

## [TP1] Poster Session I

2020년 2월 13일(목), 16:00-17:45 / 5층 로비 및 컨벤션홀 L

### A. Interconnect & Package

심사위원: 이태익 박사 (한국생산기술연구원)

TP1-001	<p><b>탄화규소 기반의 1700V급 하프브릿지 전력모듈</b> 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>(주)큐아이티, <sup>3</sup>제엠제코(주)</p>
TP1-002	<p><b>Spray EMI Shield PKG에서의 Contact Resistance 영향 인자 및 SE(Shield Effect) 상관 관계 연구</b> Gwanghyun Goh, Jongho Lee, Jaewook Lee, Byungkil Choi, Kangho Kim, and Hyunkyu Ryu PKG Material Development, SK Hynix Inc.</p>
TP1-003	<p><b>Thick Al RDL Pads for Thermosonic Au Wire Bonding</b> Bokgyu Min, Jisun Kim, Taeho Lee, Taehoon Kim, Kyunghwan Cho, and Kangwon Lee PKG Process Development, SK Hynix Inc.</p>
TP1-005	<p><b>Micro Bump 구조 및 조성에 따른 Solder의 고온 반응에 대한 연구</b> 김유선, 홍주완, 최재연, 박연지, 박민수, 현성호, 손재현, 이규제, 손호영, Jason Jang, 김남석 Package Development, SK Hynix Inc.</p>
TP1-006	<p><b>EMC 점탄성 물성 측정 및 해석 반영을 통한 PKG Warpage 해석 정확성 개선 연구</b> 강민규, 이대웅, 손재현, Jason, 김남석 Package Development, SK Hynix Inc.</p>
TP1-007	<p><b>Board 및 SMT 환경에 따른 BLR T/C 수명 영향성 연구</b> 이미정, 서현철, 이대웅, 손재현, Jason Jang, 김남석 Package Development, SK Hynix Inc.</p>
TP1-008	<p><b>Plasma-enhanced Atomic Layer Deposition of Tungsten Films Using Metalorganic and Halide Precursor</b> 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> Yu Jin Chang, Ju Yeong Jeong, Tae Ho Kim, and Hyun Chul Sohn Department of Materials Science and Engineering, Yonsei University</p>
TP1-010	<p><b>FOWLP에서 폴리이미드 절연층의 기계적 팽탄화</b> 유하빈<sup>1</sup>, 이상원<sup>1</sup>, 추혁진<sup>1</sup>, 김현주<sup>2</sup>, 김성동<sup>1</sup> <sup>1</sup>서울과학기술대학교 기계시스템디자인공학과, <sup>2</sup>서울과학기술대학교 화공생명공학과</p>
TP1-011	<p><b>Redistribution Layer and Under Bump Metallization Process for the Next-generation Packaging Technology</b> 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> <sup>1</sup>ULVAC Korea, Ltd, <sup>2</sup>Sumgyunkwan University, <sup>3</sup>SKKU Advanced Institute of Nano Technology (SAINT)</p>



<p><b>TP1-012</b></p>	<p><b>Finite Element Analysis for Bending or Twisting of Flexible Microelectronic System</b>                  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>  <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</p>
<p><b>TP1-013</b></p>	<p><b>Metal Circuits on Film for a Printed Fuse Device of Li-ion Battery Stack</b>                  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>  <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</p>
<p><b>TP1-014</b></p>	<p><b>Elucidating Switching Behavior of Thin Chalcogenide Films via Electrostatic Force Microscopy and Conductive Atomic Force Microscopy</b>                  Deok-Jin Jeon, Jihye Lee, Sang-Heon Park, and Jong-Souk Yeo  <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</p>
<p><b>TP1-015</b></p>	<p><b>110nm Barrier Metal 최적화를 통한 BEOL Electromigration 개선</b>                  김동석, 백은정, 이맹, 한승현, 강동원, 권경욱, 유동천, 남명희, 정영서, 박정수, 이상호, 이제희, 손동균                  SK하이닉스 시스템아이씨 연구개발센터</p>

**B. Patterning**

심사위원: 이헌 교수 (고려대학교), 채희엽 교수 (성균관대학교)

<p><b>TP1-016</b></p>	<p><b>Negative-Type Photopatternable System Using Cyclic Dithocarbonate to Create Multifunctional Patterns</b>                  Jieun Nam, Sol An, Youngjoo Song, and Myungwoong Kim                  Department of Chemistry and Chemical Engineering, Inha University</p>
<p><b>TP1-017</b></p>	<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>                  Young-Jo Kim, Ogyun Seok, Jeong Hyun Moon, In Ho Kang, Hyoung Woo Kim, and Wook Bahng                  Power Semiconductor Research Center, KERI</p>
<p><b>TP1-018</b></p>	<p><b>니켈 흡수체를 이용한 고개구수 극자외선 노광공정용 마스크 연구</b>                  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>
<p><b>TP1-019</b></p>	<p><b>백금을 활용한 고개구수 극자외선 노광공정용 위상변위 마스크 연구</b>                  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>

<p><b>TP1-020</b></p>	<p><b>Sub-10 nm Nanopattern Fabrication with High Flory-Huggins interaction parameter Block copolymer with Flash lamp in millisecond</b>                  Jang Hwan Kim, Hyeong Min Jin, Dae yong Park, Keon Jae Lee, and Sang Ouk Kim  <i>Department of Materials Science and Engineering, KAIST</i></p>
<p><b>TP1-021</b></p>	<p><b>열처리에 따른 복합구조체 EUV 펠리클의 열적 특성 평가</b>                  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>
<p><b>TP1-022</b></p>	<p><b>MoSi<sub>2</sub> 복합구조체 EUV 펠리클의 광학적/열적 특성 평가</b>                  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>
<p><b>TP1-023</b></p>	<p><b>Directed Self-Assembly of Block Copolymer by Laser Assisted Thermal Field on Graphene Layer</b>                  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>
<p><b>TP1-024</b></p>	<p><b>저지구온난화지수를 가진 CF<sub>3</sub>I를 이용한 SiO<sub>2</sub>의 Atomic Layer Etching</b>                  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>
<p><b>TP1-025</b></p>	<p><b>Sub- 10 nm Plasmonic Nanogap Array by Block Copolymer Self-Assembly for High-Sensitivity SERS</b>                  Heejae Choi, Hyeong Min Jin, Ju Young Kim, and Sang Ouk Kim  <i>Department of Material Science &amp; Engineering, KAIST</i></p>
<p><b>TP1-026</b></p>	<p><b>Block Copolymer Self-Assembly on 3D Substrate with Vapor Phase Deposited Neutral Adlayer</b>                  Geon Gug Yang<sup>1</sup>, Junhwan Choi<sup>2</sup>, Sung Gap Im<sup>2</sup>, and Sang Ouk Kim<sup>1</sup>  <sup>1</sup>Department of Materials Science and Engineering, KAIST, <sup>2</sup>Department of Chemical and Biomolecular Engineering, KAIST</p>
<p><b>TP1-027</b></p>	<p><b>Edge Engineering of 2D Transition Metal Dichalcogenides by Block Copolymer Nanopatterning</b>                  Taeyeong Yun, Gang San Lee, and Sang Ouk Kim  <i>Department of Materials Science &amp; Engineering, KAIST</i></p>
<p><b>TP1-028</b></p>	<p><b>Nanometer-scale Etching of Copper Thin Films Using Inductively Coupled Plasma of Organic Chemicals and Alcohols</b>                  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>
<p><b>TP1-029</b></p>	<p><b>3D Tailored Crumpling of Block-Copolymer Lithography on Chemically Modified Graphene</b>                  Young Kyu Ko, Ju Young Kim, and Sang Ouk Kim  <i>Department of Material Science &amp; Engineering, KAIST</i></p>



TP1-030	<b>Thermal Shock Induced Dry Transfer Printing and its Potential Applications</b> 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>
TP1-031	<b>Density Functional Theory Study on the Gas-phase Etching of SiO<sub>2</sub> Using HF and NH<sub>4</sub>F</b> 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>
TP1-032	<b>Thermal Atomic Layer Etching of SiO<sub>2</sub> for Surface Cleaning with CF<sub>4</sub>/NH<sub>3</sub> Plasma</b> 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>
TP1-033	<b>Characteristics of Nano-Trench Sidewall Etching Residue after HBr+Cl<sub>2</sub> Plasma Etching</b> 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>
TP1-034	<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> Seoeun Kim <sup>1</sup> , Yongjae Kim <sup>2</sup> , Hojin Kang <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>
TP1-035	<b>Plasma Treatments on the Two-dimensional Multi-gate Stack of Graphene Encapsulated by Hexagonal Boron Nitride</b> Sungwon Lee <sup>1</sup> , Kyung Joon Han <sup>2</sup> , and Won Jong Yoo <sup>1</sup> <i><sup>1</sup>SKKU Advanced Institute of Nano-Technology (SAINT), Sungkyunkwan University, <sup>2</sup>Palogen Inc. Palo Alto, USA</i>
TP1-036	<b>The Formation of Nanopores Using Electron Beam Lithography for Biosensing Application</b> Kwangro Lee <sup>1</sup> , Sungwon Lee <sup>1</sup> , Kyung Joon Han <sup>2</sup> , and Won Jong Yoo <sup>1</sup> <i><sup>1</sup>SKKU Advanced Institute of Nano-Technology (SAINT), Sungkyunkwan University, <sup>2</sup>Palogen Inc. Palo Alto, CA</i>

## C. Material Growth & Characterization

심사위원: 권순용 교수 (UNIST), 백승협 박사 (KIST)

<p><b>TP1-037</b></p>	<p><b>Enhanced Chemical Stability of Ni Foam by 3D Graphene Coating</b>                  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><i>School of Materials Science and Engineering &amp; Low-Dimensional Carbon Material Center, UNIST,</i>  <sup>2</sup><i>School of Mechanical, Aerospace, and Nuclear Engineering, UNIST,</i> <sup>3</sup><i>Fuel Cell Technology Development Team, Eco Technology Center, R&amp;D Division, Hyundai Motor Group</i></p>
<p><b>TP1-038</b></p>	<p><b>Formation of Graphene-Inserted PEDOT:PSS/Colorless Polyimide Composites for High Performance Flexible Transparent Electrodes</b>                  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  <i>School of Materials Science and Engineering, UNIST</i></p>
<p><b>TP1-039</b></p>	<p><b>Probing the Water Impermeability Discrepancy in CVD-Grown Graphene</b>                  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><i>School of Materials Science and Engineering and Low Dimensional Carbon Materials Center, UNIST,</i>  <sup>2</sup><i>School of Mechanical, Aerospace and Nuclear Engineering, UNIST</i></p>
<p><b>TP1-040</b></p>	<p><b>Partial Oxidation Behavior of Diverse Intrinsic Graphene Defects in Graphene-Grown Copper</b>                  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><i>School of Materials Science and Engineering &amp; Low-Dimensional Carbon Materials Center, UNIST,</i>  <sup>2</sup><i>School of Mechanical and Nuclear Engineering, UNIST</i></p>
<p><b>TP1-041</b></p>	<p><b>Sintering 조건이 유리질내 OH 함량분포에 미치는 영향</b>                  김대영, 오성국  <i>대한광통신주식회사</i></p>
<p><b>TP1-042</b></p>	<p><b>비정질 탄소층과 급속 열처리 방법을 이용한 그래핀 성장</b>                  조철희, 김장혁, 김지현  <i>고려대학교 화공생명공학과</i></p>
<p><b>TP1-043</b></p>	<p><b>Hydrodynamic Transport Tesla Valve in Graphene</b>                  Jea 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>  <sup>1</sup><i>Department of Physics, Kyung Hee University,</i> <sup>2</sup><i>Department of Materials Science and Engineering, Yonsei University,</i> <sup>3</sup><i>KRISS,</i> <sup>4</sup><i>Department of Physics, Gyeongsang National University</i></p>
<p><b>TP1-044</b></p>	<p><b>Unconventional Electrical Transport of Graphene on Charge Density Waves of 1T-TaS<sub>2</sub></b>                  Minseong Kwon<sup>1</sup>, Dongjea Seo<sup>2</sup>, Jea 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>  <sup>1</sup><i>Department of Physics, Kyung Hee University,</i> <sup>2</sup><i>Department of Materials Science and Engineering, Yonsei University</i></p>



<p><b>TP1-045</b></p>	<p><b>Thermal Radiation Control With Graphene/hBN Heterostructure PCC</b>          조민현<sup>1</sup>, 김규진<sup>1,2</sup>, 서동제<sup>3</sup>, 최헌진<sup>3</sup>, 김영동<sup>1</sup>, 유건호<sup>1</sup>, 한일기<sup>2</sup>, 김영덕<sup>1</sup>  <sup>1</sup>경희대학교 물리학과, <sup>2</sup>한국과학기술원 나노포토닉스연구센터, <sup>3</sup>연세대학교 신소재공학과</p>
<p><b>TP1-046</b></p>	<p><b>Near Ultraviolet Emitting Device With Graphene / Hexagonal Boron Nitride / Graphene Tunneling Structure</b>          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 Kin<sup>1</sup>  <sup>1</sup>Kyung Hee University, <sup>2</sup>Yonsei University</p>
<p><b>TP1-047</b></p>	<p><b>Atomic Layer Deposition of SnTe for High-Density, Fast Phase Change Memory</b>          Yoon Kyeung 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>
<p><b>TP1-048</b></p>	<p><b>Spontaneous Hybridization of Organic-Inorganic Perovskite with Nitrogen doped Carbon Nanotubes</b>          Daewon Kim, Gil Yong Lee, and Sang Ouk Kim  <i>Department of Materials Science and Engineering, KAIST</i></p>
<p><b>TP1-049</b></p>	<p><b>화학적 도핑 방법을 이용한 그래핀 일함수 조절의 전기적 특성 분석</b>          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>
<p><b>TP1-050</b></p>	<p><b>Investigation Of Dopant Behavior In Epitaxially Grown Ge On III-V Compounds</b>          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>  <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</p>
<p><b>TP1-051</b></p>	<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>          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>  <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>
<p><b>TP1-052</b></p>	<p><b>Synthesis of Solution-Processed Two-Dimensional Transition Metal Carbide (MXene) Using Highly Purified Precursors for Ink Applications</b>          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  <i>School of Materials Science and Engineering, UNIST</i></p>

<p><b>TP1-053</b></p>	<p><b>Heteroepitaxial Growth of <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> Thin Films by PVD Method</b>          Hyung-Jin Choi and Seung-Hyub Baek  <i>Center for Electronic Materials, KIST</i></p>
<p><b>TP1-054</b></p>	<p><b>Characteristics Of <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> TFTs With Nitrogen Atom Doping By Plasma Assisted Pulsed Laser Deposition</b>          Sang Ha Jeong, Thi Kim Oanh Vu, and Eun Kyu Kim  <i>Department of Physics, Hanyang University</i></p>
<p><b>TP1-055</b></p>	<p><b>Study of p-GaN Nanocrystals Grown on InGaN/GaN Nanowire Heterostructures</b>          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>  <sup>1</sup><i>Semiconductor Materials Process Laboratory, School of Advanced Materials Engineering, Engineering College, Research Center for Advanced Materials Development (RCAMD), Jeonbuk National University,</i> <sup>2</sup><i>Optic &amp; Electronic Component Material Center, KICET</i></p>
<p><b>TP1-056</b></p>	<p><b>Study on Fabrication of Coaxial InN QDs Grown on n-GaN NW by MOCVD System for Optoelectronics Devices</b>          Dong-Hun Yoo, Dae-Young Um, Ga Eun Hong, Suel Lee, and Cheul-Ro Lee  <i>Semiconductor Materials Process Laboratory, School of Advanced Materials Engineering, Engineering College, Research Center for Advanced Materials Development (RCAMD), Jeonbuk National University</i></p>
<p><b>TP1-057</b></p>	<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>          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>  <sup>1</sup><i>Department of Nano-Optical Engineering, Korea Polytechnic University,</i> <sup>2</sup><i>Adamant Namiki Precision Jewel Co. Ltd.</i></p>
<p><b>TP1-058</b></p>	<p><b>Atomic Layer Deposition of Highly Stoichiometric Cu<sub>2</sub>SnS<sub>3</sub> Films as Absorber Materials for Photovoltaic Cells</b>          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>, and Chang Gyoun Kim<sup>1,2</sup>  <sup>1</sup><i>Division of Advanced Materials, KRICT,</i> <sup>2</sup><i>Department of Chemical Convergence Materials, University of Science and Technology,</i> <sup>3</sup><i>Department of Materials Science and Engineering, SEOULTECH</i></p>
<p><b>TP1-059</b></p>	<p><b>Novel Synthetic Route for InP Nanocrystals Using Triphenyl Phosphite</b>          Dongkyu Lee and Doh C. Lee  <i>Department of Chemical and Biomolecular Engineering, KAIST</i></p>
<p><b>TP1-060</b></p>	<p><b>Characterization of Si-doped InAs Nanowire on InP(111)B Substrate</b>          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>  <sup>1</sup><i>Department of Electrical and Computer Engineering, Inter-university Semiconductor Research Center, Seoul National University,</i> <sup>2</sup><i>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, and 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> <sup>1</sup><i>Department of Electrical and Computer Engineering, Ajou University, </i><sup>2</sup><i>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> <sup>1</sup><i>KANC, </i><sup>2</sup><i>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> <sup>1</sup><i>Department of Electrical Engineering and Computer Science, Seoul National University, </i><sup>2</sup><i>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> <sup>1</sup><i>Hybrid Materials Research Center and Department of Nanotechnology and Advanced Materials Engineering, Sejong University, </i><sup>2</sup><i>Department of Physics Education, Seoul National University, </i><sup>3</sup><i>Department of Energy Science, Sungkyunkwan University, </i><sup>4</sup><i>Center of Integrated Nanostructure Physics, Institute for Basic Science (IBS), </i><sup>5</sup><i>Department of Physics, Pusan National University</i></p>
TP1-068	<p><b>표면 처리를 통한 바나듐 이산화물 단결정 나노빔의 Metal-Insulator-Transition 전기적 특성 변화 연구</b> 고민환<sup>1</sup>, 이상연<sup>1</sup>, 강현우<sup>1</sup>, 박주철<sup>2</sup>, 서형탁<sup>1,3</sup> <sup>1</sup><i>아주대학교 에너지시스템학과<sup>2</sup> 경북과학기술진흥센터, 구미전자정보기술원, </i><sup>3</sup><i>아주대학교 신소재공학과</i></p>
TP1-069	<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> <sup>1</sup><i>Center for Electronic Materials, KIST, </i><sup>2</sup><i>Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University</i></p>



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

심사위원 : 김경록 교수 (UNIST), 김가람 교수 (명지대학교)

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



TP1-079	<b>3D V-NAND의 고선택적 Si<sub>3</sub>N<sub>4</sub> 식각 중 나타나는 산화물 재성장 현상 분석</b> 김태현, 손창진, 박태건, 임상우 <i>Department of Chemical and Biomolecular Engineering, Yonsei University</i>
TP1-080	<b>Investigation of Interface Trap Density by Low Frequency Noise and Subthreshold Slope</b> Seungjun Moon and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>
TP1-081	<b>첨가제를 이용한 고온 인산 용액의 Si<sub>3</sub>N<sub>4</sub>/SiO<sub>2</sub> 식각 반응 거동 연구</b> 박태건, 손창진, 김태현, 임상우 <i>Department of Chemical and Biomolecular Engineering, Yonsei University</i>
TP1-082	<b>T-CMOS 컴팩 모델을 이용한 삼진 Quantizer 동작 시뮬레이션 검증</b> 최영은, 정재원, 김우석, 김경록 <i>울산과학기술원 전기전자컴퓨터공학부</i>
TP1-083	<b>Hardware-based Neural Networks Using Multiple NAND Flash Cells for a Synaptic Device</b> 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>
TP1-084	<b>Tunneling-based Ternary CMOS with Ferroelectric Gate Dielectric</b> 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>
TP1-085	<b>Energy-delay Sensitivity Analysis of NEM Relay Using Negative Capacitance</b> Chankeun Yoon and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>
TP1-086	<b>Analysis of Work Function Variation in Negative Capacitance Gate-all-around Junctionless Nanowire FET</b> Yejoon Choi and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>
TP1-087	<b>Regression Model for Investigating the Impact of Line-edge-roughness (LER)</b> Sangho Yu and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>
TP1-088	<b>Analysis of Parasitic Capacitance Effect on Nanowire Negative Capacitance Field-effect Transistor (NW-NCFET)</b> Jae Yeon Park, Hyun-Ho Ahn, Seungwon Go, and Sangwan Kim <i>Department of Electrical and Computer Engineering, Ajou University</i>
TP1-089	<b>FBFET-based Ring Oscillators for Neuromorphic Computing</b> Gwon Kim, Changhoon Lee, and Changhwan Shin <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i>

<b>TP1-090</b>	<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></p> <p><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</p>
<b>TP1-091</b>	<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</p> <p>Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University</p>
<b>TP1-092</b>	<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</p> <p>Department of Electrical and Computer Engineering, Ajou University</p>
<b>TP1-093</b>	<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</p> <p>Department of Electrical and Computer Engineering, Ajou University</p>
<b>TP1-094</b>	<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></p> <p><sup>1</sup>Seoul National University, <sup>2</sup>Giparang, Inc.</p>
<b>TP1-095</b>	<p><b>Machine-learning Model for Predicting the Effect of Line Edge Roughness on Device Performance</b></p> <p>Shinick Han and Changhwan Shin</p> <p>Department of Electrical and Computer Engineering, Sungkyunkwan University</p>
<b>TP1-096</b>	<p><b>Observation of Negative Capacitance Effect by Phase Field Simulation</b></p> <p>Taegeon Kim and Changhwan Shin</p> <p>Department of Electrical and Computer Engineering, Sungkyunkwan University</p>
<b>TP1-097</b>	<p><b>알루미늄을 이용한 저온 직접 증착 실리콘의 결정화율 증가</b></p> <p>장석진, 송영웅, 최대환, 윤정현, 권장연</p> <p>연세대학교</p>
<b>TP1-098</b>	<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>, Chanhyuck 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></p> <p><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</p>
<b>TP1-099</b>	<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></p> <p><sup>1</sup>College of Engineering, Yonsei University, <sup>2</sup>Yonsei Institute of Convergence Technology, Yonsei University</p>
<b>TP1-100</b>	<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</p> <p>Department of Electronic Engineering, UNIST</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</p> <p><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</p> <p><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></p> <p><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></p> <p><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</p> <p><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</p> <p><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></p> <p><i><sup>1</sup>Graduate School of IT Convergence Engineering, Gachon University, <sup>2</sup>Department of Electronics Engineering, Gachon University</i></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></p> <p><i><sup>1</sup>Graduate School of IT Convergence Engineering, Gachon University, <sup>2</sup>Department of Electronics Engineering, Gachon University</i></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></p> <p><i><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</i></p>

## K : Memory (Design & Process Technology)

심사위원: 김수길 박사 (SK하이닉스), 김형진 교수 (영남대학교)

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TP1-112	<p><b>Oxygen Vacancy Controlled Hafnia Ferroelectric with RuO<sub>2</sub> Electrode</b> 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> 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	<p><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></p>
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TP1-116	<p><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></p>
TP1-117	<p><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></p>
TP1-118	<p><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,</i> <sup>2</sup><i>SK Hynix Inc.</i></p>
TP1-119	<p><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></p>



TP1-120	<p><b>Process-dependent Synaptic and Nonvolatile Memory Characteristics in Thin-film Transistors with HfOx Gate Insulator and ZnO Channel Layer</b></p> <p>Hyerin Lee, Keonwon Beom, Minju Kim, and Tae-Sik Yoon <i>Department of Materials Science and Engineering, Myongji University</i></p>
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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> <i><sup>1</sup>Department of Material Science and Engineering, Korea Advanced Institute of Science and Engineering, <sup>2</sup>Technology Convergence Division, KICET</i></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>

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<p><b>TP1-130</b></p>	<p><b>Vertically Stackable Phase-change Memory with Recessed Heater Structure</b>          Jeong Woo Jeon, Yoon Kyeong Lee, Chanyoung Yoo, Eui-sang Park, Woo Hyun 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>
<p><b>TP1-131</b></p>	<p><b>DE/FE Bilayers Effect on Ferroelectric Properties of MFM Capacitors at Lower Temperature</b>          Venkateswarlu Gaddam, Dipjyoti Das, and Saghun Jeon  <i>KAIST</i></p>
<p><b>TP1-132</b></p>	<p><b>Stack Gate Profile Control based on PCA-EPD</b>          Dongwook Choi, Hikaru Kokura, and Woojoong Kim  <i>Memory Etch Technology Team, Samsung Electronics Co., Ltd</i></p>
<p><b>TP1-133</b></p>	<p><b>Doped ZrO<sub>2</sub> Antiferroelectric Field Effect Transistor with HfO<sub>2</sub> Based Fixed Charge Layer</b>          Batzorig Buyantogtokh and Sanghun Jeon  <i>KAIST</i></p>
<p><b>TP1-134</b></p>	<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>          Dipjyoti Das, Taeho Kim, Venkateswarlu Gaddam, and Sanghun Jeon  <i>School of Electrical Engineering, KAIST</i></p>
<p><b>TP1-135</b></p>	<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>          Shin Young Kang and Yun Heub Song  <i>Department of Electronic and Computer Engineering, Hanyang University</i></p>
<p><b>TP1-136</b></p>	<p><b>Parallel Programming of Self-limited Analog Switching for an Array-level Weight Update in Memristive Neural Network</b>          Hanchan Song and Kyung Min Kim  <i>Department of Materials Science and Engineering, KAIST</i></p>
<p><b>TP1-137</b></p>	<p><b>High Quality Tuning Oxide Deposition and Characteristic Evaluation based on High Temperature ALD</b>          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>  <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 Inc.</p>
<p><b>TP1-138</b></p>	<p><b>Modeling and Design of Low Power MRAM for Neuromorphic Computing</b>          Yongjun Yoo, Sungmin Jang, Hyeonjun Kim, and Jaeyoung Park  <i>School of Computer Science and Electrical Engineering, Handong Global University</i></p>
<p><b>TP1-139</b></p>	<p><b>Effect of Lithium Doping on the Physical Properties of Nickel Oxide Thin Films Formed by Metal Organic Decomposition</b>          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-k 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>  <sup>1</sup><i>Department of Electrical and Computer Engineering and Inter-University Semiconductor Research Center, Seoul National University, <sup>2</sup>R&amp;D Division, SK Hynix Inc.</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 손실을 모델링</b></p> <p>김건웅, 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>



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TP1-150	<p><b>Multi-Sub-Block Erase Scheme Using Dummy WL in 3D NAND Flash Memory</b>            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>            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>            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>            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>            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>            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>            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>            송영웅, 송민규, 권장연  <i>연세대학교 글로벌융합공학부</i></p>
TP1-158	<p><b>Nonlinear and Self-selection Switching Characteristics of Bilayer SiN/BN Memristor</b>            Sobia Ali Khan<sup>1</sup>, Sungjun Kim<sup>1</sup>, and Changhwan Choi<sup>2</sup>  <sup>1</sup>School of Electronics Engineering, Chungbuk National University, <sup>2</sup>Division of Materials Science and Engineering, Hanyang University</p>
TP1-159	<p><b>Self-rectifying Artificial Synaptic Characteristics of TiO<sub>2</sub>/HfO<sub>2</sub> Memristor</b>            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>            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> <i><sup>1</sup>Department of Nano and Advanced Materials Engineering, Sejong University, <sup>2</sup>Department of Physics, Pusan National University</i></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

심사위원: 지동우 교수 (아주대학교), 엄지용 교수 (한남대학교)

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> <i><sup>1</sup>Department of Electronic Engineering, Kookmin University, <sup>2</sup>Department of Electronic Engineering, Konkuk University</i></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 <i>SEOULTECH</i></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 <i>School of Electrical Engineering, Korea University</i></p>

<p><b>TP1-170</b></p>	<p><b>Readout Integrated Circuit(ROIC) for High-sensitivity Gas Sensor</b>                  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>  <sup>1</sup>Department of Electronic Engineering, Kookmin University, <sup>2</sup>Department of Electronic Engineering, Konkuk University</p>
<p><b>TP1-171</b></p>	<p><b>IO Gate Tracking Circuit for High Voltage Tolerant Input</b>                  Sangmok Lee, Seunghoo Kim, Jaeah Cha, Hyunsub Jung, and Joontae Jang                  TE DS team, DB HiTek</p>
<p><b>TP1-172</b></p>	<p><b>출력 전압의 고조파 감소를 위한 분수 위상동기루프 기반의 벡 컨버터 설계</b>                  kyoung-Tae Min<sup>1</sup>, In-chul Hwang<sup>1</sup>, and Dong-Soon Jung<sup>2</sup>  <sup>1</sup>Department of Electrical and Electronics Engineering, Kangwon National University, <sup>2</sup>RaonTech</p>
<p><b>TP1-173</b></p>	<p><b>Low Ripple Switched Capacitor DC-DC Converter Using Capacitance Modulation</b>                  Kanghoo Kim, Mingyu Jeong, and Changsik Yoo                  Department of Electronic and Computer and Communication Engineering, Hanyang University</p>
<p><b>TP1-174</b></p>	<p><b>Glitch-Free Multi-Modulus Divider with Wide Frequency Division Range</b>                  Goo-Han Ko, Kwang-Il Oh, Jae Gyeong Park, and Donghyun Baek                  Department of Electrical and Electronics Engineering, Chung-Ang University</p>
<p><b>TP1-175</b></p>	<p><b>CMOS 센서 신호 증폭기의 최적화 설계</b>                  Donghee Lee and Young-Jae Min                  Department of Electric and Electronic Engineering, Halla University</p>
<p><b>TP1-176</b></p>	<p><b>Active Phase Shifter for Fractional Frequency Divider</b>                  Si Keuk Ryu, Gwang Sub Kim, Jun Young Park, and Donghyun Baek                  Department of Electrical and Electronics Engineering, Chung-Ang University</p>
<p><b>TP1-177</b></p>	<p><b>Analog Front-End Design for 6.4-to-32 Gb/s Wireline Receiver</b>                  Minkyoo Shim, Kwansoo Park, and Deog-kyoon Jeong                  Department of Electrical and Computer Engineering, Seoul National University</p>
<p><b>TP1-178</b></p>	<p><b>10-13.6Gb/s Referenceless Clock and Data Recovery Only Use Phase Detector</b>                  Hyunbae Lee, Changzhi Yu, Hanseul Kim, Hyeokjoon Yang, Jin An, and Jinwook Burm                  Department of Electronic Engineering, Sogang University</p>
<p><b>TP1-179</b></p>	<p><b>Bias Quenching Circuit Using Correcting Calibration Technique for Single Photon Avalanche Diodes</b>                  Jin An, Hanseul Kim, Hyeokjoon Yang, Hyunbae Lee, and Jinwook Burm                  Department of Electronic Engineering, Sogang University</p>



<p><b>TP1-180</b></p>	<p><b>센서 응용을 위한 2차 Integrating Sigma-Delta ADC</b>                  Taekyoung Jung, Kibaek Kwon, Seungwoo Shing, Chankyu Bae, Jiteck Jung, Minsu Park, and Joongho Choi  <i>University of Seoul</i></p>
<p><b>TP1-181</b></p>	<p><b>스플릿 구조를 이용하여 면적을 줄인 SAR-CDC</b>                  신현삼, 김정호, 이상호, 양병도  <i>Department of Electronics Engineering, Chungbuk National University</i></p>
<p><b>TP1-182</b></p>	<p><b>Energy-Harvesting을 위한 디지털-카운터 MPPT</b>                  김정호, 신현삼, 이상호, 양병도  <i>Department of Electronics Engineering, Chungbuk National University</i></p>
<p><b>TP1-183</b></p>	<p><b>Design of 4-bit Thermometer-to-Binary Decoder Utilizing 2-Stage Pipelining for High-Speed Flash ADC</b>                  Chan-Ho Kye and Deog-Kyoon Jeong  <i>Department of Electrical and Computer Engineering, Seoul National University</i></p>
<p><b>TP1-184</b></p>	<p><b>듀타-사이클 보정 기능을 내장한 완전-디지털 고속 DLL</b>                  김태연, 김종선  <i>홍익대학교 전자전기공학과</i></p>
<p><b>TP1-185</b></p>	<p><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></p>
<p><b>TP1-186</b></p>	<p><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></p>
<p><b>TP1-187</b></p>	<p><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>  <sup>1</sup>KERI, <sup>2</sup>Pusan National University</p>
<p><b>TP1-188</b></p>	<p><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></p>
<p><b>TP1-189</b></p>	<p><b>신호 변/복조 기능을 이용한 노이즈 둔감 신호절연회로</b>                  Minseob Shim, Kyoungho Lee, Jonghyun Kim, Kilsoo Seo, Youngju Park, and Kihyun Kim                  KERI</p>

## M. RF and Wireless Design

심사위원: 권익진 교수 (아주대학교), 권구덕 교수 (강원대학교)

<p><b>TP1-190</b></p>	<p><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></p>
<p><b>TP1-191</b></p>	<p><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></p>
<p><b>TP1-192</b></p>	<p><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></p>
<p><b>TP1-193</b></p>	<p><b>간단한 부하 회로를 가진 대역 개선 Doherty 전력증폭기 설계</b> Eunjoo Yoo, Hyunuk Kang, and Youngoo Yang <i>Department of Electrical and Computer Engineering, Sungkyunkwan University</i></p>
<p><b>TP1-194</b></p>	<p><b>24.0-30.5 GHz 2-Stage GaAs pHEMT Power Amplifier Integrated Circuit</b> Youngkuk Park, Jaekyung Shin, Eunjoo Yoo, Sooncheol Bae, and Youngoo Yang <i>Department of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
<p><b>TP1-195</b></p>	<p><b>3.4-3.8 GHz GaN MMIC Single-stage Doherty Power Amplifier with Frequency Dependent Impedance Compensation Network</b> Youngchan Choi, Woojin Choi, Hyunuk Kang, and Youngoo Yang <i>Department of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
<p><b>TP1-196</b></p>	<p><b>5.3-6.3 GHz CMOS 5-Bit Differential Phase Shifter for Microwave Power Transfer System</b> Jongyun Na, Sooncheol Bae, Jaekyong Shin, Hyungmo Koo, Jongseok Bae, and Youngoo Yang <i>Department of Electronic and Electrical Engineering, Sungkyunkwan University</i></p>
<p><b>TP1-197</b></p>	<p><b>RF 에너지 하베스팅 응용을 위한 저전력 UWB 송신기</b> 김준태, 권익진 <i>아주대학교 전자공학과</i></p>
<p><b>TP1-198</b></p>	<p><b>RF 에너지 하베스팅을 위한 다중 대역 RF 정류기</b> 허보람, 권익진 <i>아주대학교 전자공학과</i></p>



N. VLSI CAD

심사위원: 강석형 교수 (POSTECH), 송대건 교수 (경북대학교)

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

R. Semiconductor Software

심사위원: 안성용 교수 (부산대학교), 권세진 교수 (강원대학교)

<p>TP1-201</p>	<p><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></p>
<p>TP1-202</p>	<p><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></p>
<p>TP1-203</p>	<p><b>Open-channel SSD를 위한 선택적 매핑 테이블 적재 기법 구현</b> Gijun Oh, Daon Park, and Sungyong Ahn <i>Pusan National University</i></p>
<p>TP1-204</p>	<p><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></p>
<p>TP1-205</p>	<p><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></p>

S. Chip Design Contest

심사위원: 채형일 교수(건국대학교), 이승은 교수 (서울과학기술대학교)

<p>TP1-206</p>	<p><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></p>
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# “Intelligent Semiconductor for Technology Convergence”

<p><b>TP1-207</b></p>	<p><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></p>
<p><b>TP1-208</b></p>	<p><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></p>
<p><b>TP1-209</b></p>	<p><b>발진기를 결합한 테라헤르츠 온-칩 배열 패치 안테나</b> 이창민, 최원석, 정진호 <i>서강대학교 전자공학과</i></p>
<p><b>TP1-210</b></p>	<p><b>A Multi-Channel Neural Recording Front-End System with Adaptive Channel Selection</b> Han-Sol Lee and Hyung-Min Lee <i>School of Electrical Engineering, Korea University</i></p>
<p><b>TP1-211</b></p>	<p><b>A Radiation-hardened SAR-based Analog-to-digital Converter IC for Sensor Readout Systems</b> Duck-Hoon Ro, Kyung-soo Jeong, and Hyung-Min Lee <i>School of Electrical Engineering, Korea University</i></p>
<p><b>TP1-212</b></p>	<p><b>A Radiation-Hardened Instrumentation Amplifier for Sensor Readout Integrated Circuits in Nuclear Fusion Applications</b> KyungSoo Jeong, Duckhoon Ro, and Hyung-Min Lee <i>Department of Electrical Engineering, Korea University</i></p>
<p><b>TP1-213</b></p>	<p><b>A 12.8-V Output Fully-Integrated High-Voltage Charge Pump IC for Implantable Devices</b> 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>
<p><b>TP1-214</b></p>	<p><b>A DC-DC Converter with Voltage-Mode PWM Control</b> 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>
<p><b>TP1-215</b></p>	<p><b>Addressable Microstimulator Circuit for Neural Prosthesis</b> 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>
<p><b>TP1-216</b></p>	<p><b>A Negative Voltage Converter with Wide Operating Voltage Range for Energy Harvesting Applications</b> 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>                  Jaegeun Song and Chulwoo Kim  <i>Korea University</i></p>
TP1-218	<p><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></p>
TP1-219	<p><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></p>
TP1-220	<p><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></p>
TP1-221	<p><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></p>
TP1-222	<p><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>  <sup>1</sup>한양대학교 전자컴퓨터통신공학과, <sup>2</sup>한양대학교 융합전자공학부</p>
TP1-223	<p><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></p>
TP1-224	<p><b>3차 이산-시간 델타-시그마 모듈레이터</b>                  홍승기, 신화성, 노정진  <i>한양대학교 전자공학과</i></p>
TP1-225	<p><b>Switched Capacitor DC-DC Converter for Near-Threshold Voltage</b>                  Juhyun Park and Seong-Ook Jung  <i>Yonsei University</i></p>
TP1-226	<p><b>Bitline Charge-recycling SRAM Write Assist Circuit</b>                  Kiryong Kim and Seong-Ook Jung  <i>Yonsei University</i></p>
TP1-227	<p><b>Photodiode Based Capacitive-feedback Integrator and CMOS Image Sensor Design for Photodiode Characteristic Verification</b>                  Hosung Kang<sup>1</sup> and Jungsuk Kim<sup>2</sup>  <sup>1</sup>Korea University, <sup>2</sup>Gachon University</p>



# “Intelligent Semiconductor for Technology Convergence”

TP1-228	<p><b>저조도 응답개선을 위한 전류거울회로를 이용한 CMOS 이미지 센서회로</b> 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> Sang-Hyun Ahn<sup>1</sup>, Seungbum Baek<sup>2</sup>, and Kyoung-Rok Cho <sup>1</sup><i>Department of Communication Circuit and System Design Engineering, Chungbuk National University</i></p>
TP1-230	<p><b>높은 효율을 위한 2.4 GHz CMOS 전력증폭기 설계</b> 박성규, 김성진, 유진호, 박창근 <i>송실대학교 전자공학과</i></p>
TP1-231	<p><b>높은 이득을 위한 5.8 GHz CMOS 전력증폭기 설계</b> 박성규, 유진호, 박창근 <i>송실대학교 전자공학과</i></p>
TP1-232	<p><b>Sigma-Delta ADC for ECG Read-out with Feedforward DC Cancellation</b> 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> 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><i>School of ECE, UNIST</i>, <sup>2</sup><i>Global Technology Center, Samsung Electronics Co., Ltd.</i>, <sup>3</sup><i>Solution Development Team, Samsung Electronics Co., Ltd.</i></p>
TP1-234	<p><b>A Continuous-Time Delta-Sigma Modulator for High Speed Signal Processing</b> 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> Inho Jeon and Jeongjin Roh <i>Department of Electronic Engineering, Hanyang University</i></p>
TP1-236	<p><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></p>
TP1-237	<p><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></p>
TP1-238	<p><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></p>



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>

<p><b>TP1-250</b></p>	<p><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></p>
<p><b>TP1-251</b></p>	<p><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>  <sup>1</sup><i>Department of Electronics and Computer Engineering, Hanyang University, </i><sup>2</sup><i>Division of Nanoscale Semiconductor Engineering, Hanyang University</i></p>
<p><b>TP1-252</b></p>	<p><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></p>
<p><b>TP1-253</b></p>	<p><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>
<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><i>SEOULTECH, </i><sup>2</sup><i>Chungnam National University, </i><sup>3</sup><i>Ewha Womans University</i></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  <i>충남대학교 전자공학과</i></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  <i>충남대학교 전자공학과</i></p>
<p><b>TP1-257</b></p>	<p><b>Two Type of Wake-Up Receivers Analysis</b>  ChangHwan Kim and Tae Wook Kim  <i>Yonsei University</i></p>
<p><b>TP1-258</b></p>	<p><b>IR-UWB Correlation Based Transceiver</b>  Sung Young Lee and Tae Wook Kim  <i>Yonsei University</i></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  <i>Jeonbuk National University</i></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  <i>Inje University</i></p>



TP1-261	<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 <i>Department of Nanoscience and Engineering, Inje University</i>
TP1-262	<b>Dynamic Power Reduction of TCAM Using Selective Precharging of Match Lines</b> Seung-kwang Hong, Won-young Chang, and Kee-won Kwon <i>College of Information and Communication Engineering, Sungkyunkwan University</i>
TP1-263	<b>Mm-Wave PLL Using Self Mixing VCO</b> 임창우 <sup>1</sup> , 방성현 <sup>1</sup> , 윤태열 <sup>2</sup> <sup>1</sup> 한양대학교 전자컴퓨터통신공학과, <sup>2</sup> 한양대학교 융합전자공학부
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 Chakrabarty <sup>1</sup> , Yong Su Park <sup>2</sup> , and Hanjung Song <sup>1</sup> <sup>1</sup> Department of Nanoscience and Engineering, Inje University, <sup>2</sup> Department of Electrical Electronic Engineering, Chungcheong University
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>

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TP1-272	<p><b>Design of Power Amplifier Using 65-nm CMOS Process</b>          Jong-Hoon Myeong and Byung-Wook Min  <i>Yonsei University</i></p>
TP1-273	<p><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></p>
TP1-274	<p><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></p>
TP1-275	<p><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></p>
TP1-276	<p><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></p>
TP1-277	<p><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></p>
TP1-278	<p><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></p>
TP1-279	<p><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></p>
TP1-280	<p><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></p>
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>          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>          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> Jung Woo Jang, Chae 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> Younginha Jung, Jungwoo Jang, Chae Eun Lee, Dayoung Lee, 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> 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> 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> 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> 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\text{m}</math> CMOS</b> 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> Hoon-Ju Chung<sup>1</sup> and Sungyong Jung<sup>2</sup> <i><sup>1</sup>School of Electronic Engineering, Kumoh National Institute of Technology, <sup>2</sup>Department of Electrical Engineering, UT Arlington</i></p>
TP1-291	<p><b>차량용 비접촉식 생체신호 전송을 위한 24GHz 수신 Front-end 설계</b> 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> 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> Jae hyun Park, Jun seong Kim, and Byung Sung Kim <i>RF Microelectronic Design Lab., Sungkyunkwan University</i></p>

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TP1-294	<b>A 94-GHz Low-Phase-Noise Power-Efficient Transformer-based VCO in 65-nm CMOS</b> Junghwan Yoo, Doyoon Kim, and Jae-Sung Rieh <i>School of Electrical Engineering, Korea University</i>
TP1-295	<b>65 nm CMOS 공정 기반 290 GHz 헤테로다인 이미징 검출기</b> Jungsoo Kim, Junghwan Yoo, Doyoon Kim, and Jae-Sung Rieh <i>Department of Electronic Engineering, Korea University</i>
TP1-296	<b>A 600 GHz 6x6 Imaging Detector Array in 65-nm CMOS</b> Doyoon Kim, Kiryong Song, Heekang Son, and Jae-Sung Rieh <i>School of Electrical Engineering, Korea University</i>
TP1-297	<b>Impact of Total Ionizing Dose in Nanometer SRAM</b> 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>
TP1-298	<b>RF 에너지 하베스팅 센서를 위한 무선 주입 잠금 링 발진기</b> 허보람, 권익진 <i>아주대학교 전자공학과</i>
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> <sup>1</sup> SEOULTECH, <sup>2</sup> Chungnam National University, <sup>3</sup> Ewha Womans University
TP1-303	<b>350 nm 공정 기반의 위상 천이기 설계 및 구현</b> 윤희선, 박영철 <i>한국외국어대학교</i>
TP1-304	<b>180 nm 공정 기반의 Spiral 인덕터 설계 및 구현</b> 윤희선, 박영철 <i>한국외국어대학교</i>
TP1-305	<b>Design of Wireless Inductive-Coupled Power &amp; Data Link with New Charge Detector for Deep Brain Stimulator</b> Jang-Woo Park, Seongho Kim, and Jin-Ku Kang <i>Department of Electronics Engineering, Inha University</i>