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하이원 그랜드호텔(컨벤션타워), 5층 로비 및 컨벤션홀 L

## [TP1] Poster Session I

A. Interconnect & Package	
TP1-001	<p><b>탄화규소 기반의 1700V급 하프브릿지 전력모듈</b></p> <p>정동윤<sup>1</sup>, 장현규<sup>1</sup>, 박종문<sup>1</sup>, 서동우<sup>1</sup>, 배정환<sup>2</sup>, 최윤화<sup>3</sup>  <sup>1</sup>한국전자통신연구원, <sup>2</sup>썬큐아이티, <sup>3</sup>제엠제코㈜</p>
TP1-002	<p><b>Spray EMI Shield PKG에서의 Contact Resistance 영향 인자 및 SE(Shield Effect) 상관 관계 연구</b></p> <p>Gwanghyun Goh, Jongho Lee, Jaewook Lee, Byungkil Choi, Kangho Kim, and Hyunkyu Ryu  <i>PKG Material Development, SK Hynix</i></p>
TP1-003	<p><b>Thick Al RDL Pads for Thermosonic Au Wire Bonding</b></p> <p>Bokgyu Min, Jisun Kim, Taeho Lee, Taehoon Kim, Kyunghwan Cho, and Kangwon Lee  <i>PKG Process Development, SK Hynix</i></p>
TP1-004	<p><b>Novel PCT Laminated Busbar for Enhanced Current Transfer Characteristics</b></p> <p>Kyongdo Kim<sup>1</sup>, Soonkon Kim<sup>2</sup>, and Byoungdeog Choi<sup>2</sup>  <sup>1</sup>Jinyoung Global co.,LTD, <sup>2</sup>Department of Electrical and Computer Engineering, Sungkyunkwan University</p>
TP1-005	<p><b>Micro Bump 구조 및 조성에 따른 Solder의 고온 반응에 대한 연구</b></p> <p>김유선, 홍주완, 최재연, 박연지, 박민수, 현성호, 손재현, 이규제, 손호영, Jason, 김남석  <i>Package Development, SK Hynix</i></p>
TP1-006	<p><b>EMC 점탄성 물성 측정 및 해석 반영을 통한 PKG Warpage 해석 정확성 개선 연구</b></p> <p>강민규, 이대웅, 손재현, Jason, 김남석  <i>Package Development, SK Hynix</i></p>
TP1-007	<p><b>Board 및 SMT 환경에 따른 BLR T/C 수명 영향성 연구</b></p> <p>이미정, 서현철, 이대웅, 손재현, Jason, 김남석  <i>Package Development, SK Hynix</i></p>
TP1-008	<p><b>Plasma-enhanced Atomic Layer Deposition of Tungsten Films Using Metalorganic and Halide Precursor</b></p> <p>Yujin Lee<sup>1</sup>, Taewook Nam<sup>1</sup>, Hyunho Lee<sup>1</sup>, Seunggi Seo<sup>1</sup>, Hwi Yoon<sup>1</sup>, Sanghun Lee<sup>1</sup>, Jin Hyung Seo<sup>2</sup>, Jang Hyeon Seok<sup>2</sup>, and Hyungjun Kim<sup>1</sup>  <sup>1</sup>School of Electrical and Electronics Engineering, Yonsei University, <sup>2</sup>Hansol Chemical</p>



TP1-009	<p><b>Study on the Angular Flux Distribution of Sputtered Ta Atoms in DC Magnetron Sputtering</b></p> <p>Yu Jin Chang, Ju Yeong Jeong, Tae Ho Kim, and Hyun Chul Sohn  <i>Department of Materials Science and Engineering, Yonsei University</i></p>
TP1-010	<p><b>FOWLP에서 폴리이미드 절연층의 기계적 평탄화</b></p> <p>유하빈<sup>1</sup>, 이상원<sup>1</sup>, 추혁진<sup>1</sup>, 김현주<sup>2</sup>, 김성동<sup>1</sup>  <i><sup>1</sup>서울과학기술대학교 기계시스템디자인공학과, <sup>2</sup>서울과학기술대학교 화공생명공학과</i></p>
TP1-011	<p><b>Redistribution Layer and Under Bump Metallization Process for the Next-generation Packaging Technology</b></p> <p>Byeong Hwa Jeong<sup>1,2</sup>, Do Hyun Oh<sup>1</sup>, Dong Shin Kim<sup>1</sup>, Sang Ho Lee<sup>1</sup>, and Geun Young Yeom<sup>2,3</sup>  <i><sup>1</sup>ULVAC Korea, Ltd, <sup>2</sup>Sumgkyunkwan University, <sup>3</sup>SKKU Advanced Institute of Nano Technology (SAINT)</i></p>
TP1-012	<p><b>Finite Element Analysis for Bending or Twisting of Flexible Microelectronic System</b></p> <p>Hyeonji Yun<sup>1</sup>, Seung-Ho Seo<sup>2</sup>, Byoung-Joon Kim<sup>3</sup>, Jae-Hak Lee<sup>4</sup>, Jun-Yeob Song<sup>4</sup>, Won-Jun Lee<sup>1</sup>  <i><sup>1</sup>Department of Nanotechnology and Advanced Materials Engineering, Sejong University, <sup>2</sup>Research &amp; Development Team, GO Element Ltd, <sup>3</sup>School of Materials Science and Engineering, Andong National University, <sup>4</sup>Advanced Manufacturing System Research Division, KIMM</i></p>
TP1-013	<p><b>Metal Circuits on Film for a Printed Fuse Device of Li-ion Battery Stack</b></p> <p>Kyong Do Kim<sup>1</sup>, You Jung Kang<sup>2</sup>, Hyun Min Kim<sup>2</sup>, Soon Kon Kim<sup>3</sup>, Byung Doo Chin<sup>2</sup>, and Byoung Deog Choi<sup>3</sup>  <i><sup>1</sup>Jinyoung Global Co, Ltd, <sup>2</sup>Department of Polymer Science and Engineering, Dankook University, <sup>3</sup>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-014	<p><b>Elucidating Switching Behavior of Thin Chalcogenide Films via Electrostatic Force Microscopy and Conductive Atomic Force Microscopy</b></p> <p>Deok-Jin Jeon, Jihye Lee, Sang-Heon Park, and Jong-Souk Yeo  <i><sup>1</sup>School of Integrated Technology, Yonsei University, <sup>2</sup>Yonsei Institute of Convergence Technology, Yonsei University, <sup>3</sup>Underwood International College, Yonsei University</i></p>
TP1-015	<p><b>110nm Barrier Metal 최적화를 통한 BEOL Electromigration 개선</b></p> <p>김동석, 백은정, 이맹, 한승현, 강동원, 권경욱, 유동현, 남명희, 정영서, 박정수, 이상호, 이제희, 손동균  <i>SK 하이닉스 시스템아이씨 연구개발센터</i></p>



## B. Patterning

TP1-016	<p><b>Negative-Type Photopatternable System Using Cyclic Dithocarbonate to Create Multifunctional Patterns</b></p> <p>Jieun Nam, Sol An, Youngjoo Song, and Myungwoong Kim Department of Chemistry and Chemical Engineering, Inha University</p>
TP1-017	<p><b>Optimization of Inductively Coupled SF<sub>6</sub>/O<sub>2</sub>/Ar Plasma Process Condition for Micro-trench Free 4H-SiC Etching and High SiC/SiO<sub>2</sub> Selectivity</b></p> <p>Young-Jo Kim, Ogyun Seok, Jeong Hyun Moon, In Ho Kang, Hyoung Woo Kim, and Wook Bahng Power Semiconductor Research Center, KERI</p>
TP1-018	<p><b>니켈 흡수체를 이용한 고개구수 극자외선 노광공정용 마스크 연구</b></p> <p>한윤종<sup>1</sup>, 정동민<sup>2</sup>, 안진호<sup>1,2,3</sup> <sup>1</sup>한양대학교 나노반도체공학과, <sup>2</sup>한양대학교 신소재공학과, <sup>3</sup>나노과학기술연구소</p>
TP1-019	<p><b>백금을 활용한 고개구수 극자외선 노광공정용 위상변위 마스크 연구</b></p> <p>정동민<sup>1</sup>, 한윤종<sup>2</sup>, 안진호<sup>1,2,3</sup> <sup>1</sup>한양대학교 신소재공학과, <sup>2</sup>한양대학교 나노반도체공학과, <sup>3</sup>나노과학기술연구소</p>
TP1-020	<p><b>Sub-10 nm Nanopattern Fabrication with High Flory-Huggins interaction parameter Block copolymer with Flash lamp in millisecond</b></p> <p>Jang Hwan Kim, Hyeong Min Jin, Dae yong Park, Keon Jae Lee, and Sang Ouk Kim Department of Materials Science and Engineering, KAIST</p>
TP1-021	<p><b>열처리에 따른 복합구조체 EUV 펠리클의 열적 특성 평가</b></p> <p>위성주<sup>1</sup>, 장용주<sup>2</sup>, 김하늘<sup>1</sup>, 안진호<sup>1,2,3</sup> <sup>1</sup>한양대학교 신소재공학과, <sup>2</sup>한양대학교 나노반도체공학과, <sup>3</sup>나노과학기술연구소</p>
TP1-022	<p><b>MoSi<sub>2</sub> 복합구조체 EUV 펠리클의 광학적/열적 특성 평가</b></p> <p>김하늘<sup>1</sup>, 장용주<sup>2</sup>, 위성주<sup>1</sup>, 안진호<sup>1,2,3</sup> <sup>1</sup>한양대학교 신소재공학과, <sup>2</sup>한양대학교 나노반도체공학과, <sup>3</sup>나노과학기술연구소</p>
TP1-023	<p><b>Directed Self-Assembly of Block Copolymer by Laser Assisted Thermal Field on Graphene Layer</b></p> <p>Kyu Hyo Han<sup>1</sup>, Hyeong Min Jin<sup>2</sup>, and Sang Ouk Kim<sup>1</sup> <sup>1</sup>Department of Materials Science and Engineering, KAIST, <sup>2</sup>KAERI</p>
TP1-024	<p><b>저지구온난화지수를 가진 CF<sub>3</sub>를 이용한 SiO<sub>2</sub>의 Atomic Layer Etching</b></p> <p>김선용<sup>1</sup>, 이태훈<sup>1</sup>, 박인성<sup>3</sup>, 안진호<sup>1,2,4</sup> <sup>1</sup>한양대학교 신소재공학과, <sup>2</sup>한양대학교 나노반도체공학과, <sup>3</sup>한양대학교 산학협력단, <sup>4</sup>나노과학기술연구소</p>



TP1-025	<p><b>Sub- 10 nm Plasmonic Nanogap Array by Block Copolymer Self-Assembly for High-Sensitivity SERS</b></p> <p>Heejae Choi, Hyeong Min Jin, Ju Young Kim, and Sang Ouk Kim <i>Department of Material Science &amp; Engineering, KAIST</i></p>
TP1-026	<p><b>Block Copolymer Self-Assembly on 3D Substrate with Vapor Phase Deposited Neutral Adlayer</b></p> <p>Geon Gug Yang<sup>1</sup>, Junhwan Choi<sup>2</sup>, Sung Gap Im<sup>2</sup>, and Sang Ouk Kim<sup>1</sup> <i><sup>1</sup>Department of Materials Science and Engineering, KAIST, <sup>2</sup>Department of Chemical and Biomolecular Engineering, KAIST</i></p>
TP1-027	<p><b>Edge Engineering of 2D Transition Metal Dichalcogenides by Block Copolymer Nanopatterning</b></p> <p>Taeyeong Yun, Gang San Lee, and Sang Ouk Kim <i>Department of Materials Science &amp; Engineering, KAIST</i></p>
TP1-028	<p><b>Nanometer-scale Etching of Copper Thin Films Using Inductively Coupled Plasma of Organic Chemicals and Alcohols</b></p> <p>Moon Hwan Cha, Eun Tack Lim, Sung Yong Park, Ji Soo Lee, and Chee Won Chung <i>Department of Chemical Engineering, Inha University</i></p>
TP1-029	<p><b>3D Tailored Crumpling of Block-Copolymer Lithography on Chemically Modified Graphene</b></p> <p>Young Kyu Ko, Ju Young Kim, and Sang Ouk Kim <i>Department of Material Science &amp; Engineering, KAIST</i></p>
TP1-030	<p><b>Thermal Shock Induced Dry Transfer Printing and its Potential Applications</b></p> <p>Hohyun Keum<sup>1</sup>, Seung Kyoung Heo<sup>2</sup>, and Kyung-In Jang<sup>2</sup> <i><sup>1</sup>Display Research Division, LG Display, <sup>2</sup>DGIST</i></p>
TP1-031	<p><b>Density Functional Theory Study on the Gas-phase Etching of SiO<sub>2</sub> Using HF and NH<sub>4</sub>F</b></p> <p>Romel Hidayat<sup>1</sup>, Tanzia Chowdhury<sup>1</sup>, Hye-Lee Kim<sup>1</sup>, Tirta Rona Mayangsari<sup>2</sup>, Seongjae Cho<sup>3</sup>, Sangjoon Park<sup>4</sup>, Jongwan Jung<sup>1</sup>, and Won-Jun Lee<sup>1</sup> <i><sup>1</sup>Department of Nanotechnology and Advanced Materials Engineering, Sejong University, <sup>2</sup>Department of Chemistry, Universitas Pertamina, <sup>3</sup>Department of Electronics Engineering and the Graduate School of IT Convergence Engineering, Gachon University, <sup>4</sup>Wonik IPS</i></p>
TP1-032	<p><b>Thermal Atomic Layer Etching of SiO<sub>2</sub> for Surface Cleaning with CF<sub>4</sub>/NH<sub>3</sub> Plasma</b></p> <p>Yegeun Cho<sup>1</sup>, Yongjae Kim<sup>2</sup>, Dahee Shim<sup>1</sup>, and Heeyeop Chae<sup>1,2</sup> <i><sup>1</sup>School of Chemical Engineering, Sungkyunkwan University, <sup>2</sup>SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University</i></p>
TP1-033	<p><b>Characteristics of Nano-Trench Sidewall Etching Residue after HBr+Cl<sub>2</sub> Plasma Etching</b></p> <p>Jaemin Lee<sup>1</sup>, Hyun Woo Lee<sup>2</sup>, and Kwang-Ho Kwon<sup>1</sup> <i><sup>1</sup>Department of Control and Instrumentation Engineering, Korea University, <sup>2</sup>Department of Aeronautic Computer Engineering, Hanseo University</i></p>



TP1-034	<p><b>Low - Global Warming Potential Fluoroether and Fluoroalcohol Compounds for Plasma Etching of SiO<sub>2</sub> and Si<sub>3</sub>N<sub>4</sub> Films</b></p> <p>Seoeun Kim<sup>1</sup>, Yongjae Kim<sup>2</sup>, Hojin Kang<sup>1</sup>, and Heeyeop Chae<sup>1,2</sup>  <sup>1</sup>School of Chemical Engineering, Sungkyunkwan University, <sup>2</sup>SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University</p>
TP1-035	<p><b>Plasma Treatments on the Two-dimensional Multi-gate Stack of Graphene Encapsulated by Hexagonal Boron Nitride</b></p> <p>Sungwon Lee<sup>1</sup>, Kyung Joon Han<sup>2</sup>, and Won Jong Yoo<sup>1</sup>  <sup>1</sup>SKKU Advanced Institute of Nano-Technology (SAINT), Sungkyunkwan University, <sup>2</sup>Palogen Inc. Palo Alto</p>
TP1-036	<p><b>The Formation of Nanopores Using Electron Beam Lithography for Biosensing Application</b></p> <p>Kwangro Lee<sup>1</sup>, Sungwon Lee<sup>1</sup>, Kyung Joon Han<sup>2</sup>, and Won Jong Yoo<sup>1</sup>  <sup>1</sup>SKKU Advanced Institute of Nano-Technology (SAINT), Sungkyunkwan University, <sup>2</sup>Palogen Inc. Palo Alto, CA</p>

### C. Material Growth & Characterization

TP1-037	<p><b>Enhanced Chemical Stability of Ni Foam by 3D Graphene Coating</b></p> <p>Yeoseon Sim<sup>1</sup>, Jinsung Kwak<sup>1</sup>, Se-Yang Kim<sup>1</sup>, Yongsu Jo<sup>1</sup>, Seunghyun Kim<sup>2</sup>, Sung Youb Kim<sup>2</sup>, Ji Hyun Kim<sup>2</sup>, Chi-Seung Lee<sup>3</sup>, Jang Ho Jo<sup>3</sup>, and Soon-Yong Kwon<sup>1,2</sup>  <sup>1</sup>School of Materials Science and Engineering &amp; Low-Dimensional Carbon Material Center, UNIST, <sup>2</sup>School of Mechanical, Aerospace, and Nuclear Engineering, UNIST, <sup>3</sup>Fuel Cell Technology Development Team, Eco Technology Center, R&amp;D Division, Hyundai Motor Group</p>
TP1-038	<p><b>Formation of Graphene-Inserted PEDOT:PSS/Colorless Polyimide Composites for High Performance Flexible Transparent Electrodes</b></p> <p>Do Hee Lee, Hyung Duk Yun, Eui Dae Jung, Jae Hwan Chu, Yun Seok Nam, Seunguk Song, Shi-Hyun Seok, Myung Hoon Song, and Soon-Yong Kwon  School of Materials Science and Engineering, UNIST</p>
TP1-039	<p><b>Probing the Water Impermeability Discrepancy in CVD-Grown Graphene</b></p> <p>Jinsung Kwak<sup>1</sup>, Se-Yang Kim<sup>1</sup>, Yongsu Jo<sup>1</sup>, Na Yeon Kim<sup>1</sup>, Sung Youb Kim<sup>2</sup>, Zonghoon Lee<sup>1</sup>, and Soon-Yong Kwon<sup>1</sup>  <sup>1</sup>School of Materials Science and Engineering and Low Dimensional Carbon Materials Center, UNIST, <sup>2</sup>School of Mechanical, Aerospace and Nuclear Engineering, UNIST</p>
TP1-040	<p><b>Partial Oxidation Behavior of Diverse Intrinsic Graphene Defects in Graphene-Grown Copper</b></p> <p>Yongsu Jo<sup>1</sup>, Jinsung Kwak<sup>1</sup>, Soon-Dong Park<sup>2</sup>, Na Yeon Kim<sup>1</sup>, Se-Yang Kim<sup>1</sup>, Hyung-Joon Shin<sup>1</sup>, Zonghoon Lee<sup>1</sup>, Sung Youb Kim<sup>2</sup>, and Soon-Yong Kwon<sup>1,2</sup>  <sup>1</sup>School of Materials Science and Engineering &amp; Low-Dimensional Carbon Materials Center, UNIST, <sup>2</sup>School of Mechanical and Nuclear Engineering, UNIST</p>
TP1-041	<p><b>Sintering 조건이 유리질내 OH 함량분포에 미치는 영향</b></p> <p>김대영, 오성국  대한광통신주식회사</p>



TP1-042	<p><b>비정질 탄소층과 금속 열처리 방법을 이용한 그래핀 성장</b></p> <p>조철희, 김장혁, 김지현 고려대학교 화공생명공학과</p>
TP1-043	<p><b>Hydrodynamic Transport Tesla Valve in Graphene</b></p> <p>Jeon Jung Lee<sup>1</sup>, Dongjea Seo<sup>2</sup>, Hakseong Kim<sup>3</sup>, Heeyeon Lee<sup>1</sup>, Young Dong Kim<sup>1</sup>, Keon Ho Yoo<sup>1</sup>, Youngwoo Nam<sup>4</sup>, Heon-Jin Choi<sup>3</sup>, Young Duck Kim<sup>1</sup> <i><sup>1</sup>Department of Physics, Kyung Hee University, <sup>2</sup>Department of Materials Science and Engineering, Yonsei University, <sup>3</sup>KRISS, <sup>4</sup>Department of Physics, Gyeongsang National University</i></p>
TP1-044	<p><b>Unconventional Electrical Transport of Graphene on Charge Density Waves of 1T-TaS<sub>2</sub></b></p> <p>Minseong Kwon<sup>1</sup>, Dongjea Seo<sup>2</sup>, Jeon Jung Lee<sup>1</sup>, Heeyeon Lee<sup>1</sup>, Wooseob Kim<sup>1</sup>, Young Dong Kim<sup>1</sup>, Keon-Ho Yoo<sup>1</sup>, Heon-jin Choi<sup>2</sup>, Jehwang Ryu<sup>1</sup>, Young Duck Kim<sup>1</sup> <i><sup>1</sup>Department of Physics, Kyung Hee University, <sup>2</sup>Department of Materials Science and Engineering, Yonsei University</i></p>
TP1-045	<p><b>Thermal Radiation Control With Graphene/hBN Heterostructure PCC</b></p> <p>조민현<sup>1</sup>, 김규진<sup>1,2</sup>, 서동제<sup>3</sup>, 최현진<sup>3</sup>, 김영동<sup>1</sup>, 유건호<sup>1</sup>, 한일기<sup>2</sup>, 김영덕<sup>1</sup> <i><sup>1</sup>경희대학교 물리학과, <sup>2</sup>한국과학기술원 나노포토닉스연구센터, <sup>3</sup>연세대학교 신소재공학과</i></p>
TP1-046	<p><b>Near Ultraviolet Emitting Device With Graphene / Hexagonal Boron Nitride / Graphene Tunneling Structure</b></p> <p>Seungmin Park<sup>1</sup>, Dongjae Seo<sup>2</sup>, Keon Ho Yoo<sup>1</sup>, Young Dong Kim<sup>1</sup>, and Young Duck Kim<sup>1</sup> <i><sup>1</sup>Kyung Hee University, <sup>2</sup>Yonsei University</i></p>
TP1-047	<p><b>Atomic Layer Deposition of SnTe for High-Density, Fast Phase Change Memory</b></p> <p>Yoon Kyeong Lee, Eui-Sang Park, Chanyoung Yoo, Woohyun Kim, Manick Ha, Jeong Woo Jeon, and Cheol Seong Hwang <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-048	<p><b>Spontaneous Hybridization of Organic-Inorganic Perovskite with Nitrogen doped Carbon Nanotubes</b></p> <p>Daewon Kim, Gil Yong Lee, and Sang Ouk Kim <i><sup>1</sup>Department of Materials Science and Engineering, KAIST</i></p>
TP1-049	<p><b>화학적 도핑 방법을 이용한 그래핀 일함수 조율의 전기적 특성 분석</b></p> <p>김승모, 김소영, 이호인, 이용수, 유태진, 김시현, 황현준, 이병훈 <i>Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, GIST</i></p>
TP1-050	<p><b>Investigation Of Dopant Behavior In Epitaxially Grown Ge On III-V Compounds</b></p> <p>Hansung Kim<sup>1,2</sup>, Yun Joong Lee<sup>2,3</sup>, Hyeong-Rak Lim<sup>2,4</sup>, Young-Hun Shin<sup>2,4</sup>, SangHyeon Kim<sup>5</sup>, Hyung-jun Kim<sup>2,3</sup> <i><sup>1</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University, <sup>2</sup>Center for Spintronics, KIST, <sup>3</sup>Division of Nano &amp; Information Technology, KIST School, Korea University of Science &amp; Technology, <sup>4</sup>School of Electrical Engineering, Korea University, <sup>5</sup>School of Electrical Engineering, KAIST</i></p>





TP1-051	<p><b>The Strain Relaxation Mechanism Of In<sub>0.2</sub>Ga<sub>0.8</sub>As On GaAs (110) Grown By Molecular Beam Epitaxy</b></p> <p>Yun Joong Lee<sup>1,2</sup>, Young-Hun Shin<sup>1,4</sup>, Han-Sung Kim<sup>1,3</sup>, Hyeong-Rak Lim<sup>1,4</sup>, Sang-Hyeon Kim<sup>5</sup>, and Hyung-jun Kim<sup>1,2</sup></p> <p><sup>1</sup>Center for Spintronics, KIST, <sup>2</sup>Division of Nano &amp; Information Technology, University of Science &amp; Technology, <sup>3</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University, <sup>4</sup>School of Electrical Engineering, Korea University, <sup>5</sup>School of Electrical Engineering, KAIST</p>
TP1-052	<p><b>Synthesis of Solution-Processed Two-Dimensional Transition Metal Carbide (MXene) Using Highly Purified Precursors for Ink Applications</b></p> <p>Shi-Hyun Seok, Seungjun Choo, Hye-Jin Ju, Jinsung Kwak, Woo-Seok Kang, Se-Yang Kim, Do Hee Lee, Jungsoo Lee, Ju-Hyoung Han, Jaewon Wang, Wook Jo, Han Gi Chae, Jae Sung Son, and Soon-Yong Kwon</p> <p>School of Materials Science and Engineering, UNIST</p>
TP1-053	<p><b>Heteroepitaxial Growth of β-Ga<sub>2</sub>O<sub>3</sub> Thin Films by PVD Method</b></p> <p>Hyung-Jin Choi and Seung-Hyub Baek</p> <p>Center for Electronic Materials, KIST</p>
TP1-054	<p><b>Characteristics Of β-Ga<sub>2</sub>O<sub>3</sub> TFTs With Nitrogen Atom Doping By Plasma Assisted Pulsed Laser Deposition</b></p> <p>Sang Ha Jeong, Thi Kim Oanh Vu, and Eun Kyu Kim</p> <p>Department of Physics, Hanyang University</p>
TP1-055	<p><b>Study of p-GaN Nanocrystals Grown on InGaN/GaN Nanowire Heterostructures</b></p> <p>Dae-Young Um<sup>1</sup>, Yong-Ho Ra<sup>2</sup>, Dae-Han Jung<sup>1</sup>, and Cheul-Ro Lee<sup>1</sup></p> <p><sup>1</sup>Semiconductor Materials Process Laboratory, School of Advanced Materials Engineering, Engineering College, Research Center for Advanced Materials Development (RCAMD), Chonbuk National University, <sup>2</sup>Optic &amp; Electronic Component Material Center, KICET</p>
TP1-056	<p><b>Study on Fabrication of Coaxial InN QDs Grown on n-GaN NW by MOCVD System for Optoelectronics Devices</b></p> <p>Dong-Hun Yoo, Dae-Young Um, Ga Eun Hong, Suel Lee, and Cheul-Ro Lee</p> <p>Semiconductor Materials Process Laboratory, School of Advanced Materials Engineering, Engineering College, Research Center for Advanced Materials Development (RCAMD), Chonbuk National University</p>
TP1-057	<p><b>AlN Growth on Etched Diamond (100) Substrate for Ultra-wide Bandgap Hybrid Semiconductor Structure by High Temperature Metal Organic Chemical Vapor Deposition</b></p> <p>Changheon Cheon<sup>1</sup>, Byeongchan So<sup>1</sup>, Taemyung Kwak<sup>1</sup>, Geunho Yoo<sup>1</sup>, Seong-woo Kim<sup>2</sup>, and Okhyun Nam<sup>1</sup></p> <p><sup>1</sup>Department of Nano-Optical Engineering, Korea Polytechnic University, <sup>2</sup>Adamant Namiki Precision Jewel Co. Ltd.</p>
TP1-058	<p><b>Atomic Layer Deposition of Highly Stoichiometric Cu<sub>2</sub>SnS<sub>3</sub> Films as Absorber Materials for Photovoltaic Cells</b></p> <p>Raphael Edem Agbenyeke<sup>1,2</sup>, Bo Keun Park<sup>1,2</sup>, Taek-Mo Chung<sup>1,2</sup>, Jeong Hwan Han<sup>3</sup>, Young Kuk Lee<sup>1,2</sup>, Chang Gyoung Kim<sup>1,2</sup></p> <p><sup>1</sup>Division of Advanced Materials, KRICT, <sup>2</sup>Department of Chemical Convergence Materials, University of Science and Technology, <sup>3</sup>Department of Materials Science and Engineering, SEOULTECH</p>



TP1-059	<p><b>Novel Synthetic Route for InP Nanocrystals Using Triphenyl Phosphite</b></p> <p>Dongkyu Lee and Doh C. Lee <i>Department of Chemical and Biomolecular Engineering, KAIST</i></p>
TP1-060	<p><b>Characterization of Si-doped InAs Nanowire on InP(111)B Substrate</b></p> <p>Minwoo Kong<sup>1,2</sup>, Hyunchul Jang<sup>2</sup>, Sangtae Lee<sup>2</sup>, Changhun Song<sup>2</sup>, Hyeong-Ho Park<sup>2</sup>, Chang Zoo Kim<sup>2</sup>, Sanghyun Jung<sup>2</sup>, Chan-Soo Shin<sup>2</sup>, and Kwangseok Seo<sup>1</sup> <i><sup>1</sup>Department of Electrical and Computer Engineering, Inter-university Semiconductor Research Center, Seoul National University, <sup>2</sup>KANC</i></p>
TP1-061	<p><b>Growth of Nanoparticle-free High-Quality Hexagonal Boron Nitride Using Chemical Vapor Deposition</b></p> <p>Hyunwoo Jang, Juhun Lee, Taemyung Kwak, Okhyun Nam <i>Korea Polytechnic University</i></p>
TP1-062	<p><b>Ge Solar Cells with Micro-rod Arrays: Structural and Optical Properties</b></p> <p>Yejun Yun<sup>1</sup>, Kangho Kim<sup>1</sup>, Minhyung Lee<sup>1</sup>, Yujeong Jang<sup>1</sup>, Sang Hyun Jung<sup>2</sup>, Chang Zoo Kim<sup>2</sup>, Ho Kwan Kang<sup>2</sup>, and Jaejin Lee<sup>1</sup> <i><sup>1</sup>Department of Electrical and Computer Engineering, Ajou University, <sup>2</sup>KANC</i></p>
TP1-063	<p><b>The Effect of Initial Stage Strain during Te-doped InGaAs Layer Growth on InAlAs Buffer by a MOCVD Method</b></p> <p>Sangtae Lee<sup>1</sup>, Hyunchul Jang<sup>1</sup>, Minwoo Kong<sup>1,2</sup>, Changhun Song<sup>1</sup>, Chang Zoo Kim<sup>1</sup>, Hyeong-Ho Park<sup>1</sup>, Sanghyun Jung<sup>1</sup>, and Chan-Soo Shin<sup>1</sup> <i><sup>1</sup>KANC, <sup>2</sup>Department of Electrical and Computer Engineering, Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-064	<p><b>Pressure-induced Wavelength Variable InGaN/GaN Light Emitting Crystal</b></p> <p>Dong Won Yang, Jae Hyung Lee, Jae Hyeok Shin, Min Joo Kim, and Won Il Park <i>Division of Materials Science and Engineering, Hanyang University</i></p>
TP1-065	<p><b>CVD Synthesis of Continuous ReS<sub>2</sub> Film with Seed Layer</b></p> <p>Jinho Lim, Dasom Jeon, and Seunghyun Lee <i>Department of Electrical Engineering, Kyung Hee University</i></p>
TP1-066	<p><b>Thermal Boundary Resistance Extraction of GaN-on-Diamond Substrate from TLM Pattern Using Micro-Raman Spectroscopy and Thermal Simulation</b></p> <p>Ra-Seong Ki<sup>1</sup>, Kwang-Seok Seo<sup>1</sup>, and Ho-Young Cha<sup>2</sup> <i><sup>1</sup>Department of Electrical Engineering and Computer Science, Seoul National University, <sup>2</sup>Department of Electronic and Electrical Engineering, Hongik University</i></p>
TP1-067	<p><b>Interface Engineering by Oxygen Vacancy Modification on Hafnium-based Ferroelectric Capacitor</b></p> <p>Joonbong Lee<sup>1</sup>, Myeongseop Song<sup>2</sup>, Woosung Jang<sup>3</sup>, Jinho Byun<sup>5</sup>, Hojin Lee<sup>1</sup>, Jongwan Jung<sup>1</sup>, Minhyuk Park<sup>5</sup>, Jaekwang Lee<sup>5</sup>, Youngmin Kim<sup>3,4</sup>, Seungchul Chae<sup>2</sup>, and Taekjib Choi<sup>1</sup> <i><sup>1</sup>Hybrid Materials Research Center and Department of Nanotechnology and Advanced Materials Engineering, Sejong University, <sup>2</sup>Department of Physics Education, Seoul National University, <sup>3</sup>Department of Energy Science, Sungkyunkwan University, <sup>4</sup> Center of Integrated Nanostructure Physics, Institute for Basic Science (IBS), <sup>5</sup>Department of Physics, Pusan National University</i></p>





<b>TP1-068</b>	<p><b>표면 처리를 통한 바나듐 이산화물 단결정 나노빔의 Metal-Insulator-Transition 전기적 특성 변화 연구</b></p> <p>고민환<sup>1</sup>, 이상연<sup>1</sup>, 강현우<sup>1</sup>, 박주철<sup>2</sup>, 서형탁<sup>1,3</sup></p> <p><sup>1</sup>아주대학교 에너지시스템학과 <sup>2</sup>경북과학기술진흥센터, 구미전자정보기술원, <sup>3</sup>아주대학교 신소재공학과</p>
<b>TP1-069</b>	<p><b>Atomistic Understanding on the Growth and Stacking-Fault of GaAs Nanowires Grown by Noncatalytic Method</b></p> <p>In Won Yeu<sup>1,2</sup>, Gyuseung Han<sup>1,2</sup>, Cheol Seong Hwang<sup>2</sup>, and Jung-Hae Choi<sup>1</sup></p> <p><sup>1</sup>Center for Electronic Materials, KIST, <sup>2</sup>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</p>



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

TP1-070	<p>투명 전극을 이용한 피드백 소자의 전기적 특성 연구</p> <p>임두혁, 김상식 고려대학교 전기전자공학과</p>
TP1-071	<p><b>Implementation of Homeostasis Functionality Using Active Leaky Path of Membrane Potential in STDP-based Spiking Neural Network</b></p> <p>Jangsaeng Kim, Sung Yun Woo, Won-Mook Kang, Byung-Gook Park, and Jong-Ho Lee Department of Electrical and Computer Engineering, Inter-University Semiconductor Research Center, Seoul National University</p>
TP1-072	<p><b>Analysis of CMOS Logic Inverter Based on Polycrystalline Silicon Layer in Gate-all-around Junctionless Field-effect-transistor</b></p> <p>Hye Jin Mun<sup>1</sup>, Min Su Cho<sup>1</sup>, Won Douk Jang<sup>1</sup>, Jun Hyeok Jang<sup>1</sup>, Sang Ho Lee<sup>1</sup>, Jaewon Jang<sup>1</sup>, Jin-Hyuk Bae<sup>1</sup>, and In Man Kang<sup>1</sup> School of Electronics Engineering, Kyungpook National University</p>
TP1-073	<p><b>Superior Carrier Mobility of Ge MOSFETs Depending on Channel Orientation with EOT of 0.57 nm Using Y-ZrO<sub>2</sub>/GeO<sub>x</sub>/Ge Stack</b></p> <p>Tae In Lee<sup>1</sup>, Min Ju Kim<sup>1</sup>, Hyun Jun Ahn<sup>1</sup>, Eui Joong Shin<sup>1</sup>, Sung Won Shin<sup>1</sup>, Seung Hwan Lee<sup>1</sup>, Wan Sik Hwang<sup>2</sup>, Hyun-Young Yu<sup>3</sup>, and Byung Jin Cho<sup>1</sup> <sup>1</sup>School of Electrical Engineering, KAIST, <sup>2</sup>School of Electrical Engineering, Korea University, <sup>3</sup>Department of Materials Engineering, Korea Aerospace University</p>
TP1-074	<p><b>Stacked-gate-all-around Structured Tunneling-based Ternary CMOS</b></p> <p>Sihyun Kim, Kitae Lee, Munhyeon Kim, and Byung-Gook Park Inter-University Semiconductor Research Center (ISRC) and Department of Electrical and Computer Engineering (ECE), Seoul National University</p>
TP1-075	<p><b>Design of Capacitorless DRAM based on Ultra-thin Polycrystalline Silicon Junctionless Field-effect Transistor with Dual Gate</b></p> <p>Sang Ho Lee, Min Su Cho, Jun Hyeok Jung, Won Douk Jang, Hye Jin Mun, Jae Won Jang, Jin Hyeok Bae, and In Man Kang School of Electronics Engineering, Kyungpook National University</p>
TP1-076	<p>피드백 전계효과 트랜지스터의 latch-up 현상 이용한 인버터 특성 연구</p> <p>박영수, 우솔아, 임두혁, 김상식 고려대학교 전기전자공학과</p>
TP1-077	<p><b>Microwave Annealing for Ni Silicide Formation and Schottky Barrier SOI-MOSFET Fabrication</b></p> <p>Dong-Hee Lee, Je-Hyeon Kim, Sung-Hyun Jo, Yoon-Sub Shin, and Won-Ju Cho Department of Electronic Materials Engineering, Kwangwoon University</p>
TP1-078	<p><b>Minimized Series Resistance in Silicon Fin-Based High Electron Mobility Transistor</b></p> <p>Sung-Ho Kim, Jong Yul Park, Jiwon Chang, and Kyung Rok Kim School of Electrical and Computer Engineering, UNIST</p>



TP1-079	<p><b>3D V-NAND의 고선택적 Si<sub>3</sub>N<sub>4</sub> 식각 중 나타나는 산화물 재성장 현상 분석</b></p> <p>김태현, 손창진, 박태건, 임상우  <i>Department of Chemical and Biomolecular Engineering, Yonsei University</i></p>
TP1-080	<p><b>Investigation of Interface Trap Density by Low Frequency Noise and Subthreshold Slope</b></p> <p>Seungjun Moon and Changhwan Shin  <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-081	<p><b>첨가제를 이용한 고온 인산 용액의 Si<sub>3</sub>N<sub>4</sub>/SiO<sub>2</sub> 식각 반응 거동 연구</b></p> <p>박태건, 손창진, 김태현, 임상우  <i>Department of Chemical and Biomolecular Engineering, Yonsei University</i></p>
TP1-082	<p><b>T-CMOS 컴팩 모델을 이용한 삼진 Quantizer 동작 시뮬레이션 검증</b></p> <p>최영은, 정재원, 김우석, 김경록  <i>울산과학기술원 전기전자컴퓨터공학부</i></p>
TP1-083	<p><b>Hardware-based Neural Networks Using Multiple NAND Flash Cells for a Synaptic Device</b></p> <p>Sung-Tae Lee, Dongseok Kwon, Hyeong-Su Kim, Byung-Gook Park, and Jong-Ho Lee  <i>Department of Electrical and Computer Engineering and ISRC, Seoul National University</i></p>
TP1-084	<p><b>Tunneling-based Ternary CMOS with Ferroelectric Gate Dielectric</b></p> <p>Kitae Lee, Sihyun Kim, Munhyeon Kim, and Byung-Gook Park  <i>Inter-University Semiconductor Research Center (ISRC) and Department of Electrical and Computer Engineering (ECE), Seoul National University</i></p>
TP1-085	<p><b>Energy-delay Sensitivity Analysis of NEM Relay Using Negative Capacitance</b></p> <p>Chankeun Yoon and Changhwan Shin  <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-086	<p><b>Analysis of Work Function Variation in Negative Capacitance Gate-all-around Junctionless Nanowire FET</b></p> <p>Yejoon Choi and Changhwan Shin  <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-087	<p><b>Regression Model for Investigating the Impact of Line-edge-roughness (LER)</b></p> <p>Sangho Yu and Changhwan Shin  <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>



TP1-088	<p><b>Analysis of Parasitic Capacitance Effect on Nanowire Negative Capacitance Field-effect Transistor (NW-NCFET)</b></p> <p>Jae Yeon Park, Hyun-Ho Ahn, and Sangwan Kim <i>Department of Electrical and Computer Engineering, Ajou University</i></p>
TP1-089	<p><b>FBFET-based Ring Oscillators for Neuromorphic Computing</b></p> <p>Gwon Kim, Changhoon Lee, and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-090	<p><b>Investigation of Bio Sensor based on Feedback Field Effect Transistor</b></p> <p>Mingi Pae<sup>1</sup>, Ryun Hwa Lee<sup>1</sup>, Inyoung Lee<sup>1</sup>, Hyo Jin Park<sup>1</sup>, Dong-Wook Park<sup>2</sup>, Cherhyun Jeong<sup>3</sup>, and Il Hwan Cho<sup>1</sup> <i><sup>1</sup>Department of Electronic Engineering, Myongji University, <sup>2</sup>School of Electrical and Computer Engineering, University of Seoul, <sup>3</sup>Biomedical Research Institute, KIST</i></p>
TP1-091	<p><b>Analysis of Split-gate Positive Feedback Device for Neuron Circuit at Variable Temperatures</b></p> <p>Sung Yun Woo, Won-Mook Kang, Nagyong Choi, Young-Tak Seo, Soochang Lee, Seongbin Oh, Jangsaeng Kim, Byung-Gook Park, and Jong-Ho Lee <i>Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-092	<p><b>Influence of Ar Plasma Treatment on Metal-insulator-semiconductor (MIS) Contact Resistivity</b></p> <p>SeokJung Kang, Seong Soo Shin, and Sangwan Kim <i>Department of Electrical and Computer Engineering, Ajou University</i></p>
TP1-093	<p><b>A Novel Strategy for Ge-rich Si<sub>1-x</sub>Ge<sub>x</sub> Layer</b></p> <p>Un-Hyun Im, Seok Jung Kang, and Sangwan Kim <i>Department of Electrical and Computer Engineering, Ajou University</i></p>
TP1-094	<p><b>SOSA(SIP Based Optical Sub Assembly) and Its Application to the Optical Interconnect</b></p> <p>Young June Park<sup>1,2</sup>, Seongwook Choi<sup>2</sup>, David D. Park<sup>2</sup>, and Yoonyoung Bae<sup>2</sup> <i><sup>1</sup>Seoul National University, <sup>2</sup>Giparang, Inc.</i></p>
TP1-095	<p><b>Machine-learning Model for Predicting the Effect of Line Edge Roughness on Device Performance</b></p> <p>Shinick Han and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-096	<p><b>Observation of Negative Capacitance Effect by Phase Field Simulation</b></p> <p>Taegeon Kim and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>



TP1-097	<p><b>알루미늄을 이용한 저온 직접 증착 실리콘의 결정화율 증가</b></p> <p>장석진, 송영웅, 최대환, 윤정현, 권장연 <i>연세대학교</i></p>
TP1-098	<p><b>Doping into Ge Epilayer on Si by Ex-situ Phosphorus Diffusion for Ge-on-Si Laser Application</b></p> <p>Mingjun Jiang<sup>1</sup>, Chanhuyck Park<sup>1</sup>, Motoki Yakao<sup>2</sup>, Yasuhiko Ishikawa<sup>2</sup>, Kazumi Wada<sup>3</sup>, and Donghwan Ahn<sup>1</sup> <i><sup>1</sup>School of Materials Science and Engineering, Kookmin University, <sup>2</sup>Department of Materials Engineering, The University of Tokyo, <sup>3</sup>Department of Materials Science and Engineering, Massachusetts Institute of Technology</i></p>
TP1-099	<p><b>Ge<sub>x</sub>Te<sub>1-x</sub> Ovonic Threshold Switching Device Model based on Chalcogenide Material Composition</b></p> <p>Yoongu Lee<sup>1,2</sup>, Sang-Heon Park<sup>1,2</sup>, Jeongun Choe<sup>1,2</sup>, Jihye Lee<sup>1,2</sup>, and Jong-Souk Yeo<sup>2</sup> <i><sup>1</sup>College of Engineering, Yonsei University, <sup>2</sup>Yonsei Institute of Convergence Technology, Yonsei University</i></p>
TP1-100	<p><b>Loading Effects Analysis by Advanced Compact Model for Real-time THz Imaging System</b></p> <p>Sang Hyo Ahn, Min Woo Ryu, E-San Jang, and Kyung Rok Kim <i>Department of Electronic Engineering, UNIST</i></p>
TP1-101	<p><b>Gate First Negative Capacitance FET with Self-aligned Nickel-silicide Source and Drain</b></p> <p>Sihyun Kim, Kitae Lee, Byung-Gook Park, and Daewoong Kwon <i>Inter-University Semiconductor Research Center (ISRC) and Department of Electrical and Computer Engineering (ECE), Seoul National University, <sup>2</sup>Department of Electrical Engineering, Inha University</i></p>
TP1-102	<p><b>T-CAD Platform for Ternary CMOS Design based on Physical Parameter Analysis</b></p> <p>Woo-Seok Kim, Jae Won Jeong, Young-Eun Choi, and Kyung Rok Kim <i>School of Electrical Engineering, UNIST</i></p>
TP1-103	<p><b>Synapse Function of ZnSnO-based Memristor Device</b></p> <p>Jun-hyeok Choi<sup>1</sup>, Ji-Ho Ryu<sup>1</sup>, Sungjun Kim<sup>1</sup>, and Teresa Oh<sup>2</sup> <i><sup>1</sup>School of Electronics Engineering, Chungbuk National University, <sup>2</sup>School of Semiconductor Engineering, Cheongju University</i></p>
TP1-104	<p><b>Bipolar Resistive Switching with Self-selection in SiN/HfO<sub>2</sub> Bilayer Device</b></p> <p>Hyojong Cho,<sup>1</sup> Kyungho Hong,<sup>2</sup> Sungjun Kim,<sup>1</sup> Byung-Gook Park<sup>2</sup> <i><sup>1</sup>School of Electronics Engineering, Chungbuk National University, <sup>2</sup>Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center (ISRC), Seoul National University</i></p>
TP1-105	<p><b>High Uniformity of THz Detectors based on Monolithic Trantenna for Multi-pixel Array THz Imaging System</b></p> <p>Min Woo Ryu, E-San Jang, Sang Hyo Ahn, Jong Yul Park, Ramesh Patel, and Kyung Rok Kim <i>Department of Electrical Engineering, UNIST</i></p>



TP1-106	<p><b>A Study on Intrinsic and Parasitic Capacitance Effects for High-performance Non-resonant Plasmonic THz Detector based on Si-FET</b></p> <p>E-San Jang, Sang Hyo Ahn, Min Woo Ryu, and Kyung Rok Kim <i>Department of Electrical Engineering, UNIST</i></p>
TP1-107	<p><b>An Ultrasharp Visible-light Band Rejection Filter based on Si/SiO<sub>2</sub> Distributed Bragg Reflector for On-chip Si Photonics</b></p> <p>Yung Hun Jung<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>
TP1-108	<p><b>A Recent Study on Ge<sub>1-x</sub>Sn<sub>x</sub> through Material-device Cooperative Design by <i>Ab Initio</i> Calculation and Device Simulation</b></p> <p>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>
TP1-109	<p><b>Si/SiGe Heterostructure Synaptic Transistor and Pattern Recognition</b></p> <p>Eunseon Yu<sup>1</sup> and Seongjae Cho<sup>2,3</sup> <sup>1</sup>Department of Electrical and Computer Engineering, Purdue University, <sup>2</sup>Department of Electronics Engineering, Gachon University, <sup>3</sup>Graduate School of IT Convergence Engineering, Gachon University</p>

#### K : Memory (Design & Process Technology)

TP1-110	<p><b>The Effect of Li and Ag Intercalation to MoS<sub>2</sub> for Memory Device.</b></p> <p>Min Seok Kim and Woo jong Yu <i>College of information and Communication Engineering, Sungkyunkwan University</i></p>
TP1-111	<p><b>Anti-ferroelectric Tunnel Junction Using Asymmetric Work Function Electrodes and Fixed Oxide Charge</b></p> <p>Youngin Goh and Sanghun Jeon <i>KAIST</i></p>
TP1-112	<p><b>Oxygen Vacancy Controlled Hafnia Ferroelectric with RuO<sub>2</sub> Electrode</b></p> <p>Youngin Goh and Sanghun Jeon <i>School of Electrical Engineering, KAIST</i></p>
TP1-113	<p><b>Leakage Current Improvement of Antiferroelectric Capacitor with Bottom Electrode Annealing</b></p> <p>Seung Hwan Lee, Seong Ho Kim, Hyun Jun Ahn, Tae Ho Kim, Sung Won Shin, and Byung Jin Cho <i>School of Electrical Engineering, KAIST</i></p>





TP1-114	<b>The Effect of High Pressure Annealing on the Performance of Ferroelectric Tunnel Junction</b> Jeong Hyeon Hwang, Youngin Goh, and Sanghun Jeon <sup>1</sup> <i>School of Electrical Engineering, KAIST</i>
TP1-115	<b>Effect of <math>V_T</math> Window and Variation of Organic Synaptic Transistor</b> Jeong Hoon Jeon <sup>1</sup> , Juhyun Lee <sup>1</sup> , Jonghyuk Yoon <sup>1</sup> , Yeongjin Hwang <sup>1</sup> , Felix Sunjoo Kim <sup>2</sup> , and Hyungjin Kim <sup>1</sup> <sup>1</sup> <i>Department of Electronic Engineering, Yeungnam University, <sup>2</sup>School of Chemical Engineering and Materials Science, Chung-Ang University</i>
TP1-116	<b>Effect of Nitrogen Doping on Synaptic Characteristics of Indium-gallium-zinc Oxide Thin-film Transistor</b> Keonwon Beom, Minju Kim, Hyerin Lee, and Tae-Sik Yoon <i>Department of Materials Science and Engineering, Myongji University</i>
TP1-117	<b>A Novel Volatile-Memristor-Based True Random Number Generator</b> Kyung Seok Woo and Cheol Seong Hwang <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i>
TP1-118	<b>Investigation of the Retention Performance of an Ultra-thin HfO<sub>2</sub> Resistance Switching Layer in an Integrated Memory Device</b> Gil Seop Kim <sup>1</sup> , Tae Hyung Park <sup>1</sup> , Hae Jin Kim <sup>1</sup> , Tae Jung Ha <sup>2</sup> , Woo Young Park <sup>2</sup> , Soo Gil Kim <sup>2</sup> , and Cheol Seong Hwang <sup>1</sup> <sup>1</sup> <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University, <sup>2</sup>SK Hynix</i>
TP1-119	<b>Kernel Application of the Stacked Crossbar Array Composed of Self-Rectifying Resistive Switching Memory for Convolutional Neural Network</b> Yumin Kim, Jihun Kim, Seung Soo Kim, Young Jae Kwon, Gil Seop Kim, Jeong Woo Jeon, Dae Eun Kwon, Jung Ho Yoon, and Cheol Seong Hwang <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i>
TP1-120	<b>Process-dependent Synaptic and Nonvolatile Memory Characteristics in Thin-film Transistors with HfOx Gate Insulator and ZnO Channel Layer</b> Hyerin Lee, Keonwon Beom, Minju Kim, and Tae-Sik Yoon <i>Department of Materials Science and Engineering, Myongji University</i>
TP1-121	<b>Embedded Circuit for Polyfuse Resistance Measurement</b> Liyan Jin, Jieon Kim, JaeHyung Lee, Heon Park, Eun Sang Jo, and Joon Tae Jang <i>TE DS Team, DB HiTek</i>
TP1-122	<b>Ta<sub>2</sub>O<sub>5</sub>-based Resistive Switching Devices for Improved Endurance and Reliable Multi-bit Operation</b> Min Kyu Yang <i>Department of IT Convergence Engineering, Sahmyook University</i>



TP1-123	<p><b>IGZO:Al NPs Synaptic Transistor Enabling Precise Modulation of Synaptic Plasticity</b></p> <p>Ojun Kwon, Jeehoon Kim, Tae Hyeon Kim, Se Young Oh, Byungjin Cho  <i>Department of Advanced Material Engineering, Chungbuk National University</i></p>
TP1-124	<p><b>Enhancement of Operation Efficiency in Charge Trap Memory Using Anti-ferroelectric HfZrO<sub>2</sub></b></p> <p>Sung Won Shin, Eui Joong Shin, Seung Hwan Lee, Tae In Lee, Min Ju Kim, Hyun Jun Ahn, and Byung Jin Cho  <i>School of Electrical Engineering, KAIST</i></p>
TP1-125	<p><b>Forming Free and Self-rectifying Resistive-switching Memory based on IGZO Bi-layer with Different Oxygen Concentration.</b></p> <p>Taekwang Kim<sup>2</sup>, Minho Song<sup>1,2</sup>, Jung-Hwa Cha<sup>2</sup>, Junseo Kim<sup>2</sup>, Hyeon-Jun Lee<sup>2</sup>, Hee Yeon Noh<sup>2</sup>, Sunae Seo<sup>1</sup>, and Myoung-Jae Lee<sup>2</sup>  <sup>1</sup>Research Institute, DGIST, <sup>2</sup>Department of Physics, Sejong University</p>
TP1-126	<p><b>Flexible Cross Point Phase Change Memory Array via Interfacial Physical Lift-Off</b></p> <p>Tae Jin Kim<sup>1</sup>, Do Hyun Kim<sup>1</sup>, Han Eol Lee<sup>1</sup>, Sung Beom Cho<sup>2</sup>, and Keon Jae Lee<sup>1</sup>  <sup>1</sup>Department of Material Science and Engineering, Korea Advanced Institute of Science and Engineering, <sup>2</sup>Technology Convergence Division, KICET</p>
TP1-127	<p><b>Characterization of Hafnia for Ferroelectric Tunnel Junction</b></p> <p>Sang Hyun Sung, Do Hyun Kim, and Keon Jae Lee  <i>Department of Materials Sciences and Engineering, KAIST</i></p>
TP1-128	<p><b>The Effect of Sn Doping on the Crystallization of Atomic Layer Deposited Nanocrystalline-Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub></b></p> <p>Woohyun Kim, Chanyoung Yoo, Eui-sang Park, Manick Ha, Jeong Woo Jeon, Yoon Kyeong Lee, and Cheol Seong Hwang  <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-129	<p><b>Analysis of Multi-bit Resistive Switching of W/HfO<sub>2</sub>/TiN Memristor based on Electronic Bipolar Resistive Switching Mechanism</b></p> <p>Yoon Ho Jang, Ji Hun Kim, Jae Hyun Kim, and Cheol Seong Hwang  <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-130	<p><b>Vertically Stackable Phase-change Memory with Recessed Heater Structure</b></p> <p>Jeong Woo Jeon, Yoon Kyeong Lee, Chanyoung Yoo, Eui-sang Park, Woohyun Kim, Manick Ha, and Cheol Seong Hwang  <i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-131	<p><b>DE/FE Bilayers Effect on Ferroelectric Properties of MFM Capacitors at Lower Temperature</b></p> <p>Venkateswarlu Gaddam, Dipjyoti Das, and Saghun Jeon  <i>KAIST</i></p>



TP1-132	<p><b>Stack Gate Profile Control based on PCA-EPD</b></p> <p>Dongwook Choi, Hikaru Kokura, and Woojoong Kim <i>Memory Etch Technology Team, Samsung Electronics Co., Ltd</i></p>
TP1-133	<p><b>Doped ZrO<sub>2</sub> Antiferroelectric Field Effect Transistor with HfO<sub>2</sub> Based Fixed Charge Layer</b></p> <p>Batzorig Buyantogtokh and Sanghun Jeon <i>KAIST</i></p>
TP1-134	<p><b>Negative Capacitance in the Hf-Zr-Al-O/Hf<sub>0.5</sub>Zr<sub>0.5</sub>O<sub>2</sub> Bilayer System</b></p> <p>Dipjyoti Das, Taeho Kim, Venkateswarlu Gaddam, and Sanghun Jeon <i>School of Electrical Engineering, KAIST</i></p>
TP1-135	<p><b>Investigation of Gradual Conductance Behavior in the Reset Operation based on a GeTe/Sb<sub>2</sub>Te<sub>3</sub> Superlattice Structure</b></p> <p>Shin Young Kang and Yun Heub Song <i>Department of Electronic and Computer Engineering, Hanyang University</i></p>
TP1-136	<p><b>Parallel Programming of Self-limited Analog Switching for an Array-level Weight Update in Memristive Neural Network</b></p> <p>Hanchan Song and Kyung Min Kim <i>Department of Materials Science and Engineering, KAIST</i></p>
TP1-137	<p><b>High Quality Tuning Oxide Deposition and Characteristic Evaluation based on High Temperature ALD</b></p> <p>Geon-Ho Baek<sup>1</sup>, Min-Jung Kim<sup>1</sup>, Hye-Mi Kim<sup>2</sup>, Seung-Hwan Lee<sup>2</sup>, Yusung Jin<sup>3</sup>, Hyung Soon Park<sup>3</sup>, and Jin-Seong Park<sup>1,2</sup> <i><sup>1</sup>Division of Nanoscale Semiconductor Engineering, Hanyang University, <sup>2</sup>Division of Materials Science and Engineering, Hanyang University, <sup>3</sup>Materials Development White Team, SK Hynix</i></p>
TP1-138	<p><b>Modeling and Design of Low Power MRAM for Neuromorphic Computing</b></p> <p>Yongjun Yoo, Sungmin Jang, Hyeonjun Kim, and Jaeyoung Park <i>School of Computer Science and Electrical Engineering, Handong Global University</i></p>
TP1-139	<p><b>Effect of Lithium Doping on the Physical Properties of Nickel Oxide Thin Films Formed by Metal Organic Decomposition</b></p> <p>Ingwan Lee, Taeho Kim, Yu Jin Chang, and Hyunchul Sohn <i>Department of Materials Science and Engineering, Yonsei University</i></p>
TP1-140	<p><b>Threshold Switching Characteristics of Electrochemical Metallization Selectors According to Crystallinity of Ga<sub>2</sub>Te<sub>3</sub> Electrolyte</b></p> <p>Jae Yeon Kim, Taeho Kim, Dayoon Lee, and Hyunchul Sohn <i>Department of Materials Science and Engineering, Yonsei University</i></p>



TP1-141	<p><b>Electrical Characteristics in TiN/Si:HfO<sub>2</sub>/SiON/Si (MFIS) Ferroelectric Tunnel Junction Memory</b></p> <p>Yoseop Lee, Seunghyeon Hong, Dante Ahn, Woori Ham, Sungmun Song, and Seung-Eon Ahn <i>Department of Nano-Optical Engineering, Korea Polytechnic University</i></p>
TP1-142	<p><b>High Performance ReRAMs Fabricated by Using Microwave-Assisted Nitridation of IGZO Resistive Switching Layer</b></p> <p>Shin-yi Min, Jin-gi Min, Hyo-young Kim, Hyeong-un Jeon, and Won-Ju Cho <i>Department of Electronic Materials Engineering, Kwangwoon University</i></p>
TP1-143	<p><b>Occasional Conductance Update without Re-write Method for SiNx-based Analog Synaptic Device</b></p> <p>Boram Kim, Hyun-Seok Choi, Ji-Hoon Ahn, and Yoon Kim <i>Department of Electrical and Computer Engineering, University of Seoul</i></p>
TP1-144	<p><b>Design of EEPROM IP Switches Considering High Voltage Stress for Reliability</b></p> <p>Heon Park, Jae-hyung Lee, Eun-sang Jo, and Joon-tae Jang <i>TE DS Team, DB HiTek</i></p>
TP1-145	<p><b>3-D AND-type Flash Memory with High-<i>k</i> Gate Dielectric for Synaptic Devices</b></p> <p>Young-Tak Seo<sup>1</sup>, Yoo Hyun-Noh<sup>2</sup>, Sung Yun Woo<sup>1</sup>, Byung-Gook Park<sup>1</sup>, and Jong-Ho Lee<sup>1</sup> <i><sup>1</sup>Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University, <sup>2</sup>R&amp;D Division, SK hynix</i></p>
TP1-146	<p><b>Plasma Charging Effect on Endurance Characteristics of Embedded Flash in 110nm Logic Technology Node</b></p> <p>차재한, 유유신, 김명석, 김유정, 남명희, 박정수, 이제희, 손동균 <i>SK Hynix 연구개발센터</i></p>
TP1-147	<p><b>전하 트랩 플래시 메모리 셀의 전하 손실률 모델링</b></p> <p>김건용, 김광민, 유제승, 함동현, 백승재 <i>Department of Electrical and Electronic and Control Engineering, Hankyong National University</i></p>
TP1-148	<p><b>전하 트랩이 있는 박막의 정전용량 측정 방법</b></p> <p>심건호, 송도현, 함동현, 공동호, 백지훈, 백승재 <i>Department of Electrical and Electronic and Control Engineering, Hankyong National University</i></p>
TP1-149	<p><b>3T-2R Non-Volatile TCAM Using Diode Connected NMOS Transistor</b></p> <p>Won-young Chang, Seung-kwang Hong, and Kee-won Kwon <i>College of Information and Communication Engineering, Sungkyunkwan University</i></p>



TP1-150	<p><b>Multi-Sub-Block Erase Scheme Using Dummy WL in 3D NAND Flash Memory</b></p> <p>Ilsik Ham, Youngseok Jeong, and Myounggon Kang  <i>Department of Electronic Engineering, Korea National University of Transportation</i></p>
TP1-151	<p><b>The Scaling Trend with Crystallinity Study of the Forming-less NbO<sub>2</sub> Selector</b></p> <p>Jimin lee, Jaeyeon kim, Taeho kim, and Hyunchul Sohn  <i>Department of Materials Science and Engineering, Yonsei University</i></p>
TP1-152	<p><b>Laser-induced Redox Reactions at ZnO / Al Interface for the Application of the Al / ZnO / Al RRAM</b></p> <p>Chul Jin Park, Seung Woo Han, and Moo Whan Shin  <i>School of Integrated Technology and Yonsei Institute of Convergence Technology, Yonsei University</i></p>
TP1-153	<p><b>The Study of Forming-Free Resistive Switching Devices in Nickel Oxide deposited by Reactive RF Magnetron Sputtering Method</b></p> <p>Daewoo Kim, Inwoo Kim, Ingwan Lee, and Hyunchul Sohn  <i>Department of Materials Science and Engineering, Yonsei University</i></p>
TP1-154	<p><b>산화물 트랜지스터를 기반으로 한 인공시냅스 시스템</b></p> <p>최대환, 송민규, 장석진, 권장연  <i>School of Integrated Technology, Yonsei University</i></p>
TP1-155	<p><b>Study of Nanoplate FET according to Total Ionizing Dose(TID) Effect</b></p> <p>Sangwoo Han and Myounggon Kang  <i>Department of Electronic Engineering, Korea National University of Transportation</i></p>
TP1-156	<p><b>GIDL Current Modulation in a CMOS-Compatible Synaptic Device with High-<math>\kappa</math> Gate Insulator Stack</b></p> <p>Min Kyu Park, Jong-Ho Bae, Young-Tak Seo, and Jong-Ho Lee  <i>Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>
TP1-157	<p><b>MoS<sub>2</sub> 기반 저항변화 메모리의 산소 열처리 효과</b></p> <p>송영웅, 송민규, 권장연  <i>연세대학교 글로벌융합공학부</i></p>
TP1-158	<p><b>Nonlinear and Self-selection Switching Characteristics of Bilayer SiN/BN Memristor</b></p> <p>Sobia Ali Khan<sup>1</sup>, Sungjun Kim<sup>1</sup>, and Changhwan Choi<sup>2</sup>  <sup>1</sup><i>School of Electronics Engineering, Chungbuk National University, </i><sup>2</sup><i>Division of Materials Science and Engineering, Hanyang University</i></p>



TP1-159	<p><b>Self-rectifying Artificial Synaptic Characteristics of TiO<sub>2</sub>/HfO<sub>2</sub> Memristor</b></p> <p>Ji-Ho Ryu, Sobia Khan Ali, and Sungjun Kim  <i>School of Electronics Engineering, Chungbuk National University</i></p>
TP1-160	<p><b>PEALD SiO<sub>2</sub> as Diffusion Limit Layer in Cu/SiO<sub>2</sub>/ZrO<sub>2</sub>/Pt Synaptic Device</b></p> <p>Dohee Lee, Andrey S. Sokolov, Boncheol Ku, Yu-Rim Jeon, Haider Abbas, and Changhwan Choi  <i>Division of Materials Science and Engineering, Hanyang University</i></p>
TP1-161	<p><b>Flash Memory Characteristics of Thin Film Transistor (TFT) Using C-Axis Aligned Crystalline IGZO (CAAC-IGZO) Channel Material</b></p> <p>Soonoh Jeong, Wang Xuan, Hoonhee Han, and Changhwan Choi  <i>Division of Materials Science &amp; Engineering, Hanyang University</i></p>
TP1-162	<p><b>절연막 수명 분석 위한 Monte Carlo기반 Percolation Path 생성 모델</b></p> <p>손권주, 박기론, 전종욱  <i>Department of Electrical and Electronic Engineering, Konkuk University</i></p>
TP1-163	<p><b>3차원 수직 NAND Cell의 단일 Grain Boundary로 인한 산포 특성 연구</b></p> <p>김수원, 김종민, 선윤근, 전종욱  <i>Department of Electrical and Electronic Engineering, Konkuk University</i></p>
TP1-164	<p><b>하프늄알루미나 유전막의 조성에 따른 전기전도 및 유전특성 평가</b></p> <p>백지훈, 공동호, 백승재  <i>Department of Electrical, Electronic, and Control Engineering, Hankyong National University</i></p>
TP1-165	<p><b>Non-Linearity in Ferroelectric Tunnel Junction</b></p> <p>Hojin Lee<sup>1</sup>, Joonbong Lee<sup>1</sup>, Jinho Byun<sup>2</sup>, Yesul Choi<sup>2</sup>, Jaekwang Lee<sup>2</sup>, Sungkyun Park<sup>2</sup>, and Taekjib Choi<sup>1</sup>  <sup>1</sup>Department of Nano and Advanced Materials Engineering, Sejong University, <sup>2</sup>Department of Physics, Pusan National University</p>
TP1-166	<p><b>A Proposal for Topology-based Novel Spin Memory</b></p> <p>Ji-Seok Yang, Jun-Ho Kang, Taek-Hyeon Lee, and Kab-Jin Kim  <i>Department of Physics, KAIST</i></p>





## L. Analog Design

TP1-167	<p><b>고속 통신용 아날로그 디지털 변환기</b></p> <p>Younggyun Oh<sup>1</sup>, Sein Oh<sup>1</sup>, Seungjun Lee<sup>1</sup>, Juyung Lee<sup>1</sup>, Kihyun Kim<sup>1</sup>, JooHwan Jin<sup>1</sup>, and Hyung Il Chae<sup>2</sup></p> <p><sup>1</sup>Department of Electronic Engineering, Kookmin University, <sup>2</sup>Department of Electronic Engineering, Konkuk University</p>
TP1-168	<p><b>A 340nW 11-bit 100-kS/s SAR ADC with Even/Odd Comparator for Biomedical Implant Devices</b></p> <p>Jin-Young Son and Hyouk-Kyu Cha</p> <p>SEOULTECH</p>
TP1-169	<p><b>Low-power Bidirectional Wireless Data Telemetry for Inductively-powered Devices</b></p> <p>Min-Jae Kim and Hyung-Min Lee</p> <p>School of Electrical Engineering, Korea University</p>
TP1-170	<p><b>Readout Integrated Circuit(ROIC) for High-sensitivity Gas Sensor</b></p> <p>Seungjun Lee<sup>1</sup>, Sein Oh<sup>1</sup>, Younggyun Oh<sup>1</sup>, Juyong Lee<sup>1</sup>, Kihyun Kim<sup>1</sup>, JooHwan Jin<sup>1</sup>, and Hyung Il Chae<sup>2</sup></p> <p><sup>1</sup>Department of Electronic Engineering, Kookmin University, <sup>2</sup>Department of Electronic Engineering, Konkuk University</p>
TP1-171	<p><b>IO Gate Tracking Circuit for High Voltage Tolerant Input</b></p> <p>Sangmok Lee, Seunghoo Kim, Jaeah Cha, Hyunsub Jung, and Joontae Jang</p> <p>TE DS team, DB HiTek</p>
TP1-172	<p><b>출력 전압의 고조파 감소를 위한 분수 위상동기루프 기반의 벡 컨버터 설계</b></p> <p>kyoung-Tae Min<sup>1</sup>, In-chul Hwang<sup>1</sup>, and Dong-Soon Jung<sup>2</sup></p> <p><sup>1</sup>Department of Electrical and Electronics Engineering, Kangwon National University, <sup>2</sup>RaonTech</p>
TP1-173	<p><b>Low Ripple Switched Capacitor DC-DC Converter Using Capacitance Modulation</b></p> <p>Kanghoo Kim, Mingyu Jeong, and Changsik Yoo</p> <p>Department of Electronic and Computer and Communication Engineering, Hanyang University</p>
TP1-174	<p><b>Glitch-Free Multi-Modulus Divider with Wide Frequency Division Range</b></p> <p>Goo-Han Ko, Kwang-Il Oh, Jae Gyeong Park, and Donghyun Baek</p> <p>Department of Electrical and Electronics Engineering, Chung-Ang University</p>
TP1-175	<p><b>CMOS 센서 신호 증폭기의 최적화 설계</b></p> <p>Donghee Lee and Young-Jae Min</p> <p>Department of Electric and Electronic Engineering, Halla University</p>



TP1-176	<p><b>Active Phase Shifter for Fractional Frequency Divider</b></p> <p>Si Keuk Ryu, Gwang Sub Kim, Jun Young Park, and Donghyun Baek  <i>Department of Electrical and Electronics Engineering, Chung-Ang University</i></p>
TP1-177	<p><b>Analog Front-End Design for 6.4-to-32 Gb/s Wireline Receiver</b></p> <p>Minkyoo Shim, Kwansoo Park, and Deog-kyoon Jeong  <i>Department of Electrical and Computer Engineering, Seoul National University</i></p>
TP1-178	<p><b>10-13.6Gb/s Referenceless Clock and Data Recovery Only Use Phase Detector</b></p> <p>Hyunbae Lee, Changzhi Yu, Hanseul kim, Hyeokjoon Yang, Jin An, and Jinwook Burm  <i>Department of Electronic Engineering, Sogang University</i></p>
TP1-179	<p><b>Bias Quenching Circuit Using Correcting Calibration Technique for Single Photon Avalanche Diodes</b></p> <p>Jin An, Hanseul Kim, Hyeokjoon Yang, Hyunbae Lee, and Jinwook Burm  <i>Department of Electronic Engineering, Sogang University</i></p>
TP1-180	<p><b>센서 응용을 위한 2차 Integrating Sigma-Delta ADC</b></p> <p>Taekyoung Jung, Kibaek Kwon, Seungwoo Shing, Chankyu Bae, Jiteck Jung, Minsu Park, and Joongho Choi  <i>University of Seoul</i></p>
TP1-181	<p><b>스플릿 구조를 이용하여 면적을 줄인 SAR-CDC</b></p> <p>신현삼, 김정호, 이상호, 양병도  <i>Department of Electronics Engineering, Chungbuk National University</i></p>
TP1-182	<p><b>Energy-Harvesting을 위한 디지털-카운터 MPPT</b></p> <p>김정호, 신현삼, 이상호, 양병도  <i>Department of Electronics Engineering, Chungbuk National University</i></p>
TP1-183	<p><b>Design of 4-bit Thermometer-to-Binary Decoder Utilizing 2-Stage Pipelining for High-Speed Flash ADC</b></p> <p>Chan-Ho Kye and Deog-Kyoon Jeong  <i>Department of Electrical and Computer Engineering, Seoul National University</i></p>
TP1-184	<p><b>듀타-사이클 보정 기능을 내장한 완전-디지털 고속 DLL</b></p> <p>김태연, 김종선  <i>홍익대학교 전자전기공학과</i></p>



TP1-185	<b>A Phase Noise Analysis of CMOS Ring Oscillator</b> Heejin Yang and Deog-Kyoon Jeong <i>Department of Electrical and Computer Engineering, Seoul National University</i>
TP1-186	<b>A Variable Stage and Frequency Charge Pump for ISPP</b> Sang-Won Kim and Kee-Won Kwon <i>Department of Semiconductor and Display Engineering, Sungkyunkwan University</i>
TP1-187	<b>기생 인덕턴스를 이용한 SiC MOSFETs 단락보호회로</b> Seungjik Lee <sup>1,2</sup> , Kihyun Kim <sup>1</sup> , Minseob Shim <sup>1</sup> , and I. Nam <sup>2</sup> <i><sup>1</sup>KERI, <sup>2</sup>Pusan National University</i>
TP1-188	<b>Capacitor Ratio-Independent and OP-Amp. Gain-Insensitive 9N-Clk Algorithmic ADC for CMOS Image Sensor</b> Jaemin Hong, Daejeong Kim, and Hyunsun Mo <i>Department of Electronics Engineering, Kookmin University</i>
TP1-189	<b>신호 변/복조 기능을 이용한 노이즈 둔감 신호절연회로</b> Minseob Shim, Kyoungho Lee, Jonghyun Kim, Kilsoo Seo, Youngju Park, and Kihyun Kim <i>KERI</i>

#### M. RF and Wireless Design

TP1-190	<b>Design and Analysis of RF ESD Protection Using Gated Diode and Bridged T-Coil Circuit</b> Sungmin Jang, Yongjun Yoo, Jaeok Jung, and Jaeyoung Park <i>School of Computer Science and Electrical Engineering, Handong Global University</i>
TP1-191	<b>K-Band Transceiver in 65nm CMOS</b> Chang-Kyun Noh, Ha-Neul Jung, Tea-Hyun Kim, Sang-Hwan Lee, and Young-Jin Kim <i>Korea Aerospace University</i>
TP1-192	<b>트랜지스터 기생성분이 포함된 출력 정합 네트워크를 이용한 광대역 Doherty 전력 증폭기</b> Sooncheol Bae, Hyunuk Kang, Hansik Oh, and Youngoo Yang <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>



TP1-193	<p><b>간단한 부하 회로를 가진 대역 개선 Doherty 전력증폭기 설계</b></p> <p>Eunjoo Yoo, Hyunuk Kang, and Youngoo Yang <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
TP1-194	<p><b>24.0-30.5 GHz 2-Stage GaAs pHEMT Power Amplifier Integrated Circuit</b></p> <p>Youngkuk Park, Jaekyung Shin, Eunjoo Yoo, Sooncheol Bae, and Youngoo Yang <i>Department of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
TP1-195	<p><b>3.4–3.8 GHz GaN MMIC Single-stage Doherty Power Amplifier with Frequency Dependent Impedance Compensation Network</b></p> <p>Youngchan Choi, Woojin Choi, Hyunuk Kang, and Youngoo Yang <i>Department of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
TP1-196	<p><b>5.3–6.3 GHz CMOS 5-Bit Differential Phase Shifter for Microwave Power Transfer System</b></p> <p>Jongyun Na, Sooncheol Bae, Jaekyong Shin, Hyungmo Koo, Jongseok Bae, and Youngoo Yang <i>Department of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
TP1-197	<p><b>RF 에너지 하베스팅 응용을 위한 저전력 UWB 송신기</b></p> <p>김준태, 권익진 <i>아주대학교 전자공학과</i></p>
TP1-198	<p><b>RF 에너지 하베스팅을 위한 다중 대역 RF 정류기</b></p> <p>허보람, 권익진 <i>아주대학교 전자공학과</i></p>

#### N. VLSI CAD

TP1-199	<p><b>The Construction of Look-Up Table (LUT) based on Machine Learning for Static Timing Analysis</b></p> <p>Ho Suk Yoo, Sung Kwon Kim, Deok Keun Oh, and Ju Ho Kim <i>Department of Computer Science and Engineering, Sogang University</i></p>
TP1-200	<p><b>An Event-Driven Simulation Methodology for Boost-type Battery Charger IC with Frequency-Sweeping Input Voltage Monitor</b></p> <p>Chan Young Park and Jaeha Kim <i>Department of Electrical and Computer Engineering, Seoul National University</i></p>



## R. Semiconductor Software

TP1-201	<b>스토리지 벤치마킹 시스템 설계</b> 최도진 <sup>1</sup> , 박송희 <sup>1</sup> , 박수빈 <sup>1</sup> , 신보경 <sup>1</sup> , 백연희 <sup>1</sup> , 이소민 <sup>1</sup> , 최재용 <sup>1</sup> , 임종태 <sup>1</sup> , 복경수 <sup>2</sup> , 유재수 <sup>1</sup> <i><sup>1</sup>충북대학교, <sup>2</sup>원광대학교</i>
TP1-202	<b>Open-Channel SSD 특성을 고려한 Key-Value Store 시스템</b> Kwanghee Lee, Gunhee Choi, and Jongmoo Choi <i>Department of Computer Science, Dankook University</i>
TP1-203	<b>Open-channel SSD를 위한 선택적 매핑 테이블 적재 기법 구현</b> Gijun Oh, Daon Park, and Sungyong Ahn <i>Pusan National University</i>
TP1-204	<b>Smart-WRR Scheme to Reduce I/O Latency in NVMe based on Workload Prediction</b> Seongmin Kim and Taeseok Kim <i>Kwangwoon University</i>
TP1-205	<b>SDReplayer: Storing and Replaying Reference Stream with Stack Distance Histogram</b> Choulseung Hyun and Donghee Lee <i>Department of Computer Science, University of Seoul</i>

## S. Chip Design Contest

TP1-206	<b>A 200Mb/s ~ 3.2Gb/s Referenceless Clock and Data Recovery Circuit with Bidirectional Frequency Detector</b> Nguyen Huu Tho, Bong-Kyu Kim, and Jin-Ku Kang <i>Department of Electronic Engineering, Inha University</i>
TP1-207	<b>A Signal-Counting Based Eye-Opening Monitor for EQ Coefficient Adjustment and Sampling Point Control</b> Sanghun Baek, Kyungsub Son, Namyong Kim, and Jinku Kang <i>Department of Electronic Engineering, Inha University</i>
TP1-208	<b>A Packet Based Overhead-Reduced Coding Technique for High-Speed Serial Interface</b> Jae-Pil Park, Namyong Kim, and Jin-Ku Kang <i>Department of Electronic Engineering, Inha University</i>



TP1-209	<p><b>발진기를 결합한 테라헤르츠 온-칩 배열 패치 안테나</b></p> <p>이창민, 최원석, 정진호 서강대학교 전자공학과</p>
TP1-210	<p><b>A Multi-Channel Neural Recording Front-End System with Adaptive Channel Selection</b></p> <p>Han-Sol Lee and Hyung-Min Lee <i>School of Electrical Engineering, Korea University</i></p>
TP1-211	<p><b>A Radiation-hardened SAR-based Analog-to-digital Converter IC for Sensor Readout Systems</b></p> <p>Duck-Hoon Ro, Kyung-soo Jeong, and Hyung-Min Lee <i>School of Electrical Engineering, Korea University</i></p>
TP1-212	<p><b>A Radiation-Hardened Instrumentation Amplifier for Sensor Readout Integrated Circuits in Nuclear Fusion Applications</b></p> <p>KyungSoo Jeong, Duckhoon Ro, and Hyung-Min Lee <i>Department of Electrical Engineering, Korea University</i></p>
TP1-213	<p><b>A 12.8-V Output Fully-Integrated High-Voltage Charge Pump IC for Implantable Devices</b></p> <p>Myeong-Gyu Song<sup>1,2</sup>, Geri Paksi<sup>2</sup>, and Hyouk-Kyu Cha<sup>2</sup> <sup>1</sup>Hideep, Inc., <sup>2</sup>SEOULTECH</p>
TP1-214	<p><b>A DC-DC Converter with Voltage-Mode PWM Control</b></p> <p>Jinwoo Jeon<sup>1</sup> and Chulwoo Kim<sup>2</sup> <sup>1</sup>Department of Semiconductor System Engineering, Korea University, <sup>2</sup>School of Electrical Engineering, Korea University</p>
TP1-215	<p><b>Addressable Microstimulator Circuit for Neural Prosthesis</b></p> <p>Ah-Hyoung Lee, Jung Woo Jang, Chae-Eun Lee, and Yoon-Kyu Song <i>Department of Nano Science and Technology, Seoul National University</i></p>
TP1-216	<p><b>A Negative Voltage Converter with Wide Operating Voltage Range for Energy Harvesting Applications</b></p> <p>Hyun Im, Hyeong-Sun Lee, Tae-Kyung Lee, and Chong-Gun Yu <i>Department of Electronics Engineering, Incheon National University</i></p>
TP1-217	<p><b>A Near-Threshold Voltage Digital Library for High-Energy Efficiency</b></p> <p>Jaegeun Song and Chulwoo Kim <i>Korea University</i></p>





TP1-218	<b>A 0.5 V 10-bit 3 MS/s SAR ADC Using NTV-optimized Design Technique</b> Jaegeun Song and Chulwoo Kim <i>Korea University</i>
TP1-219	<b>A Power Supply Rejection Compensated External Capacitor-Less Low Drop-Out Regulator</b> Tian Guo, Jiho Moon, and Jeongjin Roh <i>Department of Electronic Engineering, Hanyang University</i>
TP1-220	<b>기능 안전을 고려한 차량용 CAN 컨트롤러</b> Tae-Wook Kang, Jong-Bae Lee, and Seongsoo Lee <i>Department of Electronic Engineering, Soongsil University</i>
TP1-221	<b>A 1.3 V – 1.8 V, 21.66 nV/<math>\sqrt{\text{Hz}}</math>, 77.48 <math>\mu\text{A}</math> Analog Front End for Low-Voltage Resistive Bridge Sensor</b> Yo Han Choi and Chulwoo Kim <i>Department of Electrical Engineering, Korea University</i>
TP1-222	<b>Current Bleeding 기법을 이용한 고 이득 Mixer</b> 방성현 <sup>1</sup> , 최수영 <sup>1</sup> , 임창우 <sup>1</sup> , 윤태열 <sup>2</sup> <i><sup>1</sup>한양대학교 전자컴퓨터통신공학과, <sup>2</sup>한양대학교 융합전자공학부</i>
TP1-223	<b>Ku-band SPDT Switch Using Overlapped Inductor</b> Hye-min Im, Hayeon Jung, Jaeyoung Lee, and Changkun Park <i>Department of Electronic Engineering, Soongsil University</i>
TP1-224	<b>3차 이산-시간 델타-시그마 모듈레이터</b> 홍승기, 신화성, 노정진 <i>한양대학교 전자공학과</i>
TP1-225	<b>Switched Capacitor DC-DC Converter for Near-Threshold Voltage</b> Juhyun Park and Seong-Ook Jung <i>Yonsei University</i>
TP1-226	<b>Bitline Charge-recycling SRAM Write Assist Circuit</b> Kiryong Kim and Seong-Ook Jung <i>Yonsei University</i>



TP1-227	<p><b>Photodiode Based Capacitive-feedback Integrator and CMOS Image Sensor Design for Photodiode Characteristic Verification</b></p> <p>Hosung Kang<sup>1</sup> and Jungsuk Kim<sup>2</sup>  <sup>1</sup>Korea University, <sup>2</sup>Gachon University</p>
TP1-228	<p><b>저조도 응답개선을 위한 전류거울회로를 이용한 CMOS 이미지 센서회로</b></p> <p>Sang-Hyun Ahn, You-Jun Sang, and Kyoung-Rok Cho  <i>Department of Communication Circuit and System Design Engineering, Chungbuk University</i></p>
TP1-229	<p><b>가변 정밀도를 가지는 재구성 가능한 곱셈기 설계</b></p> <p>Sang-Hyun Ahn<sup>1</sup>, Seungbum Baek<sup>2</sup>, and Kyoung-Rok Cho  <sup>1</sup>Department of Communication Circuit and System Design Engineering, Chungbuk National University</p>
TP1-230	<p><b>높은 효율을 위한 2.4 GHz CMOS 전력증폭기 설계</b></p> <p>박성규, 김성진, 유진호, 박창근  <i>숭실대학교 전자공학과</i></p>
TP1-231	<p><b>높은 이득을 위한 5.8 GHz CMOS 전력증폭기 설계</b></p> <p>박성규, 유진호, 박창근  <i>숭실대학교 전자공학과</i></p>
TP1-232	<p><b>Sigma-Delta ADC for ECG Read-out with Feedforward DC Cancellation</b></p> <p>Kyoung-Jun Roh, Ye-Dam Kim, and Seung-Tak Ryu  <i>KAIST</i></p>
TP1-233	<p><b>An On-die Oscilloscope for System-Level ESD Noise Monitoring</b></p> <p>Wooryong Lee<sup>1</sup>, Junsik Park<sup>1</sup>, Chunghyun Ryu<sup>2</sup>, Jongsung Lee<sup>3</sup>, Bonggyu Kang<sup>2</sup>, Bumhee Bae<sup>2</sup>, and Jingoek Kim<sup>1</sup>  <sup>1</sup>School of ECE, UNIST, <sup>2</sup>Global Technology Center, Samsung Electronics Co., Ltd., <sup>3</sup>Solution Development Team, Samsung Electronics Co., Ltd.</p>
TP1-234	<p><b>A Continuous-Time Delta-Sigma Modulator for High Speed Signal Processing</b></p> <p>Seokjae Song and Jeongjin Roh  <i>Division of Electrical Engineering, Hanyang University</i></p>
TP1-235	<p><b>A Low-Quiescent Current Low-Dropout Regulator with Additional Output OTA</b></p> <p>Inho Jeon and Jeongjin Roh  <i>Department of Electronic Engineering, Hanyang University</i></p>



TP1-236	<b>Class-AB Amplifier with Slew-Rate Enhancement Technique for High Speed Delta-Sigma Modulator</b> Seokjae Song and Jeongjin Roh <i>Division of Electrical Engineering, Hanyang University</i>
TP1-237	<b>A Hybrid Delta-Sigma Modulator for High Resolution Analog Front Ends</b> Seokjae Song and Jeongjin Roh <i>Division of Electrical Engineering, Hanyang University</i>
TP1-238	<b>ASIC Design of Digital Neuron Circuits Supporting Various Neurons</b> Hunjun Lee and Jangwoo Kim <i>Department of Electrical and Computer Engineering, Seoul National University</i>
TP1-239	<b>N형 폴리 저항 기반의 시간영역 CMOS 스마트 온도센서</b> 허지위, 변상진 <i>동국대학교 전자전기공학부</i>
TP1-240	<b>DTLS Support Crypto Chip(Improved Area)</b> Haeyoung Kim, Janghyun Ji, and Jinjae Lee <i>Department of Electrical Electronic Computer Engineering, Pusan National University</i>
TP1-241	<b>DTLS Support Crypto Chip(Improved Speed and Area)</b> Haeyoung Kim, Janghyun Ji, and Jinjae Lee <i>Department of Electrical Electronic Computer Engineering, Pusan National University</i>
TP1-242	<b>Electromagnetic Compatibility Modeling of Integrated Circuits</b> Wooryong Lee <sup>1</sup> , Yin Sun <sup>2</sup> , Jinguok Kim <sup>1</sup> , and Chulsoon Hwang <sup>2</sup> <i><sup>1</sup>UNIST, <sup>2</sup>Missouri S&amp;T</i>
TP1-243	<b>Low Cost Ternary Content Addressable Memory Using Adaptive Matchline Discharging Scheme</b> Jinho Jeong, Kyeongho Lee, Yunho Jang, and Jongsun Park <i>School of Electrical Engineering, Korea University</i>
TP1-244	<b>3-level DSS Modulator Using the 3-level Switch for the CMOS RF PA IC</b> Jaekyung Shin, Sungjae Oh, Hansik Oh, and Youngoo Yang <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>



TP1-245	<b>Envelope Tracking Power Amplifier Integrated Circuit with Efficiency Enhanced Supply Modulator Using CMOS 65 nm Process</b> Hansik Oh, Sungjae Oh, Jaekyung Shin, Yifei Chen, Eunjoo Yoo, Sooncheol Bae, and Youngoo Yang <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>
TP1-246	<b>Embedded 2-Transistor Non-Volatile Memory for Security of IoT Device Applications</b> Kang-Un Choi, Gi-Beom Son, and Jong-Phil Hong <i>Department of Electrical Engineering, Chungbuk National University</i>
TP1-247	<b>A 900MHz CMOS Power Amplifier for LTE Application</b> Jinho Yoo, Changhyun Lee, Sungkyu Park, and Changkun Park <i>Department of Information and Electronic Engineering, Soongsil University</i>
TP1-248	<b>A WLAN RF LDMOS Power Amplifier for 802.11n Application</b> Jinho Yoo, Changhyun Lee, Sungkyu Park, and Changkun Park <i>Department of Information and Electronic Engineering, Soongsil University</i>
TP1-249	<b>An On-Chip Inverter-Based RC Oscillator with Phase Noise Suppression Technique by Inverter Switching Voltage Control</b> Junsoo Ko and Minjae Lee <i>School of Electrical Engineering and Computer Science, GIST</i>
TP1-250	<b>Time Based MPPT Algorithm for Photovoltaic Cells in 018<math>\mu</math>m Process</b> Van-Thai Dang, Kitae Yoo, Jaesoub Han, and Kwang-Hyun Baek <i>School of Electrical and Electronics Engineering, Chung-Ang University</i>
TP1-251	<b>Robust Sensing Circuit Study on OTS Vth Distribution and Array Leakage for PRAM</b> Seongbeom Kim <sup>1</sup> , Jun Young Kweon <sup>2</sup> , and Yun-Heub Song <sup>1</sup> <i><sup>1</sup>Department of Electronics and Computer Engineering, Hanyang University, <sup>2</sup>Division of Nanoscale Semiconductor Engineering, Hanyang University</i>
TP1-252	<b>A Multiphase Synchronous Buck Converter with Low-swing Gate Driver</b> Jun Tang, Tian Guo, and Jeongjin Roh <i>Department of Electronics and Communications Engineering, Hanyang University</i>
TP1-253	<b>Selection Line Optimization of Nanoelectromechanical (NEM) Memory Switches for Stress Relief</b> Min Hee Kang, Hyun Chan Jo, Hyug Su Kwon, and Woo Young Choi <i>Department of Electronic Engineering, Sogang University</i>



<p><b>TP1-254</b></p>	<p><b>Implementation of Low-Power SSVEP-based Wearable Brain-Computer Interface SoC</b>  Dokyun Kim<sup>1</sup>, Wooseok Byun<sup>2</sup>, Sung Yeon Kim<sup>1</sup>, Hyunji Kim<sup>3</sup>, Sunyoung Park<sup>3</sup>, and Ji-Hoon Kim<sup>3</sup>  <sup>1</sup>SEOULTECH, <sup>2</sup>Chungnam National University, <sup>3</sup>Ewha Womans University</p>
<p><b>TP1-255</b></p>	<p><b>CMOS 이미지센서의 RTS 잡음 평가를 위한 테스트 패턴 고안</b>  송형섭, Eadi Sunil Babu, 송현동, 최현웅, 김성현, 신현진, 신철규, 이희덕  충남대학교 전자공학과</p>
<p><b>TP1-256</b></p>	<p><b>CMOS 이미지센서내 픽셀 단위 저주파 잡음 평가를 위한 테스트 패턴 고안</b>  송형섭, Eadi Sunil Babu, 송현동, 최현웅, 김성현, 신현진, 신철규, 이희덕  충남대학교 전자공학과</p>
<p><b>TP1-257</b></p>	<p><b>Two Type of Wake-Up Receivers Analysis</b>  ChangHwan Kim and Tae Wook Kim  Yonsei University</p>
<p><b>TP1-258</b></p>	<p><b>IR-UWB Correlation Based Transceiver</b>  Sung Young Lee and Tae Wook Kim  Yonsei University</p>
<p><b>TP1-259</b></p>	<p><b>Latched Comparator with Reduced Kickback Noise for Analog-to-Digital Converters</b>  Gang-Nyeong Lee, Woo-young Lim, and Seong-Ik Cho  Chonbuk National University</p>
<p><b>TP1-260</b></p>	<p><b>A Study on High Power Efficiency PWM Mode Buck Converter for Portable Devices</b>  Bo-Gyeong Kang, AlaaDdin Al-Shidaifat, Jin-Seon Gu, Seon-A Kim, and Han-Jung Song  Inje University</p>
<p><b>TP1-261</b></p>	<p><b>The Key Generator based on Chaotic TRNG for IoT Secure Communication Applications</b>  Chamindra Jayawickrama, AlaaDdin Al-Shidaifat, Song Won Ju, Bogyong Gang, and Hanjung Song  Department of Nanoscience and Engineering, Inje University</p>
<p><b>TP1-262</b></p>	<p><b>Dynamic Power Reduction of TCAM Using Selective Precharging of Match Lines</b>  Seung-kwang Hong, Won-young Chang, and Kee-won Kwon  College of Information and Communication Engineering, Sungkyunkwan University</p>



TP1-263	<b>Mm-Wave PLL Using Self Mixing VCO</b> 임창우 <sup>1</sup> , 방성현 <sup>1</sup> , 윤태열 <sup>2</sup> <i><sup>1</sup>한양대학교 전자컴퓨터통신공학과, <sup>2</sup>한양대학교 융합전자공학부</i>
TP1-264	<b>2.4GHz Ultra-low Power Direct Active RF Detection Wake-up Receiver</b> Myunghun Lee and Kuduck Kwon <i>Department of Electronic Engineering, Kangwon National University</i>
TP1-265	<b>마이크로파 CMOS 음의 군지연 회로 설계</b> Wang Qi, 이대한, 정용채 <i>전북대학교</i>
TP1-266	<b>10.07uW Multi-Mode Baseband Transceiver for Encrypted Capsule Endoscopy</b> JungHyun Bae, Chan Hwangbo, Useok Lee, and Myung Hoon Sunwoo <i>Ajou University</i>
TP1-267	<b>Ka-Band CMOS Absorptive SP4T Switch with One-Third Miniaturization</b> Bosung Suh and Byung-Wook Min <i>Yonsei University</i>
TP1-268	<b>Retinomorphic Vision System with Dynamic Feedback</b> AlaaDdin Al-Shidaifat <sup>1</sup> , Chamindra Jayawickrama <sup>1</sup> , Bogyong Kang <sup>1</sup> , Shubhro Chakrabartty <sup>1</sup> , Yong Su Park <sup>2</sup> , and Hanjung Song <sup>1</sup> <i><sup>1</sup>Department of Nanoscience and Engineering, Inje university, <sup>2</sup>Department of Electrical Electronic Engineering, Chungcheong University</i>
TP1-269	<b>페루프 초퍼 안정화 기법을 활용한 용량형 센서용 델타-시그마 커패시턴스-디지털 컨버터</b> 권용수, 김형섭, 김재성, 한권상, 유동근, 허현우, 고희호 <i>충남대학교 전자공학과</i>
TP1-270	<b>28-GHz CMOS SP4T Absorptive Switch Based Reconfigurable Switch Network for a Switched Beam System with a Butler Matrix</b> Bosung Suh and Byung-Wook Min <i>Yonsei University</i>
TP1-271	<b>Design of Variable Gain Amplifier Using 65-nm CMOS Process</b> Jong-Hoon Myeong and Byung-Wook Min <i>Yonsei University</i>



TP1-272	<b>Design of Power Amplifier Using 65-nm CMOS Process</b> Jong-Hoon Myeong and Byung-Wook Min <i>Yonsei University</i>
TP1-273	<b>A 10-bit Noise Shaping SAR ADC with Dual Interleaved FIR Filter</b> Chang-Hyung Choi, Van Nhan Nguyen, and Jong-Wook Lee <i>Department of Electronic Engineering, Kyung Hee University</i>
TP1-274	<b>A 2.4GHz Quadrature Local Oscillator Buffer for IoT Application</b> Eunju Song and Kuduck Kwon <i>Department of Electronic Engineering, Kangwon National University</i>
TP1-275	<b>A Clock and Data Strobe Aligner for Write Leveling in DRAM</b> Chae-Young Jung, Dong-Wan Ko, and Won-Young Lee <i>SEOULTECH</i>
TP1-276	<b>A Novel Low Power Phase and Frequency Detector with Zero Dead Zone in 65-nm CMOS</b> Waseem Abbas and Munkyo Seo <i>School of Electronic and Electrical Engineering, Sungkyunkwan University</i>
TP1-277	<b>A Bandwidth Enhancement Technique for Injection Locked Frequency Divider in 65-nm CMOS</b> Waseem Abbas and Munkyo Seo <i>School of Electronic and Electrical Engineering, Sungkyunkwan University</i>
TP1-278	<b>Near-threshold Dual-mode CIS with 3T Pixels</b> Seongrim Choi, Yongkuen Park, and Byeong-Gyu Nam <i>Department of Computer Science &amp; Engineering, Chungnam National University</i>
TP1-279	<b>Subthreshold SRAM with Disturb-free 10T Bitcells</b> Seongrim Choi, Yongkuen Park, and Byeong-Gyu Nam <i>Department of Computer Science &amp; Engineering, Chungnam National University</i>
TP1-280	<b>A Low-Power Real-Time Hidden Markov Model Accelerator for Gesture User Interface on Wearable Devices</b> Seongrim Choi, Yongkuen Park, and Byeong-Gyu Nam <i>Department of Computer Science &amp; Engineering, Chungnam National University</i>





TP1-281	<p><b>A 450-<math>\mu</math>W 8-bit PLL-based Frequency-to-Digital Converter for Digital Sensors with 1k-to-1MHz Input Frequency Range in 65nm CMOS Process</b></p> <p>Jaeho Lee, Yunha Kang, Seungah Choi, and Junyoung Song <i>Department of Electronics Engineering, Incheon National University</i></p>
TP1-282	<p><b>7GHz, 6.365mW Cascaded Phase Locked Loop (PLL) with Sub-Sampling PLL and Charge-pump PLL</b></p> <p>Jongchan An, Wooyoung Choi, Jungmo An, and Junyoung Song <i>Department of Electronics Engineering Incheon National University</i></p>
TP1-283	<p><b>Microminiaturized Wireless Neural Signal Monitoring System for Brain Machine Interface</b></p> <p>Jung Woo Jang, Cha-Eun Lee, Jong-Hyun Park, and Yoon-Kyu Song <i>Department of Nano Science and Technology, Seoul National University</i></p>
TP1-284	<p><b>Wireless Data and Power Transmission Module by Using Chip Coil Antenna for Brain Insertion</b></p> <p>Jung Woo Jang, Cha-Eun Lee, Dayoung Lee, Younginha Jung, and Yoon-Kyu Song <i>Department of Nano Science and Technology, Seoul National University</i></p>
TP1-285	<p><b>Optimized 8-Channel Biphasic Retinal Prosthesis</b></p> <p>Chae-Eun Lee, Jung-Woo Jang, Seok-Won Joo, and Yun-Kyu Song <i>Department of Nano Science and Technology, Graduate School of Convergence Science and Technology, Seoul National University</i></p>
TP1-286	<p><b>Hardware Implementation of HEVC CABAC Decoder</b></p> <p>Jin-hyuk Choi<sup>1</sup> and Seong-soo Lee<sup>2</sup> <i><sup>1</sup>Electronic Engineering, <sup>2</sup>Soongsil University</i></p>
TP1-287	<p><b>A Novel EMI Reduction Technique Using Power On-time Modulation for Automotive SoC</b></p> <p>Chan-Koo Lee<sup>1</sup> and Seongsoo Lee<sup>2</sup> <i><sup>1</sup>Electronic Engineering, <sup>2</sup>Soongsil University</i></p>
TP1-288	<p><b>Bang-Bang 데이터 클럭 복원 회로를 위한 패턴 둔감성 Semi-Rotational 주파수 검출 (SRFD) 알고리즘</b></p> <p>Soon-Won Kwon and Hyeon-Min Bae <i>KAIST</i></p>
TP1-289	<p><b>Analog Front End with High Linearity and Low Noise for Automotive Pressure Sensors in 0.18 <math>\mu</math>m CMOS</b></p> <p>Tae-Young Yoon, Sang-Gyu Jeon, Byeong-Gi Jang, and Kang-Yoon Lee <i>Sungkyunkwan University</i></p>



TP1-290	<p><b>A Low Noise Front End for Hearing Aid Devices</b></p> <p>Hoon-Ju Chung<sup>1</sup> and Sungyong Jung<sup>2</sup>  <sup>1</sup><i>School of Electronic Engineering, Kumoh National Institute of Technology, </i><sup>2</sup><i>Department of Electrical Engineering, UT Arlington</i></p>
TP1-291	<p><b>차량용 비접촉식 생체신호 전송을 위한 24GHz 수신 Front-end 설계</b></p> <p>Yangji Jeon, Geonwoo Park, Jinman Myeong, and Ilku Nam  <i>Department of Electrical Engineering, Pusan National University</i></p>
TP1-292	<p><b>Design of Frequency Multiplier Using 65-nm CMOS Technology</b></p> <p>Ki hwan Sung, Dong wook Kim, and Byung Sung Kim  <i>RF Microelectronic Design Lab, Sungkyunkwan University</i></p>
TP1-293	<p><b>Design of 4 Channel W-band Receiver Using 65-nm CMOS Technology</b></p> <p>Jae hyun Park, Jun seong Kim, and Byung Sung Kim  <i>RF Microelectronic Design Lab., Sungkyunkwan University</i></p>
TP1-294	<p><b>A 94-GHz Low-Phase-Noise Power-Efficient Transformer-based VCO in 65-nm CMOS</b></p> <p>Junghwan Yoo, Doyoon Kim, and Jae-Sung Rieh  <i>School of Electrical Engineering, Korea University</i></p>
TP1-295	<p><b>65 nm CMOS 공정 기반 290 GHz 헤테로다인 이미징 검출기</b></p> <p>Jungsoo Kim, Junghwan Yoo, Doyoon Kim, and Jae-Sung Rieh  <i>Department of Electronic Engineering, Korea University</i></p>
TP1-296	<p><b>A 600 GHz 6x6 Imaging Detector Array in 65-nm CMOS</b></p> <p>Doyoon Kim, Kiryong Song, Heekang Son, and Jae-Sung Rieh  <i>School of Electrical Engineering, Korea University</i></p>
TP1-297	<p><b>Impact of Total Ionizing Dose in Nanometer SRAM</b></p> <p>Dang Le Dinh Trang, Trinh Dinh Linh, Nguyen Thanh Dat, Chang Hong Min, Hyun Cheol Jun, and IK Joon Chang  <i>Department of Electronics Engineering, Kyung Hee University</i></p>
TP1-298	<p><b>RF 에너지 하베스팅 센서를 위한 무선 주입 잠금 링 발진기</b></p> <p>허보람, 권익진  <i>아주대학교 전자공학과</i></p>



TP1-299	<b>Design of Highly Integrated Power Supply for Wearable AMOLED Display</b> Jin-Won Kim, Seung-Ki Jeon, Hui-Jin Lee, and Ho-Yong Choi <i>Department of Semiconductor Engineering, Chungbuk National University</i>
TP1-300	<b>2-Channel DC-DC Converter with Boost Converter-Charge Pump for Wearable AMOLED Displays</b> Jin-Won Kim, Chan-You Kim, Tae-Un Kim, and Ho-Yong Choi <i>Department of Semiconductor Engineering, Chungbuk National University</i>
TP1-301	<b>2 Stage Opamp Design for Biomedical Applications</b> Jin-Woo Kim and Joon-Yup Kim <i>Sejong University</i>
TP1-302	<b>RISC-V Based Secure SoC with Hidden Bus Interconnection</b> Sung Yeon Kim <sup>1</sup> , Wooseok Byun <sup>2</sup> , Hyunji Kim <sup>3</sup> , Sunyoung Park <sup>3</sup> , and Ji-Hoon Kim <sup>3</sup> <i><sup>1</sup>SEOULTECH, <sup>2</sup>Chungnam National University, <sup>3</sup>Ewha Womans University</i>
TP1-303	<b>350 nm 공정 기반의 위상 천이기 설계 및 구현</b> 윤홍선, 박영철 <i>한국외국어대학교</i>
TP1-304	<b>180 nm 공정 기반의 Spiral 인덕터 설계 및 구현</b> 윤홍선, 박영철 <i>한국외국어대학교</i>