



# 제25회 한국반도체학술대회

The 25<sup>th</sup> Korean Conference on Semiconductors

2018년 2월 5일(월)-7일(수), 강원도 하이원리조트 컨벤션 호텔

2018년 2월 6일(화), 16:00-17:30

컨벤션 호텔, 5층 로비

## [TP1] Poster Session 1

### A. Interconnect & Package

심사위원: 안지환 교수(서울과학기술대학교), 여종석 교수(연세대학교)

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



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TP1-9	<b>Coefficient of Thermal Expansion of Non Conductive Adhesive (NCA) with Inorganic Filler Size Distribution</b> Tae-Young Lee <sup>1,2</sup> , Young-Ho Kim <sup>2</sup> , Sehoon Yoo <sup>1</sup> <i><sup>1</sup>Joining R&amp;D Group, KITECH, <sup>2</sup>Division of Materials Science and Engineering, Hanyang University</i>
TP1-10	<b>RFI Shielding Structure for Fan-out Wafer Level Packaging</b> Hai Au Huynh, JiHoon Kim, Youngbong Han, and SoYoung Kim <i>College of Information and Communication Engineering, Sungkyunkwan University</i>
TP1-11	<b>Effect of Ni-P Morphology on Intermetallic Compound between Electroless Nickel Immersion Gold/Sn-Ag-Cu Solder during Isothermal Aging</b> Wonil Seo <sup>1,2</sup> , Young-Ho Kim <sup>2</sup> , and Sehoon Yoo <sup>1</sup> <i><sup>1</sup>Joining R&amp;D Group, KITECH, <sup>2</sup>Division of Materials Science and Engineering, Hanyang University</i>
TP1-12	<b>Study on Microstructural Evolution of co-Evaporated Bismuth Telluride Films with Various Film Thickness and its Effects on Electrical and Thermoelectric Properties</b> Haishan Shen <sup>1,3</sup> , Suhyeon Lee <sup>3</sup> , Jun-Gu Kang <sup>1</sup> , Tae-Yil Eom <sup>2</sup> , Hoojeong Lee <sup>1</sup> , Seungwoo Han <sup>3</sup> <i><sup>1</sup>Department of Advanced Materials Science and Engineering, Sungkyunkwan University, <sup>2</sup>SAINT, Sungkyunkwan University, <sup>3</sup>Division of Nano-Mechanical System Research, KIMM</i>
TP1-13	<b>Narrow Chip to Substrate Gap에서의 Plasma Cleaning 고찰</b> 김대진 <i>SK 하이닉스</i>
TP1-14	<b>Atomic Layer Deposition of Nickel and Nickel-based Alloy Thin Films using Non-Oxidizing Reactant Forsilicide</b> Shunichi Nabeya <sup>1,2</sup> , Soonyoung Jung <sup>1</sup> , and Soo-Hyun Kim <sup>1</sup> <i><sup>1</sup>School of Materials Science and Engineering, Yeungnam University, <sup>2</sup>Tanaka Precious Metals</i>
TP1-15	<b>Research of the Indium and Tin Alloy for the Low Melting Point Solder Materials</b> Sungryul Mang <sup>1</sup> , Minwoo Cho <sup>2</sup> , and Hoojeong Lee <sup>1,2</sup> <i><sup>1</sup>SAINT, Sungkyunkwan University, <sup>2</sup>Department of Advanced Materials Science and Engineering, Sungkyunkwan University</i>
TP1-16	<b>Low Temperature Synthesis of 2D MoS<sub>2</sub> for Gas Sensor</b> Youngjun Kim <sup>1</sup> , Yuxi Zhao <sup>1</sup> , Jeong-Gyu Song <sup>1</sup> , Gyeong Hee Ryu <sup>2</sup> , Kyung Yong Ko <sup>1</sup> , Whang Je Woo <sup>1</sup> , Zonghoon Lee <sup>2</sup> , Jusang Park <sup>1</sup> , and Hyungjun Kim <sup>1</sup> <i><sup>1</sup>School of Electrical and Electronic Engineering, Yonsei University, <sup>2</sup>School of Materials Science and Engineering, UNIST</i>



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TP1-17	<p>기상 증착 방식의 배리어 적용 된 구리 배선의 일렉트로마이그레이션 신뢰성 거동 및 배리어에 따른 구리 박막의 미세구조 변화 고찰</p> <p>장경태, 나세권, 이솔규, 주영창</p> <p>서울대학교 재료공학부</p>
TP1-18	<p>온칩 구조의 국부적 열점 제어를 위한 2차원 수평형 박막 열전 냉각기에 대한 연구</p> <p>박홍범, 정민우, 김 철, 주영창</p> <p>서울대학교 재료공학부</p>
TP1-19	<p><b>Effect of Electrodes on Co-sputtered SiTe Threshold Switches</b></p> <p>Jeongun Choe, Jaehyun Han, Su-Bong Lee, Deok-Jin Jeon, and Jong-Souk Yeo</p> <p><i>School of Integrated Technology, Yonsei University</i></p>
TP1-20	<p><b>Improved Thermal Stability and Lower Sheet Resistance of NiSi with Carbon Pre-silicidation Implant</b></p> <p>Iksoo Park, Sangwon Baek, Rockhyun Baek, and Jeong-soo Lee</p> <p><i>Department of Electrical Engineering, POSTECH</i></p>
TP1-21	<p><b>Effects of Cu RDL on Planarization of Polymeric Interlayer Dielectrics for FOWLP Applications</b></p> <p>Seungjoo Han<sup>1</sup>, Jungeun Pyun<sup>1</sup>, Yejin Kim<sup>1</sup>, Soojung Kang<sup>1</sup>, Sarah E. Kim<sup>2</sup>, and Sungdong Kim<sup>1</sup></p> <p><sup>1</sup><i>Department of Mechanical System Design Eng., Seoul National University of Science and Technology, <sup>2</sup>Graduate School of Nano-IT Design Convergence, Seoul National University of Science and Technology</i></p>
TP1-22	<p><b>Bis(1,4-di-iso-propyl-1,4-diazabutadiene) Nickel을 이용한 Nickel 박막의 Plasma-enhanced Atomic Layer Deposition</b></p> <p>박재민<sup>1</sup>, 김성윤<sup>1</sup>, 황준<sup>1</sup>, 한원석<sup>2</sup>, 고원용<sup>2</sup>, 이원준<sup>1</sup></p> <p><sup>1</sup><i>세종대학교 나노신소재공학과, <sup>2</sup>UP케미칼</i></p>

## D. Thin Film Process Technology

심사위원: 박태주 교수(한양대학교), 안지훈 교수(한국해양대학교)

TP1-23	<p><b>Low Resistance ALD-NiGe Contact with Phosphorus Segregation on n-Type Germanium</b></p> <p>Hyun Jun Ahn, Jungmin Moon, Tae In Lee, and Byung Jin Cho</p> <p><i>School of Electrical Engineering, KAIST</i></p>
TP1-24	<p><b>Air-exposure Effects on CMOS Organic Thin-Film Transistors and Inverter</b></p> <p>Seunghyun Yoo, Hocheon Yoo, and Jae-Joon Kim</p> <p><i>Department of Electrical Engineering, POSTECH</i></p>



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TP1-25	<p><b>Simulation and Optimization for High Aspect Ratio Deposition by Long Throw Sputter PVD Method</b></p> <p>Hee-Young Shin, Ji Woo Park, Hee do Na, and Hyunchul Sohn <i>Department of Materials Science and Engineering, Yonsei University</i></p>
TP1-26	<p><b>Multi-Step and Single-Step in-situ Microwave Annealing as Low Thermal Budget Technique for Solution-Processed IGZO TFTs</b></p> <p>Jin-Hyeock Jeon and Won-Ju Cho <i>Department of Electrical Materials Engineering, Kwnagwoon University</i></p>
TP1-27	<p><b>Top-Split-Gate Ambipolar Organic Thin-Film Transistors</b></p> <p>Hocheon Yoo and Jae-Joon Kim <i>Department of Creative IT Engineering, POSTECH</i></p>
TP1-28	<p><b>Ultrafast Assembly of Reduced Graphene Oxide Film for Flexible Optoelectronics</b></p> <p>In Ho Kim, Jongwon Shim, Kyung Eun Lee, Taeyoung Yun, and Sang Ouk Kim <i>Department of Materials Science and Engineering, KAIST</i></p>
TP1-29	<p><b>Fabrication of BEOL Transistor Using Cu Bottom Gate for Microwave Annealing with Low Temperature Annealing</b></p> <p>Min-Soo Kang and Won-Ju Cho <i>Department of Electronic Materials Engineering, Kwangwoon University</i></p>
TP1-30	<p><b>Characterizations of P-Type Tin Monoxide Thin Films Deposited by a Co-Sputtering Process</b></p> <p>Seungjun Lee, Younjin Jang, Eun Suk Hwang, Jun Shik Kim, SeokMin Jeon, and Cheol Seong Hwang <i>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University</i></p>
TP1-31	<p><b>Hysteric Transfer Characteristics of P-Type Thin Film Transistors with SnO Thin Films Grown by Atomic Layer Deposition</b></p> <p>Younjin Jang<sup>1</sup>, Jun Shik Kim<sup>1</sup>, Eun Suk Hwang<sup>1</sup>, Seungjun Lee<sup>1</sup>, Seok Min Jeon<sup>1</sup>, Jeong Hwan Han<sup>2</sup>, and Cheol Seong Hwang<sup>1</sup> <i><sup>1</sup>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University, <sup>2</sup>Department of Materials Science and Engineering, Seoul National University of Science and Technology</i></p>
TP1-32	<p><b>Impact of Microwave Irradiation on a-IGZO TFTs with High-k Gate Dielectrics</b></p> <p>Joong Won Shin and Won-Ju Cho <i>Department of Electrical Material Engineering, Kwangwoon University</i></p>
TP1-33	<p><b>Fabrication of High-Performance Oxide Semiconductor TFTs Using CAAC-IGZO</b></p> <p>Joong Won Shin and Won-Ju Cho <i>Department of Electrical Material Engineering, Kwangwoon University</i></p>



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TP1-34	<b>Impacts of Sequential Ultraviolet and Thermal Treatment on Performances and Stability in ZnON Thin Film Transistors</b> Hwan-Seok Jeong, Dae-Hwan Kim, and Hyuck-In Kwon <i>School of Electrical and Electronics Engineering, Chung-Ang University</i>
TP1-35	<b>New Parylene Coating System Using Real-Time Electrical Impedance Monitoring of Parylene Deposition</b> J.S Park <sup>1</sup> , J.S Kim <sup>2</sup> , T. Nguyen <sup>1</sup> , M.H. Kim <sup>2</sup> , Y.S. Jang <sup>2</sup> , and S. Cho <sup>1</sup> <i><sup>1</sup>Gachon Advanced Institute for Health Science and Technology(GAIHST), Gachon University, <sup>2</sup>Femto Science LTD.</i>
TP1-36	<b>Atomic Layer Deposition of TiTe<sub>2</sub> Thin Films for Ti-Sb-Te Phase Change Memory Application</b> Chanyoung Yoo, Eui-sang Park, Woohyun Kim, Yoon Kyeung Lee, and Cheol Seong Hwang <i>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University</i>
TP1-37	<b>A Research on Electrical and Thermal Stabilities of ZnON Thin-Film Transistors with Varying Channel Thickness</b> Dae-Hwan Kim, Min Jae Park, and Hyuck-In Kwon <i>School of Electrical and Electronics Engineering, Chung-Ang University</i>
TP1-38	<b>Ultrathin Thin Film Transistors with CYTOP Encapsulations by Using Water Soluble PVA</b> Jae Moon Kim, Min Su Kim, Jong Su Oh, and Yong-Sang Kim <i>School of Electronics and Electrical Engineering, Sungkyunkwan University</i>
TP1-39	<b>Atomic Layer Deposition of GeSe Films for Ovonic Threshold Switch Application</b> Woohyun Kim, Chanyoung Yoo, Eui-sang Park, Yoon Kyeung Lee, and Cheol Seong Hwang <i>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University</i>
TP1-40	<b>Atomic Layer Deposition of SnTe for Dopant Application of Phase-Change Materials</b> Eui-sang Park <sup>1</sup> , Chanyoung Yoo <sup>1</sup> , Woohyun Kim <sup>1</sup> , Yoon Kyeung Lee <sup>1</sup> , Jaesun Jung <sup>2</sup> , and Cheol Seong Hwang <sup>1</sup> <i><sup>1</sup>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University, <sup>2</sup>Soulbrain</i>
TP1-41	<b>Atomic Layer Deposition of Ru Thin Film with Enhanced Growth Rate on Ta<sub>2</sub>O<sub>5</sub>/Si Substrate Using RuO<sub>4</sub> Precursor and H<sub>2</sub> Gas</b> Cheol Hyun An, Sang Hyeon Kim, Dae Seon Kwon, Soon Hyung Cha, Sung Tak Cho, and Cheol Seong Hwang <i>Department of Materials Science and Engineering, Seoul National University</i>



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TP1-42	<p><b>Zinc Tin Oxide Thin Films Grown by Atomic Layer Deposition for Charge-Trap Flash Memory</b></p> <p>Jun Shik Kim<sup>1</sup>, Eun Suk Hwang<sup>1</sup>, Seungjun Lee<sup>1</sup>, Younjin Jang<sup>1</sup>, Seok Min Jeon<sup>1,2</sup>, and Cheol Seong Hwang<sup>1</sup></p> <p><i><sup>1</sup>Department of Materials Science &amp; Engineering, and Inter-University Semiconductor Research Center, Seoul National University, <sup>2</sup>SK Hynix Semiconductor Inc.</i></p>
TP1-43	<p><b>Oxide Semiconductor-Based Charge Trap Device for NAND Flash Memory</b></p> <p>Eun Suk Hwang<sup>1</sup>, Jun Shik Kim<sup>1</sup>, Seok Min Jeon<sup>1,2</sup>, Seungjun Lee<sup>1</sup>, Younjin Jang<sup>1</sup>, and Cheol Seong Hwang<sup>1</sup></p> <p><i><sup>1</sup>Department of Materials Science &amp; Engineering, and Inter-University Semiconductor Research Center, Seoul National University, <sup>2</sup>SK Hynix Semiconductor Inc.</i></p>
TP1-44	<p><b>Atomic Layer Deposition of Ta-Doped SnO<sub>2</sub> as a Reduction-Resistant Oxide Electrode</b></p> <p>Cheol Jin Cho<sup>1,2</sup>, Jung-Joon Pyeon<sup>1,3</sup>, Woo Chul Lee<sup>1,2</sup>, Chong-Yun Kang<sup>1,3</sup>, Cheol Seong Hwang<sup>2</sup>, and Seong Keun Kim<sup>1</sup></p> <p><i><sup>1</sup>Center for Electronic Materials, KIST, <sup>2</sup>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, College of Engineering, Seoul National University, <sup>3</sup>KU-KIST Graduate School of Converging Science and Technology,</i></p>
TP1-45	<p><b>A Study of the Physical and Chemical Properties of P-Type Tin Oxide Thin-Films for Transistor Applications with Argon Plasma Surface Treatment</b></p> <p>Soo-Hun Kwon, Sang-Dae Bae, Hwan-Seok Jeong, and Hyuck-In Kwon</p> <p><i>School of Electrical and Electronics Engineering, Chung-Ang University</i></p>
TP1-46	<p><b>MIM Capacitor based on ZrO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> Dielectric for DRAM Devices</b></p> <p>Soon Hyung Cha<sup>1</sup>, Cheol Hyun An<sup>2</sup>, Sang Hyeon Kim<sup>2</sup>, Dong gun Kim<sup>2</sup>, Dae Seon Kwon<sup>2</sup>, Seong Tak Cho<sup>2</sup>, and Cheol Seong Hwang<sup>2</sup></p> <p><i><sup>1</sup>Department of Engineering Practice, Seoul National University, <sup>2</sup>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-47	<p><b>Atomic Layer Deposition of Ru Thin Films Using 'Rudense' as Ru Precursor</b></p> <p>Dae Seon Kwon<sup>1</sup>, Cheol Hyun An<sup>1</sup>, Sang Hyeon Kim<sup>1</sup>, Hoju Song<sup>1</sup>, Seong Tak Cho<sup>1</sup>, Soon Hyung Cha<sup>1</sup>, Taishi Furukawa<sup>3</sup>, Teppei Hayakawa<sup>3</sup>, Kazuhisa Kawano<sup>4</sup>, and Cheol Seong Hwang<sup>1,2</sup></p> <p><i><sup>1</sup>Department of Materials Science and Engineering, Seoul National University, <sup>2</sup>Inter-university Semiconductor Research Center, Seoul National University, <sup>3</sup>Advanced Materials Research Laboratory, TOSOH Corporation, <sup>4</sup>Advanced Materials Division, TOSOH Corpor</i></p>
TP1-48	<p><b>Thermal Annealing Effect on Phase Separation Morphology in Thin Film based on Polyfluorene Polymer Blends</b></p> <p>Jiho Lee, Jaeseung Kim, Dongjin Kim, Sungwook Choi, Myungwoo Chung, Kyuseok Yun, and Hyunjung Kim</p> <p><i>Department of Physics, Sogang University</i></p>



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TP1-49	<p><b>Effects of Thickness Variations in InGaZnO Active Channel Prepared by Atomic-Layer Deposition on Thin-Film Transistor Characteristics</b></p> <p>So-Jung Yoon<sup>1</sup>, Nak-Jin Seong<sup>2</sup>, Kyujeong Choi<sup>2</sup>, Woong-Chul Shin<sup>2</sup>, and Sung-Min Yoon<sup>1</sup></p> <p><i><sup>1</sup>Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, <sup>2</sup>NCD Co., Ltd.</i></p>
TP1-50	<p><b>Improvement the Charge Trapping and Detrapping Characteristics in Amorphous In-Ga-ZnO Thin-Film-Transistors Using Microwave Irradiation</b></p> <p>Hyun-Woo Lee and Won-Ju Cho</p> <p><i>Department of Electrical Materials Engineering, Kwnagwoon University</i></p>
TP1-51	<p><b>Current Transport Mechanism in Au/bulk GaN Contacts with an AlN Layer Deposited by Atomic Layer Deposition</b></p> <p>Yurim Kwon<sup>1</sup>, Myeong Cheol Kim<sup>1</sup>, Byung Joon Choi<sup>1</sup>, and Hogyoung Kim<sup>2</sup></p> <p><i><sup>1</sup>Department of Materials Science and Engineering, Seoultech, <sup>2</sup>Department of Visual Optics, Seoultech</i></p>
TP1-52	<p><b>Improved Synaptic Characteristics of ALD HfO<sub>x</sub>/TiO<sub>x</sub> Bi-Layered ReRAM</b></p> <p>Sohyeon Kim, Boncheol Ku, Yawar Abbas, Andrey Serveevich Sokolov, Yu-Rime Jeon, and Changhwan Choi</p> <p><i>Division of Materials Science and Engineering, Hanyang University</i></p>
TP1-53	<p><b>Atomic Layer Deposition of HfO<sub>2</sub> Films Using La(NO<sub>3</sub>)<sub>3</sub>·6H<sub>2</sub>O Solution for Oxidant</b></p> <p>Seon Yong Kim<sup>1</sup>, Yong Chan Jung<sup>1</sup>, Sejong Seong<sup>1</sup>, Taehoon Lee<sup>1</sup>, In-Sung Park<sup>1,2</sup> and Jinho Ahn<sup>1,2</sup></p> <p><i><sup>1</sup>Division of Materials Science and Engineering, Hanyang University, <sup>2</sup>Institute of Nano Science and Technology, Hanyang University</i></p>
TP1-54	<p><b>Impedance Spectroscopic Analysis of Zr Doped HfO<sub>2</sub> with Increasing Switching Cycling</b></p> <p>Moonyoung Jung<sup>1</sup>, Youngji Noh<sup>2</sup>, and Seung-eon Ahn<sup>1</sup></p> <p><i><sup>1</sup>Department of Nano-Optical Eng, Korea Polytechnic University, <sup>2</sup>Department of Advanced Convergence Technology, Korea Polytechnic University</i></p>
TP1-55	<p><b>AC Device Approach to the Evaluation of Intrinsic Mobility of Oxide Thin Film Transistor</b></p> <p>Sungwoo Kim<sup>1</sup>, Hyunsuk Woo<sup>2</sup>, and Sanghun Jeon<sup>1,2</sup></p> <p><i><sup>1</sup>Department of Display and Semiconductor Physics, Korea University, <sup>2</sup>Department of Applied Physics, Korea University</i></p>
TP1-56	<p><b>MIM Capacitor based on ZrO<sub>2</sub>/Y<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub> Dielectric for DRAM Devices</b></p> <p>Seong Tak Cho<sup>1</sup>, Cheol Hyun An<sup>1</sup>, Sang Hyeon Kim<sup>1</sup>, Dong gun Kim<sup>1</sup>, Dae Seon Kwon<sup>1</sup>, Soon Hyung Cha<sup>2</sup>, and Cheol Seong Hwang<sup>1</sup></p> <p><i><sup>1</sup>Department of Materials Science and Engineering, Seoul National University, <sup>2</sup>Department of Engineering Practice, Seoul National University</i></p>
TP1-57	<p><b>Plasma-Enhanced Atomic Layer Deposition of Molybdenum Compounds Thin Films Using Mo(CO)<sub>6</sub> with Various Plasma Gases</b></p> <p>Jeong-Hun Choi, Seung-Won Lee, Cheol-Min Hyun, and Ji-Hoon Ahn</p> <p><i>Department of Electronic Material Engineering, Korea Maritime and Ocean University</i></p>



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TP1-58	<p><b>Crystal Structure and Electrical Properties Modulation of Al-Doped HfZrO<sub>2</sub> Thin Films by ALD</b></p> <p>Seung-Won Lee<sup>1</sup>, Jeong-Hun Choi<sup>1</sup>, Cheol-Min Hyun<sup>1</sup>, Minho Ahn<sup>2</sup>, Sanghun Jeon<sup>2</sup>, and Ji-Hoon Ahn<sup>1</sup></p> <p><sup>1</sup>Department of Electronic Material Engineering, Korea Maritime and Ocean University, <sup>2</sup>Department of Applied Physics, Korea University</p>
TP1-59	<p><b>ZnO:N-그래핀 접합 배리스터의 TiO<sub>2</sub> 층 페시베이션 효과</b></p> <p>이호인, 허선우, 김시현, 김윤지, 김승모, 김기영, 이용수, 이혜지, 이병훈</p> <p>Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, Gwangju Institute of Science and Technology</p>
TP1-60	<p><b>Ti-Rich TiNx Barrier Metal 적용을 통한 PMOS Gate PDR 개선</b></p> <p>황선우, 박성진, 황의성, 김준기, 진성곤, 김상덕</p> <p>SK Hynix</p>
TP1-61	<p><b>Autonomous Formation of Suspended Graphene on Electroplated Microgap Electrodes</b></p> <p>Aram Lee, Mina Park, Ho Kyun Rho, and Sang Hyun Lee</p> <p>Institute of Advanced Composite Materials, KIST</p>
TP1-62	<p><b>Achieving High Mobility of Zinc Oxynitride Thin Film Transistor Using Tantalum Metal Capping Method</b></p> <p>Taeho Kim and Jae Kyeong Jeong</p> <p>Department of Electronics and Computer Engineering, Hanyang University</p>
TP1-63	<p><b>Atomic Layer Deposition of SiO<sub>2</sub> and SiO<sub>x</sub>N<sub>y</sub> Thin Films Using O<sub>2</sub>, H<sub>2</sub>O, N<sub>2</sub> and NH<sub>3</sub> Remote Plasma</b></p> <p>Han Jin Lee<sup>1</sup>, Dae Hyun Kim<sup>1</sup>, Min-Woo Ha<sup>2</sup>, and Tae Joo Park<sup>1</sup></p> <p><sup>1</sup>Department of Materials Science and Chemical Engineering, Hanyang University, <sup>2</sup>Department of Electrical Engineering, Myongji University</p>
TP1-64	<p><b>Morphology of Thermal Annealing Effect on Solution Processed Organic Semiconducting Multi Layers</b></p> <p>Jaeseung Kim, DongJin Kim, Myungwoo Chung, Jiho Lee, and H. Kim</p> <p>Department of Physics, Sogang University</p>
TP1-65	<p><b>Electrical Stability of Nitrogen-Doped Amorphous In-Ga-Zn-O Thin Film Transistors for High-Performance Transparent Electronics</b></p> <p>Jae-Hwan Kim, Min-Soo Kang, Gi-Won Seo, Tae-Yeol Lee, Eui-Hyun Kim, Hee-Soo Hwang, and Jin-Ha Hwang</p> <p>Department of Materials Science &amp; Engineering, Hongik University</p>
TP1-66	<p><b>Top Electrode 증착을 통한 Niobium Oxide 의 Nb Binding State Control 연구</b></p> <p>이지민, 김대우, 김재연, 한유근, 손현철</p> <p>Department of Materials Science and Engineering, Yonsei University</p>





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TP1-67	<p><b>Diode-Like Characteristics of the Pt/Al<sub>2</sub>O<sub>3</sub>/Nb:SrTiO<sub>3</sub> and Positive Temperature Coefficient of Resistance</b></p> <p>Taehwan Moon, Hyun Jae Lee, and Cheol Seong Hwang  <sup>1</sup><i>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University</i></p>
TP1-68	<p><b>Effect of Interfacial Morphology on Ferroelectric-Gated Graphene Device</b></p> <p>Woo Young Kim  <sup>1</sup><i>Department of Electronic Engineering, Jeju National University</i></p>
TP1-69	<p><b>Nonvolatile Memory Thin-Film Transistors Using In-Ga-Zn-O Channel and ZnO Charge-Trap Layer on Ultra-Thin Flexible Polyimide Substrates</b></p> <p>Hyeong-Rae Kim, Hye-Won Jang, Ji-Hee Yang, and Sung-Min Yoon  <sup>1</sup><i>Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University</i></p>
TP1-70	<p><b>Solution-Processed High-k ZrO<sub>2</sub> Gate Dielectric for p-Channel SnO TFTs</b></p> <p>Azida Azmi<sup>2</sup>, Jiwon Lee<sup>1</sup>, and Jae Kyeong Jeong<sup>1</sup>  <sup>1</sup><i>Department of Electronics and Computer Engineering, Hanyang University, <sup>2</sup>Department of Materials Science and Engineering, Inha University</i></p>
TP1-71	<p><b>Investigation of P(VDF-TrFE) Based Ferroelectric Capacitor for Negative Capacitance Steep Switching</b></p> <p>Sang-Woo Han<sup>1</sup>, Dong-Hwan Kim<sup>2</sup>, Hyun-Seop Kim<sup>1</sup>, Min-Gi Jo<sup>1</sup>, Won-Ho Jang<sup>1</sup>, and Ho-Young Cha<sup>1</sup>  <sup>1</sup><i>School of Electronic and Electrical Engineering, Hongik University, <sup>2</sup>Department of Electrical and Computer Engineering, Seoul National University</i></p>
TP1-72	<p><b>An Enhancement Layer to Improve Cu Gap-Fill Process with CVD-Co Liner</b></p> <p>Byeong-Hwa Jeong<sup>1</sup>, Min Soo Kim<sup>1</sup>, Yong Seok Jang<sup>1</sup>, Seung Su Choi<sup>1</sup>, Masamichi Harada<sup>2</sup>, Masaki Uematsu<sup>2</sup>, and Yutaka Kokaze<sup>2</sup>  <sup>1</sup><i>Korea Institute for Super Materials, ULVAC KOREA Co., Ltd., <sup>2</sup>Institute of Semiconductor and Electronics Technologies, ULVAC Inc.</i></p>
TP1-73	<p><b>Cyclopentadienyl-Type Ti Precursor를 이용한 TiO<sub>2</sub> 박막의 ALD 공정</b></p> <p>김성윤<sup>1</sup>, 김재민<sup>1</sup>, 구지연<sup>1</sup>, 박재민<sup>1</sup>, 박미라<sup>2</sup>, 안효진<sup>2</sup>, 박정우<sup>2</sup>, 이원준<sup>1</sup>  <sup>1</sup><i>세종대학교 나노신소재공학과, <sup>2</sup>한솔케미칼 박막재료팀</i></p>
TP1-74	<p><b>Impact of Al<sub>2</sub>O<sub>3</sub> Buffer Layer on Ultra-Thin Flexible Polyimide Substrates for Transparent InGaZnO Thin Film Transistors</b></p> <p>Hye-Won Jang, Hyeong-Rae Kim, Ji-Hee Yang, and Sung-Min Yoon  <sup>1</sup><i>Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University</i></p>
TP1-75	<p><b>열안정성이 우수한 Si Precursor를 이용한 고온 ALD SiO<sub>2</sub> 박막의 특성</b></p> <p>구지연<sup>1</sup>, 김성윤<sup>1</sup>, 박재민<sup>1</sup>, 박정우<sup>2</sup>, 이원준<sup>1</sup>  <sup>1</sup><i>세종대학교 나노신소재공학과, <sup>2</sup>한솔케미칼 박막재료팀</i></p>



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TP1-76	<b>In-Sn-Ga-O Thin Film Transistors with High Performance in Low Annealing Temperature</b> Hyeon A Kim and Jae Kyeong Jeong <i>Department of Electronic Engineering, Hanyang University</i>
TP1-77	<b>Enhanced Electrical Performance of Amorphous In-Ga-Zn-O TFT Using Bi-Layered Active Channel</b> Hyun Woo Son, Myung-Sic Chae, Ju Hyun Park, and Tae Geun Kim <i>School of Electrical Engineering, Korea University</i>

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

심사위원: 김경록 교수(UNIST), 김상완 교수(아주대학교)

TP1-78	<b>Steep Slope Silicon-on-Insulator FET with Negative Capacitance</b> Eunah Ko and Changhwan Shin <i>Department of Electrical and Computer Engineering, University of Seoul</i>
TP1-79	<b>Implementation of Synaptic Device with Long/Short Term Memory Function Using High-k Charge Storage Layer</b> Young-tak Seo <sup>1</sup> , Myoung-sun Lee <sup>2</sup> , Ho-Jung Kang, Byung-Gook Park, and Jong-Ho Lee <i><sup>1</sup>Department of Electrical and Computer Engineering and ISRC, Seoul National University, <sup>2</sup>Semiconductor R&amp;D Center, Samsung Electronics</i>
TP1-80	<b>Steep Slope Silicon-On-Insulator Feedback Field Effect Transistor</b> Changhoon Lee, Jinhong Min, and Changhwan Shin <i>Department of Electrical and Computer Engineering, University of Seoul</i>
TP1-81	<b>Transparent Multiple In-Plane Gate ITO Neuron TFTs for AND Logic Application</b> Jin-Hyeock Jeon, Ju-young Pyo, and Won-Ju Cho <i>Department of Electrical Materials Engineering, Kwnagwoon University</i>
TP1-82	<b>Impact of Remnant Polarization and Coercive Field on the Transient Response of Ferroelectric/Negative Capacitor</b> Jeongmin Shin, Hansol Ku, and Changhwan Shin <i>Department of Electrical and Computer Engineering, University of Seoul</i>
TP1-83	<b>Demonstration of Unsupervised Learning with Spike-Timing-Dependent Plasticity Using a SONOS Gated-Diode Memory Array</b> Chul-Heung Kim, Soochang Lee, Byung-Gook Park, and Jong-Ho Lee <i>Department of Electrical and Computer Engineering, ISRC, Seoul National University</i>



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TP1-84	<p><b>Design of Forward Propagation Using Gated Schottky Diodes</b> Suhwan Lim, Jai-Ho Eum, Jong-Ho Bae, Byung-Gook Park, and and Jong-Ho Lee <i>Department of ECE and ISRC, Seoul National University</i></p>
TP1-85	<p><b>간단한 그래핀 패턴을 이용한 저항 제작 및 특성 연구</b> 김기영, 허선우, 김소영, 이혜지, 김윤지, 이호인, 김승모, 이병훈 <i>Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, GIST</i></p>
TP1-86	<p><b>Improvement on Interfacial Quality of Ge MOS Capacitor Using RIE O<sub>2</sub> Plasmatareatment</b> Hyeong-Rak Lim<sup>1,2</sup>, Seong-Kwang Kim<sup>1</sup>, Jae-Hoon Han<sup>1</sup>, Jae-Phil Shim<sup>1</sup>, Gun-Wu Ju<sup>1</sup>, Su-Bin Lee<sup>1</sup>, Byeong-Kwon Ju<sup>2</sup>, Hyung-jun Kim<sup>1</sup>, and Sang-Hyeon Kim<sup>1</sup> <i><sup>1</sup>KIST, <sup>2</sup>Department of Electrical and Computer Engineering, Korea University</i></p>
TP1-87	<p><b>광 검출기 응용을 위한 수소 이온 주입된 다결정 실리콘의 제조</b> 이재성<sup>1</sup>, 손영찬<sup>2</sup> <i><sup>1</sup>위덕대학교 그린에너지공학부, <sup>2</sup>포항대학교 IT 전자과</i></p>
TP1-88	<p><b>Ultra-Thin Body Ge (110)-OI on Si Fabrication from Ge/AlAs/GaAs Substrate via Wafer Bonding Technology</b> Jae-Phil Shim<sup>1</sup>, Han-Sung Kim<sup>1,2</sup>, Gunwu Ju<sup>1</sup>, Hyeong-Rak Lim<sup>1,3</sup>, Seong Kwang Kim<sup>1,4</sup>, Jae-Hoon Han<sup>1</sup>, SangHyeon Kim<sup>1</sup>, and Hyung-jun Kim<sup>1</sup> <i><sup>1</sup>KIST, <sup>2</sup>KU-KIST Graduate School of Converging Science and Technology, <sup>3</sup>Department of Electrical and Computer Engineering, Korea University, <sup>4</sup>School of Electrical Engineering, Kookmin University</i></p>
TP1-89	<p><b>Investigation of Biosensor Using Tunneling Field Effect Transistor</b> Dong Jun Park, Jongmin Ha, and Il Hwan Cho <i>Department of Electronic Engineering Myongji University</i></p>
TP1-90	<p><b>실리콘 피드백 트랜지스터의 밴딩 스트레인 내구성 향상에 대한 연구</b> 김윤중, 김상식 <i>고려대학교 전기전자공학부</i></p>
TP1-91	<p><b>실리콘 기반 Fin 구조 고이동도 소자</b> 김성호, 박종율, 김우석, 김경록 <i>UNIST 전기 및 전자공학부</i></p>
TP1-92	<p><b>Roll-to-Pate(R2P) 공정 기반의 새로운 3차원 집적 기술 개발 및 수직 전극을 이용한 층 간 연결</b> 황진하<sup>1,2</sup>, 이상경<sup>1,2,3</sup>, 이병훈<sup>1,2,3</sup> <i><sup>1</sup>Center for Emerging Electric Devices and Systems, <sup>2</sup>School of Material Science and Engineering, <sup>3</sup>Alpha Graphene, GIST</i></p>



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TP1-93	<b>ZnO Top Gate를 이용한 그래핀/Ge 쇼트키 접합의 광소자 응용</b> 김시현, 장경은, 유태진, 권민규, 이병훈 <i>Center for Emerging Electronic Devices and Systems, School of Materials Science and Engineering, GIST</i>
TP1-94	<b>Low-Temperature Poly-Si Thin Film MSM Photodetector by Seed Induced Lateral Crystallization</b> Mingjun Jiang, Yoonyoung Bae, and Donghwan Ahn <i>School of Materials Science and Engineering, Kookmin University</i>
TP1-95	<b>Performance Investigation of Ternary CMOS-Based Standard Ternary Inverter with Retrograde Channel Profile</b> Sunhae Shin, Jaewon Jeong, and Kyung Rok Kim <i>School of Electrical and Computer Engineering, UNIST</i>
TP1-96	<b>Design of THz Aperture based on Near-Field Microscopy Technology for High Resolution THz Imaging</b> Hyeong Ju Jeon, Min Woo Ryu, Esan Jang, Sang Hyo Ahn, and Kyung Rok Kim <i>Department of Electronic Engineering, UNIST</i>
TP1-97	<b>Common Body for Ternary CMOS Logic Gates for Endurance of the Input Pattern Effects on Intermediate State Level</b> Esan Jang, Sunhae Shin, Jae Won Jeong, and Kyung Rok Kim <i>Department of Electronic Engineering, UNIST</i>
TP1-98	<b>Analysis of Silicon MOSFET-Based Plasmonic Terahertz Detection Delay with Advanced Non-Quasi-Static Compact Model</b> Sang Hyo Ahn, Min Woo Ryu, Esan Jang, Hyeong Ju Jeon, and Kyung Rok Kim <i>Department of Electronic Engineering, UNIST</i>
TP1-99	<b>실리콘 기반 상온 공진 플라즈마파 트랜지스터 테라헤르츠 검출소자의 이론적 가능성 분석</b> 박종율, 김성호, 김경록 <i>울산과학기술원 전기전자공학부</i>
TP1-100	<b>낮은 열공정버짓 이용한 초절전 터너리 CMOS 소자</b> 정재원, 신선해, 김경록 <i>울산과학기술원 전기전자컴퓨터공학부</i>
TP1-101	<b>High-Sensitive Plasmonic Terahertz Detector based on Ultimate Asymmetric Ring-Type Transistor</b> Min Woo Ryu, E-San Jang, Sang Hyo Ahn, Hyeong Ju Jeon, and Kyung Rok Kim <i>Department of Electronic Engineering, UNIST</i>
TP1-102	<b>P-I-N Diode의 P층 도핑 농도에 따른 터널링 전류 및 T-FET으로의 Feasibility에 대한 연구</b> 박지우, 이다운, 손현철 <i>연세대학교 공과대학 신소재공학과</i>



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TP1-103	<p><b>동작 메커니즘에 기반한 Tunnel FET의 신뢰성 측정법에 관한 연구</b>          김승모, 강수철, 임성관, 허선우, 이호인, 이용수, 이병훈  <i>Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, GIST</i></p>
TP1-104	<p><b>실리콘 나노선을 이용한 전계효과 다이오드 소자의 전기적 특성 연구</b>          임두혁, 김상식  <i>고려대학교 전기전자공학과</i></p>
TP1-105	<p><b>LDMOS SOA 개선에 관한 연구</b>          박주원, 이금주, 이상현, 이제희, 조인욱  <i>SK Hynix system ic. R&amp;D center</i></p>
TP1-106	<p><b>Investigation of Select Transistor in Vertical NAND Flash Memory</b>          Daewong Kang<sup>1</sup>, Myeongsun Kim<sup>2</sup>, Ikhyun Kwon<sup>2</sup>, and Il Hwan Cho<sup>2</sup>  <sup>1</sup>University of North Texas, <sup>2</sup>Department of Electronic Engineering Myongji University</p>
TP1-107	<p><b>DRAM의 센싱 Margin 개선을 위한 MIM Capacitor 의 주파수분산특성연구</b>          허선우<sup>1</sup>, 이호인<sup>1</sup>, 김기영<sup>1</sup>, 이영곤<sup>2</sup>, 박호경<sup>2</sup>, 이석규<sup>2</sup>, 김승모<sup>1</sup>, 노진우<sup>1</sup>, 이병훈<sup>1</sup>  <sup>1</sup>Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, GIST, <sup>2</sup>Device modeling &amp; Reliability Group, R&amp;D Division, SK Hynix inc.</p>
TP1-108	<p><b>Latch-Up 면역특성과 높은 감내특성을 갖는 SCR 기반의 새로운 ESD 보호회로 제작 및 분석</b>          서정윤, 도경일, 이병석, 채희국, 구용서  <i>단국대학교 전기전자공학부</i></p>
TP1-109	<p><b>Inverted-T FinFET for High-Performance Logic and Its Optimal Design</b>          Eunseon Yu<sup>1</sup> and Seongjae Cho<sup>1,2</sup>  <sup>1</sup>Graduate School of IT Convergence Engineering, Gachon University, <sup>2</sup>Department of Electronics Engineering, Gachon University</p>

## G. Device & Process Modeling, Simulation and Reliability

심사위원: 유현용 교수(고려대학교), 이재우 교수(고려대학교)

TP1-110	<p><b>Reliability Modeling of Magnetic Tunnel Junctions with a Spinel MgAl<sub>2</sub>O<sub>4</sub> Film</b>          Su Min Yu<sup>1</sup>, Chul Min Choi<sup>1</sup>, Hiroaki Sukegawa<sup>2</sup>, Seiji Mitani<sup>2</sup>, and Yun Heub Song<sup>1</sup>  <sup>1</sup>Department of Electronic Engineering, Hanyang University, <sup>2</sup>Research Center for Magnetic and Spintronic Materials, NIMS</p>
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TP1-111	<b>Analysis of Radiation Effect for Vertical Field Effect Transistor</b> Youngsoo Seo <sup>1</sup> , Myounggon Kang <sup>2</sup> , Jongwook Jeon <sup>3</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and School of Electrical Engineering and Computer Science, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation, <sup>3</sup>Department of Electronics Engineering., Konkuk University</i>
TP1-112	<b>Gate Induced Drain Leakage Suppression with Additional Oxide in the Side Region of the Lateral Nanosheet FET</b> Donghyun Ryu <sup>1</sup> , Shinkeun Kim <sup>1</sup> , Myounggon Kang <sup>2</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and the Department of Electrical and Computer Engineering, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation</i>
TP1-113	<b>Comparison of Nanowire-FET and Nanosheet-FET</b> Hyungwoo Ko <sup>1</sup> , Jongsu Kim <sup>1</sup> , Minsoo Kim <sup>1</sup> , Myounggon Kang <sup>2</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and School of Electrical Engineering and Computer Science, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation</i>
TP1-114	<b>Analysis of Self Heating for GAA Vertical Nanosheet -Shaped FETs in Single Transistor and Digital Circuit</b> Dokyun Son <sup>1</sup> , Ilho Myeong <sup>1</sup> , Myounggon Kang <sup>2</sup> , Jongwook Jeon <sup>3</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and the Department of Electrical and Computer Engineering, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation, <sup>3</sup>Department of Electronics Engineering, Konkuk University</i>
TP1-115	<b>Thickness Margin of Ferroelectric Layer for Aspect Ratio Variation in Negative Capacitance Nanowire FET</b> Jang Kyu Lee <sup>1</sup> , Changbeom Woo <sup>1</sup> , Jongsu Kim <sup>1</sup> , Myounggon Kang <sup>2</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and School of Electrical Engineering and Computer Science, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation</i>
TP1-116	<b>Optimization of Nanosheet FET in the Aspect of Electrical Characteristics and Parasitic Components</b> Jongsu Kim <sup>1</sup> , Myounggon Kang <sup>2</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and School of Electrical Engineering and Computer Science, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation</i>
TP1-117	<b>Analytical Study of 7nm n-Type Germanium Junctionless Field-Effect-Transistor with Metal-Interlayer-Semiconductor Source/Drain Structure</b> Seung Geun Jung and Hyun-Yong Yu <i>Department of Electrical Engineering, Korea University</i>
TP1-118	<b>Realization of Neuron-Synapse System based on Telegraphic and Memristive Characteristics of Magnetic Tunnel Junction</b> Gi Yoon Bae, Young-jae Kim, and Wanjun Park <i>Department of Electronic Engineering, Hanyang University</i>



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TP1-119	<b>The Improvement of OTP Disturbance by Optimizing STI Process</b> Seungyong Sung, Hyangeun Lee, Kwangil Choi, Yijung Jung, Sungyeon Hwang, Jaeil Ju, Sunggon Choi, and Inwook Cho <i>DDI Product Engineering, SKHynix systemic Incorporated</i>
TP1-120	<b>Effect of Microwave Irradiation as a Low Thermal Budget Annealing Process on Thin Gate Oxide Layers</b> Min-Soo Kang and Won-Ju Cho <i>Department of Electronic Materials Engineering, Kwangwoon University</i>
TP1-121	<b>Comparison of Nanosheet-FET with Nanowire-FET for Vertical Structure</b> Minsoo Kim <sup>1</sup> , Myounggon Kang <sup>2</sup> , and Hyungcheol Shin <sup>1</sup> <i><sup>1</sup>ISRC and School of Electrical Engineering and Computer Science, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Korea National University of Transportation</i>
TP1-122	<b>The Extraction of Graphene Device's Intrinsic Properties by Simulation Method</b> Tae Jun Gu, Young-Min Seo, Seogyun Kang, Yamujin Jang, and Dongmok Whang <i>Department of Advanced Material Engineering, Sungkyunkwan University</i>
TP1-123	<b>Carrier Transport Mechanisms in P-Channel SnO Thin-Film Transistors</b> Hee-Joong Kim, Sae-Young Hong, Chan-Yong Jeong, Sang-Dae Bae, Jeong-Hwan Lee, and Hyuck-In Kwon <i>School of Electrical and Electronics Engineering, Chung-Ang University</i>
TP1-124	<b>Analysis of 5-nm Circular and Trapezoidal Nanowires</b> Mangi Han and Youngmin Kim <i>School of Computer and Information Engineering, Kwangwoon University</i>
TP1-125	<b>Analysis of the Memristor-Based Cross-Bar Synapse for Neuromorphic System</b> Bokyung Kim, Sumin Jo, Wookyung Sun and Hyungsoon Shin <i>Department of Electronic and Electrical Eng., Ewha Womans University</i>
TP1-126	<b>Vertical Tunnel Field-Effect Transistor with Polysilicon Channel</b> Won Joo Lee, Hui Tae Kwon, Hyun-Seok Choi, Daehoon Wee, Yu Jeong Park, Boram Kim, and Yoon Kim <i>Department of Nanoenergy Engineering, BK<sup>21</sup> Plus Nanoconvergence Technology Division, Pusan National University</i>
TP1-127	<b>Covered Source-Channel Tunnel Field-Effect Transistors with Trench Gate Structures</b> Sola Woo, Minsuk Kim, and Sangsig Kim <i>Department of Electrical Engineering, Korea University</i>



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TP1-128	<b>A Novel PNP ESD Clamp of Stable Triggering in ESD Network</b> Seok-Soon Noh, Youngsang Son, Jowoon Lee, Joonghyeok Byeon, Jongmin Kim, Youngchul Kim, and Joontae Jang <i>Technology Enabling Team, DB Hitek Co., Ltd.</i>
TP1-129	<b>Behavior Modeling for Single-Poly Floating Gate Device</b> Eun-Je Park and Kee-Won Kwon <i>Department of Semiconductor System Eng., Sungkyunkwan University</i>
TP1-130	<b>AlGaIn/GaN Fin-HEMT with Sub-100 Nm T-gate: Optimization and Modeling in RF Regime</b> Jae Hwa Seo, Young Jun Yoon, Min Su Cho, and In Man Kang <i>School of Electronics Engineering, Kyungpook National University</i>
TP1-131	<b>Extraction of Grain Dependent Parameters of HfO<sub>2</sub>-Based Ferroelectrics Using Landau Khalatnikov Model</b> Youngji Noh <sup>2</sup> , Moonyoung Jung <sup>1</sup> , and Seung-eon Ahn <sup>1</sup> <i><sup>1</sup>Department of Nano-Optical Eng, Korea Polytechnic University, <sup>2</sup>Department of Advanced Convergence Technology, Korea Polytechnic University</i>
TP1-132	<b>Characterization of Interface State and Effective Overlap Length in InGaAs Channel III-V MISFETs</b> Han Bin Yoo, Junyeap Kim, Jaewon Kim, Heesung Lee, Seong Kwang Kim, Sung-Jin Choi, Dae Hwan Kim, and Dong Myong Kim <i>School of Electrical Engineering., Kookmin University</i>
TP1-133	<b>A Development of New PNP BJT with High Robustness and Low R-on Resistance</b> Jungwoo Han, Jongmin Kim, Wonsuk Park, Youngchul Kim, and Joontae Jang <i>Technology Enabling Team, DB Hitek</i>
TP1-134	<b>Structural and Electrical Properties of CIGS (Cu(In,Ga)Se<sub>2</sub>) based on ZnS Buffer Layer Deposited by RF Magnetron Sputtering</b> Han-Sang Kim <sup>1</sup> , Eun-do Kim <sup>2</sup> , Hee-Cheol Kim <sup>3</sup> , Dong-Ju Lee <sup>4</sup> , Fei Shan <sup>1</sup> , Zitong Ao <sup>1</sup> , Hongbo Guo <sup>1</sup> , Dong-Gu Kyung <sup>1</sup> , Anvar Tukhtaev <sup>1</sup> , Ruslan Buranov <sup>1</sup> , Jaynarov Sherali <sup>1</sup> , and Sung-Jin Kim <sup>1</sup> <i><sup>1</sup>College of Electrical and Computer Engineering, Chungbuk National University, <sup>2</sup>R&amp;D Center, TheONE SCIENCE, <sup>3</sup>R&amp;D Center, ALPHAPLUS Co., Ltd, <sup>4</sup>Department of Physics, Sungkyunkwan University</i>
TP1-135	<b>CIGS (Cu(In,Ga)Se<sub>2</sub>) Thin Film Solar Cells with ZnS Buffer Layer</b> Han-Sang Kim <sup>1</sup> , Eun-do Kim <sup>2</sup> , Hee-Cheol Kim <sup>3</sup> , Dong-Ju Lee <sup>4</sup> , Fei Shan <sup>1</sup> , Zitong Ao <sup>1</sup> , Hongbo Guo <sup>1</sup> , Dong-Gu Kyung <sup>1</sup> , Anvar Tukhtaev <sup>1</sup> , Ruslan Buranov <sup>1</sup> , Jaynarov Sherali <sup>1</sup> , and Sung-Jin Kim <sup>1</sup> <i><sup>1</sup>College of Electrical and Computer Engineering, Chungbuk National University, <sup>2</sup>R&amp;D Center, TheONE SCIENCE, <sup>3</sup>R&amp;D Center, ALPHAPLUS Co., Ltd., <sup>4</sup>Department of Physics, Sungkyunkwan University</i>





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TP1-136	<b>New Double Well Field-Effect SCR for RF SOI Process</b> Youngsang Son, Sungmo Gu, Seoksoon Noh, Youngchul Kim, Joonghyeok Byeon, and Joontae Jang <i>TE Team, DB Hitek</i>
TP1-137	<b>Trap Measurement in Floating Body MOSFETs by Body Potential Monitoring</b> Sujin Choi, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Jung-Yeun Kim, Hyung-Min Ji, Sang-Woo Kim, Jong-Gyu Cheon, Jin-Hyun Kim, Kyoung-Moon Yu, Seong Yong Cho, and Rino Choi <i>Department of Materials science &amp; engineering, Inha University</i>
TP1-138	<b>A Close Investigation of Electric Field Concentration Effect in the Wedge Structure through Numerical Analysis for Nanoscale ReRAM Application</b> Yeon-Joon Choi <sup>1</sup> , Sungjun Kim <sup>1</sup> , Min-Hwi Kim <sup>1</sup> , Suhyun Bang <sup>1</sup> , Tae-Hyeon Kim <sup>1</sup> , Dong Keun Lee <sup>1</sup> , Seongjae Cho <sup>2</sup> , and Byung-Gook Park <sup>1</sup> <i><sup>1</sup>ISRC and the Department of Electrical and Computer Engineering, Seoul National University, <sup>2</sup>Department of Electronics Engineering, Gachon University</i>
TP1-139	<b>An ESD Blocking Scheme of Power Clamp Feedback for Internal Circuit Protection</b> Eui-youn Hong, Joonghyeok Byeon, Youngchul Kim, and Joontae Jang <i>Technology Enabling Team, DB Hitek Co., Ltd.</i>

## I. MEMS & Sensor Systems

심사위원: 김정현 교수(광운대학교)

TP1-140	<b>Cellular Trapping Time Analysis with Response to Frequency in Dielectrophoresis Trapping System</b> Jongwon Lim, Eunjin Lee, Seungyeop Choi, Sanghyun Lee, Chaewon Kim, and Sangwoo Lee <i>Department of Biomedical Engineering, Yonsei University</i>
TP1-141	<b>Wafer-Scale Fabrication of Graphene-Based Transistors for Precise pH Sensing</b> Myung-Sic Chae, Ju Hyun Park, Sungmin Oh, Hyun Woo Son, and Tae Geun Kim <i>School of Electrical Engineering, Korea University</i>
TP1-142	<b>Experimental Determination of Realistic Cellular Cross-Over Frequency Using Multi-Directional Input Signal on the Dielectrophoretic Manipulation</b> ang Hyun Lee, Chae Won Kim, Eun Jin Lee, Jong Won Lim, and Sang Woo Lee <i>Department of Biomedical Engineering, Yonsei University</i>
TP1-143	<b>DNA-DNA Interaction Monitoring by Thiol-Ene Reaction to Dielectrophoretic Tweezer</b> Seungyeop Choi, Jongwon Lim, Chaewon Kim, Sanghyun Lee, and Sang Woo Lee <i>Department of Biomedical Engineering, Yonsei University</i>



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TP1-144	<b>Development of AlGaIn/GaN High Electron Mobility Transistors Grown on 4-Inch Sapphire Substrate for Sensor Applications</b> Chu-Young Cho, Yumin Koh, Hyeong-Ho Park, and Kyung-Ho Park <i>Electronic Devices Lab., Korea Advanced Nano fab Center</i>
TP1-145	<b>Fabrication of a Microfluidic-Based Well Array Chip</b> Christian D. Ahrberg, Jong Min Lee, and Bong Geun Chung <i>Department of Mechanical Engineering, Sogang University</i>
TP1-146	<b>Fabrication of the Flexible Conductive Microplatform</b> Jong Min Lee, Tae Hyeon Kim, Christian Daniel Ahrberg, and Bong Geun Chung <i>Department of Mechanical Engineering, Sogang University</i>
TP1-147	<b>Texture Recognition Using Electrical Signals Output by TEG</b> Jaeun Lim, Wonkyeong Son, Giyoon Bae, and Wanjun Park <i>Department of Electronics and Computer Engineering, Hanyang University</i>
TP1-148	<b>Effects of Cholesterol Depletion on Cell Membrane Capacitance Using Dielectrophoretic Cell Manipulation Technique</b> Chae Won Kim, Sang Hyun Lee, Jong Won Lim, Eun Jin Lee, Seungyeop Choi, and Sang Woo Lee <i>Department of Biomedical Engineering, Yonsei University</i>
TP1-149	<b>Tumor Target Photo-Thermal Therapy in Microfluidic Co-Culture Platform</b> Jae Hyun Lim <sup>1</sup> , Jong Min Lee <sup>2</sup> , Da-eun Kim <sup>1</sup> , and Bong Geun Chung <sup>2</sup> <i><sup>1</sup>Department of Biomedical Eng., Sogang University, <sup>2</sup>Department of Mechanical Eng., Sogang University</i>
TP1-150	<b>Fabrication of the Microfluidic Mixing Chip</b> Hyeon Kee Kye <sup>1</sup> , Joo Yoon Moon <sup>2</sup> , Tae Hyeon Kim <sup>1</sup> , and Bong Geun Chung <sup>1</sup> <i><sup>1</sup>Department of Mechanical Engineering, Sogang University, <sup>2</sup>Department of Biomedical Engineering, Sogang University</i>
TP1-151	<b>Extended-Gate AlGaIn/GaN High Electron Mobility Transistor for pH Sensor</b> Ju-Young Pyo <sup>1</sup> , Yumin Koh <sup>2</sup> , Chu-Young Cho <sup>2</sup> , Hyeong-Ho Park <sup>2</sup> , Kyung-Ho Park <sup>2</sup> , Sang Woon Lee <sup>3</sup> , and Won-Ju Cho <sup>1</sup> <i><sup>1</sup>Department of Electronic Materials Engineering, Kwangwoon University, <sup>2</sup>Electronic Devices Lab., Korea Advanced Nano Fab Center, <sup>3</sup>Department of Energy Systems Research and Department of Physics, Ajou University</i>
TP1-152	<b>pH Sensing Characteristics of Extended-Gate Field-Effect Transistor with Al<sub>2</sub>O<sub>3</sub> Layer</b> Jae Kwon <sup>1</sup> , Yong Kyoung Yoo <sup>2</sup> , Jeong Hoon Lee <sup>2</sup> , and Jae-Hyuk Ahn <sup>1</sup> <i><sup>1</sup>Department of Electronic Engineering, Kwangwoon University, <sup>2</sup>Department of Electrical Engineering, Kwangwoon University</i>



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TP1-153	<p><b>Nano-Sized Thin Wafer Transfer Under Low Temperature (&lt;250 oC) for the 3D Stacking Technology</b></p> <p>Yu-Rim Jeon, HoonHee Han, and Changhwan Choi <i>Division of Materials Science and Engineering, Hanyang University</i></p>
TP1-154	<p><b>Physical Analysis of Optical Sensor Based on LED and Photodiode</b></p> <p>Bo Gyeom Seo<sup>1</sup>, Seongwook Choi<sup>2</sup>, Dongwoo Park<sup>2</sup>, and Young June Park<sup>1</sup> <i><sup>1</sup>Department of Electrical and computer Engineering, Seoul National University, <sup>2</sup>Nano Systems Institute, Seoul National University</i></p>
TP1-155	<p><b>나노와이어가 적용된 초소형 센서를 위한 구조체 모델링</b></p> <p>장보배로, 장서형, 성진우, 김태엽, 조동일 <i>서울대학교 전기정보공학부, 서울대학교 반도체공동연구소</i></p>
TP1-156	<p><b>Design of Low Power Sensor Interface Integrated Circuit for Wireless Radiation Detection Sensor System</b></p> <p>Hyungjoo Cho, Hyuntak Jeon, Seoktae Koh, and Minkyu Je <i>Department of Electrical Engineering, KAIST</i></p>
TP1-157	<p><b>관성센서를 위한 실리콘 나노와이어 구조 해석</b></p> <p>성진우, 장서형, 장보배로, 김태엽, 조동일 <i>서울대학교 전기정보공학부, 서울대학교 반도체공동연구소</i></p>
TP1-158	<p><b>Position &amp; Orientation Detection Using Electromagnetic Based Sensor for Total Hip Arthroplasty</b></p> <p>CheolJun Park, Jaesuk Choi, Juho Park, Hongseok Shin and Minkyu Je <i>School of Electrical Engineering, KAIST</i></p>
TP1-159	<p><b>Observation of Surface Potential on the Lipid Bilayer by Increasing Cholesterol Levels</b></p> <p>Eun Jin Lee, Chae Won Kim, Sang Hyun Lee, and Sang Woo Lee <i>Department of Biomedical Engineering, Yonsei University</i></p>
TP1-160	<p><b>도플러 레이더 센서 기반 심박 검출 알고리즘</b></p> <p>김주연, 장세영, 양종렬 <i>Department of Electronic Eng., Yeungnam University</i></p>
TP1-161	<p><b>2.45-GHz 대역 도플러 레이더센서를 이용한 실시간 생체신호 검출</b></p> <p>최철호, 박재현, 양종렬 <i>영남대학교 전자공학과</i></p>
TP1-162	<p><b>Selective and Reversible Gas Sensing Behaviors on Flower-Shape SnS<sub>2</sub></b></p> <p>Jong-Ik Baek, Kyung-Hyun Lee, Yun-Jae Jeong, Geun-Woo Baek, and Sung-Hun Jin <i>Department of Electronic Eng., Incheon National University</i></p>



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TP1-163	<p><b>Microfluidic Chip Integrated with Solution-Gated Graphene Field-Effect Transistor for Electrical DNA Detection</b>  Hyo Eun Kim, Dawoon Han, June Ho Lee, and Yong-Sang Kim  <i>School of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
TP1-164	<p><b>Membrane Gate Air Gap Thin Film Transistor for Pressure Sensor</b>  An Hoang-Thuy Nguyen, Manh-Cuong Nguyen, Jungyeon Kim, Sujin Choi, Hyungmin Ji, Jonggyu Cheon, Kyoungmun Yu, Jinhyun Kim, Sangwoo Kim, Seongyong Cho, and Rino Choi  <i>Department of Material Science and Engineering, Inha University</i></p>

## M. RF and Wireless Design

심사위원: 권구덕 교수(강원대학교), 권익진 교수(아주대학교)

TP1-165	<p><b>LO Buffer Amplifier를 결합한 W-대역 Resistive Mixer 설계</b>  최지수, 최원석, 정진호  <i>서강대학교 전자공학과</i></p>
TP1-166	<p><b>On-Chip Dipole Transition을 이용한 W-대역 저잡음증폭기 모듈</b>  박기훈, 최지수, 정진호  <i>서강대학교 전자공학과</i></p>
TP1-167	<p><b>GaAs pHEMT 공정을 이용한 W-대역 상향 및 하향 변환 혼합기 설계</b>  류경목, 김형진, 최원석, 정진호  <i>서강대학교 전자공학과</i></p>
TP1-168	<p><b>A 48 <math>\mu</math>W Uncertain-IF Wake-Up Receiver Sensitivity with -80 dBm</b>  Tae Jong Kim, Shin Young Kim, Hansol Kim, Jongyoun Kim, Woojong Lee, and Ku Duck Kwon  <i>Department of Electronic Engineering, Kangwon National University</i></p>
TP1-169	<p><b>A 2.4 GHz High-Efficiency Power Harvester Employing Series-Parallel Switching Mode</b>  Sinyoung Kim, Taejong Kim, Byungkwon Kim, Minho Kim, Seran Oh, and Kuduck Kwon  <i>Department of Electronic Engineering, Kangwon National University</i></p>
TP1-170	<p><b>에너지 하베스팅 센서 응용을 위한 저전력 Low-Dropout Regulator 설계</b>  Sung-Hwan Lee, Ickjin Kwon  <i>Department of Electrical and Computer Engineering, Ajou University</i></p>



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

심사위원: 신현정 교수(성균관대학교), 함문호 교수(광주과학기술원)

TP1-171	<p><b>Control of Thermal and Electrical Conductivity in Insulating Thin Films Using Electrical Breakdown Process for High Performance Thermoelectric Generator</b></p> <p>Dae Yun Kang<sup>1</sup>, Ju Hyun Park<sup>1</sup>, Dong Su Jeon<sup>1</sup>, Chan Young Kim<sup>1</sup>, Sungmin Oh<sup>1</sup>, No-Won Park<sup>2</sup>, Sang-Kwon Lee<sup>2</sup>, and Tae Geun Kim<sup>1</sup></p> <p><sup>1</sup>School of Electrical Engineering, Korea University, <sup>2</sup>Department of Physics, Chung-Ang University</p>
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## R. Semiconductor Software

심사위원: 김태석 교수(광운대학교), 반호경 교수(이화여자대학교)

TP1-172	<p><b>Web Page Layout Code Automatic Generation from Hand-Drawn Sketch</b></p> <p>Junyoung Heo<sup>1</sup>, Ba-Da Kim<sup>1</sup>, Sang-Min Park<sup>1</sup>, Tae-Yeon Won<sup>1</sup>, Bongjae Kim<sup>2</sup>, Jinman Jung<sup>3</sup>, Hong Min<sup>4</sup></p> <p><sup>1</sup>Hansung University, <sup>2</sup>Sun Moon University, <sup>3</sup>Hannam University, <sup>4</sup>Hoseo University</p>
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TP1-173	<p><b>Hidden Markov Model을 이용한 인간의 유전체 조절인자 비교 분석에 관한 연구</b></p> <p>오홍택, 송길태</p> <p>부산대학교 전기전자컴퓨터공학과</p>
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TP1-174	<p><b>Optimizing Sequence Assembly for Evolutionary Variant Pattern Analysis</b></p> <p>강석우, 김성현, 오동빈, 이호용, 송길태</p> <p>부산대학교 전자전기컴퓨터공학과</p>
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TP1-175	<p><b>Semantic Enhanced IFTTT Framework for IoT Applications</b></p> <p>Hong Min, Kwangsoo Jo, Junhyuk An, Jiyoung Park, Heejae Lee, and Jina Kim</p> <p>Division of Computer and Information Engineering, Hoseo University</p>
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TP1-176	<p><b>Detection of GUI Components from Sketch Image for Automated UI-Code Generation of Mobile Applications</b></p> <p>Jinman Jung<sup>1</sup>, Seoyeon Kim<sup>1</sup>, Jisu Park<sup>1</sup>, Seongbae Eun<sup>1</sup>, Young-Sun Yun<sup>1</sup>, Bongjae Kim<sup>2</sup>, Junyoung Heo<sup>3</sup>, and Hong Min<sup>4</sup></p> <p><sup>1</sup>Hannam University, <sup>2</sup>Sun Moon University, <sup>3</sup>Hansung University, <sup>4</sup>Hoseo University</p>
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TP1-177	<p><b>Method of Multilingual Support Menus based on WiFi Direct</b></p> <p>Jinman Jung<sup>1</sup>, Taeil Son<sup>1</sup>, Seungju Yu<sup>1</sup>, Seongbae Eun<sup>1</sup>, Young-Sun Yun<sup>1</sup>, Jaek Lee<sup>1</sup>, Heesung Woo<sup>2</sup>, and Changhyung Ryu<sup>2</sup></p> <p><sup>1</sup>Hannam University, <sup>2</sup>Coregleam</p>
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## S. Chip Design Contest

심사위원: 이영주 교수(POSTECH), 채형일 교수(국민대학교)

TP1-178	<b>AMOLED 컬럼 구동회로 응용을 위한 시분할 기법 기반의 면적 효율적인 10비트 DAC</b> 안태지, 이은창, 박준상, 이승훈 <i>서강대학교 전자공학과</i>
TP1-179	<b>소자 부정합에 덜 민감한 12비트 60MS/s 0.18um CMOS Flash-SAR ADC</b> 이은창, 박준상, 안태지, 이승훈 <i>서강대학교 전자공학과</i>
TP1-180	<b>High Area-Efficiency CMOS Imaging Pixel with Electromagnetic Band Gap Antenna</b> K.M. Lee, S.H. Choi, C.H. Yi, and M. Kim <i>School of Electrical Engineering, Korea University</i>
TP1-181	<b>Design of Stacked FET Millimeter-Wave Power Amplifier</b> Dae-Gwang Jang and Young Woo Kwon <i>Institute of New Media and Communications, Department of Electrical and Computer Engineering, Seoul National University</i>
TP1-182	<b>An Inverter Based 14b Low Power ADC for Sensor Interfaces</b> Chang-Bum Park, Kyung-Chan An, and Shin-Il Lim <i>Department of Electronic Engineering, Seokyeong University</i>
TP1-183	<b>A Reference-Free Temperature-Dependency Compensating Readout Scheme for Phase Change Memory based on Reconfigured Sense-Amplifiers for Flash ADC</b> Dong-Hwan Jin, Ji-Wook Kwon, Min-Jae Seo, Mi-Young Kim, and Seung-Tak Ryu <i>Department of Electronic Engineering, Sogang University</i>
TP1-184	<b>Design of 10-Bit Gray Code Counter for Single-Slope ADC in Infrared Sensor ROIC</b> Yeong Seon Kim and Hee Chul Lee <i>Department of Electrical engineering, KAIST</i>
TP1-185	<b>CG Low Noise Amplifiers for VHF</b> Dong Gi Yoon, Dong Young Jeong, and Jeong Hoon Oh <i>Department of Electronic Engineering, Chonbuk National University</i>
TP1-186	<b>Charge Scaling DAC Based 4-Bit Successive Approximation Register ADC</b> Jeong-Hyeon Lee and geon-young Song <i>Department of Electronic Engineering, Chonbuk National University</i>



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TP1-187	<b>Wireless Power Supplied 3-Stage Ring Voltage Controlled Oscillator Design Using 0.18 um CMOS Process</b> Jinwook Song, Bookyo Sim, and Jounggho Kim <i>Department of Electronic Engineering, KAIST</i>
TP1-188	<b>Implementation of Generalized Hough Transform for Autonomous Inspection System</b> Junwon Mun, Yuneseok Jang, Yoojun Nam, and Jaeseok Kim <i>Department of Electrical &amp; Electronic Engineering, Yonsei University</i>
TP1-189	<b>4<sup>th</sup> Stage Discrete-Time Delta-Sigma Modulator</b> Jaeseong Lee and Jeongjin Roh <i>Department of Electronic Engineering, Hanyang University</i>
TP1-190	<b>초저전력 프로세서 설계를 위한 프로세서 최저 동작 전압 분석</b> 민경일, 전재영, 김창현, 박상현, 김선욱 <i>고려대학교 전기전자공학과</i>
TP1-191	<b>A Continuous-Time Delta-Sigma Modulator for High Speed Signal Processing</b> Seokjae Song and Jeongjin Roh <i>Department of Electronic Engineering, Hanyang University</i>
TP1-192	<b>A 21mW Low-Power Recurrent Neural Network Accelerator with Quantization Tables</b> Jinmook Lee, Dongjoo Shin, and Hoi-Jun Yoo <i>School of Electrical Engineering, KAIST</i>
TP1-193	<b>Design of Variable Capacitor Layout for Differential LC-VCO</b> Milim Lee and Changkun Park <i>School of Electronic Engineering, Soongsil University</i>
TP1-194	<b>2.4/5-GHz를 만족하는 이중대역 CMOS 전력증폭기 설계</b> 박성규, 이재용, 이미림, 박창근 <i>숭실대학교 정보통신전자공학부</i>
TP1-195	<b>Pre-Authentication을 위한 Secure Core 설계</b> Young Wook Noh and Dong Kyue Kim <i>Department of Electronic Engineering, Hanyang University</i>
TP1-196	<b>Design Secure SoC with Secure Core</b> Gap Kyeong Kim and Dong Kyue Kim <i>Department of Electronic Engineering, Hanyang University</i>



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TP1-197	<b>Design of Power Amplifier for Millimeter Wave Application</b> Dae-Gwang Jang and Young Woo Kwon <i>Institute of New Media and Communications, Department of Electrical and Computer Engineering, Seoul National University</i>
TP1-198	<b>Implementation of Slim - HEVC Encoder</b> Kyeongmook Oh, Hyukyeon Lee, Sangwon Kim, Minjung Cho, and Jaeseok Kim <i>Department of Electrical &amp; Electronic Engineering, Yonsei University</i>
TP1-199	<b>An Integrated W-Band Mixer-First Receiver for a Proximity FMCW Radar Sensor in 65-nm CMOS</b> Hyohyun Nam <sup>1</sup> , Dong-Sik Ko <sup>2</sup> , Hyeong-Kyu Kim <sup>2</sup> , Dang-Oh Kim <sup>2</sup> , Hyun-Jun Ryu <sup>2</sup> , Ju-Hye Kim <sup>2</sup> , and Jung-Dong Park <sup>1</sup> <i><sup>1</sup>Division of Electronics and Electrical Engineering, Dongguk University, <sup>2</sup>Poongsan Corporation Ltd.</i>
TP1-200	<b>A CMOS Power Amplifier with Linearized Methods for IEEE 802.11n</b> Seongjin-Jang, Changhyun Lee, Joshep Jang, and Changkun park <i>Department of Electronic Engineering, Soongsil University</i>
TP1-201	<b>A Low-power Depth-estimation Processor with Shifter-based Pipelined Architecture</b> Sungpill Choi, Seongwook Park, and Hoi-Jun Yoo <i>School of Electrical Engineering, KAIST</i>
TP1-202	<b>65 nm CMOS 공정 기반 213 GHz 혼합형 Push-Push 발진기 설계</b> Sooyeon Kim <sup>1</sup> , Daekeun Yoon <sup>2</sup> , Junghwan Yoo <sup>1</sup> , Hyun Su Lee <sup>1</sup> , and Jae-Sung Rieh <sup>1</sup> <i><sup>1</sup>Department of Electronic Engineering, Korea University, <sup>2</sup>International College of Semiconductor and Technology, National Chiao Tung University</i>
TP1-203	<b>A Low-Power Real-Time 3D Hand Gesture Recognition Processor for Smart Mobile Devices</b> Sungpill Choi, Jinsu Lee, and Hoi-Jun Yoo <i>School of Electrical Engineering, KAIST</i>
TP1-204	<b>A 12-bit 200-MS/s Pipelined ADC with Improved Settling Time of Amplifier in 0.13<math>\mu</math>m CMOS</b> Dang Van Thai, Yong-Jun Jo, and Kwang-Hyun Baek <i>Chung-Ang University</i>
TP1-205	<b>The ROIC Array Design for Distance Image Measurement</b> Jae-Eun Lee, Eun-Gyu Lee, and Choul-Young Kim <i>Department of Electronics Engineering, Chungnam National University</i>





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TP1-206	<b>A Micro Miniaturized Fully Wireless Neural Recording System</b> Jung Woo Jang, Dae Yoon Kim, Chae Eun Lee, and Yoon-Kyu Song <i>Department of Nano Science and Technology, Seoul National University</i>
TP1-207	<b>A Micro Miniaturized Fully Wireless System for Chronic BMI System</b> Jung Woo Jang, Dae Yoon Kim, Chae Eun Lee, and Yoon-Kyu Song <i>Department of Nano Science and Technology, Seoul National University</i>
TP1-208	<b>Embedded 4-Transistor Non-Volatile Memory Using Standard CMOS Process</b> Guk-Hyeon Yu and Jong-Phil Hong <i>Department of Electrical Engineering, Chungbuk National University</i>
TP1-209	<b>Calibration Techniques for Low-Power and High-Bandwidth with Multi-Platform Adaptable DRAM IO Circuits</b> Minho Park, and Chulwoo Kim <i>Department of Electronic Engineering, Korea University</i>
TP1-210	<b>A Referenceless Frequency Detector with Unrestricted Dynamic Range for CDR Circuit Using 180-nm CMOS</b> Kyung-Sub Son, Seongmun An, min Kim, and Jin-Ku Kang <i>Department of Electronics Engineering, Inha University</i>
TP1-211	<b>Wireless Inductive-Coupled Power and Data Transfer System with Power Control Loop for Bio-Implant System Using 180-nm CMOS</b> Narae Jang, Jangwo Park, Seonghwa Heo, Cheongdae Park, and Jin-Ku Kang <i>Department of Electronics Engineering, Inha University</i>
TP1-212	<b>A 280-GHz Power-Combined Coupled-Line Triple-Push Oscillator in 65-nm CMOS</b> Junghwan Yoo, Doyoon Kim, Jai-Heon Cho, and Jae-Sung Rieh <i>School of Electrical Engineering, Korea University</i>
TP1-213	<b>Sub-Millimeter Wave 대역 고효율 CMOS 온-칩 캐비티-슬롯 안테나</b> 김형진, 최지수, 정진호 <i>서강대학교 전자공학과</i>
TP1-214	<b>A Low-Power Low-Noise CMOS Analog Front-End IC for Neural Recording Systems</b> Hyung Seok Kim, Myeong gyu Song, and Hyouk-Kyu Cha <i>Department of Electrical and Information Engineering, Seoul National University of Science and Technology</i>



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TP1-215	<p><b>총이온화선량 효과에 의한 CMOS 0.18um NAND 게이트 영향분석</b>  Minwoong Lee<sup>2</sup>, Namho Lee<sup>2</sup>, Yurin Jin<sup>1</sup>, and Seongik Cho<sup>1</sup>  <sup>1</sup>Department of Electronic Engineering, Chonbuk National University, <sup>2</sup>KAERI</p>
TP1-216	<p><b>0.18um CMOS 디지털 로직회로의 TID 영향분석</b>  Minwoong Lee<sup>2</sup>, Sanghun Jeong<sup>2</sup>, Yeonho Seo<sup>1</sup>, Seongik Cho<sup>1</sup>  *Department of Electronic Engineering, Chonbuk National University, <sup>2</sup>KAERI</p>
TP1-217	<p><b>Touch Screen Delay Balancing Technique to Improve Sensing Performance</b>  KwonBin Im, Saad Arslan, and HyungWon Kim  Department of Electronic Engineering, Chungbuk University</p>
TP1-218	<p><b>A High-Gain Low-Power and Low-Noise Mixer</b>  Youngwoon Kim and Tae-Yeoul Yun  Department of Electrical Engineering and Computer Science, Hanyang University</p>
TP1-219	<p><b>Mutually-Actuated-Nano-Electromechanical (MA- NEM) Memory Switches for Low Power Operation and Scalability Improvement</b>  Hyug Su Kwon, Ho Moon Lee, and Woo Young Choi  Department of Electronic Engineering, Sogang University</p>
TP1-220	<p><b>CMOS-Nanoelectromechanical (CMOS-NEM) Integration Using CMOS Back-End-of-Line (BEOL) Process</b>  Hyug Su Kwon and Woo Young Choi  Department of Electronic Engineering, Sogang University</p>
TP1-221	<p><b>LDO 레귤레이터를 이용한 오버 슈트를 줄인 벅 변환기</b>  김미정, 우기찬, 김대진, 양병도  충북대학교 전기전자정보컴퓨터학부 반도체공학전공</p>
TP1-222	<p><b>CMOS를 이용한 THz push-push 발진기 설계</b>  최원석, 김정식, 정진호  서강대학교 전자공학과</p>
TP1-223	<p><b>A SAR-DCC with the Tracking Logic for Continuous Correction</b>  Jong-Moon Choi, Jae-Hyuk Yang, and Kee-Won Kwon  Department of Electronic Engineering, Sungkyunkwan University</p>
TP1-224	<p><b>Fingerprint Sensor based on Differential Sensing Circuit with Noise Cancellation</b>  Hossam Hassan<sup>1,2</sup>, KownBin Im<sup>1</sup>, and HyungWon Kim<sup>1</sup>  <sup>1</sup>Department of Electronics Engineering, Chungbuk National University, <sup>2</sup>Electronics Department, NTI</p>



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TP1-225	<p><b>C-reactive Protein Detection Using a Cascoded Gated Lateral Bipolar Junction Transistor (C-GLBJT) with Alterable Sensitivity</b></p> <p>Hyun-Min Jeong, Hyurk-Choon Kwon, Ju-Seong Kim, Sae-Wan Kim, Binrui Xu, Cheol-Eon Park, and Shin-Won Kang</p> <p><i>School of Electronics Engineering, College of IT Engineering, Kyungpook National University</i></p>
TP1-226	<p><b>A Low Power CMOS RF Front-end for MedRadio Applications</b></p> <p>Bo-Hun Shin, Chi-Hoon Choi, Changyeol Kim, Sung Wook Yoon, and Ilku Nam</p> <p><i>Department of Electronic Engineering, Pusan National University</i></p>
TP1-227	<p><b>A Wideband Signal Generator Integrated with a PA and Oscillator with C-Switch Banks in 65-nm CMOS</b></p> <p>Hyohyun Nam<sup>1</sup>, Dong-Sik Ko<sup>2</sup>, Hyeong-Kyu Kim<sup>2</sup>, Dang-Oh Kim<sup>2</sup>, Hyun-Jun Ryu<sup>2</sup>, Ju-Hye Kim<sup>2</sup>, and Jung-Dong Park<sup>1</sup></p> <p><i><sup>1</sup>Division of Electronics and Electrical Engineering, Dongguk University, <sup>2</sup>Poongsan Corporation Ltd.</i></p>
TP1-228	<p><b>A 12bit 500 KS/s Charge Recycling SAR ADC for a Voltage Domain Sensor Application</b></p> <p>Yongsik Shin and Jinwook Burm</p> <p><i>Department of Electronics Engineering, Sogang University</i></p>
TP1-229	<p><b>NTV Fixed Frequency Oscillator Design</b></p> <p>Le Dinh Trang Dang, Dong Kyu Seo, Ik Joon Chang, and Jin Sang Kim</p> <p><i>Department of Electronic Engineering, KyungHee University</i></p>
TP1-230	<p><b>Digital Sub-Sampling Phase Detector for Phase Locked Loop</b></p> <p>Bong-Gu Hwang and In-Chul Hwang</p> <p><i>Electrical &amp; Medical Convergent Engineering, Kangwon National University</i></p>
TP1-231	<p><b>Fractional-N Multiplying Delay-Locked Loop for Frequency Synthesizer</b></p> <p>Jin-Hee Bae and In-Chul Hwang</p> <p><i>Electrical &amp; Medical Convergent Engineering, Kangwon National University</i></p>
TP1-232	<p><b>Multi-Bank and Wide-Data-Bus DRAM Circuit for Processor-In-Memory Applications</b></p> <p>Hyunsun Mo, Wonsun Yang, and Kyeong-Sik Min</p> <p><i>Department of Electronics Engineering, Kookmin University</i></p>
TP1-233	<p><b>메타구조를 이용한 28.5GHz PLL 주파수합성기의 설계</b></p> <p>Noyong Kwon and Yong Moon</p> <p><i>School of Electronic Engineering, Soongsil University</i></p>



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TP1-234	<b>무선 전력 전송을 지원하는 NFC Analog Front-End 설계</b> 장준범, 문용 <i>송실대학교 전자공학과</i>
TP1-235	<b>A 4-24 GHz Distributed Amplifier in 65-nm CMOS</b> Yunsik Na and Munkyo Seo <i>School of Electronic and Electrical Engineering, Sungkyunkwan University</i>
TP1-236	<b>DC Characteristics of CMOS Diodes Under High Magnetic Fields</b> Dongha Shim <sup>1</sup> , Seung Han Han <sup>2</sup> , Ji Hoon Yang <sup>2</sup> , and Hyeongjong Lee <sup>3</sup> <i><sup>1</sup>MSDE Programme, SeoulTech, <sup>2</sup>Department of MSDE, SeoulTech, <sup>3</sup>Nanometrics</i>
TP1-237	<b>16M Resolution High Dynamic Range and Phase Detection Integrated ASIC Chip Design</b> Kyungrak Choi, Hoyoung Tang, Dongyeob Shin, and Jongsun Park <i>School of Electrical Engineering, Korea University</i>
TP1-238	<b>Analog / Digital Selective Output Stage for One Wire Interface in PRT Sensor Signal Conditioning IC</b> Chan Ho Kim, Dong Soo Lee, and Kang Yoon Lee <i>College of Information and Communication Engineering, Sungkyunkwan University</i>
TP1-239	<b>A Design of a High Resolution Sigma-Delta ADC Using an Amplifier with Chopper Technique</b> Kwan-Tae Kim, Sang-Yun Kim, and Kang-Yoon Lee <i>College of Information and Communication Engineering, Sungkyunkwan University</i>
TP1-240	<b>A 128bit One Time Programmable Memory for EPC Identifiers of UHF Passive RFID Tags</b> Nak-Won Yoo, Seongwook Choi, Jinhong Ahn, and Young June Park <i>Department of Electrical and Computer Engineering, Seoul National University</i>
TP1-241	<b>A CMOS Integrated Biosensor Array for Pulsed Sensing Method</b> Jun-Yeon Yoon, Nak-Won Yoo, Jinhong Ahn, and Young June Park <i>Department of Electrical and Computer Engineering, Seoul National University</i>