2018년 2월 6일(화), 08:15-09:00
Room D (함백II+III, 5층)

S. Chip Design Contest 분과
[TD0-S] Chip Design Contest

TD0-S-1 **08:15-08:30**	**65nm RF CMOS Gilbert-Cell Mixer for Wireless Power Transfer System** Ju-Hwan Lim, Nhut-Tan Doan, Wan-Su Kim, Ngoc-Duy-Hien Lai, and Sang-Woong Yoon *Department of Electronics Engineering, Kyung Hee University*
TD0-S-2 **08:30-08:45**	**A Low Jitter Clock and Data Recovery Circuit with Pulse-Width-Adjusting Binary Phase Detector Using 180-nm CMOS** Jaeok Yun, Sanghun Baek, Jaepil Park, and Jin-Ku Kang *Department of Electronics Engineering, Inha University*
TD0-S-2 **08:30-08:45**	**A Low Jitter Clock and Data Recovery Circuit with Pulse-Width-Adjusting Binary Phase Detector Using 180-nm CMOS** Jaeok Yun, Sanghun Baek, Jaepil Park, and Jin-Ku Kang *Department of Electronics Engineering, Inha University*
TD0-S-3 **08:45-09:00**	**A 1 MHz 1 MΩ Output Impedance CMOS Current Driver and Active Electrode for ECG/ETI Measurement** Xuan Tien Nguyen, Woo-Jin Cho, Jun-Hyeong Kwon, Pham Thanh Son, and Jong-Wook Lee *Department of Electronics Engineering, Kyung Hee University*

2018년 2월 6일(화), 09:00-10:45
Room A (태백I, 5층)

A. Interconnect & Package 분과
[TA1-A] Emerging Interconnect

TA1-A-1 **09:00-09:15**	**FOWLP 적용을 위한 플라즈마 전처리에 따른 절연층과 Cu RDL 계면 접착력 측정 및 분석** 김가희[1], 이진아[1], 박세훈[2], 강수민[3], 김택수[3], 박영배[1] *[1]안동대학교 신소재공학부, [2]전자부품연구원 ICT 디바이스 패키징 센터, [3]한국과학기술원 기계공학과*
TA1-A-2 **09:15-09:30**	**Effects of Cu Opening Size on Mechanical Property of Epoxy-Contained Sn-58Bi Solder Joints** Kyung Deuk Min[1], Woo-Ram Myung[2], Kyung-Yeol Kim[1], and Seung-Boo Jung[1] *[1]School of Advanced Materials Science & Engineering, Sungkyunkwan University, [2]SAINT, Sungkyunkwan University*
TA1-A-3 **09:30-09:45**	**Optical Interconnects between Boards Using Paraboloid Reflector** Hyun-Woo Rhee and Hyo-Hoon Park *KAIST*
TA1-A-4 **09:45-10:00**	**Improvement of Nickel Silicide Thermal Stability Using Nitrogen Incorporation** Hyung Min Ji, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Jung Yeon Kim, Su Jin Choi, Jong Gyu Cheon, Kyoung Moon Yu, Jin Hyun Kim, Sang Woo Kim, Seong Young Cho, and Rino Choi *Department of Materials Science and Engineering, Inha University*
TA1-A-5 **10:00-10:15**	**Thermal Managing of Electronic Devices Using Porous Copper-Graphene Composites** Hokyun Rho[1,2], Dabin Son, Seongmin Lee, Aram Lee, Jun-Seok Ha[2], Sang Hyun Lee[1] *[1]Applied Quantum Composites Research Center, KIST, [2]Department of Advanced Chemicals & Engineering, Chonnam National University*
TA1-A-6 **10:15-10:30**	**Atomic Layer Deposition of Dense and Uniform ZrO_2 Thin Film on Functionalized Graphene** Jeong Woo Shin[1], Myung Hoon Kang[2], Seongkook Oh[1], Byung Chan Yang[1], Tae Hoon Lee[2], and Jihwan An[1] *[1]Department of Manufacturing Systems and Design Engineering, Seoul National University of Science and Technology, [2]Department of Electrical Engineering, Kwangwoon University*
TA1-A-7 **10:30-10:45**	**Substrate Ball Land Layer Etch Back 적용 제품의 HAST Reliability Robust 설계 연구** 유재웅, 정소현, 손재현, 문기일 *Department of PKG Technology, SK Hynix*

2018년 2월 6일(화), 09:00-10:45
Room B (태백II+III, 5층)

I. MEMS & Sensor Systems 분과
[TB1-I] Gas/Chemical Sensors

TB1-I-1 **09:00-09:15**	**Optimization of the Performance in Humidity Sensor based on Pre-Separated 99% Metallic Single-Walled Carbon Nanotube** Yeamin Kim, Bongsik Choi, Jinsu Yoon, Yongwoo Lee, Jungmin Han, Jieun Lee, Jinhee Park, Dong Myong Kim, Dae Hwan Kim, and Sung-Jin Choi *School of Electrical Engineering, Kookmin University*
TB1-I-2 **09:15-09:30**	**Gas Sensing Characteristics of the FET-Type Gas Sensor Having Inkjet-Printed WS_2 Sensing Layer** Yujeong Jeong, Jongmin Shin, Yoonki Hong, Meile Wu, Seongbin Hong, and Jong-Ho Lee *Department of Electrical Eng., Seoul National University*
TB1-I-3 **09:30-09:45**	**Electrical Characteristics of Parylene Gate Dielectric in Silicon Nanowire Based Ion-Sensitive Field-Effect Transistors** Wonyeong Choi[1], Bo Jin[1], ChanOh Park[2], Donghoon Kim[1], Ga-Yeon Lee[3], Jae-Chul Pyun[3], and Jeong-Soo Lee[1,2] *[1]Department of Electrical Engineering, POSTECH, [2]Division of IT-Convergence Engineering, POSTECH, [3]Department of Materials Science and Engineering, Yonsei University*
TB1-I-4 **09:45-10:00**	**Humidity-Sensitive Field Effect Transistor with In_2O_3 Nanoparticles as a Sensing Layer** Seongbin Hong, Jongmin Shin, Yoonki Hong, Meile Wu, Dongkyu Jang, Yujeong Jeong, and Jong-Ho Le *Department of ECE and ISRC, Seoul National University*
TB1-I-5 **10:00-10:15**	**EIS Sensor for Fluoride Ion Detection based on LaF_3 Film** Hyeonsu Cho[1], Kihyun Kim[2], and Chang-Ki Baek[1] *[1]Department of Creative IT Engineering, POSTECH, [2]Department of Future IT Innovation Lab., POSTECH*
TB1-I-6 **10:15-10:30**	**Enhanced pH Sensitivity Using Capacitive Coupling in Extended Gate FET Sensor with Various High-K Sensing Films** Joo-Won Kang and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
TB1-I-7 **10:30-10:45**	**Calibrated Environmental Sensor based on Resistive Sensing for Sub-ppm Level VOC Gas Detection** Ho Yong Seong, Hung Phan Dang, Hyunwoo Park, and Minkyu Je *School of Electrical Engeering., KAIST*

2018년 2월 6일(화), 09:00-10:45
Room C (함백I, 5층)

D. Thin Film Process Technology 분과
[TC1-D] Oxide Thin Film Transistor

TC1-D-1 09:00-09:15	**Solution-Processed Rb-Doped Indium Zinc Oxide Thin Film Transistors** Sang-Woo Kim, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Jung-Yeon Kim, Su-Jin Choi, Hyung-Min Ji, Jong-Gyu Cheon, Kyoung-moon Yu, Jin-Hyun Kim, Seong-Yong Cho, and Rino Choi *Department of Materials Science & Engineering, Inha University*
TC1-D-2 09:15-09:30	**Low-Frequency Noise Characteristics for P-channel SnO Thin Film Transistors with Spray-Coated Carbon Nanotubes Electrodes** Jae Hyun Ryu[1], Kyung Seop Shin[1], Soohun Kowon[2], Hyuck-In Kwon[2], and Sung Hun Jin[1] *[1]Department of Electronic Engineering, Incheon National University, [2]School of Electrical and Electronics Engineering, Chung-Ang University*
TC1-D-3 09:30-09:45	**Discharge Current Analysis Estimating the Defect Sites in Amorphous Hf-In-Zn-O Oxide Thin Film Transistor** Youngin Goh and Sanghun Jeon *Department of Applied Physics, Korea University*
TC1-D-4 09:45-10:00	**Flexible Charge Trap Memory Thin-Film Transistors Using Conducting Polymer Electrodes and Oxide Semiconductors on Plastic PEN Substrates** Ji-Hee Yang[1], Da-Jeong Yun[1], Seong-Min Kim[2], Myung-Han Yoon[2], and Sung-Min Yoon[1] *[1]Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, [2]School of Materials Science and Engineering, GIST*
TC1-D-5 10:00-10:30	**[초청]** **Atomic Layer Deposition of Tin Oxides for Versatile Applications** Jeong Hwan Han *Department of Materials Science and Engineering, Seoul National University of Science and Technology (Seoultech)*
TC1-D-6 10:30-10:45	**Effect of Strontium Doping on Indium Zinc Oxide Thin Film Transistors Fabricated by Low-Temperature Solution Process** Jin-Hyun Kim, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Sang-Woo Kim, Jung-Yeon Kim, Su-Jin Choi, Jong-GyuCheon, Hyung-Min Ji,Kyoung-Moon Yu,Seong-Yong Cho, and Rino Choi *Department of Materials Science and Engineering, Inha University*

2018년 2월 6일(화), 09:00-10:45
Room D (함백II+III, 5층)

R. Semiconductor Software 분과
[TD1-R] 고성능 스토리지 기술

TD1-R-1 **09:00-09:15**	**Color of I/O: I/O Characterization for Storage Systems** Seungjae Baek[1], Juhyung Son[2], Yujae Song[1], and Sungmin Koo[2] *[1]ICT R&D Unit, KIOST, [2]Department of Computer Science, Dankook University*
TD1-R-2 **09:15-09:30**	**대용량 그래프 처리에서의 캐시 효율성 향상을 위한 Vertex Replication** Junghyun Kim[1], Eunjae Lee[1], Jiwon Seo[2], and Sam H. Noh[1] *[1]Department of Computer Science & Engineering, UNIST, [2]Department of Computer Software, Hanyang University*
TD1-R-3 **09:30-09:45**	**Optimizing the Block IO for NVMe SSD** Hee-Young Shin and Taeseok Kim *Embeded Software Engineering, Kwangwoon University*
TD1-R-4 **09:45-10:00**	**Optimizing FTL for HMB-Able and DRAM-Less NVMe SSD** Kyusik Kim and Taeseok Kim *Department of Computer Engineering, Kwangwoon University*
TD1-R-5 **10:00-10:30**	**[초청]** **Light-weight I/O Stack for High Performance Remote Storage** 안성용 *부산대학교*

2018년 2월 6일(화), 09:00-10:45
Room F (봉래I, 6층)

F. Silicon and Group-IV Devices and Integration Technology 분과
[TF1-F] Neuromorphic Device and Application

TF1-F-1 **09:00-09:15**	**Behavior Analysis of Gated Schottky Diode as a Synaptic Device** Jong-Ho Bae, Suhwan Lim, Jai-Ho Eum, Byung-Gook Park, and Jong-Ho Lee *Department of Electrical and Computer Engineering and ISRC, Seoul National University*
TF1-F-2 **09:15-09:30**	**Steep Subthreshold Swing Characteristics of Positive Feedback Diode in FinFET Technology** Kyu-Bong Choi, Sung Yun Woo, and Jong-Ho Lee *Department of ECE and ISRC, Seoul National University*
TF1-F-3 **09:30-09:45**	**Study on Source/Drain Metal Contact Characteristics in a Poly-Si Reconfigurable Field Effect Transistor** Jai-Ho Eum, Jong-Ho Bae, and Jong-Ho Lee *Department of Electrical and Computer Engineering, ISRC, Seoul National University*
TF1-F-4 **09:45-10:00**	**Neuromorphic Behaviors of HfO_2 ReRAM by Pulse Frequency Modulation** Dong Keun Lee[1], Min-Hwi Kim[1], Suhyun Bang[1], Tae-Hyeon Kim[1], Yeon-Joon Choi[1], Seongjae Cho[2], and Byung-Gook Park[1] *[1]ISRC and Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electronics Engineering, Gachon University*
TF1-F-5 **10:00-10:15**	**Implementation of Neuromorphic System with Neuron Circuit Retaining Overflow** Jeong-Jun Lee, Jungjin Park, Sungmin Hwang, and Byung-Gook Park *Department of Electrical Engineering, Seoul National University*
TF1-F-6 **10:15-10:30**	**Classification for Grayscale Images Using Supervised Spike Rate-Based Learning** Seongbin Oh, Chul-Heung Kim, SooChang Lee, Byung-Gook Park, and Jong-Ho Lee *Department of Electrical and Computer Engineering, ISRC, Seoul National University*
TF1-F-7 **10:30-10:45**	**An Analysis of Hot Carrier Injection in Asymmetric Dual Gate Structure** Taejin Jang, Myung-Hyun Baek, and Byung-Gook Park *Department of Electrical Engineering, Seoul National University*

2018년 2월 6일(화), 09:00-10:45
Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[TG1-G] Advanced Devices I - Technology and Simulation

TG1-G-1 **09:00-09:15**	**AnalysisofCarrier Lifetime Dependence of Dual Gate Positive Feedback Field-Effect Transistorwith Polysilicon Body** Kyungchul Park, Min-Woo Kwon, and Byung-Gook Park *Department of Electrical Engineering, Seoul National University*
TG1-G-2 **09:15-09:30**	**A Study of Radiation Immunity and Damage Recovery in SiGe pMOSF** Ik Kyeong Jin[1], Hagyoul Bae[1], Jun-Young Park[1], Choong-Ki Kim[1], Il-Woong Tcho[1], Seong-Yeon Kim[2], Do-Hyun Kim[2], Yun-Ik Son[2], Jae-Hoon Lee[2], Yong-Taik Kim[2], Seong-Wan Ryu[2], and Yang-Kyu Choi[1] *[1]School of Electrical Engineering, KAIST, [2]SK Hynix Semiconductor Inc*
TG1-G-3 **09:30-09:45**	**Capacitance Matching to Obtain Sub-60mV/Decade Non-hystereticOperation Regime of Negative Capacitance (NC) FET** Pavlo Bidenko[1], Subin Lee[1], Jin Dong Song[1,2], and Sanghyeon Kim[1,2] *[1]KIST, [2]University of Science and Technology*
TG1-G-4 **09:45-10:00**	**Effects of Shell Thickness on Performance of GaSb/InAs Core-Shell Nanowire pMOSFETs** Hyeongu Lee and Mincheol Shin *Department of Electronic Engineering, KAIST*
TG1-G-5 **10:00-10:15**	**Analysis of Performance in Nanosheet FET with Negative Capacitance** Changbeom Woo[1], Jang Kyu Lee[1], Jongsu Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TG1-G-6 **10:15-10:30**	**Statistical Analysis of NBTI Considering Trap Position in Nanosheet FET** Shinkeun Kim[1], Dokyun Son[1], Kyul Ko[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TG1-G-7 **10:30-10:45**	**Si-Ge Hetero PN TFET with Junctionless Nanowire FET** Ju-Chan Lee, Tae Jun Ahn, and Yun Seop Yu *Department of Electrical, Electronic and Control Engineering and IITC, Hankyong National University*

2018년 2월 6일(화), 09:00-10:45
Room G (봉래II+III, 6층)

J. Nano-Science & Technology 분과
[TH1-J] Graphene Related Nano Meterials

TH1-J-1 **09:00-09:15**	**Optical Visibility of Graphene on Silicon Nitride Substrates** Jin Yong An and Yung Ho Kahng *Department of Physics Education, Chonnam National University*
TH1-J-2 **09:15-09:30**	**GaN-그래핀 쇼트키 접합을 이용한 광반응 메커니즘 분석** 이재형, 이원우, 권순상, 박원일 *Division of Materials Science and Engineering, Hanyang University*
TH1-J-3 **09:30-09:45**	**Graphene Work Function Change of Amine-Based Materials with Various Terminal Groups** Sa Rang Bae and Soo Young Kim *School of Chemical Engineering and Materials Science, Chung-Ang University*
TH1-J-4 **09:45-10:00**	**Improved Charge Transfer of Graphene/Polymer for CO_2 Sensing** Myungwoo Son, Sang-Soo Chee, Francis Malar Auxilia, and Moon-Ho Ham *School of Materials Science and Engineering, GIST*
TH1-J-5 **10:00-10:15**	**Entangled Gaphene Mesh Network for Transparent and Stretchable Electronics** Jaehyun Han[1,2] and Jong-Souk Yeo[1,2] *[1]School of Integrated Technology, College of Engineering, Yonsei University, [2]Yonsei Institute of Convergence Technology, Yonsei University*
TH1-J-6 **10:15-10:30**	**전하 주입 층을 이용한 그래핀/DNTT 배리스터의 전기적 특성 조절** 이혜지[1,2], 김윤지[1,2], 한경주[1,2], 김소영[1,2], 허선우[1,2], 김지환[2], 윤명한[2], 이병훈[1,2] *[1]Center for Emerging Electric Devices and Systems, [2]School of Material Science and Engineering, Gwangju Institute of Science and Technology*
TH1-J-7 **10:30-10:45**	**Investigation of Thickness-Dependent Avalanche Breakdown Phenomena in MoS_2 Field-Effect Transistors** Jinsu Pak, Yeonsik Jang, Kyungjune Cho, Tae-Young Kim, Jae-Keun Kim, Barbara Yuri Choi, Jiwon Shin, Seungjun Chung, and Takhee Lee *Department of Physics and Astronomy, Seoul National University*

2018년 2월 6일(화), 09:00-10:45
Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과
[TI1-K] ReRAM I - Preparing for Mass Production

TI1-K-1 **09:00-09:30**	**[초청]** **Highly Reliable Multi-Bit Operation in HfO_2 Based Resistive Switching Device** Gun Hwan Kim, Ji Woon Choi, Bo Keun Park, Taek-Mo Cheong, and Young Kuk Lee *Center for Thin-Film Materials, KRICT*
TI1-K-2 **09:30-09:45**	**Roles of Conducting Filament and Non-Filament Regions in the Ta_2O_5 and HfO_2 Resistive-Switching Memory for Switching Reliability** Tae Hyung Park[1], Hae Jin Kim[1], Soo Gil Kim[2], Byung Joon Choi[3], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University, [2]SK Hynix Inc., [3]Department of Materials Science and Engineering, Seoul National University of Science and Technology*
TI1-K-3 **09:45-10:00**	**Controlling Filament Forming Direction of Restive Switching Memory Device via Nanomesh Patterning** Tae Jin Kim , Byoung Kuk You, Jong Min Kim, Daniel J. Joe, and Keon Jae Lee *Department of Material Science and Engineering, KAISE*
TI1-K-4 **10:00-10:15**	**Selector for Bipolar Resistive Switching Material Having Current Saturation Functionality with Pt/Ti/TiO_2/HfO_2/TiN Device** Daeeun Kwon, Jung Ho Yoon, Tae Hyung Park, Yumin Kim, Young Jae Kwon, Hae Jin Kim, and Cheol Seong Hwang *Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University*
TI1-K-5 **10:15-10:30**	**저항 변화층의 Initial Current Level과 저항 변화 특성** 김명주, 한언빈, 김태우, 이한춘, 이상기, 이윤종 *DB Hitek, 특화공정개발파트*

2018년 2월 6일(화), 09:00-10:45
Room J (육백I, 6층)

M. RF and Wireless Design 분과
[TJ1-M] RF and Wireless System and Circuits I

TJ1-M-1 **09:00-09:30**	**[초청]** **An RF Receiver Front-End for Multi Inter- and Intra-Band Carrier Aggregation Using CMOS Technologies** Youngmin Kim[1] and Junghwan Han[2] *[1]RF Development Team, System LSI, Samsung Electronics, [2]Department of Radio Science Engineering, Chungnam National University*
TJ1-M-2 **09:30-10:00**	**[초청]** **Multimode Multiband Cellular RF Transmitters** Ki Yong Son *RF Dev. Team, System LSI Business, Samsung Electronics*
TJ1-M-3 **10:00-10:30**	**[초청]** **A Multimode Supply Modulator for Cellular Envelope Tracking Power Amplifier** Ji-Seon Paek and Dong-Su Kim *Samsung Electronics*
TJ1-M-4 **10:30-10:45**	**Wideband Chirp Generator Using All-Digital PLL with DCO Gain Linearization for X-Band FMCW Radar** Jong-Yeon Lee, Sangyong Park, Jeong-Yun Lee, Keum-won Ha, Kwang-Il Oh, Gwang-Sub Kim, and Donghyun Baek *School of Electrical Engineering, Chung-Ang University*

2018년 2월 6일(화), 09:00-10:45
Room K (육백II, 6층)

Q. Metrology, Inspection, and Yield Enhancement 분과
[TK1-Q] Metrology & Inspection

TK1-Q-1 **09:00-09:15**	**TSOM Image Measurement with Iterative MSD Computations** Youngback Kim, Junhee Jeong, Joonghwee Cho *Department of Embedded Systems Engineering, Incheon National University*
TK1-Q-2 **09:15-09:45**	**[초청]** **MI Tech vs Litho Tech** Byoung Ho Lee *SK Hynix*
TK1-Q-3 **09:45-10:15**	**[초청]** **Next Generation Automated Industrial AFM and Its Applications in Semiconductor Technology** Byoung-Woon Ahn, Ahjin Jo, Seong-Hun Yun, Ju Suk Lee, Tae-Gon Kim, Sang-Joon Cho *R&D Depatment, Park Systems Corp.*
TK1-Q-4 **10:15-10:30**	**Development of Novel EUV Actinic I nspection Technique : EUV Scanning Lensless Imaging (ESLI)** 우동곤[1], 김영웅[1], 김정환[1], 신승혁[2], 김회율[2], 안진호[1,3] *[1]한양대학교 신소재공학과, [2]한양대학교 전자컴퓨터통신 공학과, [3]나노과학기술연구소*
TK1-Q-5 **10:30-10:45**	**반도체 제조산업의 기술 한계 극복을 위한 진단센서 기반의 플라즈마 공정 및 오염입자 발생 측정연구** 송제범[1,2], 이승수[1], 김민중[1], 소종호[1], 오성근[2], 정낙관[1], 김진태[1], 윤주영[1] *[1]한국표준과학연구원, [2]한양대학교*

2018년 2월 6일(화), 14:10-15:55
Room A (태백I, 5층)

A. Interconnect & Package 분과
[TA2-A] FOWLP & Reliability

TA2-A-1 **14:10-14:40**	**[초청]** **High-Density Fan-out Technology for Advanced 3D SiP and Heterogeneous Integration** KangWook Lee *Global RnD, Amkor Technology Korea Inc.*
TA2-A-2 **14:40-14:55**	**Performance Comparisons between Thermocompression and Laser-Assisted Boning for 3D Stacking Process** Kwang-Seong Choi, Wagno Alves Braganca Junior, leeseul Jeong, Keon-Soo Jang, Seok Hwan Moon, Hyun-Cheol Bae, and Yong-Sung Eom *ICT Materials and Components Laboratory, ETRI*
TA2-A-3 **14:55-15:10**	**Analysis for Burnout Failure on Interconnect Metal Under High Current Stress** Chang Hwi Lee, Jae Young You, Sung Bae Kim, Hur Min Jae, Sangho Won, Si Woo Lee, and Man Ho Seung *SK Hynix*
TA2-A-4 **15:10-15:25**	**3차원 반도체에서 테스트 발열을 고려한 테스트 스케줄링 기법** 이예원, 이인걸, 정민호, 강성호 *Department of Electrical and Electronic Engineering, Yonsei University*
TA2-A-5 **15:25-15:40**	**Electrochemical Polishing of Cu Redistribution Layers for Fan Out Wafer Level Packaging** Ki Moon Park[1], Jin Hyun Lee[2], and Bong Young Yoo[1,2] *[1]Department of Advanced Material Science & Engineering, Hanyang University, [2]Department of Material Science & Engineering, Hanyang University*
TA2-A-6 **15:40-15:55**	**PCW 온도 제어를 통한 Cu CMP Removal Rate 변화 특성 연구** Jinhyung Lee, Yohan Jeon, Seong Sik Kim, Kyung-ho Hwang, and Sang Deok Kim *DRAM C&C, Process Center, SK Hynix*

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Room B (태백II+III, 5층)

I. MEMS & Sensor Systems 분과
[TB2-I] Advanced Sensor Systems

TB2-I-1 **14:10-14:40**	**[초청]** **Battery-Free, Wireless Wearable Sensors for the Healthcare System** Jeonghyun Kim *Department of Electronics Convergence Engineering, Kwangwoon University*
TB2-I-2 **14:40-14:55**	**Monolithic Nanocellulose Tactile Sensor** Minhyun Jung[1], Kyungkwan Kim[1], Bumjin Kim[1], Kwang-Jae Lee[2], Jae-Wook Kang[2], and Sanghun Jeon[1] *[1]Department of Display and Semiconductor Physics, Korea University, [2]Department of Flexible and Printable Electronics, Polymer Materials Fusion Research Center, Chonbuk National University*
TB2-I-3 **14:55-15:10**	**Closed-Loop Neurotherapeutics System for Epilepsy** Yoontae Jung, Jeongeun Lee, Yeseul Jeon, and Minkyu J *School of Electrical Engineering, KAIST*
TB2-I-4 **15:10-15:25**	**Property Optimization of the Micro-Bolometer Array Designed by Associating NETD and Resistance Equation** Wan-Gyu Lee and Ho-Seung Jeon *Department of Global Nanotechnology Development, National NanoFab Center*
TB2-I-5 **15:25-15:40**	**주름진 구조의 유전층을 활용한 정전 용량 방식의 압력 센서** 나찬훈, 윤광석 *서강대학교 전자공학과*
TB2-I-6 **15:40-15:55**	**Temperature-Illuminance Dual Sensor based on Graphene** Junyeong Lee, Chang-Ju Lee, and Hongsik Park *School of Electronics Engineering, Kyungpook National University*

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Room C (함백I, 5층)

D. Thin Film Process Technology 분과
[TC2-D] Emerging Thin Film Technology

TC2-D-1 14:10-14:40	**[초청]** **Nanoscale Surface Engineering: Atomic Scale Thin Film Process & Engineering in Advanced Nanofabrication** Woo-Hee Kim *Division of Advanced Materials Engineering, Chonbuk National University*
TC2-D-2 14:40-14:55	**Ion Cut-Based Thin Si Layer Transfer on the 8 Inch Full Device Wafer for the Monolithic 3D Integration Scheme** Hoonhee Han and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
TC2-D-3 14:55-15:10	**Low-Power (~1.5 nJ/spike) Synaptic Events in Cold-Deposited Ti/a-TaOx/a-IGZO/Pt Heterostructures on the Flexible PET Substrate** Andrey S. Sokolov, Sohyeon Kim, Boncheol Ku, Yawar Abbas, Yu-Rim Jeon, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
TC2-D-4 15:10-15:25	**Efficient Photoelectrochemical Hydrogen Generation Using Molybdenum Disulfide Film on Si Photocathode via Wafer-Scale Atomic Layer Deposition** Dae Woong Kim, Dae Hyun Kim, and Tae Joo Park *Department of Materials Science and Chemical Engineering, Hanyang University*
TC2-D-5 15:25-15:40	**Improved Synaptic Behaviors of Ar Plasma-Irradiated ALD HfO_2 ReRAM** Boncheol Ku, Sohyeon Kim, Yawar Abbas, Andrey Sergeevich Sokolov, Yu-Rim Jeon, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
TC2-D-6 15:40-15:55	**All-Solution-Processed Flexible Dry-Bioelectrodes for Electrophysiological Sensing** Byeong-Cheol Kang and Tae-Jun Ha *Department of Electronic Materials Engineering, Kwangwoon University*

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Room D (함백II+III, 5층)

R. Semiconductor Software 분과
[TD2-R] 시스템 소프트웨어 응용

TD2-R-1 **14:10-14:40**	**[초청]** **Revision-Based Data Synchronization For Hybrid Cloud Render Farm** KyungWoon Cho[1], Yong-Hyeon Shin[2], and Hyokyung Bahn[1] *[1]Department of Computer Science, Ewha Womans University, [2]Department of Computer Science and Engineering, Seoul National University of Technology*
TD2-R-2 **14:40-14:55**	**그래픽 렌더링 시스템을 위한 고성능 버퍼캐시 관리기법** Donghee Shin and Hyokyung Bahn *Department of Computer Science and Engineering, Ewha Womans University*
TD2-R-3 **14:55-15:10**	**고속 스토리지 환경을 위한 최적 페이지 크기의 동적 조절 기법** Yunjoo Park and Hyokyung Bahn *Department of Computer Science and Engineering, Ewha Womans University*
TD2-R-4 **15:10-15:25**	**Performance Analysis of Linux I/O Processing for NVMe SSDs** SeungKyu Hong and Taeseok Kim *Department of Computer Engineering, Kwangwoon University*
TD2-R-5 **15:25-15:40**	**스마트 디바이스의 선택적 스왑 지원 방안** Jisun Kim and Hyokyung Bahn *Department of Computer Science and Engineering, Ewha Womans University*
TD2-R-6 **15:40-15:55**	**Reducing Flush Overhead for Hybrid Volatile and Nonvolatile Buffer Cache** Hyunkyoung Choi and Hyokyung Bahn *Department of Computer Science and Engineering, Ewha Womans University*

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Room F (봉래I, 6층)

F. Silicon and Group-IV Devices and Integration Technology 분과
[TF2-F] Intergration Technology

TF2-F-1 **14:10-14:40**	**[초청]** **Highly CMOS Compatible Strategies for Extending Moore's Law** Sangwan Kim, Seong-Su Shin, Hwa Young Gu, and Shinhee Kim *Department of Electrical and Computer Engineering, Ajou University*
TF2-F-2 **14:40-15:10**	**[초청]** **Hafnia Ferroelectric Device for Logic and Memory Applications** Sanghun Jeon *Department of Applied Physics, Korea University*
TF2-F-3 **15:10-15:25**	**Monolithic 3D CMOS-Nanoelectromechanical (NEM) Hybrid Circuits** Hyug Su Kwon, Seung Kyu Kim, and Woo Young Choi *Department of Electronic Engineering, Sogang University*
TF2-F-4 **15:25-15:40**	**Operating Voltage Analysis of CMOS-Nano-Electromechanical (NEM) Hybrid Circuits** Ho Moon Lee and Woo Young Choi *Department of Electronic Engineering, Sogang University*
TF2-F-5 **15:40-15:55**	**Novel Packaging Method of CMOS-Nano-Electromechanical (NEM) Hybrid Circuits** Hyun Chan Jo and Woo Young Choi *Department of Electronic Engineering, Sogang University*

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Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[TG2-G] Modeling and Simulation I - Nano Devices

TG2-G-1 **14:10-14:40**	**[초청]** **Atomistic Simulations of Nanoscale Field Effect Transistors** Mincheol Shin *School of Electrical Engineering, KAIST*
TG2-G-1 **14:10-14:40**	**[초청]** **Atomistic Simulations of Nanoscale Field Effect Transistors** Mincheol Shin *School of Electrical Engineering, KAIST*
TG2-G-2 **14:40-14:55**	**Modeling and Analysis of Work Function Variation in Nanowire FET** Kyul Ko[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TG2-G-3 **14:55-15:10**	**Atomic Structure and Electronic Properties of Ge Nanowires along [100], [110] [111] Directions; Density Functional Study** Kai Liu[1,2], Eunjung Ko[1], Cheol Seong Hwang[2], and Jung-Hae Choi[1] *[1]Center for Electronic Materials, Korea Institute of Science and Technology, [2]Department of Materials Science and Engineering and ISRC, Seoul National University*
TG2-G-4 **15:10-15:25**	**An Efficient Method for Subband Calculation of Nanowire Transistors Using a Coordinate Transformation** Geon-Tae Jang and Sung-Min Hong *School of Electrical Engineering and Computer Science, GIST*
TG2-G-5 **15:25-15:40**	**Optimization of Nanowire Design according to Trap Quality of Spacer Dielectric for Performance of GAA Nanowires FET** Dong Geun Park, Kwan Hyun Cho, Dong Hyun Kim, Soo Hyun Kim, and Jae Woo Lee *ICT Convergence Technology for Health & Safety and Department of Electronics and Information Engineering, Korea University*
TG2-G-6 **15:40-15:55**	**Device Optimization of Nanosheet Transistors for 3.5 nm Technology Node** Ju-Hyun Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering, Seoul National University, [2]Computer Science, Seoul National University*

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Room G (봉래II+III, 6층)

J. Nano-Science & Technology 분과
[TH2-J] Two Dimensional Nano Materials

TH2-J-1 **14:10-14:40**	**[초청]** **Light Induced Directed Self-Assembly of Block Copolymers on Chemically Modified Graphene** Sang Ouk Kim, Hyeong Min Jin, and Ju Young kim *Department of Materials Science & Engineering, KAIST*
TH2-J-2 **14:40-14:55**	**Self-Polarized Organic Light Emitting Diodes based on MoS_2 Nanosheets** Quyet Van Le[1], Gyu Jin Choi[2], Kyoung Soon Choi[3], Ki Chang Kwon[4], Ho Won Jang[4], Jin Seog Gwag[2], and Soo Young Kim[1] *[1]School of Chemical Engineering and Materials Science, Chung-Ang University, [2]Department of Physics, Yeungnam University, [3]Advanced Nano-Surface Research Group, KBSI, [4]Department of Materials Science and Engineering, Research Institute of Advanced Materia*
TH2-J-3 **14:55-15:10**	**Layer-Index and Valley-Index of Electrons in 2D Transition Metal Dichalcogenides for Optoelectronic Applications: 3R MoS_2** Jaehong Park[1,2], Cheol Seong Hwang[2], and Jung-Hae Choi[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering, and Inter-university Semiconductor Research Center, Seoul National University*
TH2-J-4 **15:10-15:25**	**Gas Ambient Effects on Electrical Characteristics of Multi-Layered $MoTe_2$ Thin Film Transistors** Min Seok Chae, Da Un Kim, Do Bin Kim, Seung Gi Seo, and Sung Hun Jin *Department of Electronic Engineering, Incheon National University*
TH2-J-5 **15:25-15:40**	**Molecular-Scale Rectifier Employing Hybrid Junction Architecture Consisting of the 2D MoS_2 and the Conjugated Molecule** Jaeho Shin, Seunghoon Yang, Chulho Lee, and Gunuk Wang *KU-KIST Graduate School of Converging Science and Technology, Korea University*
TH2-J-6 **15:40-15:55**	**Accurate First Principles Simulations of a Metal and $MoTe_2$ Device Using the DFT and NEGF** Maeng-Eun Lee, D. Stradi, J. Wellendorf, P. Khomyakov, U. Vej-Hansen,,S. Smidstrup, and K. Stokbro *Synopsys QuantumWise*

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Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과
[TI2-K] Devices for Neuromorphic Computing

TI2-K-1 **14:10-14:25**	**Hardware Implementation of Neural Network Using Pre-Programmed Resistive Device for Pattern Recognition** Woo-Seok Choi, Kibong Moon,Jaesung Park, Seokjae Lim, and Hyunsang Hwang *Department of MS&E, POSTECH*
TI2-K-2 **14:25-14:40**	**Nociceptive Memristor** Yumin Kim[1], Young Jae Kwon[1], Dae Eun Kwon[1], Kyung Jean Yoon[1], Jung Ho Yoon[2], Sijung Yoo[1], Hae Jin Kim[1], Tae Hyung Park[1], Jin-Woo Han[3], Kyung Min Kim[4], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University, [2]Department of Electrical and Computer Engineering, University of Massachusetts, [3]Center for Nanotechnology, NASA Ames Research*
TI2-K-3 **14:40-14:55**	**Synaptic Devices Using MOSFET with Memory Functionality for Neural Network** Sung Yun Woo, Kyu-Bong Choi, Suhwan Lim, Byung-Gook Park, and Jong-Ho Lee *Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University*
TI2-K-4 **14:55-15:10**	**시냅스 소자를 위한 상변화메모리(PCRAM)의 다치화 특성 향상에 대한 전산모사 연구** Min-Kyu Shin and Yongwoo Kwon *Department of Materials Science and Engineering, Hongik University*
TI2-K-5 **15:10-15:25**	**Evaluation of Weight Quantization Method in Neural Network with TaOx-Based RRAM** Jaesung Park, Myunghoon kwak, and Hyunsang Hwang *Department of Materials and Science Engineering, POSTECH*
TI2-K-6 **15:25-15:40**	**Two-Terminal Organolead Halide Perovskite (OHP) Synaptic Device for Neuromorphic Device Applications** Seong-gil Ham, Haein Cho, and Gunuk Wang *KU-KIST Graduate School of Converging Science & Technology. Korea University, Department of Chemical and Biological Engineering, Korea University*
TI2-K-7 **15:40-15:55**	**Analog Synaptic Motion in a Pt/CeO_2/Pt Crossbar Array Structure** Hyung Jun Kim, Paul Yang, Daehoon Park, Geon Won Beom, Sun Ki Kim, and Tae-Sik Yoon *Department of Materials Science and Engineering, Myongji University*

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Room J (육백I, 6층)

M. RF and Wireless Design 분과
[TJ2-M] RF and Wireless System and Circuits II

TJ2-M-1 **14:10-14:40**	**[초청]** **A 60GHz Low-Power Transceiver for Proximity Communications** Chul Woo Byeon[1] and Chul Soon Park[2] *[1]Department of Electronic Engineering, Wonkwang University, [2]Department of Electrical Engineering, KAIST*
TJ2-M-2 **14:40-15:10**	**[초청]** **Differential CMOS 200-GHz Detector IC with Subthreshold Amplifier** Jong-Ryul Yang[1], Seong-Tae Han[2], and Dong-Hyun Baek[3] *[1]Department of Electronic Engineering, Yeungnam University, [2]Electric Propulsion Research Center, KERI, [3]School of Electrical Engineering, Chuna-Ang University*
TJ2-M-3 **15:10-15:40**	**[초청]** **IIP2/OIP2 Enhancement Technique in CMOS Single-Ended Broadband LNA for TV-Band White-Space Receiver Applications** Donggu Im *Division of Electronics Engineering, Chonbuk National University*
TJ2-M-4 **15:40-15:55**	**CMOS RF to DC Rectifier for Energy Harvesting Sensor Interface** Hyeon-woo Kim, Ickjin Kwon *Department of Electrical and Computer Engineering, Ajou University*

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Room K (육백II, 6층)

Q. Metrology, Inspection, and Yield Enhancement 분과
[TK2-Q] Nanoanalysis

TK2-Q-1 **14:10-14:25**	**Dynamic Thin Film Thickness Measurement based on Snapshot Spectro-Ellipsometry** Vamara Dembele[1], Inho Choi[1], Madhan Jayakumar Paul[1], Sukhyun Choi[1], Junho Kim[1], Won Chegal[2], and Daesuk Kim[1] *[1]Division of Mechanical System Engineering, Chonbuk National University, [2]Advanced Instrumentation Institute, Korea Research Institute of Standards & Science*
TK2-Q-2 **14:25-14:55**	**[초청]** **미정** 고대홍 *연세대학교*
TK2-Q-3 **14:55-15:25**	**[초청]** **Applications of TEM Electron Energy-Loss Spectroscopy (EELS) Analysis for Materials in Semiconductor Devices** Jucheol Park, Jeong Eun Chae, Ji-Soo Kim, SangYeol Nam, and Min-Soo Kim *Materials Characterization Center, Gumi Electronics & Information Technology (GERI)*
TK2-Q-4 **15:25-15:40**	**Wafer 표면 Roughness에 따른 Thermal Oxide 영향 연구** 정성우, 박정길, 김자영, 강희복 *SK Siltron*
TK2-Q-5 **15:40-15:55**	**Detection of Metal Contamination in the Layer of Silicon Wafers** Seung-Ik Jo, Ji-Yeon Lim, Sung-wook Lee *SK Siltron*

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Room A (태백I, 5층)

C. Material Growth & Characterization 분과
[WA1-C] Material Growth and Characterization I

WA1-C-1 **09:00-09:30**	**[초청]** **우주방사선에 의한 전자소자 내 결함 생성과 성능 손상 예측을 위한 시뮬레이션 및 실험연구** 서유정[1], 다네시와 미시라[1], 강건욱[2], 김지현[3], 박유근[1] *[1]차세대융합기술연구원, 서울대학교, [2]기계공학과, 연세대학교, [3]화공생명공학과, 고려대학교*
WA1-C-2 **09:30-09:45**	**High Quality AlGaN/GaN HEMT Growth on SI-SiC Using High Temperature AlN Nucleation Layer** Kyeongjae Lee, Uiho Choi, Jaeyeon Han, Taehoon Jang, Yongjun Nam, and Okhyun Nam *Department of Nano-Optical Engineering, Korea Polytechnic University*
WA1-C-3 **09:45-10:00**	**Surface Reconstruction and Equilibrium Shape of Ⅲ-V Compound Semiconductors as a Function of Pressure and Temperature by ab-initio Thermodynamics** In Won Yeu[1,2], Gyuseung Han[1,2], Cheol Seong Hwang[2], and Jung-Hae Choi[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering, and Inter-university Semiconductor Research Center, Seoul National University*
WA1-C-4 **10:00-10:15**	**Growth of AlGaN/GaN Heterostructure with Lattice-Matched AlIn(Ga)N Back Barrier** Jeong-Gil Kim, Seung-Hyeon Kang, Jun-Hyeok Lee, Ki-Sik Im, Dong-Hyeok Son, Jung-Min Ju, Yong-Soo Lee, and Jung-Hee Lee *School of Electronics Engineering, Kyungpook National University*
WA1-C-5 **10:15-10:30**	**Prediction of the Atomic Configuration and Electronic Properties of Ga(As,Sb) Solid Solution Using Cluster Expansion Method** Gyuseung Han[1,2], In Won Yeu[1,2], Mahesh Chandran[3], Seung Cheol Lee[3], Cheol Seong Hwang[2], and Jung-Hae Choi[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering, and Inter-university Semiconductor Research Center, Seoul National University, [3]Indo-Korea Science and Technology Center*

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Room B (태백II+III, 5층)

Special Session
[WB1-SS] Special Session: 인공지능

WB1-SS-1 **09:00-09:25**	**Solving Overlapping Pattern Issues by Inhibitory Synaptic Transistors in Bio-Inspired Neuromorhpic System** Hyungjin Kim, Sungmin Hwang, Seunghyun Kim, Jong-Ho Lee, and Byung-Gook Park *ISRC and Department of Electrical and Computer Engineering, Seoul National University*
WB1-SS-2 **09:15-09:30**	**Domain Wall Motion-Based Synaptic Behavior Controlled by Spin-Orbit Torque in Magnetic Tunnel Junctions.** SeungMo Yang[1], Jinhyung Choi[1], Wonsup Shin[1], and JinPyo Hong[1,2] *[1]Novel Functional Materials and Devices Lab, The Research Institute for Natural Science, Department of Physics, Hanyang University, [2]Division of Nano-Scale Semiconductor Engineering, Hanyang University*
WB1-SS-3 **09:30-09:45**	**Self-Rectifying Artificial Synaptic Behavior Observed in Tantalum Oxide Based Memristor** Gwang Ho Baek[1], Tae Yoon Kim[2], Gabriel Jang[2], Da Seul Hyeun[2], and Jin Pyo Hong[1,2] *[1]Division of Nanoscale Semiconductor engineering, Hanyang University, [2]The research Institute for Natural Science, Novel Functional Materials and Devices Lab, Department of Physics, Hanyang University*
WB1-SS-4 **09:45-10:00**	**Inference Accuracy of Hardware-Based Neural Networks Considering Synaptic Device Variation** Dongseok Kwon, Jongho Bae, Suhwan Lim, Jai-ho Um, Seongtae Lee, and Jong-Ho Lee *Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University*
WB1-SS-5 **10:00-10:15**	**Energy Efficient Spike-Timing Dependent Plasticity Rule for Unsupervised Learning** Donghyeon Cho, Gyuseong Kang, Heetak Kim, Yunho Jang, and Jongsun Park *School of Electrical Engineering, Korea University*
WB1-SS-6 **10:15-10:30**	**An Energy-Efficient and Low Area CNN Accelerator based on Combined Weight Type Quantization** Nahsung Kim, Dongyeob Shin, Wonseok Choi, Bohun Kim, and Jongsun Park *School of Electronic Engineering, Korea University*

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Room C (함백I, 5층)

D. Thin Film Process Technology 분과
[WC1-D] ALD/CVD Process (2D Materials)

WC1-D-1 **09:00-09:15**	**Synthesis of 2-D SnS Thin Films and Their Potential Applications** In-Hwan Baek[1,2], Jung Joon Pyeon[1,3], Taek-Mo Chung[4], Jeong Hwan Han[5], Cheol Seong Hwang[2], and Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering, and Inter-University Semiconductor Research Center, Seoul National University, [3]KU-KIST Graduate School of Converging Science and Technology, [4]Division of Advanced M*
WC1-D-2 **09:15-09:30**	**Characterizations of Charge-Trap Memory Thin-Film Transistors with HfO_2 Charge-Trap Layer Controlled by Atomic Layer Deposition Process** So-Yeong Na and Sung-Min Yoon *Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University*
WC1-D-3 **09:30-09:45**	**Synthesis of 2-Dimensional Single Phase SnS2by Atomic Layer Deposition** Jung Joon Pyeon[1,2], In-Hwan Baek[1,3], Taek-Mo Chung[4], Jeong Hwan Han[5], Chong-Yun Kang[1,2], Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]KU-KIST Graduate School of Converging Science and Technology, Korea University, [3]Department of Materials Science and Engineering, and Inter-university Semiconductor Research Center, Seoul National University, [4]Divi*
WC1-D-4 **09:45-10:00**	**Continuous and Ultrathin ALD Ru Film Deposition Using Discrete Feeding Method (DFM) and Electric Field Assisted ALD (EA-ALD)** Hyun Soo Jin and Tae Joo Park *Department of Materials Science and Chemical Engineering, Hanyang University*
WC1-D-5 **10:00-10:15**	**Will Be Cubic BeO Thin Films the Next-Generation Dielectric?** Seong Keun Kim[1], Woo Chul Lee[1], Eric S. Larsen[2,3], Jung Hwan Yum[2,3], and Christopher W. Bielawski[2,3] *[1]Center for Electronic Materials, KIST, [2]Department of Chemistry and Engineering, UNIST, [3]Center for Multidimensional Carbon Materials (CMCM), Institute for Basic Science (IBS)*
WC1-D-6 **10:15-10:30**	**High Growth Rate (> 0.25 nm/cycle) of Plasma-Enhanced Atomic-Layer-Deposited SiON Thin Film Using ICP Type Remote Plasma** Dae Hyun Kim[1], Han Jin Lee[2], Hyun Soo Jin[2], Hyung Kun Lee[3], Jeongsik Kim[3], Min Ja Yoo[3], Taewook Kim[3], Jun Young Kim[3], Mingun Lee[3], Kyu Sung Cho[3], Jae Woo Lee[3], Jaehyun Kim[3], and Tae Joo Park[1,2] *[1]Department of Advanced Materials Engineering, Hanyang University, [2]Department of Materials Science and Chemical Engineering, Hanyang University, [3]Electronic Materials Business Division III, Dongjin Semichem*

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Room D (함백II+III, 5층)

R. Semiconductor Software 분과
[WD1-R] 다양한 소프트웨어 최적화 기술

WD1-R-1 **09:00-09:15**	**Optimal Interval Set-up at Checkpoint-Restart for GPGPU** 이동수, 임현열, 김태현, 강성호 *Department of Electrical and Electronic Engineering, Yonsei University*
WD1-R-2 **09:15-09:30**	**비휘발성 메모리 파일 시스템에서 캐시 오염을 줄이는 블록 할당 정책** 안재형, 권정윤, 현철승, 이동희 *서울시립대학교 컴퓨터과학부*
WD1-R-3 **09:30-09:45**	**SSD 내부 버퍼 교체 정책의 성능 평가** 김준도, 신일훈 *서울과학기술대학교 전자IT미디어공학과*
WD1-R-4 **09:45-10:00**	**SSD에서 데이터의수명 예측에기반한 Shallow Write의 선택적 활용** 신일훈 *서울과학기술대학교 전자IT미디어공학과*
WD1-R-5 **10:00-10:30**	**[초청]** **Simplex-Based Heterogeneous Computing Testbed for Autonomous Driving** 김태욱, 김종찬 *국민대학교 자동차공학전문대학원*

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Room F (봉래I, 6층)

F. Silicon and Group-IV Devices and Integration Technology 분과
[WF1-F] Steep-Slope I : Tunnel-FET

WF1-F-1 **09:00-09:15**	**Tunneling Field Effect Transistors with FIN-typed Channel Structure and Their Electrical Characteristics** Donghwan Lim, Hoon Hee Han, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
WF1-F-2 **09:15-09:30**	**Double-Gate Isosceles Trapezoid Tunnel Field-Effect Transistor (DGIT-TFET) to Suppress Ambipolar Current** Hwa Young Gu and Sangwan Kim *Department of Electrical and Computer Engineering, Ajou University*
WF1-F-3 **09:30-09:45**	**Segmented-Channel Tunnel Field Effect Transistor for Bi-Directional Current Flow** Jaesoo Park, Sungjin Lee, and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
WF1-F-4 **09:45-10:00**	**Drive Current Boosting Method of Tunnel FET with Locally Concentrated Silicon-Germanium Channel near Surface** Junil Lee[1], Ryoongbin Lee[1], Euyhwan park[1], Sihyun Kim[1], Hyun-Min Kim[1], Kitae Lee[1], Soyoun Kim[1], Sangwan Kim[2], and Byung-Gook Park[1] *[1]Department of Electrical and Computer Engineering and ISRC, Seoul National University, [2]Department of Electrical and Computer Engineering, Ajou University*
WF1-F-5 **10:00-10:15**	**Tunneling Field-Effect Transistor Having SiGe Source Junction and Its Small-Signal Equivalent Circuit Verification through Y-Parameter Analysis** Yung Hun Jung[1], In Man Kang[2], Wookyung Sun[3], Hyungsoon Shin[3], and Seongjae Cho[1] *[1]Department of Electronics Engineering, Gachon University, [2]School of Electronics Engineering, Kyungpook National University, [3]Department of Electronic and Electrical Engineering, Ewha Woman's University*
WF1-F-6 **10:15-10:30**	**Nanowire Tunnel Field-Effect Transistor (TFET) with Ultra-Thin-Tunnel Region for High Current Drivability and Low Subthreshold Swing** Seong-Hyun Lee, Jeong-Uk Park, and Sangwan Kim *Department of Electrical and Computer Engineering, Ajou University*

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Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[WG1-G] Advanced Devices II - Simulation and Reliability

WG1-G-1 **09:00-09:15**	**RF 소자의 고 신뢰성 확보를 위한 RF인가 가속수명 시스템 설계** Yunho Kang, Sungsoo Chung, Sanga Kim, and Namho Kim *QRT Incorporated*
WG1-G-2 **09:15-09:30**	**New Frequency-Dependent Modeling for Intrinsic Output Admittance of HR PD-SOI MOSFETs** Changjo Lee and Seonghearn Lee *Department of Electronics Engineering, Hankuk University*
WG1-G-3 **09:30-09:45**	**Mobility Calculation for GaN based Heterostructure: Effects of Variational Wave Function and Screening** Suhyeong Cha and Sung-Min Hong *School of Electrical Engineering and Computer Science, GIST*
WG1-G-4 **09:45-10:00**	**Characterization of Recombination Lifetime through Above-Bandgap Optical Transfer Curve in InGaAs MOSFETs** Junyeap Kim, Heesung Lee, Jaewon Kim, Seong Kwang Kim, Han Bin Yoo, Jaewon Park, Sung-Jin Choi, Dae Hwan Kim, and Dong Myong Kim *School of Electrical Engineering, Kookmin University*
WF3-F-6 **14:30-14:45**	**Simulation Study on the Effect of Unconformal Work-Function Metal Deposition on the Electrical Characteristic of Stacked-GAA MOSFET** Sihyun Kim[1], Suhyeon Kim[1], Sangwan Kim[2], Euyhwan Park[1], Junil Lee[1], Ryoongbin Lee[1], Soyeon Kim[1], Hyun-Min Kim[1], Kitae Lee[1], Jong-Ho Lee[1], and Byung-Gook[1] *[1]ISRC and Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electrical and Computer Engineering, Ajou University*
WF3-F-6 **14:30-14:45**	**Simulation Study on the Effect of Unconformal Work-Function Metal Deposition on the Electrical Characteristic of Stacked-GAA MOSFET** Sihyun Kim[1], Suhyeon Kim[1], Sangwan Kim[2], Euyhwan Park[1], Junil Lee[1], Ryoongbin Lee[1], Soyeon Kim[1], Hyun-Min Kim[1], Kitae Lee[1], Jong-Ho Lee[1], and Byung-Gook[1] *[1]ISRC and Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electrical and Computer Engineering, Ajou University*

2018년 2월 7일(수), 09:00-10:30
Room H (청옥I, 6층)

B. Patterning 분과
[WH1-B] 리소그래피 및 플라즈마에칭

WH1-B-1 **09:00-09:15**	**Analysis of Plasma Distribution Change by Edge Ring Height at a Wafer Edge Region** In-won Park, Suk-Hyun Sung, Johnsoo Kim, Byung-Chae Park, Soeun Kim, Dohyung Kim, and Jong Chul Park *Process Development Team, Semiconductor R&D Center*
WH1-B-2 **09:15-09:30**	**N-type Doping Effects of Plasma Treatment on Surface Properties of Ultrathin Tungsten Diselenide** Inyong Moon, Sungwon Lee, and Won Jong Yoo *SAINT, Sungkyunkwan University*
WH1-B-3 **09:30-09:45**	**Effect of Plasma Treatment Using Oxygen and Nitrogen on Surface Properties of 2D Tungsten Diselenide** Sungwon Lee, Inyong Moon, and Won Jong Yoo *Department of Nano Science and Technology, SAINT, Sungkyunkwan University*
WH1-B-4 **09:45-10:00**	**Interferometer Non-linearity 개선을 통한 EUV Overlay 개선** Jinwoo Choi, Sarohan Park, and Changmoon Lim *Research & Development Division, SK Hynix*
WH1-B-5 **10:00-10:15**	**Thermal Property Analysis of EUV Pellicle Membrane** Jung Hwan Kim[1], Yong Ju Jang[2], Seong Ju Wi[1], and Jinho Ahn[1,2] *[1]Department of Material Science Engineering, Hanyang University, [2]Department of Nanoscale Semiconductor Engineering, Hanyang University*
WH1-B-6 **10:15-10:30**	**Mask Dummy Pattern 삽입을 통한 CD Uniformity 개선** Sunkyo Kim, Yeongbae Ahn, Jaeseung Choi, Chanha Park, and Hyunjo Yang *R&D Division, SK Hynix*

2018년 2월 7일(수), 09:00-10:30
Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과
[WI1-K] Topics Related to Memory Design

WI1-K-1 **09:00-09:30**	**[초청]** **Physics-based SPICE Modeling for Phase-Change Memory Cell** 전종욱 *건국대학교*
WI1-K-2 **09:30-09:45**	**SPICE-Based Simulation Study of Cu/AlOX/Pt Conductive-Bridge Resistive Access Memory-CMOS Integrated Circuit for Reconfigurable Logic** Jun Tae Jang[1], Geumho Ahn[1], Daehyun Ko[1], Hye Ri Yu[1], Haesun Jung[1], Chansoo Yoon[2], Sangik Lee[2], Bae Ho Park[2], Hyun-Sun Mo[1], Sung-Jin Choi[1], Dong Myong Kim[1], and Dae Hwan Kim[1] *[1]School of Electrical Engineering, Kookmin University, [2]Department of Physics, Konkuk University*
WI1-K-3 **09:45-10:00**	**메모리 예비자원 사용 효율을 고려한 3차원 메모리 수리 기법** 이하영, 한동현, 이승택, 강성호 *Department of Electrical and Electronic Engineering, Yonsei University*
WI1-K-4 **10:00-10:15**	**Low Power Contents Addressable Memory with NMOS Gated Selective Precharge Matchline** Kwanghyo Jeong, Kyeongho Lee, Woong Choi, and Jongsun Park *School of Electrical Engineering, Korea University*

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Room J (육백I, 6층)

L. Analog Design & M. RF and Wireless Design 분과
[WJ1-LM] Analog & RF Circuits

WJ1-LM-L-1 **09:00-09:15**	**A Two-Step 12-bit SAR ADC with Passive Noise Shaping and Segmented DAC Structure** Jun-Hyeong Kwon, Xuan Tien Nguyen, Woo-Jin Cho, Huu Nguyen Bui, and Jong-Wook Lee *Department of Electronics Engineering, Kyung Hee University*
WJ1-LM-L-2 **09:15-09:30**	**A 91.2 dB DR Audio Delta-Sigma Modulator** Kang-Il Cho, Jongwoo Bong, and Gil-Cho Ah *Department of Electronic Engineering, Sogang University*
WJ1-LM-L-3 **09:30-09:45**	**A Low Jitter Clock Doubler with Automatic Duty Correction Controller** Dongsoo Lee, Sang-Hyuk Park, Jihyun Cheon, SungJin Kim, and Kang-Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
WJ1-LM-M-1 **09:45-10:00**	**GaAs pHEMT를 이용한 W-대역 이미지 제거 혼합기 설계** 최원석, 정진호 *서강대학교 전자공학과*
WJ1-LM-M-2 **10:00-10:15**	**E-plane 프로브 트랜지션이 결합된 서브밀리미터파 전력 증폭기 집적회로** 김정식, 최원석, 정진호 *서강대학교 전자공학과*

2018년 2월 7일(수), 09:00-10:30
Room K (육백II, 6층)

Q. Metrology, Inspection, and Yield Enhancement 분과
[WK1-Q] Inspection & Yield Enhancement

WK1-Q-1 **09:00-09:15**	**Development of UV Line Scanning System for Detecting Safer Defect of XXnm Size** Han Gyeong Oh[1], Han Mo Yang[1], Seong Chul Oh[2], Seung Yong Chu[2], and Jai Soon Kim[1] *[1]NEMO Lab, Department of Physics, Myongji University, [2]AUROS Technology*
WK1-Q-2 **09:15-09:45**	**[초청] Micro-Thermography and Applications** Ki Soo Chang[1], Dong Uk Kim[1], Byung-Seon Chun[2] *[1]Division of Scientific Instrumentation, Korea Basic Science Institute, [2]Nanoscope Systems Institute*
WK1-Q-3 **09:45-10:00**	**Design of the Hi-Efficiency Dark-Field Illumination System Using Anamorphic Optics for Near-Field Microscope** Sunseok Yang[1], Woojun Han[1], Seungyoung Chu[2], Seungchul Oh[2], Jaisoon Kim[1] *[1]Department of Physics, Myongji University, [2]AUROS technology*
WK1-Q-4 **10:00-10:15**	**Early Yield Ramping Up Methodology through Multi-Layers Simulation with Real Process Variation** Jin Kim, Byung-Moo Kim, JunSu Jeon, Ki-Heung Park, Jae Hyun Kang, SeungWeon Paek, and ByungMoo Song *Technology Development, Foundry, Samsung Electronics*
WK1-Q-5 **10:15-10:30**	**Yield 개선을 위한 Wafer Edge Weak Point 개선 System 구축 산포분석에 의한 검증과 2Defect Library System 의 활용** Hyunwoo Kang, Sangwoo Kim, Sunkeun Ji, Sookyeong Jeong, Minwoo Park, Hun Lee, Jungchan Kim, Cheolkyun Kim, Hyunjo Yang *R&D Division, SK Hynix*

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Room A (태백I, 5층)

C. Material Growth & Characterization 분과
[WA2-C] Material Growth and Characterization II

WA2-C-1 **10:45-11:00**	**Atomically Thin Semiconducting H-BC2N** Tae Hoon Seo[1], Hee Soo Kim[1,2], Eun-Kyung Suh[2], and Myung Jong Kim[1] *[1]Applied Quantum Composites Research Center and [3] Carbon Composite Materials Research Center, KIST, [2]Department of Semiconductor and Chemical Engineering, Semiconductor Physics Research Center, Chonbuk National University*
WA2-C-2 **11:00-11:15**	**Improvement of Cell-to-Cell Variation of Selective Poly/Epitaxial Growth through Removing the Interfacial Defects for Application in 3-D NAND Flash Memory** Jinsung Park, Seungbeom Baek, Oh Hyun Kim, and Byoungki Lee *R&D Devision, SK Hynix*
WA2-C-3 **11:15-11:30**	**Growth and Characterization of BeO Thin Films Grown by Atomic Layer Deposition Using H_2O and O_3 as Oxygen Sources** Woo Chul Lee[1,2], Cheol Jin Cho[1,2], Sangtae Kim[1], Eric S. Larsen[3,4], Jung Hwan Yum[3,4], Christopher W. Bielawski[3,4], Cheol Seong Hwang[2], and Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering, and Inter-University Semiconductor Research Center, Seoul National University, [3]Center for Multidimensional Carbon Materials (CMCM), Institute for Basic Science, [4]De*
WA2-C-4 **11:30-11:45**	**Solvothermal Synthesis of Semiconducting Carbon Nanotube Doped Flower-like SnS_2 and its Electrical Characterization for Sensor Application** Geun Woo Baek[1], Tae Young Lee[2], Jin Heon Jeong[2], Rajneesh Kumar Mishra[2], Seung Yeop Kim[2], Jong Ik Baek[2], and Changhee Lee[1], Sung Hun Jin[2] *[1]Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electronic Engineering, Incheon National University*
WA2-C-5 **11:45-12:00**	**The Characterization of Cyclopentadienyl Tris(dimethylamino) Zirconium for the Atomic Layer Deposition** Goru Kang, Seob Shim, Jong-Ki An, Yoentae Kang, Jin-Tae Kim, Ju-Young Yun *KRISS, School of Mechanical Engineering, Sungkyunkwan University*
WA2-C-6 **12:00-12:15**	**Hydrogen Gas Sensor Using Pd-decorated $Al2O_3/SrTiO_3$ Heterostructure** Sung Min Kim, Hye Ju Kim, and Sang Woon Lee *Department of Energy Systems Research and Department of Physics, Ajou University*

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Room B (태백II+III, 5층)

Special Session
[WB2-SS] Special Session: IoT I

WB2-SS-1 **10:45-11:00**	**IOT/ICT 응용 기술을 활용한 SCS(Smart Control System) 개발** 지문영 *Department of PKG Technology Development, SK Hynix*
WB2-SS-2 **11:00-11:15**	**Reliability Modeling of DRAM Storage Capacitors** Seongun Shin[1], Gyuhan Yoon[1], Seon Young Cha[2], Seon Soon Kim[2], Kwang Ho Ahn[2], Woo Young Chung[2], Se Hyun Kim[2], and Woo Young Choi[1] *[1]Department of Electronic Engineering, Sogang University, [2]DRAM Business Unit, SK Hynix*
WB2-SS-3 **11:15-11:30**	**High-Responsivity Deep-Ultraviolet-Selective Photodetector Using Amorphous GaOx Thin Films Grown by Atomic Layer Deposition** Kang Min Lee, Seung Hyun Lee, and Sang Woon Lee *Department of Energy Systems Research and Department of Physics, Ajou University*
WB2-SS-4 **11:30-11:45**	**전력 IOT 용 고효율 자기 하베스팅 다중 센서** Towoo Lim, Sol Hwang, Changhun Hong, and Youngmin Kim *School of Electrical Eng., Hongik University*
WB2-SS-5 **11:45-12:00**	**Innovative Approaches to Transient Low-Current Measurement for IoT** Jeong-Tae Kim *Keysight Technologies Korea*
WB2-SS-6 **12:00-12:15**	**Improvement of Sensing Margin and Reset Switching Fail of ReRAM** Woo Young Park, WonKi Ju, JooYoung Moon, YoungSeok Ko, BoMi Lee, Jae Yeon Lee, Tae Jung Ha, Yong Taek Park, KyungWan Kim, Soo Gil Kim, and ByoungKi Lee *ReRAM team, R&D Division, SK Hynix Semiconductor Inc.*

2018년 2월 7일(수), 10:45-12:15
Room C (함백I, 5층)

D. Thin Film Process Technology 분과
[WC2-D] Thin Films for Memories and Transistors I

WC2-D-1 **10:45-11:00**	**Dispersion in Ferroelectric Switching Performance of Polycrystalline Hf0.5Zr0.5O2 Thin Films** Seung Dam Hyun, Hyeon Woo Park, Yu Jin Kim, Min Hyuk Park, Young Hwan Lee, Han Joon Kim, Young Jae Kwon, Taehwan Moon, Keum Do Kim, Yong Bin Lee, Beak Su Kim, and Cheol Seong Hwang *Department of Materials Science and Engineering, Seoul National University*
WC2-D-2 **11:00-11:15**	**ALD W에 기인한 F 이 Oxide 에 미치는 영향 연구** 김형철, 이승미, 조흥재, 이안배, 장세억 *SK Hynix*
WC2-D-3 **11:15-11:30**	**Transient Voltage of Negative Capacitance Depending on Ferroelectric Properties of $HfZrO_2$.** Changyong Oh and Sanghun Jeon *Department of Applied Physics, Korea University*
WC2-D-4 **11:30-11:45**	**Abnormal Dielectric Properties in High-k/TiO2 Multilayer Structures** Yu Jin Kim, Sehun Kang, Beomyong Kim, Heeyoung Jeon, Kyung Woong Park, and Deok Sin Kil *Process Center, SK Hynix*
WC2-D-5 **11:45-12:00**	**The Effect of Lanthanide Metal Buffer Layer on the Resistive Switching Cu-Se Based Atomic Switch** Hyunsuk Woo and Sanghun Jeon *Department of Applied Physics, Korea University*
WC2-D-6 **12:00-12:15**	**Arsenic Free Ovonic Threshold Switch (OTS) for 3D Crossbar Memory Selector** Myoung Su Seo, Sung Min Kim, Hye Ju Kim, and Sang Woon Lee *Department of Energy Systems Research, Ajou University, Department of Physics, Ajou University*

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Room D (함백II+III, 5층)

E. Compound Semiconductors 분과
[WD2-E] III-V Emerging Device

WD2-E-1 **10:45-11:00**	**InGaAs QW MOSFETs with Record μ_{n_eff} = 6,980 cm^2/V-s: from Fabrication to BTI Characteristics.** Seung-Woo Son[1,2], Hyuk-Min Kwon[3], Jung Ho Park[1], Ji-Min Baek[1], Hyeon-Bhin Cho[1], Yong Hyun Seo[3], Min Yung Lee[3], Dong-Hyun Kim[2], Chan-Soo Shin[2], and Dae-Hyun Kim[1] *[1]School of Electronics Engineering, Kyungpook National University, [2]Korea Advanced Nanofab Center, [3]SK-Hynix*
WD2-E-2 **11:00-11:15**	**Avalanche Photodiodes for Hazardous Airborne Particle Monitoring System** Eugene Chong[1], Byeong Hwang Park[1], Ho-Young Cha[2], Kyeong-Keun Choi[3], Young-Su Jeong[1], Hong-Kyu Lee[1], Young-Jin Ko[1], Jong-Seon Kim[1], Hyun-Woo Nam[1], Hyun-Jung Kim[1], Juno Lee[1], Jae- Hwan Lee[1], Jeong Yoon Lee[3], and Min Jae Kang[3] *[1]CB Detection Team, ADD, [2]Hongik University, [3]NINT, POSTECH*
WD2-E-3 **11:15-11:30**	**Impact of Ground Plane Doping on InGaAs-OI MOSFETs** Seong Kwang Kim[1,2], Jae-Phil Shim[1],Dae-Myeong Geum[1,3], Jaewon Kim, Chang Zoo Kim[4], Han-Sung Kim[1], Jin-Dong Song[1], Sung-Jin Choi[2], Dae Hwan Kim[2], Won Jun Choi[1], Hyung-jun Kim[1], Dong Myong Kim[2], and Sanghyeon Kim[1] *[1]KIST, [2]School of Electrical Engineering, Kookmin University, [3]Department of Materials Science and Engineering, Seoul National University, [4]KANC*
WD2-E-4 **11:30-11:45**	**Enhanced UV Absorption of Photodiode with ZnO Quantum Dot Antireflection Coating Layer** Jong-Ik Kang[1], Chang-Yeol Han[2], Heesun Yang[2], Seong Ran Jeon[3], Eugene Chong[4], Byeonghwang Park[4], Young Il Kang[4], and Ho-Young Cha[1] *[1]School of Electronic and Electrical Engineering, Hongik University, [2]Department of Materials Science and Engineering, Hongik University, [3]KOPTI, [4] Chem-Bio Division, Agency for Defense Development*
WD2-E-5 **11:45-12:15**	**[초청]** **Ultra Wide Bandgap Ga_2O_3 Materials for Next Generation Power Electronics Applications** Youngboo Moon[1], Hyun Yeop Lee[1], Hyung Seok Jung[1], Daejang Lee[2], and Jun-Seok Ha[2] *[1]UJL, [2]School of Applied Chemical Engineering, Chonnam National University*

2018년 2월 7일(수), 10:45-12:15
Room F (봉래I, 6층)

F. Silicon and Group-IV Devices and Integration Technology 분과
[WF2-F] Reliability

WF2-F-1 **10:45-11:00**	**Investigation of PBTI Characteristics of FD-SOI TFET with High-k Dielectric** Hyeong-Sub Song[1], So-Yeong Kim[1], Sung-Kyu Kwon[1], Dong-Hwan Lim[2], Chang-Hwan Choi[2], Ga-Won Lee[1], and Hi-Deok Lee[1] *[1]Department of Electronics Engineering, Chungnam National University, [2]Division of Materials Science and Engineering, Hanyang University*
WF2-F-2 **11:00-11:15**	**Investigation on Negative Differential Transconductance (NDT) of Double-Gate Tunnel FETs** Jang Woo Lee and Woo Young Choi *Department of Electronic Engineering, Sogang University*
WF2-F-3 **11:15-11:30**	**Gate Voltage Dependence of Low Frequency Noise in Tunneling Field Effect Transistor** So-Yeong Kim[1], Hyeong-Sub Song[1], Sung-Kyu Kwon[1], Dong-Hwan Lim[2], Chang-Hwan Choi[2], Ga-Won Lee[1], and Hi-Deok Lee[1] *[1]Department of Electronics Engineering, Chungnam National University, [2]Division of Materials Science and Engineering, Hanyang University*
WF2-F-4 **11:30-11:45**	**Ge 기반의 소자에서 Y-ZrO2 게이트 유전체를 이용한 EOT 스케일링 (~5.7Å) 및 누설 전류와 계면 트랩의 감소** Tae In Lee, Min Ju Kim, Manh-Cuong Nguyen, Hyun Jun Ahn, Jungmin Moon, Tae Yoon Lee, Hyun-Young Yu, Rino Choi, Wan Sik Hwang, and Byung Jin Cho *School of Electrical Engineering, KAIST*
WF2-F-5 **11:45-12:00**	**Simple and Scalable N-Type Conversion of Semiconducting Carbon Nanotube Thin Film Transistors Using X-Layer/SU8 Passivation** Seung Yeop Kim, Geon Woong Lim, Eun Bin Roh, Geun Woo Baek, and Sung Hun Jin *Department of Electronic Engineering, Incheon National University*
WF2-F-6 **12:00-12:15**	**Fabrication of High Quality Gate Insulator in Metal-Oxide-Semiconductor Capacitor Using Laser Annealing** Kyoung Moon Yu, Hyung Min Ji, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Jung Yeon Kim, Sujin Choi, Jonggyu Cheon, Jin Hyun Kim, Sang Woo Kim, Seong Yong Cho, and Rino Choi *Department of Materials Science and Engineering, Inha University*

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Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[WG2-G] Advanced Devices III - Simulation and Reliability

WG2-G-1 **10:45-11:00**	**Threshold Voltage Shift of L-Shaped Tunnel Field-Effect Transistor for Better Performance** Faraz Najam and Yun Seop Yu *Department of Electrical, Electrical and Control Engineering and IITC, Hankyong National University*
WG2-G-2 **11:00-11:15**	**A Simulation Study on Tunneling Electroresistance Effect in Ferroelectric Tunnel Junction** Junbeom Seo, Moonhoi Kim, and Mincheol Shin *School of Electrical Engineering, KAIST*
WG2-G-3 **11:15-11:30**	**Investigation of Electrothermal Annealing to Repair the Hot-Carrier Degradation in a Tri-Gate FinFET** Joon-Kyu Han, Jun-Young Park, and Yang-Kyu Choi *School of Electrical Engineering, KAIST*
WG2-G-4 **11:30-11:45**	**Parasitic Capacitance Reduction on Tunneling Field Effect Transistor for Enhanced AC Performance and Energy Consumption** Jeesoo Chang, Sihyun Kim, Dae Woong Kwon, and Byung-Gook Park *Department of Electrical and Computer Engineering (ECE), Seoul National University*
WG2-G-5 **11:45-12:00**	**Analysis and Characterization of Dynamic Leakage Current in FinFETs and Its Compact Model for Gate-All-Around (GAA) MOSFETs** Boram Yi, Young-Hun Park, and Ji-Woon Yang *Department of Electronic & Information Engineering, Korea University*
WG2-G-6 **12:00-12:15**	**Strain Effectiveness of Gate-All-Around Si Transistors with Various Surface Orientations and Cross-Sections** Kihwan Kim and Saeroonter Oh *Division of Electrical Engineering, Hanyang University*

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Room H (청옥I, 6층)

J. Nano-Science & Technology 분과
[WH2-J] Nano Materials and Nano Structures

WH2-J-1 **10:45-11:00**	**[초청]** **What We Can Learn and Exploit More from Plasmonics** Dong Ha Kim, Huan Wang, Kyungwha Chung, Ji-Eun Lee, Ju Won Lim, Yu Jin Jang, and Yoon Hee Jang *Department of Chemistry and Nano Science, Ewha Womans University*
WH2-J-2 **11:00-11:15**	**[초청]** **Self Assemblednanostructures for Stimuli-Interactive Display** Cheolmin Park *Department of Materials Science & Engineering, Yonsei University*
WH2-J-3 **11:15-11:30**	**기상 증착 기반 유연전자소자용 유/무기 하이브리드 절연막** Min Ju Kim[1], Gwanyoung Pak[1], Tae In Lee, Sung Gap Im[2], and Byung Jin Cho[2] *[1]School of Electronic Eng., KAIST, [2]School of Biochemical Eng., KAIST*
WH2-J-4 **11:30-11:45**	**Universal Selection Rule That Should Satisfy Surfactants Used in Miniemulsion Processes for Eco-Friendly and High Performance Polymer Semiconductors** Jangwhan Cho, Seongwon Yoon, Jaeun Ha, Seong Hoon Yu, Juhee Kim, and Dae Sung Chung *Department of Energy Science & Engineering, Daegu Gyeongbuk Institute of Science & Technology*

2018년 2월 7일(수), 10:45-12:15
Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과
[WI2-K] ReRAM II - New Technologies

WI2-K-1 **10:45-11:15**	**[초청]** **Halide perovskites for Low Voltage Resistive Switching Memories** Ho Won Jang *Department of Materials Science and Engineering, Seoul National University*
WI2-K-2 **11:15-11:30**	**Thermally Stable Resistive Switching Characteristics of Te-Based Conductive-Bridge Memoryby Optimizing Zr-Te Composition** Sangmin Lee, Seokjae Lim,Jeonghwan Song, Jaehyuk Park, and Hyunsang Hwang *Department of MS&E, POSTECH*
WI2-K-3 **11:30-11:45**	**Fabrication of Cu Cone Structure Embedded CBRAM Array for Inducing Field Concentration Effect & Material Limited Switching Effect** Hae Jin Kim[1], Tae Hyung Park[1], Young Jae Kwon[1], Dae Eun Kwon[1], Yu Min Kim[1], Tae Jung Ha[2], Soo Gil Kim[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University, [2]SK Hynix Inc.*
WI2-K-4 **11:45-12:00**	**The Effect of Au Nanodots Geometry and Location in the Pt/Ta_2O_5/HfO2-x/TiN Structure** Young Jae Kwon, Jung Ho Yoon, Yu Min Kim, Dae Eun Kwon, Tae Hyung Park, Hae Jin Kim, Kyung Seok Woo, Tae Gyun Park, and Cheol Seong Hwang *Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University*
WI2-K-5 **12:00-12:15**	**Self-Rectifying Resistive Random-Access Memory with a-Si/Si_3N_4 Bilayer** Hui Tae Kwon, Won Joo Lee, Hyun-seok Choi, Daehoon Wee, Yu Jeong Park, Boram Kim, and Yoon Kim *Department of Nano-Energy Engineering, BK21 Plus Nano-convergence Technology Division, Pusan National University*

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Room J (육백I, 6층)

L. Analog Design 분과
[WJ2-L] Analog Circuit Design

WJ2-L-1 **10:45-11:00**	**Design of a 10-bit CMOS Image Sensor with a Self-Calibrating Cyclic A/D Converter** Yunjeong Kim, Sooyoun Kim, and Minkyu Song *Department of Semiconductor Science, Dongguk University*
WJ2-L-2 **11:00-11:15**	**Design of a High speed Full-HD CMOS Image Sensor with a Column Parallel SAR ADC** Min Hyun Jin, Soo Youn Kim, and Min Kyu Song *Department of Semiconductor Science, Dongguk University*
WJ2-L-3 **11:15-11:30**	**A 16-Channel Implantable Neural Recording System** Taeju Lee[1], Soonyoung Hong[2], Chongsoo Jung[1], Junghyup Lee[2], and Minkyu Je[1] *[1]School of Electrical Engineering, KAIST, [2]Department of Information and Communication Engineering, DGIST*
WJ2-L-4 **11:30-11:45**	**부분 소자 정합 기법 기반의 12비트 150MS/s 전류 구동 0.18um CMOS DAC** 이은창, 박준상, 안태지, 이승훈 *서강대학교 전자공학과*
WJ2-L-5 **11:45-12:00**	**이중채널 12비트 160MS/s 28nm CMOS 비동기 파이프라인 SAR ADC** 박준상, 이은창, 안태지, 이승훈 *서강대학교 전자공학과*
WJ2-L-6 **12:00-12:15**	**빠른 응답을 갖는 저전력 CL-LDO 레귤레이터** 탕준, 이재성, 노정진 *한양대학교 전자통신공학과*

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Room K (육백II, 6층)

O. System LSI Design 분과
[WK1-Q] VLSI System Design and Application I

WK2-O-1 **10:45-11:00**	**A Proposal of Learning Method Using Spike-Timing Dependent Plasticity for Neuromorphic Systems** Sungmin Hwang, Hyungjin Kim, Min-Woo Kwon, Jungjin Park, and Byung-Gook Park *Department of Electrical Engineering, Seoul National University*
WK2-O-2 **11:00-11:15**	**Segmentation Based Disparity Refinement for Stereo Matching** Gyujin Bae and Young Hwan Kim *Department of Electrical Engineering, POSTECH*
WK2-O-3 **11:15-11:30**	**Unsupervised Learning of Image Patterns Using Multiple Postsynaptic Neurons based on Spike-Timing-Dependent Plasticity** Soochang Lee, Chul-Heung Kim, Byung-Gook Park, and Jong-Ho Lee *Department of Electrical and Computer Engineering, Inter-University Semiconductor Research Center, Seoul National University*
WK2-O-4 **11:30-11:45**	**Accelerator Design of Concurrent Internet Key Exchange Protocol Aimed at Heavy Traffic with Multi Users** Saad Arslan, Shimaa Abdel Naby Abdel Hakim, and HyungWon Kim *Department of Electronic Engineering, Chungbuk National University*
WK2-O-5 **11:45-12:00**	**Bitwise Convolution Circuit for Processing-In-DRAM** Khoa Van Pham, Son Bao Tran, Tien Van Nguyen, HyunKyung Nam, and Kyeong-Sik Min *School of Electrical Engineering, Kookmin University*
WK2-O-6 **12:00-12:15**	**High Voltage Neurostimulator in Low Voltage CMOS Process** Jehoon Kim, Doojin Jang, Miryeong Seol, and Minkyu Je *School of Electrical Engineering, KAIST*

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Room A (태백I, 5층)

P. Device for Energy (Solar Cell, Power Device, Battery, etc.) 분과
[WA3-P] Device for Solar Energy Conversion

WA3-P-1 **13:15-13:45**	**[초청]** **Energy Transport Using Multi-Scale Hybrid Structures** Wonjoon Choi, Hayoung Hwang, Taehan Yeo, Dongjoon Shin, Byungsuk Seo, Sunggoo Kang, Kyungbum Seo, Seonghyun Park, and Jaemin Lee *School of Mechanical Engineering, Korea University*
WA3-P-2 **14:00-14:30**	**[초청]** **Semiconducting Organic - Inorganic Halide Perovskite Materials** Seongrok Seo, Seonghwa Jeong, and Hyunjung Shin *Department of Energy Science, Sungkyunkwan University*
WA3-P-3 **14:30-14:45**	**Enhanced Photocatalytic Activity of g-C_3N_4/TiO_2 Composites with Uniform Heterojunction via Atomic Layer Deposition** Eunyong Jang[1], Tae Joo Park[1,2] *[1]Department of Advanced Materials and Engineering, Hanyang University, [2]Department of Materials Science and Chemical Engineering, Hanyang University*

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Room B (태백II+III, 5층)

Special Session
[WB3-SS] Special Session: IoT II

WB3-SS-1 **13:15-13:30**	**Double-Sampling Highpass Delta-Sigma Modulator with Inherent Frequency Translation** Sein Oh and Hyungil Chae *Department of Electronic Eng., Kookmin University*
WB3-SS-2 **13:30-13:45**	**Dual-Mode Envelope Tracking Supply Modulator for IoT Applications** Hansik Oh, Sungjae Oh, Jongseok Bae, Wonseob Lim, and Youngoo Yang *School of Electronic and Electrical Engineering, Sungkyunkwan University*
WB3-SS-3 **13:45-14:00**	**780 MHz Two-Stage Differential CMOS Power Amplifier for IoT** Taewan Kim, Hansik Oh, Wonseob Lim, Hyunuk Kang, and Youngoo Yang *Electronic and Electrical Engineering, Sungkyunkwan University*
WB3-SS-4 **14:00-14:15**	**Adaptive Wireless Power Transmission Using Feedback Circuit** Young Hwan Lho[1], Sang Yong Lee[1], Jong Dae Kim[2], and Yil-Suk Yang[2] *[1]Department of Railroad Electricity System, Woosong University, [2]Components & Materials Research Laboratory, ETRI*
WB3-SS-5 **14:30-14:45**	**비콘을 활용한 실내 화재 대피 안내** 황나연, 김다솜, 이현의, 신일훈 *서울과학기술대학교 전자IT미디어공학과*
WB3-SS-6 **14:15-14:30**	**CMOS Power Amplifier IC Using a Cross-Coupled Capacitor for IoT Applications** Hyungyu Kim, Wonseob Lim, Sungjae Oh, Hansik Oh, and Youngoo Yang *School of Electronic and Electrical Engineering, Sungkyunkwan University*

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Room C (함백I, 5층)

I. MEMS & Sensors Systems 분과
[WC3-I] Flexible Sensor Systems

WC3-I-1 13:15-13:45	**[초청]** **Wafer-Level Fabrication of Biodegradable Silk Fibroin Using UV Lithography** Hyunjoo J. Lee *School of Electrical Engineering, KAIST*
WC3-I-2 13:45-14:00	**키리가미 구조 기반의 스트레쳐블 기판의 제작 방법** 윤지성, 윤광석 *서강대학교 전자공학과*
WC3-I-3 14:00-14:15	**압전 에너지 수확소자가 집적된 유연한 압저항 스트레인 센서 제작 방법** 김기홍, 윤광석 *서강대학교 전자공학과*
WC3-I-4 14:15:14:30	**Biocompatible Silk Adhesives for Roust Adhesion of Epidermal Sensors** Hyojung Kim, Ji-Won Seo, and Hyunjoo J. Lee *School of Electrical Engineering, KAIST*
WC3-I-5 14:30-14:45	**Flexible Bimodal Sensor with Ink-Jet Printing Technique** Minhyun Jung[1], Kyungkwan Kim[1], Taeho Kim[1], Heedo Chae[2], Haena Cheong[2], Oh-sun Kwon, Kwanwoo Shin[2], and Sanghun Jeon[1] *[1]Department of Applied Physics, Korea University, [2]Department of Chemistry and Institute of Biological Interfaces, Sogang University*

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Room D (함백II+III, 5층)

E. Compound Semiconductors 분과
[WD3-E] GaN Device

WD3-E-1 **13:15-13:30**	**Enhancement of Gate Controllability and Suppression of Current Collapse in AlGaN/GaN HEMT Fabricated on GaN-Based Cantilever** Quan Dai, Dong-Hyeok Son, Ryun-Hwi Kim, Jun-Hyeok Lee, Terirama Thingujam, Jung-Min Ju, and Jung-Hee Lee *School of electronics engineering, Kyungpook National University*
WD3-E-2 **13:30-13:45**	**Improvement of Bias-Induced Vth Stability in Recessed-Gate AlGaN/GaN MIS-HEMTs with Nitrogen-Incorporated Al_2O_3 Gate Insulator** Myoung-Jin Kang[1], Cheol-Hee Lee[1], Su-Keun Eom[1], Jae-Gil Lee[1], Ho-Young Cha[2], and Kwang-Seok Seo[1] *[1]Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University, [2]Department of Electronic and Electrical Engineering, Hongik University*
WD3-E-3 **13:45-14:00**	**Proton Irradiation Effects on AlGaN/GaN HEMT Isolated by Ion Implantation** Dong-Seok Kim[1], Sun Mog Yeo[1], Jun-Hyeok Lee[2], and Jung-Hee Lee[2] *[1]Korea Multi-Purpose Accelerator Complex, KAERI, [2]School of Electronics Engineering, Kyungpook National University*
WD3-E-4 **14:00-14:15**	**Low Energy Proton Irradiation Effects in AlGaN/GaN-on-Si HEMTs** Dongmin Keum, Geunho Cho, and Hyungtak Kim *Department of Electronic and Electrical Engineering, Hongik University*
WD3-E-5 **14:15-14:30**	**The Characteristic of GaN Vertical Nanowire for Low Voltage Application** Dong-Hyeok Son, Quan Dai, Ryun-Hwi Kim, Jun-Hyeok Lee, Hyun-Su Lee, and Jung-Hee Lee *School of Electronics Engineering, Kyungpook National University*
WD3-E-6 **14:30-14:45**	**Development of 4-Inch AlGaN/GaN High Electron Mobility Transistors Grown on Semi-Insulating SiC Substrate with High Electron Mobility** Chu-Young Cho, Yumin Koh, Hyeong-Ho Park, and Kyung-Ho Park *Electronic Devices Laboratory, KANC*

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Room F (봉래I, 6층)

F. Silicon and Group-IV Devices and Integration Technology 분과
[WF3-F] Photonics and Nanowire Technology

WF3-F-1 **13:15-13:30**	**Ge-on-Insulator Structureusing Y_2O_3 for Mid-Infrared Photonics Platform** SangHyeon Kim[1,2], Jae-Hoon Han[1], Jae-Phil Shim[3], Hyung-Jun Kim[2,3], and Won Jun Choi[1] *[1]Center for Opto-Electronics Materials and Devices, KIST, [2]Nanomaterials Science and Engineering, UST, [3]Center for Spintronics, KIST*
WF3-F-2 **13:30-13:45**	**High Concentration Phosphorous Doping in Ge for CMOS-Integrated Laser Applications** Heedong Park[1], Motoki Yako[2], Yasuhiko Ishikawa[2], Kazumi Wada[2,3], and Donghwan Ahn[1] *[1]School of Materials Science and Engineering, Kookmin University, [2]Department of Materials Engineering, University of Tokyo, [3]Department of Materials Science and Engineering, MIT*
WF3-F-3 **13:45-14:00**	**Si Fin/$Si_{1-x}Ge_x$ Shell Channel *p*-Type FinFET for Sub-10-nm Technology Nodes and Its High-Speed Operation** Eunseon Yu[1], Won-Jun Lee[2], Jongwan Jung[2], and Seongjae Cho[1,3] *[1]Graduate School of IT Convergence Engineering, Gachon University, [2]Department of Nanotechnology and Advanced Materials Engineering, Sejong University, [3]Department of Electronics Engineering, Gachon University*
WF3-F-4 **14:00-14:15**	**Statistical Process-Induced Random Variation: Work-Function Variation in Stacked Nanowire FET** Jinyoung Park and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
WF3-F-5 **14:15-14:30**	**A Characteristic of Stacked Gate-All-Around Nanowire MOSFET based on Source Drain Doping Profile** Suhyeon Kim, Junil Lee, Myung-Hyun Baek, Sihyun Kim, Ryoongbin Lee, Hyun-Min Kim, Kitae Lee, and Byung-Gook Park *Department of Electrical Engineering, Seoul National University*
WF3-F-6 **14:30-14:45**	**Simulation Study on the Effect of Unconformal Work-Function Metal Deposition on the Electrical Characteristic of Stacked-GAA MOSFET** Sihyun Kim[1], Suhyeon Kim[1], Sangwan Kim[2], Euyhwan Park[1], Junil Lee[1], Ryoongbin Lee[1], Soyeon Kim[1], Hyun-Min Kim[1], Kitae Lee[1], Jong-Ho Lee[1], and Byung-Gook[1] *[1]ISRC and Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electrical and Computer Engineering, Ajou University*

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Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[WG3-G] Modeling and Simulation II - Device and Process

WG3-G-1 **13:15-13:30**	**Physics-Based Capacitance Model of Drift Region in LDMOS and Its Implementation with BSIM4** Jun Hyeok Kim[1], Chan Ho Park[1], Sung Moo Kim[1], Ji-Woon Yang[2], and Geun Tae Kwon[1] *[1]Technology Enabling Team, DB Hitek Co., Ltd., Department of Electronics & Information Engineering, Korea University*
WG3-G-2 **13:30-13:45**	**A Frequency Domain Solver for Maxwell's Equations and Drift-Diffusion Model** Jaehyeong Jang and Sung-Min Hong *School of Electrical Engineering and Computer Science, Gwangju Institute of Science and Technology*
WG3-G-3 **13:45-14:00**	**공정 산포 마진 예측을 위한 Process Emulation Tool과 통계적 분석법을 활용한 Process Integration 모델링** Mi-Na Kim, Hyoung-Gyu Choi, Eun-Young Cheon, Seong-Dong Kim, Seokkiu Lee, and Sungjoo Hong *Device modeling & Reliability Group, R&D Division, SK Hynix Inc*
WG3-G-4 **14:00-14:15**	**First Principles Approach to Analyze Defect-induced Multiphonon Transition at the Si-SiO_2 Interface** Junsung Park and Sung-Min Hong *School of Electrical Engineering and Computer Science, GIST*
WG3-G-5 **14:15-14:30**	**Characteristics for Self Heating Effects on Stacked Nanosheet FET** Hyunsuk Kim, Dokyun Son, Ilho Myeong, Myounggon Kang, and Hyungcheol Shin *ISRC and School of Electrical Engineering and Computer Science, Seoul National University*
WG3-G-6 **14:30-14:45**	**Series Resistance Characterization of Junctionless Transistors** D.-Y. Jeon[1], S. J. Park[2], M. Mouis[3], S. Barraud[4], G.-T. Kim[2], and G. Ghibaudo[3] *[1]Institute of Advanced Composite Materials, Korea Institute of Science and Technology, [2]School of Electrical Engineering, Korea University, [3]IMEP-LAHC, Grenoble INP, Minatec, [4]CEA-LETI Minatec*

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Room H (청옥I, 6층)

J. Nano-Science & Technology 분과
[WH3-J] CNT Related Nanotechnology

WH3-J-1 **13:15-13:30**	**A Pseudo-CMOS Inverter with Top-Gated 99% Semiconducting Carbon Nanotube Network Transistors** Bongsik Choi, Jinsu Yoon, Yongwoo Lee, Jungmin Han, Jieun Lee, Yeamin Kim, Jinhee Park, Dong Myong Kim, Dae Hwan Kim, and Sung-Jin Choi *School of Electrical Engineering, Kookmin University*
WH3-J-2 **13:30-13:45**	**99% Semiconducting Carbon Nanotube-Based Diode and Application in Logic Circuits** Yongwoo Lee, Bongsik Choi, Jinsu Yoon, Jungmin Han, Jieun Lee, Jinhee Park, Yeamin Kim, Dong Myong Kim, Dae Hwan Kim, and Sung-Jin Choi *School of Electrical Engineering, Kookmin University*
WH3-J-3 **13:45-14:00**	**Solution-Processed Multi-Wall Carbon-Nanotube Sensors for Hydrogen Peroxide Gas Detection** Ban-Suk Park[1], Jun-Young Jeon[1], Young Tae Byun[2], and Tae-Jun Ha[1] *[1]Department of Electronic Materials Engineering, Kwangwoon University, [2]Sensor System Research Center, KIST*
WH3-J-4 **14:00-14:15**	**CdSe-QD Doped WO_3 in Electrochromic Devices** Amirhossein Hasani[1], Quyet Van Le[1], Thang Phan Nguyen[1], Kyoung Soon Choi[2], Ho Won Jang[3], and Soo Young Kim[1] *[1]School of Chemical Engineering and Materials Science, Chung-Ang University, [2]Advanced Nano-Surface Research Group, KBSI, [3]Department of Materials Science and Engineering, Research Institute of Advanced Materials, Seoul National University*
WH3-J-5 **14:15-14:30**	**The Effect of Additives Controlled by Annealing Temperature and Content on the Performance of Cs-Based Solar Cells** Do Yeon Heo and Soo Young Kim *School of Chemical Engineering and Materials Science, Chung-Ang University*

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Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과
[WI3-K] FeRAM and Transparent ReRAM

WI3-K-1 **13:15-13:30**	**Characterization of Ferroelectric Hafnium Oxide Thin Film** Sang Hyun Sung[1], Do Hyun Kim[1], Il Suk Kang[2], and Keon Jae Lee[1] *[1]Department of Materials Sciences and Engineering, KAIST, [2]Nano Research Division, National NanoFab Center*
WI3-K-2 **13:30-13:45**	**New Non-volatile Multi-level Cell Using Epitaxial Strain Effect and Double Ferroelectric Tunnel Junctions** Moonhoi Kim, Junbeom Seo, and Mincheol Shin *School of Electrical Engineering, KAIST*
WI3-K-3 **13:45-14:00**	**Improvement of ZnO Resistive Switching Devices by Metal Thin Layer on ITO Bottom Electrode for Transparent Devices** Taehoon Lee[1], Yong Chan Jung[1],Sejong Seong,[1], Seon Yong Kim[1],In-Sung Park[1,2], and Jinho Ahn[1,2] *[1]Division of Materials Science and Engineering, Hanyang University, [2]Institute of Nano Science and Technology, Hanyang University*
WI3-K-4 **14:00-14:15**	**Investigation on Resistive Switching in Zn-Sn-O Film Using Microwave Irradiation** Tae-Wan Kim and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
WI3-K-5 **14:15-14:30**	**Analysis of LRS Retention Fail based on Joule Heating Effect in InGaZnO RRAM** Geumho Ahn, Jun Tae Jang, Daehyun Ko, Hyeri Yu, Haesun Jung, Jihyun Rhee, Hyun-Sun Mo, Sung-Jin Choi, Dong Myong Kim, and Dae Hwan Kim *School of Electrical Engineering, Kookmin University*
WI3-K-6 **14:30-14:45**	**Capacitorless 1T-DRAM Device** Sehyun Kwon[1], Minho Choi[1], In-sung Park[2], Yong Tae Kim[3], and Jinho Ahn[1,2] *[1]Department of Materials Science and Engineering, Hanyang University, [2]Institute of Nano Science and Technology, Hanyang University, [3]KIST*

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Room J (육백I, 6층)

N. VLSI CAD 분과
[WJ3-N] IoT & SoC Methodology

WJ3-N-1 **13:15-13:45**	**[초청]** **Toward IoT Era Enabled by AI** Lokwon Kim *Department of Computer Science, KyungHee University*
WJ3-N-2 **13:45-14:00**	**IBS 방식을 이용한 PUF 기반의 암호화 키 생성 메커니즘 단순화** 조호준, 양준성 *성균관대학교 반도체디스플레이공학과*
WJ3-N-3 **14:00-14:15**	**Low Overhead TSV Repair for TSV-Induced Noise and Stress Reduction** Muhammad Imran and Joon-Sung Yang *Department of Electrical and Computer Engineering, Sungkyunkwan University*
WJ3-N-4 **14:15-14:30**	**Automatic Clock Gating Synthesis through Detection of Cyclic Paths** Yuepeng Fan, Inhak Han, and Youngsoo Shin *School of Electrical Engineering, KAIST*
WJ3-N-5 **14:30-14:45**	**Fast Timing Analysis of Full Custom Digital Circuits with Accurate Gate RC Modeling** Jingon Lee, Jinwook Jung, and Youngsoo Shin *School of Electrical Engineering, KAIST*

2018년 2월 7일(수), 13:15-14:45
Room K (육백II, 6층)

O. System LSI Design 분과
[WK3-O] VLSI System Design and Application II

WK3-O-1 **13:15-13:30**	**Design of FMCW Radar Signal Processor for Drone Altitude Measurement** Yongchul Jung, Euibeen Lim, Sora Jin, and Yunho Jung *School of Electronics and Information Engineering, Korea Aerospace University*
WK3-O-2 **13:30-13:45**	**Design of a High Precision Ramp Generator for a 14-bit Single-Slope ADC** Hyeonseob Noh, Sooyoun Kim, and Minkyu Song *Department of Semiconductor Science, Dongguk University*
WK3-O-3 **13:45-14:00**	**Efficient Reconfigurable Architecture to Accelerate Descriptor Extraction in SURF Algorithm** Yoonjin Kim and Haelim Jung *Department of Computer Science, Sookmyung Women's University*
WK3-O-4 **14:00-14:15**	**A 25-Gbps Low-Power PAM-4 Transmitter in 28-nm CMOS** Minkyu Kim, Dae-Hyun Kwon, Sung-Geun Kim, and Woo-Young Choi *Department of Electrical and Electronic Engineering, Yonsei University*
WK3-O-5 **14:15-14:30**	**Radiation Hardened Microprocessor Design Using Spatial and Temporal Dual Modular Redundancy** Jun Sung Go, Jong Kang Park, Jong Tae Kim *School of Electronic and Electrical Engineering, Sungkyunkwan University*
WK3-O-6 **14:30-14:45**	**Reducing FPGA Area Using Nano-Switch Devices in Inter and Intra-Logic Routing.** Aidyn Zhakatayev and Jongeun Lee *School of Electrical & Computer Engineering, UNIST*

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Room A (태백I, 5층)

P. Device for Energy (Solar Cell, Power Device, Battery, etc.) 분과
[WA4-P] Fabrication for Functional Energy Device

WA4-P-1 **16:15-16:45**	**[초청]** **Stability Extension of Photovoltaic Cells Using 2D Materials** Soo Young Kim *School of Chemical Engineering and Materials Science, Chung-Ang University*
WA4-P-2 **16:45-17:00**	**Semiconducting Single Walled Carbon Nanotube Doped In_2O_3 Nanocomposites for High Performance Solid-State Symmetric Supercapacitors** Rajneesh Kumar Mishra, Jin-Seong Kim, Seung Yeop Kim, and Sung Hun Jin *Department of Electronic Engineering, Incheon National University*
WA4-P-3 **17:00-17:15**	**Silicide-Nanowires Anchored on Inner Surface of Graphene Foam as Anode Materials for Li-Ion Battery.** Won Jun Chang, Su Han Kim, Dong Won Yang, Jin Tae Kim, and Won Il Park *Division of Materials Science & Engineering, Hanyang Univeristy*
WA4-P-4 **17:15-17:30**	**Fabrication and Characterization of 5000V Class Light Triggered Thyristor** Doohyung Cho, Jongil Won, and Kunsik Park *Convergence Components Technology Center, ETRI*

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Room B (태백II+III, 5층)

H. Display and Imaging Technologies 분과
[WB4-H] Display and Imaging

WB4-H-1 **16:15-16:30**	**High-Performance Solution-Processed Indium-Gallium-Zinc-Oxide Thin-Film Transistors on Flexible Substrates Operating at Low-Voltage** Byoung-soo Yu and Tae-Jun Ha *Department of Electronic Materials Engineering, Kwangwoon University*
WB4-H-2 **16:30-16:45**	**Foreground Protection-Based Motion Vector Refinement for Frame Rate Up-Conversion** Ho Sub Lee and Young Hwan Kim *Department of Electrical Engineering, POSTECH*
WB4-H-3 **16:45-17:00**	**Optimization of Organic Materials (Red, Green, Blue) for CMOS Image Sensor** Hyo-Won BAIK[1], Seung-Hyun SONG [2], Joo-Hyeong PARK[2], Min-Won KIM[2], Hyo-Jun KWON[2], Jae-Gon KIM[1], Ui-Hyeon Jung[2], and Jea-Gun PARK[2] *Department of Nanoscale Semiconductor Eng., Hanyang University, Department of Electronics and Computer Eng., Hanyang University*
WB4-H-4 **17:00-17:15**	**Improvement of Photo-sensitivity in CMOS Image Sensor via Pyramidal Anti-Reflective Surface Structure** Jiho Choi[1], Il-Hwan Kim[1], Jun-Seong Park[1], Hyeonju Shin[2], and Jea-Gun Park[1,2] *[1]Department of Electronic and Computer Eng., Hanyang University, [2]Department of Nanoscale Semiconductor Eng., Hanyang University*
WB4-H-5 **17:15-17:30**	**다중초점 영상 검사를 위한 근사기법** Hyein Kim[1], Yunjin Park[1], Hyoseon Yang[2], Byeongseon Jeong[2], and Jungho Yoon[1] *[1]Department of Mathematics, Ewha Womans University, [2]Institute of Mathematical Sciences, Ewha Womans University*

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Room C (함백I, 5층)

D. Thin Film Process Technology 분과
[WC4-D] Thin Films for Memories and Transistors II

WC4-D-1 **16:15-16:30**	**Si Doping in HfO_2 by Atomic Layer Deposition for Ferroelectric Tunneling Junction Applications** Yong-Woon Lee[1], Jong-Seo Park[2,3], and Han-Bo-Ram Lee[1,2] *[1]Department of Materials Science and Engineering, Incheon National University, [2]Innovation Center for Chemical Engineering, Incheon National University, [3]School of Electrical and Electronic Engineering, Yonsei University*
WC4-D-2 **16:30-16:45**	**The Influence of High Pressure Annealing on $Hf_{0.5}Zr_{0.5}O_2$ Ferroelectric Films** Taeho Kim and Sanghun Jeon *Department of Applied Physics, Korea University*
WC4-D-3 **16:45-17:00**	**Directly Drawn Carbon Nanotube Transistors with a High Device Yield and Uniform Performance** Jinhee Park, Bongsik Choi, Jinsu Yoon, Yongwoo Lee, Jungmin Han, Jieun Lee, Yeamin Kim, Dong Myong Kim, Dae Hwan Kim, and Sung-Jin Choi *School of Electrical Engineering, Kookmin University*
WC4-D-4 **17:00-17:15**	**Characteristics of Activation and Post-Metal Annealing Using Microwave in Phosphorus-implanted SOI MOSFETs** Gi-yong Lee and Won-Ju Cho *Department of Electronic Material Engineering, Kwangwoon University*
WC4-D-5 **17:15-17:30**	**반도체/OLED용 화학증착소재의 열·화학적 안정성 평가** 심섭[1,2], 안종기[1], 강고루[1], 강연태[1], 김하영[1,2], 손주희[3], 김진태[1,2], 정낙관[1], 허규용[3], 윤주영[1,2] *[1]한국표준과학연구원 소재에너지융합측정센터, [2]과학기술연합대학원대학교 나노재료공학, [3]한국화학연구원 신뢰성평가센터*

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Room D (함백II+III, 5층)

E. Compound Semiconductors 분과
[WD4-E] SiC Device

WD4-E-1 **16:15-16:30**	**Low Frequency Noise in SiC Double-Implant MOSFETs** Sangwon Baek, Iksoo Park, Rockhyun Baek, and Jeong-soo Lee *Department of Electrical Engineering, POSTECH*
WD4-E-2 **16:30-16:45**	**1.2 kV 급4H-SiC 쇼트키장벽 다이오드의 전기적 특성 최적화를 위한 에피층 및 접합종단구조 설계** 박힘찬[1,2], 한상보[1], 방욱[2], 김동영[3], 이현수[3], 금주연[4], 강인호[2] *[1]경남대학교 첨단공학과, [2]한국전기연구원 전력반도체연구센터, [3]경상대학교 반도체공학과, [4]창원대학교 신소재융합공학과*
WD4-E-3 **16:45-17:00**	**5kV 급 4H-SiC 쇼트키 접합 다이오드의 전기적 특성 및 소재 분석** 금주연[1,2], 나문경[2], 강인호[2], 방 욱[2], 구본흔[1] *[1]창원대학교 신소재융합공학과, [2]한국전기연구원 전력반도체연구센터*
WD4-E-4 **17:00-17:15**	**High Current Density and High Breakdown Voltage of 4H-SiC Trench MPS Applying JTE Structure** 김동영[1,2], 석오균[2], 방욱[2], 김형우[2], 박기철[1] *[1]경상대학교 반도체 공학과, [2]한국전기연구원 전력반도체연구센터*
WD4-E-5 **17:15-17:30**	**Analysis of 4H-SiC Fin-Type VDMOSFET for Low on-Resistance** Dongwoo Bae, Doohyung Cho, and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*

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Room F (봉래I, 6층)

F. Silicon and Group-IV Devices and Integration Technology 분과
[WF4-F] Steep-Slope II : NC-FET

WF4-F-1 **16:15-16:30**	**Use of Negative Capacitance to Lower the Switching Voltage of Nanoelectromechanical Relay** Kihun Choe, Wonseok Lee, and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
WF4-F-2 **16:30-16:45**	**Impact of Ferroelectric Capacitor's Electrode Area on the Performance of Negative (Differential) Capacitance Field Effect Transistor** Hyungki Cho, Jaemin Shin, and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
WF4-F-3 **16:45-17:00**	**Tunnel Field Effect Transistor with Ferroelectric Gate Dielectric** Kitae Lee[1], Junil Lee[1], Ryoongbin Lee[1], Euyhwan Park[1], Sihyun Kim[1], Hyun-Min Kim[1], Sangwan Kim[2], and Byung-Gook Park[1] *[1]Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electrical and Computer Engineering, Ajou University*
WF4-F-4 **17:00-17:15**	**Steep Slope Silicon-on-Insulator FET with Negative Capacitance** Eunah Ko and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
WF4-F-5 **17:15-17:30**	**Transient Response of Polarization Switching in PZT Ferroelectric Capacitor** Hansol Ku and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*

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Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[WG4-G] Memory and TFT - Modeling and Characterization

WG4-G-1 **16:15-16:30**	**TCAD Modeling of Endurance and Retention in NAND Flash Device** Dongyean Oh, Bonghoon Lee, Eunmee Kwon, Sangyong Kim, Sungkye Park, Seong-Dong Kim, Seokkiu Lee, and Sungjoo Hong *Research and Development Division, SK Hynix Incorporated*
WG4-G-2 **16:30-16:45**	**유한요소법을 이용한 저항 메모리의 정전기적 거동에 대한 시뮬레이션** Kyung Hwan Min and Yong Woo Kwon *Department of Material science and Engineering., Hongik University*
WG4-G-3 **16:45-17:00**	**Study on Negative Bias Stress-Induced Instability in Zinc Oxynitride Thin-Film Transistors Using Systematic Decomposition** Hye Ri Yu, Jun Tae Jang, Geumho Ahn, Sung-Jin Choi, Dong Myong Kim, and Dae Hwan Kim *School of Electrical Engineering, Kookmin University*
WG4-G-4 **17:00-17:15**	**Extraction Method of Temperature-Independent Subgap Density-of-States of a-IGZO TFTs by Using Fermi-Dirac Distribution** Sungju Choi, Jae-Young Kim, Jaewon Kim, Jihyun Rhee, Hye Ri Yu, Hara Kang, Sung-Jin Choi, Dong Myong Kim, and Dae Hwan Kim *School of Electrical Engineering, Kookmin University*
WG4-G-5 **17:15-17:30**	**High-Temperature Characteristic of Low-Temperature Polycrystalline SiliconThin-Film Transistors (LTPS-TFTs) on Glass and Plastic Substrates** Soo Hyun Kim, Dong Hyun Kim, Kwan Hyun Cho,Dong Geun Park, and Jae Woo Lee *ICT Convergence Technology for Health & Safety and Department of Electronics and Information Engineering, Korea University*

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Room H (청옥I, 6층)

J. Nano-Science & Technology 분과
[WH4-J] General Nano Technology

WH4-J-1 **16:15-16:30**	**Fabrication of Ag/ZnO Core/Shell Nanoparticles by Rotational Atomic Layer Deposition and Their Enhanced Photocatalytic Properties** Sejong Seong[1], Yong Chan Jung[1], Taehoon Lee[1], Seonyong Kim[1], In-Sung Park[1,2], and Jinho Ahn[1,2] *[1]Division of Materials Science and Engineering, Hanyang University, [2]Institute of Nano Science and Technology, Hanyang University*
WH4-J-2 **16:30-16:45**	**Flexible Phase Change Memory Patterned by Block Copolymer Self-Assembly** Gyeong Cheol Park, Beom Ho Mun, and Keon Jae Lee *Department of Materials Science and Engineering, KAIST*
WH4-J-2 **16:30-16:45**	**Flexible Phase Change Memory Patterned by Block Copolymer Self-Assembly** Gyeong Cheol Park, Beom Ho Mun, and Keon Jae Lee *Department of Materials Science and Engineering, KAIST*
WH4-J-3 **16:45-17:00**	**Influence of Self-Heating Effect on Interface Trap Generation in Highly Flexible Single-Crystalline Si Nanomembrane Transistors** Jae Hoon Bong[1], Seung-Yoon Kim[1], Chan Bae Jeong[2], Ki Soo Chang[2], Wan Sik Hwang[3], and Byung Jin Cho[1] *[1]School of Electrical Engineering, KAIST, [2]Division of Scientific Instrumentation, Korea Basic Science Institute, [3]Department of Materials Engineering, Korea Aerospace University*
WH4-J-4 **17:00-17:15**	**Mechanical and Electrical Reliability of NMP Optimized Flexible Si CMOS IC** Seung-Yoon Kim[1], Cheolgyu Kim[2], Jae Hoon Bong[1], Wan Sik Hwang[3], Taek-Soo Kim[2], Jae Sub Oh[4], and Byung Jin Cho[1] *[1]School of Electrical Engineering, KAIST, [2]Department of Mechanical Engineering, KAIST, [3]Department of Materials Engineering, Korea Aerospace University, [4]Department of Nano-process, NNFC*
WH4-J-5 **17:15-17:30**	**$Y_3Al_5O_{12}:Ce^{3+}$ (YAG:Ce^{3+})형광판 위 은 나노 입자를 포함한 이차원 광 결정 형성하여 백색 발광 다이오드 발광 효율 개선** 김효준[1], 박인성[2], 고기영[3], 안진호[1,2] *[1]한양대학교, 신소재공학과, [2]한양대학교 나노반도체공학과, [3]한국특허정보원*

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Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과
[WI4-K] Phase-Change Memory

WI4-K-1 **16:15-16:45**	**[초청]** **New Memory in the New Data Centric Economy** 유경창, 류혜영, 임선영, 린홍준, 김인동, 한진만 *삼성전자*
WI4-K-2 **16:45-17:00**	**Understanding of Reactive Ion Etching (RIE) Induced Damage Mechanism and Development in Sub-20nm PRAM Patterning** Hyejin Choi, Bok-yeon Won, JaehunSeo, Jung-Ik Oh, Yoochul Gong, Olk-Kwon, Jongchul Park, Kyungsub Shin, and Ho-kyu Kang *Process development Team, Semiconductor R&D Center Samsung Electrics Co., Ltd*
WI4-K-3 **17:00-17:15**	**Analysis of Threshold Switching Characteristics of Te Based Selector** Tae Yoon Kim[1], Gwang Ho Baek[2], Gabriel Jang[1], Da Seul Hyun[1], and Jin Pyo Hong[1,2] *[1]Novel Functional Materials and Devices Lab, The Research Institute for Natural Science, Department of Physics, Hanyang University, [2]Division of Nano-Scale Semiconductor Engineering, Hanyang University*
WI4-K-4 **17:15-17:30**	**Flexible 1 Schottky Diode-1 Phase Change Memory on Plastics via Physical Exfoliation** Do Hyun Kim[1], Han Eol Lee[1], Byoung Kuk You[1], Il-Suk Kang[2], and Keon Jae Lee[1] *[1]Department of Materials Science and Engineering, KAIST, [2]Nano Research Division, National NanoFab Center*

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Room J (육백I, 6층)

N. VLSI CAD 분과
[WJ4-N] Test & Reliability

WJ4-N-1 **16:15-16:30**	**A New Scan Architecture for Concurrent Test Using IEEE Std. 1687** 장석준, 임현찬, 강성호 *Department of Electrical and Electronic Engineering, Yonsei University*
WJ4-N-2 **16:30-16:45**	**3D Memory의 Reliability 향상을 위한 Data Migration Methods**
WJ4-N-3 **16:45-17:00**	**IEEE 1687 표준 기반의 HBM 테스트 플랫폼** Kyeong Cheol Kang, Jin Uk Kim, Yong Jun Choi, and Sung Ju Park *Department of Computer Engineering, Hanyang University*
WJ4-N-4 **17:00-17:15**	**두 개의 보호 수준을 갖는 오류정정부호** So-Yeon Kang, Joon-Sung Yang *Department of Information and Communication Engineering, Sungkyunkwan University*
WJ4-N-5 **17:15-17:30**	**이중 캐시 개념을 활용한 ECC 기법 최적화** Jung Min You, Joon-Sung Yang *Department of Information and Communication Engineering, Sungkyunkwan University*

2018년 2월 6일(화), 16:00-17:30
컨벤션 호텔, 5층 로비

[TP1] Poster Session I

TP1-1	**Evaluation of Spin-on Glass for a Dielectric Use in Multilayer Wafer Level Packaging** Changmin Song, Sungdong Kim, and Sarah Eunkyung Kim *Seoul National University of Science and Technology*
TP1-2	**Effect of Si Mechanical Grinding on the Electrical Properties of Oxide Semiconductor Thin Film on Si Substrate** Seungnum Cho, Sungdong Kim, and Sarah Eunkyung Kim *Seoul National University of Science and Technology*
TP1-3	**화학기상증착법을 이용한 그래핀의 저온 합성 및 구리/그래핀 배선 특성** 김항규, 손명우, 함문호 *광주과학기술원 신소재공학부*
TP1-4	**3 Pole의 MICP Cathode를 사용한 Plasma에서의 PR Ash Rate 특성연구** 서원[1], 정청하[1], 김정현[1], 강상희[2], 김구성[1] *[1]강남대학교 전자패키지연구소, [2]주식회사 세미글로벌*
TP1-5	**W Touch CMP slurry abrasive 입자 흡착 및 제거 양상 분석** Hyo-Chol Koo, Sung Yun Lee, Hyung Hwan Kim, and Sang Deok Kim *R&D Division, SK Hynix*
TP1-6	**Backside Roughness에 따른 Stealth Dicing 영향성 연구** 안미래, 이강원, 이채성, 이중진, 문기일 *Department of PKG Technology Development, SK Hynix*
TP1-7	**Pad Ball Bond Shift에 따른 Bond-ability 연구** 유은정, 조원호, 이웅선 *Mobile DRAM PKG Development, SK Hynix*
TP1-8	**Effectiveness of Package Level EBG Structure in Reducing Radio-Frequency Interference** Youngbong Han, Hai Au Huynh, Jihoon Kim, and SoYoung Kim *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-9	**Coefficient of Thermal Expansion of Non Conductive Adhesive (NCA) with Inorganic Filler Size Distribution** Tae-Young Lee[1,2], Young-Ho Kim[2], Sehoon Yoo[1] *[1]Joining R&D Group, KITECH, [2]Division of Materials Science and Engineering, Hanyang University*

TP1-10	**RFI Shielding Structure for Fan-out Wafer Level Packaging** Hai Au Huynh, JiHoon Kim, Youngbong Han, and SoYoung Kim *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-11	**Effect of Ni-P Morphology on Intermetallic Compound between Electroless Nickel Immersion Gold/Sn-Ag-Cu Solder during Isothermal Aging** Wonil Seo[1,2], Young-Ho Kim[2], and Sehoon Yoo[1] *[1]Joining R&D Group, KITECH, [2]Division of Materials Science and Engineering, Hanyang University*
TP1-12	**Study on Microstructural Evolution of co-Evaporated Bismuth Telluride Films with Various Film Thickness and its Effects on Electrical and Thermoelectric Properties** Haishan Shen[1,3], Suhyeon Lee[3], Jun-Gu Kang[1], Tae-Yil Eom[2], Hoojeong Lee[1], Seungwoo Han[3] *[1]Department of Advanced Materials Science and Engineering, Sungkyunkwan University, [2]SAINT, Sungkyunkwan University, [3]Division of Nano-Mechanical System Research, KIMM*
TP1-13	**Narrow Chip to Substrate Gap에서의 Plasma Cleaning 고찰** 김대진 *SK 하이닉스*
TP1-14	**Atomic Layer Deposition of Nickel and Nickel-based Alloy Thin Filmsusing Non-Oxidizing Reactant Forsilicide** Shunichi Nabeya[1,2], Soonyoung Jung[1], and Soo-Hyun Kim[1] *[1]School of Materials Science and Engineering, YeungnamUniversitsy, [2]Tanaka Precious Metals*
TP1-15	**Research of the Indium and Tin Alloy for the Low Melting Point Solder Materials** Sungryul Mang[1], Minwoo Cho[2], and Hoojeong Lee[1,2] *[1]SAINT, Sungkyunkwan University, [2]Department of Advanced Materials Science and Engineering, Sungkyunkwan University*
TP1-16	**Low Temperature Synthesis of 2D MoS2 for Gas Sensor** Youngjun Kim[1], Yuxi Zhao[1], Jeong-Gyu Song[1], Gyeong Hee Ryu[2], Kyung Yong Ko[1], Whang Je Woo[1], Zonghoon Lee[2], Jusang Park[1], and Hyungjun Kim[1] *[1]School of Electrical and Electronic Engineering, Yonsei University, [2]School of Materials Science and Engineering, UNIST*
TP1-17	**기상 증착 방식의 배리어 적용 된 구리 배선의 일렉트로마이그레이션 신뢰성 거동 및 배리어에 따른 구리 박막의 미세구조 변화 고찰** 장경태, 나세권, 이솔규, 주영창 *서울대학교 재료공학부*
TP1-18	**온칩 구조의 국부적 열점 제어를 위한 2차원 수평형 박막 열전 냉각기에 대한 연구** 박홍범, 정민우, 김 철, 주영창 *서울대학교 재료공학부*

TP1-19	**Effect of Electrodes on Co-sputtered SiTe Threshold Switches** Jeongun Choe, Jaehyun Han, Su-Bong Lee, Deok-Jin Jeon, and Jong-Souk Yeo *School of Integrated Technology, Yonsei University*
TP1-20	**Improved Thermal Stability and Lower Sheet Resistance of NiSi with Carbon Pre-silicidation Implant** Iksoo Park, Sangwon Baek, Rockhyun Baek, and Jeong-soo Lee *Department of Electrical Engineering, POSTECH*
TP1-21	**Effects of Cu RDL on Planarization of Polymeric Interlayer Dielectrics for FOWLP Applications** Seungjoo Han[1], Jungeun Pyun[1], Yejin Kim[1], Soojung Kang[1], Sarah E. Kim[2], and Sungdong Kim[1] *[1]Department of Mechanical System Design Eng., Seoul National University of Science and Technology, [2]Graduate School of Nano-IT Design Convergence, Seoul National University of Science and Technology*
TP1-22	**Bis(1,4-di-iso-propyl-1,4-diazabutadiene) Nickel을 이용한 Nickel 박막의 Plasma-enhanced Atomic Layer Deposition** 박재민[1], 김성윤[1], 황준[1], 한원석[2], 고원용[2], 이원준[1] *[1]세종대학교 나노신소재공학과, [2]UP케미칼*
TP1-23	**Low Resistance ALD-NiGe Contact with Phosphorus Segregation on n-Type Germanium** Hyun Jun Ahn, Jungmin Moon, Tae In Lee, and Byung Jin Cho *School of Electrical Engineering, KAIST*
TP1-24	**Air-exposure Effects on CMOS Organic Thin-Film Transistors and Inverter** Seunghyun Yoo, Hocheon Yoo, and Jae-Joon Kim *Department of Electrical Engineering, POSTECH*
TP1-25	**Simulation and Optimization for High Aspect Ratio Deposition by Long Throw Sputter PVD Method** Hee-Young Shin, Ji Woo Park, Hee do Na, and Hyunchul Sohn *Department of Materials Science and Engineering, Yonsei University*
TP1-26	**Multi-Step and Single-Step in-situ Microwave Annealing as Low Thermal Budget Technique for Solution-Processed IGZO TFTs** Jin-Hyeock Jeon and Won-Ju Cho *Department of Electrical Materials Enginieering, Kwnagwoon University*
TP1-27	**Top-Split-Gate Ambipolar Organic Thin-Film Transistors** Hocheon Yoo and Jae-Joon Kim *Department of Creative IT Engineering, POSTECH*

TP1-28	**Fabrication of BEOL Transistor Using Cu Bottom Gate for Microwave Annealing with Low Temperature Annealing** Min-Soo Kang and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
TP1-29	**Characterizations of P-Type Tin Monoxide Thin Films Deposited by a Co-Sputtering Process** Seungjun Lee, Younjin Jang, Eun Suk Hwang, Jun Shik Kim, SeokMin Jeon, and Cheol Seong Hwang *Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University*
TP1-30	**Hysteric Transfer Characteristics of P-Type Thin Film Transistors with SnO Thin Films Grown by Atomic Layer Deposition** Younjin Jang[1], Jun Shik Kim[1], Eun Suk Hwang[1], Seungjun Lee[1], Seok Min Jeon[1], Jeong Hwan Han[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University, [2]Department of Materials Science and Engineering, Seoul National University of Science and Technology*
TP1-31	**Impact of Microwave Irradiation on a-IGZO TFTs with High-k Gate Dielectrics** Joong Won Shin and Won-Ju Cho *Department of Electrical Material Engineering, Kwangwoon University*
TP1-32	**Fabrication of High-Performance Oxide Semiconductor TFTs Using CAAC-IGZO** Joong Won Shin and Won-Ju Cho *Department of Electrical Material Engineering, Kwangwoon University*
TP1-33	**Impacts of Sequential Ultraviolet and Thermal Treatment on Performances and Stability in ZnON Thin Film Transistors** Hwan-Seok Jeong, Dae-Hwan Kim, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
TP1-34	**New Parylene Coating System Using Real-Time Electrical Impedance Monitoring of Parylene Deposition** J.S Park[1], J.S Kim[2], T. Nguyen[1], M.H. Kim[2], Y.S. Jang[2], and S. Cho[1] *[1]Gachon Advanced Institute for Health Science and Technology(GAIHST), Gachon University, [2]Femto Science LTD.*
TP1-35	**Atomic Layer Deposition of TiTe2 Thin Films for Ti-Sb-Te Phase Change Memory Application** Chanyoung Yoo, Eui-sang Park, Woohyun Kim, Yoon Kyeung Lee, and Cheol Seong Hwang *Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University*

TP1-36	**A Research on Electrical and Thermal Stabilities of ZnON Thin-Film Transistors with Varying Channel Thickness** Dae-Hwan Kim, Min Jae Park, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
TP1-37	**Ultrathin Thin Film Transistors with CYTOP Encapsulations by Using Water Soluble PVA** Jae Moon Kim, Min Su Kim, Jong Su Oh, and Yong-Sang Kim *School of Electronics and Electrical Engineering, Sungkyunkwan University*
TP1-38	**Atomic Layer Deposition of GeSe Films for Ovonic Threshold Switch Application** Woohyun Kim, Chanyoung Yoo, Eui-sang Park, Yoon Kyeung Lee, and Cheol Seong Hwang *Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University*
TP1-39	**Atomic Layer Deposition of SnTe for Dopant Application of Phase-Change Materials** Eui-sang Park[1], Chanyoung Yoo[1], Woohyun Kim[1], Yoon Kyeung Lee[1], Jaesun Jung[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University, [2]Soulbrain*
TP1-40	**Atomic Layer Deposition of Ru Thin Film with Enhanced Growth Rate on Ta_2O_5/Si Substrate Using RuO_4 Precursor and H_2 Gas** Cheol Hyun An, Sang Hyeon Kim, Dae Seon Kwon, Soon Hyung Cha, Sung Tak Cho, and Cheol Seong Hwang *Department of Materials Science and Engineering, Seoul National University*
TP1-41	**Zinc Tin Oxide Thin Films Grown by Atomic Layer Deposition for Charge-Trap Flash Memory** Jun Shik Kim[1], Eun Suk Hwang[1], Seungjun Lee[1], Younjin Jang[1], Seok Min Jeon[1,2], and Cheol Seong Hwang[1] *[1]Department of Materials Science & Engineering, and Inter-University Semiconductor Research Center, Seoul National University, [2]SK Hynix Semiconductor Inc.*
TP1-42	**Oxide Semiconductor-Based Charge Trap Device for NAND Flash Memory** Eun Suk Hwang[1], Jun Shik Kim[1], Seok Min Jeon[1,2], Seungjun Lee[1], Younjin Jang[1], and Cheol Seong Hwang[1] *[1]Department of Materials Science & Engineering, and Inter-University Semiconductor Research Center, Seoul National University, [2]SK Hynix Semiconductor Inc.*
TP1-43	**Atomic Layer Deposition of Ta-Doped SnO_2 as a Reduction-Resistant Oxide Electrode** Cheol Jin Cho[1,2] Jung-Joon Pyeon[1,3] Woo Chul Lee[1,2] Chong-Yun Kang[1,3] Cheol Seong Hwang[2], and Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, College of Engineering, Seoul National University, [3]KU-KIST Graduate School of Converging Science and Technology,*

TP1-44	**A Study of the Physical and Chemical Properties of P-Type Tin Oxide Thin-Films for Transistor Applications with Argon Plasma Surface Treatment** Soo-Hun Kwon, Sang-Dae Bae, Hwan-Seok Jeong, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
TP1-45	**The Analysis on Mobility of Vertical Field Effect Transistors Composed by Graphene/WSe2 Heterostructure** Yong Seon Shin and Woo Jong Yu *Department of Electrical and Electronics Engineering, SungkyunKwan University*
TP1-46	**MIM Capacitor based on $ZrO_2/Al_2O_3/TiO_2$ Dielectric for DRAM Devices** Soon Hyung Cha[1], Cheol Hyun An[2], Sang Hyeon Kim[2], Dong gun Kim[2], Dae Seon Kwon[2], Seong Tak Cho[2], and Cheol Seong Hwang[2] *[1]Department of Engineering Practice, Seoul National University, [2]Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University*
TP1-47	**Atomic Layer Deposition of Ru Thin Films Using 'Rudense' as Ru Precursor** Dae Seon Kwon[1], Cheol Hyun An[1], Sang Hyeon Kim[1], Hoju Song[1], Seong Tak Cho[1], Soon Hyung Cha[1], Taishi Furukawa[3], Teppei Hayakawa[3], Kazuhisa Kawano[4], and Cheol Seong Hwang[1,2] *[1]Department of Materials Science and Engineering, Seoul National University, [2]Inter-university Semiconductor Research Center, Seoul National University, [3]Advanced Materials Research Laboratory, TOSOH Corporation, [4]Advanced Materials Division, TOSOH Corpor*
TP1-48	**Thermal Annealing Effect on Phase Separation Morphology in Thin Film based on Polyfluorene Polymer Blends** Jiho Lee, Jaeseung Kim, Dongjin Kim, Sungwook Choi, Myungwoo Chung, Kyuseok Yun, and Hyunjung Kim *Department of Physics, Sogang University*
TP1-49	**Effects of Thickness Variations in InGaZnO Active Channel Prepared by Atomic-Layer Deposition on Thin-Film Transistor Characteristics** So-Jung Yoon[1], Nak-Jin Seong[2], Kyujeong Choi[2], Woong-Chul Shin[2], and Sung-Min Yoon[1] *[1]Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, [2]NCD Co., Ltd.*
TP1-50	**Improvement the Charge Trapping and Detrapping Characteristics in Amorphous In-Ga-ZnO Thin-Film-Transistors Using Microwave Irradiation** Hyun-Woo Lee and Won-Ju Cho *Department of Electrical Materials Enginieering, Kwnagwoon University*
TP1-51	**Poly Silicon's Crystallinity Evaluation by Frequency Variable C-V Measurement** Kwang-jun Koo and Byoung-deog Choi *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-52	**Current Transport Mechanism in Au/bulk GaN Contacts with an AlN Layer Deposited by Atomic Layer Deposition** Yurim Kwon[1], Myeong Cheol Kim[1], Byung Joon Choi[1], and Hogyoung Kim[2] *[1]Department of Materials Science and Engineering, Seoultech, [2]Department of Visual Optics, Seoultech*

TP1-53	**Improved Synaptic Characteristics of ALD HfOx/TiOx Bi-Layered ReRAM** Sohyeon Kim, Boncheol Ku, Yawar Abbas, Andrey Serveevich Sokolov, Yu-Rime Jeon, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
TP1-54	**Atomic Layer Deposition of HfO2 Films Using $La(NO_3)_3 \cdot 6H_2O$ Solution for Oxidant** Seon Yong Kim[1], Yong Chan Jung[1], Sejong Seong[1], Taehoon Lee[1], In-Sung Park[1,2] and Jinho Ahn[1,2] *[1]Division of Materials Science and Engineering, Hanyang University, [2]Institute of Nano Science and Technology, Hanyang University*
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TP1-56	**AC Device Approach to the Evaluation of Intrinsic Mobility of Oxide Thin Film Transistor** Sungwoo Kim[1], Hyunsuk Woo[2], and Sanghun Jeon[1,2] *[1]Department of Display and Semiconductor Physics, Korea University, [2]Department of Applied Physics, Korea University*
TP1-57	**MIM Capacitor based on $ZrO_2/Y2O_3/ZrO_2$ Dielectric for DRAM Devices** Seong Tak Cho[1], Cheol Hyun An[1], Sang Hyeon Kim[1], Dong gun Kim[1], Dae Seon Kwon[1], Soon Hyung Cha[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering, Seoul National University, [2]Department of Engineering Practice, Seoul National University*
TP1-58	**Plasma-Enhanced Atomic Layer Deposition of Molybdenum Compounds Thin Films Using $Mo(CO)_6$ with Various Plasma Gases** Jeong-Hun Choi, Seung-Won Lee, Cheol-Min Hyun, and Ji-Hoon Ahn *Department of Electronic Material Engineering, Korea Maritime and Ocean University*
TP1-59	**Crystal Structure and Electrical Properties Modulation of Al-Doped $HfZrO_2$ Thin Films by ALD** Seung-Won Lee[1], Jeong-Hun Choi[1], Cheol-Min Hyun[1], Minho Ahn[2], Sanghun Jeon[2], and Ji-Hoon Ahn[1] *[1]Department of Electronic Material Engineering, Korea Maritime and Ocean University, [2]Department of Applied Physics, Korea University*
TP1-60	**ZnO:N-그래핀 접합 배리스터의 TiO_2 층 페시베이션 효과** 이호인, 허선우, 김시현, 김윤지, 김승모, 김기영, 이용수, 이혜지, 이병훈 *Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, Gwangju Institute of Science and Technology*
TP1-61	**Ti-Rich TiNx Barrier Metal 적용을 통한 PMOS Gate PDR 개선** 황선우, 박성진, 황의성, 김준기, 진성곤, 김상덕 *SK Hynix*

TP1-62	**Autonomous Formation of Suspended Graphene on Electroplated Microgap Electrodes** Aram Lee, Mina Park, Ho Kyun Rho, and Sang Hyun Lee *Institute of Advanced Composite Materials, KIST*
TP1-63	**Achieving High Mobility of Zinc Oxynitride Thin Film Transistor Using Tantalum Metal Capping Method** Taeho Kim and Jae Kyeong Jeong *Department of Electronics and Computer Engineering, Hanyang University*
TP1-64	**Atomic Layer Deposition of SiO_2 and SiO_xN_y Thin Films Using O_2, H_2O, N_2 and NH_3 Remote Plasma** Han Jin Lee[1], Dae Hyun Kim[1], Min-Woo Ha[2], and Tae Joo Park[1] *[1]Department of Materials Science and Chemical Engineering, Hanyang University, [2]Department of Electrical Engineering, Myongji University*
TP1-65	**Morphology of Thermal Annealing Effect on Solution Processed Organic Semiconducting Multi Layers** Jaeseung Kim, DongJin Kim, Myungwoo Chung, Jiho Lee, and H. Kim *Department of Physics, Sogang University*
TP1-66	**Electrical Stability of Nitrogen-Doped Amorphous In-Ga-Zn-O Thin Film Transistors for High-Performance Transparent Electronics** Jae-Hwan Kim, Min-Soo Kang, Gi-Won Seo, Tae-Yeol Lee, Eui-Hyun Kim, Hee-Soo Hwang, and Jin-Ha Hwang *Department of Materials Science & Engineering, Hongik University*
TP1-67	**Top Electrode 증착을 통한 Niobium Oxide 의 Nb Binding State Control 연구** 이지민, 김대우, 김재연, 한유근, 손현철 *Department of Materials Science and Engineering, Yonsei University*
TP1-68	**Diode-Like Characteristics of the $Pt/Al_2O_3/Nb:SrTiO_3$ and Positive Temperature Coefficient of Resistance** Taehwan Moon, Hyun Jae Lee, and Cheol Seong Hwang *[1]Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University*
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TP1-70	**Nonvolatile Memory Thin-Film Transistors Using In-Ga-Zn-O Channel and ZnO Charge-Trap Layer on Ultra-Thin Flexible Polyimide Substrates** Hyeong-Rae Kim, Hye-Won Jang, Ji-Hee Yang, and Sung-Min Yoon *Department of Advanced Materials Engineeting for Information and Electronics, Kyung Hee University*

TP1-71	**Solution-Processed High-κ ZrO_2 Gate Dielectric for p-Channel SnO TFTs** Azida Azmi[2], Jiwon Lee[1], and Jae Kyeong Jeong[1] *[1]Department of Electronics and Computer Engineering, Hanyang University, [2]Department of Materials Science and Engineering, Inha University*
TP1-72	**Investigation of P(VDF-TrFE) Based Ferroelectric Capacitor for Negative Capacitance Steep Switching** Sang-Woo Han[1], Dong-Hwan Kim[2], Hyun-Seop Kim[1], Min-Gi Jo[1], Won-Ho Jang[1], and Ho-Young Cha[1] *[1]School of Electronic and Electrical Engineering, Hongik University, [2]Department of Electrical and Computer Engineering, Seoul National University*
TP1-73	**An Enhancement Layer to Improve Cu Gap-Fill Process with CVD-Co Liner** Byeong-Hwa Jeong[1], Min Soo Kim[1], Yong Seok Jang[1], Seung Su Choi[1], Masamichi Harada[2], Masaki Uematsu[2], and Yutaka Kokaze[2] *[1]Korea Institute for Super Materials, ULVAC KOREA Co., Ltd., [2]Institute of Semiconductor and Electronics Technologies, ULVAC Inc.*
TP1-74	**Cyclopentadienyl-Type Ti Precursor를 이용한 TiO_2 박막의 ALD 공정** 김성윤[1], 김재민[1], 구지연[1], 박재민[1], 박미라[2], 안효진[2], 박정우[2], 이원준[1] *[1]세종대학교 나노신소재공학과, [2]한솔케미칼 박막재료팀*
TP1-75	**Impact of Al_2O_3 Buffer Layer on Ultra-Thin Flexible Polyimide Substrates for Transparent InGaZnO Thin Film Transistors** Hye-Won Jang, Hyeong-Rae Kim, Ji-Hee Yang, and Sung-Min Yoon *Department of Advanced Materials Engineeting for Information and Electronics, Kyung Hee University*
TP1-76	**열안정성이 우수한 Si Precursor를 이용한 고온 ALD SiO_2 박막의 특성** 구지연[1], 김성윤[1], 박재민[1], 박정우[2], 이원준[1] *[1]세종대학교 나노신소재공학과, [2]한솔케미칼 박막재료팀*
TP1-77	**In-Sn-Ga-O Thin Film Transistors with High Performance in Low Annealing Temperature** Hyeon A Kim and Jae Kyeong Jeong *Department of Electronic Engineering, Hanyang University*
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TP1-80	**ZnO top gate를 이용한 그래핀/Ge 쇼트키 접합의 광소자 응용** 김시현, 장경은, 유태진, 권민규, 이병훈 *Center for Emerging Electronic Devices and Systems, School of Materials Science and Engineering, GIST*
TP1-81	**Implementation of Synaptic Device with Long/Short Term Memory Function Using High-k Charge Storage Layer** Young-tak Seo[1], Myoung-sun Lee[2], Ho-Jung Kang, Byung-Gook Park, and Jong-Ho Lee *[1]Department of Electrical and Computer Engineering and ISRC, Seoul National University, [2]Semiconductor R&D Center, Samsung Electronics*
TP1-82	**Demonstration of Unsupervised Learning with Spike-Timing-Dependent Plasticity Using a SONOS Gated-Diode Memory Array** Chul-Heung Kim, Soochang Lee, Byung-Gook Park, and Jong-Ho Lee *Department of Electrical and Computer Engineering, ISRC, Seoul National University*
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TP1-85	**실리콘 기반 상온 공진 플라즈마파 트랜지스터 테라헤르츠 검출소자의 이론적 가능성 분석** 박종율, 김성호, 김경록 *울산과학기술원 전기전자공학부*
TP1-86	**낮은 열공정버짓 이용한 초절전 터너리 CMOS 소자** 정재원, 신선해, 김경록 *울산과학기술원 전기전자컴퓨터공학부*
TP1-87	**Investigation of Select Transistor in Vertical NAND Flash Memory** Daewong Kang[1], Myeongsun Kim[2], Ikhyun Kwon[2], and Il Hwan Cho[2] *[1]University of North Texas, [2]Department of Electronic Engineering Myongji University*
TP1-88	**실리콘 나노선을 이용한 전계효과 다이오드 소자의 전기적 특성 연구** 임두혁, 김상식 *고려대학교 전기전자공학과*

TP1-89	**Design of Forward Propagation Using Gated Schottky Diodes** Suhwan Lim, Jai-Ho Eum, Jong-Ho Bae, Byung-Gook Park, and and Jong-Ho Lee *Department of ECE and ISRC, Seoul National University*
TP1-90	**실리콘 기반 Fin 구조 고이동도 소자** 김성호, 박종율, 김우석, 김경록 *UNIST 전기 및 전자공학부*
TP1-91	**LDMOS SOA 개선에 관한 연구** 박주원, 이금주, 이상현, 이제희, 조인욱 *SK Hynix system ic. R&D center*
TP1-92	**Impact of Remnant Polarization and Coercive Field on the Transient Response of Ferroelectric/Negative Capacitor** Jeongmin Shin, Hansol Ku, and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
TP1-93	**광 검출기 응용을 위한 수소 이온 주입된 다결정 실리콘의 제조** 이재성[1], 손영찬[2] *[1]위덕대학교 그린에너지공학부, [2]포항대학교 IT 전자과*
TP1-94	**Ultra-Thin Body Ge (110)-OI on Si Fabrication from Ge/AlAs/GaAs Substrate via Wafer Bonding Technology** Jae-Phil Shim[1], Han-Sung Kim[1,2], Gunwu Ju[1], Hyeong-Rak Lim[1,3], Seong Kwang Kim[1,4], Jae-Hoon Han[1], SangHyeon Kim[1], and Hyung-jun Kim[1] *[1]KIST, [2]KU-KIST Graduate School of Converging Science and Technology, [3]Department of Electrical and Computer Engineering, Korea University, [4]School of Electrical Engineering, Kookmin University*
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TP1-97	**Latch-Up 면역특성과 높은 감내특성을 갖는 SCR 기반의 새로운 ESD 보호회로 제작 및 분석** 서정윤, 도경일, 이병석, 채희국, 구용서 *단국대학교 전기전자공학부*

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TP1-100	**Roll-to-Pate(R2P) 공정 기반의 새로운 3차원 집적 기술 개발 및 수직 전극을 이용한 층간 연결** 황진하[1,2], 이상경[1,2,3], 이병훈[1,2,3] *[1]Center for Emerging Electric Devices and Systems, [2]School of Material Science and Engineering, [3]Alpha Graphene, GIST*
TP1-101	**High-Sensitive Plasmonic Terahertz Detector based on Ultimate Asymmetric Ring-Type Transistor** Min Woo Ryu, E-San Jang, Sang Hyo Ahn, Hyeong Ju Jeon, and Kyung Rok Kim *Department of Electronic Engineering, UNIST*
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TP1-103	**Inverted-T FinFET for High-Performance Logic and Its Optimal Design** Eunseon Yu[1] and Seongjae Cho[1,2] *[1]Graduate School of IT Convergence Engineering, Gachon University, [2]Department of Electronics Engineering, Gachon University*
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TP1-106	**간단한 그래핀 패턴을 이용한 저항 제작 및 특성 연구** 김기영, 허선우, 김소영, 이혜지, 김윤지, 이호인, 김승모, 이병훈 *Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, GIST*

TP1-107	**DRAM의 센싱 Margin 개선을 위한 MIM Capacitor 의 주파수분산특성연구** 허선우[1], 이호인[1],김기영[1], 이영곤[2], 박호경[2], 이석규[2], 김승모[1], 노진우[1], 이병훈[1] *[1]Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, GIST, [2]Device modeling & Reliability Group, R&D Division, SK Hynix inc.*
TP1-108	**P-I-N Diode의 P층 도핑 농도에 따른 터널링 전류 및 T-FET으로의 Feasibility에 대한 연구** 박지우[1], 이다윤[2], 손현철[1] *연세대학교 공과대학 신소재공학과*
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TP1-114	**Carrier Transport Mechanisms in P-Channel SnO Thin-Film Transistors** Hee-Joong Kim, Sae-Young Hong, Chan-Yong Jeong, Sang-Dae Bae, Jeong-Hwan Lee, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
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TP1-117	**Reliability Modeling of Magnetic Tunnel Junctions with a Spinel $MgAl_2O_4$ Film** Su Min Yu[1], Chul Min Choi[1], Hiroaki Sukegawa[2], Seiji Mitani[2], and Yun Heub Song[1] *[1]Department of Electronic Engineering, Hanyang University, [2]Research Center for Magnetic and Spintronic Materials, NIMS*
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TP1-216	**0.18um CMOS 디지털 로직회로의 TID 영향분석** Minwoong Lee[2], Sanghun Jeong[2], Yeonho Seo[1], Seongik Cho[1] **Department of Electronic Engineering, Chonbuk National University, [2]KAERI*
TP1-217	**Touch Screen Delay Balancing Technique to Improve Sensing Performance** KwonBin Im, Saad Arslan, and HyungWon Kim *Department of Electronic Engineering, Chungbuk University*

TP1-218	**A High-Gain Low-Power and Low-Noise Mixer** Youngwoon Kim and Tae-Yeoul Yun *Department of Electrical Engineering and Computer Science, Hanyang University*
TP1-219	**Mutually-Actuated-Nano-Electromechanical (MA- NEM) Memory Switches for Low Power Operation and Scalability Improvement** Hyug Su Kwon, Ho Moon Lee, and Woo Young Choi *Department of Electronic Engineering, Sogang University*
TP1-220	**CMOS-Nanoelectromechanical (CMOS-NEM) Integration Using CMOS Back-End-of-Line (BEOL) Process** Hyug Su Kwon and Woo Young Choi *Department of Electronic Engineering, Sogang University*
TP1-221	**LDO 레귤레이터를 이용한 오버 슈트를 줄인 벅 변환기** 김미정, 우기찬, 김대진, 양병도 *충북대학교 전기전자정보컴퓨터학부 반도체공학전공*
TP1-222	**CMOS를 이용한 THz push-push 발진기 설계** 최원석, 김정식, 정진호 *서강대학교 전자공학과*
TP1-223	**A SAR-DCC wih the Tracking Logic for Continuous Correction** Jong-Moon Choi, Jae-Hyuk Yang, and Kee-Won Kwon *Department of Electronic Engineering, Sungkyunkwan University*
TP1-224	**Fingerprint Sensor based on Differential Sensing Circuit with Noise Cancellation** Hossam Hassan[1,2], KownBin Im[1], and HyungWon Kim[1] *[1]Department of Electronics Engineering, Chungbuk National University, [2]Electronics Department, NTI*
TP1-225	**C-reactive Protein Detection Using a Cascoded Gated Lateral Bipolar Junction Transistor (C-GLBJT) with Alterable Sensitivity** Hyun-Min Jeong, Hyurk-Choon Kwon, Ju-Seong Kim, Sae-Wan Kim, Binrui Xu, Cheol-Eon Park, and Shin-Won Kang *School of Electronics Engineering, College of IT Engineering, Kyungpook National University*
TP1-226	**A Low Power CMOS RF Front-end for MedRadio Applications** Bo-Hun Shin, Chi-Hoon Choi, Changyeol Kim, Sung Wook Yoon, and Ilku Nam *Department of Electronic Engineering, Pusan National University*

TP1-227	**A Wideband Signal Generator Integrated with a PA and Oscillator with C-Switch Banks in 65-nm CMOS** Hyohyun Nam[1], Dong-Sik Ko[2], Hyeong-Kyu Kim[2], Dang-Oh Kim[2], Hyun-Jun Ryu[2], Ju-Hye Kim[2], and Jung-Dong Park[1] *[1]Division of Electronics and Electrical Engineering, Dongguk University, [2]Poongsan Corporation Ltd.*
TP1-228	**A 12bit 500 KS/s Charge Recycling SAR ADC for a Voltage Domain Sensor Application** Yongsik Shin and Jinwook Burm *Department of Electronics Engineering, Sogang University*
TP1-229	**NTV Fixed Frequency Oscillator Design** Le Dinh Trang Dang, Dong Kyu Seo, Ik Joon Chang, and Jin Sang Kim *Department of Electronic Engineering, KyungHee University*
TP1-230	**Digital Sub-Sampling Phase Detector for Phase Locked Loop** Bong-Gu Hwang and In-Chul Hwang *Electrical & Medical Convergent Engineering, Kangwon National University*
TP1-231	**Fractional-N Multiplying Delay-Locked Loop for Frequency Synthesizer** Jin-Hee Bae and In-Chul Hwang *Electrical & Medical Convergent Engineering, Kangwon National University*
TP1-232	**Multi-Bank and Wide-Data-Bus DRAM Circuit for Processor-In-Memory Applications** Hyunsun Mo, Wonsun Yang, and Kyeong-Sik Min *Department of Electronics Engineering, Kookmin University*
TP1-233	**메타구조를 이용한 28.5GHz PLL 주파수합성기의 설계** Noyong Kwon and Yong Moon *School of Electronic Engineering, Soongsil University*
TP1-234	**무선 전력 전송을 지원하는 NFC Analog Front-End 설계** 장준범, 문용 *숭실대학교 전자공학과*
TP1-235	**A 4-24 GHz Distributed Amplifier in 65-nm CMOS** Yunsik Na and Munkyo Seo *School of Electronic and Electrical Engineering, Sungkyunkwan University*

TP1-236	**DC Characteristics of CMOS Diodes Under High Magnetic Fields** Dongha Shim[1], Seung Han Han[2], Ji Hoon Yang[2], and Hyeongjong Lee[3] *[1]MSDE Programme, SeoulTech, [2]Department of MSDE, SeoulTech, [3]Nanometrics*
TP1-237	**16M Resolution High Dynamic Range and Phase Detection Integrated ASIC Chip Design** Kyungrak Choi, Hoyoung Tang, Dongyeob Shin, and Jongsun Park *School of Electrical Engineering, Korea University*
TP1-238	**Analog / Digital Selective Output Stage for One Wire Interface in PRT Sensor Signal Conditioning IC** Chan Ho Kim, Dong Soo Lee, and Kang Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-239	**A Design of a High Resolution Sigma-Delta ADC Using an Amplifier with Chopper Technique** Kwan-Tae Kim, Sang-Yun Kim, and Kang-Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-240	**A 128bit One Time Programmable Memory for EPC Identifiers of UHF Passive RFID Tags** Nak-Won Yoo, Seongwook Choi, Jinhong Ahn, and Young June Park *Department of Electrical and Computer Engineering, Seoul National University*
TP1-241	**A CMOS Integrated Biosensor Array for Pulsed Sensing Method** Jun-Yeon Yoon, Nak-Won Yoo, Jinhong Ahn, and Young June Park *Department of Electrical and Computer Engineering, Seoul National University*
TP1-242	**Ultrafast Assembly of Reduced Graphene Oxide Film for Flexible Optoelectronics** InHo Kim, Jongwon Shim, Kyung Eun Lee, Taeyoung Yun, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*

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[WP1] Poster Session II

WP1-1	**Improvement of Line Edge Fluctuation and Etching Selectivity of Self-Assembled Block Copolymer Patterns Using a Copolymerized Block** Seungwon Song, Yoon Hyung Hur, and Yeon Sik Jung *Department of Materials Science and Engineering, KAIST*
WP1-2	**Novel Method for Etch Loading Control of Source and Drain Recess for Formation of Steep Junction** Seung-Soo Hong, K. S. Min, B. R. Lim, A. R. Ji, H. H. Jung, G. J. Seong, J. Y. Lee, Y. M. Oh, and J.C. Park *Process Development Team, Semiconductor R&D Center*
WP1-3	**Quasi Atomic Layer Etching of SiO_2 Layers for Surface Cleaning of Nanoscale Patterns** Yongjae Kim[1], Kyongbeom Koh[2], Taehwan Cha[2], and Heeyeop Chae[1,2] *[1]SAINT, Sungkyunkwan University, [2]School of Chemical Engineering, Sungkyunkwan University*
WP1-4	**Laser Writing for Self-Assembly of Block Copolymer on Graphene** Jin Young Choi, Hyeong Min Jin, Seung Hyun Lee, Ju Young Kim, Seung Keun Cha, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-5	**Complex 3D Multimetal Nanomesh Patterns via Block Copolymer Self-Assembly** Seung Keun Cha and Sang Ouk Kim *Department of Materials Science & Engineering, KAIST*
WP1-6	**Enhancement of Gas Sensing Performance through the Decoration of Branch Heterointerfaces and Metallic Effects** Hyoun Woo Kim, Myung Sik Choi, and Jae Hoon Bang *Division of Materials Science and Engineering, Hanyang University*
WP1-7	**3D NAND Flash Transistor CD Uniformity 개선 방법 연구** Kibok Kim, Hyoungsoon Yune, Seyoung Oh, Chanha Park, and Hyunjo Yang *R&D Division, SK Hynix*
WP1-8	**CD Loading Mechanism of Si Removal Etch Back at High Selectivity** Hyunji Kim[1], Yongho Jeon[1], Hunsang Kim[2], Fenglin Wang[2], Yongseok Lee[1], Dongseok Lee[1], Junghyeon Kim[1], Lina Yoo[1], Seongwoo Myeong[1], Miri Jung[1], Youngmook Oh[1], and Jongcheol Park[1] *[1]Samsung Electronics Co., Ltd., [2]Applied Materials Inc.*

WP1-9	**Etch Characteristics of Micrometer-Scale Masked Cu Thin Films Using Inductively Coupled Plasma of H_2/Ar** Jae Sang Choi, Doo Hyeon Cho, Eun Taek Lim, and Chee Won Chung *Department of Chemical Engineering, Inha University*
WP1-10	**Etch Characteristics of Nanometer-Scale Patterned Thin Film Using Aerosol Jet Etching System** Doo Hyeon Cho, Eun Taek Lim, Jae Sang Choi, and Chee Won Chung *Department of Chemical Engineering, Inha University*
WP1-11	**Inductively Coupled Plasma Reactive Ion Etching of Cu Thin Film Using O_2/Ar Plasma** Eun Taek Lim, Jae Sang Choi, Doo Hyeon Cho, and Chee Won Chung *Department of Chemical Engineering, Inha University*
WP1-12	**The Electrical Characterization of The Nano-Size Trench Structured MOS Device Assisted by CHF_3-Plasma Dry Cleaning** Myeong Gyoon Chae[1], Jaeho Lee[1], Beomgil Ha[1], Kyongbeom Koh[2], Heeyeop Chae[2], and Changhwan Choi[1] *[1]Division of Materials Science and Engineering, Hanyang University, [2]Department of Chemical Engineering, Sungkyunkwan University*
WP1-13	**Implant Condition에 따른 Gate Poly Etch 기술** Dae Won Kim, Sung Hwan Ahn, Dong Ryeol Lee, and Dong Goo Choi *DRAM Process Group, SK Hynix*
WP1-14	**Characterizationof Cr etch process using O_2-less Cl_2plasma** JiCheol Kim, HyunDuck Shin, HoYong Jung, SangPyo Kim, and HyunJo Yang *SK Hynix Inc.*
WP1-15	**Development of Lift-off Patterning Technology of Graphene-ZnO Thin Film on Plastic Substrates for Transparent and Flexible Thin Film Transistors** Soon Yeol Kwon[1], Dong Geon Jung[2], Young Chan Choi[3], Jae Yong Lee[4], and Senog Ho Kong *School of Electronics Engineering, Kyngpook National University*
WP1-16	**The Improvement of Plasma Damage Effect by Optimizing PAD Etch Process** Jeonggyu Park, Kwangil Choi, Jina Eum, Hongik Kim, Sunggon Choi, and Inwook Cho *PMIC Product Engineering, SKHynix systemic Inc*
WP1-17	**Pulse방식을 이용하여 UHV CVD로 증착한 Epitaxial Si:B박막의 Low Doping 연구** 이다윤, 박지우, 김태호, 손현철 *연세대학교 공과대학 신소재공학과*

WP1-18	**Simple and Easy Performance Test System for Avalanche Photodiode in Ultraviolet Region** Jin Yeong Ryu[1],Byeong-Hwang Park[1], Kibong Choi[1], Young Il Kang[1], Eugene Chong[1], and Young-Gook Heo[2] *[1]Agency for Defense Development, [2]Sensor Tech Inc.*
WP1-19	**Enhanced Power Conversion Efficiency of GaAs Thin-Film Solar Cell Using A Metallic Nanostructure** Yeojun Yun, Sunghyun Moon, Kangho Kim, Minhyung Lee, and Jaejin Lee *Department of Electrical and computer Engineering, Ajou University*
WP1-20	**Atomic Layer Deposition of HfO_2 Films on Graphene** Soo Bin Kim, Hyeok Jae Lee, and Sang Woon Lee *Department of Energy Systems Research and Department of Physics, Ajou University*
WP1-21	**고농도 Poly-SiGe Film에서의 SPM Chemical 반응 특성 연구** So-Hee Lim, Sun-Jin Lee, Hyo-Geun Yoon, Kyung-Ho Hwang, and Sang-Duk Kim *R&D Department, SK Hynix*
WP1-22	**Characterization of Ion Gel and its Application as Gate Dielectrics for Graphene FET** Kwanbyung Chae, Nguyen Duc Cuong, Y.H.Ahn, Soonil Lee, and Ji-Yong Park *Department of Physics and Department of Energy Systems Research, Ajou University*
WP1-23	**Photodetectors Based on the Heterostructures of Single-walled Carbon Nanotubes and MoS_2** Van Tu Nguyen[1], Woongbin Yim[1], SaeJune Park[1], ByungHee Son[1], Thi Thanh Cao[2], Van Chuc Nguyen[2], Yumin Sim[3], Maeng-Je Seong[3], Yeonghwan Ahn[1], Soonil Lee[1], and Ji-Yong Park[1] *[1]Department of Physics and Department of Energy Systems Research, Ajou University, [2]Institute of Materials Science, Vietnam Academy of Science and Technology, [3]Department of Physics, Chung-Ang University*
WP1-24	**Improved Performance of Ge Single Junction Solar Cells with Nano-Pillar Arrays** Kangho Kim[1], Youngjo Kim[1,2], Nguyen Dinh Lam[1], Sunghyun Moon[1], and Jaejin Lee[1] *[1]Department of Electrical and Computer Engineering, Ajou University, [2]Korea Advanced Nano Fab Center, [3]Department of Physics, Hanoi National University of Education*
WP1-25	**High Efficiency Single-Junction Ge Solar Cells Grown on GaAs Substrates by MOCVD** Youngjo Kim[1], [2], Kangho Kim[1], Sunghyun Moon[1], and Jaejin Lee[1] *[1]Department of Electrical and computer Engineering, Ajou University, [2]Korea Advanced Nano Fab Center*
WP1-26	**Layer Thickness Tunable Solution-Based Growth Process of MoS_2 for Efficient Hydrogen Evolution Reaction** Dhanasekaran Vikraman[1], Kamran Akbar[2], Sajjad Hussain[3], Seung Hu Lee[1], Seung-Hyun Chun[2], Jongwan Jung[3], and Hui Joon Park[1,4] *[1]Department of Energy Systems Research, Ajou University, [2]Department of Physics, Sejong University, [3]Institute of Nano and Advanced Materials Engineering, Sejong University, [4]Department of Electrical and Computer Engineering, Ajou University*

WP1-27	**Two-Step Solution Process-Based Pure Perovskite Film Formation for High Performance Solar Cell** Uisik Kwon[1], Wenping Yin[2], Song Ah Ok[1], Tae Kyu Ahn[2], and Hui Joon Park[1,3] *[1]Department of Energy Systems Research, Ajou University, [2]Department of Energy Science, Sungkyunkwan University, [3]Department of Electrical and Computer Engineering, Ajou University*
WP1-28	**Design of Double-Faced GaAs Solar Cell** Soo Hoon Park, Seung Jun Lee, Sung Min Ma, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*
WP1-29	**Evaluation of Uniform Strain in InAlSb/ InGaSb/AlGaSb Quantum Well on GaAs Substrates for High Hole Mobility Transistor** Il-Pyo Roh[1,2], SangHyeon Kim[2], Dae-Myeong Geum[2], Sung-Yul L. Park[2], YunHeub Song[1], and Jin-Dong Song[2] *[1] Department of Electronics and Communications Engineering, Hanyang University, [2]Center for Opto-Electronic Materials and Devices, KIST*
WP1-30	**Symmetric InAs Quantum Dots for Entangled Photons** Suk In Park and Jin Dong Song *Center for Opto-Electronic Materials, KIST*
WP1-31	**High-Quality 100 nm-thick InSb Films on GaAs (001) Substrates with In1-xAlxSb Continuously Graded Buffer Layer** Sooseok Kang, Hangkyu Kang, and Jindong Song *Center for Opto-Electronic Materials and Devices, KIST*
WP1-32	**Transparent Bonding Technology for Epitaxial Lift-off of III-V Compound Semiconductor** Dohyun Kim, Seonghyun Nam, Youngseo Park, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*
WP1-33	**Enhanced Photo-Responses in Multi-Layer MoS_2 Phototransistors Using Au Nano-Pattern** Jinwu Park, Sanghyun Lee, Yeojun Yun, Jaejin Lee, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*
WP1-34	**Characteristic of Quantum Dot Laser Grown on GaAs for Si Photonics Application** Jae-Hoon Han[1], GeunHwanRyu[1,2], Seung-Yeop Ahn[1], Ho-Sung Kim[1], Subin Lee[1], Han-Youl Ryu[2], SangHyeon Kim[1,3], Jin-Dong Song[1,3], and Won Jun Choi[1] *[1]Center for Opto-Electronics Materials and Devices, KIST, [2]Department of Physics, Inha University, [3]Nanomaterials Science and Engineering, University of Science and Technology*
WP1-35	**Ag Nanowire Ohmic Contact on p-GaAs** SeungHo Han, Sunghyun Moon, Jaejin Lee, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*

WP1-36	**Thermal Properties of Schottky Barrier Diode on AlGaN/GaN Heterostructures on CVD Diamond** Zin-Sig Kim, Hyung-Seok Lee, Sung-Bum Bae, Eunsoo Nam, and Jong-Won Lim *ICT Materials & Components & Research Laboratory, ETRI*
WP1-37	**HRXRD Analysis of InP (cap) / InGaAs on InP Structure Interface Grown by MOCVD** In-young Jung[1,3], Minhyeok Choi[1], Hyeoksu Bea[2], Junoh Kim[2], Seungwoo Song[1], and Changsoo Kim[1] *[1]Division of Materials and Energy Measurement, KRISS, [2]Division of Convergence Property Measurement, KRISS, [3]Division of Physics, Hanyang University*
WP1-38	**Investigation of Low-Budget Microwave Annealing Effect on Metal and Graphene Electrodes** Eun-Ki Hong and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
WP1-39	**Transfer Length of an AlGaN/GaN Schottky Contact** Yong Woon Park[1], Jeong Jin Kim[2], and Jeon Wook Yang[1] *[1]Department of Semiconductor Science and Technology/Semiconductor Physics Research Center, Chonbuk National University, [2]Compound Semiconductor Division, ETRI*
WP1-40	**P-Floating Shield 구조적용을 통한 4H-SiC Trench Gate Oxide E-Field 분산 최적화 설계** Young sung Hong, Tae jin Nam, Myoung hwan Lee, Tai young Kang, and Sin su Kyoung *Research and Development, Powercubesemi Inc.*
WP1-41	**Fabrication of Ultra-Low Dit(E) InGaAs MOSFETs** Seong Kwang Kim[1,2], Jae-Phil Shim[1],Dae-Myeong Geum[1,3], Chang Zoo Kim[4], Han-Sung Kim[1], Jin-Dong Song[1], Sung-Jin Choi[2], Dae Hwan Kim[2], Won Jun Choi[1], Hyung-jun Kim[1], Dong Myong Kim[2], and SangHyeon Kim[1] *[1]KIST, [2]School of Electrical Engineering, Kookmin University, [3]Department of Materials Science and Engineering, Seoul National University, [4]KANC*
WP1-42	**내부 BVIA가 있는 GaN HEMT 소자를 이용한 모델링 및 MMIC 설계** 김성일[1,2], 임종원[2], 이기준[1] *[1]충남대학교 전자전파정보통신공학과, [2]한국전자통신연구원 ICT소재부품연구소 RF/전력부품연구그룹*
WP1-43	**Analysis of 4H-SiC Super Junction Bipolar Transistor for Superior Switching Characteristic** Dongwoo Bae and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*
WP1-44	**Improved SiO_2/SiC Interface Properties of 4H-SiC MOS Capacitor by Using O_2/H_2O Re-Oxidation** Chungbu Jeong and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*

WP1-45	**28GHz MMIC Power Amplifier based on 0.15um GaN HEMT Technology** 강동민, 김해천, 지홍구, 김성일, 민병규, 안호균, 임종원 *한국전자통신연구원 RF/전력부품연구그룹*
WP1-46	**Effect of Post-Metallization Annealing on 4H-SiC Metal-Oxide-Semiconductor with Mo Gate Electrode** Jae-Gil Lee[1], Dong-Hwan Kim[1], Su-Keun Eom[1], Seung-Hyung Roh[1], Hyun-Seop Kim[2], Ho-Young Cha[2], and Kwang-Seok Seo[1] *[1]Department of Electrical and Computer Engineering, Seoul National University, [2]School of Electronic and Electrical Engineering, Hongik University*
WP1-47	**The Influence of GaN Capping Layer on Pt-Functionalized FET-Type AlGaN/GaN Hydrogen Gas Sensor** Guhyeok Chung, Dongmin Keum, and Hyungtak Kim *Department of Electronic and Electrical Engineering, Hongik University*
WP1-48	**Analysis of Arch Junction Termination Extension for 4H-SiC Schottky Diode with Superior Breakdown Voltage** Jaeyoung Yu, Sangjin Gang, Dongwoo Bae, Chungbu Jeong, and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*
WP1-49	**ZnO Nanordos 성장을 통해 향상된 광량을 갖는 u-LED Array** 홍인열, 이재혁, 소재봉, 김태경, 조성민, 곽준섭 *순천대학교 인쇄전자공학과*
WP1-50	**Recessed AlGaN/GaN-on-Si MIS-HFET Fabricated Using PECVD SiON Gate Insulator with Forming Gas Annealing** Hyun-Seop Kim[1], Su-Keun Eom[2], Dong-Hwan Kim[2], Won-Ho Jang[1], Il-Hwan Hwang[2], Kwang-Seok Seo[2], and Ho-Young Cha[1] *[1]School of Electronic and Electrical Engineering, Hongik University, [2]Department of Electrical Engineering and Computer Science, Seoul National University*
WP1-51	**육방 밀집형 나노 채널 구조를 이용한 GaN 기반 소자의 전극 특성 평가** 김정진[1], 이형석[1], 문재경[1], 안호균[1], 장성재[1], 민병규[1], 양전욱[2], 김지헌[3], 양진모[3], 임종원[1] *[1]한국전자통신연구원, [2]전북대학교 반도체화학공학부, [3]국방과학연구소*
WP1-52	**Comparative Study of Normally-Off Al_2O_3/AlGaN/GaN MIS-HEMTs Fabricated by Gate Recess and F-Treatment** Hyun-Wook Jung[1], Min-Jeong Shin[1], Sung-Jae Chang[1], Jae-Won Do[1], Kyu-Jun Cho[1], Ho-Kyun Ahn[1], Byoung-Gue Min[1], Haecheon Kim[1], Hyung Sup Yoon[1], Ji-Heon Kim[2], Jin-Mo Yang[2], and Jong-Won Lim[1] *[1]RF/Power Component Research Group, ETRI, [2]Agency for Defense Development*
WP1-53	**Buffer Trap Extraction in AlGaN/GaN HFETs Using a Simple Test Device** Min-Jae Park and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*

WP1-54	**전원시스템의 효율과 스위칭용 전력소자 성능과의 상관관계 분석** 장현규, 김민기, 정동윤, 이현수, 박준보, 전치훈, 고상춘, 박종문, 임종원 *한국전자통신연구원 ICT소재부품연구소 융합부품기술센터*
WP1-55	**AlGaN/GaN HFET with Tunneling Schottky Source Electrode** Won-Ho Jang, Sang-Woo Han, Hyun-Seop Kim, Min-Gi Jo, June-Heang Choi, and Ho-Young Cha *School of Electrical and Electronic Engineering, Hongik University*
WP1-56	**Mechanical Stress Effects on Device Properties in GaN-Based HEMTs** S.-J. Chang, H.-W. Jung, M. J. Shin, J.-W. Do, K. J. Cho, H. S. Yoon, B.-G. Min, H. Kim, and J.-W. Lim *RF/Power Convergence Component Research Group, ETRI*
WP1-57	**Effects of Substrate Bias Voltage on GaN Power FET Characteristics** Min-Gi Jo, Sang-Woo Han, and Ho-Young Cha *School of Electrical and Electronic Engineering, Hongik University*
WP1-58	**Ohmic Contacts with Recess-Etched and TMAH-Treated Nanometer-Scale Patterns for Improved Performance and Reliability in AlGaN/GaN HEMTs** Jae-Won Do, Hyun-Wook Jung, Min Jeong Shin, Kyu-Jun Cho, Sung-Jae Chang, Ho-Kyun Ahn, Haecheon Kim, Byoung-Gue Min, Hyung Sup Yoon, and Jong-Won Lim *RF/Power Convergence Components Research Group, ETRI*
WP1-59	**Reduction of Off-State Drain Leakage by Employing PEALD SiN_x on RF Non-Recessed MIS-HEMTs** Jun-Seok Jeong and Kwang-Seok Seo *Electrical Engineering and Computer Science, Seoul National University*
WP1-60	**1/f Noise Characteristics of Gate-All-Around (GAA) GaN Lateral Nanowire Transistors** Sindhuri Vodapally[1], M. Siva Pratap Reddy[1], Ki-Sik Im[1,2], and Jung-Hee Lee[1] *[1]School of Electronics Engineering, Kyungpook National University, [2]Institute of Semiconductor Fusion Technology, Kyungpook National University*
WP1-61	**Flexible AlGaN/GaN HFET 소자의 Negative Differential Conductance 원인 규명 및 개선에 관한 연구** 조문욱[1], 김태경[1], 오승규[2], 곽준섭[1] *[1]순천대학교 인쇄전자공학과, [2]휴스턴대학교 기계공학과*
WP1-62	**High Electron Mobility Transistor의 Pad 구조 변화에 따른 방열 특성 연구** 이재민, 이동규, 김태경, 조문욱, 차유정, 곽준섭 *순천대학교 인쇄전자공학과*

WP1-63	**Field Plate Effects on β-Ga_2O_3 Vertical Schottky Barrier Diode** June-Heang Choi, Won-Ho Jang, Jong-Ik Kang, Jae-Ho Eum, and Ho-Young Cha *School of Electronic and Electrical Engineering, Hongik University*
WP1-64	**Study on Low-Frequency Noise Characteristics of AlGaN/GaN HEMTs** Jun-Hyeok Lee, Ki-Sik Im, Vodapally sindhuri, Jeong-Gil Kim, Seung-Hyeon Kang, Jung-Min Ju, Yong-Soo Lee, and Jung-Hee Lee *School of Electronics engineering, Kyungpook National University*
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