

ICMAP 2018

The 7th International Conference on Microelectronics and Plasma Technology
Joint International Conference on ICMAP 2018, APCPST 2018, and ISPB 2018
July 24-28, 2018 / Songdo ConvensiA, Incheon, Korea

Poster Session I

Date / Time	July 25 (Wed.), 2018 / 17:30-19:00
Place	Room F (#117~118)

WP-001

Effects of Non-Thermal Plasma on Cell Differentiation and Protein Secretion in *Aspergillus Oryzae*

Mayura Veerana, Eun Ha Choi, and Gyungsoon Park
Kwangwoon Univ., Korea

WP-002

Formation of Nanocluster by Sputtering with Cluster Source for Fabricating a Hierarchical Nanoporous Ag Films

Sungho Yun¹, Junyeop Lee², Jaemoon Yang³, Dongin Lee⁴, Bonghwan Kim⁵, and Chanseob Cho¹

¹*Kyungpook Nat'l Univ., Korea*, ²*Kwang-Lim Precision Inc., Korea*, ³*Yonsei Univ., Korea*,
⁴*Yeungnam Univ., Korea*, ⁵*Daegu Catholic Univ., Korea*

WP-003

Atmospheric Pressure Pulsed Plasma Induces Cell Death in Photosynthetic Organs via Intracellularly Generated ROS.

Youbin Seol, Jaewook Kim, Se-hong Park, and Hong Young Chang
KAIST, Korea

WP-004

Non-Thermal Atmospheric Pressure Soft Jet Plasma: A Potential Novel Therapy for Apoptosis in Brain Cancer Cells

Mahmuda Akter, Ying Li, Eun Ha Choi, and Ihn Han
Kwangwoon Univ., Korea

WP-005

Experimental Study of Atmospheric Pressure Plasma Jet in Mixture of a Noble Gas and Atmospheric Pressure Natural Air.

Pradeep Lamichhane, Bhagirath Ghimire, and Euh Ha Choi
Kwangwoon Univ., Korea

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WP-006

Comparative Study on Osteogenic Differentiation of Human Bone Marrow Derived and Human Periodontal Ligament Derived Mesenchymal Stemcells by Non-Thermal Bio-Compatible Plasma

Ying Li, Eun Ha Choi, and Ihn Han
Kwangwoon Univ., Korea

WP-007

Nanotube Formation on Ti-Ta and Ti-Nb Alloy Surface.

Seung-Pyo Kim and Han-Cheol Choe
Chosun Univ., Korea

WP-008

Plasma Activated Medium by Non-Thermal Biocompatible Jet Plasma Induced in Activation Involves Apoptotic Cell Death in Ovarian Cancer Cells

Byeong jin Kim, Li Ying, Eun ha Choi, and Ihn Han
Kwangwoon Univ., Korea

WP-009

Sputtered Hydroxyapatite Coatings on PEO-Treated Ti-40Ta-xNb Alloy in Solution Containing Mg and Zn Ions

Han-cheol Choe and Sang-gyu Lim
Chosun Univ., Korea

WP-010

Morphologies of RF-Sputtered Zinc Coatings and Cell Proliferation on PEO-Treated Ti-6Al-4V Alloy

Han-Cheol Choe and In-Jo Hwang
Chosun Univ., Korea

WP-011

Cell Culture on the Nano-Sized and Functionalized Ti-6Al-4V Alloy by Plasma Electrolytic Oxidation

Ji-Min Yu and Han-Cheol Choe
Chosun Univ., Korea

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WP-012

Bone-Like Apatite Formation on Hydroxyapatite Coating on Ti-40Nb-xHf Alloy

Min-Gyu Park and Han-Cheol Choe
Chosun Univ., Korea

WP-013

Enhancing the Power of High Power Microwaves and Investigations for the Position of Virtual Cathode Oscillator Inside the Drift Tube by Using Zone Plate

Sohail Mumtaz, Jun Sup Lim, Suk Woo Lee, Bhagirath Ghimire, and Sohail Mumtaz
Kwangwoon Univ., Korea

WP-014

Investigation of Surface Properties of Atmospheric Air Plasma Treated Polystyrene and Study its Antibacterial Properties

Ramhari Paneru, Jin Sung Choi, and Eun Ha Choi
Kwangwoon Univ., Korea

WP-015

Development of Thin Film Transistors Using Gate Dielectric Organic-Inorganic Hybrid Layers for Chemical & Bio-Sensing Applications

Hyeon Jin Seo, Jung-Hoon Yu, Dong In Kim, Ji Won Lee, Rak Hyun Jeong, Sang-Hun Nam, Ananth Antony, and Jin-Hyo Boo
Sungkyunkwan Univ., Korea

WP-016

Effect of Cold Atmospheric Plasma Seed Priming on Plant Pathogen Defense System

Bhawana Adhikari and Eun Ha Choi
Kwangwoon Univ., Korea

WP-017

Surface Modification of Stratum Corneum for Drug Delivery and Skin Care by Microplasma Discharge Treatment

Kristof Jaroslav, Aoshima Tomomichi, Blajan Marius, and Shimizu Kazuo
Shizuoka Univ., Japan

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WP-018

The Mode of Plasma Jet Delivery of Reactive Species in Biological Tissues

Bhagirath GHIMIRE¹, Endre SZILI², Pradeep LAMICHHANE¹, Robert D. SHORT³, Young June HONG¹, Pankaj ATTRI¹, Kai MASUR⁴, Klaus-Dieter WELTMANN⁴, Sun-Ha HONG², and Eun Ha CHOI¹

¹Kwangwoon Univ., Korea, ²Univ. of South Australia, Australia, ³The Univ. of Lancaster, UK, ⁴INP Greifswald, Germany

WP-019

Evaluation of Resistance of Microbes against Plasma Mediated Oxidative Stress

Myoung-Won Chae¹, Ku-Youn Paik², Masur Kai³, and Eun-Ha Choi²

¹Applied Plasma Medicine Center, Korea, ²Kwangwoon Univ., Korea, ³INP Greifswald, Germany

WP-020

Degradation of Carboxymethyl Chitin by Solution Plasma Treatment and Evaluation of Anticancer Activity of the Degraded Products

Kanokwan Trakoolnuch¹, Nagahiro Saito², and Ratana Rujiravanit¹

¹Chulalongkorn Univ., Thailand, ²Nagoya Univ., Japan

WP-021

Preparation and Characterization of Bacterial Cellulose Composites Reinforced with Albumin-Coated Cotton Fabric

Pawitchaya Chomsiri and Ratana Rujiravanit

Chulalongkorn Univ., Thailand

WP-022

Effects of Grounded Electrode on the APPJ Treatment for Improving Water Permeability of a Bone-Regeneration Scaffold

Yuki Hamamoto, Masato Oshiro, Jun-Seok Oh, Kumi Orita, Hiromitsu Toyoada, and Tatsuru Shirafuji

Osaka City Univ., Japan

WP-023

XPS-Depth Analysis of Plasma Polymerized Coatings for Biomedical Applications

Iuliia Onyshchenko, Mahtab Asadian, Ke Vin Chan, Nathalie De Geyter, and Rino Morent

Ghent Univ., Belgium

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WP-024

Effects of Flexible Plasma Conditions on Transdermal Delivery Behaviors into Tissue Model

Yu Ri Lee, Seunghun Lee, and Do-Geun Kim
KIMS, Korea

WP-025

Biological Safety Assessment of Activated Saline Solution Exposed to Atmospheric Flexible Surface Dielectric Barrier Discharges Using Sputtered-Type Flexible Copper Clad Laminates

Sang-You Kim¹, InSun Park¹, Gil-Tae Gang², Ha-Young Jang², Woo-Sung Choi², and Kyu-Sun Chung¹

¹*Hanyang Univ., Korea*, ²*Osong Medical Innovation Foundation, Korea*

WP-026

Study of the Penetration of Active Species from Non-Thermal Atmospheric Pressure Plasma Jet through a Skin Model Using a UV-Vis Spectroscopy Method

Se Hoon Ki, Ku Woun Baik, and Eun Ha Choi
Kwangwoon Univ., Korea

WP-027

Withdrawn

WP-028

Withdrawn

WP-029

A Novel Synthesis of Metal Nanoparticles in Aqueous Solution by Cold Atmospheric Plasma Jet

Nhat Linh Nguyen, Nagendra Kumar Kaushik, and Eun Ha Choi
Kwangwoon Univ., Korea

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WP-030

Study of Transient Spark Discharge in Atmospheric Pressure Ar Plasma

Junsup Lim, Bhagirath Ghimire, and Eun Ha Choi
Kwangwoon Univ., Korea

WP-031

Ultra Sharp Tungsten Tips for Field Emission Electron Beam by Using Etching Solution NaOH and KOH.

Bishwa Chandra Adhikari, Ju Sung Kim, and Eun Ha Choi
Kwangwoon Univ., Korea

WP-032

Time-Dependence Monitoring of Sterilization Effects and RONS Concentrations in Radical-Activated Water

Naoyuki Iwata¹, Jun-Seok Oh², Takayuki Ohta¹, Masaru Hori³, and Masafumi Ito¹
¹*Meijo Univ., Japan*, ²*Osaka City Univ., Japan*, ³*Nagoya Univ., Japan*

WP-033

Investigation of Robust Superhydrophobic Surface Using Atmospheric Pressure Plasma Jet

Md. Mokter Hossain¹, Quang Hung Trinh², Duc Ba Nguyen¹, Sudhakaran M.S.P.¹, and Young Sun Mok¹
¹*Jeju Nat'l Univ., Korea*, ²*Le Quy Don Technical Univ., Vietnam*

WP-034

Highly Stable Robust Superhydrophobic Coating Deposited on Glass Substrate Using Atmospheric Pressure Plasma Jet

Md. Mokter Hossain¹, Quang Hung Trinh², Duc Ba Nguyen¹, Sudhakaran M.S.P.¹, and Young Sun Mok¹
¹*Jeju Nat'l Univ., Korea*, ²*Le Quy Don Technical Univ., Vietnam*

WP-035

Key Chemical Pathways of Hydroxyl Radicals in the Plasma-Liquid System

Joo Young Park, Sanghoo Park, Hyungyu Lee, and Wonho Choe
KAIST, Korea

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WP-036

Radio Frequency Plasma Slit Jet as Novel Atmospheric Pressure Plasma Source

Lenka Zajickova¹, Milos Klima¹, Pavel Fiala², Lukas Dostal², and Petr Jelinek¹

¹Masaryk Univ., Czech, ²Brno Univ. of Tech., Czech

WP-037

Laser Induced Fluorescence System for Measurement of Argon Ion Temperature in an Atmospheric-Pressure Plasma Jet

I.J. Kang, M.-K. Bae, I.S. Park, S.H. Lee, S.J. Jeong, and K.-S. Chung

Hanyang Univ., Korea

WP-038

Intensified Optical Emission and Afterglow in Atmospheric Pressure Argon Plasma Driven by Pulsed Microwave

Woo Jin Nam, Seok Yong Jeong, Jae Koo Lee, and Gunsu Yun

POSTECH, Korea

WP-039

Biocompatibility and Antibacterial Behaviors of TaON(Porous)/TaN/TaN-Ag/Ta Multi-Layered Thin Films

Jang-Hsing Hsieh, S. C. Lin, and C. C. Hsu

Ming Chi Univ. of Tech., Taiwan

WP-040

Angular Dependence of SiO₂ Etch Rates in Hexafluoroisopropanol Plasmas

Jin-Su Park, Jun-Hyun Kim, and Chang-Koo Kim

Ajou Univ., Korea

WP-041

Fabrication and Characterization of Cellulose-Based Hydrophobic Absorbents Derived from Banana Trunks for Separation of Cyclohexane from Cyclohexane/Water Mixture

Sittipong Khongtanachalotom¹, Nagahiro Saito², and Ratana Rujiravanit¹

¹Chulalongkorn Univ., Thailand, ²Nagoya Univ., Japan

WP-042

Etching Characteristics of SiON Thin Films in CF₄+CHF₃+O₂ Inductively Coupled Plasma

Jihun Kim, Junmyung Lee, and Kwang-Ho Kwon

Korea Univ., Korea

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WP-043

A Comparative Study of CF_4 , C_4F_8 and C_7F_{14} Plasma for Dry Etch Processing

Da In Sung, Hyun Woo Tak, Kyung Chae Yang, Dong Woo Kim, and Geun Young Yeom
Sungkyunkwan Univ., Korea

WP-044

Dry Etching of SiO_2 Layers Using Low Global Warming Potentials Gases

Yongjae Kim, Taehwan Cha, Sangin Lee, Yegeun Cho, and Heeyeop Chae
Sungkyunkwan Univ., Korea

WP-045

A Study on the Etching Residues of Silicon Dioxide Sidewalls after Contact-Hole Etching in $\text{C}_4\text{F}_8+\text{CH}_2\text{F}_2+\text{O}_2+\text{Ar}$ Plasma

Changmok Kim, Jaemin Lee, Junmyung Lee, Jihun Kim, and Kwang-Ho Kwon
Korea Univ., Korea

WP-046

SiO_2 Etch Characteristics and Environmental Impact of $\text{Ar}/\text{C}_3\text{F}_6\text{O}$ and $\text{Ar}/\text{C}_4\text{F}_8/\text{O}_2$

Soo Gang Kim, Kyung Che Yang, Da In Sung, Ye Ji Shin, Hyun Woo Tak, Jun Ki Jang, and Geun Young Yeom
Sungkyunkwan Univ., Korea

WP-047

Study on Recovery System for Perfluorocarbon Gases

Junyoung Park, Byoungmoon Oh, Kwangjin Oh, Yoonjong Kim, Youngheum Yeon, and Kyongnam Kim
Daejeon Univ., Korea

WP-048

Study on the Steam Effect as Oxidizing Agent on Decomposition of Fluorinated Compounds Gas Using Microwave Plasma Torch

Ji Hun Kim, Chang Hyun Cho, and Hee Chol Choi
NFRI, Korea

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WP-049

Characterization of SiO₂ Plasma Etching with Different Liquid Fluorocarbon Precursor Using Quadrupole Mass Spectroscopy

Seung-Wan Yoo¹, Chul-Hee Cho¹, Hee-Jung Yeom², Jung-Hyung Kim², and Shin-Jae You¹
¹Chungnam Nat'l Univ., Korea, ²KRISS, Korea

WP-050

Plasma-Enhanced Chamber Cleaning with CF₃I Gas

In-Sung Park, Seon Yong Kim, Taehoon Lee, Jinho Ahn, Jinseong Park, and Tae-Hun Shim
Hanyang Univ., Korea

WP-051

Synthesis and Characterization of Hydrofluoroether as an Environmentally Friendly Replacement of Perfluorocarbon Gases in Etching Process

Sang Goo Lee¹, Jong-Wook Ha¹, In Jun Park¹, Soo-Bok Lee¹, Chang-Goo Kim², and Heeyeop Chae³
¹KRICT, Korea, ²Ajou Univ., Korea, ³Sungkyunkwan Univ., Korea

WP-052

Atmospheric-Pressure Plasma-Assisted Selective Catalyst Reduction of NO_x with Hydrocarbon in Early State

Duc Ba Nguyen and Young Sun Mok
Jeju Nat'l Univ., Korea

WP-053

Atmospheric Pressure Plasma Jet Treatment of Textile for Hydrophobic Property

Heesoo Jung, Myung Kyu Park, Sung Hun Kim, Min Kun Kim, Juno Lee, and Hyunsook Jung
Agency for Defense Development, Korea

WP-054

Withdrawn

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WP-055

Uncertainty and Accuracy Evaluation of Flat-Top Beam Adjusted in-Situ Particle Monitor

Jongho Kim, Jihun Mun, and Sang-Woo Kang
KRISS, Korea

WP-056

Semiconductor Surface Changes after $\text{NF}_3/\text{H}_2\text{O}$ Plasma Cleaning Processing

Seran Park¹, Hoonjung Oh², Gyoodong Kim³, and Dae-Hong Ko¹
¹*Yonsei Univ., Korea*, ²*BIT Micro Fab Research Center, Korea*, ³*Advanced Cleaning Network, Korea*

WP-057

Super Water-Repellent Characteristics for Aluminium Surfaces Coated by Two-Step Chemical Process

Hwa-Min Kim¹, Bonghwan Kim¹, Jaewoong Choi¹, Jiseon Kwon¹, Chang-Hyun Lee¹, Taewoo Kim¹, and Sunyoung Sohn²
¹*Daegu Catholic Univ., Korea*, ²*POSTECH, Korea*

WP-058

Withdrawn

WP-059

The Reproducibility Verification of Edge Bead Removal(EBR) Process for Contamination Control in Lithography

Jaeyoung Park
Sungkyunkwan Univ., Korea

WP-060

Effect of Secondary Electron Emission on Plasma Characteristics in RF Atmosphere Argon Glow Discharges

Yue Liu¹, Yuan-Zhen Wang¹, Tagra Samir¹, and Yi-Nan Wang²
¹*Dalian Univ. of Tech., China*, ²*Shihua Univ., China*

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WP-061

Studies on Neutral Gas Flow and Heat Effects in Argon Inductively Coupled Plasma

Fang-Zong Lu, Wen-Li Cui, and Shu-Xia Zhao
Dalian Univ. of Tech., China

WP-062

Investigation of Micro-Arcing in a Capacitively Coupled Plasma with a 2D Particle-In-Cell Simulation

Chang Ho Kim, Jin Seok Kim, and Hae June Lee
Pusan Nat'l Univ., Korea

WP-063

Validity Analysis of Ion Drift Diffusion Approximation for Fluid Dynamics Simulation Model in CCP Discharge

Wenli Cui and Shuxia Zhao
Dalian Univ. of Tech., China

WP-064

The Pulse Polarity Influence on the Atmospheric Pressure Plasma Jet

Yuanyuan Jiang, Yanhui Wang, and Dezhen Wang
Dalian Univ. of Tech., China

WP-065

Study on Plasma Condition for High Neutralization Efficiency of Negative Ion Beam

JangJae Lee, SiJun Kim, YoungSeok Lee, ChulHee Cho, HeeJung Yeom, and ShinJae You
Chungnam Nat'l Univ., Korea

WP-066

Computational Study on Photochemistry in Plasma-Liquid Systems

HyunGyu Lee, SangHoo Park, JooYoung Park, and Wonho Choe
KAIST, Korea

WP-067

Comparison of Electron and Chemistry Properties between 0-D Global Model and 1-D Fluid Model for Parallel Plate Dielectric Barrier Discharges in Humid Air of Atmospheric Pressure

Changho Yi, Sung-Young Yoon, Sangheum Eom, Seungil Park, Seungmin Ryu, and Seong Bong Kim
NFRI, Korea

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WP-068

Effect of Pulse Parameters on Discharge Characteristics in Pulse-Modulate Radio-Frequency Atmospheric Pressure Discharges with Argon-Oxygen Mixture

Xue-Chun Li, Hui Liu, and You-Nian Wang
Dalian Univ. of Tech., China

WP-069

Analysis of the Effect of Target Erosion Magnetron Sputtering on Deposition Profile Using 2D and 3D Particle-in-Cell Simulation Combined with a Ghost Fluid Method

Sehun Oh, Min Young Hur, and Hae June Lee
Pusan Nat'l Univ., Korea

WP-070

Two-Dimensional Simulation of an Inductively Coupled Plasma Discharge of Ar/O₂ Including Heat Transfer, Gas Flow, and EEDF

Donggil Kim¹, EunHee Choi¹, YeJin Shon¹, Deuk-Chul Kwon², Jea-Hong Jeon¹, and HeeHwan Choe¹
¹*Korea Aerospace Univ., Korea*, ²*NFRI, Korea*

WP-071

A Study of Asymmetric Effect in the 3D ICP Discharge Simulation Considering EEDF, Flow and Heat Transfer

EunHee Choi, YeJin Shon, Dong-Gil Kim, Deuk-Chul Kwon, Jae-Hong Jeon, and HeeHwan Choe
¹*Korea Aerospace Univ., Korea*, ²*NFRI, Korea*

WP-072

Numerical Analysis of a Low Power Non-Transferred Arc Plasma Reactor for Methane Conversion

Byeong-Il Min, Tae-Hee Kim, and Sooseok Choi
Jeju Nat'l Univ., Korea

WP-073

Numerical Analysis of a Thermal Plasma Scrubber for CF₄ Decomposition

Juyoung Ko, Sooseok Choi, and Tae Hee Kim
Jeju Nat'l Univ., Korea

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WP-074

Pulse Parameter Dependence of Reactive Species Generation in Global Simulation of Atmospheric Argon/Oxygen Plasma.

Seokyong Jeong, Woojin Nam, Gunsu Yun, and Jaekoo Lee
POSTECH, Korea

WP-075

Effects of Temperature Gradient by Chemical Reactions in Ar/H₂ Inductively Coupled Plasma Using Fluid Simulation

Kwon-Sang Seo, Dong-Hyun Kim, and Ho-Jun Lee
Pusan Nat'l Univ., Korea

WP-076

Three-Dimensional Computation of Thermal Plasma including the Influence of Metal Electrodes by Arc Discharge

Lee Won-Ho and Lee Jong-Chul
Gangneung-Wonju Nat'l Univ., Korea

WP-077

Modeling of Optical Emission Spectroscopy for Low Temperature Argon Plasma

Myeong-Geon Lee¹, Namjae Bae¹, Jiwon Kwon¹, Gon-Ho Kim¹, and Hyun-Kyung Jung²
¹*Seoul Nat'l Univ., Korea*, ²*GIST, Korea*

WP-078

Numerical simulation of Temperature and Chemical Species Distributions in HFCVD for Diamond Film

Yong Hee Lee¹, Chang Won Song², Tae-Hee Kim¹, Kwang Ho Kim², and Sooseok Choi¹
¹*Jeju Nat'l Univ., Korea*, ²*Pusan Nat'l Univ., Korea*

WP-079

Polarity Control of 2D TMDC via Plasma Doping

Sungwon Lee, Inyong Moon, Myeongjin Lee, and Won Jong Yoo
Sungkyunkwan Univ., Korea

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WP-080

Characteristics of Tungsten Disulfide Thin Films by RF Sputtering on Soda-Lime Glass Substrate and Subsequent Rapid Thermal Annealing

In Hwan Kim, Hanyeob Nam, Sang Jik Kwon, and Eou-Sik Cho
Gachon Univ., Korea

WP-081

N-Type Doping of Tungsten Diselenide by Oxygen Plasma Treatment

Hyeongjun Kim and Jin-Hong Park
Sungkyunkwan Univ., Korea

WP-082

Tungsten Diselenide(WSe₂) Biosensor Field Effect Transistor(BioFET) with a High Sensitivity.

Ji Wan Koo and Jin Hong Park
Sungkyunkwan Univ., Korea

WP-083

Stability of High-Performance Multilayer MoS₂ Field-Effect Transistor Improved by O₂ Plasma Pretreatment and Al₂O₃ Encapsulation

Na Liu, Soo Ho Choo, Jeong Hun Kim, Naqi Siddiqi, Quang Trung Nguyen, and Sunkook Kim
Sungkyunkwan Univ., Korea

WP-084

Electrical Performance of Al₂O₃-Encapsulated Multilayer MoS₂ Thin-Film Transistor with Different Temperature Environments

Seok Hwan Jeong, Na Liu, and Heekyeong Park, Sunkook Kim
Sungkyunkwan Univ., Korea

WP-085

Type-Converted N-Doping of Tungsten Diselenide through Thermal and Optical Activation

Hyeongjun Kim and Jin-Hong Park
Sungkyunkwan Univ., Korea

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WP-086

A Study of High Voltage Oxide Breakdown Voltage Drop Induced by Etch Damage in NAND Flash Memory

Sungjin Jang¹ and Byoung-Deog Choi²

¹Samsung Electronics Co., Ltd., Korea, ²Sungkyunkwan Univ., Korea

WP-087

Flexible Thin Film MoS₂ Transistor Embedded on Polyimide Substrate Using 2D Silver Nanowire Random Network

Uihyun Jung¹, Muhammad Naqi¹, Hyeokju Chae¹, Srinivas Gandla¹, Seonju Kang¹, Hyuk-Jun Kwon², Costas P. Grigoropoulos³, and Sunkook Kim¹

¹Sungkyunkwan Univ., Korea, ²Daegu Gyeongbuk Inst. of Science and Tech., Korea, ³Univ. of California, U.S.A.

WP-088

Poly-4-Vinylphenol and Poly(melamine-co-formaldehyde) - Based Atomic Switching Device

Hyeongjun Kim and Jin-Hong Park

Sungkyunkwan Univ., Korea

WP-089

A Novel Vertical-Cell Transistor DRAM to Suppress the Floating Body Effect by Buriedbody Diode Structure (BDS)

Young Seung Cho¹, Young Hwan Hyeon², Hyun Jin Ji², Yoo Sang Hwang¹, and Byoung Deog Choi²

¹Samsung Electronics Co., Ltd., Korea, ²Sungkyunkwan Univ., Korea

WP-090

Noble Au-Functionalized WS₂ Nanosheets Gas Sensors

Jae-Hun Kim, Jae-Hyoung Lee, Jin-Young Kim, and Sang Sub Kim

Inha Univ., Korea

WP-091

P-Type Molybdenum Disulfide by Fermi Level De-Pinning Effect of Edge-Contact

Kwang Young Lee, Changsik Kim, and Won Jong Yoo

Sungkyunkwan Univ., Korea

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WP-092

Surface Characteristics of Self-Assembled Monolayers Forming of Carbon and Fluorine in Alkyl Chain Length

Tae Wan Kim¹, Won Jae Lee², and Sang-Geon Park³

¹Hongik Univ., Korea, ²Gachon Univ., Korea, ³Silla Univ., Korea

WP-093

A Mobile Phone Imaging-Based Fluorescent Mercury Sensor with Minimal User Intervention and High Sensitivity

Won-Il Lee and Nae-Eung Lee

Sungkyunkwan Univ., Korea

WP-094

Improved Gas Sensing Performance of 1-D Nanowire with Branch and Metal Nanoparticle

Hyoun Woo Kim, Myung Sik Choi, Jae Hoon Bang, Wansik Oum, and Han Gil Na

Hanyang Univ., Korea

WP-095

Flexible Piezocapacitive Pressure Sensors Fabricated by All-Solution-Process for Human-Machine Interfaces

Byeong-Cheol Kang¹, Jae-Ho Han², and Tae-Jun Ha¹

¹Kwangwoon Univ., Korea, ²Korea Univ., Korea

WP-096

Stretchable Touch/Force Sensor as a Multi-Functional Input Device for Wearable Electronics

Byeong-Ung Hwang, Tran Quang Trung, Young-In Choi, Ju Hyun Kim, and Nae-Eung Lee

Sungkyunkwan Univ., Korea

WP-097

Stretchable Transparent Network PU/rGO/AgNPs Electrode via Electrospinning

Young-in Choi, Byeoung-ung Hwang, and Nae-eung Lee

Sungkyunkwan Univ., Korea

WP-098

Design and Fabrication of Silicon Photonics Grating Couplers for Spatially Resolved Plasma Uniformity Monitoring Sensor

Minhee Lee and Sang Jeon Hong

Myongji Univ., Korea

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WP-099

CO Sensing Properties of Au-Functionalized ZnO Nanowires with Self-Heating Effect

Jae-Hyoung Lee, Jae-Hun Kim, Jin-Young Kim, and Sang Sub Kim
Inha Univ., Korea

WP-100

Textile-Based Passive Microfluidic Channel for Handling of Biofluids

Tan Toi Phan, Adeela Hanif, and Nae-Eung Lee
Sungkyunkwan Univ., Korea

WP-101

Development of a Parallel Multi-Physics Modeling Platform: Rigorous Advanced Plasma Integration Testbed (RAPIT)

Y.-M. Lee¹, M.-H. Hu¹, C.-C. Su², K.-L. Chen², M.-F. Tzeng², and J.-S. Wu²
¹*Plasma Taiwan Innovation Corp., Taiwan*, ²*Nat'l Chiao Tung Univ., Taiwan*