The 25th Korean Conference on Semiconductors

초대의 글

국내 반도체 분야를 세계적인 수준으로 발전시키는데 크게 기여한 반도체인의 잔치, 한국반도체학술대회가 2018년에 어느덧 25회를 맞이하게 되었습니다. 1994년 첫 대회 이후 매년 1,300여명이 참석하는 한국반도체 분야의 최대 행사인 제 25회 한국반도체학술대회가 2018년 2월 5일(월)부터 7일(수)까지 청정지역 강원도 하이원리조트 컨벤션호텔에서 개최됩니다. 진취적이고 열정적인 반도체 분야 최고 전문가 여러분을 제 25회 한국반도체학술대회로 초청합니다.

25주년을 맞아 더욱 뜻 깊은 이번 대회는 “Semiconductor Technology for the Paradigm Shift”라는 주제로 전문 기술을 발표하는 'Short Course'와 최근 업계 이슈를 중심으로 자유롭게 토론하는 'Rump Session'이 준비되어 있습니다. 더불어 35명의 초청연사, 287편의 구두발표, 487편의 포스터 발표 등 총 809편의 우수 논문이 발표될 예정입니다.

반도체학술대회의 고유한 DNA를 계승하며, 반도체 전문가 여러분께서 새로운 변화의 시기를 준비하는데 부족함이 없도록 다양한 프로그램을 준비하고 있습니다. 새로운 연구주제를 집중적으로 다루는 스페셜 세션, 다양한 주제별로 최신 R&D 트랜드를 엿볼 수 있는 초청논문 발표의 확장, 국내 대학 및 기업체, 연구소에 계신 젊은 연구인력 및 석학의 발표를 적극 유치하여 전문가님들의 다양한 학문적인 요구를 최대한 충족시켜드리겠습니다.

반도체인의 축제의 장, 한국반도체학술대회로 반도체 전문가 여러분을 적극 초청하오니, 다양한 참여로 저희의 준비한 프로그램이 더 한층 발전하고 풍성한 열매를 맺을 수 있도록 도와주시길 간곡히 부탁드립니다.

우리나라 반도체신화의 주역이신 여러분을 강원도 하이원리조트에서 제 25회 한국반도체학술대회로 함께 모실 수 있어서 매우 기쁘고 영광스럽게 생각하며, 산학연정 각급 분야의 최고 전문가님들과 함께 국내 반도체 기술의 미래상을 더욱 발전적으로 만들도록 최선의 노력을 다하겠습니다. 국내외 최고의 반도체 전문가 및 모든 관계자님들과 강원도 하이원리조트에서 함께 할 수 있기를 기대합니다.

감사합니다.

이 승 훈

제 25회 한국반도체학술대회 대회장

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주관 | 주최 | 후원 | 전시

주관

서강대학교

한국반도체산업협회

한국반도체연구조합

주최

한국물리학회

한국재료학회

대한전기학회

대한전자공학회

반도체설계교육센터

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(사)강원컨벤션뷰로

삼성전자

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DB 하이텍

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도쿄일렉트론코리아

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한국램리서치 유한회사

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㈜테스

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AP위성㈜

AP시스템

㈜넥스트칩

㈜뉴파워프라즈마

동운아나텍

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온세미컨덕터

유니테스트

유진테크

케이던스 코리아

테크위드유

IEEE Electron Device Society
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전시

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SILVACO	NANOSCOPE SYSTEMS	Can Number One CN1
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대회 조직

상임운영위원회

상임운영위원장	박영준 교수 (서울대학교)
상임운영위원	강태원 교수 (동국대학교) 강호규 부사장 (삼성전자 반도체연구원) 경종민 교수 (KAIST) 구용서 교수 (단국대학교) 김상식 교수 (고려대학교) 김진국 연구원장/부사장 (SK 하이닉스 미래기술연구원) 남기만 부회장 (반도체협회) 박용인 부사장 (삼성전자 System LSI) 박재근 교수 (한양대학교) 성만영 교수 (고려대학교) 손보익 대표 (실리콘웍스) 유지범 교수 (성균관대학교) 유회준 교수 (KAIST) 이윤종 부사장 (DB하이텍) 이정희 교수 (경북대학교) 이종호 교수 (서울대학교) 정덕균 교수 (서울대학교) 정진용 교수 (인하대학교) 허 염 대표 (실리콘마이터스)

조직위원회

대회장	이승훈 교수 (서강대학교)
학술위원장	범진욱 교수 (서강대학교)
공동학술위원장	정성웅 연구위원 (SK 하이닉스)
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홍보/출판 분과	김광수 교수 (서강대학교) 윤규한 교수 (서강대학교)
행사 분과	강석주 교수 (서강대학교) 안길초 교수 (서강대학교) 정진호 교수 (서강대학교)

대회 조직

분과위원회

A. Interconnect & Package

분과위원장	김성동 (서울과학기술대학교)
공동분과위원장	이웅선 (SK 하이닉스)
분과위원	곽노정 (SK 하이닉스), 권오중 (인천대학교), 김구성 (강남대학교), 김선정 (울산대학교), 김수현 (영남대학교), 김시범 (매그나칩반도체), 김사라은경 (서울과학기술대학교), 김형준 (연세대학교), 박영배 (안동대학교), 손윤철 (삼성전자), 안상훈 (삼성전자), 여종석 (연세대학교), 이원준 (세종대학교), 이태윤 (연세대학교), 이후정 (성균관대학교), 조철호 (SK 하이닉스), 조태제 (삼성전자), 주영창 (서울대학교)

B. Patterning

분과위원장	유원종 (성균관대학교)
공동분과위원장	안진호 (한양대학교)
분과위원	김현우 (한양대학교), 박종철 (삼성전자), 안창남 (ASML), 양현조 (SK 하이닉스), 오용호 (원광대학교), 정연식 (KAIST), 정지원 (인하대학교), 정진기 (SK 하이닉스), 주정훈 (군산대학교), 채희엽 (성균관대학교), 황 찬 (삼성전자)

C. Materials Growth & Characterization

분과위원장	이재진 (아주대학교)
공동분과위원장	송진동 (한국과학기술연구원)
분과위원	권순용 (UNIST), 박일규 (서울과학기술대학교), 송정훈 (공주대학교), 이철로 (전북대학교)

D. Thin Film Process Technology

분과위원장	박태주 (한양대학교)
공동분과위원장	조영진 (삼성종합기술원)
분과위원	권세훈 (부산대학교), 김건환 (한국화학연구원), 김성근 (한국과학기술연구원), 김정환 (한국기계연구원), 김형섭 (성균관대학교), 민요셉 (건국대학교), 박정훈 (SK 하이닉스), 박호경 (SK 하이닉스), 안지훈 (한국해양대학교), 엄태용 (삼성전자), 윤성민 (경희대학교), 이상운 (아주대학교), 이한보람 (인천대학교), 전상훈 (고려대학교), 조성목 (한국전자통신연구원), 최리노 (인하대학교), 최병준 (서울과학기술대학교), 최창환 (한양대학교), 한정환 (서울과학기술대학교)

E. Compound Semiconductors

분과위원장	장태훈 (전북대학교)
공동분과위원장	김동현 (한국나노기술원)
분과위원	곽준섭 (순천대학교), 권혁인 (중앙대학교), 노민수 (㈜액시온), 문재경 (한국전자통신연구원), 민병규 (한국전자통신연구원), 박용조 (서울대학교), 심규환 (전북대학교), 오승규 (University of Houston), 윤형섭 (한국전자통신연구원), 이정희 (경북대학교), 임종원 (한국전자통신연구원), 차호영 (홍익대학교)

F. Silicon and Group-IV Devices and Integration Technology

분과위원장	김경록 (UNIST)
공동분과위원장	김춘환 (SK 하이닉스)
분과위원	김상완 (아주대학교), 김소영 (성균관대학교), 김태훈 (삼성전자), 남동욱 (인하대학교), 배동일 (삼성전자), 신동석 (삼성전자), 신창환 (서울시립대학교), 안동환 (국민대학교), 양지운 (고려대학교), 이내인 (삼성전자), 이병훈 (GIST), 이성주 (성균관대학교), 이용규 (삼성전자), 이종호 (서울대학교), 이희덕 (충남대학교), 전인상 (ASM코리아), 정성웅 (SK 하이닉스), 조성재 (가천대학교), 조일환 (명지대학교), 최우영 (서강대학교)

G. Device & Process Modeling, Simulation and Reliability

분과위원장	나현철 (DB하이텍)
공동분과위원장	유현용 (고려대학교)
분과위원	김대환 (국민대학교), 김성동 (SK 하이닉스), 박문수 (삼성디스플레이), 배종욱 (LG 디스플레이), 이재규 (삼성전자), 이재우 (고려대학교), 이정수 (POSTECH), 조인욱 (SK 하이닉스), 최성진 (국민대학교), 홍성민 (GIST)

H. Display and Imaging Technologies

분과위원장	배병성 (호서대학교)
공동분과위원장	이호년 (순천향대학교)
분과위원	구본원 (삼성종합기술원), 권장혁 (경희대학교), 김재훈 (한양대학교), 노용영 (동국대학교), 모연곤 (Qualcomm), 문철희 (호서대학교), 송정근 (동아대학교), 이승우 (경희대학교), 이우재 (이엔에프테크놀로지), 정재경 (한양대학교), 정헌준 (클레어픽셀㈜), 조정대 (한국기계연구원), 진병두 (단국대학교), 최병덕 (한양대학교), 홍문표 (고려대학교), 홍완식 (서울시립대학교), 홍용택 (서울대학교)

대회 조직

I. MEMS & Sensors Systems

분과위원장	유경식 (KAIST)
공동분과위원장	안재혁 (광운대학교)
분과위원	권순홍 (중앙대학교), 김동현 (연세대학교), 김영민 (홍익대학교), 남효진 (LG전자), 류한열 (인하대학교), 문성욱 (한국과학기술연구원), 신형재 (삼성전자), 장원익 (한국전자통신연구원), 전동환 (한국나노기술원), 조성보 (가천대학교)

J. Nano-Science & Technology

분과위원장	이태우 (서울대학교)
공동분과위원장	김수영 (중앙대학교)
분과위원	강기석 (서울대학교), 김상욱 (KAIST), 김 웅 (고려대학교), 박병국 (KAIST), 박원일 (한양대학교), 박철민 (연세대학교), 이건재 (KAIST), 이명재 (IBS), 이 우 (한국표준과학연구원), 이탁희 (서울대학교), 정대성 (대구경북과학기술원), 정성준 (삼성종합기술원), 정연식 (KAIST), 조경상 (삼성종합기술원), 최성율 (KAIST)

K. Memory (Design & Process Technology)

분과위원장	권용우 (홍익대학교)
공동분과위원장	김수길 (SK 하이닉스)
분과위원	강명곤 (한국교통대학교), 김영희 (창원대학교), 김용기 (SK 하이닉스), 김 윤 (부산대학교), 노광명 (SK 하이닉스), 민경식 (국민대학교), 백승재 (한경대학교), 손용훈 (삼성전자), 유경창 (삼성전자), 이재구 (삼성전자), 이중호 (용인대학교), 조성익 (전북대학교), 조우영 (삼성전자), 최영돈 (삼성전자), 황희돈 (삼성전자), 홍상훈 (경희대학교)

L. Analog Design

분과위원장	김종선 (홍익대학교)
공동분과위원장	허승찬 (삼성전자)
분과위원	김수연 (동국대학교), 김수환 (서울대학교), 김용신 (고려대학교), 김진태 (건국대학교), 김태욱 (연세대학교), 노정진 (한양대학교), 류승탁 (KAIST), 문 용 (숭실대학교), 백광현 (중앙대학교), 송민규 (동국대학교), 심재윤 (POSTECH), 안길초 (서강대학교), 유창식 (한양대학교), 이승훈 (서강대학교), 이윤식 (UNIST), 임신일 (서경대학교), 장영찬 (금오공대), 조제광 (LG전자), 최윤경 (삼성전자), 최중호 (서울시립대학교), 홍국태 (LG전자)

M. RF and Wireless Design

분과위원장	권익진 (아주대학교)
공동분과위원장	권구덕 (광운대학교)
분과위원	김영진 (한국항공대학교), 김천수 (한국전자통신연구원), 김태욱 (연세대학교), 남일구 (부산대학교), 민병욱 (연세대학교), 백동현 (중앙대학교), 왕성호 (Radio Pulse Inc.), 윤상웅 (경희대학교), 이강윤 (성균관대학교), 이민재 (GIST), 조성환 (KAIST), 지동우 (아주대학교), 양종렬 (영남대학교), 차혁규 (서울과학기술대학교), 황인철 (강원대학교), 한정환 (충남대학교)

N. VLSI CAD

분과위원장	정재용 (인천대학교)
공동분과위원장	양준성 (성균관대학교)
분과위원	강석형 (UNIST), 김녹원 (경희대학교), 김영민 (광운대학교), 김윤진 (숙명여자대학교), 신영수 (KAIST), 유승주 (서울대학교), 이강희 (University New South Wales), 이종은 (UNIST), 정의영 (연세대학교), 조영철 (삼성전자), 최정연 (삼성전자)

O. System LSI Design

분과위원장	김경기 (대구대학교)
공동분과위원장	김영민 (광운대학교)
분과위원	강석형 (UNIST), 공준진 (삼성전자), 공준호 (경북대학교), 김수연 (동국대학교), 김지훈 (서울과학기술대학교), 김진상 (경희대학교), 김태환 (한국항공대학교), 남병규 (충남대학교), 문병인 (경북대학교), 박종선 (고려대학교), 이광엽 (서경대학교), 이성수 (숭실대학교), 이영주 (POSTECH), 이윤명 (성균관대학교), 이재진 (서울대학교), 이종열 (전북대학교), 이진언 (삼성전자), 이찬호 (숭실대학교), 이채은 (인하대학교), 이한호 (인하대학교), 장익준 (경희대학교), 정건옥 (유한대학교), 정기석 (한양대학교), 정진균 (전북대학교), 조경록 (충북대학교), 최기영 (서울대학교), 최준림 (경북대학교), 한태희 (성균관대학교)

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

분과위원장	함문호 (GIST)
공동분과위원장	장호원 (서울대학교)
분과위원	김미소 (한국표준과학연구원), 김수영 (중앙대학교), 김영환 (한국과학기술연구원), 김윤기 (삼성SDI), 김형탁 (홍익대학교), 류학기 (아주대학교), 명재민 (연세대학교), 박성기 (㈜에스엔텍), 박정웅 (가천대학교), 변혜령 (KAIST), 손정곤 (한국과학기술연구원), 송희은 (한국에너지기술연구원), 이미정 (국민대학교), 정준호 (한국기계연구원), 정현석 (성균관대학교), 좌성훈 (서울산업대학교)

대회 조직

Q. Metrology, Inspection, and Yield Enhancement

분과위원장	양준모 (나노종합기술원)
공동분과위원장	유형원 (히타치하이테크)
분과위원	김선희 (새론테크), 김재삼 (Nanometrics), 김중정 (삼성전자), 김진승 (전북대학교), 박병천 (한국표준과학연구원), 배연호 (KLA-Tencor), 우봉주 (㈜쎄미시스코), 유규상 (케이맥), 이병호 (SK 하이닉스), 이상길 (고려대학교), 임선종 (한국기계연구원), 조용재 (한국표준과학연구원), 한재원 (연세대학교), 홍재완 (나노포커스)

R. Semiconductor Software

분과위원장	반효경 (이화여자대학교)
공동분과위원장	김태석 (광운대학교)
분과위원	강수용 (한양대학교), 김종민 (Samsung Inc.), 김종찬(국민대학교), 노삼혁 (홍익대학교), 도인환 (삼성전자), 민 홍 (호서대학교), 백승재 (단국대학교), 신동군 (성균관대학교), 안성용 (부산대학교), 원유집 (한양대학교), 윤대석 (윈드리버코리아), 이건호 (LG전자), 이동희 (서울시립대학교), 이은지 (충북대학교), 임효준 (LG전자), 조상연 (삼성전자), 주용수 (국민대학교), 최종무 (단국대학교), 허준영 (한성대학교)

S. Chip Design Contest

분과위원장	조경록 (충북대학교)
공동분과위원장	김태욱 (연세대학교)
분과위원	고형호 (충남대학교), 박창근 (숭실대학교), 백동현 (중앙대학교), 심재윤 (POSTECH), 양병도 (충북대학교), 이승은 (서울과학기술대학교), 이영주 (POSTECH), 이종열 (전북대학교), 장영찬 (금오공과대학교), 지동우 (아주대학교), 차혁규 (서울과학기술대학교), 채형일 (국민대학교), 최준림 (경북대학교)

주요 프로그램

Short Course

일 시: 2018년 2월 5일(월), 14:00-18:00
장 소: 5층 컨벤션홀 L, 태백룸, 함백룸

Short Course 1

5층 컨벤션홀 L

주제: [뉴로모픽] 뉴로모픽(Neuromorphic) 기술의 이해
좌장: 이종호 교수 (서울대학교)

SC1-1	**주제:** 뉴로모픽 소자 기술 **연사:** 이종호 교수 (서울대학교)
SC1-2	**주제:** 뉴로모픽 회로 기술 **연사:** 심재윤 교수 (포항공과대학교)
SC1-3	**주제:** 뉴로모픽 아키텍처 및 시스템 기술 **연사:** 김장우 교수 (서울대학교)

Short Course 2

5층 태백룸

주제: [양자컴퓨팅] Quantum Computing
좌장: 안도열 교수 (서울시립대학교)

SC2-1	**주제:** Quantum Computation **연사:** 안도열 교수 (서울시립대학교)
SC2-2	**주제:** 단광자를 이용한 양자 기계학습 실험 **연사:** 이진형 교수 (한양대학교)

Short Course 3

5층 함백룸

주제: [Interconnect & Package] SI-PI-EMI Analysis of Advanced Semiconductor Packaging Technologies
좌장: 김소영 교수 (성균관대학교)

SC3-1	**주제:** 반도체 패키징 동향 및 대응 SI/PI 분석 기술 **연사:** 이만호 박사 (KAIST)
SC3-2	**주제:** IC-level EMC 기술 **연사:** 박현호 교수 (수원대학교)

주요 프로그램

개 회 식

일시: 2018년 2월 6일(화), 10:55-11:00
장소: 컨벤션홀 K+W (5층)

기조강연

일시: 2018년 2월 6일(화), 11:00-12:00, 13:00-14:00
장소: 컨벤션홀 K+W (5층)

▶ **기조강연 1** 11:00-12:00

주제: Electronics in Flatland
연사: Prof. Sanjay Banerjee (University of Texas at Austin)

▶ **기조강연 2** 13:00-14:00

주제: 인공지능의 능력과 한계
연사: 김진형 원장 (AIRI (인공지능연구원))

만찬 / 시상식

일시: 2018년 2월 6일(화), 17:40-20:00
장소: 컨벤션홀 (5층)
식순:

▶ 환영사
▶ 경과보고
▶ 시상식
감사패
제 24회 한국반도체학술대회(KCS 2017) 우수논문 시상
제 2회 강대원상 시상
▶ 건배제의
▶ 저녁식사

Rump Session

일시: 2018년 2월 6일(화), 20:00-

장소: 5층 태백룸, 함백룸

▶ Rump Session 1 ..... 태백룸 (5층)

주제: 한국 시스템 반도체 산업의 미래

좌장: 조중휘 교수 (인천대학교)

패널리스트: 김보은 대표이사 (라온텍), 이병인 원장 (한중시스템IC협력연구원),
이석중 대표이사 (라온피플 주식회사), 이장규 대표이사 (텔레칩스),
이혁재 교수 (서울대학교)

▶ Rump Session 2 ..... 함백룸 (5층)

주제: 한국 메모리 반도체의 미래/차세대 메모리 반도체 기술

좌장: 이희덕 교수 (충남대학교)

패널리스트: 이재덕 마스터 (삼성전자), 조한구 부사장 (ASML Korea), 차선용 상무 (SK 하이닉스),
황현상 교수 (포항공과대학교)

폐회식 / 경품추첨

일시: 2018년 2월 7일(수), 17:30-

장소: 6층, 육백룸

참여방법:

기조강연, 구두세션 참석 후 진행요원에게 '세션 참석 인증 스티커'를 받아 아래 8개 중 6개의 '세션 스티커'를 붙여주세요. 최소 6개의 '세션 스티커'를 붙여야 경품 추첨 응모가 가능합니다.

※ 폐회식장 앞에 비치되어 있는 추첨함에 쿠폰을 넣어 주세요

강대원상

강대원 박사, 그는 누구인가?

(故) 강대원 (姜大元, Dawon David Kahng)

- 출생-사망: 1931년 5월 4일-1992년 5월 13일
- 수상 내역: 1997년 프랭클린 연구소 스튜어트 밸런타인 메달
- 주요 경력: 2009년 미국 발명가 명예의 전당 헌액
- 1988년 미국 NEC연구소 사장
- 국제전기전자기술자협회(IEEE) 펠로우
- Bell Telephone Laboratories 펠로우

한국이 낳은 세계적인 반도체 물리학자인 강대원 박사는 1931년 5월 4일 서울에서 태어났습니다. 그는 1955년에 서울대학교 물리학과를 졸업하고, 미국 오하이오 주립대학교 전자공학과에서 1956년에 석사 및 1959년에 박사학위를 취득하였습니다.

그 후, 강대원 박사는 당시 세계 최고 연구소인 Bell Telephone Laboratories(현재, AT&T Bell Laboratories)에 입사하여 1960년에 트랜지스터 모스펫(MOS-FET)을 개발하였습니다. 모스펫은 세계 최초의 반도체인 BJT (Bipolar Junction Transistor)와는 달리 반도체를 고집적 및 양산이 가능한 구조로 오늘날 인텔의 CPU나 SK 하이닉스, 삼성전자의 D램 등의 기초 소자로 활용 되고 있습니다.

또한 모스펫은 과거 진공관과 트랜지스터로 대표되는 초기 전자회로 시대를 뛰어넘어 IC시대(집적회로)로 발전하는데 가장 기초적이고 획기적인 발명품으로 인정을 받고 있으며, 현재 상용화 되고 있는 모든 디지털 전자회로의 토대가 되고 있습니다. 2009년, 그 공로를 인정받은 강대원 박사는 토마스 에디슨을 비롯해 라이트 형제, 노벨 등이 이름을 올린 미국 상무부 산하 특허청의 '발명가 명예의 전당(National Inventors Hall of Fame)'에 나란히 이름을 올리게 되었습니다.

또한 강대원 박사는 상대성 이론의 알버트 아인슈타인, 양자 우주론의 스티븐 호킹 등이 수상했던 프랭클린 연구소에서 물리분야에 수여하는 '스튜어트 밸런타인 메달'을 1975년 수상하였고, 1986년에는 오하이오 주립대학교 공과대학 '자랑스런 졸업생상(Distinguishe Alumni Awards)'을 수상하는 등의 미국 과학계의 주목을 한 몸에 받았습니다. 180여 년 동안 프랭클린 메달의 수상자 2000여명 중 105명이 107개의 노벨상을 받았다는 점만을 보더라도 프랭클린 연구소의 상은 강대원 박사의 연구 성과가 얼마나 의미 있는 것인지 가늠할 수 있을 것입니다.

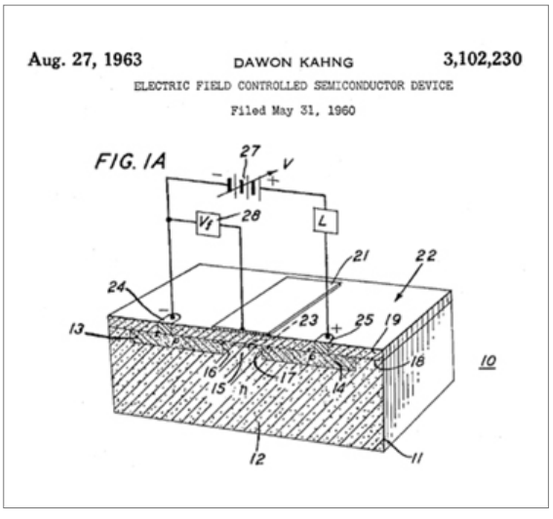
한국인으로는 최초로 국제전기전자기술자협회(IEEE)와 Bell Telephone Laboratories의 Fellow였던 강대원 박사는 낸드플래시의 플로팅 게이트(Floating Gate) 메모리 셀, EL(전계발광) 분야에서 중요한 기여를 하였으며, 35개 이상의 논문, 책의 저자 혹은 공동저자로 활동했을 뿐만 아니라 22개의 미국 특허를 가지고 있습니다.

1988년 Bell Telephone Laboratories에서 은퇴한 후, 강대원 박사는 컴퓨터와 커뮤니케이션 기술에 대해 장기적인 기초연구를 수행하기 위해 설립된 미국 NEC 연구소의 창립 사장으로 취임하였습니다. 그러나 1992년 5월, 학술대회를 마치고 뉴저지로 돌아가던 길에 대동맥류 파열로 공항에서 쓰러져 수술하던 중 후유증으로 향년 61세를 일기로 타계하였습니다. 유족으로는 부인 강영희씨와 다섯 명의 자녀가 있습니다.

강대원 박사 주요 연구 업적

1) **모스펫** / MOS-FET (Metal-Oxide-Semiconductor Field-Effect-Transistor)

<미국 특허 번호: 3102230>


Aug. 27, 1963 DAWON KAHNG 3,102,230
ELECTRIC FIELD CONTROLLED SEMICONDUCTOR DEVICE
Filed May 31, 1960
FIG. 1A

1960년 강박사가 발명한 것으로 p-type 또는 n-type Si 기판 표면에 drain과 source 역할을 하는 2개의 well을 형성합니다. 그 뒤 반도체 상부에 유전체 (SiO_2)를 형성하고, 그 상부와 p-well 사이에 metal gate를 형성하는 특허로서 현재 거의 대부분의 IC에 사용되는 MOSFET의 형태와 구성 성분, 그리고 동작 원리를 발명하였습니다.

1947년 Bell lab의 John Bardeen, William Shockley, 그리고 Walter Brattain 등 3인이 공동 개발한 세계 최초의 반도체 트랜지스터 소자인 BJT (Bipolar Junction Transistor)는 특성상 고집적화나 대량 양산에 한계가 있었습니다. 또한, 전력소비가 크고 제조가 까다로워 제품화가 곤란한 반도체 소자였습니다.

이러한 바이폴라 기반의 기존 germanium 반도체로는 생산성이 떨어지는 문제 및 전력 소비 문제를 해결하고자 1960년 강대원 박사와 M.M Atalla가 현재의 MOSFET을 개발함으로써 대량 생산이 가능한 반도체 산업의 기초를 닦은 것입니다. 현재 CPU, D램, 낸드플래시 등 거의 모든 반도체가 이 MOSFET을 기반으로 만들어집니다.

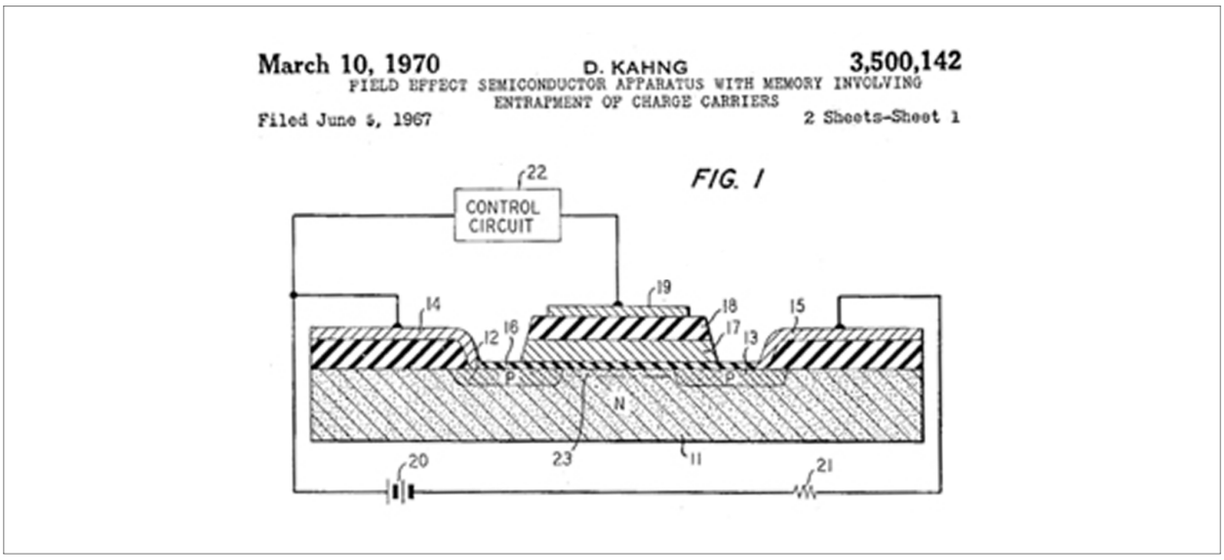
1959년 최초의 집적회로 (IC)를 만든 Jack Kilby는 2000년 노벨상 수상 공적서에서 강 박사의 모스펫 기술이 오늘날 반도체 산업의 발전에 크게 기여했다고 언급할 정도로 파급효과가 큰 발명이었으며, 이에 대한 공로로 2009년 미국 발명가 명예의 전당에 헌액되었습니다.

강대원 박사가 1960년 세계 최초로 개발한 전계효과 금속산화물 반도체 (MOSFET)

강대원상

2) **비휘발성 반도체 기억장치** (Non-Volatile Floating-gate Memory)

<미국 특허 번호: 3500142>


March 10, 1970 D. KAHNG 3,500,142
FIELD EFFECT SEMICONDUCTOR APPARATUS WITH MEMORY INVOLVING ENTRAPMENT OF CHARGE CARRIERS
Filed June 5, 1967 2 Sheets-Sheet 1
FIG. 1
CONTROL CIRCUIT
22
19
14
18
15
12
16
17
13
P
P
N
20
23
11
21

MOSFET을 발명한 7년 뒤인 1967년 강대원 박사는 S.M.Sze와 함께 또 다른 발명을 발표하였습니다.

이 발명을 간단히 소개하면, 기존 MOSFET의 metal gate 상부에 전기적으로 절연된 floating gate를 추가하여 절연체-금속-절연체의 샌드위치 구조를 형성합니다. Terminal gate (오늘날의 control gate)에 외부 전계를 인가하면 전하가 tunneling에 의해 floating gate 층에 주입됩니다. 이후 외부 전계를 제거해도 metal 층의 전하에 의해 전계가 유지되고, 이로 인해 기판에 channel이 지속됩니다. Floating gate 내의 전하를 제거하기 전까지는 source와 drain 사이에 전류가 흐를 수 있는 channel이 계속 존재하는 memory 기능을 갖는 현재의 floating-gate MOSFET 발명입니다.

Energy Band Diagram을 통해 전하 주입의 과정 및 이로 인한 메모리 효과를 정확히 표현하고 있어 현재 사용중인 EPROM, EEPROM, Flash Memory 개발의 기반을 제공하였습니다.

강대원상 시상 개요

- 수상자 선정 기준

선정기준	한국반도체학술대회 논문 제출자로서 주요 학회 및 외국저널에 인용 (Citation)이 된 논문으로 한국 반도체 학술 발전에 기여한 자
수상자 후보 신청 방법	1) 본인 직접 '포상 추천서' 작성 및 사무국으로 메일 제출 2) 강대원상 수상에 적합한 사람 또는 논문을 추천하여 '포상 추천서' 작성 후 사무국 제출
상금/포상	각 상금 500만원, 상장 및 100만원 상당 순금메달

강대원상 선정위원회

위원장		정진용 교수 (인하대학교)
소자/공정 분과	분과위원장	염근영 교수 (성균관대학교)
	분과위원	김동원 마스터 (삼성전자) 김상식 교수 (고려대학교) 손현철 교수 (연세대학교) 안진호 교수 (한양대학교) 윤병진 센터장 (충남테크노파크 디스플레이센터) 이종호 교수 (서울대학교)
회로/시스템 분과	분과위원장	유회준 교수 (KAIST)
	분과위원	김시호 교수 (연세대학교) 박근우 상무 (SK 하이닉스) 범진욱 교수 (서강대학교) 송용호 교수 (한양대학교) 엄낙웅 소장 (ETRI) 이혁재 교수 (서울대학교) 홍국태 연구위원 (LG전자) 황상준 상무 (삼성전자)

강대원상

제 1회 강대원상 수상자 및 수상논문

- 제 24회 한국반도체학술대회 (KCS 2017) 만찬에서 시상식 진행

1) 소자/공정 분과 ('인물' 선정)

수 상 자	박병국 교수 (서울대학교)
논 문	Three-Dimensional Stacked Array NAND Flash Memory (제 21회 한국반도체학술대회 발표) 외 다수

2) 회로/시스템 분과 ('논문' 선정)

수 상 논 문	A 1.5-V 493-μW Delta-Sigma Modulator with 87-dB Dynamic Range
저 자	Hyungdong Roh, Youngkil Choi, Sanho Byun, Hyuntae Lee, Kyoungsik Kang, and Jeongjin Roh *Hanyang University*

제 2회 강대원상 수상자 및 수상논문

- 2월 6일(화) 만찬에서 발표될 예정입니다.

안내사항

현장등록

1) 현장 등록데스크 운영시간

2018년 2월 5일(월)	2018년 2월 6일(화)	2018년 2월 7일(수)
11:00-18:00	07:30-18:30	08:00-16:30

2) 등록비

등록타입		사전등록비 (2018년 1월 12일(금)까지)	현장등록비 (2018년 2월 5일(월)-7일(수))
Conference	일 반	160,000원	190,000원
	학 생	70,000원	80,000원
Short Course	일 반	190,000원	220,000원
	학 생	100,000원	120,000원
Conference + Short Course	일 반	260,000원	320,000원
	학 생	120,000원	150,000원
추가 만찬		20,000원	

※추가만찬 쿠폰의 경우 선착순 150장만 판매합니다.

점 심

장소: 4층, 포레스트볼룸

일 자	시 간	메 뉴
2월 6일(화)	12:00-13:00	갈비탕
2월 7일(수)	12:15-13:15	해물된장찌개

※ 입구에서 STAFF이 점심 쿠폰을 확인할 예정이오니, 네임텍 내 점심 쿠폰을 미리 준비해 주시기 바랍니다.
쿠폰 분실로 인한 재발급은 불가하오니 유의해 주시기 바랍니다.

커피브레이크

장소: 5-6층 로비

※ 휴식 시간에 맞추어, 세션 장 앞에 커피브레이크가 준비될 예정입니다.

전시 안내

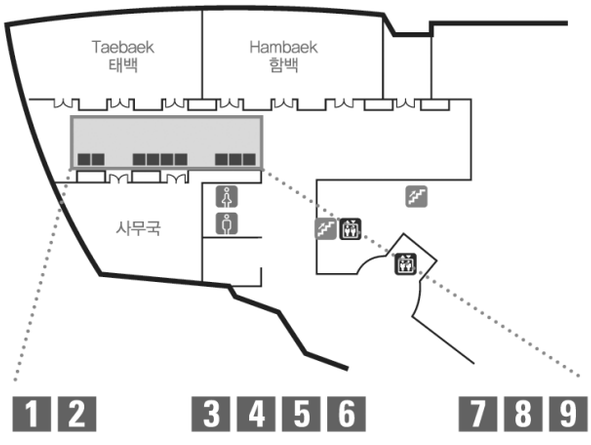
전시 일정

일시: 2018년 2월 6일(화) - 7일(수)

장소: 5-6층, 구두세션장 앞 로비

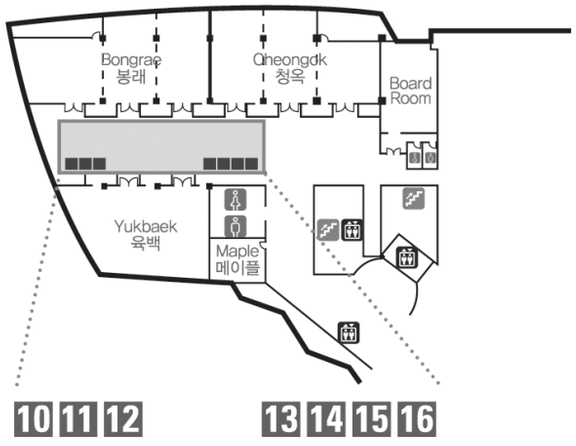
부스 배치도

5층



부스넘버	기업 명
1	한국 알테어
2	파크시스템스
3	안리쓰 코퍼레이션
4	매스웍스 코리아
5	㈜ 아이브이 솔루션
6	키사이트 테크놀로지스 코리아 ㈜
7	실바코 코리아
8	나노스코프시스템즈 ㈜
9	㈜ 씨엔원

6층



부스넘버	기업 명
10	서울대학교 반도체공동연구소
11	한국표준과학연구원
12	한국전자통신연구원
13,14	㈜ 누비콤
15	큐알티 주식회사
16	시높시스 코리아

전시 업체

한국알테어

Altair

기 관 명	한국알테어	대 표 자	문 성 수
주 소	경기도 성남시 분당구 대왕판교로 660 유스페이스1 A동 410호		
전 화	070-4050-9200	팩 스	070-4050-9298
이 메 일	help@altair.co.kr	웹 사 이 트	blog.altair.co.kr
전 시 물 품	- 전자 설계 자동화 HPC 솔루션 Runtime - HPC 워크로드 관리 솔루션 PBS Works		

회 사 소 개

알테어는 1985년 미국에서 설립된 엔지니어링 소프트웨어, 클라우드 컴퓨팅 소프트웨어, 비즈니스 애널리틱스를 전문으로 하는 글로벌 IT 기업입니다. 현재 미시간 주 트로이에 본사를 두고 있으며, 미국과 유럽 및 아시아 등 전 세계 23개국에 67개의 지사를 가지고 있습니다. 알테어는 주력 제품인 개방형 CAE 엔터프라이즈 솔루션 하이퍼웍스(HyperWorks)를 비롯하여, 3D 디자인 및 간편한 해석 시뮬레이션 도구 그리고 시스템 제어 솔루션까지 포함된 통합 제품군 솔리드씽킹(solidThinking), 수준 높은 인력을 바탕으로 각 산업 및 기업에 제공하는 CAE 컨설팅 서비스 프로덕트 디자인(ProductDesign), 효율적인 업무 관리를 위한 워크로드 매니저 PBS 웍스(PBS Works), 빅데이터 관리 및 IoT 솔루션 캐리옷(Carriots) 제품으로 제조 단계에서의 혁신을 만들어내고 있습니다. 하이퍼웍스는 전 세계 거의 모든 제조 기업들이 사용하고 있는 CAE 소프트웨어의 표준입니다.

㈜파크시스템스

Park SYSTEMS

기 관 명	㈜파크시스템스	대 표 자	박 상 일
주 소	경기도 수원시 영통구 광교로 109 한국나노기술원 4층		
전 화	031-546-6800	팩 스	031-546-6805
이 메 일	raina@parkafm.com	웹 사 이 트	www.parkAFM.com
전 시 물 품	원자현미경 (AFM, Atomic Force Microscope)		

회 사 소 개

㈜파크시스템스는 세계 정상의 기술을 보유한 원자현미경(Atomic Force Microscope)을 개발, 제작, 판매하는 기업으로 전량 수입에 의존하던 정밀계측 및 나노영상 기기 국산화에 성공한 대표적 기업이다. ㈜파크시스템스의 원자현미경은 전 세계에서 상품화된 것 중 성능이 가장 우수한 원자현미경으로, Harvard, Columbia, Stanford, 또 중국 Tsinghua 대학과 같은 유수대학과 Seagate, Hitachi GST, TDK, NASA, Argonne National Lab, NPL 등 외국 유명 기업 및 연구기관으로부터 인정을 받은 것을 통해 그 우수성이 세계적으로 증명되고 있다. 최근에는 연구용 시장뿐 아니라 산업용 시장으로도 눈을 돌려 생산라인에서 직접 사용될 수 있는 원자현미경을 개발하여 산업발전에 크게 기여하고 있다.

전시 안내

안리쓰코퍼레이션㈜

기 관 명	안리쓰코퍼레이션㈜	대 표 자	타케시시마
주 소	경기도 성남시 분당구 판교역로 235 번지		
전 화	031-696-7750	팩 스	031-696-7751
이 메 일	Ackr.marcom@anritsu.com	웹사이트	www.anritsu.com
전시물품	- MS46122B: Microwave Device Analysis - MS2760A: mmW Spectrum Analysis with compact size - MP1900A : High Speed Serial Data Test Solutions		

회사소개

안리쓰는 120년 간 통신 분야의 혁신적인 계측기 솔루션을 제공해온 선도 기업입니다. 안리쓰의 “2020 VISION” 철학은 고객사가 진정한 협력자로서 R&D, 제조, 설치, 유지 애플리 케이션을 위한 무선, 광, 마이크로웨이브/RF, 디지털 솔루션을 개발할 수 있도록 지원할 뿐 아니라, 네트워크 모니터링 및 최적화를 위한 다양한 서비스 보장 솔루션을 제공하고 있습니다. 안리쓰는 통신 제품 및 시스템에 적합한 정밀 마이크로웨이브/RF 부품, 광학디바이스, 고속 전기 디바이스도 제공합니다. 이와 함께 5G, M2M, IoT를 비롯해 기존 또는 새롭게 장하는 유무선 통신 시장을 위한 첨단 솔루션도 개발합니다. 전세계 지역에 사무실을 운영하는 안리쓰 는 90여개 국가에서 약 4,000여명의 임직원이 활동하고 GLTMSS 글로벌 기업입니다.

매스웍스 코리아

기 관 명	매스웍스 코리아	대 표 자	이종민
주 소	서울시 강남구 테헤란로 521		
전 화	02-6006-5100	팩 스	-
이 메 일	-	웹사이트	www.mathworks.com
전시물품	MATLAB, Simulink		

회사소개

1984년 설립된 매스웍스(MathWorks)는 테크니컬 컴퓨팅 소프트웨어 분야의 리더로 통신, 반도체, 자동차, 국방, 항공, 금융 등 각종 산업분야에 걸쳐 전세계 175여개국 1백만여명의 엔지니어들이 매트랩(MATLAB), 시뮬링크(Simulink) 등 매스웍스의 첨단 제품을 사용하고 있 습니다. 본사는 미국 매사추세츠(Massachusetts) 주, 나틱(Natick)에 위치해 있으며 미국과 유럽 등 전 세계 지사에 3,500여명의 임직원이 근무하고 있습니다.

아이브이솔루션

I.V SOLUTION

기 관 명	아이브이솔루션	대 표 자	인용훈
주 소	서울시 강남구 자곡로 174-10, 1003호(자곡동,강남에이스타워)		
전 화	02-543-7773	팩 스	02-543-7040
이 메 일	ivsolution@ivsolution.co.kr	웹사이트	www.ivsolution.co.kr
전시물품	- Parameter Analyzer, LCR Meter, Digital Multimeter - SourceMeter, Oscilloscope		

회사소개

주식회사 아이브이솔루션은 TEKTRONIX사의 KEITHLEY 공인대리점으로 키슬리의 모든 제품들을 총판 공급하고 있습니다. 저희 아이브이솔루션 임직원은 AC, DC, RF 분야에서 약 20년간 축적된 경험과 KNOWHOW를 바탕으로 고객 여러분들의 실험과 연구 NEEDS에 맞는 최적의 측정 솔루션을 제공해 드리고 있습니다. 또한, 2014년 1월 영국 웨인커일렉트로닉스사와 주식회사 아이브이솔루션이 공동으로 출자하여 설립한 웨인커일렉트로닉스 한국지사에서는 세계 최고의 임피던스 아날라이져와 LCR Meter도 총판 공급하고 있습니다.

키사이트테크놀로지스코리아㈜

KEYSIGHT TECHNOLOGIES

기 관 명	키사이트테크놀로지스코리아㈜	대 표 자	준치에
주 소	서울 영등포구 여의나루로 57		
전 화	080-769-0800	팩 스	080-769-0900
이 메 일	korea_call@keysight.com	웹사이트	www.keysight.com
전시물품	- 디바이스 전류 파형 분석기, - 반도체 디바이스 분석기, 정밀 소스/측정 장치		

회사소개

키사이트테크놀로지스는 고객들이 보다 빠르게 성공과 발전을 할 수 있도록 혁신적인 전자 제품과 시스템을 경제적인 비용으로 제공하고 있습니다. 키사이트의 솔루션은 설계 및 시뮬레이션부터 시제품 검증, 제조 테스트, 네트워크 최적화에 이르기까지 전자 신호가 전달되는 곳이면 어느 곳이든 사용할 수 있으며, 전 세계 통신 생태계, 네트워크, 항공 우주 및 방위, 오토모티브, 반도체 및 전자 제품 시장의 성장을 위해 기여하고 있습니다. 키사이트에 관한 자세한 내용은 홈페이지, 블로그 및 페이스북에서 확인할 수 있습니다.

전시 안내

㈜실바코 코리아

SILVACO

기 관 명	㈜실바코 코리아	대 표 자	황 만 규
주 소	서울특별시 강동구 구천면로 140 (천호동) 스타시티빌딩 5F		
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이 메 일	shkim@silvaco.com	웹 사 이 트	www.silvaco.co.kr
전 시 물 품	- 공정/소자 시뮬레이터, SPICE 시뮬레이터, - 레이아웃/스키매틱 시뮬레이터		

회 사 소 개

실바코는 아날로그 및 mixed-signal IC 설계를 위한 EDA 소프트웨어를 제공하는 선도 업체입니다. 미국 본사 및 세계 11개 현지 법인에서 TCAD 공정 및 소자 시뮬레이션, Spice 파라미터 추출, 회로 시뮬레이션 및 custom IC 디자인과 검증에 필요한 솔루션을 공급하고 있습니다.

나노스코프시스템즈㈜

NANOSCOPE SYSTEMS

기 관 명	나노스코프시스템즈㈜	대 표 자	전 병 선
주 소	대전광역시 유성구 테크노3로 65 한신에스메카 333호		
전 화	042-862-0772	팩 스	042-336-4774
이 메 일	info@nanoscope.co.kr	웹 사 이 트	http://www.nanoscope.co.kr
전 시 물 품	공초점열반사현미경		

회 사 소 개

고해상도 3차원 레이저 스캐닝 컨포컬 현미경을 자체 기술로 개발 및 판매하는 최초의 국내 업체, 나노스코프시스템즈입니다.

㈜씨엔원

기 관 명	㈜씨엔원	대 표 자	정 재 학
주 소	경기도 화성시 동탄면 동탄산단7길 98-17		
전 화	070-4651-5331	팩 스	031-373-6002
이 메 일	cnone@cn-1.co.kr	웹 사 이 트	www.cn-1.co.kr
전 시 물 품	Canister		

회 사 소 개

다년간의 경험과 우수한 기술을 바탕으로 보다 나은 장비솔루션 및 고객만족의 서비스를 제공하기 위해 최선을 다하는 대한민국 ALD 1등기업 ㈜씨엔원 입니다.

서울대학교 반도체공동연구소

기 관 명	서울대학교 반도체공동연구소	대 표 자	이 종 호
주 소	서울시 관악구 관악로1 서울대학교 104동 반도체공동연구소		
전 화	02-875-2489	팩 스	02-875-2488
이 메 일	yunbinkim@snu.ac.kr	웹 사 이 트	http://isrc.snu.ac.kr/
전 시 물 품	브로셔, 포스터, 입식 홍보물		

회 사 소 개

서울대학교 반도체공동연구소는 국내에서 유일하게 user가 직접 모든 공정장비를 사용할 수 있는 체계를 갖추고 있고, 이를 잘 지원할 수 있는 system을 보유하고 있는 반도체 관련 연구소입니다. 특히 Si-CMOS 뿐 아니라, MEMS/NEMS, Sensor, 화합물 반도체, 생체 관련 연구와 이들의 Si-CMOS와의 집적까지 가능한 일괄 공정 체제를 갖춘 반도체 공동 연구소 입니다.

전시 안내

한국표준과학연구원

기 관 명	한국표준과학연구원	대 표 자	윤주영, 맹선정
주 소	대전광역시 유성구 가정로 267		
전 화	042-868-5624	팩 스	042-868-5285
이 메 일	jyun@kriss.re.kr	웹사이트	www.kriss.re.kr
전시물품	화학증착 소재 복합 물성 측정 장치		

회사소개

한국표준과학연구원(Korea Research Institute of Standards and Science)은 1975년 설립 이래 국가측정표준 대표기관으로서 우리나라의 주력산업 제품의 품질을 국제적 수준으로 향상시키는데 중추적인 역할을 수행하였으며 교정시험서비스의 제공과 중소기업 기술 지원을 통하여 우리나라 산업의 국가측정표준 품질을 선진국 수준으로 높이는데 기여하였습니다. KRISS는 앞으로 '측정 융합연구 기관', '측정 기술 공급기관', '일류 중소중견기업을 만드는 기관', '우수연구자가 모이는 연구기관' 이 되도록 최선의 노력을 다하겠습니다.

한국전자통신연구원

기 관 명	한국전자통신연구원	대 표 자	이상훈
주 소	대전광역시 유성구 가정로 218		
전 화	042-860-5446	팩 스	042-860-5077
이 메 일	dyjung14@etri.re.kr	웹사이트	www.etri.re.kr
전시물품	전력변환모듈, 전력반도체 소자/패키지, 방사능디텍터/광센서		

회사소개

한국전자통신연구원 융합부품실험실은 CMOS Full 공정이 가능한 6인치 반도체실험실 인프라를 구축하고 있으며, 25여년간 융합부품소재 및 반도체소자에 대한 연구개발을 수행하고 있습니다. 본 연구팀은 고효율-초소형 전력변환모듈, 국방용 전원시스템 등의 핵심 부품인 전력반도체(Si & SiC) 소자/공정/패키지 및 방사능 디텍터/광센서 등의 연구개발을 진행 중입니다.

㈜누비콤

기 관 명	㈜누비콤	대 표 자	신동만
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이 메 일	yikim@nubicom.co.kr	웹사이트	www.nubicom.co.kr
전시물품	-NI 반도체 테스트 시스템, Keithley 반도체 특성 분석 시스템 -NI 버츄얼 벤치, Tektronix 오실로스코프, 등		

회사소개

㈜누비콤은 전자계측기 종합 솔루션 전문회사입니다. 전자 계측기의 매매를 비롯하여 렌탈, 수리, 교정 및 측정 자동화 솔루션을 모두 제공하고 있습니다. 누비콤은 NI, 텍트로닉스, 키슬리, 코범(구, 에어로플렉스), 등과 공식 대리점 계약을 맺고 이들 회사의 제품들을 전문적으로 공급하고 있습니다. 누비콤에 관해서는 www.nubicom.co.kr에서 자세한 것을 볼 수 있습니다.

큐알티 주식회사

기 관 명	큐알티 주식회사	대 표 자	김영부
주 소	경기도 이천시 부발읍 경충대로 2091		
전 화	031-8094-8219	팩 스	031-8094-8240
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전시물품	불량분석 및 신뢰성 서비스 소개 패널		

회사소개

큐알티 주식회사는 반도체, 전자부품 및 세트제품에 대한 신뢰성시험 및 종합분석 서비스전문회사로서, 반도체 분야에서의 오랜 경험과 기술력을 바탕으로 ICT 및 전장 산업의 중요한 파트너 자리로 자리매김 하고 있습니다.

전시 안내

(유) 시높시스코리아

기 관 명	(유) 시높시스코리아	대 표 자	정 해 수
주 소	경기도 성남시 분당구 판교역로 235 H스퀘어 N동 5층		
전 화	02-3404-2700	팩 스	02-3404-9393
이 메 일	bora@synopsys.com	웹 사 이 트	www.synopsys.com
전 시 물 품	Synopsys Software (QuantumATK, QuantumATK NanoLab)		

회 사 소 개

시높시스는 일상 생활에서 자주 사용하는 전자제품과 소프트웨어 애플리케이션을 개발하는 혁신 기업들을 위하여 실리콘칩에서 소프트웨어를 아우르는 Silicon to Software 파트너이며, 세계 16위의 소프트웨어 기업으로 오랜시간 전자설계자동화 (EDA)분야와 반도체 지식재산 분야를 이끌어왔으며 소프트웨어 보안과 품질 솔루션에 있어서도 점차 리더십을 확대하고 있다. 첨단 반도체를 만드는 설계자나 최고의 보안과 품질을 요구하는 애플리케이션 개발자들을 위하여 혁신적인 고품질 보안 제품 개발에 반드시 필요한 솔루션을 제공한다.

기조강연

기조강연 1

일시: 2018년 2월 6일(화), 11:00-12:00

장소: 컨벤션홀 K+W (5층)

Prof. Sanjay Banerjee

University of Texas at Austin, USA

- 강연주제: Electronics in Flatland

Biography

Sanjay Banerjee is the Cockrell Family Regents Chair Professor of Electrical and Computer Engineering and Director, Microelectronics Research Center, at the University of Texas at Austin. He received his B.Tech from IIT, Kharagpur, and his Ph.D. from the University of Illinois at Urbana-Champaign in 1979 and 1983 respectively, in electrical engineering. He worked at Texas Instruments, Dallas from 1983-87 on 4Meg DRAMs, and has been at UT Austin since then, where he works on beyond-CMOS nanoelectronic transistors based on 2D materials and spintronics, fabrication and modeling of advanced MOSFETs, and solar cells.

Abstract

2D materials such as graphene, transition metal dichalcogenides and topological insulators have opened up avenues in beyond-CMOS device concepts. We will discuss our work involving single or many-particle 2D-2D tunneling, leading to transistors with negative differential resistance. We also explore spintronics in these systems for novel logic and memory devices. We will also discuss the use of these materials in less esoteric, but more practical high frequency, mechanically flexible FETs for IoT applications.

기조강연

기조강연 2

일시: 2018년 2월 6일(화), 13:00-14:00

장소: 컨벤션홀 K+W (5층)

김진형 원장

AIRI (인공지능연구원)

- 강연주제: 인공지능의 능력과 한계

Biography

- 1949년생, UCLA 박사 (컴퓨터 과학 전공)
- 2016. 08~현재, AIRI (인공지능연구원)
- 1985~현재, KAIST 명예교수
- 2013. 12~2017. 12 공공데이터전략위원회 위원장
- 前 소프트웨어정책연구소장, 前 과학기술정보연구원 원장
- 한국정보과학회 명예회장, 국제패턴인식학회 Fellow
- 한국공학한림원, 한국과학기술한림원 원로회원
- 동탑산업훈장, 일진상(과기정책), 인터넷 대상 (개인공로 부문)

Abstract

이제는 인간이 알파고를 도저히 이길 수 없다. 인간의 기보를 학습한 알파고는 알파고끼리의 대국을 통하여 새로운 수를 배워 실력을 높였다. 그래서 기보를 제공한 프로기사들을 모두 물리쳤다. 인공지능이 인공지능과의 경쟁을 통하여 실력을 쌓는다. 최근에는 사람의 지식을 사용하지 않고 바닥서부터 스스로 배워서 세계 최고의 바둑 실력자가 되었다. 인간이 배제되는 상황이다. 더구나 하나의 방법론으로 바둑, 장기, 체스를 모두 섭렵하는 쾌거를 이루었다. 인류가 몇 천년 동안 쌓은 지식을 몇 시간 만에 능가했다. 이러한 능력의 인공지능에 전율을 느끼지 않는가? 이제 인공지능의 사용이 일상화되고, 인간이 기계로부터 배우는 것이 당연시 될 것이다. 어느 영역에서 어떤 업무를 하던지 인공지능을 활용하기 위하여 인공지능의 능력과 한계를 정확히 이해하는 것이 중요하다. 허황한 기대도 문제이지만 기술의 가치를 이해하지 못함으로 인한 기회 상실은 더 큰 문제이다.

구두/포스터 발표 안내

구두 발표 안내

발표 요령	- 발표자는 해당 세션 시작 15분전까지 좌장 및 진행요원에게 도착여부를 알리시기 바랍니다. - 일반논문 발표시간은 발표 12분, 질의응답 3분으로 총 15분입니다. - 초청논문 발표시간은 발표 27분, 질의응답 3분으로 총 30분입니다.
발표자료 제출	세션 시작 15분전까지 해당 세션장의 진행요원에게 발표자료를 전달하여 주시기 바랍니다.
발표자료 준비	모든 발표장에는 LCD프로젝트와 노트북이 준비되어 있으며, 구두발표자께서는 세션 시작되기 15분 전, 해당 세션장의 진행요원의 도움을 받아 파일 세팅을 필히 진행하여 주시기 바랍니다.

포스터 발표 안내

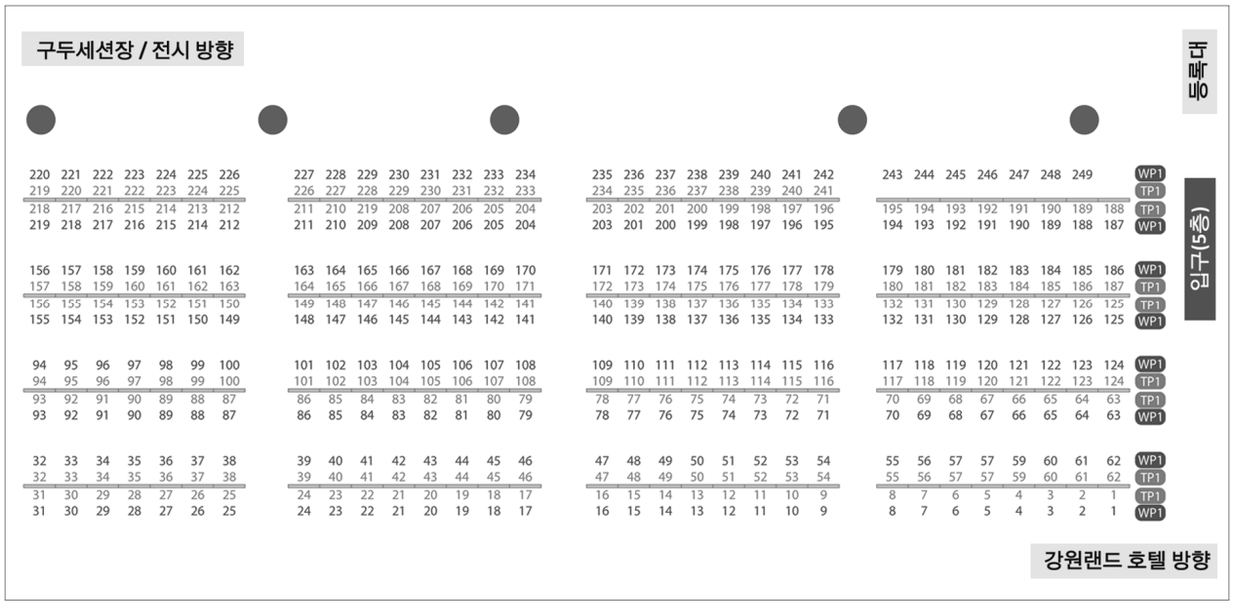
일 시: 2018년 2월 6일(화), 16:00-17:30 [TP1]
2018년 2월 7일(수), 14:45-16:15 [WP1]

장 소: 5층 로비

포스터 규격	가로 0.9m * 세로 1.2m
발표자료 준비	※ 시연 동영상이나 참고 동영상이 있는 경우, 포스터에 동영상 연결용 QR코드를 표시 바랍니다. - 부착 시 필요한 물품(테이프, 칼, 가위 등)은 세션장에 비치되어 있으며, 포스터 보드 상단의 발표번호를 반드시 확인 후 부착해 주시기 바랍니다.
발표 요령	- 세션이 진행되는 동안 현장 우수포스터 선정을 위해 포스터 심사가 진행되오니, 본인의 포스터 옆에 상주하시어 질의응답 시간에 성실히 임해 주시기 바랍니다. - 현장에서 심사위원의 심사를 통해 분과 별로 우수 포스터를 선정합니다. 우수 포스터로 선정된 포스터는 행사 기간 동안 현장에 별도로 게시 될 예정입니다.
포스터보드	

구두/포스터 발표 안내

포스터 세션 배치도



구분	2.6(화) TP1	2.7(수) WP1	안내
부착시간	09:00~15:00	09:00~13:45	- 운영시간: 포스터가 부착되어 있어야 하는 시간 - 발표시간: 발표자가 심사위원에게 발표하는 시간 - No Show: 발표시간 20분 후, 종료 전 20분
운영시간	09:00~17:30	09:00~16:15	
발표시간	16:00~17:30	14:45~16:15	
탈착시간	17:30~	16:15~	

분과	2.6(화) TP1 포스터 번호	2.7(수) WP1 포스터 번호
A	TP1-1~TP1-22	-
B	-	WP1-1~WP1-16
C	-	WP1-17~WP1-35
D	TP1-23~TP1-77	-
E	-	WP1-36~WP1-75
F	TP1-78~TP1-109	-
G	TP1-110~TP1-139	-
H	-	WP1-76~WP1-91
I	TP1-140~TP1-164	-
J	-	WP1-92~WP1-134

분과	2.6(화) TP1 포스터 번호	2.7(수) WP1 포스터 번호
K	-	WP1-135~WP1-151
L	-	WP1-152~WP1-174
M	TP1-165~TP1-170	-
N	-	WP1-175~WP1-178
O	-	WP1-179~WP1-205
P	TP1-171	WP1-206~WP1-233
Q	-	WP1-234~WP1-249
R	TP1-172~TP1-177	-
S	TP1-178~TP1-241	-

The 25th Korean Conference on Semiconductors

구두 I 포스터
발표 안내

2018년 2월 6일 (화)

Semiconductor Technology for the Paradigm Shift

제25회 The 25th Korean Conference on Semiconductors
한국반도체학술대회

구두 발표

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

S. Chip Design Contest 분과

[TD0-S] Chip Design Contest

좌장: 김태욱 교수(연세대학교), 차혁규 교수(서울과학기술대학교)

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

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

A. Interconnect & Package 분과

[TA1-A] Emerging Interconnect

좌장: 이원준 교수(세종대학교), 이후정 교수(성균관대학교)

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

구두 발표

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

I. MEMS & Sensor Systems 분과

[TB1-I] Gas/Chemical Sensors

좌장: 김정현 교수(광운대학교)

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

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

D. Thin Film Process Technology **분과**

[TC1-D] Oxide Thin Film Transistor

좌장: 윤성민 교수(경희대학교), 이상운 교수(아주대학교)

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

구두 발표

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

R. Semiconductor Software 분과

[TD1-R] 고성능 스토리지 기술

좌장: 송길태 교수(부산대학교), 조경운 교수(이화여자대학교)

TD1-R-1 09:00-09:15	Color of I/O: I/O Characterization for Storage Systems Seungjae Baek[1], Juhyung Son[2], Yujae Song[1], and Sungmin Koo[2] *[1]ICT R&D Unit, KIOST, [2]Department of Computer Science, Dankook University*
TD1-R-2 09:15-09:30	Optimizing the Block IO for NVMe SSD Hee-Young Shin and Taeseok Kim *Embeded Software Engineering, Kwangwoon University*
TD1-R-3 09:30-09:45	Optimizing FTL for HMB-Able and DRAM-Less NVMe SSD Kyusik Kim and Taeseok Kim *Department of Computer Engineering, Kwangwoon University*
TD1-R-4 09:45-10:15	[초청] Light-weight I/O Stack for High Performance Remote Storage Sungyong Ahn *School of Computer Science and Engineering, Pusan National University*

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

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

[TF1-F] Neuromorphic Device and Application

좌장: 김경록 교수(UNIST), 양지운 교수(고려대학교)

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

구두 발표

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

G. Device & Process Modeling, Simulation and Reliability 분과

[TG1-G] Advanced Devices I - Technology and Simulation

좌장: 김대환 교수(국민대학교), 조인욱 상무(SK 하이닉스)

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

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

J. Nano-Science & Technology 분과

[TH1-J] Graphene Related Nanomaterials

좌장: 류학기 교수(아주대학교)

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

구두 발표

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

K. Memory (Design & Process Technology) 분과

[TI1-K] ReRAM I - Preparing for Mass Production

좌장: 김수길 수석(SK 하이닉스), 백승재 교수(한경대학교)

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

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

M. RF and Wireless Design **분과**

[TJ1-M] RF and Wireless System and Circuits I

좌장: 권구덕 교수(강원대학교), 한정환 교수(충남대학교)

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

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

Q. Metrology, Inspection, and Yield Enhancement 분과

[TK1-Q] Metrology & Inspection

좌장: 김진승 교수(전북대학교), 박병천(한국표준과학연구원)

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

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

A. Interconnect & Package 분과

[TA2-A] FOWLP & Reliability

좌장: 김사라은경 교수(서울과학기술대학교), 이웅선 수석(SK 하이닉스)

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

구두 발표

2018년 2월 6일(화), 14:10-15:55
Room B (태백II+III, 5층)

I. MEMS & Sensor Systems 분과

[TB2-I] Advanced Sensor Systems

좌장: 안재혁 교수(광운대학교)

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

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

D. Thin Film Process Technology 분과

[TC2-D] Emerging Thin Film Technology

좌장: 최리노 교수(인하대학교), 이한보람 교수(인천대학교)

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

구두 발표

2018년 2월 6일(화), 14:10-15:55
Room D (함백II+III, 5층)

R. Semiconductor Software 분과

[TD2-R] 시스템 소프트웨어 응용

좌장: 신일훈 교수(서울과학기술대학교), 안성용 교수(부산대학교)

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

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Room F (봉래I, 6층)

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

[TF2-F] Intergration Technology

좌장: 김춘환 상무(SK 하이닉스), 정성웅 연구위원(SK 하이닉스)

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

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2018년 2월 6일(화), 14:10-15:55
Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과

[TG2-G] Modeling and Simulation I - Nano Devices

좌장: 김대환 교수(국민대학교), 유현용 교수(고려대학교)

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

2018년 2월 6일(화), 14:10-15:55
Room H (청옥I, 6층)

J. Nano-Science & Technology 분과

[TH2-J] Two Dimensional Nanomaterials

좌장: 이태우 교수(서울대학교), 정대성 교수(대구경북과학기술원)

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

구두 발표

2018년 2월 6일(화), 14:10-15:55
Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과

[TI2-K] Devices for Neuromorphic Computing

좌장: 김영희 교수(창원대학교), 유경창 박사(삼성전자)

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

2018년 2월 6일(화), 14:10-15:55
Room J (육백I, 6층)

M. RF and Wireless Design 분과

[TJ2-M] RF and Wireless System and Circuits II

좌장: 권익진 교수(아주대학교), 임동구 교수(전북대학교)

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

구두 발표

2018년 2월 6일(화), 14:10-15:55
Room K (육백II, 6층)

Q. Metrology, Inspection, and Yield Enhancement 분과

[TK2-Q] Nanoanalysis

좌장: 박주철 센터장(구미전자정보기술원), 양준모 박사(나노종합기술원)

TK2-Q-1 14:10-14:25	Dynamic Thin Film Thickness Measurement based on Snapshot Spectro-Ellipsometry Vamara Dembele[1], Inho Choi[1], Madhan Jayakumar Paul[1], Sukhyun Choi[1], Junho Kim[1], Won Chegal[2], and Daesuk Kim[1] *[1]Division of Mechanical System Engineering, Chonbuk National University, [2]Advanced Instrumentation Institute, Korea Research Institute of Standards and Science*
TK2-Q-2 14:25-14:55	[초청] Strain-Engineering in Advanced CMOS Structures Dae-Hong Ko *Department of Materials Science and Engineering, Yonsei University*
TK2-Q-3 14:55-15:25	[초청] Applications of TEM Electron Energy-Loss Spectroscopy (EELS) Analysis for Materials in Semiconductor Devices Jucheol Park, Jeong Eun Chae, Ji-Soo Kim, SangYeol Nam, and Min-Soo Kim *Materials Characterization Center, Gumi Electronics and Information Technology (GERI)*
TK2-Q-4 15:25-15:40	Wafer 표면 Roughness에 따른 Thermal Oxide 영향 연구 정성우, 박정길, 김자영, 강희복 *SK Siltron*
TK2-Q-5 15:40-15:55	Detection of Metal Contamination in the Layer of Silicon Wafers Seung-Ik Jo, Ji-Yeon Lim, Sung-wook Lee *SK Siltron*
TK2-Q-6 15:55-16:10	Development of Interatomic Potentials in Si-O-F Systems Changhoon Heo[1], Hae-won Choi[1], In-ki Jeong[2], and Young-gui Yoon[2] *[1]SEMES R&D Center, [2]Department of Physics, Chung-Ang University*

포스터 발표

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

[TP1] Poster Session 1

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

포스터 발표

TP1-10	RFI Shielding Structure for Fan-out Wafer Level Packaging Hai Au Huynh, JiHoon Kim, Youngbong Han, and SoYoung Kim *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-11	Effect of Ni-P Morphology on Intermetallic Compound between Electroless Nickel Immersion Gold/Sn-Ag-Cu Solder during Isothermal Aging Wonil Seo[1,2], Young-Ho Kim[2], and Sehoon Yoo[1] *[1]Joining R&D Group, KITECH, [2]Division of Materials Science and Engineering, Hanyang University*
TP1-12	Study on Microstructural Evolution of co-Evaporated Bismuth Telluride Films with Various Film Thickness and its Effects on Electrical and Thermoelectric Properties Haishan Shen[1,3], Suhyeon Lee[3], Jun-Gu Kang[1], Tae-Yil Eom[2], Hoojeong Lee[1], Seungwoo Han[3] *[1]Department of Advanced Materials Science and Engineering, Sungkyunkwan University, [2]SAINT, Sungkyunkwan University, [3]Division of Nano-Mechanical System Research, KIMM*
TP1-13	Narrow Chip to Substrate Gap에서의 Plasma Cleaning 고찰 김대진 *SK 하이닉스*
TP1-14	Atomic Layer Deposition of Nickel and Nickel-based Alloy Thin Filmsusing Non-Oxidizing Reactant Forsilicide Shunichi Nabeya[1,2], Soonyoung Jung[1], and Soo-Hyun Kim[1] *[1]School of Materials Science and Engineering, YeungnamUniversitsy, [2]Tanaka Precious Metals*
TP1-15	Research of the Indium and Tin Alloy for the Low Melting Point Solder Materials Sungryul Mang[1], Minwoo Cho[2], and Hoojeong Lee[1,2] *[1]SAINT, Sungkyunkwan University, [2]Department of Advanced Materials Science and Engineering, Sungkyunkwan University*
TP1-16	Low Temperature Synthesis of 2D MoS_2 for Gas Sensor Youngjun Kim[1], Yuxi Zhao[1], Jeong-Gyu Song[1], Gyeong Hee Ryu[2], Kyung Yong Ko[1], Whang Je Woo[1], Zonghoon Lee[2], Jusang Park[1], and Hyungjun Kim[1] *[1]School of Electrical and Electronic Engineering, Yonsei University, [2]School of Materials Science and Engineering, UNIST*
TP1-17	기상 증착 방식의 배리어 적용 된 구리 배선의 일렉트로마이그레이션 신뢰성 거동 및 배리어에 따른 구리 박막의 미세구조 변화 고찰 장경태, 나세권, 이솔규, 주영창 *서울대학교 재료공학부*
TP1-18	온칩 구조의 국부적 열점 제어를 위한 2차원 수평형 박막 열전 냉각기에 대한 연구 박홍범, 정민우, 김 철, 주영창 *서울대학교 재료공학부*
TP1-19	Effect of Electrodes on Co-sputtered SiTe Threshold Switches Jeongun Choe, Jaehyun Han, Su-Bong Lee, Deok-Jin Jeon, and Jong-Souk Yeo *School of Integrated Technology, Yonsei University*

TP1-20	Improved Thermal Stability and Lower Sheet Resistance of NiSi with Carbon Pre-silicidation Implant Iksoo Park, Sangwon Baek, Rockhyun Baek, and Jeong-soo Lee *Department of Electrical Engineering, POSTECH*
TP1-21	Effects of Cu RDL on Planarization of Polymeric Interlayer Dielectrics for FOWLP Applications Seungjoo Han[1], Jungeun Pyun[1], Yejin Kim[1], Soojung Kang[1], Sarah E. Kim[2], and Sungdong Kim[1] *[1]Department of Mechanical System Design Engineering, Seoul National University of Science and Technology, [2]Graduate School of Nano-IT Design Convergence, Seoul National University of Science and Technology*
TP1-22	Bis(1,4-di-iso-propyl-1,4-diazabutadiene) Nickel을 이용한 Nickel 박막의 Plasma-enhanced Atomic Layer Deposition 박재민[1], 김성윤[1], 황준[1], 한원석[2], 고원용[2], 이원준[1] *[1]세종대학교 나노신소재공학과, [2]UP케미칼*

D. Thin Film Process Technology	
	심사위원: 박태주 교수(한양대학교), 안지훈 교수(한국해양대학교)
TP1-23	Low Resistance ALD-NiGe Contact with Phosphorus Segregation on n-Type Germanium Hyun Jun Ahn, Jungmin Moon, Tae In Lee, and Byung Jin Cho *School of Electrical Engineering, KAIST*
TP1-24	Air-exposure Effects on CMOS Organic Thin-Film Transistors and Inverter Seunghyun Yoo, Hocheon Yoo, and Jae-Joon Kim *Department of Electrical Engineering, POSTECH*
TP1-25	Simulation and Optimization for High Aspect Ratio Deposition by Long Throw Sputter PVD Method Hee-Young Shin, Ji Woo Park, Hee do Na, and Hyunchul Sohn *Department of Materials Science and Engineering, Yonsei University*
TP1-26	Multi-Step and Single-Step in-situ Microwave Annealing as Low Thermal Budget Technique for Solution-Processed IGZO TFTs Jin-Hyeock Jeon and Won-Ju Cho *Department of Electrical Materials Engineering, Kwangwoon University*
TP1-27	Top-Split-Gate Ambipolar Organic Thin-Film Transistors Hocheon Yoo and Jae-Joon Kim *Department of Creative IT Engineering, POSTECH*
TP1-28	Ultrafast Assembly of Reduced Graphene Oxide Film for Flexible Optoelectronics In Ho Kim, Jongwon Shim, Kyung Eun Lee, Taeyoung Yun, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*

포스터 발표

TP1-29	Fabrication of BEOL Transistor Using Cu Bottom Gate for Microwave Annealing with Low Temperature Annealing Min-Soo Kang and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
TP1-30	Characterizations of P-Type Tin Monoxide Thin Films Deposited by a Co-Sputtering Process Seungjun Lee, Younjin Jang, Eun Suk Hwang, Jun Shik Kim, Seok Min Jeon, and Cheol Seong Hwang *Department of Materials Science and Engineering and ISRC, Seoul National University*
TP1-31	Hysteric Transfer Characteristics of P-Type Thin Film Transistors with SnO Thin Films Grown by Atomic Layer Deposition Younjin Jang[1], Jun Shik Kim[1], Eun Suk Hwang[1], Seungjun Lee[1], Seok Min Jeon[1], Jeong Hwan Han[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and ISRC, Seoul National University,* *[2]Department of Materials Science and Engineering, Seoul National University of Science and Technology*
TP1-32	Impact of Microwave Irradiation on a-IGZO TFTs with High-k Gate Dielectrics Joong Won Shin and Won-Ju Cho *Department of Electrical Material Engineering, Kwangwoon University*
TP1-33	Fabrication of High-Performance Oxide Semiconductor TFTs Using CAAC-IGZO Joong Won Shin and Won-Ju Cho *Department of Electrical Material Engineering, Kwangwoon University*
TP1-34	Impacts of Sequential Ultraviolet and Thermal Treatment on Performances and Stability in ZnON Thin Film Transistors Hwan-Seok Jeong, Dae-Hwan Kim, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
TP1-35	New Parylene Coating System Using Real-Time Electrical Impedance Monitoring of Parylene Deposition J.S Park[1], J.S Kim[2], T. Nguyen[1], M.H. Kim[2], Y.S. Jang[2], and S. Cho[1] *[1]Gachon Advanced Institute for Health Science and Technology(GAIHST), Gachon University,* *[2]Femto Science Ltd.*
TP1-36	Atomic Layer Deposition of $TiTe_2$ Thin Films for Ti-Sb-Te Phase Change Memory Application Chanyoung Yoo, Eui-sang Park, Woohyun Kim, Yoon Kyeung Lee, and Cheol Seong Hwang *Department of Materials Science and Engineering and ISRC, Seoul National University*
TP1-37	A Research on Electrical and Thermal Stabilities of ZnON Thin-Film Transistors with Varying Channel Thickness Dae-Hwan Kim, Min Jae Park, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*

TP1-38	Ultrathin Thin Film Transistors with CYTOP Encapsulations by Using Water Soluble PVA Jae Moon Kim, Min Su Kim, Jong Su Oh, and Yong-Sang Kim *School of Electronics and Electrical Engineering, Sungkyunkwan University*
TP1-39	Atomic Layer Deposition of GeSe Films for Ovonic Threshold Switch Application Woohyun Kim, Chanyoung Yoo, Eui-sang Park, Yoon Kyeung Lee, and Cheol Seong Hwang *Department of Materials Science and Engineering and ISRC, Seoul National University*
TP1-40	Atomic Layer Deposition of SnTe for Dopant Application of Phase-Change Materials Eui-sang Park[1], Chanyoung Yoo[1], Woohyun Kim[1], Yoon Kyeung Lee[1], Jaesun Jung[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and ISRC, Seoul National University, [2]Soulbrain*
TP1-41	Atomic Layer Deposition of Ru Thin Film with Enhanced Growth Rate on Ta_2O_5/Si Substrate Using RuO_4 Precursor and H_2 Gas Cheol Hyun An, Sang Hyeon Kim, Dae Seon Kwon, Soon Hyung Cha, Sung Tak Cho, and Cheol Seong Hwang *Department of Materials Science and Engineering, Seoul National University*
TP1-42	Zinc Tin Oxide Thin Films Grown by Atomic Layer Deposition for Charge-Trap Flash Memory Jun Shik Kim[1], Eun Suk Hwang[1], Seungjun Lee[1], Younjin Jang[1], Seok Min Jeon[1,2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and ISRC, Seoul National University, [2]SK Hynix Semiconductor Inc.*
TP1-43	Oxide Semiconductor-Based Charge Trap Device for NAND Flash Memory Eun Suk Hwang[1], Jun Shik Kim[1], Seok Min Jeon[1,2], Seungjun Lee[1], Younjin Jang[1], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering and ISRC, Seoul National University, [2]SK Hynix Semiconductor Inc.*
TP1-44	Atomic Layer Deposition of Ta-Doped SnO_2 as a Reduction-Resistant Oxide Electrode Cheol Jin Cho[1,2], Jung-Joon Pyeon[1,3], Woo Chul Lee[1,2], Chong-Yun Kang[1,3], Cheol Seong Hwang[2], and Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering and ISRC, College of Engineering, Seoul National University, [3]KU-KIST Graduate School of Converging Science and Technology, Korea University*
TP1-45	A Study of the Physical and Chemical Properties of P-Type Tin Oxide Thin-Films for Transistor Applications with Argon Plasma Surface Treatment Soo-Hun Kwon, Sang-Dae Bae, Hwan-Seok Jeong, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*

TP1-46	MIM Capacitor based on $ZrO_2/Al_2O_3/TiO_2$ Dielectric for DRAM Devices Soon Hyung Cha[1], Cheol Hyun An[2], Sang Hyeon Kim[2], Dong gun Kim[2], Dae Seon Kwon[2], Seong Tak Cho[2], and Cheol Seong Hwang[2] *[1]Department of Engineering Practice, Seoul National University, [2]Department of Materials Science and Engineering and ISRC, Seoul National University*
TP1-47	Atomic Layer Deposition of Ru Thin Films Using 'Rudense' as Ru Precursor Dae Seon Kwon[1], Cheol Hyun An[1], Sang Hyeon Kim[1], Hoju Song[1], Seong Tak Cho[1], Soon Hyung Cha[1], Taishi Furukawa[3], Teppei Hayakawa[3], Kazuhisa Kawano[4], and Cheol Seong Hwang[1,2] *[1]Department of Materials Science and Engineering, Seoul National University, [2]ISRC, Seoul National University, [3]Advanced Materials Research Laboratory, TOSOH Corporation, [4]Advanced Materials Division, TOSOH Corporation*
TP1-48	Thermal Annealing Effect on Phase Separation Morphology in Thin Film based on Polyfluorene Polymer Blends Jiho Lee, Jaeseung Kim, Dongjin Kim, Sungwook Choi, Myungwoo Chung, Kyuseok Yun, and Hyunjung Kim *Department of Physics, Sogang University*
TP1-49	Effects of Thickness Variations in InGaZnO Active Channel Prepared by Atomic-Layer Deposition on Thin-Film Transistor Characteristics So-Jung Yoon[1], Nak-Jin Seong[2], Kyujeong Choi[2], Woong-Chul Shin[2], and Sung-Min Yoon[1] *[1]Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, [2]NCD Co., Ltd.*
TP1-50	Improvement the Charge Trapping and Detrapping Characteristics in Amorphous In-Ga-ZnO Thin-Film-Transistors Using Microwave Irradiation Hyun-Woo Lee and Won-Ju Cho *Department of Electrical Materials Engineering, Kwangwoon University*
TP1-51	Current Transport Mechanism in Au/bulk GaN Contacts with an AlN Layer Deposited by Atomic Layer Deposition Yurim Kwon[1], Myeong Cheol Kim[1], Byung Joon Choi[1], and Hogyoung Kim[2] *[1]Department of Materials Science and Engineering, Seoultech, [2]Department of Visual Optics, Seoultech*
TP1-52	Improved Synaptic Characteristics of ALD HfO_x/TiO_x Bi-Layered ReRAM Sohyeon Kim, Boncheol Ku, Yawar Abbas, Andrey Serveevich Sokolov, Yu-Rime Jeon, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
TP1-53	Atomic Layer Deposition of HfO_2 Films Using $La(NO_3)_3{\cdot}6H_2O$ Solution for Oxidant Seon Yong Kim[1], Yong Chan Jung[1], Sejong Seong[1], Taehoon Lee[1], In-Sung Park[1,2] and Jinho Ahn[1,2] *[1]Division of Materials Science and Engineering, Hanyang University, [2]Institute of Nano Science and Technology, Hanyang University*

TP1-54	Impedance Spectroscopic Analysis of Zr Doped HfO_2 with Increasing Switching Cycling Moonyoung Jung[1], Youngji Noh[2], and Seung-eon Ahn[1] *[1]Department of Nano-Optical Engineering, Korea Polytechnic University, [2]Department of Advanced Convergence Technology, Korea Polytechnic University*
TP1-55	AC Device Approach to the Evaluation of Intrinsic Mobility of Oxide Thin Film Transistor Sungwoo Kim[1], Hyunsuk Woo[2], and Sanghun Jeon[1,2] *[1]Department of Display and Semiconductor Physics, Korea University, [2]Department of Applied Physics, Korea University*
TP1-56	MIM Capacitor based on $ZrO_2/Y_2O_3/ZrO_2$ Dielectric for DRAM Devices Seong Tak Cho[1], Cheol Hyun An[1], Sang Hyeon Kim[1], Dong gun Kim[1], Dae Seon Kwon[1], Soon Hyung Cha[2], and Cheol Seong Hwang[1] *[1]Department of Materials Science and Engineering, Seoul National University, [2]Department of Engineering Practice, Seoul National University*
TP1-57	Plasma-Enhanced Atomic Layer Deposition of Molybdenum Compounds Thin Films Using $Mo(CO)_6$ with Various Plasma Gases Jeong-Hun Choi, Seung-Won Lee, Cheol-Min Hyun, and Ji-Hoon Ahn *Department of Electronic Material Engineering, Korea Maritime and Ocean University*
TP1-58	Crystal Structure and Electrical Properties Modulation of Al-Doped $HfZrO_2$ Thin Films by ALD Seung-Won Lee[1], Jeong-Hun Choi[1], Cheol-Min Hyun[1], Minho Ahn[2], Sanghun Jeon[2], and Ji-Hoon Ahn[1] *[1]Department of Electronic Material Engineering, Korea Maritime and Ocean University, [2]Department of Applied Physics, Korea University*
TP1-59	ZnO:N-그래핀 접합 배리스터의 TiO_2 층 페시베이션 효과 이호인, 허선우, 김시현, 김윤지, 김승모, 김기영, 이용수, 이헤지, 이병훈 *Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, GIST*
TP1-60	Ti-Rich TiNx Barrier Metal 적용을 통한 PMOS Gate PDR 개선 황선우, 박성진, 황의성, 김준기, 진성곤, 김상덕 *SK 하이닉스 미래기술연구원*
TP1-61	Autonomous Formation of Suspended Graphene on Electroplated Microgap Electrodes Aram Lee, Mina Park, Ho Kyun Rho, and Sang Hyun Lee *Institute of Advanced Composite Materials, KIST*
TP1-62	Achieving High Mobility of Zinc Oxynitride Thin Film Transistor Using Tantalum Metal Capping Method Taeho Kim and Jae Kyeong Jeong *Department of Electronics and Computer Engineering, Hanyang University*
TP1-63	Atomic Layer Deposition of SiO_2 and SiO_xN_y Thin Films Using O_2, H_2O, N_2 and NH_3 Remote Plasma Han Jin Lee[1], Dae Hyun Kim[1], Min-Woo Ha[2], and Tae Joo Park[1] *[1]Department of Materials Science and Chemical Engineering, Hanyang University, [2]Department of Electrical Engineering, Myongji University*

TP1-64	Morphology of Thermal Annealing Effect on Solution Processed Organic Semiconducting Multi Layers Jaeseung Kim, DongJin Kim, Myungwoo Chung, Jiho Lee, and H. Kim *Department of Physics, Sogang University*
TP1-65	Electrical Stability of Nitrogen-Doped Amorphous In-Ga-Zn-O Thin Film Transistors for High-Performance Transparent Electronics Jae-Hwan Kim, Min-Soo Kang, Gi-Won Seo, Tae-Yeol Lee, Eui-Hyun Kim, Hee-Soo Hwang, and Jin-Ha Hwang *Department of Materials Science and Engineering, Hongik University*
TP1-66	Top Electrode 증착을 통한 Niobium Oxide 의 Nb Binding State Control 연구 이지민, 김대우, 김재연, 한유근, 손현철 *Department of Materials Science and Engineering, Yonsei University*
TP1-67	Diode-Like Characteristics of the Pt/Al_2O_3/Nb:$SrTiO_3$ and Positive Temperature Coefficient of Resistance Taehwan Moon, Hyun Jae Lee, and Cheol Seong Hwang *[1]Department of Materials Science and Engineering and ISRC, Seoul National University*
TP1-68	Effect of Interfacial Morphology on Ferroelectric-Gated Graphene Device Woo Young Kim *Department of Electronic Engineering, Jeju National University*
TP1-69	Nonvolatile Memory Thin-Film Transistors Using In-Ga-Zn-O Channel and ZnO Charge-Trap Layer on Ultra-Thin Flexible Polyimide Substrates Hyeong-Rae Kim, Hye-Won Jang, Ji-Hee Yang, and Sung-Min Yoon *Department of Advanced Materials Engineeting for Information and Electronics, Kyung Hee University*
TP1-70	Solution-Processed High-k ZrO_2 Gate Dielectric for p-Channel SnO TFTs Azida Azmi[2], Jiwon Lee[1], and Jae Kyeong Jeong[1] *[1]Department of Electronics and Computer Engineering, Hanyang University, [2]Department of Materials Science and Engineering, Inha University*
TP1-71	Investigation of P(VDF-TrFE) Based Ferroelectric Capacitor for Negative Capacitance Steep Switching Sang-Woo Han[1], Dong-Hwan Kim[2], Hyun-Seop Kim[1], Min-Gi Jo[1], Won-Ho Jang[1], and Ho-Young Cha[1] *[1]School of Electronic and Electrical Engineering, Hongik University, [2]Department of Electrical and Computer Engineering, Seoul National University*
TP1-72	An Enhancement Layer to Improve Cu Gap-Fill Process with CVD-Co Liner Byeong-Hwa Jeong[1], Min Soo Kim[1], Yong Seok Jang[1], Seung Su Choi[1], Masamichi Harada[2], Masaki Uematsu[2], and Yutaka Kokaze[2] *[1]Korea Institute for Super Materials, ULVAC KOREA Co., Ltd., [2]Institute of Semiconductor and Electronics Technologies, ULVAC Inc.*

TP1-73	Cyclopentadienyl-Type Ti Precursor를 이용한 TiO_2 박막의 ALD 공정 김성윤[1], 김재민[1], 구지연[1], 박재민[1], 박미라[2], 안효진[2], 박정우[2], 이원준[1] *[1]세종대학교 나노신소재공학과, [2]한솔케미칼 박막재료팀*
TP1-74	Impact of Al_2O_3 Buffer Layer on Ultra-Thin Flexible Polyimide Substrates for Transparent InGaZnO Thin Film Transistors Hye-Won Jang, Hyeong-Rae Kim, Ji-Hee Yang, and Sung-Min Yoon *Department of Advanced Materials Engineeting for Information and Electronics, Kyung Hee University*
TP1-75	열안정성이 우수한 Si Precursor를 이용한 고온 ALD SiO_2 박막의 특성 구지연[1], 김성윤[1], 박재민[1], 박정우[2], 이원준[1] *[1]세종대학교 나노신소재공학과, [2]한솔케미칼 박막재료팀*
TP1-76	In-Sn-Ga-O Thin Film Transistors with High Performance in Low Annealing Temperature Hyeon A Kim and Jae Kyeong Jeong *Department of Electronic Engineering, Hanyang University*
TP1-77	Enhanced Electrical Performance of Amorphous In-Ga-Zn-O TFT Using Bi-Layered Active Channel Hyun Woo Son, Myung-Sic Chae, Ju Hyun Park, and Tae Geun Kim *School of Electrical Engineering, Korea University*

F. Silicon and Group-IV Devices and Integration Technology

심사위원: 김경록 교수(UNIST), 김상완 교수(아주대학교)

TP1-78	Steep Slope Silicon-on-Insulator FET with Negative Capacitance Eunah Ko and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
TP1-79	Implementation of Synaptic Device with Long/Short Term Memory Function Using High-k Charge Storage Layer Young-tak Seo[1], Myoung-sun Lee[2], Ho-Jung Kang, Byung-Gook Park, and Jong-Ho Lee *[1]Department of Electrical and Computer Engineering and ISRC, Seoul National University,* *[2]Semiconductor R&D Center, Samsung Electronics*
TP1-80	Steep Slope Silicon-On-Insulator Feedback Field Effect Transistor Changhoon Lee, Jinhong Min, and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
TP1-81	Transparent Multiple In-Plane Gate ITO Neuron TFTs for AND Logic Application Jin-Hyeock Jeon, Ju-young Pyo, and Won-Ju Cho *Department of Electrical Materials Engineering, Kwangwoon University*

포스터 발표

TP1-82	Impact of Remnant Polarization and Coercive Field on the Transient Response of Ferroelectric/ Negative Capacitor Jeongmin Shin, Hansol Ku, and Changhwan Shin *Department of Electrical and Computer Engineering, University of Seoul*
TP1-83	Demonstration of Unsupervised Learning with Spike-Timing-Dependent Plasticity Using a SONOS Gated-Diode Memory Array Chul-Heung Kim, Soochang Lee, Byung-Gook Park, and Jong-Ho Lee *Department of Electrical and Computer Engineering, ISRC, Seoul National University*
TP1-84	Design of Forward Propagation Using Gated Schottky Diodes Suhwan Lim, Jai-Ho Eum, Jong-Ho Bae, Byung-Gook Park, and and Jong-Ho Lee *Department of ECE and ISRC, Seoul National University*
TP1-85	간단한 그래핀 패턴을 이용한 저항 제작 및 특성 연구 김기영, 허선우, 김소영, 이혜지, 김윤지, 이호인, 김승모, 이병훈 *Center for Emerging Electric Devices and Systems, School of Materials Science and Engineering, GIST*
TP1-86	Improvementon Interfacial Quality of Ge MOS Capacitor Using RIE O_2 Plasmatreatment Hyeong-Rak Lim[1,2], Seong-Kwang Kim[1], Jae-Hoon Han[1], Jae-Phil Shim[1], Gun-Wu Ju[1], Su-Bin Lee[1], Byeong-Kwon Ju[2], Hyung-jun Kim[1], and Sang-Hyeon Kim[1] *[1]KIST, [2]Department of Electrical and Computer Engineering, Korea University*
TP1-87	광 검출기 응용을 위한 수소 이온 주입된 다결정 실리콘의 제조 이재성[1], 손영찬[2] *[1] 위덕대학교 그린에너지공학부, [2] 포항대학교 IT 전자과*
TP1-88	Ultra-Thin Body Ge (110)-OI on Si Fabrication from Ge/AlAs/GaAs Substrate via Wafer Bonding Technology Jae-Phil Shim[1], Han-Sung Kim[1,2], Gunwu Ju[1], Hyeong-Rak Lim[1,3], Seong Kwang Kim[1,4], Jae-Hoon Han[1], Sang Hyeon Kim[1], and Hyung-jun Kim[1] *[1]KIST, [2]KU-KIST Graduate School of Converging Science and Technology, Korea University, [3]Department of Electrical and Computer Engineering, Korea University, [4]School of Electrical Engineering, Kookmin University*
TP1-89	Investigation of Biosensor Using Tunneling Field Effect Transistor Dong Jun Park, Jongmin Ha, and Il Hwan Cho *Department of Electronic Engineering Myongji University*
TP1-90	실리콘 피드백 트랜지스터의 밴딩 스트레인 내구성 향상에 대한 연구 김윤중, 김상식 *고려대학교 전기전자공학부*
TP1-91	실리콘 기반 Fin 구조 고이동도 소자 김성호, 박종율, 김우석, 김경록 *UNIST 전기 및 전자공학부*

TP1-92	Roll-to-Pate(R2P) 공정 기반의 새로운 3차원 집적 기술 개발 및 수직 전극을 이용한 층 간 연결 황진하[1,2], 이상경[1,2,3], 이병훈[1,2,3] *[1]Center for Emerging Electric Devices and Systems, [2]School of Material Science and Engineering, [3]Alpha Graphene, GIST*
TP1-93	ZnO Top Gate를 이용한 그래핀/Ge 쇼트키 접합의 광소자 응용 김시현, 장경은, 유태진, 권민규, 이병훈 *Center for Emerging Electronic Devices and Systems, School of Materials Science and Engineering, GIST*
TP1-94	Low-Temperature Poly-Si Thin Film MSM Photodetector by Seed Induced Lateral Crystallization Mingjun Jiang, Yoonyoung Bae, and Donghwan Ahn *School of Materials Science and Engineering, Kookmin University*
TP1-95	Performance Investigation of Ternary CMOS-Based Standard Ternary Inverter with Retrograde Channel Profile Sunhae Shin, Jaewon Jeong, and Kyung Rok Kim *School of Electrical and Computer Engineering, UNIST*
TP1-96	Design of THz Aperture based on Near-Field Microscopy Technology for High Resolution THz Imaging Hyeong Ju Jeon, Min Woo Ryu, Esan Jang, Sang Hyo Ahn, and Kyung Rok Kim *Department of Electronic Engineering, UNIST*
TP1-97	Common Body for Ternary CMOS Logic Gates for Endurance of the Input Pattern Effects on Intermediate State Level Esan Jang, Sunhae Shin, Jae Won Jeong, and Kyung Rok Kim *Department of Electronic Engineering, UNIST*
TP1-98	Analysis of Silicon MOSFET-Based Plasmonic Terahertz Detection Delay with Advanced Non-Quasi-Static Compact Model Sang Hyo Ahn, Min Woo Ryu, Esan Jang, Hyeong Ju Jeon, and Kyung Rok Kim *Department of Electronic Engineering, UNIST*
TP1-99	실리콘 기반 상온 공진 플라즈마파 트랜지스터 테라헤르츠 검출소자의 이론적 가능성 분석 박종율, 김성호, 김경록 *울산과학기술원 전기전자공학부*
TP1-100	낮은 열공정버짓 이용한 초절전 터너리 CMOS 소자 정재원, 신선해, 김경록 *울산과학기술원 전기전자컴퓨터공학부*
TP1-101	High-Sensitive Plasmonic Terahertz Detector based on Ultimate Asymmetric Ring-Type Transistor Min Woo Ryu, E-San Jang, Sang Hyo Ahn, Hyeong Ju Jeon, and Kyung Rok Kim *Department of Electronic Engineering, UNIST*
TP1-102	P-I-N Diode의 P층 도핑 농도에 따른 터널링 전류 및 T-FET으로의 Feasibility에 대한 연구 박지우, 이다윤, 손현철 *연세대학교 공과대학 신소재공학과*

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

G. Device & Process Modeling, Simulation and Reliability

심사위원: 유현용 교수(고려대학교), 이재우 교수(고려대학교)

TP1-110	**Reliability Modeling of Magnetic Tunnel Junctions with a Spinel $MgAl_2O_4$ Film** Su Min Yu[1], Chul Min Choi[1], Hiroaki Sukegawa[2], Seiji Mitani[2], and Yun Heub Song[1] *[1]Department of Electronic Engineering, Hanyang University, [2]Research Center for Magnetic and Spintronic Materials, NIMS*
TP1-111	**Analysis of Radiation Effect for Vertical Field Effect Transistor** Youngsoo Seo[1], Myounggon Kang[2], Jongwook Jeon[3], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation, [3]Department of Electronics Engineering, Konkuk University*

TP1-112	Gate Induced Drain Leakage Suppression with Additional Oxide in the Side Region of the Lateral Nanosheet FET Donghyun Ryu[1], Shinkeun Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and the Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TP1-113	Comparison of Nanowire-FET and Nanosheet-FET Hyungwoo Ko[1], Jongsu Kim[1], Minsoo Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TP1-114	Analysis of Self Heating for GAA Vertical Nanosheet -Shaped FETs in Single Transistor and Digital Circuit Dokyun Son[1], Ilho Myeong[1], Myounggon Kang[2], Jongwook Jeon[3], and Hyungcheol Shin[1] *[1]ISRC and the Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation, [3]Department of Electronics Engineering, Konkuk University*
TP1-115	Thickness Margin of Ferroelectric Layer for Aspect Ratio Variation in Negative Capacitance Nanowire FET Jang Kyu Lee[1], Changbeom Woo[1], Jongsu Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TP1-116	Optimization of Nanosheet FET in the Aspect of Electrical Characteristics and Parasitic Components Jongsu Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*
TP1-117	Analytical Study of 7nm n-Type Germanium Junctionless Field-Effect-Transistor with Metal-Interlayer-Semiconductor Source/Drain Structure Seung Geun Jung and Hyun-Yong Yu *Department of Electrical Engineering, Korea University*
TP1-118	Realization of Neuron-Synapse System based on Telegraphic and Memristive Characteristics of Magnetic Tunnel Junction Gi Yoon Bae, Young-jae Kim, and Wanjun Park *Department of Electronic Engineering, Hanyang University*
TP1-119	The Improvement of OTP Disturbance by Optimizing STI Process Seungyong Sung, Hyangeun Lee, Kwangil Choi, Yijung Jung, Sungyeon Hwang, Jaeil Ju, Sunggon Choi, and Inwook Cho *DDI Product Engineering, SK Hynix Systemic Inc.*

포스터 발표

TP1-120	Effect of Microwave Irradiation as a Low Thermal Budget Annealing Process on Thin Gate Oxide Layers Min-Soo Kang and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
TP1-121	Comparison of Nanosheet-FET with Nanowire-FET for Vertical Structure Minsoo Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and School of Electrical Engineering and Computer Science, Seoul National University,* *[2]Department of Electronics Engineering, Korea National University of Transportation*
TP1-122	The Extraction of Graphene Device's Intrinsic Properties by Simulation Method Tae Jun Gu, Young-Min Seo, Seoggyun Kang, Yamujin Jang, and Dongmok Whang *Department of Advanced Material Engineering, Sungkyunkwan University*
TP1-123	Carrier Transport Mechanisms in P-Channel SnO Thin-Film Transistors Hee-Joong Kim, Sae-Young Hong, Chan-Yong Jeong, Sang-Dae Bae, Jeong-Hwan Lee, and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
TP1-124	Analysis of 5-nm Circular and Trapezoidal Nanowires Mangi Han and Youngmin Kim *School of Computer and Information Engineering, Kwangwoon University*
TP1-125	Analysis of the Memristor-Based Cross-Bar Synapse for Neuromorphic System Bokyung Kim, Sumin Jo, Wookyung Sun and Hyungsoon Shin *Department of Electronic and Electrical Engineering, Ewha Womans University*
TP1-126	Vertical Tunnel Field-Effect Transistor with Polysilicon Channel Won Joo Lee, Hui Tae Kwon, Hyun-Seok Choi, Daehoon Wee, Yu Jeong Park, Boram Kim, and Yoon Kim *Department of Nanoenergy Engineering, BK21 Plus Nanoconvergence Technology Division, Pusan National University*
TP1-127	Covered Source-Channel Tunnel Field-Effect Transistors with Trench Gate Structures Sola Woo, Minsuk Kim, and Sangsig Kim *Department of Electrical Engineering, Korea University*
TP1-128	A Novel PNP ESD Clamp of Stable Triggering in ESD Network Seok-Soon Noh, Youngsang Son, Jowoon Lee, Joonghyeok Byeon, Jongmin Kim, Youngchul Kim, and Joontae Jang *Technology Enabling Team, DB Hitek Co., Ltd.*
TP1-129	Behavior Modeling for Single-Poly Floating Gate Device Eun-Je Park and Kee-Won Kwon *Department of Semiconductor System Engineering, Sungkyunkwan University*
TP1-130	AlGaN/GaN Fin-HEMT with Sub-100 Nm T-gate: Optimization and Modeling in RF Regime Jae Hwa Seo, Young Jun Yoon, Min Su Cho, and In Man Kang *School of Electronics Engineering, Kyungpook National University*

TP1-131	Extraction of Grain Dependent Parameters of HfO_2-Based Ferroelectrics Using Landau Khalatnikov Model Youngji Noh[2], Moonyoung Jung[1], and Seung-eon Ahn[1] *[1]Department of Nano-Optical Engineering, Korea Polytechnic University, [2]Department of Advanced Convergence Technology, Korea Polytechnic University*
TP1-132	Characterization of Interface State and Effective Overlap Length in InGaAs Channel III-V MISFETs Han Bin Yoo, Junyeap Kim, Jaewon Kim, Heesung Lee, Seong Kwang Kim, Sung-Jin Choi, Dae Hwan Kim, and Dong Myong Kim *School of Electrical Engineering, Kookmin University*
TP1-133	A Development of New PNP BJT with High Robustness and Low R-on Resistance Jungwoo Han, Jongmin Kim, Wonsuk Park, Youngchul Kim, and Joontae Jang *Technology Enabling Team, DB Hitek Co., Ltd.*
TP1-134	Structural and Electrical Properties of CIGS ($Cu(In,Ga)Se_2$) based on ZnS Buffer Layer Deposited by RF Magnetron Sputtering Han-Sang Kim[1], Eun-do Kim[2], Hee-Cheol Kim[3], Dong-Ju Lee[4], Fei Shan[1], Zitong Ao[1], Hongbo Guo[1], Dong-Gu Kyung[1], Anvar Tukhtaev[1], Ruslan Buranov[1], Jaynarov Sherali[1], and Sung-Jin Kim[1] *[1]College of Electrical and Computer Engineering, Chungbuk National University, [2]R&D Center, TheONE SCIENCE, [3]R&D Center, ALPHAPLUS Co., Ltd, [4]Department of Physics, Sungkyunkwan University*
TP1-135	CIGS ($Cu(In,Ga)Se_2$) Thin Film Solar Cells with ZnS Buffer Layer Han-Sang Kim[1], Eun-do Kim[2], Hee-Cheol Kim[3], Dong-Ju Lee[4], Fei Shan[1], Zitong Ao[1], Hongbo Guo[1], Dong-Gu Kyung[1], Anvar Tukhtaev[1], Ruslan Buranov[1], Jaynarov Sherali[1], and Sung-Jin Kim[1] *[1]College of Electrical and Computer Engineering, Chungbuk National University, [2]R&D Center, TheONE SCIENCE, [3]R&D Center, ALPHAPLUS Co., Ltd., [4]Department of Physics, Sungkyunkwan University*
TP1-136	New Double Well Field-Effect SCR for RF SOI Process Youngsang Son, Sungmo Gu, Seoksoon Noh, Youngchul Kim, Joonghyeok Byeon, and Joontae Jang *TE Team, DB Hitek Co., Ltd.*
TP1-137	Trap Measurement in Floating Body MOSFETs by Body Potential Monitoring Sujin Choi, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Jung-Yeun Kim, Hyung-Min Ji, Sang-Woo Kim, Jong-Gyu Cheon, Jin-Hyun Kim, Kyoung-Moon Yu, Seong Yong Cho, and Rino Choi *Department of Materials Science and Engineering, Inha University*
TP1-138	A Close Investigation of Electric Field Concentration Effect in the Wedge Structure through Numerical Analysis for Nanoscale ReRAM Application Yeon-Joon Choi[1], Sungjun Kim[1], Min-Hwi Kim[1], Suhyun Bang[1], Tae-Hyeon Kim[1], Dong Keun Lee[1], Seongjae Cho[2], and Byung-Gook Park[1] *[1]ISRC and the Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electronics Engineering, Gachon University*
TP1-139	An ESD Blocking Scheme of Power Clamp Feedback for Internal Circuit Protection Eui-youn Hong, Joonghyeok Byeon, Youngchul Kim, and Joontae Jang *Technology Enabling Team, DB Hitek Co., Ltd.*

포스터 발표

I. MEMS & Sensor Systems

심사위원: 김정현 교수(광운대학교)

TP1-140	**Cellular Trapping Time Analysis with Response to Frequency in Dielectrophoresis Trapping System** Jongwon Lim, Eunjin Lee, Seungyeop Choi, Sanghyun Lee, Chaewon Kim, and Sangwoo Lee *Department of Biomedical Engineering, Yonsei University*
TP1-141	**Wafer-Scale Fabrication of Graphene-Based Transistors for Precise pH Sensing** Myung-Sic Chae, Ju Hyun Park, Sungmin Oh, Hyun Woo Son, and Tae Geun Kim *School of Electrical Engineering, Korea University*
TP1-142	**Experimental Determination of Realistic Cellular Cross-Over Frequency Using Multi-Directional Input Signal on the Dielectrophoretic Manipulation** Sang Hyun Lee, Chae Won Kim, Eun Jin Lee, Jong Won Lim, and Sang Woo Lee *Department of Biomedical Engineering, Yonsei University*
TP1-143	**철회**
TP1-144	**Development of AlGaN/GaN High Electron Mobility Transistors Grown on 4-Inch Sapphire Substrate for Sensor Applications** Chu-Young Cho, Yumin Koh, Hyeong-Ho Park, and Kyung-Ho Park *Electronic Devices Lab., KANC*
TP1-145	**Fabrication of a Microfluidic-Based Well Array Chip** Christian D. Ahrberg, Jong Min Lee, and Bong Geun Chung *Department of Mechanical Engineering, Sogang University*
TP1-146	**Fabrication of the Flexible Conductive Microplatform** Jong Min Lee, Tae Hyeon Kim, Christian Daniel Ahrberg, and Bong Geun Chung *Department of Mechanical Engineering, Sogang University*
TP1-147	**Texture Recognition Using Electrical Signals Output by TEG** Jaeeun Lim, Wonkyeong Son, Giyoon Bae, and Wanjun Park *Department of Electronics and Computer Engineering, Hanyang University*
TP1-148	**Effects of Cholesterol Depletion on Cell Membrane Capacitance Using Dielectrophoretic Cell Manipulation Technique** Chae Won Kim, Sang Hyun Lee, Jong Won Lim, Eun Jin Lee, Seungyeop Choi, and Sang Woo Lee *Department of Biomedical Engineering, Yonsei University*
TP1-149	**Tumor Target Photo-Thermal Therapy in Microfluidic Co-Culture Platform** Jae Hyun Lim[1], Jong Min Lee[2], Da-eun Kim[1], and Bong Geun Chung[2] *[1]Department of Biomedical Engineering, Sogang University, [2]Department of Mechanical Engineering, Sogang University*

TP1-150	**Fabrication of the Microfluidic Mixing Chip** Hyeon Kee Kye[1], Joo Yoon Moon[2], Tae Hyeon Kim[1], and Bong Geun Chung[1] *[1]Department of Mechanical Engineering, Sogang University, [2]Department of Biomedical Engineering, Sogang University*
TP1-151	**Extended-Gate AlGaN/GaN High Electron Mobility Transistor for pH Sensor** Ju-Young Pyo[1], Yumin Koh[2], Chu-Young Cho[2], Hyeong-Ho Park[2], Kyung-Ho Park[2], Sang Woon Lee[3], and Won-Ju Cho[1] *[1]Department of Electronic Materials Engineering, Kwangwoon University, [2]Electronics Devices Lab., KANC, [3]Department of Energy Systems Research and Department of Physics, Ajou University*
TP1-152	**pH Sensing Characteristics of Extended-Gate Field-Effect Transistor with Al_2O_3 Layer** Jae Kwon[1], Yong Kyoung Yoo[2], Jeong Hoon Lee[2], and Jae-Hyuk Ahn[1] *[1]Department of Electronic Engineering, Kwangwoon University, [2]Department of Electrical Engineering, Kwangwoon University*
TP1-153	**Nano-Sized Thin Wafer Transfer Under Low Temperature (<250℃) for the 3D Stacking Technology** Yu-Rim Jeon, HoonHee Han, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
TP1-154	**Physical Analysis of Optical Sensor Based on LED and Photodiode** Bo Gyeom Seo[1], Seongwook Choi[2], Dongwoo Park[2], and Young June Park[1] *[1]Department of Electrical and computer Engineering, Seoul National University, [2]Nano Systems Institute, Seoul National University*
TP1-155	**나노와이어가 적용된 초소형 센서를 위한 구조체 모델링** 장보배로, 장서형, 성진우, 김태엽, 조동일 *서울대학교 전기정보공학부, 서울대학교 반도체공동연구소*
TP1-156	**Design of Low Power Sensor Interface Integrated Circuit for Wireless Radiation Detection Sensor System** Hyungjoo Cho, Hyuntak Jeon, Seoktae Koh, and Minkyu Je *Department of Electrical Engineering, KAIST*
TP1-157	**관성센서를 위한 실리콘 나노와이어 구조 해석** 성진우, 장서형, 장보배로, 김태엽, 조동일 *서울대학교 전기정보공학부, 서울대학교 반도체공동연구소*
TP1-158	**Position & Orientation Detection Using Electromagnetic Based Sensor for Total Hip Arthroplasty** CheolJun Park, Jaesuk Choi, Juho Park, Hongseok Shin and Minkyu Je *School of Electrical Engineering, KAIST*

포스터 발표

TP1-159	Observation of Surface Potential on the Lipid Bilayer by Increasing Cholesterol Levels Eun Jin Lee, Chae Won Kim, Sang Hyun Lee, and Sang Woo Lee *Department of Biomedical Engineering, Yonsei University*
TP1-160	도플러 레이더 센서 기반 심박 검출 알고리즘 김주연, 장세영, 양종렬 *Department of Electronic Engineering, Yeungnam University*
TP1-161	2.45-GHz 대역 도플러 레이더센서를 이용한 실시간 생체신호 검출 최철호, 박재현, 양종렬 *영남대학교 전자공학과*
TP1-162	Selective and Reversible Gas Sensing Behaviors on Flower-Shape SnS_2 Jong-Ik Baek, Kyung-Hyun Lee, Yun-Jae Jeong, Geun-Woo Baek, and Sung-Hun Jin *Department of Electronic Engineering, Incheon National University*
TP1-163	Microfluidic Chip Integrated with Solution-Gated Graphene Field-Effect Transistor for Electrical DNA Detection Hyo Eun Kim, Dawoon Han, June Ho Lee, and Yong-Sang Kim *School of Electronic and Electrical Engineering, Sungkyunkwan University*
TP1-164	Membrane Gate Air Gap Thin Film Transistor for Pressure Sensor An Hoang-Thuy Nguyen, Manh-Cuong Nguyen, Jungyeon Kim, Sujin Choi, Hyungmin Ji, Jonggyu Cheon, Kyoungmun Yu, Jinhyun Kim, Sangwoo Kim, Seongyong Cho, and Rino Choi *Department of Material Science and Engineering, Inha University*

M. RF and Wireless Design

심사위원: 권구덕 교수(강원대학교), 권익진 교수(아주대학교)

TP1-165	LO Buffer Amplifier를 결합한 W-대역 Resistive Mixer 설계 최지수, 최원석, 정진호 *서강대학교 전자공학과*
TP1-166	On-Chip Dipole Transition을 이용한 W-대역 저잡음증폭기 모듈 박기훈, 최지수, 정진호 *서강대학교 전자공학과*
TP1-167	GaAs pHEMT 공정을 이용한 W-대역 상향 및 하향 변환 혼합기 설계 류경목, 김형진, 최원석, 정진호 *서강대학교 전자공학과*
TP1-168	A 48 μW Uncertain-IF Wake-Up Receiver Sensitivity with -80 dBm Tae Jong Kim, Shin Young Kim, Hansol Kim, Jongyoun Kim, Woojong Lee, and Ku Duck Kwon *Department of Electronic Engineering, Kangwon National University*

TP1-169	A 2.4 GHz High-Efficiency Power Harvester Employing Series-Parallel Switching Mode Sinyoung Kim, Taejong Kim, Byungkwon Kim, Minho Kim, Seran Oh, and Kuduck Kwon *Department of Electronic Engineering, Kangwon National University*
TP1-170	에너지 하베스팅 센서 응용을 위한 저전력 Low-Dropout Regulator 설계 Sung-Hwan Lee, Ickjin Kwon *Department of Electrical and Computer Engineering, Ajou University*

P. Device for Energy (Solar Cell, Power Device, Battery, etc.)	
	심사위원: 신현정 교수(성균관대학교), 함문호 교수(GIST)
TP1-171	Control of Thermal and Electrical Conductivityin Insulating Thin Films Using Electrical Breakdown Process for High Performance Thermoelectric Generator Dae Yun Kang[1], Ju Hyun Park[1], Dong Su Jeon[1], Chan Young Kim[1], Sungmin Oh[1], No-Won Park[2], Sang-Kwon Lee[2], and Tae Geun Kim[1] *[1]School of Electrical Engineering, Korea University, [2]Department of Physics, Chung-Ang University*

R. Semiconductor Software	
	심사위원: 김태석 교수(광운대학교), 반효경 교수(이화여자대학교)
TP1-172	Web Page Layout Code Automatic Generation from Hand-Drawn Sketch Junyoung Heo[1], Ba-Da Kim[1], Sang-Min Park[1], Tae-Yeon Won[1], Bongjae Kim[2], Jinman Jung[3], Hong Min[4] *[1]Hansung University, [2]Sun Moon University, [3]Hannam University, [4]Hoseo University*
TP1-173	Hidden Markov Model을 이용한 인간의 유전체 조절인자 비교 분석에 관한 연구 오홍택, 송길태 *부산대학교 전기전자컴퓨터공학과*
TP1-174	Optimizing Sequence Assembly for Evolutionary Variant Pattern Analysis 강석우, 김성현, 오동빈, 이호용, 송길태 *부산대학교 전자전기컴퓨터공학과*
TP1-175	Semantic Enhanced IFTTT Framework for IoT Applications Hong Min, Kwangsoo Jo, Junhyuk An, Jiyoung Park, Heejae Lee, and Jina Kim *Division of Computer and Information Engineering, Hoseo University*
TP1-176	Detection of GUI Components from Sketch Image for Automated UI-Code Generation of Mobile Applications Jinman Jung[1], Seoyeon Kim[1], Jisu Park[1], Seongbae Eun[1], Young-Sun Yun[1], Bongjae Kim[2], Junyoung Heo[3], and Hong Min[4] *[1]Hannam University, [2]Sun Moon University, [3]Hansung University, [4]Hoseo University*

TP1-177	Method of Multilingual Support Menus based on WiFi Direct Jinman Jung[1], Taeil Son[1], Seungju Yu[1], Seongbae Eun[1], Young-Sun Yun[1], Jaeuk Lee[1], Heesung Woo[2], and Changhyung Ryu[2] *[1]Hannam University, [2]Coregleam*

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

TP1-187	Wireless Power Supplied 3-Stage Ring Voltage Controlled Oscillator Design Using 0.18 um CMOS Process Jinwook Song, Bookyo Sim, and Joungho Kim *Department of Electronic Engineering, KAIST*
TP1-188	Implementation of Generalized Hough Transform for Autonomous Inspection System Junwon Mun, Yuneseok Jang, Yoojun Nam, and Jaeseok Kim *Department of Electrical and Electronic Engineering, Yonsei University*
TP1-189	4^{th} Stage Discrete-Time Delta-Sigma Modulator Jaeseong Lee and Jeongjin Roh *Department of Electronic Engineering, Hanyang University*
TP1-190	초저전력 프로세서 설계를 위한 프로세서 최저 동작 전압 분석 민경일, 전재영, 김창현, 박상현, 김선욱 *고려대학교 전기전자공학과*
TP1-191	A Continuous-Time Delta-Sigma Modulator for High Speed Signal Processing Seokjae Song and Jeongjin Roh *Department of Electronic Engineering, Hanyang University*
TP1-192	A 21mW Low-Power Recurrent Neural Network Accelerator with Quantization Tables Jinmook Lee, Dongjoo Shin, and Hoi-Jun Yoo *School of Electrical Engineering, KAIST*
TP1-193	Design of Variable Capacitor Layout for Differential LC-VCO Milim Lee and Changkun Park *School of Electronic Engineering, Soongsil University*
TP1-194	2.4/5-GHz를 만족하는 이중대역 CMOS 전력증폭기 설계 박성규, 이재용, 이미림, 박창근 *숭실대학교 정보통신전자공학부*
TP1-195	Pre-Authentication을 위한 Secure Core 설계 Young Wook Noh and Dong Kyue Kim *Department of Electronic Engineering, Hanyang University*
TP1-196	Design Secure SoC with Secure Core Gap Kyeong Kim and Dong Kyue Kim *Department of Electronic Engineering, Hanyang University*
TP1-197	Design of Power Amplifier for Millimeter Wave Application Dae-Gwang Jang and Young Woo Kwon *Institute of New Media and Communications, Department of Electrical and Computer Engineering, Seoul National University*

포스터 발표

TP1-198	Implementation of Slim - HEVC Encoder Kyeongmook Oh, Hyukyeon Lee, Sangwon Kim, Minjung Cho, and Jaeseok Kim *Department of Electrical and Electronic Engineering, Yonsei University*
TP1-199	An Integrated W-Band Mixer-First Receiver for a Proximity FMCW Radar Sensor in 65-nm CMOS Hyohyun Nam[1], Dong-Sik Ko[2], Hyeong-Kyu Kim[2], Dang-Oh Kim[2], Hyun-Jun Ryu[2], Ju-Hye Kim[2], and Jung-Dong Park[1] *[1]Division of Electronics and Electrical Engineering, Dongguk University, [2]Poongsan Corporation Ltd.*
TP1-200	A CMOS Power Amplifier with Linearized Methods for IEEE 802.11n Seongjin Jang, Changhyun Lee, Joshep Jang, and Changkun Park *Department of Electronic Engineering, Soongsil University*
TP1-201	A Low-power Depth-estimation Processor with Shifter-based Pipelined Architecture Sungpill Choi, Seongwook Park, and Hoi-Jun Yoo *School of Electrical Engineering, KAIST*
TP1-202	65 nm CMOS 공정 기반 213 GHz 혼합형 Push-Push 발진기 설계 Sooyeon Kim[1], Daekeun Yoon[2], Junghwan Yoo[1], Hyun Su Lee[1], and Jae-Sung Rieh[1] *[1]Department of Electronic Engineering, Korea University, [2]International College of Semiconductor and Technology, National Chiao Tung University*
TP1-203	A Low-Power Real-Time 3D Hand Gesture Recognition Processor for Smart Mobile Devices Sungpill Choi, Jinsu Lee, and Hoi-Jun Yoo *School of Electrical Engineering, KAIST*
TP1-204	A 12-bit 200-MS/s Pipelined ADC with Improved Settling Time of Amplifier in 0.13μm CMOS Dang Van Thai, Yong-Jun Jo, and Kwang-Hyun Baek *Chung-Ang University*
TP1-205	The ROIC Array Design for Distance Image Measurement Jae-Eun Lee, Eun-Gyu Lee, and Choul-Young Kim *Department of Electronics Engineering, Chungnam National University*
TP1-206	A Micro Miniaturized Fully Wireless Neural Recording System Jung Woo Jang, Dae Yoon Kim, Chae Eun Lee, and Yoon-Kyu Song *Department of Nano Science and Technology, Seoul National University*
TP1-207	A Micro Miniaturized Fully Wireless System for Chronic BMI System Jung Woo Jang, Dae Yoon Kim, Chae Eun Lee, and Yoon-Kyu Song *Department of Nano Science and Technology, Seoul National University*
TP1-208	Embedded 4-Transistor Non-Volatile Memory Using Standard CMOS Process Guk-Hyeon Yu and Jong-Phil Hong *Department of Electrical Engineering, Chungbuk National University*

TP1-209	Calibration Techniques for Low-Power and High-Bandwidth with Multi-Platform Adaptable DRAM IO Circuits Minho Park and Chulwoo Kim *Department of Electronic Engineering, Korea University*
TP1-210	A Referenceless Frequency Detector with Unrestricted Dynamic Range for CDR Circuit Using 180-nm CMOS Kyung-Sub Son, Seongmun An, Min Kim, and Jin-Ku Kang *Department of Electronics Engineering, Inha University*
TP1-211	Wireless Inductive-Coupled Power and Data Transfer System with Power Control Loop for Bio-Implant System Using 180-nm CMOS Narae Jang, Jangwo Park, Seonghwa Heo, Cheongdae Park, and Jin-Ku Kang *Department of Electronics Engineering, Inha University*
TP1-212	A 280-GHz Power-Combined Coupled-Line Triple-Push Oscillator in 65-nm CMOS Junghwan Yoo, Doyoon Kim, Jai-Heon Cho, and Jae-Sung Rieh *School of Electrical Engineering, Korea University*
TP1-213	Sub-Millimeter Wave 대역 고효율 CMOS 온-칩 캐비티-슬랏 안테나 김형진, 최지수, 정진호 *서강대학교 전자공학과*
TP1-214	A Low-Power Low-Noise CMOS Analog Front-End IC for Neural Recording Systems Hyung Seok Kim, Myeong gyu Song, and Hyouk-Kyu Cha *Department of Electrical and Information Engineering, Seoul National University of Science and Technology*
TP1-215	총이온화선량 효과에 의한 CMOS 0.18um NAND 게이트 영향분석 Minwoong Lee[2], Namho Lee[2], Yurin Jin[1], and Seongik Cho[1] *[1]Department of Electronic Engineering, Chonbuk National University, [2]KAERI*
TP1-216	0.18um CMOS 디지털 로직회로의 TID 영향분석 Minwoong Lee[2], Sanghun Jeong[2], Yeonho Seo[1], Seongik Cho[1] **Department of Electronic Engineering, Chonbuk National University, [2]KAERI*
TP1-217	Touch Screen Delay Balancing Technique to Improve Sensing Performance KwonBin Im, Saad Arslan, and HyungWon Kim *Department of Electronic Engineering, Chungbuk University*
TP1-218	A High-Gain Low-Power and Low-Noise Mixer Youngwoon Kim and Tae-Yeoul Yun *Department of Electrical Engineering and Computer Science, Hanyang University*
TP1-219	Mutually-Actuated-Nano-Electromechanical (MA- NEM) Memory Switches for Low Power Operation and Scalability Improvement Hyug Su Kwon, Ho Moon Lee, and Woo Young Choi *Department of Electronic Engineering, Sogang University*

포스터 발표

TP1-220	CMOS-Nanoelectromechanical (CMOS-NEM) Integration Using CMOS Back-End-of-Line (BEOL) Process Hyug Su Kwon and Woo Young Choi *Department of Electronic Engineering, Sogang University*
TP1-221	LDO 레귤레이터를 이용한 오버 슈트를 줄인 벅 변환기 김미정, 우기찬, 김대진, 양병도 *충북대학교 전기전자정보컴퓨터학부 반도체공학전공*
TP1-222	CMOS를 이용한 THz push-push 발진기 설계 최원석, 김정식, 정진호 *서강대학교 전자공학과*
TP1-223	A SAR-DCC wih the Tracking Logic for Continuous Correction Jong-Moon Choi, Jae-Hyuk Yang, and Kee-Won Kwon *Department of Electronic Engineering, Sungkyunkwan University*
TP1-224	Fingerprint Sensor based on Differential Sensing Circuit with Noise Cancellation Hossam Hassan[1,2], KownBin Im[1], and HyungWon Kim[1] *[1]Department of Electronics Engineering, Chungbuk National University, [2]Electronics Department, NTI*
TP1-225	C-reactive Protein Detection Using a Cascoded Gated Lateral Bipolar Junction Transistor (C-GLBJT) with Alterable Sensitivity Hyun-Min Jeong, Hyurk-Choon Kwon, Ju-Seong Kim, Sae-Wan Kim, Binrui Xu, Cheol-Eon Park, and Shin-Won Kang *School of Electronics Engineering, College of IT Engineering, Kyungpook National University*
TP1-226	A Low Power CMOS RF Front-end for MedRadio Applications Bo-Hun Shin, Chi-Hoon Choi, Changyeol Kim, Sung Wook Yoon, and Ilku Nam *Department of Electronic Engineering, Pusan National University*
TP1-227	A Wideband Signal Generator Integrated with a PA and Oscillator with C-Switch Banks in 65-nm CMOS Hyohyun Nam[1], Dong-Sik Ko[2], Hyeong-Kyu Kim[2], Dang-Oh Kim[2], Hyun-Jun Ryu[2], Ju-Hye Kim[2], and Jung-Dong Park[1] *[1]Division of Electronics and Electrical Engineering, Dongguk University, [2]Poongsan Corporation Ltd.*
TP1-228	A 12bit 500 KS/s Charge Recycling SAR ADC for a Voltage Domain Sensor Application Yongsik Shin and Jinwook Burm *Department of Electronics Engineering, Sogang University*
TP1-229	NTV Fixed Frequency Oscillator Design Le Dinh Trang Dang, Dong Kyu Seo, Ik Joon Chang, and Jin Sang Kim *Department of Electronic Engineering, Kyung Hee University*

TP1-230	Digital Sub-Sampling Phase Detector for Phase Locked Loop Bong-Gu Hwang and In-Chul Hwang *Electrical and Medical Convergent Engineering, Kangwon National University*
TP1-231	Fractional-N Multiplying Delay-Locked Loop for Frequency Synthesizer Jin-Hee Bae and In-Chul Hwang *Electrical and Medical Convergent Engineering, Kangwon National University*
TP1-232	Multi-Bank and Wide-Data-Bus DRAM Circuit for Processor-In-Memory Applications Hyunsun Mo, Wonsun Yang, and Kyeong-Sik Min *Department of Electronics Engineering, Kookmin University*
TP1-233	메타구조를 이용한 28.5GHz PLL 주파수합성기의 설계 Noyong Kwon and Yong Moon *School of Electronic Engineering, Soongsil University*
TP1-234	무선 전력 전송을 지원하는 NFC Analog Front-End 설계 장준범, 문용 *숭실대학교 전자공학과*
TP1-235	A 4-24 GHz Distributed Amplifier in 65-nm CMOS Yunsik Na and Munkyo Seo *School of Electronic and Electrical Engineering, Sungkyunkwan University*
TP1-236	DC Characteristics of CMOS Diodes Under High Magnetic Fields Dongha Shim[1], Seung Han Han[2], Ji Hoon Yang[2], and Hyeongjong Lee[3] *[1]MSDE Programme, SeoulTech, [2]Department of MSDE, SeoulTech, [3]Nanometrics*
TP1-237	16M Resolution High Dynamic Range and Phase Detection Integrated ASIC Chip Design Kyungrak Choi, Hoyoung Tang, Dongyeob Shin, and Jongsun Park *School of Electrical Engineering, Korea University*
TP1-238	Analog / Digital Selective Output Stage for One Wire Interface in PRT Sensor Application Chan Ho Kim, Dong Soo Lee, and Kang Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-239	A Design of a High Resolution Sigma-Delta ADC Using an Amplifier with Chopper Technique Kwan-Tae Kim, Sang-Yun Kim, and Kang-Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
TP1-240	A 128bit One Time Programmable Memory for EPC Identifiers of UHF Passive RFID Tags Nak-Won Yoo, Seongwook Choi, Jinhong Ahn, and Young June Park *Department of Electrical and Computer Engineering, Seoul National University*
TP1-241	A CMOS Integrated Biosensor Array for Pulsed Sensing Method Jun-Yeon Yoon, Nak-Won Yoo, Jinhong Ahn, and Young June Park *Department of Electrical and Computer Engineering, Seoul National University*

M E M O

The 25th Korean Conference on Semiconductors

구두 I 포스터
발표 안내

2018년 2월 7일 (수)

Semiconductor Technology for the Paradigm Shift

제25회 The 25th Korean Conference on Semiconductors
한국반도체학술대회

구두 발표

2018년 2월 7일(수), 09:00-10:30
Room A (태백I, 5층)

C. Material Growth & Characterization 분과

[WA1-C] Material Growth and Characterization I

좌장: 권순용 교수(UNIST), 박일규 교수(서울과학기술대학교)

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

2018년 2월 7일(수), 09:00-10:30
Room B (태백II+III, 5층)

★ Special Session

[WB1-SS] Special Session: **인공지능**

좌장: 이태우 교수(서울대학교), 정재용(인천대학교)

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

구두 발표

2018년 2월 7일(수), 09:00-10:30
Room C (함백I, 5층)

D. Thin Film Process Technology 분과

[WC1-D] ALD/CVD Process (2D Materials)

좌장: 민요셉 교수(건국대학교), 한정환 교수(서울과학기술대학교)

WC1-D-1 09:00-09:15	**Synthesis of 2-D SnS Thin Films and Their Potential Applications** In-Hwan Baek[1,2], Jung Joon Pyeon[1,3], Taek-Mo Chung[4], Jeong Hwan Han[5], Cheol Seong Hwang[2], and Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering and ISRC, Seoul National University, [3]KU-KIST Graduate School of Converging Science and Technology, [4]Division of Advanced Materials, KRICT, [5]Department of Materials Science and Engineering, Seoul National University of Science and Technology*
WC1-D-2 09:15-09:30	**Characterizations of Charge-Trap Memory Thin-Film Transistors with HfO_2 Charge-Trap Layer Controlled by Atomic Layer Deposition Process** So-Yeong Na and Sung-Min Yoon *Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University*
WC1-D-3 09:30-09:45	**Synthesis of 2-Dimensional Single Phase SnS_2 by Atomic Layer Deposition** Jung Joon Pyeon[1,2], In-Hwan Baek[1,3], Taek-Mo Chung[4], Jeong Hwan Han[5], Chong-Yun Kang[1,2], Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]KU-KIST Graduate School of Converging Science and Technology, Korea University, [3]Department of Materials Science and Engineering and ISRC, Seoul National University, [4]Division of Advanced Materials, KRICT, [5]Department of Materials Science and Engineering, Seoul National University of Science and Technology*
WC1-D-4 09:45-10:00	**Continuous and Ultrathin ALD Ru Film Deposition Using Discrete Feeding Method (DFM) and Electric Field Assisted ALD (EA-ALD)** Hyun Soo Jin and Tae Joo Park *Department of Materials Science and Chemical Engineering, Hanyang University*
WC1-D-5 10:00-10:15	**Will Be Cubic BeO Thin Films the Next-Generation Dielectric?** Seong Keun Kim[1], Woo Chul Lee[1], Eric S. Larsen[2,3], Jung Hwan Yum[2,3], and Christopher W. Bielawski[2,3] *[1]Center for Electronic Materials, KIST, [2]Department of Chemistry and Engineering, UNIST, [3]Center for Multidimensional Carbon Materials, IBS*
WC1-D-6 10:15-10:30	**High Growth Rate (> 0.25 nm/cycle) of Plasma-Enhanced Atomic-Layer-Deposited SiON Thin Film Using ICP Type Remote Plasma** Dae Hyun Kim[1], Han Jin Lee[2], Hyun Soo Jin[2], Hyung Kun Lee[3], Jeongsik Kim[3], Min Ja Yoo[3], Taewook Kim[3], Jun Young Kim[3], Mingun Lee[3], Kyu Sung Cho[3], Jae Woo Lee[3], Jaehyun Kim[3], and Tae Joo Park[1,2] *[1]Department of Advanced Materials Engineering, Hanyang University, [2]Department of Materials Science and Chemical Engineering, Hanyang University, 3Electronic Materials Business Division III, Dongjin Semichem*

2018년 2월 7일(수), 09:00-10:30
Room D (함백II+III, 5층)

R. Semiconductor Software 분과

[WD1-R] 다양한 소프트웨어 최적화 기술

좌장: 김태석 교수(광운대학교), 반효경 교수(이화여자대학교)

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

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

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

[WF1-F] Steep-Slope I : Tunnel-FET

좌장: 김경록 교수(UNIST), 김상완 교수(아주대학교)

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

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

G. Device & Process Modeling, Simulation and Reliability 분과
[WG1-G] Advanced Devices II - Simulation and Reliability
좌장: 김성동 연구위원(SK 하이닉스), 나현철 수석(DB하이텍)

WG1-G-1 09:00-09:15	**RF 소자의 고 신뢰성 확보를 위한 RF인가 가속수명 시스템 설계** Yunho Kang, Sungsoo Chung, Sanga Kim, and Namho Kim *QRT Inc.*
WG1-G-2 09:15-09:30	**New Frequency-Dependent Modeling for Intrinsic Output Admittance of HR PD-SOI MOSFETs** Changjo Lee and Seonghearn Lee *Department of Electronics Engineering, Hankuk University of Foreign Studies*
WG1-G-3 09:30-09:45	**Mobility Calculation for GaN Based Heterostructure: Effects of Variational Wave Function and Screening** Suhyeong Cha and Sung-Min Hong *School of Electrical Engineering and Computer Science, GIST*
WG1-G-4 09:45-10:00	**Characterization of Recombination Lifetime through Above-Bandgap Optical Transfer Curve in InGaAs MOSFETs** Junyeap Kim, Heesung Lee, Jaewon Kim, Seong Kwang Kim, Han Bin Yoo, Jaewon Park, Sung-Jin Choi, Dae Hwan Kim, and Dong Myong Kim *School of Electrical Engineering, Kookmin University*
WG1-G-5 10:00-10:15	**Design Optimization of InGaAs/GaAsSb-Based P-type Gate-All-Around Arch-Shaped Tunneling Field-Effect Transistor** Bo Gyeong Kim, Jae Hwa Seo, Young Jun Yoon, Min Su Cho, and In Man Kang *School of Electronics Engineering, Kyungpook National University*
WG1-G-6 10:15-10:30	**Analysis of Self Heating Effect Mitigation through STI Material Selection Considering Leakage Current in VFET** Ilho Myeong[1], Dokyun Son[1], Hyunsuk Kim[1], Myounggon Kang[2], and Hyungcheol Shin[1] *[1]ISRC and the Department of Electrical and Computer Engineering, Seoul National University, [2]Department of Electronics Engineering, Korea National University of Transportation*

구두 발표

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

B. Patterning 분과

[WH1-B] 리소그래피 및 플라즈마에칭

좌장: 김현우 교수(한양대학교), 유원종 교수(성균관대학교)

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

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

K. Memory (Design & Process Technology) 분과

[WI1-K] Topics Related to Memory Design

좌장: 민경식 교수(국민대학교), 황희돈 박사(삼성전자)

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

구두 발표

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

L. Analog Design & M. RF and Wireless Design 분과

[WJ1-LM] Analog & RF Circuits

좌장: 권구덕 교수(강원대학교), 허승찬 박사(삼성전자)

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

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

Q. Metrology, Inspection, and Yield Enhancement 분과

[WK1-Q] Inspection & Yield Enhancement

좌장: 양준모 박사(나노종합기술원)

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

구두 발표

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

C. Material Growth & Characterization 분과

[WA2-C] Material Growth and Characterization II

좌장: 송진동 박사(KIST)

WA2-C-1 10:45-11:00	**Atomically Thin Semiconducting H-BC_2N** Tae Hoon Seo[1], Hee Soo Kim[1,2], Eun-Kyung Suh[2], and Myung Jong Kim[1] *[1]Applied Quantum Composites Research Center and 3 Carbon Composite Materials Research Center, KIST, [2]Department of Semiconductor and Chemical Engineering, Semiconductor Physics Research Center, Chonbuk National University*
WA2-C-2 11:00-11:15	**Improvement of Cell-to-Cell Variation of Selective Poly/Epitaxial Growth through Removing the Interfacial Defects for Application in 3-D NAND Flash Memory** Jinsung Park, Seungbeom Baek, Oh Hyun Kim, and Byoungki Lee *R&D Devision, SK Hynix Inc.*
WA2-C-3 11:15-11:30	**Growth and Characterization of BeO Thin Films Grown by Atomic Layer Deposition Using H_2O and O_3 as Oxygen Sources** Woo Chul Lee[1,2], Cheol Jin Cho[1,2], Sangtae Kim[1], Eric S. Larsen[3,4], Jung Hwan Yum[3,4], Christopher W. Bielawski[3,4], Cheol Seong Hwang[2], and Seong Keun Kim[1] *[1]Center for Electronic Materials, KIST, [2]Department of Materials Science and Engineering and ISRC, Seoul National University, [3]Center for Multidimensional Carbon Materials (CMCM), Institute for Basic Science, [4]Department of Chemistry and Engineering, UNIST*
WA2-C-4 11:30-11:45	**Solvothermal Synthesis of Semiconducting Carbon Nanotube Doped Flower-like SnS_2 and its Electrical Characterization for Sensor Application** Geun Woo Baek[1], Tae Young Lee[2], Jin Heon Jeong[2], Rajneesh Kumar Mishra[2], Seung Yeop Kim[2], Jong Ik Baek[2], and Changhee Lee[1], and Sung Hun Jin[2] *[1]Department of Electrical and Computer Engineering, Seoul National University,* *[2]Department of Electronic Engineering, Incheon National University*
WA2-C-5 11:45-12:00	**The Characterization of Cyclopentadienyl Tris(Dimethylamino) Zirconium for the Atomic Layer Deposition** Goru Kang, Seob Shim, Jong-Ki An, Yoentae Kang, Jin-Tae Kim, and Ju-Young Yun *KRISS, School of Mechanical Engineering, Sungkyunkwan University*
WA2-C-6 12:00-12:15	**Hydrogen Gas Sensor Using Pd-decorated $Al_2O_3/SrTiO_3$ Heterostructure** Sung Min Kim, Hye Ju Kim, and Sang Woon Lee *Department of Energy Systems Research and Department of Physics, Ajou University*

2018년 2월 7일(수), 10:45-12:15
Room B (태백II+III, 5층)

★ Special Session

[WB2-SS] Special Session: IoT I

좌장: 강명곤 교수(한국교통대학교), 제민규 교수(KAIST)

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

구두 발표

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

D. Thin Film Process Technology 분과
[WC2-D] Thin Films for Memories and Transistors I
좌장: 김성근 교수(KIST), 최창환 교수(한양대학교)

WC2-D-1 10:45-11:00	Dispersion in Ferroelectric Switching Performance of Polycrystalline $Hf_{0.5}Zr_{0.5}O_2$ Thin Films Seung Dam Hyun, Hyeon Woo Park, Yu Jin Kim, Min Hyuk Park, Young Hwan Lee, Han Joon Kim, Young Jae Kwon, Taehwan Moon, Keum Do Kim, Yong Bin Lee, Beak Su Kim, and Cheol Seong Hwang *Department of Materials Science and Engineering, Seoul National University*
WC2-D-2 11:00-11:15	ALD W에 기인한 F 이 Oxide 에 미치는 영향 연구 김형철, 이승미, 조홍재, 이안배, 장세억 *SK Hynix Inc.*
WC2-D-3 11:15-11:30	Transient Voltage of Negative Capacitance Depending on Ferroelectric Properties of $HfZrO_2$ Changyong Oh and Sanghun Jeon *Department of Applied Physics, Korea University*
WC2-D-4 11:30-11:45	Abnormal Dielectric Properties in High-k/TiO2 Multilayer Structures Yu Jin Kim, Sehun Kang, Beomyong Kim, Heeyoung Jeon, Kyung Woong Park, and Deok Sin Kil *Process Center, SK Hynix Inc.*
WC2-D-5 11:45-12:00	The Effect of Lanthanide Metal Buffer Layer on the Resistive Switching Cu-Se Based Atomic Switch Hyunsuk Woo and Sanghun Jeon *Department of Applied Physics, Korea University*
WC2-D-6 12:00-12:15	Arsenic Free Ovonic Threshold Switch (OTS) for 3D Crossbar Memory Selector Myoung Su Seo, Sung Min Kim, Hye Ju Kim, and Sang Woon Lee *Department of Energy Systems Research and Department of Physics, Ajou University*

2018년 2월 7일(수), 10:45-12:15
Room D (함백II+III, 5층)

E. Compound Semiconductors 분과

[WD2-E] III-V Emerging Device

좌장: 김동현 박사(한국나노기술원), 김정진 박사(ETRI)

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

구두 발표

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

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

[WF2-F] Reliability

좌장: 김경록 교수(UNIST), 신창환 교수(서울시립대학교)

WF2-F-1 10:45-11:00	**Investigation of PBTI Characteristics of FD-SOI TFET with High-k Dielectric** Hyeong-Sub Song[1], So-Yeong Kim[1], Sung-Kyu Kwon[1], Dong-Hwan Lim[2], Chang-Hwan Choi[2], Ga-Won Lee[1], and Hi-Deok Lee[1] *[1]Department of Electronics Engineering, Chungnam National University,* *[2]Division of Materials Science and Engineering, Hanyang University*
WF2-F-2 11:00-11:15	**Investigation on Negative Differential Transconductance (NDT) of Double-Gate Tunnel FETs** Jang Woo Lee and Woo Young Choi *Department of Electronic Engineering, Sogang University*
WF2-F-3 11:15-11:30	**Gate Voltage Dependence of Low Frequency Noise in Tunneling Field Effect Transistor** So-Yeong Kim[1], Hyeong-Sub Song[1], Sung-Kyu Kwon[1], Dong-Hwan Lim[2], Chang-Hwan Choi[2], Ga-Won Lee[1], and Hi-Deok Lee[1] *[1]Department of Electronics Engineering, Chungnam National University, [2]Division of Materials Science and Engineering, Hanyang University*
WF2-F-4 11:30-11:45	**Ge 기반의 소자에서 Y-ZrO_2 게이트 유전체를 이용한 EOT 스케일링 (~5.7Å) 및 누설 전류와 계면 트랩의 감소** Tae In Lee, Min Ju Kim, Manh-Cuong Nguyen, Hyun Jun Ahn, Jungmin Moon, Tae Yoon Lee, Hyun-Young Yu, Rino Choi, Wan Sik Hwang, and Byung Jin Cho *School of Electrical Engineering, KAIST*
WF2-F-5 11:45-12:00	**Simple and Scalable N-Type Conversion of Semiconducting Carbon Nanotube Thin Film Transistors Using X-Layer/SU8 Passivation** Seung Yeop Kim, Geon Woong Lim, Eun Bin Roh, Geun Woo Baek, and Sung Hun Jin *Department of Electronic Engineering, Incheon National University*
WF2-F-6 12:00-12:15	**Fabrication of High Quality Gate Insulator in Metal-Oxide-Semiconductor Capacitor Using Laser Annealing** Kyoung Moon Yu, Hyung Min Ji, Manh-Cuong Nguyen, An Hoang-Thuy Nguyen, Jung Yeon Kim, Sujin Choi, Jonggyu Cheon, Jin Hyun Kim, Sang Woo Kim, Seong Yong Cho, and Rino Choi *Department of Materials Science and Engineering, Inha University*

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

G. Device & Process Modeling, Simulation and Reliability **분과**

[WG2-G] Advanced Devices III - Simulation and Reliability

좌장: 김성동 연구위원(SK 하이닉스), 최성진 교수(국민대학교)

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

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

J. Nano-Science & Technology 분과

[WH2-J] Nanomaterials and Nanostructures

좌장: 김상욱 교수(KAIST), 김수영 교수(중앙대학교)

WH2-J-1 10:45-11:15	[초청] **What We Can Learn and Exploit More from Plasmonics** Dong Ha Kim, Huan Wang, Kyungwha Chung, Ji-Eun Lee, Ju Won Lim, Yu Jin Jang, and Yoon Hee Jang *Department of Chemistry and Nano Science, Ewha Womans University*
WH2-J-2 11:15-11:45	[초청] **Self Assemblednanostructures for Stimuli-Interactive Display** Cheolmin Park *Department of Materials Science and Engineering, Yonsei University*
WH2-J-3 11:45-12:00	**기상 증착 기반 유연전자소자용 유/무기 절연막** Min Ju Kim[1], Kwanyoung Pak[1], Tae In Lee, Sung Gap Im[2], and Byung Jin Cho[2] *[1]School of Electronic Engineering, KAIST, [2]School of Biochemical Engineering, KAIST*
WH2-J-4 12:00-12:15	**Universal Selection Rule That Should Satisfy Surfactants Used in Miniemulsion Processes for Eco-Friendly and High Performance Polymer Semiconductors** Jangwhan Cho, Seongwon Yoon, Jaeun Ha, Seong Hoon Yu, Juhee Kim, and Dae Sung Chung *Department of Energy Science and Engineering, DGIST*

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

K. Memory (Design & Process Technology) 분과

[WI2-K] ReRAM II - New Technologies

좌장: 권용우 교수(홍익대학교), 손용훈 박사(삼성전자)

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

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

L. Analog Design 분과

[WJ2-L] Analog Circuit Design

좌장: 김종선 교수(홍익대학교), 허승찬 박사(삼성전자)

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

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

O. System LSI Design 분과

[WK2-O] VLSI System Design and Application I

좌장: 김영민 교수(광운대학교), 이영주 교수(POSTECH)

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

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2018년 2월 7일(수), 13:15-14:45
Room A (태백I, 5층)

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

[WA3-P] Device for Solar Energy Conversion

좌장: 류학기 교수(아주대학교), 함문호 교수(GIST)

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

2018년 2월 7일(수), 13:15-14:45
Room B (태백II+III, 5층)

★ Special Session

[WB3-SS] Special Session: IoT II

좌장: 권익진 교수(아주대학교), 김영민 교수(광운대학교)

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

구두 발표

2018년 2월 7일(수), 13:15-14:45
Room C (함백I, 5층)

I. MEMS & Sensors Systems 분과

[WC3-I] Flexible Sensor Systems

좌장: 이현주 교수(KAIST)

WC3-I-1 13:15-13:45	[초청] Wafer-Level Fabrication of Biodegradable Silk Fibroin Using UV Lithography Hyunjoo J. Lee *School of Electrical Engineering, KAIST*
WC3-I-2 13:45-14:00	키리가미 구조 기반의 스트레쳐블 기판의 제작 방법 윤지성, 윤광석 *서강대학교 전자공학과*
WC3-I-3 14:00-14:15	압전 에너지 수확소자가 집적된 유연한 압저항 스트레인 센서 제작 방법 김기홍, 윤광석 *서강대학교 전자공학과*
WC3-I-4 14:15:14:30	Biocompatible Silk Adhesives for Roust Adhesion of Epidermal Sensors Hyojung Kim, Ji-Won Seo, and Hyunjoo J. Lee *School of Electrical Engineering, KAIST*

2018년 2월 7일(수), 13:15-14:45
Room D (함백II+III, 5층)

E. Compound Semiconductors **분과**

[WD3-E] GaN Device

좌장: 김해천 박사(ETRI), 장태훈 교수(전북대학교)

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

구두 발표

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

F. Silicon and Group-IV Devices and Integration Technology 분과
[WF3-F] Photonics and Nanowire Technology
좌장: 김상완 교수(아주대학교), 안동환 교수(국민대학교)

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

2018년 2월 7일(수), 13:15-14:45
Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[WG3-G] Modeling and Simulation II - Device and Process
좌장: 최성진 교수(국민대학교), 홍성민 교수(GIST)

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

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Room H (청옥I, 6층)

J. Nano-Science & Technology 분과

[WH3-J] CNT Related Nanotechnology

좌장: 김동하 교수(이화여자대학교)

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

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Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과

[WI3-K] FeRAM and Transparent ReRAM

좌장: 김 윤 교수(부산대학교), 이재구 박사(삼성전자)

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

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

N. VLSI CAD 분과

[WJ3-N] IoT & SoC Methodology

좌장: 양준성 교수(성균관대학교), 정재용 교수(인천대학교)

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

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Room K (육백II, 6층)

O. System LSI Design 분과

[WK3-O] VLSI System Design and Application II

좌장: 김경기 교수(대구대학교), 김수연 교수(동국대학교)

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

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2018년 2월 7일(수), 16:15-17:30
Room A (태백I, 5층)

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

[WA4-P] Fabrication for Functional Energy Device

좌장: 신현정 교수(성균관대학교), 함문호 교수(GIST)

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

2018년 2월 7일(수), 16:15-17:30
Room B (태백II+III, 5층)

H. Display and Imaging Technologies 분과

[WB4-H] Display and Imaging

좌장: 최병덕 교수(한양대학교)

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

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2018년 2월 7일(수), 16:15-17:30
Room C (함백I, 5층)

D. Thin Film Process Technology 분과
[WC4-D] Thin Films for Memories and Transistors II
좌장: 김건환(한국화학연구원), 최병준 교수(서울과학기술대학교)

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

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Room D (함백II+III, 5층)

E. Compound Semiconductors 분과

[WD4-E] SiC Device

좌장: 노민수 박사 (㈜액시오닉스), 차호영 교수(홍익대학교)

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

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Room F (봉래I, 6층)

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

[WF4-F] Steep-Slope II : NC-FET

좌장: 김경록 교수(UNIST), 김상완 교수(아주대학교)

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

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Room G (봉래II+III, 6층)

G. Device & Process Modeling, Simulation and Reliability 분과
[WG4-G] Memory and TFT - Modeling and Characterization
좌장: 나현철 수석(DB 하이텍), 홍성민 교수(GIST)

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

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Room H (청옥I, 6층)

J. Nano-Science & Technology 분과

[WH4-J] General Nanotechnology

좌장: 김수영 교수(중앙대학교)

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

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Room I (청옥II+III, 6층)

K. Memory (Design & Process Technology) 분과

[WI4-K] Phase-Change Memory

좌장: 권용우 교수(홍익대학교), 노광명 수석(SK 하이닉스)

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

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2018년 2월 7일(수), 16:15-17:30
Room J (육백I, 6층)

N. VLSI CAD 분과

[WJ4-N] Test & Reliability

좌장: 양준성 교수(성균관대학교), 정재용 교수(인천대학교)

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

M E M O

2018년 2월 7일(수), 14:45-16:15
컨벤션 호텔, 5층 로비

[WP1] Poster Session II

B. Patterning	
	심사위원: 안진호 교수(한양대학교), 정지원 교수(인하대학교)
WP1-1	Improvement of Line Edge Fluctuation and Etching Selectivity of Self-Assembled Block Copolymer Patterns Using a Copolymerized Block Seungwon Song, Yoon Hyung Hur, and Yeon Sik Jung *Department of Materials Science and Engineering, KAIST*
WP1-2	Novel Method for Etch Loading Control of Source and Drain Recess for Formation of Steep Junction Seung-Soo Hong, K. S. Min, B. R. Lim, A. R. Ji, H. H. Jung, G. J. Seong, J. Y. Lee, Y. M. Oh, and J.C. Park *Process Development Team, Semiconductor R&D Center*
WP1-3	Quasi Atomic Layer Etching of SiO_2 Layers for Surface Cleaning of Nanoscale Patterns Yongjae Kim[1], Kyongbeom Koh[2], Taehwan Cha[2], and Heeyeop Chae[1,2] *[1]SAINT, Sungkyunkwan University, [2]School of Chemical Engineering, Sungkyunkwan University*
WP1-4	Laser Writing for Self-Assembly of Block Copolymer on Graphene Jin Young Choi, Hyeong Min Jin, Seung Hyun Lee, Ju Young Kim, Seung Keun Cha, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-5	Complex 3D Multimetal Nanomesh Patterns via Block Copolymer Self-Assembly Seung Keun Cha and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-6	Enhancement of Gas Sensing Performance through The Decoration of Branch Heterointerfaces and Metallic Effects Hyoun Woo Kim, Myung Sik Choi, and Jae Hoon Bang *Division of Materials Science and Engineering, Hanyang University*
WP1-7	3D NAND Flash Transistor CD Uniformity 개선 방법 연구 Kibok Kim, Hyoungsoon Yune, Seyoung Oh, Chanha Park, and Hyunjo Yang *R&D Division, SK Hynix Inc.*
WP1-8	CD Loading Mechanism of Si Removal Etch Back at High Selectivity Hyunji Kim[1], Yongho Jeon[1], Hunsang Kim[2], Fenglin Wang[2], Yongseok Lee[1], Dongseok Lee[1], Junghyeon Kim[1], Lina Yoo[1], Seongwoo Myeong[1], Miri Jung[1], Youngmook Oh[1], and Jongcheol Park[1] *[1]Samsung Electronics Co., Ltd., [2]Applied Materials Inc.*
WP1-9	Etch Characteristics of Micrometer-Scale Masked Cu Thin Films Using Inductively Coupled Plasma of H_2/Ar Jae Sang Choi, Doo Hyeon Cho, Eun Taek Lim, and Chee Won Chung *Department of Chemical Engineering, Inha University*

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

C. Material Growth & Characterization

심사위원: 이재진 교수(아주대학교), 허준석 교수(아주대학교)

WP1-17	Pulse방식을 이용하여 UHV CVD로 증착한 Epitaxial Si:B박막의 Low Doping 연구 이다윤, 박지우, 김태호, 손현철 *연세대학교 공과대학 신소재공학과*
WP1-18	Simple and Easy Performance Test System for Avalanche Photodiode in Ultraviolet Region Jin Yeong Ryu[1], Byeong-Hwang Park[1], Kibong Choi[1], Young Il Kang[1], Eugene Chong[1], and Young-Gook Heo[2] *[1]Agency for Defense Development, [2]Sensor Tech Inc.*
WP1-19	Enhanced Power Conversion Efficiency of GaAs Thin-Film Solar Cell Using A Metallic Nanostructure Yeojun Yun, Sunghyun Moon, Kangho Kim, Minhyung Lee, and Jaejin Lee *Department of Electrical and computer Engineering, Ajou University*

포스터 발표

WP1-20	Atomic Layer Deposition of HfO_2 Films on Graphene Soo Bin Kim, Hyeok Jae Lee, and Sang Woon Lee *Department of Energy Systems Research and Department of Physics, Ajou University*
WP1-21	고농도 Poly-SiGe Film에서의 SPM Chemical 반응 특성 연구 So-Hee Lim, Sun-Jin Lee, Hyo-Geun Yoon, Kyung-Ho Hwang, and Sang-Duk Kim *R&D Department, SK Hynix Inc.*
WP1-22	Characterization of Ion Gel and its Application as Gate Dielectrics for Graphene FET Kwanbyung Chae, Nguyen Duc Cuong, Y.H. Ahn, Soonil Lee, and Ji-Yong Park *Department of Physics and Department of Energy Systems Research, Ajou University*
WP1-23	Photodetectors Based on the Heterostructures of Single-walled Carbon Nanotubes and MoS_2 Van Tu Nguyen[1], Woongbin Yim[1], SaeJune Park[1], ByungHee Son[1], Thi Thanh Cao[2], Van Chuc Nguyen[2], Yumin Sim[3], Maeng-Je Seong[3], Yeonghwan Ahn[1], Soonil Lee[1], and Ji-Yong Park[1] *[1]Department of Physics and Department of Energy Systems Research, Ajou University, [2]Institute of Materials Science, Vietnam Academy of Science and Technology, [3]Department of Physics, Chung-Ang University*
WP1-24	Improved Performance of Ge Single Junction Solar Cells with Nano-Pillar Arrays Kangho Kim[1], Youngjo Kim[1,2], Nguyen Dinh Lam[1], Sunghyun Moon[1], and Jaejin Lee[1] *[1]Department of Electrical and Computer Engineering, Ajou University, [2]KANC, [3]Department of Physics, Hanoi National University of Education*
WP1-25	High Efficiency Single-Junction Ge Solar Cells Grown on GaAs Substrates by MOCVD Youngjo Kim[1,2], Kangho Kim[1], Sunghyun Moon[1], and Jaejin Lee[1] *[1]Department of Electrical and Computer Engineering, Ajou University, [2]KANC*
WP1-26	Layer Thickness Tunable Solution-Based Growth Process of MoS_2 for Efficient Hydrogen Evolution Reaction Dhanasekaran Vikraman[1], Kamran Akbar[2], Sajjad Hussain[3], Seung Hu Lee[1], Seung-Hyun Chun[2], Jongwan Jung[3], and Hui Joon Park[1,4] *[1]Department of Energy Systems Research, Ajou University, [2]Department of Physics, Sejong University, [3]Institute of Nano and Advanced Materials Engineering, Sejong University, [4]Department of Electrical and Computer Engineering, Ajou University*
WP1-27	Two-Step Solution Process-Based Pure Perovskite Film Formation for High Performance Solar Cell Uisik Kwon[1], Wenping Yin[2], Song Ah Ok[1], Tae Kyu Ahn[2], and Hui Joon Park[1,3] *[1]Department of Energy Systems Research, Ajou University, [2]Department of Energy Science, Sungkyunkwan University, [3]Department of Electrical and Computer Engineering, Ajou University*
WP1-28	Design of Double-Faced GaAs Solar Cell Soo Hoon Park, Seung Jun Lee, Sung Min Ma, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*

WP1-29	Evaluation of Uniform Strain in InAlSb/ InGaSb/AlGaSb Quantum Well on GaAs Substrates for High Hole Mobility Transistor Il-Pyo Roh[1,2], Sang Hyeon Kim[2], Dae-Myeong Geum[2], Sung-Yul L. Park[2], YunHeub Song[1], and Jin-Dong Song[2] *[1]Department of Electronics and Communications Engineering, Hanyang University, [2]Center for Opto-Electronic Materials and Devices, KIST*
WP1-30	Symmetric InAs Quantum Dots for Entangled Photons Suk In Park and Jin Dong Song *Center for Opto-Electronic Materials, KIST*
WP1-31	High-Quality 100 nm-thick InSb Films on GaAs (001) Substrates with In1-xAlxSb Continuously Graded Buffer Layer Sooseok Kang, Hangkyu Kang, and Jindong Song *Center for Opto-Electronic Materials and Devices, KIST*
WP1-32	Transparent Bonding Technology for Epitaxial Lift-off of III-V Compound Semiconductor Dohyun Kim, Seonghyun Nam, Youngseo Park, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*
WP1-33	Enhanced Photo-Responses in Multi-Layer MoS_2 Phototransistors Using Au Nano-Pattern Jinwu Park, Sanghyun Lee, Yeojun Yun, Jaejin Lee, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*
WP1-34	Characteristic of Quantum Dot Laser Grown on GaAs for Si Photonics Application Jae-Hoon Han[1], Geun Hwan Ryu[1,2], Seung-Yeop Ahn[1], Ho-Sung Kim[1], Subin Lee[1], Han-Youl Ryu[2], Sang Hyeon Kim[1,3], Jin-Dong Song[1,3], and Won Jun Choi[1] *[1]Center for Opto-Electronics Materials and Devices, KIST, [2]Department of Physics, Inha University, [3]Nanomaterials Science and Engineering, University of Science and Technology*
WP1-35	Ag Nanowire Ohmic Contact on p-GaAs SeungHo Han, Sunghyun Moon, Jaejin Lee, and Junseok Heo *Department of Electrical and Computer Engineering, Ajou University*

E. Compound Semiconductors

심사위원: 김동현 박사(한국나노기술원), 장태훈 교수(전북대학교)

WP1-36	Thermal Properties of Schottky Barrier Diode on AlGaN/GaN Heterostructures on CVD Diamond Zin-Sig Kim, Hyung-Seok Lee, Sung-Bum Bae, Eunsoo Nam, and Jong-Won Lim *ICT Materials and Components and Research Laboratory, ETRI*
WP1-37	HRXRD Analysis of InP (cap) / InGaAs on InP Structure Interface Grown by MOCVD In-young Jung[1,3], Minhyeok Choi[1], Hyeoksu Bea[2], Junoh Kim[2], Seungwoo Song[1], Eun Kyu Kim[3], and Changsoo Kim[1] *[1]Division of Materials and Energy Measurement, KRISS, [2]Division of Convergence Property Measurement, KRISS, [3]Division of Physics, Hanyang University*

포스터 발표

WP1-38	Investigation of Low-Budget Microwave Annealing Effect on Metal and Graphene Electrodes Eun-Ki Hong and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
WP1-39	Transfer Length of an AlGaN/GaN Schottky Contact Yong Woon Park[1], Jeong Jin Kim[2], and Jeon Wook Yang[1] *[1]Department of Semiconductor Science and Technology/Semiconductor Physics Research Center, Chonbuk National University, [2]Compound Semiconductor Division, ETRI*
WP1-40	P-Floating Shield 구조적용을 통한 4H-SiC Trench Gate Oxide E-Field 분산 최적화 설계 Young sung Hong, Tae jin Nam, Myoung hwan Lee, Tai young Kang, and Sin su Kyoung *Research and Development, Powercubesemi Inc.*
WP1-41	Fabrication of Ultra-Low Dit(E) InGaAs MOSFETs Seong Kwang Kim[1,2], Jae-Phil Shim[1], Dae-Myeong Geum[1,3], Chang Zoo Kim[4], Han-Sung Kim[1], Jin-Dong Song[1], Sung-Jin Choi[2], Dae Hwan Kim[2], Won Jun Choi[1], Hyung-jun Kim[1], Dong Myong Kim[2], and Sang Hyeon Kim[1] *[1]KIST, [2]School of Electrical Engineering, Kookmin University, [3]Department of Materials Science and Engineering, Seoul National University, [4]KANC*
WP1-42	내부 BVIA가 있는 GaN HEMT 소자를 이용한 모델링 및 MMIC 설계 김성일[1,2], 임종원[2], 이기준[1] *[1]충남대학교 전자전파정보통신공학과, [2]한국전자통신연구원 ICT소재부품연구소 RF/전력부품연구그룹*
WP1-43	Analysis of 4H-SiC Super Junction Bipolar Transistor for Superior Switching Characteristic Dongwoo Bae and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*
WP1-44	Improved SiO_2/SiC Interface Properties of 4H-SiC MOS Capacitor by Using O_2/H_2O Re-Oxidation Chungbu Jeong and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*
WP1-45	28GHz MMIC Power Amplifier based on 0.15um GaN HEMT Technology 강동민, 김해천, 지홍구, 김성일, 민병규, 안호균, 임종원 *한국전자통신연구원 RF/전력부품연구그룹*
WP1-46	Effect of Post-Metallization Annealing on 4H-SiC Metal-Oxide-Semiconductor with Mo Gate Electrode Jae-Gil Lee[1], Dong-Hwan Kim[1], Su-Keun Eom[1], Seung-Hyung Roh[1], Hyun-Seop Kim[2], Ho-Young Cha[2], and Kwang-Seok Seo[1] *[1]Department of Electrical and Computer Engineering, Seoul National University, [2]School of Electronic and Electrical Engineering, Hongik University*
WP1-47	The Influence of GaN Capping Layer on Pt-Functionalized FET-Type AlGaN/GaN Hydrogen Gas Sensor Guhyeok Chung, Dongmin Keum, and Hyungtak Kim *Department of Electronic and Electrical Engineering, Hongik University*

WP1-48	Analysis of Arch Junction Termination Extension for 4H-SiC Schottky Diode with Superior Breakdown Voltage Jaeyoung Yu, Sangjin Gang, Dongwoo Bae, Chungbu Jeong, and Kwangsoo Kim *Department of Electronic Engineering, Sogang University*
WP1-49	ZnO Nanordos 성장을 통해 향상된 광량을 갖는 u-LED Array 홍인열, 이재혁, 소재봉, 김태경, 조성민, 곽준섭 *순천대학교 인쇄전자공학과*
WP1-50	Recessed AlGaN/GaN-on-Si MIS-HFET Fabricated Using PECVD SiON Gate Insulator with Forming Gas Annealing Hyun-Seop Kim[1], Su-Keun Eom[2], Dong-Hwan Kim[2], Won-Ho Jang[1], Il-Hwan Hwang[2], Kwang-Seok Seo[2], and Ho-Young Cha[1] *[1]School of Electronic and Electrical Engineering, Hongik University, [2]Department of Electrical Engineering and Computer Science, Seoul National University*
WP1-51	육방 밀집형 나노 채널 구조를 이용한 GaN 기반 소자의 전극 특성 평가 김정진[1], 이형석[1], 문재경[1], 안호균[1], 장성재[1], 민병규[1], 양전욱[2], 김지헌[3], 양진모[3], 임종원[1] *[1]한국전자통신연구원, [2]전북대학교 반도체화학공학부, [3]국방과학연구소*
WP1-52	Comparative Study of Normally-Off Al_2O_3/AlGaN/GaN MIS-HEMTs Fabricated by Gate Recess and F-Treatment Hyun-Wook Jung[1], Min-Jeong Shin[1], Sung-Jae Chang[1], Jae-Won Do[1], Kyu-Jun Cho[1], Ho-Kyun Ahn[1], Byoung-Gue Min[1], Haecheon Kim[1], Hyung Sup Yoon[1], Ji-Heon Kim[2], Jin-Mo Yang[2], and Jong-Won Lim[1] *[1]RF/Power Component Research Group, ETRI, [2]Agency for Defense Development*
WP1-53	Buffer Trap Extraction in AlGaN/GaN HFETs Using a Simple Test Device Min-Jae Park and Hyuck-In Kwon *School of Electrical and Electronics Engineering, Chung-Ang University*
WP1-54	전원시스템의 효율과 스위칭용 전력소자 성능과의 상관관계 분석 장현규, 김민기, 정동윤, 이현수, 박준보, 전치훈, 고상춘, 박종문, 임종원 *한국전자통신연구원 ICT소재부품연구소 융합부품기술센터*
WP1-55	AlGaN/GaN HFET with Tunneling Schottky Source Electrode Won-Ho Jang, Sang-Woo Han, Hyun-Seop Kim, Min-Gi Jo, June-Heang Choi, and Ho-Young Cha *School of Electrical and Electronic Engineering, Hongik University*
WP1-56	Mechanical Stress Effects on Device Properties in GaN-Based HEMTs S.-J. Chang, H.-W. Jung, M. J. Shin, J.-W. Do, K. J. Cho, H. S. Yoon, B.-G. Min, H. Kim, and J.-W. Lim *RF/Power Convergence Component Research Group, ETRI*
WP1-57	Effects of Substrate Bias Voltage on GaN Power FET Characteristics Min-Gi Jo, Sang-Woo Han, and Ho-Young Cha *School of Electrical and Electronic Engineering, Hongik University*

포스터 발표

WP1-58	Ohmic Contacts with Recess-Etched and TMAH-Treated Nanometer-Scale Patterns for Improved Performance and Reliability in AlGaN/GaN HEMTs Jae-Won Do, Hyun-Wook Jung, Min Jeong Shin, Kyu-Jun Cho, Sung-Jae Chang, Ho-Kyun Ahn, Haecheon Kim, Byoung-Gue Min, Hyung Sup Yoon, and Jong-Won Lim *RF/Power Convergence Components Research Group, ETRI*
WP1-59	Reduction of Off-State Drain Leakage by Employing PEALD SiNx on RF Non-Recessed MIS-HEMTs Jun-Seok Jeong and Kwang-Seok Seo *Electrical Engineering and Computer Science, Seoul National University*
WP1-60	1/f Noise Characteristics of Gate-All-Around (GAA) GaN Lateral Nanowire Transistors Sindhuri Vodapally[1], M. Siva Pratap Reddy[1], Ki-Sik Im[1,2], and Jung-Hee Lee[1] *[1]School of Electronics Engineering, Kyungpook National University, [2]Institute of Semiconductor Fusion Technology, Kyungpook National University*
WP1-61	Flexible AlGaN/GaN HFET 소자의 Negative Differential Conductance 원인 규명 및 개선에 관한 연구 조문욱[1], 김태경[1], 오승규[2], 곽준섭[1] *[1]순천대학교 인쇄전자공학과, [2]휴스턴대학교 기계공학과*
WP1-62	High Electron Mobility Transistor의 Pad 구조 변화에 따른 방열 특성 연구 이재민, 이동규, 김태경, 조문욱, 차유정, 곽준섭 *순천대학교 인쇄전자공학과*
WP1-63	Field Plate Effects on β-Ga_2O_3 Vertical Schottky Barrier Diode June-Heang Choi, Won-Ho Jang, Jong-Ik Kang, Jae-Ho Eum, and Ho-Young Cha *School of Electronic and Electrical Engineering, Hongik University*
WP1-64	Study on Low-Frequency Noise Characteristics of AlGaN/GaN HEMTs Jun-Hyeok Lee, Ki-Sik Im, Vodapally Sindhuri, Jeong-Gil Kim, Seung-Hyeon Kang, Jung-Min Ju, Yong-Soo Lee, and Jung-Hee Lee *School of Electronics engineering, Kyungpook National University*
WP1-65	Suppression of Trapping Effects in AlGaN/GaN HEMTs with Periodically Carbon Doped GaN Buffer and AlGaN Back-Barrier Structure Jung-Min Ju[1], Jun-Hyeok Lee[1], Gokhan Atmaca[2], Jeong-Gil Kim[1], Ryun-Hwi Kim[1], Seung-Hyeon Kang[1], and Jung-Hee Lee[1] *[1]School of Electronics Engineering, Kyungpook National University, [2]Department of Physics, Faculty of Science, Gazi University*
WP1-66	Photosensitive Inverters with Full-Swing Characteristics based on Multi-Layered MoS_2 Load and GaN Driver Transistors Seung Gi Seo[1], Won Tae Jang[1], Seong Chan Kim[1], Sang-Woo Han[2], Ho Young Cha[2], and Sung Hun Jin[1] *[1]Department of Electronic Engineering, Incheon National University, [2]School of Electronic and Electrical Engineering, Hongik University*

WP1-67	Temperature-Dependent Characteristics of GaN Vertical Nanowire Transistor Dong-Hyeok Son, Quan Dai, Chul-Ho Won, Jung-Gil Kim, Seung-Hyun Kang, and Jung-Hee Lee *School of Electronics Engineering, Kyungpook National University*
WP1-68	Improvement for Reducing Current Collapse in AlGaN/GaN HEMT by the Cat-CVD SiN_x as Passivation Cheol-Hee Lee, Myoung-Jin Kang, and Kwang-Seok Seo *Department of Electrical and Computer Engineering and ISRC, Seoul National University*
WP1-69	Fabrication and Characteristics of GaN HEMT on SiC Device with Internal Backside Via-Hole in Active Region for MMIC Applications Byoung-Gue Min, Kyu-Jun Cho, Jong Min Lee, Seong-Il Kim, Hyung Sup Yoon, Haecheon Kim, Ho-Kyun Ahn, Hyun-Wook Jung, Sung-Jae Chang, Jae-Won Do, Min Jeong Shin, and Jong-Won Lim *RF/Power Components Research Group, ETRI*
WP1-70	Experimental and Theoretical Investigation of C_{inv} in $In_{0.53}Ga_{0.47}As/In_{0.52}Al_{0.48}As$ HEMTs Hyeon-Bhin Jo, Jung-Ho Park, Seung-Woo Son, Ji-Min Baekand, and Dae-Hyun Kim *School of Electronics Engineering, Kyungpook National University*
WP1-71	High Temperature Characterization and Analysis of GaN-on-Diamond FETs Hyung-Seok Lee, Zin-Sig Kim, Seong-Bum Bae, Eunsoo Nam, Jae-Kyoung Mun, Jeong-Jin Kim, and Jong-Won Lim *ICT Materials and Components and Research Laboratory, ETRI*
WP1-72	Breakdown and Power Characteristics of GaN HEMTs with a Variation of Device Dimensions for S-band Applications Jong-Min Lee, Hae Cheon Kim, Yu-Jin Jang, Ho-Kyun Ahn, Jae-Won Do, Sang-Heung Lee, Dong Min Kang, and Jong-Won Lim *IT Materials and Components Laboratory, ETRI*
WP1-73	The Improvement of Pulsed Response on AlGaN/GaN Schottky Barrier Diode by Applying Ar Plasma Densification Ra-Seong Ki[1], Ho-Young Cha[2], and Kwang-Seok Seo[1] [1]*Department of Electrical Engineering and Computer Science, Seoul National University,* [2]*Department of Electronic and Electrical Engineering, Hongik University*
WP1-74	Scattering Mechanisms in $In_{0.7}Ga_{0.3}As$ QW MOSFETs Sethu Merin George, Hyeon-Bhin Jo, Seung-Woo Son, and Dae-Hyun Kim *School of Electronics Engineering, Kyungpook National University*
WP1-75	Design and Fabrication of 3.3kV 4H-SiC Schottky Barrier Diodes In Ho Kang, Him-Chan Park, Juyeon Keum, Moon Kyong Na, Ogyun Seok, Jeong Hyun Moon, H. W. Kim, Sang Cheol Kim, Wook Bahng, and Nam Kyun Kim *Power Semiconductor Research Center, KERI*

포스터 발표

H. Display and Imaging Technologies

심사위원: 최병덕 교수(한양대학교)

WP1-76	**Web Crawler 및 GrabCut 알고리즘 기반 데이터베이스 구축 시스템** 이윤수, 김상혁, 강석주 *서강대학교 전자공학과*
WP1-77	**적외선 영상 기반 딥러닝을 이용한 운전자 감시 시스템** 안남현, 김상혁, 강석주 *서강대학교 전자공학과*
WP1-78	**IGZO TFT-Based Highly Reliable Gate Driver Circuit** Jongsu Oh[1], Jae-Moon Kim[1], KeeChan Park[2], and Yong-Sang Kim[1] *[1]School of Electronic and Electrical Engineering, Sungkyunkwan University, [2]Department of Electronics Engineering, Konkuk University*
WP1-79	**인지적 특성을 고려한 Head Mounted Display 기반 2D-to-3D Mapping 기술** 강건우, 서민우, 강석주 *서강대학교 전자공학과*
WP1-80	**The Remote Live Streaming of 360 Camera with VR** 이승준, 최송우, 강석주 *서강대학교 전자공학과*
WP1-81	**Highly Flexible Transparent Conducting Electrodes with Amorphous Oxide for Conformable Display Application** Jae-Bum Jeong[1,2] and Hyeok Kim[3] *[1]KITECH, [2]School of Electronics Engineering, Kyungpook National University, [3]Department of Electrical Engineering, Gyeongsang National University*
WP1-82	**Defect Passivation of Perovskite Light-Emitting Diodes with Improved Device Efficiency and Operating Stability** Joo Sung Kim, Himchan Cho, and Tae-Woo Lee *Department of Materials Science and Engineering, Seoul National University*
WP1-83	**Mode-Selectable Interface Integrated Circuit for Infrared Scene Simulators** Uisub Shin and Hee Chul Lee *School of Electrical Engineering, KAIST*
WP1-84	**Structural Modulation for Efficient Quasi-2D Perovskite Light-Emitting Diodes** Hyeon-Dong Lee[1], Hobeom Kim[1], Wonhee Cha[2], Chang-Lyoul Lee[3], Dongho Kim[2], Hoichang Yang[4], and Tae-Woo Lee[1] *[1]Department of Materials Science and Engineering, Seoul National University, [2]Department of Chemistry, Yonsei University, [3]APRI, GIST [4]Department of Applied Organic Materials Engineering Inha University*

WP1-85	A Study on External Stress Effects in the Polycrystalline-Silicon Thin Film Transistor Yong Woo Lee and Seung Ki Joo *Department of Materials Science and Engineering, Seoul National University*
WP1-86	Influence on Effective Channel Length in Self-Aligned Coplanar a-IGZO TFTs with Different Annealing Temperatures Hyun Jae Jang, Hyeong Uk Kim, and Bo Sung Kim *Division of Display and Semiconductor Physics, Korea University*
WP1-87	딥러닝 기반 3D 그래픽 렌더링 노이즈 제거 가속기 설계 한성현, 이광엽 *Department of Computer Engineering, Seokyeong University*
WP1-88	Organic Material Based Plasmonic Enhancement in OLEDs Jongchan Lee[1], Wonho Lee[1], and Seungyoon Ryu[1,2] *[1]Department of Display and Semiconductor Physics, Korea University, [2]Department of Applied Physics, Korea University*
WP1-89	Transparent and Flexible Conductive Electrodes Using MoO_3/Ag NW/MoO_3 Structure Daekeun Choi[1] and Seungyoon Ryu[1,2] *[1]Department of Display and Semiconductor Physics, Korea University*
WP1-90	The NH_3 Plasma Treatment within ALD HfO_2 of IGZO Thin Film Transistors (TFTs) and Its Impact on the Electrical Characteristics Beomgil Ha, Jaeho Lee, Donghwan Lim, Hoonhee Han, Myeong Gyoon Chae, and Changhwan Choi *Division of Materials Science and Engineering, Hanyang University*
WP1-91	Perovskite Light-Emitting Diodes Using Lead-Free Tin-Based Perovskite Jung-Min Heo, Hobeom Kim, and Tae-Woo Lee *Department of Materials Science and Engineering, Seoul National University*

J. Nano-Science & Technology

심사위원: 박원일 교수(한양대학교), 정대성 교수(대구경북과학기술원)

WP1-92	Low-Frequency Noise (LFN) Characteristics in Multi-layer WSe_2 Field Effect Transistor with Different Contact Metals Won-Mook Kang, In-Tak Cho, and Jong-Ho Lee *Department of ECE and ISRC, Seoul National University*
WP1-93	Large Scale Synthesis of Molybdenum Diselenide Nanosheets for Detecting Ethanol Vapor Shaolin Zhang, Nguyen Thuy Hang, SooHo Choi, Yoojong Kim, and Woochul Yang *Department of Physics, Dongguk University*

WP1-94	Fabrication on Nanogap Graphene for Single Electron Transistor Han Ul Kim, Mansu Kim, A. Vinishiya, Seongsoo Lee, N. K. Reddy, Hyun Jae Yoo, and Dong Mok Hwang *Department of Advance Institute of Nano Technology, SungKyunKwan University*
WP1-95	Interfacial Ultrafast Self-Assembly of 2D Transition Metal DichalcogenidesMonolyer Films and Their Heterostructures Taeyeong Yun, Jongwon Shim, Sung Hwan Koo, InHo Kim, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-96	High χ Block Copolymer Rapid Self-Assembly for Large-Scale Sub-10 nm Nanopattern by Flash Light Jang Hwan Kim, Hyeong Min Jin, Dae Yong Park, Keon Jae Lee, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-97	Partial Controlled Multi Component Metal Nanowire Array by Using Block Copolymer Patterning and Reversible Metal Ion Loading Geon Gug Yang, Jeong Ho Mun, Seung Keun Cha, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-98	Ultimately Stable Suspended Architecture of Two-Dimensional Nanomaterials Using Self-Assembled High Frequency Support Structures Soonmin Yim and Yeon Sik Jung *Department of Materials Science and Engineering, KAIST*
WP1-99	The Fabrication of Large Area Semi-Conductor Meta-Film Using Bottom-Up Approach for Absorbing the Light with Specific Wavelength In-Hwan Lee, Hyeon-Sik Jang, Changwon Park, Wonseok Jang, Yuhwan Hyeon, and Dongmok Whang *Department of Advanced Material Science and Engineering, Sungkyunkwan University*
WP1-100	High Performance Graphene Photodetector with Van Der Waals Heterostructure through Tuning Carrier Tunneling Young Rae Kim, Yong Seon Shin, Won Tae Kang, Ui Yeon Won, and Woo Jong Yu *Department of Electronic and Electrical Engineering, Sungkyunkwan University*
WP1-101	Facile Polymer Grafting of Polyaniline via N-doped Sites of Carbon Nanotubes Hojin Lee, Atta Ul Haq, Joonwon Lim, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-102	편광 라만 분광법을 이용한 ReS_2의 격자 방향 연구 김중철, 최윤, 정현식 *Department of Physics, Sogang University*
WP1-103	Transparent Graphene Heater Improved by Defect Healing Process of Atomic Layer Deposition Hyun Gu Kim[1], Woo Hyeok Kwon[1], and Han-Bo-Ram Lee[1,2] *[1]Department of Materials Science and Engineering, Incheon National University, [2]Innovation Center for Chemical Engineering, Incheon National University*

WP1-104	Non-Uniformity of Photoluminescence Signal for Exfoliated Monolayer WS_2 Kangwon Kim, Yongjae Kwon, Jinho Yang, and Hyeonsik Cheong *Department of Physics, Sogang University*
WP1-105	Fabrication of Highly Tunable Refractive Index Metamaterial by Block Copolymer Self-Assembly Kyu Hyo Han, Ju Young Kim, Jonghwa Shin, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-106	Facile Synthesis of Carbon Nitride-Functionalized Porous Reduced Graphene Oxide Aerogel for Gas Capture Applications Yearin Byun, Youngtak Oh, Joonwon Lim, Kyung Eun Lee, and Sang Ouk Kim *Department of Material Science and Engineering, KAIST*
WP1-107	Infrared Annealing Effect on In-Zn-O Nanofiber Field-Effect Transistors Assembled by Electrospinning Woo-Chae Jung, Sang-Cheol Yoon, In-Chan Hwang, and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
WP1-108	TiO_2 나노튜브 형상에 미치는 NH4F와 H_20의 영향 김건두, 장상순, 박진형, 이영석, 김희산 *홍익대학교 재료공학과*
WP1-109	UV/오존 노출후 변화된 그래핀 FET의 전기적 특성 분석 [1]김민범, [2]김소영, [2]이병훈 *[1]Material Science and Engineering Concentration, GIST, [2]Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, GIST*
WP1-110	Direct Growth of p-Doped WSe_2 Monolayer by Selenium-Phosphorus Substitution Won Tae Kang[1,2], Il Min Lee[1], and Woo Jong Yu[1,2] *[1]School of Electronic and Electrical Engineering, Sungkyunkwan University, [2]Center for Intergrated Nanostructure Physics, IBS, Sungkyunkwan University*
WP1-111	화학적 도핑 방법을 이용한 그래핀 pn 접합의 형성 김소영[1], 김민범[2], 전은기[2], 정경준[2], 김윤지[1], 이병훈[1] *[1]Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, GIST, [2]Material Science and Engineering Concentration, GIST*
WP1-112	Linker-Free Decoration of Polyoxometalates on Nitrogen-Doped Carbon Nanotubes for Water Oxidation Catalyst Gil Yong Lee, Insu Kim, Yoon Sung Nam, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-113	Ultrahigh On/Off Ratio and Detectivity at Low Drain Bias Using Vertically Stacked Heterostructure Graphene/h-BN/Silicon Boo Heung Lee and Woo Jong Yu *Department of Electrical and Computer Engineering, Sungkyunkwan University*

WP1-114	Size-Dependent N-Doing and Oxygen Reduction Catalysis of Graphene Oxide Hong Ju Jung, Kyung Eun Lee, Joon Won Lim, Tae Yeong Yun, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-115	Controlled Aligned Behavior of Graphene Oxide in Polymer Matrix via Geometric Factor Sung Hwan Koo, Kyung Eun Lee, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-116	Molybdenum Sulfide/N-Doped CNT Hybrid Electrochemical Catalysts for Hydrogen Evolution Reaction Gang San Lee, Dong Jun Li and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*
WP1-117	Universal Fabrication Routes to Plasmonic Nanodot Structures for High-Performance Organic Solar Cells Ju Won Lim[1], Yulin Oh[2], Byeong-Kwon Ju[2], and Dong Ha Kim[1] *[1]Department of Chemistry and Nano Science, College of Natural Sciences, Ewha Womans University, [2]Display and Nanosystem Laboratory, College of Engineering, Korea University*
WP1-118	Multi-Spectral and High Performance Color Pixels based on Scattering Cancellation June-Sang Lee[1,2], Ji-Yeon Park[1], Kyung-Min Jung[1], Seokwoo Jeon[2], Jerome K. Hyun[1], and Dong-Ha Kim[1] *[1]Department of Chemistry and Nano Science, Ewha Womans University, [2]Department of Materials Science and Engineering, KAIST*
WP1-119	희토류 염을 첨가한 황산 전해액에서 양극산화 코팅의 내식성 연구 소종호[1], 송제범[2], 이승수[2], 김민중[1], 신재수[1], 정낙관[2], 김진태[2,3], 윤주영[2,3] *[1]대전대학교, [2]한국표준과학연구원, [3]한국과학기술연합대학원대학교*
WP1-120	Highly Stretchable Block Copolymer Structural Color Strain Sensor Tae Hyun Park, Hansol Kang, Hongkyu Eoh, and Cheolmin Park *Department of Materials Science and Engineering, Yonsei University*
WP1-121	Liquid-Phase Exfoliation of Transition Metal Dichalcogenide Nanosheets with Amine Modified Polymer Dispersants and Nanocomposites for Photodetectors Hyeokjung Lee and Cheolmin Park *Department of Materials Science and Engineering, Yonsei University*
WP1-122	α-CsPbI3 Perovskite Nanocrystals for Photodiode with High Detectivity and Low Noise Current Kyu Min Sim, Kyounghwan Kim, Min Gyun Kang, Min Su Jang, and Dae Sung Chung *Department of Energy Science and Engineering, DGIST*
WP1-123	Amorphous Molybdenum Sulfide Coated Graphene Fiber for Hydrogen Evolution Reaction Ho Seong Hwang, Kyung Eun Lee, and Sang Ouk Kim *Department of Materials Science and Engineering, KAIST*

WP1-124	UV/오존 노출 후 변화된 그래핀 FET의 전기적 특성 분석 김민범[1], 김소영[2], 이병훈[2] *[1]Material Science and Engineering Concentration, GIST, [2]Center for Emerging Electric Devices and Systems, School of Material Science and Engineering, GIST*
WP1-125	Functional Memristive Integrated Circuitry on Plastic Substrate Toward Energy-Efficient Electronic Systems Byugn Chul Jang, Yunyong Nam, Khang June Lee, June-Hwe Cha, Tae Gyu Kang, Sang-Hee Ko Park, and Sung-Yool Choi *School of Electrical Engineering, Graphene/2D Materials Research Center, KAIST*
WP1-126	Micropatterning Thin Organic-Inorganic Hybrid Perovskite Films by Solvent-Assisted Gel Printing Method Hyowon Han, Beomjin Jeong, and Cheolmin Park *Department of Materials Science and Engineering and School of Electrical and Electronic Engineering, Yonsei University*
WP1-127	Separation of Grain Resistance and Grain Boundary Resistance in CVD-Grown Polycrystalline Graphene Jaeeuk Kim, Jun Yeong Lee, Hyowoong Noh, and Hongsik Park *School of Electronic Engineering, Kyungpook National University*
WP1-128	Heteroepitaxial Growth of 2D Layered Crystals with Semiconductor-Semimetal Junction heol-Min Hyun, Jeong-Hun Choi, Seung-Won Lee, and Ji-Hoon Ahn *Department of Electronic Material Engineering, Korea Maritime and Ocean University*
WP1-129	Functionalized Nanoporous Structures from Couple of Supramolecular Assembly via End-Functionalized Polymer Blends Suk Man Cho, Giyoung Song, Chanho Park, and Cheolmin Park *Department of Materials Science and Engineering, Yonsei University*
WP1-130	Enhancing Solar Light-Driven Photocatalytic Activity of Mesoporous Carbon-TiO_2 Hybrid Films via Upconversion Coupling Hannah Kwon[1], Filipe Marques Mota[1], Kyungwha Chung[1], Yu Jin Jang[1], Jerome K. Hyun[1], Jiseok Lee[2], and Dong Ha Kim[1] *[1]Department of Chemistry and Nano Science, Ewha Womans University, [2]School of Energy and Chemical Engineering, UNIST*
WP1-131	Toward an Effective Control of the CO to H_2 Ratio in the Electroreduction of CO_2 Over Titanate Nanosheets Incorporating Au Nanoparticles Filipe Marques Mota[1], Dang Nguyen[2], Ji-Eun Lee[1], Yun Jeong Hwang[2], and Dong Ha Kim[1] *[1]Department of Chemistry and Nano Science, Division of Molecular and Life Sciences, College of Natural Sciences, Ewha Womans University, [2]Clean Energy Research Center, KIST*
WP1-132	Self-Assembled Semiconducting Polymer Nanodomains for Nonvolatile Transistor Memory Kang Lib Kim and Cheolmin Park *Department of Materials Science and Engineering, Yonsei University*

WP1-133	Photoluminescence Characteristics of Silicon Nanopillar Structures Myunghae Seo, Kihyun Kim, and Chang-Ki Baek *Department of Creative IT Engineering, POSTECH*
WP1-134	Oxygen Plasma-Treated TMD Ultrasensitive Biosensor Hae Won Lee[1], Hyung-Youl Park[2], and Jin-Hong Park[2] *[1]School of Semiconductor and Display Engineering, Sungkyunkwan University, [2]School of Electronic and Electrical Engineering, Sungkyunkwan University*

K. Memory (Design & Process Technology)

심사위원: 김수길 수석(SK 하이닉스), 김 윤 교수(부산대학교)

WP1-135	Improved On-Current of Ag/NiO/TiO_2/Pt Threshold Switching Device by Suppressing the Ag Incorporation Jeonghwan Song, Seokjae Lim, Jongmyung Yoo, and Hyunsang Hwang *Department of Materials Science and Engineering, POSTECH*
WP1-136	Nonvolatile Memcapacitance Characteristics in Si-based MOS Memcapacitor with an ITO/HfO_x/Si Structure Daehoon Park, Paul Yang, Hyung Jun Kim, Geon Won Beom, Sun Ki Kim, and Tae-Sik Yoon *Department of Materials Science and Engineering, Myongji University*
WP1-137	Effect of Asymmetry of PCM Operation Characteristics on Recognition Rate Dong-hyeop Kim, Cheng Li, Jun-seop An, and Yun-heub Song *Department of Electronic Engineering, Hanyang University*
WP1-138	IGZO Thin Film Transistor-Based Flash Memories Using PCMO's Resistive Switching Mechanis Ju Hyun Park, Dong Su Jeon, Sungmin Oh, and Tae Geun Kim *School of Electrical Engineering, Korea University*
WP1-139	Gate-Controlled Silicon Oxide Memory Device based on Vertically Integrated Graphene Barristor Jaewan Choi[1], Nam-Dong Kim[2], and Gunuk Wang[1] *[1]KU-KIST Graduate School of Converging Science and Technology, Korea University, [2]Applied Quantum Composites Research Center, Institute of Advanced Composite Materials, KIST*
WP1-140	Demonstration of Pavlov Associative Memory Using Magnetic Tunnel Junctions Donghoon Lee, Gi Yoon Bae, and Wanjun Park *Department of Electronic Engineering, Hanyang University*
WP1-141	High Density Nanoparticle Based WO_x Nanopattern Fabrication for Flexible Resistive Memory Application 윤혜원[1,2], 김미현[1], 김수정[2], 홍성훈[1] *[1]ICT Materials and Components and Research Laboratory, ETRI, [2]Department of Materials Science and Engineering, Korea University*

WP1-142	Free-Standing Organic Neuromorphic Transistors for Wearable Intelligent Electronics Sukjae Jang[1], Seonghoon Jang[2], Eun-Hye Lee[1], Gunuk Wang[2], and Tae-Wook Kim[1] *[1]Applied Quantum Composites Research Center, Institute of Advanced Composite Materials, KIST, [2]KU-KIST Graduate School of Converging Science and Technology, Korea University*
WP1-143	Self-Rectifying Nanoporous Ta_2O_{5-x}Memristive Device for Neuromorphic Device Applications Seonghoon Jang, Sanghyeon Choi, and Gunuk Wang *KU-KIST Graduate School of Converging Science and Technology, Korea University*
WP1-144	Carbon Nanotube Network Based Field Effect Transistorswith Non-Volatile Memory Operation Eun-Ki Hong and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
WP1-145	Conductivity Modulated Synapse Device by Changing Ion Concentration Chuljun Lee, Jaewon Lee, Sang-Mo Koo, Jong-Min Oh, and Daeseok Lee *Department of Electronic Materials Engineering, Kwangwoon University*
WP1-146	Investigation of Multi-Level Cell Characteristic in a-IGZO TFT Based 1T-1R Non-Volatile Memory Device Hyun-seok Choi, Min-Soo Kang, and Won-Ju Cho *Department of Electronic Materials Engineering, Kwangwoon University*
WP1-147	BF3 Plasma Doping (PLAD) Uniformity 개선 방법 연구 황동건, 차재춘, 이진구, 정용수, 진승우 *SK Hynix Inc.*
WP1-148	The Resistive Switching Behavior of Te-based Chalcogenide Thin Films by Control of Compliance Current Tae ho Kim, Jinyeol Lee, Kyungbin Ko, Inwoo Kim, and Hyunchul Sohn *Department of Materials Science and Engineering, Yonsei University*
WP1-149	TCAM 저전력 검색 회로 성락주, 김철, 안성기, 민지수, 김성용, 권기원 *성균관대학교 정보통신대학*
WP1-150	고성능 CAM을 위한 분할 매치라인 김성용, 안성기, 권기원 *성균관대학교 정보통신공학부*
WP1-151	Program Characteristics for Planar EEPROM Cells Ho-Jun Choi, Ki-Woong Yoo, and Kee-Won Kwon *College of Information and Communication Engineering, Sungkyunkwan University*

포스터 발표

L. Analog Design

심사위원: 허승찬 박사(삼성전자)

WP1-152	**에너지 하베스터로 파워 공급받는 뇌전증 발작 감지 회로의 성능 분석** 김선희[1], 주선아[2], 지창현[2] *[1]상명대학교 시스템반도체공학과, [2] 이화여자대학교 전기전자공학과*
WP1-153	**Design of a 10-Bit SAR A/D Converter with 2-Bit/Step and Threshold Configuring Comparator** Ho Yong Lee, Dong Hyun Lee, Jin Woo So, and Kwang Sub Yoon *Department of Electronic Engineering, Inha University*
WP1-154	**디지털 마이크 응용을 위한 4차 시그마-델타 모듈레이터 설계** 김상형, 박철규, 전현덕, 윤범수, 최중호 *서울시립대학교, 전자전기컴퓨터 공학과*
WP1-155	**MASH 델타-시그마 아날로그-디지털 변환기 설계** 이재성, 송석재, 탕준, 노정진 *Department of Electronic Engineering, Hanyang University*
WP1-156	**Resolution Tunable Ring Oscillator type TDC** Him Chan Park, Qiwei Huang, Seul Gi Kim, and Jin Wook Burm *Department of Electronic Engineering, Sogang University*
WP1-157	**Estimation of Power-Supply Induced Jitter Sensitivity for Clock Buffers** Jiho Lee, Yunju Choi, Kyunghoon Kim, and Jaeha Kim *Department of Electrical and Computer Engineering, Seoul National University*
WP1-158	**A 12-Bit Current Steering 0.18 μm CMOS DAC Using New Layout Method** Jungbin Lee and Jinwook Burm *Department of Electronic Engineering, Sogang University*
WP1-159	**Time to Digital Converter with Successive Approximation Register Logic** Qiwei Huang, Seulgi Kim and Jinwook Burm *Department of Electronic Engineering, Sogang University*
WP1-160	**Post-DDR4 SDRAM을 위한 빠른 락킹 특성의 고속 DLL 설계** 박동준, 김종선 *Department of Electronic and Electrical Engineering, Hongik University*
WP1-161	**오프셋 및 저주파수 노이즈 제거 회로를 가진 고이득 저항 센싱 증폭기** 최정열[2], 박철규[1], 이석[2], 최중호[1] *[1]서울시립대학교, 전자전기컴퓨터 공학과, [2]㈜센소니아*
WP1-162	**NFC를 위한 저전력 위상동기루프의 설계** Dong Min Seo and Yong Moon *Department of IT Distribution and Logistics, Soongsil University*

WP1-163	A 7.5-9Gb/s All-Digital Reference-Less CDR Changzhi Yu, Euije Sa, and Jinwook Burm *Department of Electronic Engineering, Sogang University*
WP1-164	An Ultra-Low-Power Process Independent CMOS Temperature Sensor with SAR Readout Jee-eun Choi, Wonbin Lee, and Junghyup Lee *Information and Communication Engineering, DGIST*
WP1-165	다중-위상 선택주입을 이용한 완전 디지털 Fractional-N 주파수 합성기 윤준섭, 김종선 *Department of Electrical Engineering, Hongik University*
WP1-166	A Design of Wideband CMOS PA Transformer for LBS Tile Array Chung-Geun Jang, Suk-Hui Lee, Kwang-Ho Ahn, and Ki-Jin Kim *ICT Device and Packaging Research Center, KETI*
WP1-167	A 1V 46nF/10MΩ Input-Range Digital-Intensive Reconfigurable RC-to-Digital Converter with Parasitic Insensitive Femto-Farad Baseline Capacitance Sensing in 0.18μm CMOS Arup K. George[1], W. Shim[1], M. Kim[1], M. Je[2], and J. Lee[1] *[1]DGIST, [2]KAIST*
WP1-168	SiC MOSFET용 Switched Capacitor 이용한 음전압 게이트 구동 회로 한예지[1,2], 김기현[1], 남상국[1], 송한정[2] *[1]한국전기연구원, [2]인제대학교*
WP1-169	PGA with Chopper for Low Output Noise in PRT Sensor Dong Gyu Kim, Dong Soo Lee, and Kang Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
WP1-170	A Design of 4-Switch Buck-Boost Converter with Three Transition Modes to Reduce Output Ripple Sang-Hyuk Park, Truong Thi Kim Nga, Dong-Soo Lee, and Kang-Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
WP1-171	Gate Driver 절연을 위한 펄스 Demodulator가 포함된 펄스 트랜스 포머 석인철[1,2], 이경호[1], 김기현[1], 한석붕[2] *[1]한국전기연구원, [2]경상대학교*
WP1-172	A PWM Compensation Controller forlimproving Loop Stability in DC-DC Converter Gyu-sup Won, Dong-Soo Lee, and Kang-yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*
WP1-173	Low-Power Bandgap Reference and Low-Drop Output Regulator with Improved Line Regulation for IoT Application Ji-Hyeon Cheon, Sung-Jin Kim, Dong-Soo Lee, and Kang-Yoon Lee *School of Information and Communication Engineering, Sungkyunkwan University*

WP1-174	Design of a Active Rectifier Eliminating Glitches Using Improved ZCS Ki-Deok Kim, Byoeng-Gi Jang, Sung-Jin Oh, and Kang-Yoon Lee *College of Information and Communication Engineering, Sungkyunkwan University*

N. VLSI CAD

심사위원: 정재용 교수(인천대학교)

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WP1-177	The Clock Skew Analysis in Multi-Corner Multi-Mode Jeong Keun Park, Deok Keun Oh, and Ju Ho Kim *Department of Computer Science and Engineering, Sogang University*
WP1-178	The Impact of Slew in a Buffered Clock Tree Synthesis Hong Min Park, Mujun Choi, and Ju Ho Kim *Department of Computer Science and Engineering, Sogang University*

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심사위원: 김경기 교수(대구대학교), 김영민 교수(광운대학교)

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	심사위원: 신현정 교수(성균관대학교), 함문호 교수(GIST)
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심사위원: 박주철 센터장(구미전자정보기술원), 유형원 상무(히타치하이테크)

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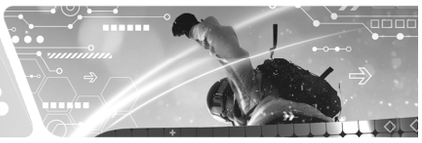

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