

제23회 한국반도체학술대회

2016년 2월 22일(월)-24일(수), 강원도 하이원리조트

Room E

컨벤션홀 L(5층)

2016년 2월 23일(화) 17:10-18:30

[TP1] Poster I

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|-------|-------------|--|
| TP1-1 | 17:10-18:30 | Characteristics of Micro-channel Liquid Cooling System with Various Metal Heat Spreaders and Coolants
Yonghyun Won ¹ , Sungdong Kim ² , and Sarah Eunkyung Kim ¹
<i>¹Graduate School of NID Fusion Technology, Seoul National University of Science and Technology, ²Department of Mechanical System Design Engineering, Seoul National University of Science and Technology</i> |
| TP1-2 | 17:10-18:30 | Optimizing Latch Design to Improve the Warpage of Ultra-thin Packaged Chips after Thermocompression Reliability Test
Keonghwan Oh ¹ , Chul Keu Yoon ² , Jae Hyun Son ² , Cheol Woo Han ² , and Sarah Eunkyung Kim ¹
<i>¹Graduate school of NID Fusion Technology, Seoul National University of Science and Technology, ²Interconnection Product & Technology, Manufacturing and Technology, SK hynix Inc.</i> |
| TP1-3 | 17:10-18:30 | Aging and Gas Purging Effect on Sonochemical Surface Activation for Cu Electroless Deposition
Kanghoon Kim, Seonok Jin, Hyeonjoon Lee, Youngkwang Kim, and Oh Joong Kwon
<i>Department of Energy and Chemical Engineering, Incheon National University</i> |
| TP1-4 | 17:10-18:30 | Sonochemical Pd Seeding Method for Cu Electroless Filling
Kanghoon Kim, Hyun Ji Choi, Hyeonjoon Lee, Youngkwang Kim, and Oh Joong Kwon
<i>Department of Energy and Chemical Engineering, Incheon National University</i> |
| TP1-5 | 17:10-18:30 | Cobalt Titanium Nitride Grown by Atomic Layer Deposition as a Diffusion Barrier for Cu Interconnect
Taewook Nam ¹ , Soohyeon Kim ¹ , Chang Wan Lee ¹ , Daewon Hong ² , Hyungjun Kim ¹ , and Han-Bo-Ram Lee ³
<i>¹School of Electrical and Electronic Engineering, Yonsei University, ²The Dow Chemical Company, USA, ³Department of Materials Science and Engineering, Incheon National University</i> |
| TP1-6 | 17:10-18:30 | Improvements in Ink-synthesized Cu-gate Thin Film Transistor with TaN Diffusion Barrier
Whang Je Woo, Taewook Nam, and Hyungjun Kim
<i>School of Electrical and Electronic Engineering, Yonsei University</i> |

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- TP1-7 17:10-18:30 **탄소나노튜브와 탄성고분자를 이용한 신축가능한 전극 개발**
이소영^{1,2}, 심형철², 현승민², 이후정¹
¹성균관대학교, ²한국기계연구원
- TP1-8 17:10-18:30 **Fabrication of Flexible and Printable Sb₂Te₃ Inorganic/Organic Hybrid Thermoelectric Film**
Haesun Shin, Yonghoo, and Hoojeong Lee
Department of Advanced Materials Science and Engineering, Sungkyunkwan University
- TP1-9 17:10-18:30 **그래핀 저온 합성 공정을 이용한 구리/그래핀 구조 제작 및 배선 특성**
손명우¹, 이한결², 김기현², 함문호^{1,2}
¹광주과학기술원 나노바이오재료전자공학과, ²광주과학기술원 신소재공학부
- TP1-10 17:10-18:30 **필링속도가 스크린 프린팅 Ag/Polyimide의 계면접착력에 미치는 영향**
손기락, 이현철, 박영배
안동대학교 신소재공학부 청정에너지 소재기술연구센터
- TP1-11 17:10-18:30 **3차원 칩 적층을 위한 Cu/Ni/Sn-Ag 미세범프의 Ni 확산방지층 및 솔더의 두께가 계면반응에 미치는 영향**
김가희, 박규태, 이진아, 손기락, 박영배
안동대학교 신소재공학부 청정에너지 소재기술연구센터
- TP1-12 17:10-18:30 **Ruthenium Thin Films by Atomic Layer Deposition using New Zero Valent Ru Precursors as a Seed Layer for Cu Metallization**
Min Young Lee¹, Seung-Joon Lee¹, Taehoon Cheon^{1,2}, Tae Eun Hong³, Wonyong Koh⁴, and Soo-Hyun Kim¹
¹*School of Materials Science and Engineering, Yeungnam University,*
²*Center for Core Research Facilities, Deagu Gyeonbuk institute of Science & Technology,* ³*Busan Center, Korea Basic Science Institute,* ⁴*UP Chemical*
- TP1-13 17:10-18:30 **Comparative Study on Al₂O₃ Films Deposited by Atomic Layer Deposition using a New Al Metallorganic Precursor and H₂O and O₂ Molecules as a Reactant**
Byeonghyeon Jang¹, Hyunjung Lee¹, Tae Eun Hong², Donghak Jang³, Sojeong Yeo³, Jungwoo Park³, and Soo-Hyun Kim¹
¹*School of Materials Science and Engineering, Yeungnam University,*
²*Busan Center, Korea Basic Science Institute,* ³*Hansol Chemical Co.*
- TP1-14 17:10-18:30 **Hybrid Active Layer TFT of IGZO with AgNWs for Improving Carrier Mobility by Sol-gel Process**
Tae-yil Eom¹, Hyena Kwak², Jun-gu Kang², Sun-ho Kim², and Hoo-jeong Lee¹
¹*SKKU Advanced Institute of Nano Technology, SungKyunkwan University,* ²*School of Advanced Materials Science and Engineering, SungKyunkwan University*

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- TP1-15** **17:10-18:30** **Ru-Mn Alloy Thin Films by Atomic Layer Deposition using a Bi-metallic Metalorganic Precursor for a Cu Direct-plateable Diffusion Barrier**
Soonyoung Jung¹, Hyun-Jung Lee¹, Taehoon Cheon^{1,2}, Tae Eun Hong³, Ryosuke Harada⁴, Shunichi Nabeya⁴, and Soo-Hyun Kim¹
¹*School of Materials Science and Engineering, Yeungnam University,* ²*Center for Core Research Facilities, Deagu Gyeonbuk Institute of Science and Technology,* ³*Busan Center, Korea Basic Science Institute,* ⁴*Tanaka Precious Metals, Japan*
- TP1-16** **17:10-18:30** **Tantalum Nitride Thin Films Deposited by Atomic Layer Deposition using a Tert-Butylimido-Tris-Ethylmethylamido-Tantalum(TBTEMT) Precursor as a Photoanode for Water Splitting**
Seungmin Yeo¹, Byeong Hyeon Jang², Seungtaeg Oh³, Jihun Oh³, Soo-Hyun Kim², and Hyungjun Kim¹
¹*School of Electrical and Electronic Engineering, Yonsei University,* ²*School of Materials Science and Engineering, Yeungnam University,* ³*Graduate School of Energy Environment Water and Sustainability, KAIST*
- TP1-17** **17:10-18:30** **도핑된 그래핀과 금속전극 간의 접촉저항 향상**
최동철, 정종완, 정운영, 김민우
세종대학교 나노신소재공학과 나노소자연구실
- TP1-18** **17:10-18:30** **Method for Forming Flexible and Porous Layer-by-Layer Materials Having Low Dielectric Constant**
Daekyun Jeong, Jiwon Lee, and Jaegab Lee
School of Advanced Materials Engineering, Kookmin University
- TP1-19** **17:10-18:30** **Adhesion Improvement between Prepreg and BaTiO₃ by Plasma Press**
Doosan Kim¹, Mu Kyeom Mun¹, and Geunyoung Yeom^{1,2}
¹*Department of Advanced Materials Science and Engineering, Sungkyunkwan University,* ²*SKKU Advanced Institute of Nano Technology, Sungkyunkwan University*
- TP1-20** **17:10-18:30** **Development of Integrated Transceiver for Vehicle Network System using Surface Mount Technology**
Tae ho Lee¹, Choul jun Kang³, Sang yub Lee³, and Myung yung Jeong^{1,2}
¹*BK²¹+ Nano-integrated Cogno-mechatronics Engineering, Pusan National University,* ²*Department of Cogno-mechatronics Engineering, Pusan National University,* ³*IT Application Research Center, Korea Electronics Technology Institute*
- TP1-21** **17:10-18:30** **Atomic Layer Deposition of Cobalt Thin Film for Cobalt Silicide Formation**
Wan-Gyu Lim¹, Jae-Min Park¹, Jae-Won Lee², Wonyong Koh², and Won-Jun Lee¹
¹*Department of Nanotechnology and Advanced Materials Engineering, Sejong University,* ²*UP Chemical Co., Ltd.*

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- TP1-22 17:10-18:30 The Si-photonic Optical Packaging by Embedding of VCSEL in SOI Wafer**
Seong-Hwan Kim, Jong-Hun Kim, and Hyo-Hoon Park
KAIST
- TP1-23 17:10-18:30 Characterization of P-type SnO Thin Films with SnO/Sn Composite Target for Transparent Device Applications**
Cheol Kim¹, Sungdong Kim², and Sarah Eunkyung Kim¹
¹*Graduate School of NID Fusion Technology, Seoul National University of Science and Technology*, ²*Department of Mechanical System Design Engineering, Seoul National University of Science and Technology*
- TP1-24 17:10-18:30 Preparation and Characterization of Ferroelectric Hf_{0.5}Zr_{0.5}O₂ Films by RF-Sputtering Method**
Young Hwan Lee, Min Hyuk Park, Yu Jin Kim, Han Joon Kim, Taehwan Moon, Keum Do Kim, Seung Dam Hyun, and Cheol Seong Hwang
Department of Materials Science and Engineering and Inter-university Semiconductor Research Center(ISRC), Seoul National University
- TP1-25 17:10-18:30 Equivalent Oxide Thickness Scaling for Hybrid Dielectric Thin Film without using Noble Metal Electrode**
Ji-Hoon Ahn
Department of Electronic Material Engineering, Korea Maritime and Ocean University
- TP1-26 17:10-18:30 The Effect of Al Concentration on Resistive Switching Random Access Memory Implemented Solution-processed Al-Zn-Sn-O Thin Film**
Kwang-Won Jo and Won-Ju Cho
Department of Electrical Material Engineering, Kwangwoon University
- TP1-27 17:10-18:30 Pulsed Laser-Induced N-doped Graphene Growth on SiC substrate**
Tae Hong Im and Keon Jae Lee
Department of Materials Science and Engineering, KAIST
- TP1-28 17:10-18:30 Carrier Suppressing Effect of Zr in Solution-Derived In-Zn-O based Thin-Film Transistor and Instability Improvement by Microwave Irradiation**
Do-Hoon Kim and Won-Ju Cho
Department of Electrical Material Engineering, Kwangwoon University
- TP1-29 17:10-18:30 Diode Characteristics of Amorphous MoS₂ Grown on p-Si Wafer by Atomic Layer Deposition**
Seokhee Shin, Zhenyu Jin, Seungju Han, DongHyun Ko, Ranjith Bose, and Yo-Sep Min
Department of Chemical Engineering, Konkuk University
- TP1-30 17:10-18:30 The Statistical Analysis of Energy Consumption of Organic Non-volatile Resistive Memory Devices on Flexible PEN Substrate**
Jingon Jang, Younggul Song, Daekyoung Yoo, Kyungjune Cho, Youngrok Kim, Jinsu Pak, Misook Min, and Takhee Lee

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Department of Physics and Astronomy, Seoul National University

- TP1-31 17:10-18:30 Reliability Study of Organic Memory at Elevated Temperature**
Youngrok Kim, Daekyoung Yoo, Jingon Jang, Younggul Song, Hyunhak Jeong, Wang-Taek Hwang, Woocheol Lee, and Takhee Lee
Department of Physics and Astronomy, Seoul National University
- TP1-32 17:10-18:30 Growth and Characterization of ZnO Thin Films Grown by Atomic Layer Deposition from Diethylzinc and 1, 5-pentanediol**
Seung-Joo Han, Seokhee Shin, Zhenyu Jin, Donghyun Ko, and Yo-Sep Min
Department of Chemical Engineering, Konkuk University
- TP1-33 17:10-18:30 Study on the Low Thermal Budget Annealing Technique for High Performance Amorphous In-Ga-ZnO Thin Film Transistors**
Hyun-Woo Lee and Won-Ju Cho
Department of Electrical Materials Engineering, Kwangwoon University
- TP1-34 17:10-18:30 Electrical Characteristics of the Channel Engineered amorphous IGZO Thin Film Transistors with ITO Embedded Conductive Layer**
Se-Yeon Hwang and Won-Ju Cho
Department of Electronic Materials Engineering, Kwangwoon University
- TP1-35 17:10-18:30 High-performance Amorphous In-Ga-Zn-O Thin-film Transistor with Off-planed Dual-work Function Source/Drain Structure**
Seung-Tae Kim and Won-Ju Cho
Department of Electronic Materials Engineering, Kwangwoon University
- TP1-36 17:10-18:30 Comparison of Different Organic Materials for Inorganic-organic Hybrid Insulator in the Organic Thin Film Transistor**
Hyeong Jun Cho¹, Dong-Hoon Lee¹, Eung-Kyu Park¹, Sihan Wang¹, Sungruel Kwon², Ye Ji Lee², Dongguen Jung², and Yong-Sang Kim¹
¹*School of Electronic and Electrical Engineering, Sungkyunkwan University,* ²*Department of Physics, Sungkyunkwan University*
- TP1-37 17:10-18:30 Indium-Zinc-Oxide Thin Film Transistor based PBD**
Ju-song Eom, Won-you Kim, Shan Fei, and Sung-jin Kim
College of Electrical and Computer Engineering, Chungbuk National University
- TP1-38 17:10-18:30 Oxide Transistor Fabricated by UV Assisted Spin Coating**
Won-You Kim, Ju-Song Eom, Shan Fei, and Sung-Jin Kim
College of Electrical and Computer Engineering, Chungbuk National University
- TP1-39 17:10-18:30 Interface Charge Controlled Negative Capacitance in Dielectric/Ferroelectric Thin Films**
Yu Jin Kim, Min Hyuk Park, Han Joon Kim, Taehwan Moon, Keum Do Kim, Cheol Hyun An, Young Hwan Lee, Seung Dam Hyun, and Cheol Seong Hwang
Department of Materials Science and Engineering and Inter-university

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Semiconductor Research Center(ISRC), College of Engineering, Seoul National University

- TP1-40 17:10-18:30 Enhancement of Performance in In-Ga-Zn-O Thin-Film-Transistor using Engineered Gate Dielectrics**
Ju-Young Pyo and Won-Ju Cho
Department of Electrical Materials Engineering, Kwangwoon University
- TP1-41 17:10-18:30 Analysis on the Evolution of the Ferroelectricity in Undoped HfO₂ Films Prepared by Atomic Layer Deposition**
Keum Do Kim, Min Hyuk Park, Yu Jin Kim, Han Joon Kim, Taehwan Moon, Young Hwan Lee, Seung Dam Hyun, and Cheol Seong Hwang
Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University
- TP1-42 17:10-18:30 Low-Thermal-Budget Microwave Annealing for Activation of Phosphorus Doped Metal-Oxide-Semiconductor Field-Effect-Transistors**
Cheol-Min Lim and Won-Ju Cho
Department of Electronic Materials Engineering, Kwangwoon University
- TP1-43 17:10-18:30 Investigation of Passivation Layer Effect on Ge Substrate using SiO₂/Al₂O₃ Bi-Layer Grown via Atomic Layer Deposition**
Dong Gun Kim¹, Jae-Ho Lee¹, Hyun Jae Lee¹, Jung-Hae Choi², and Cheol Seong Hwang¹
¹*Department of Materials Science & Engineering and Inter-university Semiconductor research Center, Seoul National University;* ²*Electronic Materials Research Center, Korea Institute of Science and Technology*
- TP1-44 17:10-18:30 시퀀셜 3차원 집적공정을 위한 고온내성이 향상된 silicide 형성 기술**
Jae Won Choi, Sol Kang, Soo Yeun Han, Dong Hwi Lee, Hyun Joon Bang, and Rino Choi
Department of material science, Inha University
- TP1-45 17:10-18:30 Study on the Ferroelectric Domain Switching Kinetics in Dielectric/Ferroelectric Capacitors**
Seung Dam Hyun, Yu Jin Kim, Min Hyuk Park, Han Joon Kim, Teahwan Moon, Keum Do Kim, Young Hwan Lee, and Cheol Seong Hwang
Department of Material Science and Engineering, Seoul National University
- TP1-46 17:10-18:30 Effects of Deposition Temperature on the Device Characteristics of Oxide Thin-Film Transistors using In-Ga-Zn-O Active Channels Prepared by Atomic-Layer Deposition**
Gi-Ho Seo¹, Nak-Jin Seong², Kyujeong Choi², Woong-Chul Shin², and Sung-Min Yoon¹
¹*Kyung Hee University;* ²*NCD Co., Ltd.*
- TP1-47 17:10-18:30 Resistive-Change Memory Thin-Film Transistor Using Al-doped ZnO**
Won-Ho Lee, Eom-Ji Kim, and Sung-Min Yoon

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Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University

- TP1-48** **17:10-18:30** **질소도핑된 ZnO를 이용한 그래핀 FET의 On-Off 특성 향상**
김소영, 김윤지, 이상경, 황현준, 허선우, 장경은, 조천흠, 이병훈
Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, Gwangju Institute of Science and Technology
- TP1-49** **17:10-18:30** **Etching Mechanism of SiC, SiO₂ and Si in CF₄/CH₂F₂/N₂/Ar Inductively Coupled Plasma: Effects of Input Power and Gas Pressure**
Jongchan Lee¹, Alexander Efremov², and Kwang-Ho Kwon¹
¹*Department of Control and Instrumentation Engineering, Korea University, ²Department of Electronic Devices and Materials Technology, State University of Chemistry and Technology, Russia*
- TP1-50** **17:10-18:30** **ASA Simulation을 이용한 박막 결함밀도 변화에 따른 박막 실리콘 태양전지 특성 분석**
김규원
성균관대학교 정보통신대학
- TP1-51** **17:10-18:30** **Positive Bias Temperature Stress Instability for In-Ga-Zn-O Thin-Film Transistors with Variations in Oxygen Partial Pressure during The Sputtering Deposition and Active Layer Thickness**
Han-Byeol Kang and Sung-Min Yoon
Kyung Hee University
- TP1-52** **17:10-18:30** **Effect of Temperature on Silicon Thin Film Deposited by Plasma Enhanced Chemical Vapor Deposition with Disilane**
Seok Hwan Kim^{1,2}, Sungwoo Lee¹, Jongwook Kim¹, Jaeyoung Yang¹, David Lee¹, Keunoh Park¹, Gieung Hur¹, Jaeho Lee¹, Jaichan Lee², and Ki-Seok An³
¹*TES Co., Ltd, ²Department of Material Science and Engineering, Sungkyunkwan University, ³Thin Film Materials Research Group, Korea Research Institute of Chemical*
- TP1-53** **17:10-18:30** **Positive Bias Illumination Stress Instability in Solution Processed a-IGZO TFTs**
Jongsu Oh, Ji-Hwan Kim, Eung-Kyu Park, Sihan Wang, and Yong-Sang Kim
School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-54** **17:10-18:30** **Growth of Semiconducting TaN_x Films by Atomic Layer Deposition and Its Electrical Transport**
Sung Yeon Ryu, Dong Ha Kim, and Byung Joon Choi
Department of Materials Science and Engineering, Seoul National University of Science and Technology

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| TP1-55 | 17:10-18:30 | Comparative Study of AlN Films Grown by Thermal and Plasma-assisted Atomic Layer Deposition
No Ho Lee, Min Soo Kim, Seong Yu Yoon, Dae Ho Kim, and Byung Joon Choi
<i>Department of Materials Science and Engineering, Seoul National University of Science and Technology</i> |
| TP1-56 | 17:10-18:30 | Electrical Property Enhancement of p-type SnO Thin Film Transistor with Al Doping
An Hoang-Thuy Nguyen ¹ , Manh-Cuong Nguyen ¹ , Hyunjoon Bang ¹ , Donghwi Lee ¹ , Sol Kang ¹ , Jae-Won Choi ¹ , Soo-Yeun Han ¹ , Hoichang Yang ² , and Rino Choi ¹
¹ <i>Department of Material Science and Engineering, Inha University,</i>
² <i>Department of Applied Organic Materials Engineering, Inha University</i> |
| TP1-57 | 17:10-18:30 | Photo-response Characteristics in Polysilicon-Based MSM Photodetector
Kyeong-Min Kim and Jae-Sung Lee
<i>Division of Green Energy Engineering, Uiduk University</i> |
| TP1-58 | 17:10-18:30 | 이중 주파수 펄스 CCP에서의 임피던스 변화
배인식, 장홍영, 설유빈, 이진원, 송호현, 이호형, 박기정
<i>대한민국 한국과학기술원 물리학과</i> |
| TP1-59 | 17:10-18:30 | EUV용 펄리클 대안구조로서 그래핀 복합구조 가능성 연구
김정환 ¹ , 홍성철 ¹ , 조한구 ² , 안진호 ¹
¹ <i>한양대학교 신소재공학과, ²한양대학교 나노과학기술연구소</i> |
| TP1-60 | 17:10-18:30 | 고투과도 SiNx EUV용 펄리클 제작을 위한 HF Thinning 공정 가능성 평가
김지은 ¹ , 김정환 ² , 홍성철 ² , 조한구 ³ , 안진호 ^{1,2}
¹ <i>한양대학교 나노융합과학과, ²한양대학교 신소재공학과, ³한양대학교 나노과학기술연구소</i> |
| TP1-61 | 17:10-18:30 | High-k Thin Films on Graphene Surface Using Atomic Layer Deposition
Yong Hyun Park and Sang Woon Lee
<i>Department of Physics and Division of Energy Systems Research, Ajou University</i> |
| TP1-62 | 17:10-18:30 | Silicon Nitride Deposition by VHF (162 MHz)-PECVD Using a Multi Push-Pull Source
Kiseok Kim ¹ , Kihyun Kim ¹ , Kyongnam Kim ¹ , and Geunyoung Yeom ^{1,2}
¹ <i>Department of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Sungkyunkwan Advanced Institute of Nano Technology, Sungkyunkwan University</i> |
| TP1-63 | 17:10-18:30 | Electrical Properties of Sputter-deposited InGaZnO Thin Film Transistors with An Etch Stopper
Jin Kuk Kim ¹ , Seong Min Shin ¹ , Min Taek Hong ¹ , Byeong Seong Bae ¹ , and Eui-Jung Yun ² |

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¹Department of Display Engineering, Hoseo University, ²Department of Information and Communication Engineering, Hoseo University

- TP1-64 17:10-18:30 Novel Fabrication of Lightly Doped-Drain for Suppressing The Leakage Current in Polycrystalline Silicon Thin-Film Transistor**
Hyung Yoon Kim, Jae Hyo Park, Ki Hwan Seok, Zohreh Kiaee, Hee Jae Chae, Sol Kyu Lee, Yong Hee Lee, and Seung Ki Joo
Research Institute of Advanced Materials and Department of Materials Science and Engineering, Seoul National University
- TP1-65 17:10-18:30 Electrical Properties Enhancement with Multi-Gate Structure Metal Induced Lateral Crystallization Poly-Si TFTs.**
Ki Hwan Seok, Jae Hyo Park, Yong Hee Lee, and Seung Ki Joo
Department of Materials Science and Engineering, Seoul National University
- TP1-66 17:10-18:30 Characteristics of IGZO Thin Film Using ICP Assisted Magnetron Sputtering**
Chul Hee Lee¹, Seung Min Lee¹, Tae Hyung Kim¹, Kyong Nam Kim¹, Jeong Oun Bae¹, and Geum Young Yeom^{1,2}
¹Department of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Sungkyunkwan Advanced Institute of Nano Technology, Sungkyunkwan University
- TP1-67 17:10-18:30 Plasma Enhanced Atomic Layer Deposition of High-Mobility In₂O₃ Thin Films from Novel Heteroleptic Indium Precursor**
김효연^{1,2}, 정은애^{1,3}, 박진성², 전동주¹, 문금비⁴, 박상희⁴, 정택모¹, 한정환¹
¹한국화학연구원, ²한양대학교 신소재공학부, ³성균관대학교 화학과, ⁴한국과학기술원 신소재공학과
- TP1-68 17:10-18:30 Low Temperature Atomic Layer Deposition of SnO₂ Thin Films from Novel Sn Precursor and O₂ Plasma**
김효연^{1,2}, 남지현^{1,3}, 박진성², 전동주¹, 정택모¹, 한정환¹
¹한국화학연구원, ²한양대학교 신소재공학부, ³고려대학교 화학과
- TP1-69 17:10-18:30 Deposition of Silicon Oxide Using High Density Plasma Chemical Vapor Deposition for Gap-Filling**
Sin Keun Park¹, Chang-Su Seo¹, Sang-Yeop Jee¹, Yun-Bin Kim¹, Suk-Jin Jung¹, Jong-Seung Park¹, Kang Hyun Noh², Jang Hyun Kim¹, Jong Ho Lee¹, and Cheol Seong Hwang¹
¹Inter-University Semiconductor Research Center, Seoul National University, ²Semi-ence
- TP1-70 17:10-18:30 Fast and Slow Charging of InGaZnO Thin Film Transistor with Metal Cation Concentration**
Minho An, Kyeonggeun Park, Taeho Kim, and Sanghun Jeon
Department of Applied Physics, Korea University
- TP1-71 17:10-18:30 The Specific Contact Resistance of Interfaces ITZO and The Source/Drain Metallization Effects**
Jaewoong-Yoon and Junsin-Yi

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Sungkyunkwan University

- TP1-72 17:10-18:30 Mechanical and Thermal Stability of Organic/Inorganic Hybrid Gate Insulators with Self Assembled Nanoparticles for Flexible Thin Film Transistors**
J. H. Kim¹, J. S. Kim², D. I. Kim², and N.-E. Lee^{1,2,3}
¹Department of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Sungkyunkwan Advanced Institute of Nanotechnology, Sungkyunkwan University, ³Samsung Advanced Institute for Health Sciences and Technology, Sungkyunkwan University
- TP1-73 17:10-18:30 A Flexible Magnetoelectric Field-effect Transistor with Magnetically Responsive Nanohybrid Gate Dielectric Layer**
Nguyen Minh Triet¹, Tran Quang Trung¹, Nguyen Thi Dieu Hien¹, Saqib Siddiqui¹, Do-Il Kim¹, and Nae-Eung Lee^{1,2,3}
¹School of Advanced Materials Science and Engineering, Sungkyunkwan University, ²Sungkyunkwan Advanced Institute of Nanotechnology, Sungkyunkwan University, ³ Samsung Advanced Institute for Health Sciences and Technology, Sungkyunkwan University
- TP1-74 17:10-18:30 Comparison of Performance of Tips Pentacene Based Transistor with Various Insulators**
Seunghyun Park¹, Wooseong Yang¹, Dong-Hoon Lee², and Yong-Sang Kim²
¹Gyeonggi Science High School, ²School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-75 17:10-18:30 Characterization of GeSn Deposited on Si by Low-temperature Sputter Epitaxy**
Jeongmin Lee¹, Mina Yun², and Seongjae Cho^{1,2}
¹Graduate School of IT Convergence Engineering, Gachon University, ²Department of Electronic Engineering, Gachon University
- TP1-76 17:10-18:30 'Atomistic' Line Edge Roughness (LER) Model for Sub-10-nm CMOS Device Design: Three-Dimensional LER Profiling**
Sangheon Oh, Jaesung Jo, Hyunjae Lee, Youngtaek Lee, and Changwhan Shin
School of Electrical and Computer Engineering, University of Seoul
- TP1-77 17:10-18:30 Investigation of Current Path Variation Effect in Three Dimensional Stack NAND Flash Memory**
Daewoong Kang¹, Hyoungsoo Kim², Asif Ali³, Youngchang Yun⁴, and Il Hwan Cho³
¹Department of Electrical Engineering, University of North Texas, USA, ²Department of Electrical and Computer Engineering, California State Polytechnics University, USA, ³Department of Electronic Engineering, Myongji University, ⁴Qualcomm Technologies, US
- TP1-78 17:10-18:30 The Improvement of Inverse Narrow Width Effect by Optimizing STI Process**

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Seungyong Sung, Sungyeon Hwang, Taeho Lee, Jaegwan Kim, Sunggon Choi, and Inwook Cho
System IC Platform Technology Development, SK hynix Inc.

- TP1-79 17:10-18:30 Steep Subthreshold Swing Operation of Bendable Feedback Field-Effect Transistors with Si Nanowires**
Youngin Jeon, Minsuk Kim, Doohyeok Lim, and Sangsig Kim
Department of Electrical Engineering, Korea University
- TP1-80 17:10-18:30 Easy and Cost-effective Integration of Negative Capacitance for Low Power MOSFET**
HoSeung Jeon and Wan-Gyu Lee
Advanced Process Development, National NanoFab Center
- TP1-81 17:10-18:30 Impact of Metal Nitride on Contact Resistance in Metal-Interlayer-Semiconductor Source/Drain**
Juhan Ahn and Hyun-Yong Yu
Department of Electrical Engineering, Korea University
- TP1-82 17:10-18:30 Capacitance-Voltage Analysis of Al₂O₃/In_{0.53}Ga_{0.47}As Metal-Oxide-Semiconductor Structure**
Woo Chul Lee¹, Cho Cheol Jin¹, Jung Joon Pyeon¹, Cheol Seong Hwang², and Seong Keun Kim¹
¹Center for Electronic Materials, Korea Institute of Science and Technology, ²Department of Materials Science, Engineering and Inter-University Semiconductor Research Center, Seoul National University
- TP1-83 17:10-18:30 Tunnel FET의 고유한 열화메커니즘에 관한 연구**
김승모, 정욱진, 임성관, 강수철, 이병훈
Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, Gwangju Institute of Science and Technology
- TP1-84 17:10-18:30 고전력 고효율 SIMO 직류 변환기의 스위치 on 저항 최적화**
김재윤
연세대학교 전기전자공학부
- TP1-85 17:10-18:30 FinFET LNA Design using Accurate Device RC Parasitic Models**
Seung Ik Jeong and So Young Kim
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-86 17:10-18:30 Achieving Telecommunication Frequency Emission from Ge on Si by Thermal Annealing**
Chulwon Lee¹, Bugeun Ki², Yang-Seok Yoo¹, Min-Ho Jang¹, Seung-Hyuk Lim¹, Jungwoo Oh², and Yong-Hoon Cho¹
¹Department of Physics and KI for the NanoCentury, KAIST, ²School of Integrated Technology, Yonsei University
- TP1-87 17:10-18:30 The Study on Dopant Activation and Physical Properties in Si_{1-x}Gex Layers with Excimer Laser Annealing**
Youngmo Kim, Sungyeol Yoon, Jiwoo Park, Juyoung Jeong, and

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Hyunchul Sohn
Department of Materials Science and Engineering, Yonsei University

- TP1-88 17:10-18:30 Thermal Effect Modeling of Fin Field Effect Transistors**
장문용, 김소영
성균관대학교 정보통신공학부
- TP1-89 17:10-18:30 3차원 시뮬레이션을 이용한 FinFET과 Planar FET의 양전압 온도 불안정성 특성 비교 분석**
서영수, 김현수, 김종수, 신형철
Inter-University Semiconductor Research Center and School of Electrical Engineering and Computer Science, Seoul National University
- TP1-90 17:10-18:30 3D TCAD를 이용한 4층의 Nanowire-FET에서의 Sheet 저항 추출 방법**
고형우, 서영수, 김현수, 김종수, 신형철
Inter-University Semiconductor Research Center and School of Electrical Engineering and Computer Science, Seoul National University
- TP1-91 17:10-18:30 AC NBTI Modeling for Circuit Simulation**
이영곤, 조원구, 최병길, 박흥식, 김미란, 장태영, 이창렬, 이석규
Device Modeling and Reliability Division, SK hynix Inc.
- TP1-92 17:10-18:30 NBTI Turn-around 현상 메커니즘 분석 및 열화 모델링**
장태영, 박흥식, 이정현, 최형규, 이영곤, 유승원, 이창렬, 이석규
SK 하이닉스, 미래기술연구원, DMR팀
- TP1-93 17:10-18:30 A Guideline for Electron Mobility Enhancement in Uniaxially-strained (100)/<100> and (110)/<110> FinFETs**
Sujin Choi, Wookyung Sun, and Hyungsoon Shin
Department of Electronics Engineering, Ewha Womans University
- TP1-94 17:10-18:30 Effect of Different Insulating Materials and Channel Materials on The Ratio of TAT Current in DRAM Cell Transistors**
¹Hye Ran Jang, ²Sung-Won Yoo, ²Sangbin Jeon, ³Joonha Shin, ⁴Changhwan Shin, and ²Hyungcheol Shin
¹School of Physics Education, Seoul National University, ²Inter University Semiconductor Research Center and School of Electrical Engineering and Computer Science, Seoul National University, ³Seoul Science High School, ⁴School of Electrical and Computer Engineering, University of Seoul
- TP1-95 17:10-18:30 Evaluation of Pixel-to-Pixel Isolation at CMOS Image Sensor by using Electrical X-talk Simulation**
Hyungjoon Shim¹, Kwang Hwangbo², Sun-ha Hwang², Sungbo Hwang², Sang-Yong Kim¹, Seokkiu Lee¹, and Inwook Cho²
¹Device Modeling and Reliability Division, SK hynix Inc., ²System IC Platform Technology Development, SK hynix Inc.
- TP1-96 17:10-18:30 In Depth Study of Quasi-static Latch-up Phenomenon Through Geometric Effect and Optimization for High Speed I/O**

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Chang Hwi Lee, Joungcheul Choi, and Hongwook Lim
SK hynix Inc.

- TP1-97** **17:10-18:30** **Impact of Gate Shape and Thickness in 3D Vertical-gate NAND Flash**
Dasom Lee, Eunmee Kwon, and MinsooKim
SK hynix Inc.
- TP1-98** **17:10-18:30** **Analysis of EEPROM Characteristics on Tunneling Gate Doping Structure**
Hyangeun Lee, Kwangil Choi, Namyoon Kim, Sunggon Choi, and Inwook Cho
Development of System IC Platform Technology, SK hynix Inc.
- TP1-99** **17:10-18:30** **2차원 Paricle-in-cell 방법을 이용한 반도체 제조용 마그네트론 스퍼터링의 전산모사**
허민영, 이정열, 배효원, 이해준
부산대학교 전자전기컴퓨터공학과
- TP1-100** **17:10-18:30** **Self-heating Effect-induced Mobility Degradation in Various Structure Parameters of FinFET**
Taeyeom Ha, Yeon Namkoong, and Yunheub Song
Department of Electronics and Computer Engineering, Hanyang University
- TP1-101** **17:10-18:30** **Optimization of FinFET Structure for Low-standby Power(LSTP) Application in 14nm and Beyond Generation**
Taehee Kin and Gina Jeong
Department of Electronic Engineering, Ajou University
- TP1-103** **17:10-18:30** **First-principles Study on Charge Trap Level in Amorphous Si₃N₄**
Gijae Kang, Wonseok Jeong, and Seungwu Han
Department of Materials Science and Engineering, Seoul National University
- TP1-104** **17:10-18:30** **Study of Measurement Method to Judge Subthreshold Hump of MOSFET**
Sun-Ho Oh, Sung-Gon Choi, Seung-Yun Hwang, Min-ki Na, Kwang-Duk Kim, Sung-Bo Hwang, and In-Wook Cho
System IC Platform Technology Development Team, SK hynix Inc.
- TP1-105** **17:10-18:30** **New Robust Schottky Barrier Diodes of Advanced BCD Technology for Integrated Circuits Applications**
Yon-Sup Pang, Hyunchul Kim, Leeyeun Hwang, Sung-Bum Park, Jung Lee, and Taejong Lee
Technology Development Center, MagnaChip Semiconductor
- TP1-106** **17:10-18:30** **Gate Charge Measurement를 통한 Gate Capacitance Modeling**
Sunggon Cho, Pilsoo Lee, Dongjae Lee, and Seokki Lee
Device Modeling and Reliability Team, SK hynix Inc.

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- TP1-107 17:10-18:30 FinFET의 Bipolar AC Stress에 의한 Reliability 특성**
강수철, 김용훈, 정욱진, 박우진, 김승모, 이병훈
Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, Gwangju Institute of Science and Technology
- TP1-108 17:10-18:30 Simulation Study of Double-Gate Tunnel Dielectric-based Tunnel FET**
Sangchun Park, Junbeom Seo, Woo Jin Jeong, and Mincheol Shin
School of Electrical Engineering, KAIST
- TP1-109 17:10-18:30 Junction Temperature Control Method for Accelerated Power Cycling Life Test of Power Semiconductor**
최성순, 이우영, 노성대, 이관훈
전자부품연구원 신뢰성연구센터
- TP1-110 17:10-18:30 Modeling of the Polysilicon Channel Process of Vertical NAND Flash Memory using Phase-field Method**
Jong-Hyuk Lee and Yongwoo Kwon
Department of Materials Science and Engineering, Hongik University
- TP1-111 17:10-18:30 The Study for A Hybrid Simulation with Ar/O₂ Gas in A Capacitively Coupled Plasmas**
Jin Seok Kim, Ho young Kim, Ho-Jun Lee, and Hae June Lee
Department of Electrical Computer Engineering, Pusan National University
- TP1-112 17:10-18:30 Defect Density Analysis of HfInZnO Thin Film Transistor**
Youngin Goh, Hyunsuk Woo, Minho Ahn, Taeho Kim, and Sanghun Jeon
Department of Applied Physics, Korea University
- TP1-113 17:10-18:30 Fade Detection Through The Luminance Transition Neighboring Monochromatic Frame**
Sangho Yoon and Young Hwan Kim
Department of Electrical Engineering, Pohang University of Science and Technology
- TP1-114 17:10-18:30 The Capacitor-Less Type LED Lighting with A CdS Cell**
Sang-Won Lee, Hye-Jung Jang, Jung-Kyu Lee, Jin-Kyo Jung, Byung-Tak Jang, and Choong-Mo Nam
Department of Electronics Engineering, Korea Polytechnic University
- TP1-115 17:10-18:30 The Characteristics of Transparent FPCB for a LED Display**
So-Young Baek, Seong-Hwa Lee, Tae-Hoon Lee, Byung-Tak Jang, and Choong-Mo Nam
Department of Electronics Engineering, Korea Polytechnic University
- TP1-116 17:10-18:30 Self-selective Coating by Surface Energy Difference for Direct Patterning**
Mu Kyeom Mun¹, Do San Kim¹, and Geun Young Yeom^{1,2}
¹*Department of Materials Science and Engineering, Sungkyunkwan*

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*University, ²Sungkyunkwan Advanced Institute of Nano Technology,
Sungkyunkwan University*

- TP1-117 17:10-18:30 Multiple Annealing Temperature Dependency on Reliability of Multilayer MoS₂ Field Effect Transistors**
Jae Hyeon Ryu, Geun Woo Baek, Gi Taek Yu, Hyeun Woo Kim, and Sung Hun Jin
Department of Electronic Engineering, Incheon National University
- TP1-118 17:10-18:30 Amorphous Metal-based High Sensitive Pressure Sensor for Robot-skin**
Minhyun Jung¹, Taeho Kim¹, Kyungkwan Kim², and Sanghun Jeon^{1,2}
¹Department of Applied Physics, Korea University, ²Department of Display and Semiconductor Physics, Korea University
- TP1-119 17:10-18:30 Analysis and Modeling on the PH-dependent Current Drift of Si Nanowire Ion-sensitive Field Effect Transistor (ISFET)-based Biosensors**
Jungkyu Jang¹, Jungmok Kim¹, Hyun-Sun Mo¹, Jung Han Lee², Byung-Gook Park², Sung-Jin Choi¹, Dong Myung Kim¹, Dae Hwan Kim^{1,2}, and Jisun Park¹
¹School of Electrical Engineering, Kookmin University, ²Inter-University Semiconductor Research Center, Seoul National University
- TP1-120 17:10-18:30 A New Sacrificial Method using Polyimide and Copper**
H. Cheon¹, S. Hong¹, M. Lee¹, Y. Park¹, T. Kim², and D. Cho¹
¹Automation and Systems Research Institute/Inter-University Semiconductor Research Center, Department of Electrical and Computer Engineering, Seoul National University, ²Quantum Technology Lab, SK Telecom Co., Ltd.
- TP1-121 17:10-18:30 The Development of the Atmospheric Pressure Micro Plasma-jet Nozzle using SOG(Silicon on Glass) Wafer for Surface Modification**
Tae Gyu Park^{1,2}, Gwang Gyu Park², Geunyoung Kim², Ok Chan Jeong³, and Dong-Chul Han^{1,2}
¹Korea Bio-IT Foundry Center, Institute of Advanced Machines and Design, Seoul National University, ²AMED Inc., ³ Biomedical Engineering, Inje University
- TP1-122 17:10-18:30 The Surface Hydrophilic Modification of Contact Lens by Atmospheric Pressure Plasma Treatment**
Tae Gyu Park^{1,2}, Gwang Gyu Park², Geunyoung Kim², Ok Chan Jeong³, and Dong-Chul Han^{1,2}
¹Korea Bio-IT Foundry Center, Institute of Advanced Machines and Design, Seoul National University, ²AMED Inc., ³Inje University Biomedical Engineering
- TP1-123 17:10-18:30 P-type Diffusion Process using Diethyl Zinc for High Sensitivity Infra-red Photodiodes**
Dong-Hwan Jun¹, Hae Yong Jeong¹, Youngjo Kim¹, Chan-Soo Shin¹, Kyungho Park¹, Won-Kyu Park¹, Min-Su Kim³, Sangin Kim², Sang Wook

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Han³, and Sung Moon³

¹Korea Advanced Nano-Fab Center, ²Ajou University, ³Korea Institute of Science and Technology

- TP1-124 17:10-18:30 Development of Self-stabilizing System for Quantum Key Distribution Network**
박병권, 이민수, 우민기, 김용수, 한상욱, 문성욱
Center for Quantum Information, Korea Institute of Science and Technology
- TP1-125 17:10-18:30 Scanning-time Optimization Based on Simulated Annealing for Confocal Microscopy**
Hyunjun Kim^{1,2}, Jiwon Yune¹, Sang-Wook Han¹, and Sung Moon¹
¹Center for Quantum Information, Korea Institute of Science and Technology, ²Department of Electrical and Computer Engineering, Ajou University
- TP1-126 17:10-18:30 Design of Safe and Miniaturized Photo-Diode Based Retinal Implant**
Jeong Hoan Park, Joonsoo Jeong, Sin Young Shim, and Sung June Kim
Department of Electrical and Computer Engineering, Seoul National University
- TP1-127 17:10-18:30 CMOS Image Sensor with Pixel-merged Pseudo Differential Comparator and Up-down DDR Counter**
Chanmin Park, Injun Park, Woojin Jo, and Youngcheol Chae
School of Electrical and Electronic Engineering, Yonsei University
- TP1-128 17:10-18:30 A 6.9-mW, 600-MHz Continuous-Time Sigma-delta Modulator with 20-MHz Signal Bandwidth and 73.1-dB SNDR**
Je-Kwang Cho, Sunsik Woo, Wooyol Lee, and Hyeong-Soo Lee
IP Technology Team, SIC Center, LG Electronics Inc.
- TP1-129 17:10-18:30 A Low-power FeedForward Continuous-time Sigma-delta Modulator without Direct Feedback DAC and Analog Summing Amplifier**
Je-Kwang Cho, Sunsik Woo, Wooyol Lee, and Hyeong-Soo Lee
IP Technology Team, SIC Center, LG Electronics Inc.
- TP1-130 17:10-18:30 A 1.5-V 2.9-mW Analog Front End with a 5-Bit PGA and a 10-Bit ADC for D-TV Analog Audio Demodulation**
Je-Kwang Cho, Jungsuk Shim, Wooyol Lee, and Hyeong-Soo Lee
IP Technology Team, SIC Center, LG Electronics Inc.
- TP1-131 17:10-18:30 Verilog Modeling of 10Gbps Half-Rate Clock and Data Recovery using Injection Locking Oscillator.**
Min-Seong Choo and Deog-Kyoon Jeong
Inter-University Semiconductor Research Center, Seoul National University
- TP1-132 17:10-18:30 High Voltage Input DC-DC Buck Converter using 1 and 2 MHz**

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- PWM Control and Zero Current Detector for Wireless Power Transfer**
Ju-Hyun Park, Joo Young Lee, Young Jun Park, and Kang-Yoon Lee
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-133 17:10-18:30 DLL의 지터량에 따른 클락의 기준점 조절회로**
Sung-Woo Yoon, Xuefan Jin, and Kee-Won Kwon
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-134 17:10-18:30 LVDS Clock Driver with High Precision and Improved Bandwidth**
Jahoon Jin and Jung-Hoon Chun
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-135 17:10-18:30 Design of a Low Noise PLL using Injection Locked Oscillator**
Han-Gon Ko and Deog-Kyoon Jeong
Department of Electrical and Computer Engineering, Seoul National University
- TP1-136 17:10-18:30 유무선 인터페이스를 위한 기준 클록을 사용하지 않는 클록 데이터 복원**
Hyunkyoo Choi, Kiwon Kwon, Jahoon Jin, and Jung-Hoon Chun
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-137 17:10-18:30 The Design of 4-bit Flash ADC with Discrete Components**
Jonghyun Oh and Deog-Kyoon Jeong
Department of Electrical and Computer Engineering, Seoul National University
- TP1-138 17:10-18:30 온도 보상 특성을 가지는 전압 조절 발진기**
Xuefan Jin, Jung-Hoon Chun, and Kee-Won Kwon
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-139 17:10-18:30 A Noninverting Two-Switch Buck-Boost DC-DC Converter for Portable Applications**
Yoonjae Kim, Jongseok Bae, Sooho Cho, Sungjae Oh, Hyunjun Kim, and Youngoo Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-140 17:10-18:30 Dynamic Supply Switching Modulator for Power Amplifier Using Single Inductor Dual Output DC-DC Buck Converter**
Sungjae Oh, Jongseok Bae, Yoonjae Kim, Sooho Cho, and Youngoo Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University

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- TP1-141 17:10-18:30 Design of Band Gap Reference for Minimization of The Temperature Coefficient**
Hyunjun Kim, Sooho Cho, Jongseok Bae, Yoonjae Kim, and Youngoo Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-142 17:10-18:30 Design of AC Directed Driving IC with PFC Function**
Kilsoo Seo and Jonghyun Kim
Power Semiconductor Research Center, Korea Electrotechnology Research Institute
- TP1-143 17:10-18:30 Design of Delay Locked Loop with Duty Cycle Correction**
Chang Soo Yoon and Deog-Kyoon Jeong
Department of Electrical and Computer Engineering, Seoul National University
- TP1-144 17:10-18:30 A Design of Low-Noise Switched-Capacitor Amplifier with Dynamic Offset Cancellation**
Min Chan Kim, Sang-Yun Kim, and Kang-Yoon Lee
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-145 17:10-18:30 Single-Inductor Multiple-Output (SIMO) Switching Converter with Constant Time Control using Hysteresis Comparators**
Jimin Oh, Jung-Hee Suk, Sangkyun Lee, and Yilsuk Yang
Information and Communications Core Technology Research Laboratory, Electronics and Telecommunications Research Institute
- TP1-146 17:10-18:30 Digital Eye Shaping for Reliability in a Blind Baud-rate ADC-Based Receiver**
Jong-Moon Choi, Ho-Joon Kim, and Kee-Won Kwon
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-147 17:10-18:30 A Design of Automatic Current Limit Low Drop Out Regulator with Wide Input Range and Fast Settling Time for Wireless Power Transfer Application**
Jung-Yeon Kim, Young-Jun Park, and Kang-Yoon Lee
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-148 17:10-18:30 A 2.6 GHz Fully Integrated GaN-HEMT Doherty Power Amplifier Based on Compact Load Network for Small-Cell Base Stations**
Hwiseob Lee, Wonseob Lim, and Youngoo Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-149 17:10-18:30 2.4 GHz Fully Integrated CMOS Power Amplifier using a 0.18 μm Process for WLAN Applications**
Wonseob Lim, Hwiseob Lee, Jongseok Bae, Sooho Cho, and Youngoo

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Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University

- TP1-150 17:10-18:30 Pre-Matched Two-Stage Doherty Power Amplifier Using GaN-HEMT Device for X-Band Applications**
Wooseok Lee, Hwiseob Lee, Wonseob Lim, Hyunuk Kang, Seungkuk Park, and Youngoo Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-151 17:10-18:30 Design of Two-Stage HBT Doherty Power Amplifier for Handset Applications**
Hyunuk Kang, Hwiseob Lee, Wooseok Lee, and Youngoo Yang
School of Electronic and Electrical Engineering, Sungkyunkwan University
- TP1-152 17:10-18:30 A Design of 1.2 mW High-Speed Programmable Frequency Divider for a 30 GHz Frequency Synthesizer**
Ho-Cheol Ryu, Dong-Soo Lee, Sung-Jin Kim, and Kang-Yoon Lee
College of information and Communication Engineering, Sungkyunkwan University
- TP1-153 17:10-18:30 A PFD and Charge Pump Switching Circuit to Low Reference Spur of the PLL in 0.18 μ m CMOS**
Sung Jin Kim, Hyeon-Uk Bhin, Dong-Soo Lee, and Kang-Yoon Lee
College of information and Communication Engineering, Sungkyunkwan University
- TP1-154 17:10-18:30 A 8 Bit, Temperature-Independent Current-Steering DAC with 10 V Output Swing**
Moon-Chul Choi, Hyun-Chang Kim, and Deog-Kyoon Jeong
Department of Electrical and Computer Engineering, Seoul National University
- TP1-155 17:10-18:30 Auto Dual-axis Adjustable Lights with a Single-chip Tracking Sensor**
Yong Hwan Park, Jeong Seok Kim, and Yong Sin Kim
Electrical Engineering, Korea University
- TP1-156 17:10-18:30 A Current Sensing Completion Detection Circuit Utilizing Body Effect**
Jiheon Park, Young-Ha Hwang, and Deog-kyoon Jeong
Department of Electrical and Computer Engineering, Seoul National University
- TP1-157 17:10-18:30 An 8-Bit 20 GHz DCO with Divided-by-5 Injection-Locked Frequency Divider**
Jung Min Yoon, Chang-Soo Yoon, and Deog-Kyoon Jeong
Department of Electrical and Computer Engineering, Seoul National University

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- TP1-158 17:10-18:30 Throughput을 최대화하는 MAC 프로토콜을 위한 Fragmentation과 Aggregation 제안**
구은비, 강병철, 정철호, 이혁연, 김재석
연세대학교 전기전자공학과
- TP1-159 17:10-18:30 이중 채널 송신기가 포함된 CMOS 이미지 센서 시스템**
김상훈, 엄부용, 김종률, 전정훈
College of Information and Communication Engineering, Sungkyunkwan University
- TP1-160 17:10-18:30 비 접촉 측정/검사를 위한 영상 매칭 시스템**
Yunseok Jang, Junwon Mun, Jaehyuk So, Baatarbek Ryskhan, and Jaeseok Kim
Department of Electrical and Electronic Engineering, Yonsei University
- TP1-161 17:10-18:30 Real-Time Hardware Implementation of Noise-Robust Auditory Evoked Potential Extraction Algorithm**
Wooseok Byun and Ji-Hoon Kim
Department of Electronics Engineering, Chungnam National University
- TP1-162 17:10-18:30 Monte Carlo Simulation of Basic Models for Quantitative Analysis of Scanning Electron Microscope Images**
Myeong Chun Song and Jin Seung Kim
Department of Nano-Science and Technology, Chonbuk National University
- TP1-163 17:10-18:30 e-Beam Simulation for Deep Trench Monitoring Solution Development**
Changhwan Lee, Gwangmin Kwon, Youngsoon Yoo, Jongtae Kim, Yeojin Yoon, and Jinsan Yoo
SK hynix Inc.
- TP1-164 17:10-18:30 An Efficient Test Circuit for Defect Monitoring of Standard Logic Cells**
오길근, 신연중, 호민혜, 김영현, 정다래, 김형태, 이윤우, 김요정
Samsung Electronics Co., Ltd.
- TP1-165 17:10-18:30 Mechanical Characterization of Silver Nanowire on Silicon Pillar by Using in-situ Pico Indentation**
Jaehyun Kim^{1,2}, Changhwan Lee¹, Hyungwon Yoo¹, Yeojin Yoon¹, Jinsan Yoo¹, Jooyoung Jung², Qauser Naddem², and Seungmin Han²
¹SK hynix Inc., ²KAIST
- TP1-166 17:10-18:30 Damascene공정에서의 광학 검사 장비의 검출력 향상 방법 연구**
권혁만, 문대영, 송인영, 오재형
SK hynix Inc.
- TP1-167 17:10-18:30 DRAM Storage Node Profile 개선을 위한 OCD 계측 기술 연구**
허성준, 윤원식, 신현철, 박동성
SK hynix Inc.

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| TP1-168 | 17:10-18:30 | Dielectric Film Thickness Monitoring Technique in 3D Flash Memory Device
YongWoo Jung
<i>SK hynix Inc.</i> |
| TP1-169 | 17:10-18:30 | SEM Imaging of High Aspect Ratio Structure BottomThrough Effects of Landing Energy and Energy Filter
Gwangmin Kwon, Jaecheol Jo, Ohjang Kwon, Gwirang Kim, and Kyuchan Shim
<i>SK hynix Inc.</i> |
| TP1-170 | 17:10-18:30 | SEM 이미지 Hot Spot Monitoring을 위한 Pixel 기반 검사 방법
권오장, 권광민, 조재철, 김귀랑, 마성민, 심규찬
<i>SK hynix Inc.</i> |
| TP1-171 | 17:10-18:30 | Morphology and Structure Analysis of Graphene by Low Voltage TEM Technique
Youngji Cho ^{1,3} , Jun-Mo Yang ¹ , Do Van Lam ² , Seung-Mo Lee ² , Jae-Hyun Kim ² , and Jiho Chang ³
¹ <i>Department of Measurement and Analysis, National Nanofab Center,</i>
² <i>Nano-Mechanical Systems Research Division, Korea Institute of Machinery and Materials,</i> ³ <i>Department of Applied Science, Korea Maritime and Ocean University</i> |
| TP1-172 | 17:10-18:30 | Wafer Geometry 측정 기술을 이용한 Defocus 개선 연구
Sangmin Kim, Keunjae Jeong, and Kyuchan Shim
<i>SK hynix Inc.</i> |
| TP1-173 | 17:10-18:30 | A Study on Through-focus Scanning Optical Microscopy (TSOM) using Wavefornt Sensor
Dong Joo Park, Joon Hyeong Park, and Jun Ho Lee
<i>Department of Optical Engineering, Kongju National University</i> |
| TP1-174 | 17:10-18:30 | Strain Measurement in SiGe/Si Layer by Dark-field Electron Holography with Medium High-resolution Magnification
Van Vuong Hoang ^{1,3} , YoungJi Cho ¹ , Jung Ho Yoo ¹ , Yong Ho Choi ² , Soon-Ku Hong ³ , and Jun-Mo Yang ¹
¹ <i>Department of Measurement and Analysis, National Nanofab Center,</i>
² <i>Department of Aero-Materials Engineering, Jungwon University,</i>
³ <i>Department of Materials Science and Engineering, Chungnam National University</i> |
| TP1-175 | 17:10-18:30 | 2Xnm 급 반도체 웨이퍼 결함검출을 위한 Ultra Hi-NA 광학시스템 설계
Woojun Han ¹ , Eunkil Jo ¹ , Seonho Lee ¹ , Jiyoun Oh ¹ , Jinhwan Kim ¹ , Seungyoung Chu ² , and Jaisoon Kim ¹ ,
¹ <i>NEMO Laboratory Department of Physics, Myongji University,</i> ² <i>AUROS Technology</i> |
| TP1-176 | 17:10-18:30 | ESLI 시스템 검증을 위한 XXnm 검사용 UV 라인 스캐닝 시스템 개발 |

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Eunkil Jo¹, Seonho Lee¹, Oh-hyung Kwon¹, Sangchul Lee¹, Seongchul Oh², Seungyong Chu², and Jaisoon Kim¹

¹NEMO Laboratory, Department of physics, Myongji University ²AUROS Technology

- TP1-177 17:10-18:30 TSV Group Architecture for Repair 3D IC**
Ingeol Lee, Minho Cheong, Jaeseok Park, and Sungho Kang
Department of Electrical and Electronic, Yonsei University
- TP1-178 17:10-18:30 Cl-기를 포함한 SiNx 공정의 인시츄 클린 조건 최적화 및 잔류 불순물 제어**
KwangSeon Jin, ByungChul Cho, DongHo Ryu, and HyoungChan Ha
Research and Development team, WONIK IPS.Co., Ltd.
- TP1-179 17:10-18:30 EUV 마스크 검사용 Ptychography 알고리즘 개발**
우동곤¹, 이승민¹, 홍성철¹, 조훈², 김희율², 조한구³, 안진호¹
¹한양대학교 신소재공학과, ²한양대학교 전자컴퓨터통신 공학과, ³한양대학교 나노과학기술연구소
- TP1-180 17:10-18:30 미세정렬장치를 갖춘 초소형 전자컬럼**
Sungwoong Choi, Youngbok Lee, Dae-Wook Kim, Seungjoon Ahn, Tae-Sik Oh, and Ho Seob Kim
Department of Nanoscience, Sun Moon University
- TP1-181 17:10-18:30 Flexible PCB를 이용한 마이크로컬럼**
Youngbok Lee, Sungwoong Choi, Hyung Woo Kim, Dae-Wook Kim, Seungjoon Ahn, Tae-Sik Oh, and Ho Seob Kim
Department of Nanoscience, Sun Moon University
- TP1-182 17:10-18:30 4중극 디플렉터를 이용한 마이크로컬럼의 특성 연구**
Hyung Woo Kim, Youngbok Lee, Sungwoong Choi, Anjli Sharma, Tae-Sik Oh, Dae-Wook Kim, Seungjoon Ahn, and Ho Seob Kim
Department of Nanoscience, Sun Moon University
- TP1-183 17:10-18:30 Preliminary Test of Ultraminiaturized Microcolumn**
Anjli Sharma, Tae-Sik Oh, Dae-Wook Kim, and Ho-Seob Kim
Department of Physics and Nanoscience, Sun Moon University