

제20회 한국반도체학술대회

2013년 2월 4일(월)~6일(수) / 웰리힐리파크 (구, 성우리조트)

우) 302-120 대전광역시 서구 둔산동 1018번지 대한빌딩 5층 / 담당: 최은영 팀장, 김아영
TEL: (042) 472 -7461 FAX: (042) 472 -7459 E-mail: kcs@cosar.or.kr

Room J

골드홀 (본관, 5층)

2013년 2월 6일(수) 12:45-14:10

[WP1] Poster 3

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|-------|-------------|---|
| WP1-1 | 12:45-14:10 | Improvement in Performance of 380nm Ultra Violet Light Emitting Diodes Employing Nano-Scale SiO₂ Patterned n-type GaN Substrate
Hyo Won Seo ¹ , Min Sung Jo ¹ , Wael Z. Tawfik ¹ , Seo Jung Bae ¹ , Young Boo Moon ² , and June Key Lee ¹
¹ Interdisciplinary Program of Photonic Engineering, Chonnam National University, ² THE LEDs co. Ltd |
| WP1-2 | 12:45-14:10 | Enhancement of Blue InGaN/GaN Multi-Quantum-Well Light-Emitting Diodes Characteristics by Applying External Tensile Stress
Wael Z. Tawfik, Ju Hui Song, Hyo Won Seo, Seo Jung Bae, and June Key Lee
Interdisciplinary Program of Photonic Engineering, Chonnam National University |
| WP1-3 | 12:45-14:10 | Systematic Band Gap Engineering of Tandem CIGS Absorption Layer by using Sputtering and Selenization System
San Kang, Seong-Un Park, Byung-June Baek, Rahul Sharma, Jae-Kwan Sim, and Cheul-Ro Lee
Research Center for Advanced Materials Development, Chonbuk National University |
| WP1-4 | 12:45-14:10 | Thermodynamic Consideration on Facet Formation of Si_{0.15}Ge_{0.85} Nanowire
Byongju Kim, Sun-Wook Kim, Jeong-Hoon Kim, Hyunchul Jang, and Dae-Hong Ko
Department of Materials Science and Engineering, Yonsei University |
| WP1-5 | 12:45-14:10 | A Study on Surface Plasmon Resonance with Gold Nanoparticles onto the CIGS Absorption Layer
Seong-Un Park, San Kang, Byung-June Baek, Rahul Sharma, Jae-Kwan Sim, and Cheul-Ro Lee
School of Advanced Materials Engineering, College of Engineering, Research Center for Advanced Materials Development, Chonbuk National University |
| WP1-6 | 12:45-14:10 | Rapid Synthesis of Few-Layer Graphene with a Controllable Thickness
Jae Hwan Chu ¹ , Jinsung Kwak ¹ , Tae-Yang Kwon ¹ , Soon-Dong Park ¹ , Heungseok Go ² , Sung Youb Kim ¹ , Kibog Park ² , and Soon-Yong Kwon ^{1,2}
¹ School of Mechanical and Advanced Materials Engineering, Ulsan National Institute of Science and Technology, ² School of Electrical and Computer Engineering, Ulsan National Institute of Science and Technology |

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- WP1-7 12:45-14:10 Si 기판상에 GaSb 화합물 반도체 성장 및 연구**
배민환^{1,2}, 송진동¹, 이은혜¹, 연구혁¹, 김준영¹, 오현지¹, 최원준¹, 박원일²
¹한국과학기술연구원 광전융합시스템연구단,
²한양대학교 나노전자재료실험실
- WP1-8 12:45-14:10 Droplet Epitaxy 법을 이용한 GaAs Quantum Ring 형성**
이은혜^{1,2}, 송진동¹, 김지훈¹, 김수연¹, 배민환¹, 연구혁¹, 김준영¹, 한일기¹,
장수경², 김종수³
¹한국과학기술연구원 광전융합시스템연구단, ²연세대학교 물리학과,
³영남대학교 물리학과
- WP1-9 12:45-14:10 Arsenic 주입을 Pulse로 준 Ga assisted GaAs Nanowire 성장 방법**
연구혁^{1,2}, 이은혜², 김수연², 송진동^{1,2}
¹과학기술연합대학원대학교 나노전자소자공학,
²한국과학기술연구원 광전융합시스템연구단
- WP1-10 12:45-14:10 Development of Nanolaminated Single Gas Diffusion Barrier Layer by Neutral Beam Assisted Sputtering Process**
YunSung Jang and MunPyo Hong
Department of Display Semiconductor Physics, Korea University
- WP1-11 12:45-14:00 Effect of Negative Oxygen Ions Accelerated by Dc Self-Bias on Amorphous InGaZnO Thin Film Transistors**
Doohyun Kim, Soobok Yoon, and MunPyo Hong
Department of Display and Semiconductor Physics, Korea University
- WP1-12 12:45-14:00 New Approaches for Extremely High Doping and High Crystal Fraction in the Mixed Phase Nano-Crystal Silicon Thin Film by Near Room Temperature Deposition Process with Neutral Beam Assisted CVD**
Jin Nyoung Jang¹, Dong Hyeok Lee¹, Hyun Wook So¹, Chang-Sun Park²,
Hyung-Ho Park², and MunPyo Hong¹
¹Department of Display and Semiconductor Physics, Korea University
²Department of Materials Science and Engineering, Yonsei University
- WP1-13 12:45-14:10 Fine Tuning of Termination Capacitance and Neutral Beam Energy Dependent Controlling of Oxygen Contents in Undoped Nano-Crystal Silicon Thin Film by using Neutral Beam Assisted ICP CVD**
DongHyeok Lee, JinNyoung Jang, HyunWook So, and MunPyo Hong
Department of Display and Semiconductor Physics, Korea University
- WP1-14 12:45-14:10 Study on the Seasoning Effect for Amorphous In-Ga-Zn-O Thin Film Transistors with Soluble Hybrid Passivation**
Soobok Yoon, Doohyun Kim, and MunPyo Hong
Department of Display and Semiconductor Physics, Korea University
- WP1-15 12:45-14:10 Sensing Performance Improvement of Dual-Gate Ion-Sensitive Field-Effect Transistors on Ultra-thin Body**

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Hyun-June Jang and Won-Ju Cho
Department of Electronic Materials Engineering, Kwangwoon University

- WP1-16** 12:45-14:10 **Dual-Gate Operation에 의한 Engineered Sensing Membrane의 Sensing 특성 개선**
박진권, 조원주
광운대학교 전자재료공학과
- WP1-17** 12:45-14:10 **Thickness Dependence of HfO₂ Sensing Membrane in Electrolyte-Insulator-Semiconductor (EIS) Structure using a Solution Process**
이인규, 조원주
광운대학교 전자재료공학과
- WP1-18** 12:45-14:10 **Silicon Nano Structured Field Effect Transistor Based pH Sensor Array**
Yeong Tai Seo^{1,2}, Kangwon Cho², Hyeyoon Kim², Jin-Ah Yang², Min-Ho Lee², Kook-Nyung Lee², Woo-Kyeong Seong², and Yong-Kweon Kim¹
¹School of Electrical Engineering and Computer Science, Seoul National University, ²Korea Electronics Technology Institute
- WP1-19** 12:45-14:10 **Study of Touch Sensing Characteristics in PVDF-TrFE/MoS₂ Field-Effect Transistors**
박우진¹, 양진호¹, 강창구¹, 조천흠¹, 이상철¹, 임성관¹, 김용훈¹, 이상경¹, 강수철¹, 홍웅기², 이병훈¹
¹광주과학기술원 신소재공학부, ²한국기초과학지원연구원
- WP1-20** 12:45-14:10 **A Multi-Wavelength Detectable AlGaN/GaN MIS UV Photodetector**
Chang-Ju Lee, Chul-Ho Won, Jung-Hee Lee, and Sung-Ho Hahm
School of Electrical Engineering and Computer Science, Kyungpook National University
- WP1-21** 12:45-14:10 **Sensing Capability Enhancement and Thermal Insulation Improvement for High Sensitivity Microfluidic Chip Calorimeter**
Joonyoung Koh^{1,2,3}, Jung. H. Shin^{1,2}, and Wonhee Lee^{1,2,3}
¹Graduate School of Nanoscience and Technology, KAIST, ²Department of Physics, KAIST, ³Institute for the Nanocentury, KAIST
- WP1-22** 12:45-14:10 **Nanowire Ion-Sensitive Field Effect Transistor for Uric Acid Detection**
Unsang Lee¹, Taiuk Rim², Kihyun Kim², Nanki Hong², Chanoh Park¹, M. Jamal Deen^{1,3}, and Jeong-Soo Lee^{1,2}
¹Division of IT-Convergence Engineering, Pohang University of Science and Technology, ²Department of Electrical Engineering, Pohang University of Science and Technology, ³ECE Department, McMaster University
- WP1-23** 12:45-14:10 **Effects of Forming Voltage in Pt/Si₃N₄/p⁺-Si RRAM Devices**
Sungjun Kim¹, Sunghun Jung¹, Kyung-Chang Ryoo², Jeong-Hoon Oh², and Byung-Gook Park¹
¹Inter-university Semiconductor Research Center (ISRC) and School of Electrical Engineering and Computer Science, Seoul National University, ²DRAM Process Architecture Team, Memory Division, Semiconductor

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Business, Samsung Electronics Co., Ltd.

- WP1-24** 12:45-14:10 **Bipolar Resistive Switching Characteristics of Solution-Processed AlO_x Thin Films for Non-Volatile Memory Application**
Chang-Wan Kim and Won-Ju Cho
Department of Electronic Materials Engineering, Kwangwoon University
- WP1-25** 12:45-14:10 **Analytical Model of Static Noise Margin Variation in 6-T SRAM with Double-Gate FinFETs**
Boung-Jun Lee and Ji-Woon Yang
Department of Electronics and Information Engineering, Korea University
- WP1-26** 12:45-14:10 **The Study of Ag Doping Effects on Phase Change Characteristics of GeTe**
Jin Hwan Jeong, Su Bin An, and Doo Jin Choi
Department of Material Science and Engineering, Yonsei University
- WP1-27** 12:45-14:10 **Solution Process Based Oxidizable Metal Layer Free GeSe ReRAM on p^+ -Si Electrode**
남기현, 이동현, 김장한, 소준환, 조원주, 정홍배
광운대학교 전자재료공학과
- WP1-28** 12:45-14:10 **Threshold and Bipolar Resistive Switching of Pt- Fe_2O_3 Core-Shell Nanoparticle Assembly**
Yoon-Jae Baek¹, Quanli Hu², Hyung Jun Kim¹, Seung Chang Lee¹, Jae-Deuk Kim¹, Jin Yong Lee¹, Chi Jung Kang^{2,3}, and Tae-Sik Yoon^{1,2}
¹Department of Materials Science and Engineering, Myongji University,
²Department of Nano Science and Engineering, Myongji University,
³Department of Physics, Myongji University
- WP1-29** 12:45-14:10 **Cell Area Effect on Read Failure Problem Disturbing Nonvolatile Memory Applications of Conductive Filament-Type Resistive Switching Memory Devices**
Jung-Kyu Lee¹, Byeong-In Choe¹, Jinwon Park², Sung-Woong Chung², Jae Sung Roh², Sung-Joo Hong², Byung-Gook Park¹, and Jong-Ho Lee¹
¹School of Electrical Engineering and Computer Science and Inter-University Semiconductor Research Center, Seoul National University,
²R&D Division, SK Hynix Inc.
- WP1-30** 12:45-14:10 **Improved Resistive Switching Characteristics Using Solution-Processed $\text{Ta}_2\text{O}_5/\text{HfO}_2$ Double Layer ReRAM**
장기현, 조원주
광운대학교 전자재료 공학과
- WP1-31** 12:45-14:10 **The Analysis of HBr Plasma Instability using Balanced Capacitor in Inductively Coupled Plasma Source**
엄정환, 강태균
삼성전자 반도체사업부

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- WP1-32** 12:45-14:10 **Behavioral Model with Intermediate States for Unipolar Resistive Memories**
Young Su Kim, and Kyeong-Sik Min
School of Electrical Engineering, Kookmin University
- WP1-33** 12:45-14:10 **A Programmable-N Frequency Divider for Wideband RF PLL**
Hogil Kim, Dongsik Kim, and Sanghoon Chai
Department of Electronic Engineering, Hoseo University
- WP1-34** 12:45-14:10 **최대/최소 시비율 제어를 포함하고 빠른 시간응답을 갖는 디지털 DC-DC 변환기 설계**
오택준, 황인철
강원대학교 일반대학원 전기전자공학과
- WP1-35** 12:45-14:10 **Area-Efficient a-Si Gate Driver Circuit with Shared Driving Node**
안소라, 김지아, 신형순, 이승준
이화여자대학교 전자공학과
- WP1-36** 12:45-14:10 **디지털 커패시턴스 모듈레이션을 이용한 다중 출력 스위치 커패시터 DC-DC 컨버터**
이정윤, 윤선우, 박상용, 이진현, 백동현
중앙대학교 전자전기공학과
- WP1-37** 12:45-14:10 **근거리 무선 통신을 위한 주파수 합성기의 연구**
정명호, 문용
송실대학교 전자공학과
- WP1-38** 12:45-14:10 **Innovative Verification Methods in the Era of 1B SoCs**
NamPhil Jo¹, HyunWoo Koh¹, DaeSeo Cha¹, and Karthik Kothandapani²
¹Samsung Electronics Co., Ltd., ²Cadence Design Systems Inc.
- WP1-39** 12:45-14:10 **Channel Estimation Algorithm and Implementation with FPGA for Low Complexity WBAN System**
Hyunsub Kim, Minjoon Kim, and Jaeseok Kim
IT-SoC Research Lab., Yonsei University
- WP1-40** 12:45-14:10 **Embryonic Cell Based Zigbee Architecture for Self-Healing**
백승규, 김병수, 왕규열, 정진용
인하대학교 정보통신공학부
- WP1-41** 12:45-14:10 **방향성에 강인한 물체인식 및 추적 알고리즘 구현**
허훈, 경규택, 곽재창, 이광엽
서경대학교 전자컴퓨터공학과