-320	임피던스 바이오센싱 응용 분야를 위한 ECIS 기반의 Multi-well Array Impedance Biosensor 제작 및 연구 Seok Gyu Kim ¹ , Da Hyun Kang ¹ , Su Gwon Nam ¹ , and Moon Gyu Jang ^{1,2} ¹ School of Nano Convergence Technology, Hallym University, ² Center of Nano Convergence Technology, Hallym University
TP1-321	An Implantable UVC Sterilization Capsule Device for Biomedical Applications Keodan Kim, Sangho Park, and Gunchul Shin School of Materials Science & Engineering, University of Ulsan
TP1-322	신개념 이온감응 소자 Gated lateral BJT의 Bio Transducer분야 응용 권혁춘 순천대학교
TP1-323	Adhesive Hydrogel-integrated Soft Wearable Liquid Metal Composite Electrode by Direct Laser Patterning Jaehyon Kim ¹ , Donghee Son ^{1,2} ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University, ² Department of Artificial Intelligence System Engineering, Sungkyunkwan University
TP1-324	Injectable and Conductive Hydrogels for Neural Interfacing and Regeneration of Biological Tissues Subin Jin, Heewon Choi, Donghee Son, and Mikyung Shin Sungkyunkwan University
TP1-325	Comparison of NIH/3T3 Cell Capacitance according to Impedance Pattern Size Da Hyun Kang ¹ , Seok Gyu Kim ¹ , Su Gwon Nam ¹ , and Moon Gyu Jang ^{1,2} School of Nano Convergence Technology, Hallym University, ² Center of Nano Convergence Technology, Hallym University
TP1-326	A Highly Power-efficient LDO with Reliable Low Input Voltage Operation Woojin Jang and Junghyup Lee DGIST



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TP1-327	Self-healing Bioelectronic Artificial Vascular Graft with Antithrombotic Capability Soojung An, Heewon Choi, and Donghee Son Department of Electrical and Computer Engineering, Sungkyunkwan University
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V. Quantum Technology 분과

ZONE 1 (1층 전시장)

TP1-328	Quantum Monte Carlo Simulation for Predicting Radiation Therapy Dose Hyeon Seong Jung, Ui Min Lee, Pamul Yadav, Jun Yong Lee, and Shi Ho Kim School of Integrated Technology, Yonsei University
TP1-329	Efficient Node Search in Binary Tree Using Quantum Walk Pamul Yadav, Junyong Lee, Uimin Lee, Hyeonseong Jung, and Shiho Kim School of Integrated Technology, Yonsei University
TP1-330	Implementation of Five-qubit Quantum Information Processing in Silicon Device: A Preliminary Investigation Junghee Ryu and Hoon Ryu KISTI
TP1-331	Constructing Ytterbium Ion Trap System for Quantum Computing Using Cryostat Junhee Cho, Myunghun Kim, Sehyeon Gwon, Keumhyun Kim, Hyegoo Lee, Sangsoo Han, and Moonjoo Lee Department of Electrical Engineering, POSTECH

학부생포스터

ZONE 4 (3층 로비)

TP1-332	A PVT-Compensated 14-Bit Time-to-Digital Converter for LiDAR Applications Yongjin Kwon, Yeseung Choi, and Shinwoong Kim Department of Electrical and Electronic Engineering, Handong Global University
TP1-333	Skin-adhesive Hydrocolloid Based OLED for Enhanced Light Therapeutics Yujin Kwak ¹ , Seohyeon Kim ¹ , Youngwoo Kim ² , DongWoon Lee ² , Yeji Shin ¹ , Eou-Sik Cho ² , Sang Jik Kwon ² , Hyounghoon Youn ³ , JinHong Jeong ³ , and Yongmin Jeon ¹ ¹ Department of Biomedical Engineering, Gachon University, ² Department of Electronic Engineering, Gachon University, ³ T&L Company



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TP1-334	Thickness-dependent Electrical Properties of SnSe₂ Field-Effect Transistors Using Reactive Ion Etching HanWoong Choi¹, Jin-Hoo Seong^{1,2}, Hyo-Chang Lee³, Sang-il Kim⁴, and TaeWan Kim¹ ¹Department of Electrical Engineering and Smart Grid Research Center, Jeonbuk National University, ²Advanced Instrumentation Institute, KRISS, ³Department of Semiconductor Science, Engineering and Technology, Korea Aerospace University, ⁴Department of Materials Science and Engineering, University of Seoul
TP1-335	Adaptability of 4D Radar in Autonomous Driving: A PointNet-Based Point Cloud Data Analysis In Su Lee, Min Jun Kwon, Won Jun Choi, Ki Chan Kim, and Tae Ik Kang Department of Electronic Engineering, Myongji University
TP1-336	Double Gate MOSFET 에서의 HKMG 의 적용과 두께 조절을 통한 성능 최적화 연구 최훈¹, 김대솔¹, 김도엽¹, 전영우², 김동현², 김진우³ ¹중앙대학교 전자전기공학부, ²중앙대학교 화학신소재공학부, ³광운대학교 전자공학과
TP1-338	웨이퍼 레벨 3D 적층 메모리 제조의 수율 효율성에 관한 연구 정광휘, 권윤후, 김서영, 황찬우, 김사라은경 서울과학기술대학교 지능형반도체공학과
TP1-339	1200V급 β-Ga₂O₃ Schottky Barrier Diode의 Edge Termination에 대한 연구 이태은, 송창우, 박준영, 우솔아 부경대학교 전자공학과
TP1-340	Gate Controlled Thyristor 1T-DRAM의 Retention Time에 대한 연구 손지민, 우솔아 부경대학교 전자공학과
TP1-341	구리/옥사이드 하이브리드 본딩 전 다양한 플라즈마 영향 연구 임동현, 김민재, 권범성, 김혜교, 안종현, 김사라은경 서울과학기술대학교 지능형반도체공학과
TP1-342	2D PN (Te-MoS₂) Semiconductor-based High-performance Infrared Photodetector Shinhoi Kim¹ and Byungjin Cho^{1,2}



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	¹ Department of Advanced Material Engineering, Chungbuk National University, ² Department of Urban, Energy, and Environmental Engineering, Chungbuk National University
TP1-343	Modulation of Lattice Structure and Electrical Properties of Graphene and MoS ₂ through Surface Plasma Treatments Yoon Hwang ¹ , Taehyeon Kim ¹ , Seongho Kim ¹ , Danbi Lee ¹ , Yasir Hassan ¹ , Minji Kang ² , Hyeong-U Kim ² , and Min Sup Choi ¹ ¹ Chungnam National University, ² KIMM
TP1-344	Comparison of Electrical Characteristics of MoS Transistors with Different h-BN Stacking and Contact Methods Sungbin Lee, Wonseop Lee, Taehwan Lee, Minju Kim, and Min Sup Choi Department of Materials Science and Engineering, Chungnam National University
TP1-345	Effect of Oxidation on Doping Concentration of ZnSnN ₂ Grown by Reactive RF Magnetron Sputtering Dohyun Kim ¹ , Juchan Hwang ¹ , and Kwangwook Park ^{1,2} ¹ Division of Advanced Materials Engineering, Jeonbuk National University, ² Hydrogen and Fuel Cell Research Center, Jeonbuk National University
TP1-346	Ferroelectric-metal Field-effect Transistor의 Metal Work Function Variation 특성에 대한 연구 하병주 ¹ , 김동영 ² , 윤택한 ² , 우솔아 ² ¹ 부경대학교 물리학과, ² 부경대학교 전자공학과
TP1-347	Ferroelectric-metal Field-effect Transistor의 Memory Window 특성에 대한 연구 김동영 ¹ , 하병주 ² , 윤택한 ¹ , 우솔아 ¹ ¹ 부경대학교 전자공학과, ² 부경대학교 물리학과
TP1-348	Oxidized MoS ₂ -based Synapse with Robust and Low Power Operation Changwoo Pyo, Hyunsoo Kim, Juyeong Jung, and Myungsoo Kim UNIST
TP1-349	Interplay between Optoelectronic and Structural Changes during Thermal Annealing of 3D Multi-cation Metal Halide Perovskite Thin Films Taehyun Kong ¹ , Yongjin Kim ¹ , Heebeom Ahn ¹ , Hyeonmin Choi ¹ , Eunje Park ¹ , Youhyun Nam ¹ , Takhee Lee ² , and Keehoon Kang ¹ ¹ Department of Materials Science and Engineering, Seoul National University, ² Department of Physics and Astronomy, Seoul National University



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TP1-350	Xe-LPP 방식에서의 EUV 광원 생성 효율의 최적화 연구를 위한 다중물리(열-기계-광학 연계) 해석 오세형¹, 전호성¹, 오성현¹, Dong Gun Lee³, Haekweon Jung³, 이은호^{1,2} ¹Department of Mechanical Engineering, Sungkyunkwan University, ²Department of Smart Fab. Technology, Sungkyunkwan University, ³RnD Center, Esol Inc.
TP1-351	High Responsive InSe Based Photodetector Using RF Magnetron Sputtering Yedam Kim¹, Minyoung Choi¹, and Byungjin Cho^{1,2} ¹Department of Advanced Material Engineering, Chungbuk National University, ²Department of Urban, Energy, and Environmental Engineering, Chungbuk National University
TP1-352	Reduction of Contact Resistance in Tellurium Field-Effect Transistor Achieved by Graphene Interlayer Yeongeun Kwon¹ and Byungjin Cho^{1,2} ¹Department of Advanced Material Engineering, Chungbuk National University, ²Department of Urban, Energy, and Environmental Engineering, Chungbuk National University
TP1-353	Dielectric Properties of MIS Capacitors Utilizing the Nb₂O₅ Oxidized from 2D NbS₂ Minhee Kim¹ and Byungjin Cho^{1,2} ¹Department of Advanced Material Engineering, Chungbuk National University, ²Department of Urban, Energy, and Environmental Engineering, Chungbuk National University
TP1-354	Enhancing Schottky Diodes Performance with MSM-structured Organic Semiconductors for High-performance Electronics Bum Hwan Kim, Ji Hyeok Hwang, Jae Eun Kim, Da Un Jeong, Jin Seok Yoon, Nak Hee Kang, Sam Nyung Yi, Hyung Soo Ahn, Kyoung Hwa Kim, and Young Tea Chun Division of Electronics and Electrical Information Engineering, Korea Maritime and Ocean University
TP1-355	Solution-processed MoS Based Robust RRAM with Low Power Switching and High Uniformity for Large-scale Fabrication Seungchan Lee, Changwoo Pyo, Dahyeon Kim, Seunghyeon Seo, and Myungsoo Kim UNIST
TP1-356	열처리 분위기에 따른 CuI 기반 반도체 박막의 특성 연구 정혜린, 전희철, 홍기현 Chungnam National University



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TP1-357	InAs 나노와이어의 전기적 특성 측정과 분석 Choi Yuri, Yeon Hak Mu, and Jae Cheol Shin Dongguk University
TP1-359	금-은 나노입자 혼합 잉크 및 3차원 나노프린팅 기반 복합 플라즈모닉 구조 제작 및 특성 분석 남관문, 김현우, 허다문, 구선화, 이예원, 이종민 Hallym University
TP1-360	Optimum Design of InGaAs/InGaAsP/InP SAGCM APD with a Hybrid Absorption Layer Structure Min Ju Moon, Sung Un Baek, and Jae Chul Shin Dongguk University
TP1-361	Study on the Electrical Properties of Monolayer MoS ₂ PN Junction Min Su Kim ¹ , Won Jun Lee ² , and Jae Cheol Shin ¹ ¹ School of Electronic and Electrical Engineering, Dongguk University, ² School of Electrical Engineering, Korea University
TP1-362	AI-Based SRAM Design and Performance Analysis for Cache Memory Junhyeok Kim ¹ , Eunseo Kwon ¹ , Jiyong Kim ² , Sanggil Park ¹ , Eunjin Choi ¹ , and Taigon Song ³ ¹ School of Electronic and Electrical Engineering, Kyungpook National University, ² Department of Chemistry, Kyungpook National University, ³ School of Electronics Engineering, Kyungpook National University
TP1-363	Measurement of Wafer Edge Profiles Using Telecentric Illumination and Imaging Optics for Semiconductor Machine Vision Younghoo Kim ^{1,2} , Taehyup Kim ^{1,2} , Lee Jun ^{1,2} , Taeil Han ^{1,2} , Sang Jeon Hong ^{2,3} , and Garam Kim ^{1,2} ¹ Department of Electronics Engineering, Myongji University, ² Semiconductor Equipment Engineering Program, Myongji University, ³ Department of Semiconductor Engineering, Myongji University
TP1-364	Growth of Rutile TiO ₂ Thin Film by Plasma-Enhanced Atomic Layer Deposition and Its Impact on Capacitance Su Min Eun ¹ , Ji Hyeon Hwang ² , Ha Hyeon Yoon ¹ , and Byung Joon Choi ¹ ¹ Department of Material Science and Engineering, Seoul National University of Science and Technology, ² Department of Optometry, Seoul National University of Science and Technology



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TP1-365	3D 나노프린팅 기반 금/은 하이브리드 나노구조 제작 및 특성 분석 은강민, 강문수, 허다문, 이예원, 구선화, 이종민 Hallym University
TP1-366	Optical and Electrical Characteristics of InGaAs APD with Different Types of Structures 백성운 ¹ , 문민주 ¹ , 이윤재 ² , 김홍혁 ² , 신재철 ¹ ¹ 동국대학교 전자전기공학부, ² KOPTI
TP1-367	Proper GTECH Cells for Balanced Ternary Logic Synthesis Hanmok Park, Seounghoon Kim, Hyeonjin Kim, Inhye Hur, Hyungpyo Kim, and Taigon Song School of Electronics Engineering, Kyungpook National University
TP1-368	A Wearable and Stretchable Gold Nanomembrane Electrode with Adhesive Hydrogel for Electrocardiogram Monitoring Hyeelim Lee ¹ , and Donghee Son ² ¹ School of Electronic and Electrical Engineering, Sungkyunkwan University, ² Department of Electrical and Computer Engineering, Sungkyunkwan University
TP1-369	Achieving Low Resistivity and Superior Thermal Stability of Sub-5 nm Atomic Layer Deposited Ru Films by introducing Ultrathin Oxide Capping Layers Eun Ji Joo, Jae Hyeon Lee, and Jeong Hwan Han Department of Materials Science and Engineering, Seoul National University of Science and Technology
TP1-370	Facile Formation of Multicolored Quantum Dot Stack Films for Efficient White Light-Emitting Diodes Eun A Kim ¹ and Seong-Yong Cho ² ¹ Dept. of Materials Science and Engineering, Myongji University, ² Dept. of Photonics and Nanoelectronics, Hanyang University
TP1-371	An 8-bit Low Power Asynchronous SAR ADC for Sensor Node Application Ji-Hun Son, Min-Seok Kim, Hong-Sung Kim, and Jimin Cheon Kumoh National Institute of Technology



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TP1-372	Contact Resistance in Emerging Semiconductors: A Comparative Study on GaN, In_2O_3 , and ZnO Using Quantum and Semiclassical Methods Hyeongjun Jang, KiHoon Lee, GeonWoo Kim, Taehyun Kim, and Changwook Jeong UNIST
TP1-373	Vacancy Engineering for Improvement of GaN Power Semiconductor Min Ji Sun, Se Young Jang, and Sangwoo Ryu Dept. Advanced Material Engineering, Kyonggi University
TP1-374	A 12-bit Single Slope ADC with Dual CDS for a CMOS Image Sensor Ji-Min Ye, Du-San Baek, Yun-Ha Jeong, Jun-Soo Park, and Jimin Cheon Kumoh National Institute of Technology
TP1-375	패키지 별 솔더 보이드 비율에 따른 전력반도체의 접합온도 수치 해석 연구 Yun-Jae Lee and Sung-Uk Zhang Digital Twin Laboratory, Dong-eui University
TP1-376	Tailoring Composition of N-doped In_2O_3 Grown by Atomic Layer Deposition for Optimizing the Ferromagnetic and Semiconductor Properties Na Yeon Lee and Jeong Hwan Han Department of Material Science and Engineering, Seoul National University of Science and Technology
TP1-377	Optimization of Red, Green, and Blue Top-emitting Tandem Quantum Dot Light-emitting Diodes on Silicon for Microdisplay Applications Suyun Kim ¹ , Sohee Kim ¹ , Sumin Kim ¹ , Soobin Sim ¹ , Chun-Won Byun ² , and Hyunkoo Lee ¹ ¹ Department of Electrical Engineering, Sookmyung Women's University, ² Reality Display Research Section, ETRI
TP1-378	Enhancing Retention Time in Capacitor-less 2T DRAM Using IGZO Hee Su Kim, Chang Young Lim, Yeon Seok Kim, and Min-Woo Kwon Department of Electric Engineering, Gangneung-Wonju National University
TP1-379	Theoretical Analysis on the Surface Reactions Governing Composition of Atomic Layer Deposited Multicomponent Zinc Chalcogenides Chi Hun Kang and Bonggeun Shong Hongik University



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TP1-381	셀룰로오스 기반 고분자 전하트랩층을 이용한 생분해성 단기 저장 트랜지스터 메모리의 전기적 특성 이정인, 성백상, 이종희, 김민회 Department of Creative Convergence Engineering, Hanbat National University
TP1-382	상부 금속 도입을 통한 넓은 밴드갭 반도체 기반 전하트랩 메모리의 효율적인 전기적 지우기 동작 Hayoung Kim¹, Amos A. Boampong^{2,3}, Chang-Hyun Kim⁴, and Min-Hoi Kim¹ ¹Department of Creative Convergence Engineering, Hanbat National University, ²Research Institute of Printed Electronics & 3D Printing, Hanbat National University, ³Industry University Cooperation, Hanbat National University, ⁴School of Electronic Engineering, Gachon University
TP1-383	다양한 일함수의 전극을 활용한 전하트랩 메모리의 지우기 동작 전압 크기 감소 김우석¹, 권진혁^{2,3}, 김민회^{1,2,3} ¹Department of Creative Convergence Engineering, Hanbat National University, ²Research Institute of Printed Electronics & 3D Printing, Hanbat National University, ³Industry University Cooperation Foundation, Hanbat National University
TP1-384	저항변화메모리를 이용한 가변 커패시터 Hui-Su Yang and Min-Hoi Kim Department of Creative Convergence Engineering, Hanbat National University
TP1-385	올리고머 유기물 반도체 메모리의 전기적 지우기 동작을 위한 구조적 접근 Yu-Jeong Hwang, Ha-young Kim, and Min-Hoi Kim Department of Creative Convergence Engineering, Hanbat National University
TP1-386	P(VDF-TrFE)를 사용한 산화물 박막 트랜지스터의 바이어스 스트레스로 인한 강유전성 메모리 점멸비 향상 Bon Seong Gu, Eun Seo Park, Jin Hyuk Kwon, and Min Hoi Kim Department of Creative Convergence Engineering, Hanbat National University



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TP1-387	Copper Iodide Thin Film as a Transparent Conductors Sungsan Kang and Sangyeon Pak School of Electronic and Electrical Engineering, Hongik University
TP1-388	전해질 게이트 트랜지스터의 고분자 반도체 표면 형상과 이온 도핑 효과 강평, 전희설, 홍기현 Chungnam National University
TP1-389	Area-selective Atomic Layer Deposition of Al_2O_3 Thin Films for Metal versus Dielectric Selectivity Using Vapor-dosed Alkanethiols Jiwoo Oh, Jinseon Lee, Donghyeon Im, and Woo-Hee Kim Department of Materials Science and Chemical Engineering, Hanyang University
TP1-390	The Effect of Edge Termination on the Performance of 4H-SiC Schottky Barrier Diode: The TCAD Study Seok Hyun Byun ¹ , Hoyoung Cho ² , Sungsik Lee ¹ , and Jeongkyun Roh ² ¹ Department of Electronics Engineering, Pusan National University, ² Department of Electrical Engineering, Pusan National University
TP1-391	Electrical and Optical Characteristics of MoS_2 and InP heterostructure Dong Hwi Choi ¹ , Jae Hyeop Lee ¹ , Hong Hyuk Kim ² , and Jae Cheol Shin ¹ ¹ Dongguk University, ² KOPTI
TP1-392	Current Fluctuation in Ambipolar Tellurium Thin Film Transistors: Hole versus Electron Min Cheong, Dahyun Choi, Eunji Sim, Minji Chae, and Min-Kyu Joo Department of Applied Physics, Sookmyung Women's University
TP1-393	열처리 공정 중 분위기가스 변화를 통한 P-Type 트랜지스터 성능 향상 강평, 오윤주, 홍기현 Chungnam National University
TP1-394	입출력 요청 인터페이스 분석 Chanyong Lee and Donghyun Kang Gachon University



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TP1-396	가비지 컬렉션 및 압축 기법에 의한 아파치 카프카 생성자 성능 분석 Hyunwoo Kim and Donghyun Kang Gachon University
TP1-397	ANN-enhanced Compact Modeling for FET Design: Bridging Neural Networks with SPICE for Efficient Simulations Usubov Tural, Gi Young Hong, and Changwook Jeong UNIST
TP1-398	Timing-aware Tier Partitioning for 3D ICs with Critical Path Consideration Sojung Park and Heechun Park Kookmin University
TP1-399	Deep Learning Driven Pre-route Arc Length Prediction Considering Routing Priority Hyunmin Jo and Heechun Park Kookmin University
TP1-400	Electrical Properties of P-MoS ₂ by Using Transmission Line Model Gyeong Min Kim ¹ , Guen Hyung Oh ² , Tae Wan Kim ² , Tae Jin Jeong ³ , Sung Kim ³ , and Jae Cheol Shin ¹ ¹ Dongguk University, ² Jeonbuk National University, ³ Kyunghee University
TP1-401	2D MoS ₂ Field Effect Transistor with Asymmetric Contact Jinhyeok Pyo and Sangyeon Pak School of Electronic and Electrical Engineering, Hongik University
TP1-402	Chiplet Placement with Sequence Pair Based Tree and Branch-and-bound Method Considering Chiplet Ordering Gang-Min Jeon and Heechun Park Kookmin University



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TP1-403	Cr 기반 음성 접촉 확보를 위한 열처리 공정 최적화 박창준 ¹ , 방수빈 ¹ , 차정혁 ¹ , 김도균 ¹ , 김종원 ¹ , 최성규 ² , 손남기 ² , 김용수 ¹ ¹ 울산대학교, ² 다다코리아
TP1-404	Improvement of BEOL Compatible Indium-based-oxide TFT for DRAM Dahui Jeon, InHong Hwang, and In-Hwan Baek Department of Chemical Engineering, Inha University
TP1-405	Electrical and Optical Properties of 2D TMD Heterojunction Structures Jae Hyeop Lee ¹ , Dong Hwi Choi ¹ , Guen Hyung Oh ² , Tae Wan Kim ² , and Jae Cheol Shin ¹ ¹ Dongguk University, ² Jeonbuk National University
TP1-406	Fabrication of Atomic-layer-deposited Ru/Mo ₂ N Bilayer as Bottom Electrode for Next-generation DRAM Capacitor Seon Gu Choi ² , Wangu Kang ¹ , and Jeong Hwan Han ¹ ¹ Department of Materials Science and Engineering, Seoul National University of Science and Technology, ² Department of Materials Science and Engineering, Kangwon National University
TP1-407	3D 나노프린팅 기반 양자점 나노구조체 제작 및 특성 분석 채형진, 김진원, 허다문, 이예원, 구선화, 이종민 Hallym University
TP1-408	Solution-Phase Synthesis of 1D Cs₃Cu₂I₅ Single Crystal for Device Applications Hyunmin Lee and Youngjong Kang Hanyang University
TP1-409	Enhanced Efficiency of GaN Light-Emitting Diodes with a Si Hole Injector Min Su Kim, Kyungmi Yang, Ju Mi Go, Yoolim Han, Go Eun Ham, and Kwangeun Kim School of Electronics and Information Engineering, Korea Aerospace University
TP1-410	반도체 테스트 장비의 DPS 데이터 전송 효율 개선을 위한 FPGA 기반 SPI 모듈 설계 Jonghee Park ¹ , Hwarang Baek ¹ , Jiseok Lee ¹ , Junhyeong Ji ¹ , and Youbean Kim ² ¹ Department of Electronic Engineering, Myongji University, ² Department of Semiconductor Engineering, Myongji University



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TP1-412	Sub-1V Operation of Memristor Devices via Vacancy Controlled MoS ₂ Sohyeon Park, Seonyou Park, and Sangyeon Pak Hongik University
TP1-413	A 1.8 GHz Charge-pump PLL for DDR3 Interface of MRAM Controller Hyeon-Ho Kim, Seong-Yun Kim, Dong-Seob Shin, and Young-Chan Jang Electronic Engineering, Kumoh National Institute of Technology
TP1-414	낮은 온저항을 가지는 1.2 kV 급 SiC Double Trench MOSFET의 CSL 농도 최적화 설계 김진훈, 윤효원, 김상엽, 박수민, 백두산, 이승연, 석오균 금오공과대학교
TP1-415	Electrodeposition of Single Crystal Cu for Sub-μm Scale Vias of BEOL Jae-Wook Lee ¹ and Jae Yong Song ² ¹ Department of Electronic Materials Engineering, Kwangwoon University, ² Department of Semiconductor Engineering, POSTECH
TP1-416	Design of PAM4 Transmitter in 28-nm CMOS Technology Yu Jin Byeon and Min Seong Choo Department of Electronic Engineering, Hanyang University
TP1-417	Modeling of DSP-Based Receiver and Analysis Data Phase with Stochastic Method Jee Hyun Kwon, Tae Hyun Kim, and Min Seong Choo Department of Electronic Engineering, Hanyang University
TP1-418	매니스커스 유도 기반 3차원 나노 프린팅으로 제작된 CNT 나노구조물 Kim JaeMin, Choi JaeWon, Heo DaMun, Lee YeWon, Gu SeonHwa, and Lee JongMin School of Semiconductor · Display, Hallym University



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TP1-419	Technology of Channel Equalization at the Receiver in 28nm CMOS Dong-Eun Lee, Tae-Hyeon Kim, and Min-Seong Choo Department of Electronic Engineering, Hanyang University
TP1-420	Development of A Web-Based Simulation for Understanding MOSFETs Hyeri Hong, Jiyeon Oh, Seungwoo Han, Taejun Kim, Guna Park, and Kiwon Lee Department of Electronic Engineering, Wonkwang University
TP1-421	Logic-in-Memory Technology Mapping Framework for Memristor Crossbar with Maximized Parallelism Ik-Kyum Kim and Heechun Park Kookmin University
TP1-422	Effect of Gate Dielectric Interfacial Layer on the Performance of Organic CMOS Logic Gates Gyu-Young Kim, Gun-Ryeol Cho, Gab-Jin Sung, Jin-Hong Ahn, Moohyun Kim, Kyoungun Lee, Yeyun Bae, and Jeongkyun Roh Department of Electrical Engineering, Pusan National University
TP1-423	Floating Gate Flash와 Charge Trap Flash의 최적 Tunneling Oxide 두께 비교 서상혁, 조성주, 채한수, 전예림, 김상완 서강대학교 전자공학과
TP1-424	Channel Shape and Gate Thickness Design of GAAFET for 3D-DRAM Myeongjae Choi, Hyeongseop Lim, and Changhwan Shin Department of Semiconductor Engineering, Korea University
TP1-425	A Redox-Mediator-Integrated Stretchable and Flexible Energy Storage System with Improved Energy Storage Ability SunWoo Lee ¹ , Jung Hyeon Kang ¹ , Suok Lee ² , Young-Woo Lee ² , and A-Rang Jang ¹ ¹ Division of Electrical, Electronic and Control Engineering, Kongju National University, ² Department of Energy Engineering, Soonchunhyang University
TP1-426	Copper Oxide Decorated Laser-induced Graphene Based Highly Sensitive and Flexible Non-enzymatic Glucose Sensor Gye Hyeon Lee ¹ , Minsoo Lee ¹ , Young-Woo Lee ² , and A-Rang Jang ¹ ¹ Division of Electrical, Electronic and Control Engineering, Kongju National University, ² Department of Energy Engineering, Soonchunhyang University



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TP1-428	Study of the Inverted Polymer Solar Cell Using IGZO Electron Extraction Layer Gun Woong Kim and Jun Young Kim Department of Semiconductor Engineering, Gyeongsang National University
TP1-429	A 32 Gb/s 0.84 pJ/b Referenceless Baud-Rate CDR with Integrated Pattern Decoding Yoojin Jung, Youngwook Kim, and Kwanseo Park Yonsei University
TP1-430	Analysis of Temperature Dependent Characteristics of Photodetector based on Feedback Field Effect Transistor Jeongmin Koo¹, Yonghwan Kim², Dahee Jin³, and Il Hwan Cho¹ Department of Electronic Engineering, Myongji University
TP1-431	Low-Cost Maskless Photolithography System based on Digital Micromirror Device Gyu Rin Shin, Yun Seong Choi, Jae Seong Pyo, Moohyun Kim, Kyoungun Lee, Hoyoung Cho, and Jeongkyun Roh Department of Electrical Engineering, Pusan National University
TP1-432	Fast-Response Low-Dropout Regulator with Slew-Rate Enhanced Error-Amp Yun-su Kim, Min-Woo Kim, Yu-Guan Kim, Won-Jo Lee, and Byung-do Yang Department of Electronics Engineering, Chungbuk National University
TP1-433	A Wearable Hydrogen Sensor Using Porous PDMS Sponge Coated with Pd Nanoparticles Decorated CNTs Min-Hyuk Lim, SunWoo Lee, Han Gyeol Choi, and A-Rang Jang Division of Electrical, Electronic and Control Engineering, Kongju National University
TP1-434	Multilayer MoS₂ Based Vertical Memristor with Low Power Operation Using Copper Active Electrode Juyeong Jung, Changwoo Pyo, Seungchan Lee, SeongJin Park, YoungJoon Lee, Dahyeon Kim, and Myungsoo Kim UNIST



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TP1-436	Revealing Impact of Parasitic Capacitance and Introducing Concealed Architecture to Boost Electrical Performance in 2-D Channel Devices Hak Jun Ban, Seung Won Lee, and Seul Ki Hong Dept of Semiconductor Engineering, Seoul National University of Science & Technology
TP1-437	Investigation of the Characteristics of 3D NAND Flash Combining Wave Shaped and Tapered Channel Effects Jueun Kim, Hyunseo Oh, Hyeongjun So, and Il Hwan Cho Department of Electronic Engineering, Myongji University
TP1-438	A Study on the Equivalent Oxide Thickness of $\text{Hf}_{1-x}\text{Zr}_x\text{O}_2$ Thin Films for Next-generation DRAM Applications Hyeonhong Min, Jongmug Kang, Seongbin Park, Hye Ryeon Park, Juntak Jeong, Yeseo Choi, Seungbin Lee, and Si Joon Kim Kangwon National University
TP1-439	ZrO_2 절연막을 이용한 IGZO FET의 특성 향상 연구 Junyeoung Hong¹, Hyeonseo Do¹, Jaemin Jo¹, Seungmo Kim², Hyunjun Hwang², and Byeong-Hun Lee² ¹Department of Semiconductor Engineering, Pohang University of Science and Technology (POSTECH), ² Department of Electrical Engineering, POSTECH
TP1-440	Optimization of ALD BeO Gate Dielectrics for 3D CMOS Devices Semi An¹, Jong Hyun Bae², Sangoh Han², Yoonseo Jang², W. Bielawski³, and Jungwoo Oh² ¹Integrated Science and Engineering Division, Yonsei University, ²School of Intergrated Technology, Yonsei University. ³CMCM IBS, Department of Chemistry, UNIST
TP1-441	Design of Wearable Transparent Rectenna System Using Roll-to-Roll Lithography for Energy Harvesting and Microwave Power Transfer Se Hyun Jeong¹, Hyun Woo Jeong¹, Jeong-Wook Kim², Sang-Chan Park¹, Young-Dam Kim¹, and Jae-Hyuk Ahn¹ ¹Department of Electronics Engineering, Chungnam National University, ²Electronics and Telecommunications Research Institute



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TP1-442	고성능 광센서를 위한 CsPbBr₃/MoS₂ 이종접합 특성 연구 Young Jun Rho, Min Jin Kim, Jun Woo Kim, Dong Yeong Kim, and Sang Hyun Lee School of Chemical Engineering, Chonnam National University
TP1-443	Atomic Layer Deposited Mg-Doped ZnO for Quantum Dot Light-Emitting Diodes Min Seok Kim¹, Hyo Geun Lee², Hyeonseung Ban², Jisu Han³, Jaehoon Lim^{3,4}, and Seong-Yong Cho² ¹Department of Materials Science and Engineering, Myongji University, ²Department of Photonics and Nanoelectronics, Hanyang University, ³Department of Energy Science, Center for Artificial Atoms, Sungkyunkwan University, ⁴SKKU Institute of Energy Science and Technology (SIEST), DFEE, Sungkyunkwan University
TP1-444	Flexible Device with Resistive Random-access Memory Using Organic Polymer for Transient Electronics and Neuromorphic Application Ho Jung Jeon¹ and You Seung Rim^{1,2} ¹Department of Intelligent Mechatronics Engineering and Convergence Engineering for Intelligent Drone, ²Department of Semiconductor System Engineering, Sejong University
TP1-445	A Study of Embedded Microprocessors in the Automotive Field Ji Hye Yang Kyungpook National University
TP1-446	커패시터 충전 효율 개선을 위한 정류 및 Charge Pump 시스템의 최적화 연구 김아현, 김지민, 박준영, 윤유빈, 이상목, 허준영, 윤광석 Department of Electronic Engineering, Sogang University
TP1-447	Palladium-deposited Molybdenum Disulfide-Based Hydrogen Sensor Using Machine Learning Technology for Environmental Adaptation Taeha Kim, U Jin Cho, Dongjun Jang, Youhyeong Jeon, and Min-Woo Kwon Department of Electric Engineering, Gangneung-Wonju National University
TP1-448	Optimization of Process Conditions of ZrO₂ Thin Films Deposited by Atomic Layer Deposition Using a New Precursor Ji-Hwan Kim, Seung Won Lee, Yoonchul Shin, Yeon-Ji Jeon, and Ji-Hoon Ahn Department of Materials Science and Chemical Engineering, Hanyang University



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TP1-449	재구성 가능한 실리콘 트랜지스터의 채널 길이에 따른 전기적 특성 연구 김나현, 임두혁 경기대학교
TP1-450	테라헤르츠 시간영역 분광법을 이용한 실리콘 기판의 광 전도도 분석 박수정, 이재영, 김튼튼 울산대학교 물리학과
TP1-451	A Study of Monolayer Multicomponent Thin Films of Dysprosium-Doped HfO_2 Grown by Atomic Layer Deposition Hui-Jin Kim ¹ , Geun-Ha Oh ² , Young Min Song ² , Soon-Kyeong Park ¹ , and Il-Kwon Oh ^{1,2} ¹ Department of Electrical and Computer Engineering, Ajou University, ² Department of Intelligence Semiconductor Engineering, Ajou University
TP1-452	재구성 가능한 실리콘 트랜지스터 기반 NAND 게이트의 logic-In-Memory 특성 연구 고예연, 임두혁 경기대학교
TP1-453	원자층 증착법을 활용한 HfAlO 및 TiN 기반의 MFM Capacitor 특성 연구 심유하, 박종문, 임두혁 경기대학교
TP1-454	실리콘 PIM 소자 기반 inverter의 전기적 특성 연구 김다운, 임두혁 경기대학교 전자공학부
TP1-455	재구성 가능한 실리콘 트랜지스터 기반 NOR 게이트의 로직-메모리 특성 연구 김선혁, 임두혁 경기대학교
TP1-456	Atomic Layer Deposition of Titanium Dioxides Thin Films Using New-Ti Precursor on Different Substrates Juan Hong ¹ , Taehyun Kim ² , and Woongkyu Lee ^{1,2} ¹ Department of Materials Science and Engineering, Soongsil University, ² Department of Green Chemistry and Materials Engineering, Soongsil University



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TP1-457	Surface Planarization Issues in Multi-layered RDL Interposer Fabrication Jinho Jang¹, Minji Kang¹, Injoo Kim², and Sungdong Kim¹ ¹Department of Mechanical System Design Engineering, Seoul National University of Science and Technology, ²Department of Mechanical Design and Robot Engineering, Seoul National University of Science and Technology
TP1-458	Optimizing Cu-Cu Bonds in Hybrid Bonding through O₂ Plasma and Wet Processes Wookyung Lee¹, Siye Lee¹, Injoo Kim², and Sungdong Kim¹ ¹Department of Mechanical System Design Engineering, Seoul National University of Science and Technology, ²Department of Mechanical Design and Robot Engineering, Seoul National University of Science and Technology
TP1-459	Temperature Effects on Cu-Cu Bonding for Hybrid Bonding Siye Lee¹, Wookyung Lee¹, Injoo Kim², and Sungdong Kim¹ ¹Department of Mechanical System Design Engineering, Seoul National University of Science and Technology, ²Department of Mechanical Design and Robot Engineering, Seoul National University of Science and Technology
TP1-460	A 4.5-GHz Duty Cycle Corrector with a 15%-85% Input Duty Range for DRAM Applications 류희철,이원영 서울과학기술대학교 스마트ICT융합공학과
TP1-461	Advancing Solvent Orthogonality via Refined Solution Phase Ligand Exchange Techniques for Colloidal Quantum Dot Photodetectors Hong Gu Kang¹, Ju Young Woo², and Seong-Yong Cho³ ¹Department of Materials Science and Engineering, Myongji University, ²Department of Digital Transformation R&D, KITECH, ³Department of Photonics and Nanoelectronics, Hanyang University
TP1-462	Impact of Dielectric Wall Variations of Forksheet FET Jin ho Park and Hyunwoo Kim Department of Electrical and Electronics Engineering, Konkuk University
TP1-463	A Novel TFT-Based Active Pixel Sensor Enabling High Gain and Readout Speed Minju Kim, Junghun Kim, Myeonghyun Jeon, and Jiwon Lee Department of Photonics and Nanoelectronics, Hanyang University



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TP1-464	Adaptive CMOS RF-DC Converter for RF Energy Harvesting Ye-Won Kim and Ickjin Kwon Department of Electrical and Computer Engineering, Ajou University
TP1-465	Ti silicide를 이용한 Cross Bridge Kelvin Resistor의 측정 오차 최소화 Chang Min Chae, Hyung Ju Noh, and Sangwan Kim Department of Electrical Engineering, Sogang University
TP1-466	DAC 선동작을 통해 채널 동작시간을 증가시킨 OLED 소스 드라이버 IC Won-Jo Lee, Yu-Guan Kim, Min-Woo Kim, Yun-Su Kim, and Byung-do Yang Department of Electronics Engineering, Chungbuk National University
TP1-467	실리콘 기판 위 구현된 NIR 대역 양자점 포토다이오드 Doheon Lee, Junghun Kim, Hyeonsoo Ahn, and Jiwon Lee Department of Photonics and Nanoelectronics, Hanyang University
TP1-468	Automatic Display Defect Detection System Using Image Processing Min-Rak Son, Ji-Soo Sin, Min-Jin Kim, and Won Il Lee Kumoh National Institute of Technology
TP1-469	Analysis of Single-Event Transient in Nanosheet Gate-All-Around Structured Tunneling-Based Ternary CMOS Hyeong Chan Son and Hyunwoo Kim Department of Electrical and Electronics Engineering, Konkuk University
TP1-470	고성능 듀얼 게이트 $\text{HfO}_2/\text{MoS}_2/\text{SiO}_2$ FET의 특성 연구 Jun Woo Kim, Young Jun Rho, Dong Yeong Kim, and Sang Hyun Lee School of Chemical Engineering, Chonnam National University
TP1-471	Lateral Growth of Single Crystalline Cu for low Resistance Trench of BEOL Giho Jeong ¹ and Jae Yong Song ² ¹ Department of Materials Science and Engineering, Hanyang University, ² Department of Semiconductor Engineering, POSTECH



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TP1-472	Design of UART Module and Digital Controlled Current Mirror in TSMC 28 nm Process Yong Woo Kim¹, Jung Nam Kim¹, Minsuk Koo², and Yoon Kim¹ ¹Department of Electrical and Computer Engineering, University of Seoul, ²Department of Computer Science and Engineering, Incheon National University
TP1-473	A Study on the Characteristics of the TFT by Optimizing the Sputtered InWZnO Thin Film Tae Gun Kim, Yu Jin Yang, Seung Hyeok Lee, and Se Rim Lee Technology University of Korea
TP1-474	Optimization of Channel Layer Thickness for Improved Performance in Hetero-Structure AOS FETs Jung Wan Noh^{1,2}, Tae Hyun Noh^{1,2}, and Younghyun Kim^{1,2} ¹Department of Photonics and Nanoelectronics, Hanyang University, ²BK21 FOUR ERICA-ACE Center, Hanyang University
TP1-475	Enhancing Charge Trap Memory with Oxygen-Deficient HfO_x Charge Trap Layer for Non-Volatile Memory Hyunji Jeong^{1,2}, Seoungmin Park^{1,2}, and Younghyun Kim^{1,2} ¹Department of Photonics and Nanoelectronics, Hanyang University, ²BK21 FOUR ERICA-ACE Center, Hanyang University
TP1-476	JEP183 Measurement TCAD Simulation in Planar 1.2kV 4H-SiC Power MOSFETs Oh Seong Eun, Kim Beom Jin, Yoo Dahui, and Ho-Jun Lee Department of Electrical Engineering, Pusan National University
TP1-477	Comparing Results of JEP183 Measurement in Planar and Trench 1.2kV 4H-SiC Power MOSFETs Kim Beom Jin, Kang Min Jae, Jeong Dong Hun, YOO DAHUI, and Ho-Jun Lee Department of Electrical Engineering, Pusan National University
TP1-479	경량 블록암호 SIMECK과 EC-DH를 이용한 하드웨어 가속기 구조의 IoT 보안 시스템 구현 이주형, 이송희, 신경욱 금오공과대학교 전자공학부 반도체시스템전공
TP1-480	Cu Grain Size에 따른 SAC305/Cu 접합부 금속간화합물 성장 거동 분석 한다경, 노은채, 윤정원 충북대학교 신소재공학과



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TP1-481	TLP Bonding Using Sn/Ni/Sn-foil Laminated Solder Preform Dong-Bok Lee, Yeong-Jin Seo, and Jeong-Won Yoon Department of Advanced Materials Engineering, Chungbuk National University
TP1-482	고선형성 가중치 프로그래밍이 가능한 IGZO 2T Synaptic Device 고찬영¹, 성수원¹, 박성민¹, 하태준¹, 조현영¹, 정윤영^{1,2,3} ¹Department of Electrical Engineering, POSTECH, ²Department of Semiconductor Engineering, POSTECH, ³CSTC, POSTECH
TP1-483	Sn-2.3Ag Flip-chip Solder Bump의 고온 장기 신뢰성 평가 A Study of Long-term Temperature Reliability of Sn-2.3Ag Flip-Chip Solder Bump 장은수, 윤정원 충북대학교 신소재공학과
TP1-484	등온 시효 처리에 따른 리플로우 및 레이저 솔더링 접합부 특성 비교 연구 Hyo-Won Lee, Eun-Chae Noh, Da-Gyeong Han, and Jeong-Won Yoon Department of Advanced Materials Engineering, Chungbuk National University
TP1-485	Keyword Spotting 성능 향상을 위한 CPU-NPU 하이브리드 프로세서 설계 Yoono Kim, Jiwoong Chio, Gisan Ji, and Sungju Ryu Department of Electronic Engineering, Sogang University
TP1-486	Designing a Hybrid RISC-V CPU and NPU System for Image Classification Optimization Minse Kim, Junhee Lee, Gisan Ji, and Sungju Ryu Department of Electronic Engineering, Sogang University
TP1-487	A Random Number Generator based on Stochastic Ferroelectric Tunnel Junction Dong-Jun Kim¹, Seo-Eun Jang¹, Sungjun Kim², and Min-Hwi Kim¹ ¹Chung-Ang University, ²Dongguk University
TP1-488	A Simulation of Electrical Properties in the Induced Systems Se Hun Kim¹, Jik Hyeon Ham¹, and Seock-Kyun Son^{1,2} ¹Department of Physics, Kyung Hee University, ²Department of Information Display, Kyung Hee University



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TP1-489	VWW 특화 RISC-V 프로세서 기반 CPU-NPU 하이브리드 프로세서 설계 Jaeseok Lee, Jeonghwan Ahn, Gisan Ji, and Sungju Ryu Department of Electronic Engineering, Sogang University
TP1-490	Improving the Current Density of IGZO TFT by Corrugated Substrate Ye Won Jeong ¹ , Jeong Ha Yoon ¹ , Taewon Seo ¹ , and Yoonyoung Chung ^{1, 2, 3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
TP1-491	Highly-stable a-IGZO TFT under PBS Condition by Passivation with Hydrogen Plasma Treatment Jeongha Yoon ¹ , Yewon Jeong ¹ , Taewon Seo ¹ , and Yoonyoung Chung ^{1, 2, 3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
TP1-492	BaZrO ₃ /MgO Templated Epitaxy Enables Three Orders of Magnitude Conductivity Increase in Ba _{0.95} La _{0.05} SnO ₃ Films on Al ₂ O ₃ Substrates, Promoting Very High Transparency and X-band Electromagnetic Shielding Youngkyoung Ha ¹ , Jingyeong Jeon ¹ , Subhin Hwang ¹ , Judith L. MacManus-Driscoll ² , and Shinbuhm Lee ¹ ¹ DGIST, ² University of Cambridge
TP1-493	Random Resistance of Graphene according to Self-Assembled Monolayers and Application of Physically Unclonable Functions Eun Bee Ko ² , Su Bin Lee ¹ , Si Heon Lim ² , Min Seo Kim ¹ , Byung Cheol Jang ³ , Ho Cheon Yoo ¹ , and Hyun Ho Kim ² ¹ Department of Electronic Engineering, Gachon University, ² Department of Energy Engineering Convergence, Kumoh National Institute of Technology, ³ School of Electronics and Electrical Engineering, Kyungpook University
TP1-494	하프늄 기반 산화물을 활용한 실리콘 나노선 메모리 소자에 대한 특성 연구 박종문, 임두혁 경기대학교



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TP1-495	Stacked Structure Infrared Photodetector Utilizing Colloidal Quantum Dots Ji Hyeon Woo and Seong-Yong Cho Department of Photonics and Nanoelectronics, Hanyang University ERICA
TP1-496	메모리 효율성 향상을 위한 DNN 경량화 기술연구 Hoyong Jeong, Jaeseok Moon, Jinsung Lee, Jaeseong Byun, Sehyun Hwang, Dongseok Oh, Jincheol Yang, and Sukju Kang Department of Electrical Engineering, Sogang University
TP1-497	Understanding Process Instability Triggered by Built-in Dipole Moments in Janus MoSSe Seon Yeon Choi ¹ , Sun Woo Kim ^{1,2} , Si Heon Lim ^{1,2} , Eun Bee Ko ¹ , Seunghyun Kim ³ , Yun Chang Park ⁴ , Sunghun Lee ⁵ , and Hyun Ho Kim ^{1,2} ¹ School of Materials Science and Engineering, Kumoh National Institute of Technology, ² Department of Energy Engineering Convergence, Kumoh National Institute of Technology, ³ Department of Chemical Engineering, POSTECH, ⁴ Department of Measurement and Analysis, National Nanofab Center, ⁵ Division of Nanotechnology, Convergence Research Institute, DGIST
TP1-498	Analysis of Hot Carrier Injection (HCI) and Fowler-Norheim (FN) Tunneling Mechanisms in Charge Trap Flash (CTF) Memory Device Youn Seok Kye, Jae Yeon Park, and Sangwan Kim Department of Electronic Engineering, Sogang University
TP1-499	DRAM Write Recovery Speed 연구 Ji Won Son, Jeon Woong Kang, Seo Yoon Lee, and Sung-Woong Chung POSTECH
TP1-500	Analysis on Electrical Performance of Nanosheet FET with Asymmetric Inner Spacer Thickness Won Gi Hong and Hyunwoo Kim Department of Electrical and Electronics Engineering, Konkuk University
TP1-501	Solution-Processed Metal-Oxide Thin-Film Transistors Fabricated at Low Temperatures by Metal Ion Doping Eun-Ha Kim, Chae-Eun Kim, Ho-Jun Cha, Yeon-Eui Lee, Su-Been Kim, Se-Ryong Park, and Tae-Jun Ha Department of Electronic Materials Engineering, Kwangwoon University



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TP1-502	An Overall Study of Raman Spectroscopy for Two-dimensional Materials Mubin Park¹, Jyyoun Han¹, and Seok-Kyun Son^{1,2} ¹Department of Physics, Kyung Hee University, ²Department of Information Display, Kyung Hee University
TP1-503	Voltage Dependence of Kink Effect in Floating Body PD-SOI MOSFETs Wongi Cho and Seonghearn Lee Department of Electronics Engineering, Hankuk University of Foreign Studies
TP1-504	Incandescent of Graphene and High Electrical Characteristics on Ge Wafer by CVD Method Gyu-Seock Ko¹, Do-Hoon Kim¹, Hyeon-Sik Jang², and Seok-Kyun Son^{1,3} ¹Department of Physics, Kyung Hee University, ²School of Semiconductor Science & Technology, Jeonbuk National University, ³Department of Information Display, Kyung Hee University
TP1-505	Transfer Methods of Monolayer Graphene Minjun Kang, Jiyong Park, and Yong-Sun Kim Ajou University
TP1-506	High-Performance Resistive Random Access Memory based on Solution-Processed High-k Dielectrics Chae-Eun Kim, Eun-Ha Kim, Da-Bin Seo, Se-Ryong Park, and Tae-Jun Ha Department of Electronic Materials Engineering, Kwangwoon University
TP1-507	Analyzing of Self-heating Effect of a-ITZO Thin Film Transistor by Using Thremoreflectance Microscopy for Better Heat Dissipation in Channel Thickness Yongjin Shin, Taewon Jin, Sanghoon Shin and Younghyun Kim Department of Photonics and Nanoelectronics, BK21 FOUR ERICA-ACE Center, Hanyang University
TP1-508	Wearable ECG and GSR Acquisition System with Motion Artifacts Robustness Seokhan Jeong, Jiho Kim, Minho Sung, Jeongmin Cha, Taeryoung Seol, and Junghyup Lee DGIST



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TP1-509	Enhancing Nonlinearity of LTP/LTD in HfO_2 -Based Synaptic Devices for Spiking Neural Networks Jong Min Baek ¹ , Jung Hyeon Gong ¹ , Chae Min Yeom ¹ , Hyeon Seung Lee ¹ , Hyuk Min Kwon ² , and Hi Deok Lee ¹ ¹ Chungnam National University, ² Semiconductor Convergence Campus, Korea Polytechnics College
TP1-510	Attention in Attention-Based One-Encoder-Two-Decoder Network for Image Deblurring Ji-Soo Sin and Ho Sub Lee Kumoh National Institute of Technology
TP1-511	Multi-Kernel Strip Pooling-Based Attention Network for Super Resolution Jong Youn Lee, Gwang Nam An, Do Hyeon Seo, Chan Mee Kim, and Ho Sub Lee Kumoh National Institute of Technology
TP1-512	Study on the Methods to Improve Switching Variability and Reliability in Self-rectifying Resistive Switching Memory Yura Oh, Sua Han, and Hae Jin Kim Department of Materials Science and Engineering, Myongji University
TP1-513	CNN-LSTM 모델 기반 반도체 제조 공정 이상 탐지 방안 Sejin Park ¹ , Hye-Jung Yoon ² ¹ University of Seoul, ² Seoul National University
TP1-514	Optimizing MoS_2 Properties through Substrate-Heated Sputter Deposition: Exploring Crystallinity and Deposition Characteristics Ha Yeon Choi ¹ , Tae Gyu Ryu ¹ , Hye Seong Park ¹ , Hyuk Min Kwon ² , and Hi Deok Lee ¹ ¹ Chungnam National University, ² Semiconductor Convergence Campus of Korea Polytechnics College
TP1-515	2차 고조파 측정법을 이용한 강자성체 소자의 스핀 토크 측정 피진주, 김종도, 김하늘, 임은지, 김상훈 울산대학교 물리학과
TP1-516	Hash Table을 활용한 Adaptive Learning-Based FTL Myung hoon Hyun Sungkyunkwan University



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TP1-517	동적 비전 센서의 Verilog 디지털회로설계 및 시뮬레이션 김성주 성균관대학교 반도체시스템공학과
TP1-518	Improving the Reliability Characteristics Using Doping Layer between WLs in 3D NAND Flash Memory Hyewon Kyung ^{1,2} , Jungil Bae ^{1,2} , Donghoon Lee ^{1,2} , Kijun Lim ^{1,2} , Yunejae Suh ^{1,3} , Sanghyuk Lee ^{1,3} , and Daewoong Kang ¹ ¹ Next Generation Semiconductor Convergence and Open Sharing System, ² Chung-Ang University, ³ Soongsil University
TP1-519	Analysis of Cell Characteristics Depending on Vertical Channel Structure in 3D NAND Flash Donghoon Lee ^{1,2} , Hyewon Kyung ^{1,2} , Jungil Bae ^{1,2} , Yunjae Seo ^{1,3} , Sanghyuk Lee ^{1,4} , Kijun Lim ^{1,2} , and Daewoong Kang ¹ ¹ Next Generation Semiconductor Convergence and Open Sharing System, Seoul National University, ² School of Electrical and Electronics Engineering, Chung-ang University, ³ Department of Electronic Engineering, Soongsil University, ⁴ Department of Materials Science and Engineering, Soongsil University
TP1-520	A New Concept to Improve the Retention Characteristics in 3D NAND Flash Yunejae Suh ^{1,2} , Sanghyuk Lee ^{1,3} , Hyewon Kyung ^{1,4} , Jungil Bae ^{1,4} , Donghoon Lee ^{1,4} , Kijun Lim ^{1,4} , and Daewoong Kang ¹ ¹ Next Generation Semiconductor Convergence and Open Sharing System, ² Department of Electronic Engineering, Soongsil University, ³ Department of Materials Science and Engineering, Soongsil University, ⁴ School of Electrical and Electronics Engineering, Chung-ang University
TP1-521	New Process to Fabricate the CT(Charge Trap)-Cut in 3D NAND Flash to Improve Reliability Kijun Lim ^{1,2} , Hyewon Kyung ^{1,2} , Jungil Bae ^{1,2} , Yunjae Suh ^{1,3} , Donghoon Lee ^{1,2} , Sanghyuk Lee ^{1,3} , and Daewoong Kang ¹ ¹ Next Generation Semiconductor Convergence and Open Sharing System, ² School of Electrical and Electronics Engineering, Chung-ang University, ³ Department of Electronic Engineering, Soongsil University, ⁴ Department of Materials Science and Engineering, Soongsil University
TP1-522	Analysis of Trap Effect in Back Oxide to Control the Cell Current in 3D NAND Flash Sanghyuk Lee ^{1,2} , Yunejae Suh ^{1,3} , Hyewon Kyung ^{1,4} , Jungil Bae ^{1,4} , Donghoon Lee ^{1,4} , Kijun Lim ^{1,4} , and Daewoong Kang ¹ ¹ Next Generation Semiconductor Convergence and Open Sharing System,



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	² Department of Materials Science and Engineering, Soongsil University, ³ Department of Electronic Engineering, Soongsil University, ⁴ School of Electrical and Electronics Engineering, Chung-ang University
TP1-523	A New Approach to Improve Cell Characteristics of 3D NAND Flash Using Indium-gallium-zinc-oxide Channels. Jungil Bae^{1,2}, Hyewon Kyung^{1,2}, Donghun Lee^{1,2}, Kijun Lim^{1,2}, Yunejae Suh^{1,3}, Sanghyuk Lee^{1,4}, and Daewoong Kang¹ ¹Next Generation Semiconductor Convergence and Open Sharing System, ²Department of Electrical and Electronics Engineering, Chung-Ang University, ³Department of Electronic Engineering, Soongsil University, ⁴Department of Materials Science and Engineering, Soongsil University



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[FP1] 포스터세션

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[저자 Q&A 세션: 10:45-11:25](#)

A. Interconnect & Package 분과

ZONE 4 (3층 로비)

FP1-001	Optimization of O₂ Plasma Treatment on Cu Surface for Hybrid Cu Bonding Sangwoo Park¹, Sangmin Lee¹, Junyoung Choi², and Sarah Eunkyung Kim¹ ¹Department of Semiconductor Engineering, Seoul National University of Science and Technology, ²Department of Electrical and Information Engineering, Seoul National University of Science and Technology
FP1-002	Potential Use of Fly Cutting Method for Cu/Polymer Planarization in Hybrid Bonding Sangmin Lee¹, Suin Jang², Sangwoo Park¹, and Sarah Eunkyung Kim¹ ¹Department of Semiconductor Engineering, Seoul National University of Science and Technology, ²Research Center for Advanced Semiconductor Packaging, Seoul National University of Science and Technology
FP1-003	Evaluation of PVD SiCN for Cu/SiCN Hybrid Bonding Junyoung Choi¹, Sangwoo Park², Sangmin Lee², and Sarah Eunkyung Kim² ¹Department of Electrical and Information Engineering, Seoul National University of Science and Technology, ²Department of Semiconductor Engineering, Seoul National University of Science and Technology
FP1-004	A Study of Surface Treatment on SiO₂/SiO₂ Bonding for Cu/SiO₂ Hybrid Wafer Bonding Joong-Heon Kim¹, Sung-Min Park¹, Sang Hyun Jung¹, and Kyung-Ho Park² ¹System IC Platform Lab, ²Advanced Packaging TF, KANC
FP1-005	Reliability Investigations of Polymer-Based Redistribution Layers (RDL) by Oxygen and Moisture Ji-Youn Kwak¹, Emmanuel Chery², Julien Bertheau², John Slabbekoorn², Joke De Messemacker², Eric Beyne², and Ju-Young Kim¹ ¹UNIST, ²imec



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FP1-006	ALD ZnO 확산방지층이 Cu와 Ru 배선의 계면접착에너지에 미치는 영향 정대윤 ^{1,2} , 김가희 ^{1,2} , 김민진 ^{1,2} , 손예슬 ³ , Yuki Mori ^{3,4} , 김수현 ^{3,5} , 박영배 ^{1,2} ¹ 안동대학교 신소재공학부, ² 안동대학교 청정에너지 소재기술연구센터, ³ 울산과학기술원 반도체 소재부품 대학원, ⁴ Chemical Materials Development Department, TANAKA Precious Metals, ⁵ 울산과학기술원 신소재공학과
FP1-007	Low-temperature Hybrid Bonding for Enhanced Semiconductor Integration and Reliability Youngju Sim, Gyeong-Seok Hwang, and Ju-Young Kim UNIST
FP1-008	The Study of the Erosion and Dishing Shape in the Cu CMP Process for 3D Hybrid Bonding Sang-Soo Kim, Su-Jeong Kang, Won-Youl Shin, Ju-Young An, Min-Jae Kim, Sungmin Park, Dongkeun Lee, and Kyung-Ho Park Advanced Packaging TF, KANC
FP1-009	저온 구리 접합 성능 향상을 위한 금속 패시베이션 결정성에 관한 연구 Min Seong Jeong, Sang Woo Park, Yeon Ju Kim, Ji Hoon Kim, and Jong Kyung Park Seoul National University of Science and Technology
FP1-010	대기압 플라즈마 표면 처리 활성화를 이용한 웨이퍼 본딩 기술 Wonyoung Choi, Bumki Moon, Kyeongbin Lim, Yongjoo Lee, Yongin Lee, Seung ho Han, Nungpyo Hong, and Minwoo Rhee Mechatronics Research, Samsung Electronics Co., Ltd.
FP1-011	Low Temperature Cu/Polymer Hybrid Bonding for 3D Multi-chip Stacking Process Ji-Hun-Kim, Yeon-Ju Kim, Min-Seong Jung, Sang-Woo Park, and Jong Kyung Park Department of Semiconductor Engineering, Seoul National University of Science and Technology
FP1-012	AI 및 수치해석 시뮬레이션을 활용한 반도체 패키지 열 기계적 유효 물성 모델링 방법 설계 Jeong-Hyeon Park ¹ , Sukwon Jang ² , Sunggu Kang ² , Sungho Mun ² , Jaechoon Kim ² , and Eun-Ho Lee ¹ ¹ Sungkyunkwan University, ² Samsung Electronics Co., Ltd.
FP1-013	Reflow Temp Profile 제어를 통한 Sn Micro-bump Ball Shape 개선 연구 Beomwoo Lee SK hynix



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FP1-014	Analysis of Fermi Level Pinning of Metal-InGaZnO Junction with Interfacial Self-assembled Monolayer Sungbin Lim¹, Dong-Gyun Mah², Won-Ju Cho², and Hamin Park¹ ¹Department of Electronic Engineering, Kwangwoon University, ²Department of Electronic Materials Engineering, Kwangwoon University
FP1-015	A Study of Signal Integrity in Hybrid Bonding with Void Chan-Woong Park^{1,2} and Kee-Won Kwon^{1,2} ¹Department of Electrical and Computer Engineering, Sungkyunkwan University, ²Department of Semiconductor Convergence Engineering, Sungkyunkwan University
FP1-016	The Study of the Effects of Cu-density and Pad Size in the CMP Process for 3D Hybrid Boding Su-Jeong Kang, Sang-Soo Kim, Won-Youl Shin, Min-Jae Kim, Sungmin Park, Dongkeun Lee, and Kyung-Ho Park Advanced Packaging TF, Korea Advanced Nano Fab Center (KANC)
FP1-017	Effect of Adhesion on Compression Fatigue Reliability of Cu Interconnect. Jun Hyeok Hyun, Min Ju Kim, Jeong A Heo, and So-Yeon Lee Department of Materials Science and Engineering, Kumoh National Institute of Technology
FP1-018	Effects of Plasma Power on Properties of SiCOH Low Dielectric Constant Films in Plasma Enhanced Chemical Vapor Deposition Process Using the Tris(trimethylsiloxy)silane Precursor Namwuk Baek¹, Chanyong Seo¹, Jihwan Cha¹, Hyewon Han^{1,2}, Kyubeom Bae¹, Jeongbeom Choi¹, Jaeyeon Kim¹, and Donggeun Jung¹ Department of Physics, Sungkyunkwan University, ²Research Laboratory, L&P Lab Co., Ltd.
FP1-019	Microwave-Reduced Graphene Oxide with Doping towards VLSI Interconnect Jaegyul Kim, Cheol-Hyeon Yoon, and Byoung Don Kong Department of Electrical Engineering, POSTECH
FP1-020	시간 및 첨가제에 따른 Through-hole via Fill 거동 연구 Eun-Bi Lee¹, So-Yeon Lee¹, Kyung-A Won², and Seung-Yong Lee² ¹Kumoh National Institute of Technology, ²LG Innotek



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FP1-021	3D Printing of Through-Hole-Embedded Organic Interposer Substrates Guk Cho¹ Haksoon Jung^{1,2} Yechan Han¹ Seongmin Eum¹, and Jimin Kwon¹ ¹Department of Electrical Engineering, UNIST, ² Department of Chemical Engineering, POSTECH
FP1-022	Etch-Free Formation of Vertical Conductive Path in Silicon-Based Dielectrics for Enhanced Semiconductor Integration and Reliability Soon Joo Yoon, Jin Tae Park, and Yoon Kyeong Lee Division of Advanced Materials Engineering, Jeonbuk National University
FP1-023	Area Shrinkage 에 따른 Fringing Cap 의 BEOL 성능에 대한 영향성 분석 Seon Gyo Jang, Jun Nyeong Lee, Hye Jun Jin, Jeong Hoon Ahn, and Jong Ho Lee Foundry Business, Samsung Electronics Co., Ltd.
FP1-024	Investigation of Size-Dependent Electrical Properties in Schottky Barrier Diodes 설유진¹, 김현규¹, 황해철¹, 윤봉노¹, 남은서¹, 김정식³, 김기현^{1,2} ¹전북대학교 전자정보공학부, ²전북대학교 전자공학부, ³경상대학교 전기공학과
FP1-025	Effects of ALD Al₂O₃ Layer on Interfacial Reaction of Sn-3.0Ag-0.5Cu Solder Joints Eun-Chae Noh and Jeong-Won Yoon Department of Advanced Materials Engineering, Chungbuk National University
FP1-026	Bridge-contact Resistance Method to Precisely Evaluate the Electrical Contact Characteristics of Nano-scale Semiconductor Devices Huiyun Jung, Jiyeong Yun, and Hongsik Park School of Electronic and Electrical Engineering, Kyungpook National University
FP1-027	DAF-less Chip Bonding Package Process by using Self-assembled Monolayer 김원빈¹, 최성재¹, 이선기¹, 김병준², 주영창¹ ¹서울대학교 재료공학부, ²한국공학대학교 신소재공학과
FP1-028	3차원 반도체 패키징 접합부의 기계적 신뢰성 평가 Youngju Sim, Ji-Youn Kwak, and Ju-Young Kim UNIST



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FP1-029	Effect of Bending Frequency on Cu Flexible Interconnect 이선기 ¹ , 현준혁 ² , 이소연 ² , 주영창 ¹ ¹ 서울대학교 재료공학부, ² 금오공과대학교 신소재공학과
FP1-030	Enhancing Heat Dissipation in Chiplet-Based AI Semiconductors: A Comprehensive Modeling Approach Sam Yaw Anaman ¹ , Min-Jun Cheon ¹ , Jung-Won Lee ² , Lewis Kang ² , Jung Ho Kim ³ , Jae Yong Song ⁴ , Inhak Han ⁵ , and Hoon-Hwe Cho ¹ ¹ Hanbat National University, ² Nepes, ³ Asciland, ⁴ POSTECH, ⁵ Baum
FP1-032	WBG 및 UWBG 전력반도체 모듈의 열적 성능 확인을 위한 시뮬레이션 Guesuk Lee KETI

B. Patterning (Lithography & Etch Technology) 분과

ZONE 1 (1층 전시장)

FP1-033	A Study on Silicon Oxide Etching with High Aspect Ratio Using the CCP-type MERIE Process Byeong-Hyeok Choi, Woong Sun Lim, Sung-Min Park, and Sang Hyun Jung Korea Advanced Nano fab Center
FP1-034	Effects of Oxygen Plasma Treatment on the Structural and Electronic Properties of MoS ₂ Grown by MOCVD Jiwon Heo and Taewan Kim ¹ Department of Electrical Engineering, Jeonbuk National University, ² Smart Grid Research Center, Jeonbuk National University
FP1-035	Effect of Alkaline Earth Elements on the Plasma-Resistance Properties of the Li ₂ O-Al ₂ O ₃ -SiO ₂ Glasses for the Semiconductor Etch Process So Won Kim, Hwan Seok Lee, Deok Sung Jun, and Hee Chul Lee Tech University of Korea
FP1-036	Perfluoroalkyl Vinyl Ether의 분자구조에 따른 SiO ₂ 식각 특성: PPVE와 PIPVE의 비교 전동준 ^{1,2} , 유상현 ^{1,2} , 김창구 ^{1,2} ¹ Department of Chemical Engineering, Ajou University, ² Department of Energy Systems Research, Ajou University



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FP1-037	Selective Etch of Boron-Doped Silicon Hard Mask using Chlorine-Based Reactive Ion Etching Process Sangbae Lee¹, Heeju Ha¹, Hojin Kang¹, Hyeongwu Lee², Minsung Jeon³, and Heeyeop Chae^{1,2,3} ¹School of Chemical Engineering, Sungkyunkwan University, ²Department of Nano Science and Technology, SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, ³Department of Semiconductor Convergence Engineering, Sungkyunkwan University
FP1-038	Fluoro-alcohol Plasma에서 방전 가스 Chemistry에 따른 SiO₂ 식각 특성 비교 양현석^{1,2}, 유상현^{1,2}, 김창구^{1,2} ¹Department of Chemical Engineering, Ajou University, ²Department of Energy Systems Research, Ajou University
FP1-039	Solution Processed Bilayer Source/Drain Electrodes for High Performance and Stable Metal Oxide Thin-Film Transistors Sungyun Kim¹, Sehwan Park¹, Duhyoung Gong¹, Bongjun Kim², Hanul Moon^{1,2} ¹Department of chemical engineering (BK21 FOUR Graduate Program), ²Department of Semiconductors, Dong-A University, ³Department of Electronics Engineering, Sookmyung women's University
FP1-040	EUV 마스크 용 Pt 기반 흡수 소재 식각 성능 김연수^{1,2}, 정동민^{1,2}, 이승호^{1,2}, 안진호^{1,2} ¹한양대학교 신소재공학과, ²EUV-IUCC
FP1-041	Fluorine 및 chlorine계 플라즈마 적용 유기-무기 수직분자선 다층 분자막 EUV 포토레지스트의 건식 현상 성능 비교 평가 석지후^{1,4}, 정지우^{1,4}, 지현석², 이재혁², 박인성³, 성명모^{2,4}, 안진호^{1,4} ¹한양대학교 신소재공학과, ²한양대학교 화학과, ³한양대학교 나노과학기술연구소, ⁴EUV-IUCC (Industry University Collaboration Center)
FP1-042	Focus 에 따른 마스크 특성 변화 완화가 가능한 high-NA EUV 노광 공정용 high-k binary 마스크 연구 이승호^{1,2}, 정동민^{1,2}, 김연수^{1,2}, 안진호^{1,2} ¹한양대학교 신소재공학과, ²EUV-IUCC
FP1-043	라디칼 모듈을 이용한 Low GWP Precursor의 원자층 식각 공정 Eun Chong Kang, Se Jun Son, Jong Hyeon Kim, Hojune Chang, and Kyong Nam Kim Daejeon University



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FP1-044	C ₄ H ₂ F ₆ 가스를 이용한 플라즈마 식각공정 및 가스 재사용에 관한 연구 Sejun Son, Eunhong Kang, Jinu Choi, Jeongwoon Bae, and Kyongnam Kim Daejeon University
FP1-045	A Study on Dry Etching Mechanism of TiN and HfO ₂ Thin Films Ar/CF ₄ /O ₂ /H ₂ -based Plasma for High-k Capacitor Process Deok-Seong Jeon, So-Won Kim, Hong-Hee Jeon, and Hee Chul Lee Department of Advanced Materials Engineering, Tech University of Korea
FP1-046	Grain Size 및 조성비에 따른 EUV 펄리클의 기계적 특성 변화 김원진 ^{1,2} , 김하늘 ^{1,2} , 강영우 ^{1,2} , 김정연 ^{1,2} , 박영욱 ^{1,2} , 안진호 ^{1,2} ¹ 한양대학교 신소재공학과, ² EUV-IUCC
FP1-047	Theoretical Study of Structural Properties and Adhesion Improvement of P(VDF-HFP) Polymers by Using Molecular Dynamics Simulation. Seung Weon Jeong ¹ , Sangheon Lee ¹ , and Hyung Kyu Lim ² ¹ Department of Chemical Engineering and Materials Science, Ewha Womans University, ² Department of Chemical Engineering, Kangwon National University
FP1-048	Nanometer-Scale Etching of Cobalt Thin Films Using High Density Plasma of Acetone/Ar Geum Bin Baek, Kyung Ho Oh, Seung Hyun Kim, and Chee Won Chung Department of Chemical Engineering, Inha University
FP1-050	Atomic Layer Etching of SnO ₂ Hyun Seo Park, Kyung Min Mo, and Ji Hye Kim ISAC Research
FP1-051	Isotropic Atomic Layer Etching of HfO ₂ Using NF ₃ Plasma and Metal Precursor Gyejun Cho, Yewon Kim, Jehwan Hong, Hye-Lee Kim, and Won-Jun Lee Department of Nanotechnology and Advanced Materials Engineering, Sejong University
FP1-052	플라즈마 표면 처리에 따른 유연성 기판의 AFM Force-distance 특성 연구 Juhyeon Lee, Jhongwoong Park, and Jaewook Jeong School of Information and Communication Engineering, Chungbuk National University
FP1-053	Correlation between Mask Slope and Redeposition in Cu Dry Etching Yoon Jae Cho, Su Myung Ha, and Chee Won Chung Department of Chemical Engineering, Inha University



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FP1-054	Ab Initio Study of Chelation on Amorphous CoCl_2 Films for Atomic Layer Etching Eugene Huh and Sangheon Lee Ewha Womans University
FP1-055	불소화 유기 단분자 극자외선 레지스트의 감도 향상 전략 김가영¹, 구예진¹, 이진균¹, 김지호², 박병규², 이상철², 장유하³, 정병준³, 고차원⁴, 니시츠 네히로⁴, 김현우⁴ ¹Inha University, ²Pohang Accelerator Laboratory, ³University of Seoul, ⁴Samsung Electronics Co., Ltd.
FP1-056	Antimony Organometallic Photoresists for EUV Lithography Sun Jin Lee¹, Dong Kyun You², Kang Mun Lee², and Myung-Gil Kim¹ ¹School of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Department of Chemistry, Institute for Molecular Science and Fusion Technology, Kangwon National University
FP1-057	Development of Environmentally Friendly Semiconductor Patterning Technology Using Supercritical Carbon Dioxide Yejin Ku¹, Gayoung Kim¹, Jin-Kyun Lee¹, Sangsul Lee², Byung Jun Jung³, Chawon Koh⁴, Tsunehiro Nishi⁴, Hyun-Woo Kim⁴ ¹Inha University, ²Pohang Accelerator Laboratory, ³Korea University, ⁴Samsung Electronics Co., Ltd.
FP1-058	The Theoretical Study of the Decomposition Mechanism of C_2HF_5 and $\text{C}_4\text{F}_8\text{O}$. Mihyeon Cho and Sangheon Lee Department of Chemical Engineering and Materials Science, Ewha Womans University
FP1-059	Calculation of Decomposition Properties of Fluoro-ketone as $\text{C}_3\text{F}_6\text{O}$ Minji Kim and Sangheon Lee Chemical Engineering and Materials Science, Ewha Woman's University
FP1-060	Cryogenic Aspect Ratio Etching of SiO_2 Using $\text{CF}_4/\text{H}_2/\text{Ar}$ Plasma in a Cryogenic Reactive Ion Etch System Hyeon Jo Kim, In Young Bang, Hee Tae Kwon, Jae Hyeon Kim, Seong Yong Lim, Seo Yeon Kim, Seong Hee Cho, Ji Hwan Kim, Woo Jae Kim, Gi Won Shin, and Gi-Chung Kwon Department of Electrical and Biological Physics, Kwangwoon University



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C. Material Growth & Characterization 분과

ZONE 4 (3층 로비)

FP1-061	Ferroelectricity and Phase Pure Orthorhombic Formation in PLD-grown $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ MoS_2 Negative Capacitance Field Effect Transistors Avis Wee Sin Hui¹, Pavan Pujar², Haewon Cho³, and Sunkook Kim¹ ¹Department of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Indian Institute of Technology (IIT-BHU) Varanasi, ³Samsung Electronics Co., Ltd.
FP1-062	Polarization Control of Photocurrent in $\text{KNiF}_3/\text{BaTiO}_3$ Composite Ceramics Gwangbo Sim, Chang Won Ahn, Gu cheol Ahn, Ill Won Kim, and Tae Heon Kim Department of Physics and Energy Harvest-Storage Research Center (EHSRC), University of Ulsan
FP1-063	Highly Crystalline Flexible Oxide Membranes for Energy Harvesting Jiwon Kim^{1,2}, Muhammad Sheeraz^{1,2}, Chang Won Ahn^{1,2}, Ill Won Kim^{1,2}, and Tae Heon Kim^{1,2} ¹Department of Physics, University of Ulsan, ²EHSRC, University of Ulsan
FP1-064	Probing Physical Properties of ZnSnN_2 Grown on GaN/c-sapphire Template Using Reactive RF-sputtering Juchan Hwang¹, Dohyun Kim¹, Chu-Young Cho², and Kwangwook Park^{1,3} ¹Division of Advanced Materials Engineering, Jeonbuk National University, ²Electronic Devices Lab, KANC, ³Hydrogen and Fuel Cell Research Center, Jeonbuk National University
FP1-065	Highly Ordered $\text{Ti}_3\text{C}_2\text{T}_x$ MXene Film with Improved Mechanical Strength and Oxidation Resistance Colin Wing-Lok Cheng, Gang San Lee, and Sang Ouk Kim Department of Materials Science and Engineering, KAIST
FP1-066	Synthesis of Large Area MoS_2 for Optoelectronics by Plasma-Enhanced Chemical Vapor Deposition Mincheol Park¹, Arindam Bala², Na Liu², Anamika Sen², and Sunkook Kim^{1,2} ¹Department of Semiconductor Convergence Engineering, Sungkyunkwan University, ²Department of Advanced Materials Science and Engineering, Sungkyunkwan University



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FP1-067	Synthesis of Highly c-axis Oriented VSe ₂ Thin Films on Si Substrates via a Hybrid Deposition Method Inhyeok Oh ¹ , Jung-Woo Lee ² , and Sanghan Lee ¹ ¹ GIST, ² Hongik University
FP1-068	Laser-assisted Synthesis of Multidimensional Polymorphic MoS ₂ Crystals Chanjin Kim ¹ , Sunhwa Hong ¹ , Seoungwoong Park ² , and Byung Hee Hong ¹ ¹ Department of Chemistry, Seoul National University, ² RIST
FP1-069	Enhanced Remnant Polarization in TMDs-capped Hf _{0.5} Zr _{0.5} O ₂ Thin Films Soyeon Lee and Sanghan Lee GIST
FP1-070	Analysis of Ar/H ₂ S Inductively Coupled Plasma Reaction Using Global Model for MoS ₂ Synthesis Nayoon Kang ¹ , Tae-Hyun Kim ² , and Eun-Ho Lee ^{1,2} ¹ Department of Mechanical Engineering, Sungkyunkwan University, ² Department of Smart Fab. Technology, Sungkyunkwan University
FP1-071	Energy-efficient Memcapacitor based on BiFeO ₃ : A Feasible In-memory Computing Jiwoong Yang and Sanghan Lee GIST
FP1-072	A Large-area Active-matrix Image Sensor based on Nanoporous MoS ₂ Phototransistors with Enhanced Photoresponsivity and Uniformity Myat Thet Khine ¹ , Heekyeong Park ² , Anamika Sen ¹ , and Sunkook Kim ¹ ¹ Sungkyunkwan University, ² Samsung Electronics Co., Ltd.
FP1-073	Growth of HfSe ₂ with in-situ BN Passivation for Improved Electrical Properties Jung Dae Lee and Sanghan Lee GIST
FP1-074	Exploring the Optical Defect Properties of Amorphous SiNx Using Spectroscopic Ellipsometry Hyun Don Kim ^{1,2} , Minseon Gu ¹ , Xuan Au Nguyen ³ , Junghyeon Beak ^{1,2} , Hanyeol Ahn ¹ , Tae Jung Kim ³ , Young Dong Kim ³ , Moon-sup Han ¹ , Young Jun Chang ^{1,2,4} , and E.J. Choi ¹ ¹ Department of Physics, University of Seoul, ² Department of Smart Cities, University of Seoul, ³ Department of Physics, Kyung Hee University, ⁴ Department of Intelligent Semiconductor, University of Seoul



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FP1-075	P형 Tellurium FET의 저온 특성 분석 김민재^{1,2}, 이용수^{1,2}, 김규현^{1,2}, 김승모^{1,2}, 이해원^{1,2}, 전재현^{1,2}, 황현준^{1,2}, 이병훈^{1,2} ¹CSTC, POSTECH, ²Department of Electrical Engineering, POSTECH
FP1-076	Highly Efficient Vertical Outgassing Channel Technique for Direct Wafer Bonding and III-V Membrane Regrowth Honghwi Park, Hosung Kim, Dong-Hun Lee, and Won Seok Han Photonic/Wireless Devices Research Division, ETRI
FP1-077	Enhancing P-Type FET Performance in WSe₂ via Se-vacancy Healing and Oxygen Substitution HyeonHo Jeong, Haewon Cho, Younghyun Ju, and Sunkook Kim Sungkyunkwan University
FP1-078	Engineering In-Gap States of Silicon Nitride (SiN_x) for Charge Trap Flash Memory Hanyeol Ahn¹, Minseon Gu¹, Hyun Don Kim^{1,2}, Kyu-Myung Lee³, Jinwoo Byun⁵, Gukhyon Yon⁵, Yongsup Park³, E.J. Choi¹, Young Jun Chang^{1,2,4}, and Moonsup Han¹ ¹Department of Physics, University of Seoul, ²Department of Smart Cities, University of Seoul, ³Department of Physics, Kyung Hee University, ⁴ Department of Intelligent Semiconductor, University of Seoul, ⁵Advanced Process Development Team, Semiconductor R&D Center, Samsung Electronics Co., Ltd.
FP1-079	Evaluation of Atomic-level Interfacial Layer Using AFM Minhyung Kim¹, Jina Kim¹, Yong Hyeon Cho², Seungjae Heo¹, Hu Young Jeong³, Min Hyuk Park², and Yunseok Kim¹ ¹School of Advanced Materials Science and Engineering, SKKU, ²Department of Materials Science and Engineering, SNU, ³Graduate School of Semiconductor Materials and Devices Engineering, UNIST
FP1-080	Defect States of Al_xGa_{1-x}N Epilayers Grown on Si-doped GaN by Metal Organic Chemical Vapor Deposition Kyoung Su Lee¹, Joocheol Jeong², Yunseok Heo², Okhyun Nam², and Eun Kyu Kim¹ ¹Department of Physics and Research Institute of Natural Sciences, Hanyang University, ²Department of Nano & Semiconductor Engineering, Tech University of Korea
FP1-081	Room Temperature Growth of In-plane Controllable MgO Thin Film by Off-axis Sputtering for Monolithic 3D Integration of Epi-Ge Daeyoon Baek^{1,2}, Seung-Hwan Kim², Seong-hyun Son^{1,2}, Seung-heon Chris Baek², and Hyung-jun Kim² ¹School of Electrical Engineering, Korea University, ²Center for Spintronics, Korea Institute of Science and Technology



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FP1-082	Epitaxial Growth 를 통한 Poly-Si 기판에서의 선택적 증착 특성 연구 김성준¹, 박준형², 정회윤², 신왕철², 박인성³, 박영욱², 안진호^{1,2,4} ¹한양대학교 나노반도체공학과, ²한양대학교 신소재공학과, ³한양대학교 나노과학기술연구소, ⁴EUV-IUCC(Industry University Collaboration Center)
FP1-083	Switching Control of ZnTe Layer Modulated by Bottom TiN Electrode Yeong Gwang Kim^{1,2}, Wansun Kim³, Sang Hwa Park⁴, Min Jay Kim^{1,2}, Jaeyeon Kim³, Tae Gyu Rhee^{1,2}, In Hak Lee⁵, Hyuk Jin Kim¹, Sang Mo Yang⁴, Hyunchul Sohn³, Young Jun Chang^{1,2,6} ¹Department of Physics, University of Seoul, ²Department of Smart Cities, University of Seoul, ³Department of Material Science and Engineering, Yonsei University, ⁴Department of Physics, Sogang University, ⁵Department of Physics, UC Berkeley, ⁶Department of Intelligent Semiconductor Engineering, University of Seoul
FP1-084	Fabrication of Fe-MST Memory with Van Der Waals Heterostructure based on Characteristics of Ferroelectric HZO and Ferroelectric-phase Transition Material Do Kyeong Yun and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University
FP1-085	Observation of Ferroelectric Phase Transitions in Two-dimensional Hybrid Organic Inorganic Perovskites through Piezoresponse Force Microscopy Tae Hyun Jung¹, Yun Seung Kuk², Sang Woo Lee¹, Kang Min Ok², and Sang Mo Yang¹ ¹Department of Physics, Sogang University, ²Department of Chemistry, Sogang University
FP1-086	New Volatile Strontium Precursors for Next Generation Capacitor in DRAM Chanwoo Park², Chang Seop Hong¹, and Taek-Mo Chung² ¹Department of Chemistry, Korea University, ²Advanced Materials Division, KRICT
FP1-087	Strain Effect on the Ferroelectric Domain Morphology in Rhombohedral Multilayer Molybdenum Disulfide June Hee Shin, Sae-A Kim, and Sang Mo Yang Department of Physics, Sogang University
FP1-088	Post-heat Treatment Effect of Tin Monosulfide Synthesized by Metal Organic Chemical Vapor Deposition Ji Woon Choi¹ and Taek-Mo Chung^{1,2} ¹Thin Film Materials Research Center, KRICT, ²Department of Chemical Convergence Materials, UST



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FP1-089	Si-assisted Growth of Multilayer h-BN on Ge Seung-Hwa Baek^{1,2}, and Cheol-Joo kim^{1,2} ¹Department of Chemical Engineering, POSTECH, ²Center of Van der Waals Quantum Solids, IBS
FP1-090	Growth of Amorphous BN Using Chemical Vapor Deposition to Find an Optimum Growth Condition Jun Sun Son and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University
FP1-091	도핑 제어된 전이금속 WSe₂/MoS₂ 이종 접합 포토 다이오드 Sung Hyun Kim and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University

E. Compound Semiconductors 분과

ZONE 4 (3층 로비)

FP1-092	Growth of Hexagonal-shape Si Epilayer on 4H-SiC Using Mixed-source HVPE Seonwoo Park¹, Suhyun Mun¹, Kyoung Hwa Kim¹, Hyung Soo Ahn¹, Jae Hak Lee^{1,2}, Min Yang¹, Young Tea Chun¹, Sam Nyung Yi¹, Yeon-Suk Jang³, Won Jae Lee³, Myeong-Cheol Shin⁴, and Sang-Mo Koo⁴ ¹Department of Nano-Semiconductor Engineering, Korea Maritime and Ocean University, ²LNBS Co., Ltd., ³Department of Advanced Materials Engineering, Dong-Eui University, ⁴Department of Electronic Materials Engineering, Kwangwoon University
FP1-093	Growth of Ge-AlN Hexa-cone Core-shell Microneedles by AlN Nanowires Suhyun Mun¹, Seonwoo Park¹, Kyoung Hwa Kim¹, Hyung Soo Ahn¹, Jae Hak Lee^{1,2}, Min Yang¹, Young Tea Chun¹, Sam Nyung Yi¹, Yeon-Suk Jang³, Won Jae Lee³, Myeong-Cheol Shin⁴, and Sang-Mo Koo⁴ ¹Department of Nano-Semiconductor Engineering, Korea Maritime and Ocean University, ²LNBS Co., Ltd., ³Department of Advanced Materials Engineering, Dong-Eui University, ⁴Department of Electronic Materials Engineering, Kwangwoon University



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FP1-094	Design and Analysis of Multiple Fin-type Vertical GaN Power Device based on Epitaxially Grown GaN-on-sapphire Jeong Woo Hong, Sang Ho Lee, Jin Park, Ga Eon Kang, Jun Hyeok Heo, So Ra Jeon, Min Seok Kim, Seung Ji Bae, and In Man Kang School of Electronic and Electrical Engineering, Kyungpook National University
FP1-095	Analysis of Thermal Characteristics of AlGaIn/GaN High Electron Mobility Transistors by Adjusting Recessed Source-connected Field-plate: A Simulation Study Ji-Hun Kim, Jae-Hun Lee, and Hyun-Seok Kim Division of Electronics and Electrical Engineering, Dongguk University
FP1-096	Growth and Device Characterization of 6 inch GaAs Metamorphic High Electron Mobility Transistors (mHEMTs) Jae-Phil Shim¹, Hyunchul Jang¹, Ki-Yong Shin¹, Yongeun Kim¹, Geunuk Han¹, Yunji Jeong¹, Myungsoo Park¹, Seung Heon Shin², Donghyun Kim¹, and Chan-Soo Shin¹ ¹KANC, ²Korea Polytechnics
FP1-097	Properties of Post Annealed Ga₂O₃ Thin Films Grown on Si Substrates by MOCVD at Low Temperature Jang Beom An, Nam Jun Ahn, Hyung Soo Ahn, Kyung Hwa Kim, and Min Yang Department of Nano-Semiconductor Engineering, Korea Maritime and Ocean University
FP1-098	First Demonstration of HZO/β-Ga₂O₃ Ferroelectric FinFET for High-Performance Power Devices Seohyeon Park¹, Jaewook Yoo¹, Hyeonjun Song¹, Soyeon Kim¹, Hongseung Lee¹, Seongbin Lim¹, Minah Park¹, Peide D. Ye², and Hagyoul Bae¹ ¹Jeonbuk National University, ²Purdue University
FP1-099	Thermal Conductivity Measurement of Gallium Nitride Thin Films Using Thermoreflectance Jihyun Kim and Jungwan Cho Sungkyunkwan University
FP1-100	Ti 및 Ni 금속 기판 위에 MOCVD 방법에 의해 저온 성장한 Ga₂O₃ 박막들의 특성 평가 Ji Ye Lee, Seon Jin Mun, Dong Ho Lee, Nam Jun Ahn, Jang Beom Ahn, Hyung Soo Ahn, Kyung Hwa Kim, and Min Yang Electronic Material Engineering, Korea Maritime and Ocean University



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FP1-101	Effect of Ramp Rates of Oxidation Temperature on the Characteristics of 4H-SiC MOS Capacitor Young Jae Park¹, Seongjun Kim¹, Joon Kim², Hyeon Ju Hwang¹, Yu Jeong Lee¹, Kyeong-Keun Choi¹, Myung Jin Park¹, Woong-Suk Yang¹, Sung-Woong Han¹, Dae-Hwan Kang^{1,3}, and Hoon-Kyu Shin¹ ¹National Institute for Nanomaterials Technology, POSTECH, ²Center for Semiconductor Technology Convergence, POSTECH, ³Department of Semiconductor Engineering, POSTECH
FP1-102	Epitaxial Growth and Characterization of GaAs-mHEMT with InP Two-step Metamorphic Buffer Using MOCVD Hyunchul Jang¹, Jaephil Shim¹, Yongeun Kim¹, Ki-Yong Shin¹, Geunuk Han¹, Yunji Jeong¹, Seung Heon Shin², Sooseok Kang¹, Keun Man Song¹, Yongsu Choi¹, Donghyun Kim¹, and Chan-Soo Shin¹ ¹KANC, ²Korea Polytechnics
FP1-103	Improving Contact Resistance in InAs Nanowires through Surface Passivation and Annealing Yeon Hak Mu and Jae Cheol Shin 동국대학교 전자전기공학부
FP1-104	Analysis of Switching Characteristics of 1.2 kV SiC Trench MOSFETs for Improving Breakdown Voltage Yeonjeun Park¹, Hyowon Yoon¹, Chaeyun Kim¹, Sangyeob Kim¹, Gyuhyeok Kang¹, Jinhun Kim¹, Gukhwa Jeon¹, Sumin Park¹, Dusan Baek¹, Kanghee Shin¹, Jaejin Song², Jeongyun Lee², Soontak Kwon², and Ogyun Seok¹ ¹Kumoh National Institute of Technology, ²KEC
FP1-105	매립형 산화막 구조를 통한 1.2 kV SiC MOSFET 의 스위칭 특성 개선 윤효원, 김채윤, 박영은, 김상엽, 강규혁, 김진훈, 박수민, 백두산, 석오균 금오공과대학교
FP1-106	Investigation of Post-Annealing on Self-Powered UV-C Photodetector based on High-Performance p-NiO/β-Ga₂O₃ Heterojunction Taejun Park, Yusup Jung, TaiYoung Kang, and SinSu Kyoung Powercubesemi Inc.
FP1-107	Application of High-Power PECVD for GaN HEMTs Arim Choi, Yumin Koh, Jiseon Lee, Chuyoung Cho, Dae Young Kim, Eunhae Jun, Yun-hee Shin, Dong-Hyun Kim, and Kwang-Seok Seo Korea Advanced Nano Fab Center



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FP1-108	Ferroelectric Characteristic of $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_x$ Film on InGaAs Substrate with Annealing Temperature Engineering and Electric-Field Cycling Yoon-Je Suh, Jaeyong Jeong, Bong Ho Kim, Song-Hyeon Kuk, Seong Kwang Kim, Joon Pyo Kim, and Sangheyon Kim KAIST
FP1-109	Effect of Anneal Conditions of Al-implanted p-type Junction on a Specific Resistance and a TCR(Temperature Coefficient of Resistance) in 4H-SiC MOSFETs Kyeong-Keun Choi¹, Su Kon Kim¹, Seongjeen Kim², and Jae Kyoung Mun³ ¹Pohang University of Science and Technology (POSTECH), ²Kyungnam University, ³ETRI
FP1-110	A 150-mm Wafer Process Technology for Schottky-type p-GaN Gate HEMTs Jiseon Lee, Yumin Koh, Arim Choi, Myungsoo Park, Eunhae Jun, Yun-hee Shin, Dong-Hyun Kim, and Kwang-Seok Seo Korea Advanced Nano fab Center
FP1-111	A Semi-control-gate Transistor based on $\text{MoS}_2/\text{MoTe}_2$ Heterostructure with the Tunable Multi-valued Logic Characteristic Jing-Yao Yu^{1,2} and Gyu-Tae Kim^{1,2} ¹Nano device lab., ²Korea University
FP1-112	Investigation of the Temperature Sensitivity and the Sensing Voltage Drift of the Body Diode of SiC Power MOSFET Inho Kang, Kinam Song, Kihyun Kim, Kyoungcho Lee, and Jonghyun Kim KERI
FP1-113	Gate Reliability of Schottky-type p-GaN Gate HEMTs Under Time Dependent Gate Stress Eunhae Jun, Yumin Koh, Jiseon Lee, Arim Choi, Deoksoo Park, Sang Hyun Jung, Dong-Hyun Kim, and Kwang-Seok Seo Korea Advanced Nano fab Center
FP1-114	멀티에피를 이용한 1,700V P-Shielding Trench Gate MOSFET 성능 개선 안병섭, 남태진, 김대희, 강태영, 경신수 파워큐브세미(Powercubesemi, Inc.)



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FP1-115	Control Doping Concentration of Sn-doped α-Ga₂O₃ Epitaxial Films by Mist-CVD Jang Hyeok Park^{2,3}, and You Seung Rim^{1,2,3} ¹Department of Intelligent Mechatronics Engineering , ²Intelligent Convergence Engineering and ³semiconductor system engineering , Sejong University
FP1-116	P형 물질의 홀 농도에 따른 D-Mode GaN HEMT 문턱전압 연구 Hyun-Ho Jeong¹, Hyeon-Young Jeong¹, Hyeon-Cheol Kim¹, Sakhone Pharkphoumy¹, Taehoon Jang², Chel-Jong Choi¹, Dae Woo Kim², and Kyu-Hwan Shim^{1,2} ¹Jeonbuk National University, ²R&D Division, Sigetronics, Inc
FP1-117	Optimization of Double p-base SiC MOSFETs for Reaching SiC Limit Junghun Kim, Inho Kang, and Hyoung Woo Kim KERI
FP1-118	열특성을 이용한 광반도체 광특성 평가 마병진, 정태희, 최성순, 이관훈 KETI
FP1-119	Optimization and Characterization of p-type Gallium Nitride Contacts for High Power Device Applications Donghan Kim^{1,2}, Hongsik Park¹, Sung-Beum Bae², and Hyung-seok Lee² ¹School of Electronic and Electrical Engineering, Kyungpook National University, ²ETRI
FP1-120	AlGaIn/GaN HD-GIT 의 Dynamic R_{on}개선 연구 Min-Keun Lee , Jun-hyeok Yim, and Ho-Young Cha School of Electronic and Electrical Engineering, Hongik University
FP1-121	The Energy Transfer of Eu²⁺/Mn²⁺ in Cation Disordered Ba₆CaNaYAl₂Si₆O₂₄ Phosphors for NUV-LED Applications Heonji Ha¹, Jeonghun Lee², and Sangmoon Park^{1,2,3} ¹Department of Electronics-Energy Materials, Silla University, ²Division of Energy and Chemical Engineering Major in Energy and Applied Chemistry, Silla University, ³Department of Fire Protection and Safety Management, Silla University
FP1-122	High Efficiency Single Junction GaAs Thin-film Solar Cell with Deep Junction on an Al Carrier Doyoung Yuk¹, Wook kim¹, Younghun Yook¹, Sujong Kim¹, Minseong Seo¹, Haoyan Rong¹, Sangin Kim^{1,2}, and Jaejin Lee^{1,2} ¹Department of Intelligence Semiconductor Engineering, Ajou University, ²Department of Electrical and Computer Engineering, Ajou University



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FP1-123	Design and Simulation of Normally-Off GaN FINFET Soo-Young Moon ^{1,2} , Sang-Mo Koo ¹ , Sung-Beum Bae ² , and Hyung-seok Lee ² ¹ Department of Electronic Materials Engineering, Kwangwoon University, ² ETRI
G. Device & Process Modeling, Simulation and Reliability 분과	
ZONE 2 (2층 로비)	
FP1-124	Random Dopant Fluctuation에 따른 FBFET의 전기적 특성 변화 분석 전주희, 조경아, 김상식 고려대학교 전기전자공학과
FP1-125	채널 도핑 농도에 따른 다결정 실리콘 FBFET의 전기적 특성 연구 박태호, 조경아, 김상식 고려대학교 전기전자공학과
FP1-126	채널 길이와 두께에 따른 FBFET 배열 소자의 IMP 연산 신뢰성 연구 오정윤, 전주희, 손재민, 조경아, 김상식 고려대학교 전기전자공학과
FP1-127	Study on the Sustainability of Low-Temperature Deuterium Annealing for Damaged Gate Dielectric by Ionizing Radiation Hyo-Jun Park, Tae-Hyun Kil, Ju-Won Yeon, and Jun-Young Park Chungbuk National University
FP1-128	Phase-field and Electrothermal Simulation of Conductive Filament Behavior in Resistive Memory for Neuromorphic Applications with Varied Pulse Voltages and Initial Defects Chanhoo Park, Dongmyung Jung, and Yongwoo Kwon Hongik University
FP1-129	A Study on ESD Performance depending on Power Clamp Structure Dong-sin kim, Young-bum Eom, Heon Park, Tae-ho Yeom, Hwang-gon Jeon, Ji-hye Jang, and Sun-ha Hwang SK hynix system ic



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FP1-130	Numerical Analysis of Warpage by HBM Structure during Hybrid Bonding Seong-Hwan Park and Eun-Ho Lee Sungkyunkwan University
FP1-131	A Novel Capacitorless 1T DRAM with Self-refresh Mechanism Sang Ho Lee, Jin Park, Ga Eon Kang, Jun Hyeok Heo, So Ra Jeon, Min Seok Kim, Seung Ji Bae, Jeong Woo Hong, and In Man Kang School of Electronic and Electrical Engineering, Kyungpook National University
FP1-132	Efficient Improvements of Poly-Based Resistor Variation Employing Implantation Impact for Achieving High Yield of Mobile Display Driver IC Myeonghwan Kim, Jooyeok Seo, Dong-Il Park, Youngmok Kim, Kyunglyong Kang, Jun-gu Kang, and Yongsang Jeong Foundry Division, Samsung Electronics Co., Ltd.
FP1-133	A Novel ESD Protection Diode with Dual Current Path for High ESD Performance Youngbum Eom, Myoungchul Lim, Woojong Lee, Myunghee Nam, and Jeongsoo Park SK hynix system ic
FP1-134	다중 목적 베이지안 최적화를 활용한 차세대 트랜지스터 설계 정현준, 공정택, 김소영 성균관대학교 정보통신대학
FP1-135	래치업 면역 특성 및 고전압 어플리케이션을 위한 N-Stack 기술을 이용한 SCR 기반 ESD 보호소자에 대한 연구 Jeong Min Lee ¹ , Sang Wook Kwon ² , Seung Gu Jeong ² , Seung Hwan Baek ¹ , U Yeol Seo ¹ , and Yong-Seo Koo ² ¹ Department of Foundry Engineering, Dankook University, ² Department of Department of Electronics and Electrical Engineering, Dankook University
FP1-136	고전압 ESD 보호를 위한 PNP 소자 설계 방법 연구 Myoungchul Lim, Woojong Lee, Youngbum Eom, Myunghee Nam, and Jeongsoo Park TD (ESD), R&D Center, SK hynix system ic



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FP1-137	회로 성능 기반 차세대 트랜지스터의 Inverse Design 최진영, 공정택, 김소영 성균관대학교 정보통신대학
FP1-138	Optimization of Work Function Material for Enhanced N-type and P-type Device Performance Min Kyun Sohn, Jeong Woo Park, Sang Hoon Kim, Wang Joo Lee, Seong Hyun Lee, and DongWoo Suh ETRI
FP1-139	로직 어플리케이션을 위한 델타전도 스위칭 소자의 Scalability 연구 전재현 ^{1,2} , 이용수 ^{1,2} , 김기영 ^{1,2} , 김민재 ^{1,2} , 이해원 ^{1,2} , 황현준 ^{1,2} , 이병훈 ^{1,2} ¹ CSTC, POSTECH, ² Department of Electrical Engineering, POSTECH
FP1-140	Local Plasma Treatment Effect on TMD Device Analyzed by DC and LFN Jiyeon Kim ¹ , Yonghun Kim ² , and Hyunjin Ji ¹ ¹ Department of Electrical Engineering, University of Ulsan, ² Department of Energy & Electronic Materials, KIMS
FP1-141	Comparison between Au and Al Top Electrode in MoS ₂ Memristor Hee Yoon Jang, Do Young Kim, Min Chul Chun, and Seoung-Ki Lee School of Materials Science and Engineering, Pusan National University
FP1-142	Finite-bias Molecular Dynamics Simulations of Water at the Electrified Graphene Surface Hyeonwoo Yeo, Juho Lee, Ryong Gyu Lee, and Yong-Hoon Kim School of Electrical Engineering, KAIST
FP1-143	Strain-induced Phase Transformation In MoTe ₂ : A Phase-field Simulation Study Muhammad Hassaan Ali, Won-Kyu Lee, and Yongwoo Kwon Hongik University



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FP1-144	Modeling and Analysis on DRAM Cell Write Failure due to Word-line Metal Void Formation Donggyu Heo, Dongsik Kong, Kijae Huh, Junsoo Kim, Jeonghoon Oh, Ilgweon Kim, Jemin Park, and Jaihyuk Song Semiconductor R&D Center, Samsung Electronics Co., Ltd.
FP1-145	Study on Leakage Current and Scaling Limit of Cell Transistor Gate Oxide in DRAM for TDDDB Reliability Ji hye Kwon, Pyung Moon, Myeong jin Bang, Dong sik Gong, Kyul Ko, Jun bum Lee, Jea hyun Choi, Jun soo Kim, Jeong hoon Oh, Il gweon Kim, Je min Park, and Jai hyuk Song Samsung Electronics Co., Ltd.
FP1-146	Study on the Breakdown Voltage Characteristics of SiC Planar MOSFET by Changing P-base Doping Level Seung Hwan Baek¹, Sang Wook Kwon², Seung Gu Jeong², Jeong Min Lee¹, U Yeol Seo¹, and Yong Seo Koo² ¹Department of Foundry Engineering, ²Department of Department of Electronics and Electrical Engineering, Dankook University
FP1-147	First-principles Approach for the Capacitor Characteristics of Two-dimensional Heterojunctions based on Electrostatic Potential Embedding Ryong-Gyu Lee, Kaptan Rajput, Tae Hyung Kim, and Yong-Hoon Kim School of Electrical Engineering, KAIST
FP1-148	Reliability Assessment Method for Development of High Quality Gate Oxide in DRAM Transistor Su Hyun Kim, Sang Il Han, Gyu Hyun Lee, Hyuck Chai Jung, Jun Soo Kim, Sung Ho Jang, Jeong Hoon Oh, Il Gweon Kim, Je Min Park and Jai Hyuk Song Samsung Electronics Co., Ltd.
FP1-149	Indium Gallium Arsenide Electron and Phonon Properties Study by Density Functional Theory Tae Hui Lee and Byoung Don Kong Department of Electrical Engineering, POSTECH
FP1-150	Non-equilibrium First-principles Simulations of Transition Metal Dichalcogenide Field Effect Transistors Seunghyun Yu, Tae Hyung Kim, and Yong-Hoon Kim School of Electrical Engineering, KAIST



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FP1-151	Simulation of Crystallization in Deposited Semiconductor Thin Films Using Phase Field Method. Jung In Park, Hwanwook Lee, and Yongwoo Kwon Hongik University
FP1-152	Analysis of Interconnect Structures for Thermal Reliability Improvement and Study of Improved Structures Tae Yeong Hong and Seul Ki Hong Department of Semiconductor Engineering, Seoul National University of Science & Technology
FP1-153	Impacts of Plasma-Induced Physical Damage on DRAM High-k Metal Gate Transistor Oxide Reliability Degradation Sanggyu.ko, Hyuck-chai Jung, Sungho Jang, Junsoo Kim, Jeonghoon Oh, Ilgweon Kim, Jemin Park, and Jaihyuk Song DRAM Technology Development, Samsung Electronics Co., Ltd.
FP1-154	Ising Machine based on Ovonic Threshold Switch Oscillator Young Woong Lee¹, Unhyeon Kang^{1,3}, Sangheon Kim^{1,2}, Seungmin Oh^{1,3}, Jaewook Kim^{1,3}, Daseung Jeong¹, Jingyeong Hwang¹, and Suyoun Lee^{1,5} ¹Center for Neuromorphic Engineering, KIST, ²Department of Materials Science and Engineering, Korea University, ³Materials Science & Engineering, Seoul National University, ⁴Department of Materials Science & Engineering, Seoul National University of Science and Technology, ⁵Division of Nano & Information Technology, Korea University of Science and Technology
FP1-155	First-principles Study of Gating-Based Modulation Defect Energy Levels in Hexagonal Boron Nitride on MoS₂ Ji-Yoon Song, Ryong-Gyu Lee, and Yong-Hoon Kim School of Electrical Engineering, KAIST
FP1-156	Electronic Structures of Ovonic Threshold Switching Chalcogenide Materials from First-principles Simulations Su-Bong Lee¹, Young-Min Kim^{1,2}, and Jong-Souk Yeo¹ ¹School of Integrated Technology, Yonsei University
FP1-157	FBFET Model Using Artificial Neural Network for Circuit Simulation Seung Su Jeong and Yun Seop Yu Major of ICT & Robotics Eng., Hankyong National University



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FP1-158	Strain & Low-temperature Behavior of Quantum Hybridization Negative Differential Resistance from Non-Pb 1D Halide Perovskite Jeongwon Lee, Tae Hyung Kim, Juho Lee, and Yong-Hoon Kim School of Electrical Engineering, KAIST
FP1-159	Investigation of Electrical Performance of Vertical MoS₂ Transistors So Min An, Hyun Woo Kim, Sang Hwa Lee, and Bongjoong Kim Hongik University
FP1-160	Investigation of Breakdown Performance in Multi-Finger HS nLDMOS according to the Length between Drain and Iso Contact Semyung Kwon, Jieun Lee, Jong Min Kim, and Hyun Chul Nah Device Enabling Team, DB HiTek
FP1-161	Enhancement of the Electrical Safe Operating Area with Deep p-Well in LDMOS Jieun Lee, Jong Min Kim, and Hyun Chul Nah Device Enabling Team, DB HiTek
FP1-162	TCAD Simulation Method of Hot Carrier Degradation in LDMOS Jihye Park¹, Jieun Lee¹, Jong Min Kim¹, Jungho Kim², Junhee Cho², Hyewon Du², and Hyun Chul Nah¹ ¹Device Enabling Team, DB HiTek, ²Device Development Team, DB HiTek
FP1-163	Investigation of Transport Phenomenon and Conduction Mechanism in HfO₂-Based Metal-Ferroelectric-Metal Capacitor Ki-Sik Im¹ and Ho-Young Cha² ¹Department of Green Semiconductor System, Daegu Campus, Korea Polytechnics, ²School of Electronic and Electrical Engineering, Hongik University
FP1-164	Investigation of Contact Resistance between WO_x Channel and Metal Electrodes in Electrochemical Random-Access Memory Juhee Kim, Junyoung Choi, Seungkun Kim, Hyunjeong Kwak, and Seyoung Kim Department of Materials Science and Engineering, POSTECH
FP1-165	Whole-Chip All-Directional ESD Protection Circuit with SCR Structure for Low Voltage Applications Bo-Bae Song, Young-chul Kim, and Hyun-chul Nah Device Enabling Team, DB HiTek



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FP1-166	Impact of Work-function Variation on Inverter Characteristics of a Gate-all-around Complementary FET (CFET) for 3-nm Technology Nodes Seong-Ji Min, Sang-pill Kim, Eun-young Park, Jun-hyeok Lee, Hae-yong Park, Hyeong-kyu Jin, and Hyun-Yong Yu Korea University
FP1-167	Extraction of Subgap Density-of-States in AOS TFTs through Capacitance-Voltage Characteristics Considering Photovoltaic Effect Sueng Hyeop Han, Haesung Kim, Ju Young Park, Jong-Ho Bae, Sung- Jin Choi, Dae Hwan Kim, and Dong Myong Kim Kookmin University
FP1-168	Quantitative Modeling of the Endurance Degradation in NAND Flash Memory Han Byeol Oh and Byung Chul Jang School of Electronic and Electrical Engineering, Kyungpook National University
FP1-169	Breakdown Voltage Improvement in Junction Isolation Type LDMOS Sin Wook Kim, Dong Yeong Kim, Su Yeon Kim, Je Won Park, Chae Hyuk Lim, and Myoung Jin Lee Department of ICT Convergence System Engineering, Chonnam National University
FP1-170	Switching Performance Improvements of RRAM by Applying Protruding Top Electrode and Utilizing Surface Roughness: Multi-physics Simulations Jeonghwan Jang and Mincheol Shin School of Electrical Engineering, KAIST
FP1-171	Development of High Voltage ESD Lateral PNP with Base External Resistor and NWELL Cut-out Young Sang Son, Young Chul Kim, and Jong Min Kim Technology Enabling Design Support Team, DB HiTek
FP1-172	A Physic-Based Numerical Model for Potentiation/Depression Characteristics of Electrochemical Metallization Memristor Yeongkwon Kim and Byung Chul Jang School of Electronic and Electrical Engineering, Kyungpook National University



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FP1-173	Comparative Analysis of the Low-Frequency Noise Behavior of a-IGZO TFT with Different Source/Drain Metal Junseong Park, Seongwon Lee, Haesung Kim, Hyunwook Jeong, Yubin Choi, Sung-Jin Choi, Dae Hwan Kim, Dong Myong Kim, and Jong-Ho Bae School of Electronic Engineering, Kookmin University
FP1-174	Analysis on Drain Current Transient Response in Amorphous InGaZnO_x Thin-Film Transistors Yubin Choi, Haesung Kim, Hyojin Yang, Sejun Park, Junseong Park, Sung-Jin Choi, Dae Hwan Kim, Dong Myong Kim, and Jong-Ho Bae School of Electrical Engineering, Kookmin University
FP1-175	3D Simulation Study of an Edge Termination for Improving Breakdown Characteristics Jee Hun Jeong, Min Seok Jang, Da Hui Yoo, Jung Bok Lee¹, and Ho Jun Lee Pusan National University
FP1-176	D-mode Short Circuit Failure Simulation of Silicon IGBT Da Hui Yoo¹, Jee Hun Jeong¹, Min Seok Jang¹, Jung Bok Lee¹, Won Seok Kwon², and Ho Jun Lee¹ ¹Pusan National University, ²TRinno Technology Co., Ltd.
FP1-177	Ar/CF₄ 플라즈마 식각 공정 내 물리적 스퍼터링에서 화학적 스퍼터링으로의 전이에 따른 고종횡비 SiO₂ 식각 프로파일 변화에 대한 전산모사 연구 최병엽¹, 김시준², 정원녕¹, 이영석², 성인호¹, 조철희¹, 최민수¹, 설유빈², 이우빈¹, 서성현¹, 유신재^{1,2} ¹Department of Physics, Chungnam National University, ²Institute of Quantum System (IQS), Chungnam National University
FP1-178	Analysis of Silicon RC-IGBT for Improving Forward Voltage with Backside Processing Jung Bok Lee¹, Jee Hun Jeong¹, Da Hui Yoo¹, Min Seok Jang¹, Jun Seong Kim², and Ho Jun Lee¹ ¹Pusan University, ²TRinno Technology Co., Ltd.
FP1-179	Impact of Atomic Arrangements in Te-Based Binary Ovonic Threshold Switches during Switching Process in Local Biasing System Young-Min Kim^{1,2}, Su-Bong Lee¹, Sangyeop Kim^{1,2}, and Jong-Souk Yeo¹ ¹School of Integrated Technology, College of Computing, Yonsei University, ²BK21 Graduate Program in Intelligent Semiconductor Technology



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H. Display and Imaging Technologies 분과

ZONE 1 (1층 전시장)

FP1-180	Study of Transparent Conductive Oxide through Electrical and Optical Properties of SrRuO₃ Deposited on Glass and PET Substrates Seung Woo Baek¹, Jun Hyeok Byeon¹, Ahn Hyung Soo¹, Jang Nak Won¹, Ji-Hoon Ahn², and Hong Seung Kim¹ ¹Korea Maritime and Ocean University, ²Hanyang University ERICA
FP1-181	Near-Infrared Quantum Efficiency Improvement via Process Optimazation for CIS Application Suhye Park, So-Yun Kim, Hyun Yoo, Nam Yoon Kim, Hyo Sik Kim, Young-Ju Lee, Chang Ki Lee, Keun Hyuk Lim, Jun ho Won, and Won Ho Lee SK hynix system ic Inc.
FP1-182	Polymer Light-emitting Diodes by using 3PTZ and 3PXZ Small Molecular Hole-transport Layer Ji-Yeon Kim¹, Ju Hee You¹, Seok Ho Seo¹, and Dong Ick Son^{1,2,3} ¹Institute of Advanced Composite Materials, KIST, ²KIST School, UST, ³Department of Nanomaterials and Nano Science, UST
FP1-183	A Study on the Drain Induced Barrier Lowering of IGO TFT Using TCAD Simulation Seon Woong Bang and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
FP1-184	HZO-based Ferroelectric FET Using Oxide Semiconductor He Young Kang and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
FP1-185	Enhancing IGZO/Quantum-dots Broadband Photo Sensor through Ga₂O₃ Passivation Layer Yongjun Jeong and JaeKyeong Jeong Deptartment of Electronic Engineering, Hanyang University
FP1-186	Wavy Structure-based Thin-Film Transistor for Stretchable Displays Jeong Eun Oh and Jae Kyeong Jeong Dept. of Electronics Engineering, Hanyang University
FP1-187	Bifunctional Solution-processed Thin Film Transistors with Organic Dielectrics for High Performance and Stability Min Ki Kim, Seung Yeon Koh, Hwa Pyeong Noh, Hyo Won Jang, Swarup Biswas, and Hyeok Kim School of Electrical and Computer Engineering, University of Seoul



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FP1-188	Comparative Study of 3-D Field-Effect-Transistors with Indium-Gallium-Zinc Oxide Channel by TCAD Simulation Yena Kim and Jae Kyeong Jeong Department of Electronic Engineering, Hanyang University
FP1-189	Optimization of $\text{Hf}_x\text{Zr}_{1-x}\text{O}_2$ ferroelectric field-effect transistors by IGZO channel oxygen vacancy control Kyong Jae Kim², Eun Seo Jo², and You Seung Rim^{1,2} ¹Department of Intelligent Mechatronics Engineering and Convergence Engineering for Intelligent Drone, Sejong University, ²Department of Semiconductor Systems Engineering and Institute of Semiconductor and System IC, Sejong University
FP1-190	Facile Fabrication of Strain-Insensitive Capacitive Touch Sensor for Stretchable Displays Geonoh Choe and Yei Hwan Jung Department of Electronic Engineering, Hanyang University
FP1-191	Hybrid PDMS Stamp for Micro-LED Transfer Seol Ahn and Yei Hwan Jung Department of Electronic Engineering, Hanyang University
FP1-192	Transparent Red OLED Using AZO-Ag-AZO Electrode as Anode Yong Hyeok Seo¹, Won Woo Lee¹, Dongwoon Lee¹, Dong Gyun Kim¹, Young Woo Kim¹, Minseong Park², Ye Ji Shin², Yongmin Jeon², Sang Jik Kwon¹, and Eou-Sik Cho¹ ¹Department of Electronic Engineering, Gachon Univeristy, ²Department of Biomedical Engineering, Gachon Univeristy
FP1-193	Rapid Photonic Curing Effects of Xenon Flash Lamp on Sputtered AZO-Ag-AZO Multilayer TCO Films Yong Hyeok Seo¹, Won Woo Lee¹, Dong Gyun Kim¹, Kirak Kim¹, Yongmin Jeon², Sang Jik Kwon¹, and Eou-Sik Cho¹ ¹Department of Electronic Engineering, Gachon Univeristy, ²Department of Biomedical Engineering, Gachon Univeristy
FP1-194	Vacancy Engineering of Copper Iodide Semiconductor for High-performance p-Type Thin-film Transistors Hyun-Ah Lee¹, Hyo-Won Jang¹, Tae In Kim², Ick-Joon Park³, and Hyuck-In Kwon¹ ¹Chung-Ang University, ²Inha University, ³Joongbu University



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FP1-195	Influence of Oxygen Content on Output Characteristics of IGZO TFTs during High Current Operation Chae-Eun Oh¹, Dong-Ho Lee¹, Myeong-Ho Kim², Kyoung Seok Son², Jun-Hyung Lim², Sang-Hun Song¹, and Hyuck-In Kwon¹ ¹Chung-Ang University, Korea, ²Samsung Display
FP1-196	Effects of Al₂O₃ Surface Passivation on the Radiation Stability of IGTO Thin Film Transistors under High-Energy X-ray Irradiation Hyun-Ah Lee¹, Hyo-Won Jang¹, Kie Yatsu¹, Ick-Joon Park², and Hyuck-In Kwon¹ ¹Chung-Ang University, ²Joongbu University
FP1-197	A Study on the Incorporation Behavior of In, Ga, and Zn in IGZO Thin Films according to Sub-Cycle Ratio during Thermal Atomic Layer Deposition Hanseok Jeong¹, Soo Min Yoo¹, Minki Choe², In-Hwan Baek², and Woojin Jeon¹ ¹Department of Advanced Materials Engineering for Information and Electronics, and Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University, ²Department of Chemical Engineering, Inha University
FP1-198	High-Performance p-Type Tellurium Thin Film Transistors with Organic-Inorganic Hybrid Passivation Layer Jong-Sang Oh¹, Joon-Young Lee¹, Seung-Hyun Lim¹, Tae In Kim², Ick-Joon Park³, and Hyuck-In Kwon¹ ¹Chung-Ang University, Korea, ²Inha University, ³Joongbu University
FP1-199	TFT Off Current Stabilization Method : Using Machine Learning ANN Won Woo Lee¹, Hyun Woo Kim¹, Yong Hyeok Seo¹, Yun Hyeok Jeong¹, Yongmin Jeon², Sang Jik Kwon¹, Zong Woo Geem³, and Eou-Sik Cho¹ ¹Department of Electronic Engineering, Gachon Univeristy, ²Department of Biomedical Engineering, Gachon Univeristy, ³Department of Smart City, Gachon Univeristy
FP1-200	Surface Pre-treatment in Molybdenum Disulfide Atomic Layer Deposition for Next-generation Channel Materials Soo Min Yoo¹, Hanseok Jeong¹, Minki Choe², In-Hwan Baek², and Woojin Jeon¹ ¹Department of Advanced Materials Engineering for Information and Electronics, and Integrated Education Program for Frontier Science & Technology (BK21 Four), Kyung Hee University, ²Department of Chemical Engineering, Inha University



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FP1-201	Effects of Channel Width on Electrical Performance Degradation in IGZO TFTs under Self-heating Stresses Dong-Ho Lee ¹ , Jin-Ha Hwang ¹ , Myeong-Ho Kim ² , Kyoung Seok Son ² , Jun-Hyung Lim ² , Sang-Hun Song ¹ , and Hyuck-In Kwon ¹ ¹ Chung-Ang University, ² Samsung Display
FP1-202	Enhancing Stability of CsPbBr ₃ Perovskite Quantum Dots via Atomic Layer Deposition for Light-Emitting Diodes Min Ju Kim ¹ , Ju Young Woo ² , and Seong-Yong Cho ¹ Department of Photonics and Nanoelectronics, Hanyang University, ² Digital Transformation R&D Department, KITECH
FP1-203	Self-Assembled Monolayer에 의한 금속-산화물 반도체 사이의 Metal Oxide 형성 억제와 접촉 저항 개선 Dowan Kang ¹ , Juyoung Yun ¹ , and Yoonyoung Chung ^{1,2,3} ¹ Department of Electrical Engineering, POSTECH, ² Department of Semiconductor Engineering, POSTECH, ³ Center for Semiconductor Technology Convergence, POSTECH
FP1-204	Device Feasibility and Process Optimization of Atomic-Layer Deposited Al Doped ZnO Thin Films as Electrodes for Oxide TFT Applications Ye-Jin Seo ¹ , Young-Ha Kwon ² , Nak-Jin Seong ² , Kyu-Jeong Choi ² , and Sung-Min Yoon ¹ ¹ Kyung Hee University, ² NCD Co., Ltd.
FP1-205	Ligand-Exchanged NiO Nanoparticles as a Hole Injection Layer of Quantum Dot LED Hyojun Lim ¹ , Thi Huong Thao Dang ¹ , Nayoon Lee ¹ , Sunwoo Jin ¹ , Van Khoe Vo ¹ , Joon-Hyung Lee ¹ , Byoung-Seong Jeong ² , and Young-Woo Heo ¹ ¹ School of Materials Science and Engineering Kyungpook National University, ² Department of Hydrogen and Renewable Energy Kyungpook National University
FP1-206	Improved Light Extraction Efficiency and Color Control in Quantum Dot LEDs Using Metal-Insulator-Metal (MIM) Structure Eun Sang Lee ¹ , Hyuntai Kim ² , and Seong-Yong Cho ¹ ¹ Department of Photonics and Nanoelectronics, Hanyang University, ² Department of Electronic and Electrical Convergence Engineering, Hongik University



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FP1-207	Enhanced QLED Performance through Improved Charge Balance Using Doped NiO as the Hole Injection Layer. Nayoon Lee¹, Hyojun Lim¹, Van Khoe Vo¹, Thi Huong Thao Dang¹, Byoung-Seong Jeong², Joon-Hyung Lee¹, and Young-Woo Heo¹ ¹School of Materials Science and Engineering, Kyungpook National University, ²Department of Hydrogen and Renewable Energy, Kyungpook National University
FP1-208	A Study on the Logarithmic Sensitivity of X-ray Detectors with Multiple Pinning Voltages Du Hee Lee, Nak won Yu, Jong Min Kim, and Hyun Chul Nah Device Enabling Team, DB HiTek
FP1-209	Improvement of Uniformity on Spray-printed Organic Electrochemical Transistors with Thermally-assisted Reformation Dongyeol Seo, Donguk Kim, and Felix Sunjoo Kim School of Chemical Engineering and Materials science, Chung-Ang University
FP1-210	Demonstration of Vertically Stacked Dual-color Micro-LED Using CMOS-compatible Monolithic 3D Integration Technology for Ultra-high Resolution Display Hyunsu Kim, Juhyuk Park, Woo Jin Baek, and SangHyeon Kim School of Electrical Engineering, KAIST
FP1-211	Metal Ion-Doped Metal-Oxide Dielectric and Semiconducting Films for Low-Voltage Operating Thin-Film Transistors Se-Ryong Park, Sang-Joon Park, and Tae-Jun Ha Department of Electronic Materials Engineering, Kwangwoon University
FP1-212	Resistive Random-access Memory Properties for Cu₂CoSnS₄ Films on the ITO Glass via Direct Spin-coating Process Seo-young Jo, Taewon Jin, Gyubeen Kim, Yujin Choi, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University
FP1-213	Low-Cost, Spin-On Dopant Based N-type MOSFET Implementation for Active Matrixed Micro-Light-Emitting Diode Display Operation Hanmin Kim, Hogeon Jeon, Chaeyeong Kim, Taeyeon Lee, Changsoo Park, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University



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FP1-214	Monolithic Integration of p-GaN/AlGaIn/GaN Driving IC for Active-Matrix Micro-LEDs Hee Jae Oh, Jun Hyeok Lim, and Ho Young Cha Hongik University
FP1-215	Solvent Dependency on Copper-Iodide Film Formation via Dip-Coating and Their RRAM Properties Geun Lee, Da Han Lee, Tae Won Jin, Jong Gon Lee, Woo In Kim, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University
J. Nano-Science & Technology 분과	
ZONE 1 (1층 전시장)	
FP1-216	Bismuth Doping Strategies in GeTe to Enhance Phase-change Transition Chang Woo Lee ¹ , Hyeonwook Lim ¹ , Yeonwoo Seong ¹ , and Mann-Ho Cho ^{1,2} ¹ Department of Physics, Yonsei University, ² Department of System Semiconductor Engineering, Yonsei University
FP1-217	Selective Synthesis of Atomically-thin Semiconducting Materials and Its Electronics Applications Seoungwoong Park ¹ , Han Duk Song ¹ , Suk Yong Jung ¹ , Junwoo Kim ¹ , Jaekwang Song ² , and Chan-Jin Kim ³ ¹ RIST, ² Samsung Electronics Semiconducting R&D Center, ³ Seoul National University
FP1-218	Performance Enhancement of MoS ₂ Transistor based on Metallic NbS ₂ as a Local Bottom Gate Electrode Hyun Young Seo ¹ and Byungjin Cho ^{1,2} ¹ Department of Urban, Energy, and Environmental Engineering, Chungbuk National University, ² Department of Advanced Material Engineering, Chungbuk National University
FP1-219	Electrochemical Doping of Metal Halide Perovskites Yongjin Kim ¹ , Dohyun Kim ¹ , Eunje Park ¹ , Jeongjae Lee ² , Takhee Lee ³ , and Keehoon Kang ¹ ¹ Department of Materials Science and Engineering, Seoul National University, ² School of Earth and Environmental Sciences, Seoul National University, ³ Department of Physics and Astronomy, Seoul National University



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FP1-220	MoS₂ Field Effect Transistor with Graphene-embedded Al₂O₃ Gate Dielectric Structure Eunjeong Cho^{1,2} and Byungjin Cho^{1,2} ¹Department of Advanced Material Engineering, Chungbuk National University, ²Department of Urban, Energy, and Environmental Engineering, Chungbuk National University
FP1-221	Molecular Level Modulation by Electrolyte Gating in Mixed SAM Molecular Vertical Junctions Donguk Kim, Changjun Lee, Minwoo Song, Jongwoo Nam, Hyemin Lee, and Takhee Lee Department of Physics and Astronomy, Seoul National University
FP1-222	Exploring the Impact of Dimensional Engineering on the Reliability and Performance of Metal Halide Perovskite Field-Effect Transistors Hyeonmin Choi, Joonha Jung, Yongjin Kim, Taehyun Kong, and Keehoon Kang Department of Materials Science and Engineering, Seoul National University
FP1-223	Human-muscle-inspired Single Fibre Actuator with Reversible Percolation Kee Woong Oh, In Ho Kim, and Sang Ouk Kim Department of Materials Science & Engineering, KAIST
FP1-224	High Rate and Large Capacity Supercapacitors by Three-dimensional Shape Engineering, Interfacial Gelation of Reduced Graphene Oxide S. J. Cha, U. N. Maiti, and S. O. Kim KAIST
FP1-225	Highly Sensitive Multi-sensing Memristor based on CuBr Thin Film Juyoung Jin¹, Young-Seok Song¹, Seungyeon Kim¹, Jongwon Yoon³, Tae-Wook Kim^{1,2} ¹Jeonbuk National University, ²JBNU-KIST, ³KIMS



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FP1-226	Exploring the Interplay between Plasmonic Hot Electron-coupled Photoconductive Energy Conversion and Defect States in N-face GaN Jihyang Park¹, Kyoung Su Lee², Jeechan Yoon¹, Jina Bak¹, Bolim You¹, Eun Kyu Kim², and Moonsang Lee¹ ¹Department of Materials and Engineering, Inha University, ²Department of Physics, Hanyang University
FP1-227	Metallic NbSe₂ Used for Van Der Waals Contacts to 2D WSe₂ Channel Hoseong Shin, Hyokwang Park, and WonJong Yoo SKKU Advanced Institute of Nano Technology, Sungkyunkwan University
FP1-228	Influence of Oxidation State on Voltage-controlled Magnetic Anisotropy Ji-Hyeon Yun^{1,2}, Ji-won Yoon^{1,2}, Hyun-jun Lee^{1,3}, Si-yeol Lee¹, Sang-Ho Lim², and Seung-heon Chris Baek¹ ¹Center for Spintronics, KIST, ²Department of Materials Science and Engineering, Korea University, ³Department of Electrical Engineering, Korea University
FP1-229	Enhancing Spin-orbit Torque in Pt and W Multilayers Ji-won Yoon^{1,2}, Hyun-jun Lee^{1,3}, Ji-hyeon Yun^{1,2}, Si-yeol Lee¹, Sang-ho Lim², and Seung-heon Chris Baek¹ ¹Center for Spintronics, KIST, ²Department of Materials Science and Engineering, Korea University, ³Department of Electrical Engineering, Korea University
FP1-230	Tunneling-based Source Follower for Low Noise Image Sensor Ki Yeong Kim¹, Hyangwoo Kim¹, Kyoungwan Oh¹, Hyeongseok Yoo¹, Sungbond Park², Jaekyu Lee², Chang-Ki Baek¹, and Ju Hong Park¹ ¹POSTECH, ²Samsung Electronics Co., Ltd.
FP1-231	Piezoresistive Ti3C2Tx MXene/ Graphene Nanoribbon Composite for Highly Accurate Pressure Sensor Chan Woo Lee, Ho Jin Lee, and Sang Ouk Kim Department of Material Science & Engineering, KAIST
FP1-232	Artificial Sensory Electronic Skin Devices Jiyong Yoon, Yewon Kim, and Donghee Son Department of Electrical and Computer Engineering, Sungkyunkwan University



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FP1-233	Charge Transfer Doping of 2D Perovskites via Bulk Incorporation of Organic Molecular Dopants Jonghoon Lee¹, Jeongjae Lee², Kyeong-Yoon Baek¹, Heebeom Ahn¹, Yongjin Kim³, Hyungbin Lim¹, Yeeun Kim¹, Jaeyong Woo¹, Keehoon Kang³, and Takhee Lee¹ ¹Department of Physics and Astronomy, Seoul National University, ²School of Earth and Environmental Sciences, Seoul National University, ³Department of Materials Science and Engineering, Seoul National University
FP1-234	Broad-range Modulation of Guest-species Interactions in MoS₂ Transistors for Electrochemical Phase Transitions Jaeeun Kwon¹, Hanbin Cho², and Joonki Suh^{1,2} ¹Graduate School of Semiconductor Materials and Devices Engineering, UNIST, ²Department of Materials Science and Engineering, UNIST
FP1-235	Effective Lubricating Effect of 0D Nanodiamonds for Highly Bendable and Stretchable Graphene Liquid Crystalline Fibers Jin-Hyo Kim, Jin Goo Kim, and Sang Ouk Kim Department of Material Science & Engineering, KAIST
FP1-236	Enhanced Electrostatic Controllability of MoS₂ FETs Using Dual Gate Structure Habin Baek¹, Kyungmin Ko², Chanho Lee², and Joonki Suh^{1,2} ¹Graduate School of Semiconductor Materials and Devices Engineering, UNIST, ²Department of Materials Science and Engineering, UNIST
FP1-237	The Flow Field-flow Fractionation Based Size Selection Methodology Used as Effective Wide-range Size Separation for Graphene Oxide J. U. Jang, H. J. Choi, and S. O. Kim Department of Material Science & Engineering, KAIST
FP1-238	Pt-Ta Multilayer Channels for Energy Efficient Spin-orbit Torque MRAM Lee Hyun-jun^{1,2}, Yoon Ji-won^{1,3}, Yun Ji-hyeon^{1,3}, Lee Si-yeol¹, B.K. Ju², and Seung-heon Chris Baek¹ ¹Center for Spintronics, KIST, ²Department of Electrical Engineering, Korea University, ³Department of Materials Science and Engineering, Korea University
FP1-239	텅스텐 이황화물 수직 이종구조의 무질서와 쿨롬 상호작용이 금속-절연체 전이에 미치는 영향 Hyungyu Choi, Nasir Ali, Inhee Jung, and Won Jong Yoo SKKU Advanced Institute of Nano-Technology, Sungkyunkwan University



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FP1-241	Developing Advanced Interfacial Phase Change Materials with Selectively Modulating Covalency of the Superlattice Hyeonwook Lim¹, Chang-woo Lee¹, and Mann-Ho Cho^{1,2} ¹Department of Physics, Yonsei University, ²Department of System Semiconductor Engineering, Yonsei University
FP1-242	Imitation on Signal Degradation Procedure in Neural System with Ferroelectric Neuromorphic Transistor via Photocrosslinking Young-Seok Song, Dae-Hong Kim, Juyoung Jin, Hyeonji Joo, Minyoung Seo, Sneha Bhise, and Tae-Wook Kim^{1,2} ¹Jeonbuk National University, Korea, ²Jeonbuk National University -KIST
FP1-243	Enhancing the Electrical Properties of Thin-Film Transistors through the Incorporation of Two-Dimensional Metal Nanosheets into the Semiconducting Channel Hyeonji Joo¹, Young-Seok Song¹, Seungyeon Kim¹, Tae-Wook Kim^{1,2} ¹Jeonbuk National University, ²Jeonbuk National University -KIST
FP1-244	Tilt-engineered Molecular-scale Selector Capable of Enhancing Pattern Recognition Accuracy Jung Sun Eo¹, Jaeho Shin², Takkyeong Jeon¹, Jingon Jang¹, and Gunuk Wang¹ ¹KU-KIST Graduate School of Converging Science & Technology, Korea University, ²Department of Chemistry, Rice University
FP1-245	Low Temperature and Solution-processed Sol-gel Aluminium Oxide Charge-trap Layer for Floating Gate Memory Transistors and Their Artificial Synapse Application Sneha Bhise¹, Young-Seok Song¹, Dae-Hong Kim¹, and Tae-Wook Kim^{1,2} ¹Jeonbuk National University, ²Jeonbuk National University -KIST



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FP1-247	2D Reliable Electromagnetic Interference (EMI) Shielding Properties of 2D Copper@Copper Oxide Core-Shell Nanosheets Film Minyoung Seo¹, Seungyeon Kim¹, Tae-Wook Kim^{1,2} ¹Jeonbuk National University, ² Jeonbuk National University -KIST
FP1-248	Double-sided charge transfer doping method for 2D WSe₂ FET Kwangro Lee¹, Brian S. Y. Kim^{2,3}, Hoseong Shin¹, James Hone², and Won Jong Yoo¹ ¹Department of Nano Science and Technology, SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, ²Department of Mechanical Engineering, Columbia University, ³Department of Materials Science and Engineering, University of Arizona
FP1-249	Laterally Stitched 2D Metal-semiconductor Junction with Low Contact Resistance Fabricated by Pd-to-PdTe₂ Transition Jaewoong Joo, Hayeong Sung, Hyunjun Kim, Yoona Kim, Byeongchan Kim, and Gwan-Hyoung Lee Department of Materials Science and Engineering, Seoul National University
FP1-250	Spintronic Artificial Synapse based on Voltage-controlled Magnetic Easy-axis Jimin Jeong¹, Yun-ho Jang², Min-Gu Kang¹, Seungeon Hwang², Jongsun Park², and Byong-Guk Park¹ ¹Department of Materials Science and Engineering, KAIST, ²Department of Electrical Engineering, Korea University
FP1-251	Lateral Junctions of Twisted and Zero-twisted Transition Metal Dichalcogenide Heterobilayers via Atomic Reconstruction Hyeong Seok Lee, Ji-Hwan Baek, Seong Chul Hong, and Gwan-Hyoung Lee Department of Material Science and Engineering, Seoul National University
FP1-252	Multi-terminal Floating Gate Memristor in Van Der Waals Heterostructures for Unsupervised Learning Mi Hyang Park and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University



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FP1-253	Wafer-scale Integration of Logic Circuits Using 2D-MoS₂ FETs with a Buried-Gate Structure Ju-Ah Lee^{1,2}, Jongwon Yoon¹, and Yonghun Kim¹ ¹Department of Energy & Electronic Materials, Surface & Nano Materials Division, KIMS, ²School of Materials Science and Engineering, Pusan National University
FP1-254	One-dimensional WOX-Based Physical Reservoir Computing for Wearable Neuromorphic Applications Hyojin Shin¹, Haein Cho¹, Dae-Hong Kim², Tae-Wook Kim², and Gunuk Wang¹ ¹Korea University, Korea., ²Jeonbuk National University
FP1-255	Stochastic P-bits Generation by Spin-Orbit Torques in Magnetic Trilayers Donghyeon Han¹, Chaehyeon Shin², Seok-Jong Kim¹, Yunho Jang², Geun-Hee Lee¹, Jeongchun Ryu¹, Makoto Kohda³, Junsaku Nitta³, Kab-Jin Kim¹, Jongsun Park², Kyung-Jin Lee¹, and Byong-Guk Park¹ ¹KAIST, ²Korea University, ³Tohoku University
FP1-256	Gate-injection Synaptic Transistors based on 2D Van Der Waals Heterojunction with Band Offset Won-seok Choi and Gwan-Hyoung Lee Department of Materials Science and Engineering, Seoul National University
FP1-257	Inkjet-printed Stretchable Thin-film Transistors with Van Der Waals Heterostructures Jiwoo Yang^{1,3}, Jongsung Kim¹, Kyungjune Cho¹, Takhee Lee², Yongtaek Hong³, and Seungjun Chung¹ ¹Soft Hybrid Materials Research Center, KIST, ²Department of Physics and Astronomy, and Institute of Applied Physics, Seoul National University, ³Department of Electrical & Computer Engineering, Seoul National University
FP1-258	High-Performance Near-Infrared Photodetection via Gate Modulation in GeAs/ReS₂ Heterostructures Byung Hoon Lee^{1,3}, Jung Ho Kim^{1,2}, and Ki Kang Kim^{1,3} ¹Department of Energy Science, Sungkyunkwan University, ²Department of Materials Science and Metallurgy, University of Cambridge, ³CINAP, IBS
FP1-259	Reconfigurable VO₂ mott memristor for Neuromorphic Electronics Gwanyeong Park, Sanghyeon Choi, and Gunuk Wang KU-KIST Graduate School of Converging Science and Technology, Korea University



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FP1-261	Inkjet-Printed Polyelectrolyte-coated BaTiO₃ Based Capacitor Arrays for Physical Unclonable Function Woongki Hong¹, Murali Bissannagari², Donghoon Lee¹, and Hongki Kang ¹Department of Electrical Engineering and Computer Science, DGIST, ²Information and Communication Research Center, DGIST
FP1-262	Tailoring Thermoelectric Properties of Large-Area MoS₂ Films with Effective Doping Strategies Sooyeon Moon^{1,2}, Kyungjune Cho¹, and Seungjun Chung¹ Soft Hybrid Materials Research Center, Korea Institute of Science and Technology, ²Dept. Of Material Science and Engineering, Seoul National University
FP1-263	Dynamic Response Analysis of 2D TMD Channel FETs with Compact Modeling Yeon Su Kim and Gyu-Tae Kim School of Electrical Engineering, Korea University
FP1-264	Dual-gate Graphene Field-effect Transistor with a Thin HfO₂ insulator Dong Yeong Kim, Jun woo Kim, Young Jun Rho, and Sang Hyun Lee School of Chemical Engineering, Chonnam National University
FP1-265	금속-ReS₂ 엣지 접촉시 발생하는 비등방성 전하 수송 Hyokwang Park¹, Myeongjin Lee¹, Xinbiao Wang¹, Nasir Ali¹, Kenji Watanabe², Takashi Taniguchi², Euyheon Hwang¹, and Won Jong Yoo¹ ¹SKKU Advanced Institute of Nano-Technology (SAINT), Sungkyunkwan University, ²National Institute for Materials Science
FP1-266	Contact Resistance Effects on Vertical Carrier Density Profile and Surface Defect density of WSe₂ multilayers Dahyun Choi, Eunji Sim, Young-Hye Son, and Min-Kyu Joo Department of Applied Physics, Sookmyung Women's University



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FP1-268	Electrical Characterization of Metal-Hexagonal Boron Nitride-Graphene Multilayers for Nanoscale Light Source Applications Seunghwan Moon^{1,2}, Young-Min Kim^{1,2}, and Jong-Souk Yeo¹ ¹School of Integrated Technology, College of Computing, Yonsei University, ²BK21 Graduate Program in Intelligent Semiconductor Technology, Yonsei University
FP1-269	Development of CMOS-integrated TiO_x Memristor Array for In-memory Computing Yeon Seo An¹, Jingon Jang¹, Dowon Kim³, Byunggeun Lee³, and Gunuk Wang^{1,2} ¹KU-KIST Graduate School of Converging Science and Technology, ²Department of Integrative Energy Engineering, Korea University
FP1-270	Three-terminal Vertical HZO Ferroelectric Synapse for High-performance and Energy-efficient Pattern Recognition Yongjun Kim¹, Seonghoon Jang¹, Jihoon Jeon³, Seonggil Ham¹, Sanghyeon Choi¹, Seong-Keun Kim³, Jingon Jang¹, and Gunuk Wang^{1,2,4} ¹KU-KIST Graduate School of Converging Science and Technology, ²Department of Integrative Energy Engineering, Korea University, ³Electronic Materials Research Center, Korea Institute of Science and Technology, ⁴Center for Neuromorphic Engineering, KIST
FP1-271	Development of All-solid State Organic Electrochemical Transistor for Neuromorphic Applications Chung-Bi Han¹ and Gunuk Wang² ¹KU-KIST Graduate School of Converging Science & Technology, Korea University, ²Department of Integrative Energy Engineering, Korea University
FP1-272	Modulation of Metal-insulator Transition in Single-crystalline VO₂ Films for Switching Device Applications Ki Hoon Shin¹, Sumin Jeong¹, Eunmin Kim¹, Woong-Ki Hong², and Jung Inn Sohn¹ ¹Division of Physics and Semiconductor Science, Dongguk University, ²Center for Scientific Instrumentation, Korea Basic Science Institute
FP1-273	Strain-mediated Excitonic Behaviors at the Interface of Heterostructured 2D Transition Metal Dichalcogenides Eunmin Kim¹, Ki Hoon Shin¹, Sangyeon Pak², and Jung Inn Sohn¹ ¹Division of Physics and Semiconductor Science, Dongguk University-Seoul, ²School of Electronics and Electrical Engineering, Hongik University



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FP1-275	Van Der Waals Epitaxially-grown Molecular Crystal Dielectric α-Sb₂O₃ for 2D Electronics Huije Ryu², Hyunjun Kim¹, Jae Hwan Jeong¹, Byeong Chan Kim¹, and Gwan-Hyoung Lee¹ ¹Department of Materials Science and Engineering, Seoul National University, ²New Material Lab, SAIT, Samsung Electronics Co., Ltd.
FP1-276	Development of Ferroelectric Field-Effect Transistor Using a Stack of Halide Perovskite Channel and HZO Thin Film for Neuromorphic Electronics Donghyeok Kim¹, Young ran Park¹, Chanhyeok Kim¹, Jihoon Jeon³, Seong Keun Kim³, Hanul Min^{1,2}, and Gunuk Wang^{1,2} ¹KU-KIST Graduate School of Converging Science and Technology, Korea University, ²Department of Integrative Energy Engineering, Korea University, ³Electronic Materials Research Center, KIST
FP1-278	TMDs/Si Heterojunction Photodetectors: A Step towards High-Performance Photodetector Beomsu Jo, Singri Ramu, Sung Hyeon Cha, and Young Lae Kim Department of Electronic Engineering, Gangneung-Wonju University
FP1-279	Photon-Based Radiation Exposure Study on Transparent Conducting Oxide Semiconductor Operating in Radiation-Rich Environments Junho Noh and Byoungdeog Choi Department of Electrical and Computer Engineering, Sungkyunkwan University
FP1-280	Microwave Annealed High Performance a-IGTO Thin Film Transistor Sungsoo Park and Byoungdeog Choi Department of Electrical and Computer Engineering, Sungkyunkwan University



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FP1-282	Shell Thickness Dependence of Strain Profile and Electronic Structure of InP-Based Colloidal Quantum Dots Jin Hyong Lim and Nobuya Mori Graduate School of Engineering, Osaka University
FP1-283	Complementary 2D Tunnel FETs with Extremely Asymmetric Dual-barrier Heterostructures Hanbin Cho¹, Seonguk Yang¹, Donggyu Park², and Joonki Suh^{1,2} ¹Department of Materials Science and Engineering, UNIST, ²Graduate School of Semiconductor Materials and Devices Engineering, UNIST
FP1-284	2-dimensional High-sensitivity Gas Molecule Detector with Variable Metal/Semiconductor Junction Schottky Barrier Ji Hun Sim and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University

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FP1-286	Single-ended Sense Amplifier with Offset Cancellation Kee Won Kwon and Jin-Gon Oh Sungkyunkwan University
FP1-287	Self-enabled Write Assist Cells for High-density SRAM in Resistance Dominated Technology Node Minjune Yeo¹, Keonhee Cho², Seung Jae Yei¹, and Seong-Ook Jung¹ ¹Yonsei University, ²Samsung Electronics Co., Ltd.



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FP1-289	유기물 기반 비휘발성 전하 포획형 메모리 두께 증가에 따른 전기적 특성에 관한 연구 Jun Hyup Jin, Ji In Kim, In Su Park, Ji Ho Yu, Nam Ki Hwang, and Min Ju Kim Department of Foundry engineering, Dankook University
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FP1-292	A Study on the Sense Amplifier Scheme of eFuse OTP IP Heon Park, Hwang-gon Jeon, Ji-hye Jang, Tae-ho Yeom, Dong-shin Kim, and Sun-ha Hwang SK hynix system ic
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FP1-294	Process Variability Analysis in 3D NAND Macaroni Structures: Machine Learning for Predicting Program and Erase Characteristics Hwanheechan Choi ¹ , Jangkyu Lee ¹ , and Hyungcheol Shin ^{1,2} ¹ Inter-University Semiconductor Research Center, Department of Electrical and Computer Engineering, Seoul National University, ² Integra Semiconductor Co., Ltd.
FP1-295	A Study on Auto Tracking of VREF for Reading Low Density Memory IP Hwang-gon Jeon, Heon Park, Ji-hye Jang, Tae-ho Yeom, Dong-shin Kim, and Sun-ha Hwang SK hynix system ic



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FP1-297	Analysis of Program Speed Degradation with ON Pitch Scaling in 3D NAND Flash Memory Hee young Bae and Jong Kyung Park Department of Semiconductor Engineering, Seoul National University of Science and Technology
FP1-298	Temperature Dependency of Endurance and Recovery Characteristics in 3D NAND Flash Memories Donghyuk So^{1,2}, Yonggyu Cho³, Hyunyoung Shim³, Jaesung Sim³, and Hyungcheol Shin^{1,2,4} ¹Inter-University Semiconductor Research Center, Seoul National University, ²Department of Electrical and Computer Engineering, Seoul National University, ³NAND Tech. Development Division team, SK Hynix, ⁴Integra Semiconductor Co., Ltd.
FP1-299	Development of Polymer/NMO Composite Based Resistive Random Access Memory Yu-Kyung Kim¹ and Jea Young Choi² ¹Department of Metallurgical Engineering, Dong-A University, ²Department of Materials Sciences & Engineering, Dong-A University
FP1-300	The Investigation of Stable Reset Voltage Control in TaO_x-based RRAM Devices via Oxygen Plasma Treatment Jung-Hwa Cha, Hee yeon Noh, Yeongsam Kim, and Myoung-Jae Lee Research Institute, DGIST
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FP1-303	Investigation of Grain Boundary Effect on Threshold Voltage and ISPP Slope in 3D NAND Flash Memories Insang Han^{1,2}, Sangmin Ahn^{1,2}, and Hyungcheol Shin^{1,2,3} ¹Inter-University Semiconductor Research Center, Department of Electrical and Computer Engineering, Seoul National University, ²Integra Semiconductor Co., Ltd.



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FP1-307	Compute-in-memory for Vison Transformer Using Flash Thin Film Transistor Memory Jong Hyun Ko and Jong Ho Lee ¹Department of Electrical and Computer Engineering, Seoul National University, ²ISRC, Seoul National University
FP1-308	무기 농도 변화에 따른 초박형 하이브리드 필름 기반 저항성 랜덤 액세스 메모리 동작 Ji In Kim, Jun Hyup Jin, In Su Park, Nam Ki Hwang, Ji Ho Yu, Tae Hoon Kim, and Min Ju Kim Department of Foundry engineering, Dankook University
FP1-309	A Long-term Plasticity dependent on a Gate Read-voltage of a Synaptic Thin-Film Transistors Jeongseok Pi, Junyeong Jang, Donggeon Park, Dohyeong kim, Haeri Kim, Gyoungyeop Do, Danyoung Cha, and Sungsik Lee Department of Electronics Engineering, Pusan National University
FP1-310	A Tunneling Oxide Thickness-dependent Synaptic Characteristics of ZnO-based Thin-Film Transistors Seokhyun Byun, Sangheon Chae, Sunbin Jo, Jeongmyeon Je, Nayeong Lee, Kunhee Tae, Danyoung Cha, and Sungsik Lee Department of Electronics Engineering, Pusan National University
FP1-311	Organic-inorganic Hybrid Methyl-silsesquioxanes based Electric-Double-Layer for CMOS-compatible Synaptic Transistors Tae-Hwan Hyun, Tae-Gyu Hwang, Hamin Park, and Won-Ju Cho Department of Electronic Materials Engineering, Kwangwoon University



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FP1-313	Stabilizing Resistive Memories through Conductive Filament Regulation Using Self-Organized Silica Nanodot Park Soyi, Byoung Kuk You, Jong Min Kim, and Keon Jae Lee Department of Materials Science and Engineering, KAIST
FP1-314	Effect of Phosphorus Concentration of PSG Electric Double Layer on Synaptic Operation Characteristics of Electrolyte Gate Transistor Yeong-Ung Kim ¹ , Dong-Gyun Mah ¹ , Seong-Hwan Lim ² , Ha-Min Park ² , and Won-Ju Cho ¹ ¹ Department of Electronic Materials Engineering, Kwangwoon University, ² Department of Electronic Engineering, Kwangwoon University
FP1-315	Organic-inorganic Hybrid Ferroelectric Organic Thin-Film Transistors to Minimize Leakage Current Hyowon Jang, Yongju Lee, Swarup Biswas, and Hyeok Kim School of Electrical and Computer Engineering, University of Seoul
FP1-316	Characterization of HfO ₂ Thin Films Prepared by Sequential Plasma Atomic Layer Deposition (SPALD) for the Charge Trapping Memory Jae Hoon Yu, Won Ji Park, and Hee Chul Lee Department of Advanced Materials Engineering, Tech University of Korea
FP1-317	Study of Non-volatile TCAM based on Ferro-FinFET Including Circuit Characteristics Juhwan Park, Huijun Kim, and Jongwook Jeon Department of Electrical and Computer Engineering, Sungkyunkwan University
FP1-318	3nm Ferro-FinFET 기반 Full Adder 회로 적용에 대한 배선효과 연구 Hui Jun Kim, Ju Hwan Park, and Jong Wook Jeon Sungkyunkwan University
FP1-319	Effect of Interfacial SiO ₂ Layer Thickness on the Memory Performances in the HfAlO _x -based Ferroelectric Tunnel Junction for a Neuromorphic System Yongjin Park, Minseo Noh, Seoyoung Park, Suyong Park, Woohyun Park, Jonghyuk Park, Jihee Park, and Sungjun Kim Division of Electronics and Electrical Engineering, Dongguk University



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FP1-320	Improving Synaptic Characteristics of Organic Field-Effect Transistors through UV Modification of High-glass Transition Polymer Electrets Hoyoung Cho¹, Danyoung Cha², Moonsuk Yi², Sungsik Lee², and Jeongkyun Roh¹ ¹Department of Electrical Engineering, Pusan National University, ²Department of Electronics Engineering, Pusan National University
FP1-321	스토캐스틱 비트 기반의 스파이킹 뉴럴 네트워크 설계 Hye Yeon- Jeon¹, Yoon Kim¹, and Min Suk Koo² ¹서울시립대학교 전자전기컴퓨터공학과, ²인천대학교 컴퓨터공학부
FP1-323	Synaptic Characteristics of a-IGZO Thin Film Transistor with Embedded ZnO Charge Trapping Layer for Neuromorphic System Junwon Jang, Jungwoo Lee, Eunjin Lim, Hyeonseung Ji, Jungang Heo, Seongmin Kim, Chaewon Youn, and Sungjun Kim Division of Electronics and Electrical Engineering, Dongguk University
FP1-324	The Two-terminal Self-gate Diode with Exceptionally Low Ideal Factors Developed from a Two-dimensional Van Der Waals Heterostructure So Hyeon Park and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University
FP1-325	Room Temperature Ferromagnetism in Two-dimensional Transition Metal Dichalcogenides Induced by Magnetic Intercalation Yong Ha Shin and Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University
FP1-326	Enhancing Charge Boosting Efficiency Using Polarization Switching Characteristics of Hafnia-Based Ferroelectric for DRAM Application Jimin Lee¹, Minjeong Kang¹, Yoomi Kang¹, Taewan Noh¹, Hoseong Kim¹, Jisu Byun¹, Wonwoo Kho¹, Hyunjoo Hwang¹, Hyo-Bae Kim³, Ji-Hoon Ahn³, and Seung-Eon Ahn^{1,2} ¹Department of IT-Semiconductor Convergence Engineering, Tech University of Korea, ²Department of Nano&Semiconductor Engineering, Tech University of Korea, ³Department of Materials Science and Chemical Engineering, Hanyang University
FP1-328	A Nonlinear Self-rectifying Synaptic Device Using Molybdenum Disulfide Nanomaterials Jongho Lim, DongJun Jang, TaeYong Lee, and Min-Woo Kwon Department of Electric Engineering, Gangneung-Wonju National University



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FP1-329	HfAlO_x-based Ferroelectric Tunnel Junction with High Polarization for Neuromorphic System Sunghun Kim, Hyogeun Park, Yongjin Byun, Euncho Seo, Gyuhoon Lee, Seungjun Lee, Yoonseok Lee, and Sungjun Kim Division of Electronics and Electrical Engineering, Dongguk University
FP1-330	Nitrogen-doped CMOS-compatible ReRAM with Improved Uniformity. Youna Kwon, Gapseop Sim, Huijae Cho, Youngjoo Kim, Dongeun Yoo, Minho Kang, Namsoo Park, Yeeun Na, Yuri Lim, and Jongwon Lee Nano Convergence Technology Division, NNFC
FP1-331	Improvement of Refresh and Row Hammer Characteristics by Fluorine Passivation Hyunseung Choi, Taeyoon Lee, Sanghyun Park, Jae-Hyun Choi, Junsoo Kim, Jeong-Hoon Oh, Jemin Park, and Jaihyuk Song Samsung Electronics Co., Ltd.
FP1-337	A Fully Hardware-Based Neural Network Accelerator Using Self-Rectifying Memristor Integrated Passive Crossbar Array Kanghyeok Jeon^{1,2}, Doo Seok Jeong¹, Taeyong Eom², and Gun Hwan Kim³ ¹Division of Materials Science and Engineering, Hanyang University, ²Division of Advanced Materials, KRICT, ³Department of System Semiconductor Engineering, Yonsei University
FP1-339	Enhancing Reliability in 3D NAND Memory: A New Programming Scheme for Z-Interference Reduction Hyeon Seo Yun and Jong Kyung Park Department of Semiconductor Engineering, Seoul National University of Science & Technology
FP1-340	Content Addressable Memory 동작 구현을 위한 주변 회로 시스템 김진혁¹, 구민석², 김윤¹ ¹서울시립대학교 전자전기컴퓨터공학과, ²인천대학교 컴퓨터공학부
FP1-341	Charge-trap Memristor Device based on 180nm Si CMOS Foundry Process 이원철, 권윤아, 서동주, 임유리, 설우석, 이종원 Nano Convergence Technology Division, NNFC



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FP1-342	Comparative Study on Ferroelectric Properties of (Hf,Zr)O₂ Thin Films Using H₂O₂ and O₃ as ALD Oxidants Juntak Jeong¹, Yong Chan Jung², Jin-Hyun Kim², Hye Ryeon Park¹, Seongbin Park¹, Jongmug Kang¹, Yeseo Choi¹, Jiyoung Kim², and Si Joon Kim¹ ¹Kangwon National University, ²The University of Texas at Dallas
FP1-343	A Study on Low-temperature (<400°C) Furnace Annealing for BEOL Compatible Ferroelectric ALD-(Hf,Zr)O₂ Thin Films Jongmug Kang¹, Seongbin Park¹, Hye Ryeon Park¹, Juntak Jeong¹, Yeseo Choi¹, Jin-Hyun Kim², Minjong Lee², Jiyoung Kim², and Si Joon Kim¹ ¹Kangwon National University, ²The University of Texas at Dallas
FP1-344	Reliable HZO (0.5) Based Ferroelectric Memory with Ultra-low Operation Voltage of 1.1V by Synergy Effect of Thickness Scaling and Microwave Annealing Mostafa Habibi, Hojung Jang, Pendar Azaripour, Kyumin lee, Seungyeol Oh, and Hyunsang Hwang POSTECH
FP1-345	Precision Control of HfO₂- Based Ferroelectric Tunnel Junction Memory State Taewan Noh¹, Wonwoo Kho¹, Hyunjoo Hwang¹, Hoseong Kim¹, Jimin Lee¹, Jisu Byun¹, Yoomi Kang¹, Minjeong Kang¹, Jisu Byun¹, and Seung-Eon Ahn^{1,2} ¹Department of IT · Semiconductor Convergence Eng, Tech University of Korea, ²Department of Nano & Semiconductor Eng, Tech University of Korea
FP1-346	NoC 기반 최적의 PIM 하드웨어 가속기 디자인 탐구를 위한 시뮬레이터 이원주¹, 김 윤¹, 구민석² ¹서울시립대학교 전자전기컴퓨터공학과, ²인천대학교 컴퓨터공학부
FP1-347	Indium-Gallium-Zinc-Oxide CTF-Based Reconfigurable Logic Gates Eunpyo Park^{1,2}, Dong Yeon Woo¹, Dae Kyu Lee¹, Gichang Noh¹, Yooyeon Jo¹, Jongkil Park¹, Jaewook Kim¹, YeonJoo Jeong¹, Suyoun Lee¹, Inho Kim¹, Jong-Keuk Park¹, Seongsik Park¹, Hyun Jae Jang¹, Sangbum Kim², and Joon Young Kwak^{1,3} ¹KIST, ²Seoul National University, ³Korea UST
FP1-348	Flexible Artificial Synapse Devices based on Integrated Two-dimensional Material for Wearable Electronic Systems Hyeon Seung Lee¹, Chae Min Yeom¹, Sunil Babu Eadi³, Kolleboyina Jayaramulu³, Hyuk Min Kwon², and Hi Deok Lee¹ ¹Chungnam National University, ²Semiconductor Convergence Campus of Korea Polytechnics College, ³Department of Chemistry, Indian Institute of Technology



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FP1-349	Graphene Diffusion Barrier를 이용한 PPXC 기반의 RRAM Crossbar Array 이선정 ¹ , 김수경 ¹ , 김보람 ¹ , 구민석 ² , 박동욱 ¹ , 김윤 ¹ ¹ 서울시립대학교 전자전기컴퓨터공학과, ² 인천대학교 컴퓨터공학과
FP1-350	Study the Impact of Metal Ion Doping Location on the Performance of ZnO RRAM Memory Devices Yu-Mi Kim ¹ , Jun Kue Park ¹ , So-Yeon Kwon ² , Woon-San Ko ² , and Ga-Won Lee ² ¹ KAERI, ² Chungnam National University
FP1-351	Implementation of Threshold Switching in ZrO ₂ Memristor through Crystallization Dae Kyu Lee ^{1,2} , Gichang Noh ¹ , Yooyeon Jo ¹ , Eunpyo Park ¹ , Min Jee Kim ¹ , Yong Woo Sung ¹ , Dong Yeon Woo ¹ , and Joon Young Kwak ^{1,3} ¹ KIST, ² Korea University, ³ UST
FP1-352	Switchable Memory Operation of Reconfigurable Dopingless Feedback Field Effect Transistors Yuna Suh and Doohyeok Lim Kyonggi University
FP1-353	Cryogenic Behaviors of Capacitorless 1T-DRAM Hakin Kim and Doohyeok Lim Kyonggi University
FP1-354	True Random Number Generator based on Memristor Array for Medical Image Synthesis Using Generative Network Namju Kim and Byung Chul Jang School of Electronic and Electrical Engineering, Kyungpook National University
FP1-355	TiO ₂ Interlayer for Ferroelectric Thin-film Transistor with SnO Channel and HZO Gate Dielectric An Hoang-Thuy Nguyen ¹ and Choi Rino ^{1,2} ¹ 3D Convergence Center, Inha University, ² Department of Materials Science and Engineering, Inha University
FP1-356	3D Vertical RRAM 기반 nvSRAM 및 CNN 구현 방법 안지훈 ¹ , 구민석 ² , 김윤 ¹ ¹ 서울시립대학교 전자전기컴퓨터공학과, ² 인천대학교 컴퓨터공학부



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FP1-357	멤리스터 기반 임계-지점 가변형 전기화학 바이오센서의 구현 권윤아 ^{1,2} , 배남호 ¹ , 안재혁 ² , 설우석 ¹ , 임부택 ¹ , 이종원 ¹ , 김영준 ³ ¹ 나노종합기술원, ² 충남대학교, ³ 가천대학교
FP1-358	CMOS Compatible Short-Term Memory Implementation 윤병호 ¹ , 김보람 ¹ , 안지훈 ¹ , 구민석 ² , 김윤 ¹ ¹ 서울시립대학교 전자전기컴퓨터공학과, ² 인천대학교 컴퓨터공학부
FP1-359	2 로직 셀 기반 싱글 레벨 셀 낸드 플래시 메모리 상에서의 로직 연산 구현 금건우 ¹ , 안지훈 ¹ , 김윤 ¹ , 구민석 ² ¹ 서울시립대학교 전자전기컴퓨터공학과, ² 인천대학교 컴퓨터공학부
FP1-360	NAND 플래시 메모리와 DRAM이 융합된 NAD 메모리 김소중 ¹ , 안지훈 ¹ , 구민석 ² , 김윤 ¹ ¹ 서울시립대학교 전자전기컴퓨터공학과, ² 인천대학교 컴퓨터공학부
FP1-361	Effect of Program Error in Memristor-Based Ternary Content Addressable Memory Sangwook Youn, Jinwoo Park, Kyuree Kim, Jungjin Lee, and Hyungjin Kim Department of Electrical and Computer Engineering, Inha University
FP1-362	Physical Unclonable Function with Memcapacitor Crossbar Array Using NAND Flash Structure Min Suk Song, Suhyeon Ahn, Hwiho Hwang, and Hyungjin Kim Department of Electrical and Computer Engineering, Inha University
FP1-363	True Random Number Generator Using Random Telegraph Noise of Memristor Hwiho Hwang, Min Suk Song, Suhyeon Ahn, Dayeon Yu, and Hyungjin Kim Department of Electrical and Computer Engineering, Inha University
FP1-364	Impacts of Annealing on the Operation Characteristics of Phase Change Memory Using Ge ₂ Sb ₂ Te ₅ (GST) Material San Park ¹ , Sejin Kim ¹ , Sehyeon Choi ¹ , Boncheol Ku ¹ , Jun Woo Park ² , Pil Seong Park ² , Sang Hyun Ji ² , and Changhwan Choi ¹ ¹ Division of Materials Science & Engineering, Hanyang University, ² AP Systems
FP1-365	Passing Word Line Induced Subthreshold Leakage Reduction by a Partial Insulator in a Buried Channel Array Transistor Suyeon Kim, Dongyeong Kim, Jewon Park, Sinwook Kim, Sowon Kim, and Myeong Jin Lee Department of ICT Convergence System Engineering, Chonnam National University



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FP1-366	Row Hammer Characteristics by Total Ionization Dose Effect (TID) in Partial Isolation Type Buried Channel Array Transistor (PI-BCAT) Je-Won Park, Dong-Yeong Kim, Su-Yeon Kim, Sin-Wook Kim, Ju-Won Lee, and Myoung Jin Lee Department of ICT Convergence System Engineering, Chonnam National University
FP1-367	Improving Endurance of Ferroelectric Devices Using Nitrogen Incorporation into Interfacial Dielectric Jae Kyeong Kim and Rino Choi 3D Convergence Center and Materials Science and Engineering, Inha University
FP1-368	Monolithic 3D Integrated Non-Volatile Logic Circuits with Hafnia-Based Ferroelectric TFT Formed by Low Temperature MWA Process Hongrae Joh, Hyojun Choi, Yunseok Nam, Sangmok Lee, Woongjin Kim, Jihye Ock, Sujeong Lee, Hyunjun Kang, and Sanghun Jeon School of Electrical Engineering, KAIST
FP1-369	Cryogenic Phase Change Memory Sohui Yoon¹, Dong-Hyeok Lim¹, Namwook Hur¹, Beomsung Park¹, Hongsik Jeong^{1,2}, and Joonki Suh^{1,2} ¹Department of Materials Science and Engineering, UNIST, ²Graduate School of Semiconductor Materials and Devices Engineering, UNIST
FP1-370	A-IGZO Cell Transistor for 3D Monolithic DRAM Memory Hee Seung Kim, Joo Seock Kim, and Byung Chul Jang School of Electronic and Electrical Engineering, Kyungpook National University
FP1-371	기판 바이어스 및 과구동 전압 활용 CMOS 인버터 특성 개선 기법 Dong Yeong Kim, Su Yeon Kim, Je Won Park, Sin Wook Kim, Hyeona Seo, and Myoung Jin Lee ICT Convergence System Engineering, Chonnam National University
FP1-372	Analysis of Wake-up Degradation in Amorphous InGaZnO_x Ferroelectric Thin-Film Transistor with HfZrO_x Gate Insulator Hwan Jin Kim, Hyojin Yang, Haesung Kim, Ha-Neul Lee, Se Jun Park, Jun Seong Park, Sung-Jin Choi, Dong Myong Kim, Dae Hwan Kim, and Jong-Ho Bae School of Electrical Engineering, Kookmin University
FP1-373	Empowering High-Performance, Low-Power Memristor Applications with Large-Area Molybdenum Disulfide Grown on a Flexible Substrate Yu Seong Lee, Arindam Bala, Anamika Sen, and Sun Kook Kim Sungkyunkyan University



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FP1-374	Excellent Reliability and Electro-resistance Properties of Ferroelectric Tunnel Junction by Employing Oxygen-Rich Hafnia Ferroelectric Film Chaeheon Kim, Junghyeon Hwang, and Sanghun Jeon School of Electrical Engineering, KAIST
FP1-375	Analysis and Modeling of Ferroelectric Amorphous InGaZnO _x Thin-Film Transistor at Initial State and during Memory Operation Ha-Neul Lee, Hyojin Yang, Sejun Park, Haesung Kim, Sanghyuk Yun, Sung-Jin Choi, Dong Myong Kim, Dae Hwan Kim, and Jong-Ho Bae School of Electrical Engineering, Kookmin University
FP1-376	Characteristics of Gradual Resistive Switching in Oxide-Based Memristors Depending on Electrode Oxidation Methods Yeongsam Kim, Hee Yeon Noh, Jung-Hwa Cha, Yerim Kim, Myoung-Jae Lee, June-Seo Kim, and Hyeon-Jun Lee Division of Nanotechnology, DGIST
FP1-377	GST Insertion Effects on Stacked ITO/IGZO/ZrO ₂ /GST RRAM Devices Bidyashakti Dash, Ajit Kumar, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University
FP1-378	Analysis of Interface State According to the Polarization Switching of Ferroelectric Field-Effect Transistor Sujong Kim, Ha-Neul Lee, Hyojin Yang, Haesung Kim, Sejun Park, Sung-Jin Choi, Dong Myong Kim, Dae Hwan Kim, and Jong-Ho Bae School of Electrical Engineering, Kookmin University
FP1-379	ALD Al ₂ O ₃ Thickness Effects on Switching Behaviors for Stacked ZnO _x /Al ₂ O ₃ Resistive Random-Access Memories (RRAMs) Chae Yeong Kim, Seo-Young Jo, Geun Lee, and Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University
FP1-380	ALD Al ₂ O ₃ Capping Effects on Reliable Operation of Multi-layered AlO _x /Al ₂ O ₃ Resistive Random-Access Memories Hanmin Kim, Jongjoon Park, Yunsung Lee, Hogeon Jeon, and, Sung Hun Jin Department of Electronic Engineering, and I-Nanofab Center, Incheon National University

L. Analog Design 분과

ZONE 4 (3층 로비)



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FP1-381	Impedance Calibration for High Accuracy NEMTCAM Changwoo Park, Seung-Ju Lee, Hyuk-Jin Kim, Min-Joo Yoo, and Jinwook Burm Department of Electronic Engineering, Sogang University
FP1-382	A 6.78MHz Active Rectifier for Wireless Power Transfer Systems Sung Sik Hong and Jinwook Burm Sogang University
FP1-383	28Gb/s에서 32.2dB Channel Loss를 보상하는 Adaptive Feedforward Continuous Time Linear Equalize 박준희, 박종민, 조요셉, 이승주, 채종혁, 김혁진, 유민주, 박창우, 범진욱 Sogang University
FP1-384	Fast-Slow Ring Oscillator Type TDC의 Frequency 고정을 위한 Digital PLL 유민주 ¹ , 이승주 ² , 김혁진 ² , 박창우 ² , 채종혁 ² , 박준희 ² , 홍성식 ² , 범진욱 ² Department of Electronic Engineering, Sogang University
FP1-385	Design of 16Gb/s/pin 8-Channel Transceiver Using Multiwire Signaling Technique with Skew Compensation for Memory Interface Sinho Lee, Daeun Yun, Junhak Kim, and Kwanseo Park Yonsei University
FP1-386	Offset Decrease of N-Channel Transistor Inverter Youngjin Kim ¹ , Janghoo Lee ¹ , Hyekang Park ¹ , Seo Yun Kim ² , Seung Jae Moon ¹ , and Byoung Seong Bae ¹ ¹ School of Electronic Convergence Engineering, Hoseo University, ² Department of Chemical Engineering, Hoseo University
FP1-387	Capacitor Ratio-Independent Switched-Capacitor Type 4-Times Voltage-Amplifier for OLED Source Driver IC Yu-Guan Kim, Min-Woo Kim, Won-Jo Lee, Yun-Su Kim, and Byung-do Yang Department of Electronics Engineering, Chungbuk National University
FP1-388	28GS/s 시간 교차 아날로그-디지털 변환기를 위한 다중-위상 지연 고정 루프 Yun Kuk Park and Jung Hoon Chun Department of Electrical and Computer Engineering Sungkyunkwan University



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FP1-389	A 500frames/sec CMOS Image Sensor With 11-bit Column-Parallel Two Step Single Slope ADC 김혁진, 박종민, 홍성식, 이승주, 채종혁, 박준희, 유민주, 박창우, 범진욱 Sogang University
FP1-390	Operation Principle of Reconfigurable Integrate-and-Fire Neuron Circuit Kyu-Ho Lee, Woo Young Choi, and Jong-Ho Lee School of ECE and ISRC, Seoul National University
FP1-391	Direct ToF를 효율적으로 Readout하기 위한 Macro-pixel Readout Circuit Eun-Chang Lee, Dahwan Park, and Hoochan Lee, Haksoon Kim, Jin-Seon Kim, Min-Seok Shin, and Min-Kyu Kim SK hynix
FP1-392	과도진동 제거를 위한 디지털 저드롭아웃 레귤레이터 우기찬, 김인태, 김유신, 박정주, 윤대한, 윤세환, 조미령 한국광기술원
FP1-393	High-resolution Sigma-Delta ADC for Sensor Applications Jeonghee Jeon, Donghyun Kim, Hohyun Kim, Seoyeon Park, Heejin Lee, and Joongho Choi University of Seoul
FP1-394	Module Integrated Converter for Photovoltaic Power System Jaehyeong Lee, Donghyun Kim, Jisoo Kim, Jongchul Chae, and Joongho Choi University of Seoul

M. RF and Wireless Design 분과

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FP1-395	Millimeter-wave Dual-patch Antenna on Silicon Substrate Deokgi Kim, Juhyeong Seo, Seungmin Ryu, Byeongju Kang, Donghyuk Jung, Sangyoon Lee, JaeHyun Noh, Sarah Eunkyung Kim, and Dongha Shim Seoul National University of Science and Technology
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FP1-396	Design of GaN X-band Power Amplifier MMI Chiyong Ha, Juwon Kwon, and Junghwan Han Department of Radio and Info. Comm. Eng., Chungnam National University
FP1-397	X-band GaN Low-Noise Amplifier MMIC Juwon Kwon, Chiyong Ha, and Junghwan Han Department of Radio and Info. Comm. Eng., Chungnam National University
FP1-398	최소 타이밍 스큐 디지털-아날로그 변환기를 집적한 56-Gb/s PAM-4 송신기 김현민, 전정훈 성균관대학교 전기컴퓨터공학과
FP1-399	56-Gbps PAM4 수신단 Analog Front-End 회로 Je Hyeok Yu and Jung-Hoon Chun Department of Semiconductor and Display Engineering, Sungkyunkwan University
FP1-400	Large-Area Electrolyte-Gated Network Carbon Nanotube Thin Film Transistors for Reflective RF Metasurfaces Yechan Han ¹ , Haksoon Jung ^{1,2} , Seongmin Eum ¹ , and Jimin Kwon ¹ ¹ Department of Electrical Engineering, UNIST, ² Department of Chemical Engineering, POSTECH
FP1-401	2.4 GHz Low-power BLE Receiver Front-end for IoT Applications Sengjun Jo, Hyeonjun kim, and Kuduck Kwon Department of Electronics Engineering, Kangwon National University
FP1-402	A 7-9 GHz IQ Up-Conversion Mixer for 5G New Radio FR2 IF Cellular Transceivers Sukju Yun, Donggu Lee, and Kuduck Kwon Department of Electronic Eng., Kangwon National University
N. VLSI CAD 분과	
ZONE 4 (3층 로비)	
FP1-403	Ternary Cell Optimization and Its Impact on VLSI Hyundong Lee and Taigon Song School of Electronic and Electrical Engineering, Kyungpook National University



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FP1-404	Switching-based Ternary Circuit Design Methodology and It's Optimization Method for Inkjet-printed Anti-ambipolar Transistors (AAT) and CMOS Jongbeom Kim and Taigon Song School of Electronic and Electrical Engineering, Kyungpook National University
FP1-405	FS2K: A Forksheet FET Technology Library and a Study of VLSI Prediction for 2nm and Beyond Yunjeogn Shin ¹ , Daehyeok Park ² , Dohun Koh ² , Dongryul Heo ² , Jieun Park ² , Hyundong Lee ¹ , Jongbeom Kim ¹ , Hyunsoo Lee ¹ , and Taigon Song ¹ ¹ School of Electronic and Electrical Engineering, Kyungpook National University, ² School of Electronics Engineering, Kyungpook National University
FP1-406	A Human-based Routing Algorithm for Unified Printed Circuit Board Routing Yunjeong Go and Taigon Song School of Electronic and Electrical Engineering, Kyungpook National University
FP1-407	Thermal-aware Floorplanning for 3D ICS Joonyoung Seo and Seokhyeong-Kang Department of Electrical Engineering, POSTECH
FP1-408	Cache Register Sharing Structure for Channel-level Near-memory Processing in NAND Flash Memory Hyunwoo Kim ¹ and Taigon Song ^{1,2} ¹ School of Electronic and Electrical Engineering, Kyungpook National University, ² School of Electronics Engineering, Kyungpook National University
FP1-409	One-stage Global Placement Using Clustering Based Initial Placement Hyeonwoo Park and Seokhyeong Kang Department of Electrical Engineering, POSTECH
FP1-410	Packing-Based Initialization for Improved Macro Placement Donghyuk Kim, Jaekyung Im, and Seokhyeong Kang Department of Electrical Engineering, Pohang University of Science, and Technology
FP1-411	Enhancement of ML-Based Standard Cell Library Generation Sung Gyu Jang and Seokhyeong Kang POSTECH

P. Device for Energy (Solar Cell, Power Device, Battery, etc.)

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FP1-412	Proton Irradiation Effects on 1.2 kV SiC MOSFETs Jae Hwa Seo¹, Young Jo Kim¹, Jeong Hyun Moon¹, Young Jun Yoon², Junghun Kim¹, and Hyoung Woo Kim¹ ¹Advanced Semiconductor Research Center, Power Semiconductor Research Division, KERI, ²Department of Electronic Engineering, Andong National University
FP1-413	Gamma-ray on Superjunction MOSFETs and Gate Ringing Sangyun Song and Hyemin Kang Department of Energy Engineering, KENTECH
FP1-414	Thermal Conductivity Reduction by Phonon Backscattering in a Silicon Nanowire with Wavy Surfaces Hyeongseok Yoo, Ki Yeong Kim, Ju Hong Park, and Chang-Ki Baek POSTECH
FP1-415	Characteristic Dual-domain Structure of Reduced Graphene Oxide and Its Application to Higher Specific Capacitance Jun Beom Kim, Sung Hwan Koo, In Ho Kim, and Sang Ouk Kim KAIST
FP1-416	Regulation of Thermal Radiation based on a CVD-grown VO₂ Thin Film on a Plastic Substrate for Dynamic Radiative Cooling Application Nayoung Wi^{1,2}, Hyojin Bang^{1,2}, Hongseung Kim², Yonghun Kim¹, and Jongwon Yoon¹ ¹Department of Energy and Electronic Materials, KIMS, ²Major of Nano-Semiconductor Engineering, Korea Maritime and Ocean University
FP1-417	Tailoring the Composition and Morphology of RuO_x (0≤x≤2) Recombination Layers for High Efficiency Perovskite Tandem Solar Cells Pil Ju Youn¹, Mun Young Woo², Jun Hong Noh², and Jeong Hwan Han¹ ¹Department of Material Science and Engineering, Seoul National University of Science and Technology, ²School of Civil, Environmental and Architectural Engineering, Korea University
FP1-418	Optimal Doping Level of Bismuth Titanate to Modulate Optical Bandgap for Oxide Optoelectronics He Rui, Tang Rui, and Chung Wung Bark Gachon University



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FP1-419	Maximized Internal Scattering in Heterostack $\text{Ti}_3\text{C}_2\text{T}_x$ MXene/Graphene Oxide Film for Effective Electromagnetic Interference Shielding YeoHoon Yoon, GangSan Lee, and SangOuk Kim Department of Materials Science and Engineering, KAIST
FP1-420	Energy Efficient Memristive Logic System and Its Implementation in a HfO_x Memristive Crossbar Array Moon Gu Choi, Jae Hyun In, Hanchan Song, and Kyung Min Kim Department of Materials Science and Engineering, KAIST
FP1-421	Power Handling Capability 개선을 위한 전류분산 구조가 적용된 PIN Limit 다이오드 원종일, 정동윤, 장현규, 박건식 ETRI ICT 창의연구소 반도체소부장기술센터
FP1-422	Unlocking the Potential of Porous Bi_2Te_3 -Based Thermoelectrics Using Precise Interface Engineering through Atomic Layer Deposition Seunghyeok Lee ^{1,2} , Gwang Min Park ^{1,3} , Younghoon Kim ⁴ , So-Hyeon Lee ⁴ , Junpyo Hong ¹ , Sung-Chul Kim ¹ , Sung Ok Won ¹ , Albert S. Lee ¹ , Ju-Young Kim ⁴ , Heesuk Kim ¹ , Seung-Hyub Baek ¹ , Jin-Sang Kim ¹ , Tae Joo Park ² , and Seong Keun Kim ^{1,3} ¹ KIST, ² Hanyang University, ³ Korea University, ⁴ UNIST
FP1-423	Self-heating 특성을 고려한 GaN HEMT 고주파 회로 모델 권경배 ¹ , 전종욱 ² ¹ 건국대학교 전자정보통신공학과, ² 성균관대학교 전자전기컴퓨터공학과
FP1-424	Characterization of Bulk Trap Density Using Fully I-V-Based Optoelectronic Differential Ideality Factor in Multi-Layer MoS_2 FET Soyeon Kim, Jaewook Yoo, Hyeonjun Song, Hongseung Lee, Seongbin Lim, Minah Park, Seohyeon Park, and Hagyoul Bae Jeonbuk National University