Session Title:	[MA1] Nanoscale Thin Film Deposition I
Session Date:	November 14 (Mon.), 2022
Session Time:	13:00-14:30
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Bonggeun Shong (Hongik Univ., Korea)

[MA1-1] [Invited] 13:00-13:30

Thin Film Process Engineering for Continued Memory Device Scaling

Dongwon Choi (SK hynix, Korea)

[MA1-2] 13:30-13:50

Atomic Layer Deposition of Pt Thin Films Using Dimethyl (N,N-Dimethyl-3-Butene-1-Amine-N) Precursor

Ji-Hu Baek and Se-Hun Kwon (Pusan Nat'l Univ., Korea)

[MA1-3] 13:50-14:10

Atomic Layer Deposition of Ru for Emerging Ru Interconnects

Yohei Kotsugi (TANAKA Precious Metals, Japan), Youn-Hye Kim, Taehoon Cheon (Yeungnam Univ., Korea), and Soo-Hyun Kim (Yeungnam Univ., Korea)

[MA1-4] 14:10-14:30

Low Temperature Thin Film Deposition Using Single-Wafer Thermal RPCVD with Extreme Heat Control

Dooyeol Ryu, Wooduck Jung, Donggyu Yim, Seungwoo Shin, and Dooyeol Ryu (Eugene Tech. Co., Ltd., Korea)

Session Title:	[MB1] Advanced CMP Process & Scratchless Wet Ceria
Session Date:	November 14 (Mon.), 2022
Session Time:	13:00-14:40
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Jeagun Park (Hanyang Univ., Korea)

[MB1-1] [Invited] 13:00-13:30

Trends of Wet Materials for Cleaning/CMP Process and the Future

Hyosan Lee (Samsung Electronics Co., Ltd., Korea)

[MB1-2] [Invited] 13:30-14:00

Polishing Selectivity Control for Scratch Free Nanoceria Slurry

Tomohiro Iwano, Toshiaki Akutsu, Keita Arakawa, Yosuke Hoshi, and Satoyuki Nomura (Showa Denko Materials Co., Ltd., Japan)

[MB1-3] 14:00-14:20

Ultra Fine Ceria Slurry for Scratch Free CMP with High Selectivity in SiO_2/Poly-Si/Si_3N_4

Young Soo Park, Jeong Ho Lee, and Seok Joo Kim (Soulbrain Co., Ltd., Korea)

[MB1-4] 14:20-14:40

Super Fine Cerium Hydroxide Abrasives for SiO_2-Film Chemical-Mechanical Planarization Performing Scratch-Free

Pil-Su Kim, Young-Hye Son, Gi-Ppeum Jeong, Min-Uk Jeon, Seong-Wan Hong, Hyeong-Ju Jin, Man-Hyup Han, Eun-Seong Kim, Jae-Young Bae, Sung-In Kim, Jin-Hyung Park, and Jea-Gun Park (Hanyang Univ., Korea)

Session Title:	[MC1] High Aspect Feature Etching
Session Date:	November 14 (Mon.), 2022
Session Time:	13:00-14:30
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Heeyeop Chae (Sungkyunkwan Univ., Korea)

[MC1-1] [Invited] 13:00-13:30

Nanoscale Dry Processes for Controlling Atomic Layer Reactions and Fabrication of High-Aspect-Ratio Features

Kenji Ishikawa, T-T-Nga Nguye, Takayoshi Tsutsumi, S-N Hsaio, Makoto Sekine, and Masaru Hori (Nagoya Univ., Japan)

[MC1-2] [Invited] 13:30-14:00

The Use of Fluorinated Ethers for Plasma Etching of SiO_2

Sanghyun You and Chang-Koo Kim (Ajou Univ., Korea)

[MC1-3] [Invited] 14:00-14:30

Independent Effect of Each Plasma Parameter on High Aspect Ratio (HAR) Oxide Etching Process at Low Frequency Bias Power Using ICP System

Hye Jun Son, Gilyoung Choi, and Kwang-Ho Kwon (Korea Univ., Korea)

Session Title:	[MD1] EUV Imaging
Session Date:	November 14 (Mon.), 2022
Session Time:	13:00-14:40
Session Room:	Room D (Sidney Room, 2F)
Session Chair:	Prof. Jinho Ahn (Hanyang Univ., Korea)

[MD1-1] [Invited] 13:00-13:30

Challenges and Chances on EUV Lithography

Chan Hwang and Seongbo Shim (Samsung Electronics Co., Ltd., Korea)

[MD1-2] [Invited] 13:30-14:00

Extension of EUV Lithography Technology for Next Patterning Solutions

Jung Sik Kim, Jinhyung Kim, Bumki Shin, Junggun Heo, and Sarohan Park (SK hynix, Korea)

[MD1-3] 14:00-14:20

Overlay and CD Uniformity Variation due to Wafer Thermal Deformation Caused by EUV Exposure

Hee-Chang Ko, Won-Young Choi, and Hye-Keun Oh (Hanyang Univ., Korea)

[MD1-4] 14:20-14:40

Effect of Pellicle Wrinkles on EUV Reflectivity and Local Critical Dimension

Seung Chan Moon, Dong Gi Lee, Jin Hyuk Choi, and Jinho Ahn (Hanyang Univ., Korea)

Session Title:	[ME1] 3D Package I
Session Date:	November 14 (Mon.), 2022
Session Time:	13:00-14:25
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Prof. Changhwan Choi (Hanyang Univ., Korea)

[ME1-1] 13:00-13:20

2.5D/ 3D Advanced Interconnection Technology Development and Challenges

Lam Tak Wing, Percy (ASMPT Hong Kong Limited, Hong Kong)

[ME1-2] 13:20-13:40

Advanced Packaging Trends and Technologies of Heterogeneous Integration

Gu-Sung Kim (Kangnam Univ., Korea)

[ME1-3] [Plenary] 13:40-14:25

Chips, Dies, Chiplets and Dielets and Heterogeneous Integration (of course!)

Subramania S. Iyer (UCLA, USA)

Session Title:	[MF1] Smart and Intelligent MI
Session Date:	November 14 (Mon.), 2022
Session Time:	13:00-14:35
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Tae-Hun Shim (Hanyang Univ., Korea)

[MF1-1] [Plenary] 13:00-13:45

Metrology and Inspection Challenges with EUV Patterning at Advanced Nodes

Sandip Halder (IMEC, Belgium)

[MF1-2] [Invited] 13:45-14:15

MI: The Key of Semiconductor Processes

Byoungho Lee (Hitachi High-Tech Corp., Japan)

[MF1-3] 14:15-14:35

The Semiconductor Metrology of Mechanical, Electrical and Chemical Analysis by AFM

Sang-Joon Cho, Seongoh Kim, Ahjin Cho, and ByungWoon Ahn (Park Systems Corp., Korea)

Session Title:	[MA2] Nanoscale Thin Film Deposition II
Session Date:	November 14 (Mon.), 2022
Session Time:	15:00-16:45
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Hyeongtag Jeon (Hanyang Univ., Korea)

[MA2-1] [Plenary] 15:00-15:45

Controlling Atomic Layer Deposition for Advanced Semiconductor Manufacturing

Stacey F. Bent (Stanford Univ., USA)

[MA2-2] 15:45-16:05

Seam-less Deposition of TiO_2 Using Gradient Selective Deposition

Chi Thang Nguyen and Han-Bo-Ram Lee (Incheon Nat'l Univ., Korea)

[MA2-3] 16:05-16:25

Analysis on an Alternative Pathway for Low-Temperature Atomic Layer Deposition of Nitrides

Jinwoo Lee, Soo Hyun Lee, Tran Thi Ngoc Van, and Bonggeun Shong (Hongik Univ., Korea)

[MA2-4] 16:25-16:45

There Is More Room for Plasma in PE-CVD/ALD

Hyungjoo Shin (Wonik IPS Co., Ltd., Korea)

Session Title:	[MB2] Novel CMP Slurries
Session Date:	November 14 (Mon.), 2022
Session Time:	15:00-16:50
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Dr. Youngsoo Park (Soulbrain, Korea)

[MB2-1] [Invited] 15:00-15:20

Oxide Polishing Mechanism of Nanoceria

Satoyuki Nomura (Showa Denko Materials Co., Ltd., Japan)

[MB2-2] [Invited] 15:20-15:50

Surface Transformation of Spin-On-Carbon Film via Forming Carbon Iron Complex for Remarkably Enhanced Polishing Rate

Jea-Gun Park, Jun-Myeong Lee, Seong-In Kim, Jong-Chan Lee (Hanyang Univ., Korea), and Jin-Hyung Park (UB Materials Inc., Korea)

[MB2-3] 15:50-16:10

Highly Dispersed Fe-Substituted Colloidal Silica Nanoparticles in Acidic pH Region for Tungsten Chemical Mechanical Planarization

Ganggyu Lee, Sungmin Kim, Hojin Jeong, Donghwan Kim, Myungju Woo, Yeram Lee, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

[MB2-4] 16:10-16:30

Strategic Approaches to Reduce Defects of CMP Processes

Jae-Dong Lee (KCTech, Korea)

[MB2-5] 16:30-16:50

Scavenger with Protonated Phosphite Ion for Incredible Nanoscale ZrO_2-Abrasive Dispersant Stability Enhancement and Related Tungsten-Film Surface Chemical-Mechanical Planarization

Seong-In Kim, Seon-Hwa Kang, Jin-Woong Cho, Ho-Jun Ahn, and Jea-Gun Park (Hanyang Univ., Korea)

Session Title:	[MC2] Etch Technology Trend
Session Date:	November 14 (Mon.), 2022
Session Time:	15:00-16:45
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Geun Young Yeom (Sungkyunkwan Univ., Korea)

[MC2-1] [Invited] 15:00-15:30

Atomic Layer Modification/Etching of 2-Dimensional MoS_2 Semiconductor Material

Ji Eun Kang and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[MC2-2] [Invited] 15:30-16:00

The Story of Plasma Patterning

Kyoungho Jang, Chungil Hyun, Hyungi Kim, Sangwoo Lee, Youngseop Rah, Changgu Jung, Changwon Choi, Seongtae Oh, Youngwoo Park, and Jaihyung Won (Tokyo Electron Korea Ltd., Korea)

[MC2-3] [Plenary] 16:00-16:45

Dry Etch Technologies for Next Generation Small Pitch Patterning at EUV Lithography Era

Jong Chul Park (Samsung Electronics Co., Ltd., Korea)

Session Title:	[MD2] EUV Resist I
Session Date:	November 14 (Mon.), 2022
Session Time:	15:00-17:00
Session Room:	Room D (Sidney Room, 2F)
Session Chair:	Prof. Jin-Kyun Lee (Inha Univ., Korea)

[MD2-1] [Invited] 15:00-15:30

Defect-Free EUV Patterning Using a Dry Deposited and Dry Developed EUV Photoresist System

Rich Wise (Lam Research, USA)

[MD2-2] [Invited] 15:30-16:00

Controlling EUV Resist Stochastics

Greg Denbeaux (SUNY Polytechnic Inst., USA)

[MD2-3] 16:00-16:20

Non-Chemically Amplified Extreme UV Resists based on the Unique Decomposition Behavior of Fluorinated Materials

Yejin Ku (Inha Univ., Korea), Sangsul Lee (POSTECH, Korea), Byung Jun Jung (Univ. of Seoul, Korea), and Jin-Kyun Lee (Inha Univ., Korea)

[MD2-4] 16:20-16:40

EUV CAR Resist Sensitivity Improvement

Jeongsik Kim, Jaehyun Kim, Myounghyun Hur, Minja Yoo, and Hyungkun Lee (Dongjin Semichem Co., Ltd., Korea)

[MD2-5] 16:40-17:00

EUV Photoresist for Ultra-Fine Nanopatterns

Seong-Ji Ha and Ji-Hyun Jang (UNIST, Korea)

Session Title:	[ME2] Packaging Material/Analysis
Session Date:	November 14 (Mon.), 2022
Session Time:	15:00-17:00
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Prof. Hyuk Jun Kwon (DGIST, Korea)

[ME2-1] [Invited] 15:00-15:30

Heterogeneous Integration in Memory Application and the Contribution of Electronic Packaging Technology

Jong Hoon Kim, Ki-Ill Moon, and Kangwook Lee (SK hynix, Korea)

[ME2-2] [Invited] 15:30-16:00

Tiling Bonding Process, Enabling Technology for Chiplet Integration

Kwang-Seong Choi, Jiho Joo, Yong-Sung Eom, Gwang-Mun Choi, Ho-Gyeong Yun, Seok Hwan Moon, Chanmi Lee, Ki-Seok Jang, Jin-Hyuk Oh, In-seok Kye, and Yoon-Hwan Moon (ETRI, Korea)

[ME2-3] 16:00-16:20

Adhesive-Free Bonding of Polymer Substrates for Flexible Devices

Tae-Ik Lee (KITECH, Korea)

[ME2-4] 16:20-16:40

Prediction of Solder Fatigue Life of Package by Automated Parametric Modeling Simulation Technique

Hak-Sung Kim (Hanyang Univ., Korea)

[ME2-5] 16:40-17:00

Effects of Dielectric Process Condition on the Interfacial Characteristics of Polyimide Capping Layer/Cu RDL Structure for Fan-out Package

Doheon Kim, Gahui Kim, and Young-Bae Park (Andong Nat'l Univ., Korea)

Session Title:	[MF2] Analysis I
Session Date:	November 14 (Mon.), 2022
Session Time:	15:00-17:10
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Hyungtak Seo (Ajou Univ., Korea)

[MF2-1] [Invited] 15:00-15:30

Methodologies in Determining Physical Characterization of Semiconductor Process Using In-line Analysis Tools

Jae-Hyun Kim (SK hynix, Korea)

[MF2-2] [Invited] 15:30-16:00

Precise Spectroscopic Analysis on Ultrathin Oxide Layer and Interfaces for Advanced ICs and Emerging Devices

Hyungtak Seo, Yeongwhan Ahn, Jiwoong Kim, Seokwon Lim, Yerin Jeon, and Jisoo Kim (Ajou Univ., Korea)

[MF2-3] [Invited] 16:00-16:30

How to Implement Thin Film Device Characterization to Accelerate Manufacturing R&D – Much Faster, Chipper but More Accurate

Joon-Young (Albert) Choi (SurplusGLOBAL Inc., Korea)

[MF2-4] 16:30-16:50

Non-Destructive Local Defect Monitoring of Semiconductor Devices by Microsphere-Assisted Small Spot Spectroscopic Reflectometry

Kwangrak Kim, Soonyang Kwon, Jangryul Park, Youngsun Choi, Jiwoong Kim, Myungjun Lee, and Changhun Choi (Samsung Electronics Co., Ltd., Korea)

[MF2-5] 16:50-17:10

Real-Time Measurement of Contaminant Particles in Semiconductor Process

Jihun Mun and Sang-Woo Kang (KRISS, Korea)

Session Title:	[TA1] Nanoscale Thin Film Deposition Ⅲ
Session Date:	November 15 (Tue.), 2022
Session Time:	09:30-11:00
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Han-Bo-Ram Lee (Incheon Nat'l Univ., Korea)

[TA1-1] 09:30-09:50

Crystallinity and Interfacial Layer Modulation by Utilizing the Atomic Layer Deposition Process for the Next-Generation DRAM Capacitor Applications

Woojin Jeon (Kyung Hee Univ., Korea)

[TA1-2] 09:50-10:10

Atomic Layer Deposition of SrO for High-k Dielectric Thin Films

Woongkyu Lee (Soongsil Univ., Korea)

[TA1-3] 10:10-10:30

Physical Scaling-Down of Hafnia-Based Ferroelectric Thin Films

Kun Yang, Se Hyun Kim, Ju Yong Park, and Min Hyuk Park (Seoul Nat'l Univ., Korea)

[TA1-4] [Invited] 10:30-11:00

Optimization of Semiconductor Device Characteristics Using Nano-Scale Thin Film Deposition

HanJin Lim, Jae Hyoung Choi, Gihee Cho, Jaewan Chang, Jong-Min Park, Young Geun Park, Hyung-Suk Jung, Bongjin Kuh, and Jongmyeong Lee (Samsung Electronics Co., Ltd., Korea)

Session Title:	[TB1] Advanced CMP Process & CMP Slurry
Session Date:	November 15 (Tue.), 2022
Session Time:	09:30-11:00
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Sangwoo Lim (Yonsei Univ., Korea)

[TB1-1] 09:30-09:50

Effect of Controlling Slurry Temperature for Chemical Mechanical Planarization

Wenxing xue, Sanghuck Jeon, and Taesung Kim (Sungkyunkwan Univ., Korea)

[TB1-2] 09:50-10:10

Dishing-Free Cu-Film Chemical-Mechanical-Planarization Slurry via Fenton Reaction between Ferrous Catalyst and Hydrogen Peroxide and Accelerating Polishing Rate Using Zwitterion Scavenger

Jae-Young Bae, Sang-Su Yun, Young-Hye Son, Gi-Ppeum Jeong, Je-Hwan Lee, Jong-Han Jeong, Sung-In Kim (Hanyang Univ., Korea), Jin-Hyung Park (UB Materials Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

[TB1-3] 10:10-10:30

Research Trends for Sustainable Chemical Mechanical Polishing

Hyunseop Lee (Dong-A Univ., Korea), Hyoungjae Kim (KITECH, Korea), and Haedo Jeong (Pusan Nat'l Univ., Korea)

[TB1-4] [Invited] 10:30-11:00

Challenges in Chemical Mechanical Planarization for Advanced Memory Devices

Hyo-Chol Koo, Kwoonhwi Seo, Hyun Min Lee, and Byoungki Lee (SK hynix, Korea)

Session Title:	[TC1] Plasma Etch Measurements & Diagnostics
Session Date:	November 15 (Tue.), 2022
Session Time:	09:30-10:40
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Jin Wook Jeong (Hanyang Univ., Korea)

[TC1-1] [Invited] 09:30-10:00

Why you should use Hairpin-Probe and Not Langmuir-Probe for Negative-Ion Density via Laser Photo-Detachment

Albert R. Ellingboe, Nishant Sirse (Dublin City Univ., Ireland), and Nourredine Oudine (Plasmionique, Canada)

[TC1-2] 10:00-10:20

Development of In-situ Non-Invasive Sensor for Plasma Uniformity Monitoring

Sijun Kim, Minsu Choi (Chungnam Nat'l Univ., Korea), Sangho Lee (KIMM, Korea), Youngseok Lee, Chulhee Cho, Inho Seong, Wonnyoung Jeong, Yebin You (Chungnam Nat'l Univ., Korea), Jangjae Lee (Samsung Electronics Co., Ltd., Korea), Daewoong Kim (KIMM, Korea)

[TC1-3] 10:20-10:40

Plasma Potential Measurement Method of the Floated Emissive Probe

Chulhee Cho, Sijun Kim, Youngseok Lee, Inho Seong, Wonnyoung Jeong, Yebin You, Minsu Choi, and Shinjae You (Chungnam Nat'l Univ., Korea)

Session Title:	[TD1] EUV Resist II and Alternative Lithography
Session Date:	November 15 (Tue.), 2022
Session Time:	09:30-10:50
Session Room:	Room D (Sidney Room, 2F)
Session Chair:	Prof. Seokwoo Jeon (KAIST, Korea)

[TD1-1] 09:30-09:50

Underlayer Materials for Challenges of Advanced Patterning Process

Jae Hwan Sim, Jung-June Lee, Soojung Leem, Jae Yun Ahn, Joo Sung Lee, Min Young Jeong, and Youngeun Bae (DuPont Electronics & Industrial, Korea)

[TD1-2] 09:50-10:10

Design of Novel Tin Oxo Clusters for EUV Photoresist

Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[TD1-3] 10:10-10:30

Nanoimprinted Meta-Surface (Meta-Lens)

Heon Lee (Korea Univ., Korea)

[TD1-4] 10:30-10:50

Photolithographic Realization of Target Nanostructures in 3D Space for Semiconducting Applications via Inverse Design of Phase Modulation

Seokwoo Jeon (KAIST, Korea)

Session Title:	[TE1] Equipment, Process, Metrology
Session Date:	November 15 (Tue.), 2022
Session Time:	09:30-10:50
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Prof. Hak Sung Kim (Hanyang Univ., Korea)

[TE1-1] 09:30-09:50

EBSD Measurement and Calculation for Microstructure Formation of Metal Electrodeposits by Organic Additives

Hyo-Jong Lee, Han-Kyun Shin, Sang-Hyeok Kim, and Hyun Park (Dong-A Univ., Korea)

[TE1-2] 09:50-10:10

Trends of Low-Temperature Bonding Technologies Using Gallium and Gallium Alloys

Yoonchul Sohn (Chosun Univ., Korea)

[TE1-3] 10:10-10:30

Mechanical Evaluation of Heterogeneous Interfaces in Electronic Package

Jae Yong Song (POSTECH, Korea)

[TE1-4] 10:30-10:50

Novel Electrodeposition for Advanced Semiconductor Package

Jinhyun Lee, Haneul Han, Sanhwa Yoon, and Bongyoung Yoo (Hanyang Univ., Korea)

Session Title:	[TF1] Analysis II
Session Date:	November 15 (Tue.), 2022
Session Time:	09:30-10:50
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Jun Ho Lee (Kongju Nat'l Univ., Korea)

[TF1-1] [Invited] 09:30-10:00

SEM Technology for 3D Measurement of High Aspect Ratio Structure

Younghoon Sohn and Jaehyung Ahn (Samsung Electronics Co., Ltd., Korea)

[TF1-2] 10:00-10:20

Atom Probe Tomography for Characterization of Semiconductor Processing

A. D. Giddings (AMETEK Korea Co., Ltd., Korea)

[TF1-3] 10:10-10:30

Development of a Low Energy Scanning Electron Microscope Using a Monochromator with Cylindrical Lenses for Nano Imaging and Analysis

Takashi Ogawa (KRISS, Korea), Yu Yamazawa, Tsutomu Saito, Junichi Katane (Hitachi High-Tech Corp., Japan), In-Yong Park (KRISS, Korea), and Toshihide Agemura (Hitachi High-Tech Corp., Japan)

[TF1-4] 10:30-10:50

Through-Focus Optical Scanning Microscopy for Defect Detection and Classification Below Optical Resolution

Jun Ho Lee, Ji Yong Joo, Jung Bin Lee, Ji Won Park (Kongju Nat'l Univ., Korea), Oh-Hyung Kwon (NEXTIN Inc., Korea), and Junhee Jeong (NEXTIN Inc., Korea)

Session Title:	[TA2] Nanoscale Thin Film Deposition Ⅳ
Session Date:	November 15 (Tue.), 2022
Session Time:	11:20-12:20
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Woongkyu Lee (Soongsil Univ., Korea)

[TA2-1] 11:20-11:40

Conformal Crystalline Ge-Sb-Te Thin Films for Phase Change Memory Applications

Yewon Kim, Okhyeon Kim (Sejong Univ., Korea), Chang Yup Park, Dong Geon Koo, Dong-Ho Ahn, Bong Jin Kuh (Samsung Electronics Co., Ltd., Korea), and Won-Jun Lee (Sejong Univ., Korea)

[TA2-2] 11:40-12:00

Insight into Atomic Layer Deposition and Chemical Vapor Deposition for Future Device Explorer

Honggun Kim, Chungil Hyun, Hyungi Kim, Sangwoo Lee, Youngseop Rah, Changgu Jung, Kyoungho Jang, Changwon Choi, Seongtae Oh, Youngwoo Park, and Jaihyung Won (Tokyo Electron Korea Ltd., Korea)

[TA2-3] 12:00-12:20

Change of RPALD Titanium Oxide Film Properties by Applying Positive DC-Bias

Junyoung An, Suhyeon Park, Heejun Yoon, Seokhwi Song (Hanyang Univ., Korea), Wonbong Cho, Pashupati Adhikar (Univ. of North Texas, USA), and Hyeongtag Jeon (Hanyang Univ., Korea)

Session Title:	[TB2] Advanced CMP Process I
Session Date:	November 15 (Tue.), 2022
Session Time:	11:20-12:25
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Jingoo Park (Hanyang Univ., Korea)

[TB2-1] [Plenary] 11:20-12:05

Scaling Down and Stacking Up: How the Trends in Semiconductors are affecting Chemical-Mechanical Planarization (CMP)

Wei-Tsu Tseng (IBM Research, USA)

[TB2-2] 12:05-12:25

Advances in CMP Conditioning Disk Technology

Yongsik Moon, Kyoung-Kuk Kwack, Joohan Lee, Jongjae Lee, Youngtae Jeon, and Juhee Lee (Ehwa Diamond Co., Ltd., Korea)

Session Title:	[TC2] Plasma Etch Measurements & Diagnostics II
Session Date:	November 15 (Tue.), 2022
Session Time:	11:20-12:40
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Bert Ellingboe (Dublin City Univ., Ireland)

[TC2-1] [Invited] 11:20-11:50

Data-Informed Advanced Plasma Equipment/Process Control Technologies for Etch Process

Yeong-Geun Yook, Jong-Sik Kim, Dae-Chul Kim, Yong-Hyun Kim, Young-Woo Kim, and Jung-Sik Yoon (KFE, Korea)

[TC2-2] [Invited] 11:50-12:20

Plasma Diagnostic-Based Semiconductor Process Simulation

Jae-Hyeong Park (Jeonbuk Nat'l Univ., Korea), Won-Seok Chang (KFE, Korea), Hae-Sung You (Jeonbuk Nat'l Univ., Korea), Deuk-Chul Kwon, JungSik Yoon (KFE, Korea), and Yeon-Ho Im (Jeonbuk Nat'l Univ., Korea)

[TC2-3] 12:20-12:40

A Study on Plasma Potential and Ion Energy Control Method Using Resonant Passive Antenna

Minsu Choi, Sijun Kim, Inho Seong, Chulhee Cho, Youngseok Lee, Wonnyoung Jeong, Yebin You, Byeongyeop Choi, and Shinjae You (Chungnam Nat'l Univ., Korea)

Session Title:	[TD2] EUV Mask, Pellicle, Inspection I
Session Date:	November 15 (Tue.), 2022
Session Time:	11:20-12:40
Session Room:	Room D (Sidney Room, 2F)
Session Chair:	Prof. Sangsul Lee (POSTECH, Korea)

[TD2-1] [Invited] 11:20-11:50

Lensless EUV metrology for advanced lithography

Yasin Ekinci (Paul Scherrer Inst., Switzerland)

[TD2-2] [Invited] 11:50-12:20

EUV Sources and Their Applications

Dong Gun Lee (ESOL Inc., Korea)

[TD2-3] 12:20-12:40

Guidance and Required Capability for EUV Pellicle Development and Production

Jae Hyuck Choi (FST, Korea)

Session Title:	[TE2] 3D Package II
Session Date:	November 15 (Tue.), 2022
Session Time:	11:20-12:20
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Prof. Changhwan Choi (Hanyang Univ., Korea)

[TE2-1] [Invited] 11:20-11:50

Heterogeneous 3D Integration Technology for Future Information Systems

Mitsumasa Koyanagi (Tohoku Univ., Japan)

[TE2-2] [Invited] 11:50-12:20

3D Package Technology, "The New Boundary of Si and Package Technology"

Dae-Woo Kim (Samsung Electronics Co., Ltd., Korea)

Session Title:	[TF2] Analysis Ⅲ
Session Date:	November 15 (Tue.), 2022
Session Time:	11:20-12:20
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Tae-Hun Shim (Hanyang Univ., Korea)

[TF2-1] 11:20-11:40

Intraband Spin-Dependent Recombination of Bound Holes at Si Surface: An STM/S Study

Daejin Eom and Ja-Yong Koo (KRISS, Korea)

[TF2-2] 11:40-12:00

Real-Time Analysis of Trace Level CO Using Comb Locked Cavity Ringdown Spectroscopy

Yera Kim, Nohsoo Han, Dohyun Kwon, Tariq Khwaja, and Jeong Sik Lim (KRISS, Korea)

[TF2-3] 12:00-12:20

Characterization of Ferroelectric HZO Film on MoS_2

Mirine Leem, Deokjoon Eom, Heesoo Lee, Kwangwuk Park, and Hyoungsub Kim (Sungkyunkwan Univ., Korea)

Session Title:	[TA3] Nanoscale Thin Film Deposition V
Session Date:	November 15 (Tue.), 2022
Session Time:	14:30-16:30
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Woojin Jeon (Kyung Hee Univ., Korea)

[TA3-1] [Invited] 14:30-15:00

New ALD Chemistry for Metals and Area Selective Deposition

Markku Leskelä, Timo Hatanpää, Chao Zhang, and Mikko Ritala (Univ. of Helsinki, Finland)

[TA3-2] [Invited] 15:00-15:30

Overview of ALD Precursors for Semiconductor Manufacturing

Wonyong Koh (UP Chemical Co., Ltd., Korea)

[TA3-3] 15:30-15:50

Development of New Metal Precursors for ALD

Ga Yeon Lee, Chanwoo Park, Heenang Choi, Sung Kwang Lee, Ji Yeon Ryu, Taeyong Eom, Bo Keun Park, Chang Gyoun Kim, and Taek-Mo Chung (KRICT, Korea)

[TA3-4] 15:50-16:10

Roles of Alkyl Halide in Atomic Layer Deposition toward Enhanced Film Conformality and Properties on High Aspect Ratio Substrate

Kok Chew Tan, Changbong Yeon, Seung Hyun Lee, Jaesun Jung, and Young-Soo Park (Soulbrain Co., Ltd., Korea)

[TA3-5] 16:10-16:30

Surface Reaction Mechanism of Atomic Layer Deposition of Niobium Oxide Using Tris(diethylamido)(tert-butylimido)niobium

Khabib Khumaini, Hyeonsu Roh, Hyunmin Han, Hye-Lee Kim (Sejong Univ., Korea), Hyo-Suk Kim, Jang-Hyeon Seok, Jung Woo Park (Hansol Chemical Co., Ltd., Korea), and Won-Jun Lee (Sejong Univ., Korea)

Session Title:	[TB3] CMP Cleaning Evolution
Session Date:	November 15 (Tue.), 2022
Session Time:	14:30-16:30
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Dr. Woojae Lee (ENF Tech., Korea)

[TB3-1] [Invited] 14:30-15:00

New Cleaning Solution Concepts for Advanced Technologies – from Chemical Supplier View

Andreas Klipps (BASF, Germany)

[TB3-2] [Invited] 15:00-15:30

Challenges in Selective Silicon Nitride Etching for 3D NAND Integration

Sangwoo Lim (Yonsei Univ., Korea)

[TB3-3] [Invited] 15:30-16:00

Development of a Membrane Process for Small Particle Removal in CMP Slurry and Post-CMP Cleaning

Sanghyeon Park, Jaewon Lee, Eungchul Kim, and Taesung Kim (Sungkyunkwan Univ., Korea)

[TB3-4] [Invited] 16:00-16:30

Post CMP Cleaning; Its Trend and Challenges

Jingoo Park (Hanyang Univ., Korea)

Session Title:	[TC3] Metal Etching
Session Date:	November 15 (Tue.), 2022
Session Time:	14:30-16:10
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Kenji Ishikawa (Nagoya Univ., Japan)

[TC3-1] [Invited] 14:30-15:00

80 nm-Line Etching of Copper Thin Films Using Ethylenediamine/Acetic Acid/Ar Gas Mixture

Sung Young Park, Seon Jae Kim, Seung Hyun Kim, Su Hyun Song, and Chee Won Chung (Inha Univ., Korea)

[TC3-2] [Invited] 15:00-15:30

Alternative Approach for Low Temperature Copper Dry Etching with Large Sized ECR Plasma Source

Jin Nyoung Jang, Jae Hoon Jung, Jong Hwa Lee, Kiro Jung (APS Research Corp., Korea), Donghoon Kim (Korea Univ., Korea), Sang-Gab Kim (Samsung Display Co., Ltd., Korea), Soo Ouk Jang (KFE, Korea), Chiwoo Kim (APS Research Corp., Korea), and MunPyo Hong (Korea Univ., Korea)

[TC3-3] 15:30-15:50

Atomic Layer Etching of Sn Using H_2/Cl_2 Radical

Yun Jong Jang, Doo San Kim, Hong Seong Gil, Hae In Kwon, Gyoung Chan Kim, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[TC3-4] 15:50-16:10

Clean Dry Etching of Ni Alloy Metal Thin Film for High Resolution Stretchable AMOLED

MupPyo Hong, Donghoon Kim, Sangheon Lee (Korea Univ., Korea), and Jin Nyoung Jang (APS Research Corp., Korea)

Session Title:	[TD3] EUV Mask, Pellicle, Inspection II
Session Date:	November 15 (Tue.), 2022
Session Time:	14:30-16:15
Session Room:	Room D (Sidney Room, 2F)
Session Chair:	Dr. Donggun Lee (ESOL, Inc., Korea)

[TD3-1] [Plenary] 14:30-15:15

0.33 NA EUV Systems for High-Volume Manufacturing

Roderik van Es (ASML, Netherlands)

[TD3-2] 15:15-15:35

Performance Verification and Development Status of EUV Pellicle for High Power

Cheol Shin, Buoung Hoon Seung, Chang Hun Lee, Juhee Hong, Min Wook Jung, Chulkyun Park, Byeong Sung Yu, Munsu Choi, Donghoi Kim, and Kwan Hui Jung (S&S Tech Corp., Korea)

[TD3-3] 15:35-15:55

Metrology and Inspection Technology for the High-NA EUV Lithography

Sangsul Lee (POSTECH, Korea)

[TD3-4] 15:55-16:15

Advanced EUV Mask with Platinum-Tungsten Alloy for High-NA EUV Lithography

Yunsoo Kim, Dongmin Jeong, Minsun Cho, and Jinho Ahn (Hanyang Univ., Korea)

Session Title:	[TE3] 3D Integration/Process
Session Date:	November 15 (Tue.), 2022
Session Time:	14:30-16:00
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Prof. Hyun Yong Yu (Korea Univ., Korea)

[TE3-1] [Invited] 14:30-15:00

3-Dimensional Integration with High Interconnection Density

Rino Choi, Ye-eun Hong, and Anh Duy Nguyen (Inha Univ., Korea)

[TE3-2] 15:00-15:20

Monolithic 3D InGaAs HEMT for Future Communication and Quantum Computing

Sanghyeon Kim, Jaeyong Jeong (KAIST, Korea), and Jongmin Kim (KANC, Korea)

[TE3-3] 15:20-15:40

Space-Confined High-Temperature Heat Treatment Process for 3D Integration Compatibility

Hyuk-Jun Kwon (DGIST, Korea)

[TE3-4] 15:40-16:00

3D Integration Using Wafer Layer Transfer Technology

Changhwan Choi (Hanyang Univ., Korea)

Session Title:	[TF3] Analysis Ⅳ
Session Date:	November 15 (Tue.), 2022
Session Time:	14:30-16:20
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Dr. Jaehyuck Choi (KRISS, Korea)

[TF3-1] [Invited] 14:30-15:00

Recent Progress in Nanofabrications of T-Gates for InP-HEMTs by Electron Beam Lithography at Fudan University

Yifang Chen (Fudan Univ., China)

[TF3-2] 15:00-15:20

Multi-Functional Semiconductor Nanolasers and Their Applications

Jae-Hyuck Choi and Hagyong Kihm (KRISS, Korea)

[TF3-3] 15:20-15:40

Determination of Wafer Edge Roundness and Its Dependence on Process Factors

Seob Shim, Sungwoo Jung, Jungwon Shin, Kwangsalk Kim, and Kyuhyung Lee (SK siltron, Korea)

[TF3-4] 15:40-16:00

Zero-Kerf Laser Wafer(SiC, GaN, TSV, Sapphire) Dicing Technology by COOL Cut

Seak-Joon Lee (ITI, Korea)

[TF3-5] 16:00-16:20

MoS_2/n-Type GaN Heterojunction and Self-Powered Photodetection with Broad Spectral Response in Ultraviolet–Visible–Near-Infrared Range

V. Janardhanam, I. Jyothi, Hyeon Cheol, M. Zummukhorol, and Chel-Jong Choi (Jeonbuk Nat'l Univ., Korea)

Session Title:	[WA1] Nanoscale Thin Film Deposition VI
Session Date:	November 16 (Wed.), 2022
Session Time:	10:45-12:15
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Woongkyu Lee (Soongsil Univ., Korea)

[WA1-1] [Invited] 10:45-11:15

Atomic-Scale Manufacturing Using Selective Atomic Layer Deposition and Etching

Adrie Mackus (Eindhoven Univ. of Tech., Netherlands)

[WA1-2] 11:15-11:35

Inherently Area Selective Atomic Layer Deposition Toward Self-Aligned Atomic Level Patterning

Jeong-Min Lee (Hanyang Univ., Korea), Taewook Nam (Univ. of Colorado, USA), and Woo-Hee Kim (Hanyang Univ., Korea)

[WA1-3] 11:35-11:55

Inherently Area-Selective Atomic Layer Deposition of Device-Quality $Hf_{1-x}Zr_xO_2$ Thin Films through Catalytic Local Activation

Jeong-Min Lee, Hyo-Bae Kim (Hanyang Univ, Korea), Yujin Lee (Stanford Univ., USA), Ji-Hoon Ahn, and Woo-Hee Kim (Hanyang Univ, Korea)

[WA1-4] 11:55-12:15

Strategy of Equipment Development for Next-Generation Devices based on MORE MOORE

Sang Hyun Ji, Pil Seong Jeong, and Chang Kyo Kim (AP System Corp., Korea)

Session Title:	[WB1] Material Issues in Semiconductor Fabrication
Session Date:	November 16 (Wed.), 2022
Session Time:	10:45-12:15
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Hyunseop Lee (Dong-A Univ., Korea)

[WB1-1] 10:45-11:05

Bulk Silicon Etching Technology for Wafer Thinning Applied in Next Generation Memory Device

Jung Sik Oh, Myung Ho Lee, Myung Geun Song, and Woo Jae Lee (ENF Tech. Co., Ltd., Korea)

[WB1-2] 11:05-11:25

Study on Wet Cleaning Solutions Behavior on the Wafer Surface during the Single Cleaning Process

Chengxi Yao, Kihong Park, Jinhyoung Lee, Pengzhan Liu, Sanghuck Jeon (Sungkyunkwan Univ., Korea), and Youngki Ahn (Daelim Univ. College, Korea)

[WB1-3] 11:25-11:45

Extremely High Selective $Si_{1-x}Ge_x$-film Wet Etchant Generating Highly Dissolved Oxygen via Peracetic Acid Oxidant for Lateral Gate-All-Around FET with a Logic Node of Less Than 3-nm

Seung-Jae Lee, Ji-Eun Lee, Chang-Jin Lee, and Jea-Gun Park (Hanyang Univ. Korea)

[WB1-4] [Invited] 11:45-12:15

Overall Requirements for Wet Chemical and CMP Materials in Foundry Business

Inyu Jung, Ahn-Ho Lee, Choong-Ho Han, and Yun-Ho Kim (Samsung Electronics Co., Ltd., Korea)

Session Title:	[WC1] Atomic Layer Etching
Session Date:	November 16 (Wed.), 2022
Session Time:	10:45-11:55
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Geun Young Yeom (Sungkyunkwan Univ., Korea)

[WC1-1] [Invited] 10:45-11:15

Conductor Etch Process - A Technical Review

Yeonghun Han (SK hynix, Korea), Sangjun Park (Applied Materials Inc., USA), and Sung Jin Jung (Lam Research, USA)

[WC1-2] 11:15-11:35

Atomic Layer Etching of Titanium Nitride with Plasma Oxidation and Fluorination

Heeju Ha and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[WC1-3] 11:35-11:55

Isotropic Atomic Layer Etching Process for Al_2O_3 Film

Jun Hyuck Kwon, Ju Hwan Park, Sang Joon Park, Jin Sung Chun (Wonik IPS Co., Ltd., Korea), Yewon Kim, Khabib Khumaini, Gyejun Cho (Sejong Univ., Korea), and Won-Jun Lee (Sejong Univ., Korea)

Session Title:	[WD1] EUV Mask, Pellicle, Resist III
Session Date:	November 16 (Wed.), 2022
Session Time:	10:45-11:55
Session Room:	Room D (Sidney Room, 2F)
Session Chair:	Prof. Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea) Research Fellow, Jeonglim Nam (Hanyang Univ., Korea)

[WD1-1] [Invited] 10:45-11:15

EUV Under-Layer Development and Challenges

Mamoru Tamura, Ryuta Mizuochi, Hiroto Ogata, Shun Kubodera, Sho Shimizu, Yuki Kato, Kosuke Igata, Kohei Itaoka, Makoto Nakajima, and Rikimaru Sakamoto (Nissan Chemical Corp., Japan)

[WD1-2] 11:15-11:35

Dependency of Interfacial Characteristics of $[Mo/Si]_{40}$ Multi-Layer on Sputtering DC Gun Power for High Reflectance of EUV Blank Mask

Han-Sol Jun, So-Hyun Lee, Ho-Jung Kwon, Yo-Han Choi, Jin-Young Choi, Tae-Hun Shim, and Jea-Gun Park (Hanyang Univ., Korea)

[WD1-3] 11:35-11:55

Damage-Free Pinpoint Particle Removal from a EUV Exposed Pellicle

Hyun-gyu Kang, Dong-hyeon Kwon, Tae-gon Kim, Jin-ho Ahn, Byung-hoon Lee, and Jin-Goo Park (Hanyang Univ., Korea)

Session Title:	[WE1] Package Material/Unit Process
Session Date:	November 16 (Wed.), 2022
Session Time:	10:45-11:45
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Dr. Tae Ik Lee (KITECH, Korea)

[WE1-1] 10:45-11:05

Thermal Fatigue Life-Prediction of Microelectronics Package with Respect to Solder Type under Repeated Thermal Cycle Test

You-Gwon Kim, Heon-Su Kim (Hanyang Univ., Korea), Do-Hyeong Kim, Dong-Min Jang, Jin-Woo Jang, Seung-Yeoung Lee (Samsung Electronics Co., Ltd., Korea), and Hak-Sung Kim (Hanyang Univ., Korea)

[WE1-2] 11:05-11:25

Low-Temperature Dopant Activation of Mesa Structured Si for M3D Integration

Euyjin Park and Hyun-Yong Yu (Korea Univ., Korea)

[WE1-3] 11:25-11:45

Heterogenous Hybrid Inverter Using Monolithic 3D Integration

Sun Bum Kim, Chan Seul Lee, Se Hyeon Choi, Se Jin Kim, Chae Won Kim, and Changhwan Choi (Hanyang Univ., Korea)

Session Title:	[WF1] Diagnosis for Plasma Process
Session Date:	November 16 (Wed.), 2022
Session Time:	10:45-11:55
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Sang Jeen Hong (Myungji Univ., Korea)

[WF1-1] [Invited] 10:45-11:15

PI-VM: The Most Efficient Way to Control the Plasma Processes in Mass Production with Data-Driven Plasma Science

Seolhye Park, Jaegu Seong, Yoona Park, and Gon-Ho Kim (Samsung Display Co., Ltd., Korea)

[WF1-2] 11:15-11:35

Semiconductor Plasma Process/Equipment Diagnosis Research for the Last Two Decades

Sang Jeen Hong (Myongji Univ., Korea)

[WF1-3] 11:35-11:55

Plasma Sensor for Intelligent Semiconductor/Display Process

H-C Lee, H J Yeom, J H Kim (KRISS, Korea), S J You (Chungnam Nat'l Univ., Korea), K H You, D H Choi, E S Choi, M Y Yoon, and D J Seong (KRISS, Korea)

Session Title:	[WA2] Nanoscale Thin Film Deposition Ⅶ
Session Date:	November 16 (Wed.), 2022
Session Time:	13:30-14:50
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Woo-Hee Kim (Hanyang Univ., Korea)

[WA2-1] 13:30-13:50

Tribological Behavior of Plasma Sulfurized Molybdenum Disulfide 2D Thin Film

Kubra Aydin (Sungkyunkwan Univ., Korea), Hae Won Yoon, Chisung Ahn (KITECH, Korea), and Taesung Kim (Sungkyunkwan Univ., Korea)

[WA2-2] 13:50-14:10

Atomic Layer Deposition of Molybdenum Carbonitride Films Using New Liquid Mo Precursor

Taeseong Kang, Byunguk Kim, Sunghoon Kim, Dowwook Lee (Hanyang Univ., Korea), Mijeong Han, Jooyong Kim (Mecaro Co., Ltd., Korea), and Hyeongtag Jeon (Hanyang Univ., Korea)

[WA2-3] 14:10-14:30

Nonvolatile Memory Characteristics Associated with Oxygen Ion Exchange in Thin Film Transistors with Indium-Zinc Oxide Channel and HfO_{2-x} Gate Oxide

J. Han, B. Jeong, and T.-S. Yoon (UNIST, Korea)

[WA2-4] 14:30-14:50

Ternary Oxide Thin Films for Multiple Patterning

Byung Chul Cho, Ju Hwan Park, Sang Joon Park, and Jin Sung Chun (Wonik IPS Co., Ltd., Korea)

Session Title:	[WB2] Advanced CMP Process II
Session Date:	November 16 (Wed.), 2022
Session Time:	13:30-15:00
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Jeagun Park (Hanyang Univ., Korea)

[WB2-1] [Invited] 13:30-14:00

Hybrid CMP Slurry Supply Using Ionization and Atomization

Hoseung Jo, Dasol Lee (Pusan Nat'l Univ., Korea), Hyunseop Lee (Dong-A Univ., Korea), and Haedo Jeong (Pusan Nat'l Univ., Korea)

[WB2-2] 14:00-14:20

Application on CMP Process of Large Size OLED LTPS Thin Film Using OSCAR Type Polisher

Gowoon Shim, Hyuntaek Lee, and Jongkook Song (SC Plat Co., Ltd., Korea)

[WB2-3] 14:20-14:40

Silicon Wafer Preparation for Semiconductor Devices: Surface Defects

Eunsuck Choi and Chanmin Jung (SK siltron, Korea)

[WB2-4] 14:40-15:00

Formation Mechanism of Asperity and Its Effect based on Pore Size in Chemical Mechanical Planarization

Sanghuck Jeon, Yuna Nam, Minwoo Kang, Kihong Park, and Taesung Kim (Sungkyunkwan Univ., Korea)

Session Title:	[WC2] Atomic Scale Etch Processing
Session Date:	November 16 (Wed.), 2022
Session Time:	13:30-15:00
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Geun Young Yeom (Sungkyunkwan Univ., Korea)

[WC2-1] [Invited] 13:30-14:00

Prospects of Atomic Layer Process: Past, Present, & Future

YS Kim (SEMES Co., Ltd., Korea)

[WC2-2] [Invited] 14:00-14:30

Reaction Kinetics of Thermal ALE in High Aspect Ratio Hafnium Oxide Structures

Andreas Fischer, Aaron Routzahn, Jim Sims, Ryan Gasvoda, and Thorsten Lill (Lam Research Corp., USA)

[WC2-3] [Invited] 14:30-15:00

Metal-Assisted Chemical Etching as a Sustainable Manufacturing Process for Wafer Scale Uniform Semiconductor Nanostructures

Munho Kim (Nanyang Technological Univ., Singapore)

Session Title:	[WE2] Semiconductor Devices and Materials
Session Date:	November 16 (Wed.), 2022
Session Time:	13:30-15:10
Session Room:	Room E (Grand Ballroom 3, 2F)
Session Chair:	Prof. Jinsub Park (Hanyang Univ., Korea)

[WE2-1] [Invited] 13:30-14:00

Magnetic Skyrmion Device

Soong-Geun Je (Chonnam Nat'l Univ., Korea)

[WE2-2] [Invited] 14:00-14:30

Coupled Spin-Charge Transport in Noncentrosymmetric Systems

Jung-Woo Yoo (UNIST, Korea)

[WE2-3] 14:30-14:50

Magnetic Skyrmions: From Fundamentals to Applications in Emerging Logic Devices

Dae-Han Jung, Hee-Sung Han, Gang-Hwi Kim, Su-Yeong Jeong, Myeong-Hwan Kang (UNIST, Korea), Mi-Young Im (Lawrence Berkeley Nat'l Lab., USA), and Ki Suk Lee (UNIST, Korea)

[WE2-4] 14:50-15:10

Correlation Between Unidirectional Spin Hall and Magnon Magnetoresistances

Sanghoon Kim (Univ. of Ulsan, Korea)

Session Title:	[WA3] Nanoscale Thin Film Deposition Ⅷ
Session Date:	November 16 (Wed.), 2022
Session Time:	15:10-16:10
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Hyeongtag Jeon (Hanyang Univ., Korea)

[WA3-1] 15:10-15:30

Development of Low-k Smart PECVD Equipment and Process for System LSI Devices

SM Lee, JY Yang, SW Lee, SH Yeo (TES Co., Ltd., Korea), TJ Choi (Sejong Univ., Korea), JK Lee (Pusan Nat'l Univ., Korea), JO Kim (KRISS, Korea), and HJ Jang (TES Co., Ltd., Korea)

[WA3-2] 15:30-15:50

Characteristic Evaluation of $Si_xSn_yO_z$ Thin Film for Encapsulation of OLED

Sang Yong Jeon, Ha Yeong Ahn, Young Jae Im, Sang Chan Lee, Yong Hee Kwone, Tae Seok Byun, and Sang Ick Lee (DNF Co., Ltd., Korea)

[WA3-3] 15:50-16:10

Advanced Remote Plasma ALD for Self-Aligned Patterning Technology

Suhyeon Park, Junyoung An, Heejun Yoon (Hanyang Univ., Korea), Honggyu Kim (Univ. of Florida, USA), and Hyeongtag Jeon (Hanyang Univ., Korea)

Session Title:	[WB3] Advanced CMP Related Materials
Session Date:	November 16 (Wed.), 2022
Session Time:	15:10-16:10
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Haedo Jeong (Pusan Nat'l Univ., Korea)

[WB3-1] 15:10-15:30

Investigation of Cleaning Effects for Nano-Sized Particles on the Polished Thin Films Using CO_2 Gas Cluster

Kihong Park, Pengzhan Liu, Chengxi Yao, Sanghuck Jeon, and Taesung Kim (Sungkyunkwan Univ., Korea)

[WB3-2] 15:30-15:50

Mechanism of PVA-Brush Loading with Colloidal Silica and Metal Ions during Cu Post-CMP Cleaning Process

Sanjay Bisht, Jerome Peter, Samrina Sahir, Young Jung Kim, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Korea)

[WB3-3] 15:50-16:10

Investigations of Thermal Effect in Copper CMP and PCMP Cleaning

Pengzhan Liu (Sungkyunkwan Univ., Korea), Seokjun Hong (Samsung Electronics Co., Ltd., Korea), and Taesung Kim (Sungkyunkwan Univ., Korea)

Session Title:	[WC3] Plasma Etch Simulation
Session Date:	November 16 (Wed.), 2022
Session Time:	15:10-16:20
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[WC3-1] [Invited] 15:10-15:40

Phase Resolved Plasma Dynamics of RF Capacitively Coupled Plasma Using Particle Trajectory Analysis

Cheol Woong Kim and Hae June Lee (Pusan Nat'l Univ., Korea)

[WC3-2] 15:40-16:00

Computational Study of Necking Formation in Plasma Etching Processes Using Fluorocarbon Gases

Wonnyoung Jeong, Byoungyeop Choi, Youngseok Lee, Sijun Kim, Chulhee Cho, Inho Seong, Yebin You, Minsu Choi, and Shinjae You (Chungnam Nat'l Univ., Korea)

[WC3-3] 16:00-16:20

Selective Etching Mechanism of Silicon Oxide Against Silicon by Hydrogen Fluoride: A Density Functional Theory Study

Romel Hidayat, Hye-Lee Kim, Khabib Khumaini, Tanzia Chowdhury (Sejong Univ. Korea), Tirta Rona Mayangsari (Universitas Pertamina, Indonesia), Byungchul Cho, Sangjoon Park (Wonik IPS, Korea), and Won-Jun Lee (Sejong Univ., Korea)

Session Title:	[P1] Poster Session I
Session Date:	November 14 (Mon.), 2022
Session Time:	17:10~18:00
Session Room:	Grand Ballroom 4, 2F

[P1-001]

Effects of Y Doping on Ferroelectric and Electrical Properties of As-Deposited $Hf_{1-x}Zr_xO_2$ Thin Films via Atomic Layer Deposition

Youkyoung Oh, Hyo-Bae Kim (Hanyang Univ., Korea), Sangjun Park (Micron Technology, USA), and Ji-Hoon Ahn (Hanyang Univ., Korea)

[P1-002]

Potential Failure of LMFC Module for Semiconductor Deposition Using Fault Design Platform

Young-Gi An and Jae-Seong Jeong (KETI, Korea)

[P1-003]

ALD Halo Metallic Tungsten by H_2 Reduction with Non-Fluorinated Precursors

Jungho Lee (Hanyang Univ., Korea), Hyeong Seop Shin (LAM Research Korea, Korea), and Hyeongtag Jeon (Hanyang Univ., Korea)

[P1-004]

Rutile-TiO_2 Thin Films Deposited by Atomic Layer Deposition Using Thin SnO_2 Seed Layer and Sn Doping for DRAM Capacitor

Min Ji Jeong, Seung Won Lee (Hanyang Univ., Korea), Hyunchol Cho (LAM Research, USA), and Ji-Hoon Ahn (Hanyang Univ., Korea)

[P1-005]

High Conductivity ZnO Films Fabricated by Spin-Spray Method

Younghwa Yoon, Jeongsoo Hong, Kyunghwan Kim (Gachon Univ., Korea), Nobuhiro Matsushita (Tokyo Inst. of Tech., Japan), and Jeongsoo Hong (Gachon Univ., Korea)

[P1-006]

Diagnostics of Time-Varying Harmonics for SiOF Thin Film HDP CVD System

Yonggyun Park, Pengzhan Liu, Seunghwan Lee, Sihoon Son, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P1-007]

Few-Layer MoS_2 Thin Film Used as a Transparent Conductive Electrode for Ge Based Photodetector

Zumuukhorol Munkhsaikhan, Boldbaatar Sosorburam, and Chel Jong Choi (Jeonbuk Nat'l Univ., Korea)

[P1-008]

Effect of Purge Step of Atomic Layer Deposition on TiN Thin Film Properties

Ju Eun Kang, Su Rin An, and Sang Jeen Hong (Myongji Univ., Korea)

[P1-009]

Heterostructure of 2D WS_2-ZnO Composite for NO_2 Sensor at Room Temperature

Jae-Woo Seo, Joon-Seok Lee, Seung-Ho Choi, Won-Jun Choi, and Seon-Jin Choi (Hanyang Univ., Korea)

[P1-010]

Properties of CVD Graphene Selectively Oxidized with $KMnO_4$/ H_2SO_4

Yeojin Choi, Seungmun Baek, and Sungjin An (Kumoh Nat'l Inst. of Tech., Korea)

[P1-011]

Charge Trap Memory According to the Thickness of the Trapping Layer for Synaptic Transistor

Eunseo Jo and You Seung Rim (Sejong Univ., Korea)

[P1-012]

Conduction Mechanism of ZrO_2-Based Nano-Laminates Structure for Suppressing the Leakage Current

Seung Won Lee, Min Ji Jeong (Hanyang Univ., Korea), Gisung Yoon (Micron Technology, USA), and Ji-Hoon Ahn (Hanyang Univ., Korea)

[P1-013]

Plasma Atomic Layer Etching of Dielectric Films Using β-Diketonate Reagents

Jeongbin Lee (Hanyang Univ., Korea), Seunggi Seo (Stanford Univ., USA), and Woo-Hee Kim (Hanyang Univ., Korea)

[P1-014]

Effects of Electrical Characteristics on Undoped and Li-Doped NiO_x Interlayers on β-Ga_2O_3 Schottky Barrier Diodes

Ji Young Min and You Seung Rim (Sejong Univ., Korea)

[P1-015]

Selectively Growing of MoOx Thin Films for the Next-Generation DRAM Capacitor Applications

Yewon Kim, Jeong Hyeon Park, Ae Jin Lee (Kyung Hee Univ., Korea), Songyi Moon, Taewon Youn, Minyung Lee (SK hynix, Korea), and Woojin Jeon (Kyung Hee Univ., Korea)

[P1-016]

Study on the Reduction of Leakage Currents for Atomic Layer Deposition HfO_2 Thin Films

Min-Jeong Rhee, Dong-Hyun Lim, and Il-Kwon Oh (Ajou Univ., Korea)

[P1-017]

High-Mobility p-Channel Tin Monoxide Transistors with Negligible Hysteresis

Taikyu Kim, Se Eun Kim, and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P1-018]

A Study on the Control of Space CD and Sidewall Oxidation Thickness Using ALD Process in the Narrow Space Poly Cut Etch

Kwiseok Ha, Chinwook Chung, and Hyeongtag Jeon (Hanyang Univ., Korea)

[P1-019]

Effect of the Structures of Atomic Layer Deposition (ALD) Films on Dark-Current and Quantum Efficient in Metal-Semiconductor-Metal (MSM) Photodetector

Kyeong-Keun Choi, Sung-Kyu Kim (POSTECH, Korea), HongGyun Kim, Vijay D. Chvan, Deok-Kee Kim (Sejong Univ., Korea), and Jae-Sung Lee (Uiduk Univ., Korea)

[P1-020]

Characteristics of Silicon Nitride Deposited by Very High Frequency (162 MHz)-Plasma Enhanced Atomic Layer Deposition Using Di(isopropylamino)silane and N_2 Plasma

You Jin Ji, Hae In Kim, Ki Hyun Kim, Ji Eun Kang (Sungkyunkwan Univ., Korea), Albert Rogers Ellingboe (Dublin City Univ., Ireland), and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-021]

Fabrication of Vertical Field-Effect Transistor through Optimization of Dry Etching

Yeonghun Lee, Hyoungbeen Ju, Jiyoung Bang, Minjin Kwon, Hyeonjeong Sun, Sangduk Kim, Onejae Sul, and Seung-Beck Lee (Hanyang Univ., Korea)

[P1-022]

The Epitaxially Grown Ferroelectric $Hf_{0.5}Zr_{0.5}O_2$ Thin Film Using Pulsed Laser Deposition Method

Woohyeon Ryu, Chansoo Yoon, and Bae Ho Park (Konkuk Univ., Korea)

[P1-023]

Amorphous Carbon Deposited TeO_2 Nanowires for Nitrogen Dioxide (NO_2) Gas Detection at Room Temperature

Eun Bi Kim, Ka Yoon Shin, Wansik Oum, Dong Jae Yu, Suk Woo Kang, Hyeong Min Kim, S.P. Bharath, and Hyoun Woo Kim (Hanyang Univ., Korea)

[P1-024]

Full-Color Electroluminescence based on Doped $ZnGa_2O_4$ Oxide in MOS Structure

Mohammad M. Afandi, Jehong Park, Hyunjee Jung, Jingi Gim, Gyeongdo Baek, Sanghyeon Lim, Jugyeong Lee, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-025]

Progressive and Stable Synaptic Plasticity with Attojoule Energy Consumption by the Interface Engineering of a Metal/Ferroelectric

Sohwi Kim, Chansoo Yoon, Gwangtaek Oh, Minjeong Shin, Eun Hee Kee, Bae Ho Park (Konkuk Univ., Korea), Ji Hye Lee (Seoul Nat'l Univ., Korea), Sanghyun Park, Bo Soo Kang (Hanyang Univ., Korea), and Young Heon Kim (Chungnam Nat'l Univ., Korea)

[P1-026]

UV Electroluminescence from Ce^{3+}-Doped $CaSiO_3$ in Metal-Oxide-Semiconductor through Sputtering

Hyunjee Jung, Jingi Gi, Sanghyeon Lim, Gyeongdo Baek, Mohammad M. Afandi, Chunghyun Lee, Busic Kang, Jehong Park, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-027]

193 nm-Ultraviolet Electroluminescence from $YPO_4:Nd^{3+}$ Emitting Layer in MOS Structure

Gyeongdo Baek, Jehong Park, Hyunjee Jung, Jingi Gim, Mohammad M. Afandi, Sanghyeon Lim, Jugyeong Lee, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-028]

Surface-Acoustic-Wave Based Ultraviolet Sensor with Green Electroluminescece from $Zn_2SiO_4:Mn^{2+}$ Active Layer on $LiNbO_3$ Piezoelectric Substrate with Electroluminescence

Jingi Gim, Sanghyeon Lim, Hyunjee Jung, Mohammad M. Afandi, Gyeongdo Baek, Jehong Park, Jugyeong Lee, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-029]

260 nm UVC-Emitting $Y_2SiO_5:Pr^{+3}$ Film in Xenon Excimer Lamp

Sanghyeon Lim, Hyunjee Jung, Gyeongdo Baek, Jingi Gim, Mohammad M. Afandi, Jugyeong Lee, Jehong Park, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-030]

Charge Trapping Memory Device based on MoS_2 FET with $CrPS_4$ Interlayer

Minjeong Shin, Mi Jung Lee, Chansoo Yoon (Konkuk Univ., Korea), Je-Geun Park, Sungmin Lee (Seoul Nat'l Univ., Korea), and Bae Ho Park (Konkuk Univ., Korea)

[P1-031]

High-Performance Au-Nanopillar Electrodes for MoS_2-Based Optoelectronic Devices

Jungeun Song, Soyeong Kwon, Hyunjeong Jeong, Anh Thi Nguyen, Ha Kyung Park, William Jo, Sang Wook Lee, and Dong-Wook Kim (Ewha Womans Univ., Korea)

[P1-032]

Electrical Characterization of Hexagonal Boron Nitride Films Prepared by Chemical Vapor Deposition with Two Growth Modes

Sung Kyu Jang, Seul-Gi Kim, and Hyeongkeun Kim (KETI, Korea)

[P1-033]

Evaluation of Thermal Stability under Vacuum Environment of Tetrakis(ethylmethylamino)hafnium (TEMAHf) for Atomic Layer Deposition

Hayeong Kim, Jiwon Park, Jaeuk Lim, SeonJeong Maeng, and Ju-Young Yun (KRISS, Korea)

[P1-034]

Development of Atomic Layer Deposited InGaZnO Process for Next-Generation Semiconductor Channel Materials

Du-Ho Kim, Seung-Hyun Lee, Duck-Ho Kim, and Chang-Kyun Park (Jusung Engineering Co., Ltd., Korea)

[P1-035]

AZO/Ag/AZO Transparent Electrode with Improved Moisture Permeability for Flexible Heaters

Sung Kyu Jang, Hyeyoung Kim, Seul-Gi Kim, Hyun-Mi Kim, and Hyeongkeun Kim (KETI, Korea)

[P1-036]

Control of the Radiation Temperature in Low-Pressure Nitrogen Plasma

Jonggu Han, Woojin Park, Jihoon Kim, and Se Youn Moon (Jeonbuk Nat'l Univ., Korea)

[P1-037]

Study of Silicon Oxynitride Thin Films by Plasma-Enhanced Atomic Layer Deposition Using a Tetraisocyanatesilane (TICS) and N_2 Plasma

Hae Lin Yang, Tae-Yeon Kim, GeonHo Baek, and Jin-Seong Park (Hanyang Univ., Korea)

[P1-038]

Fabrication of Organic/Inorganic Hybrid 2D Tincone Film via Molecular Layer Deposition

GeonHo Baek, Seunghwan Lee, Hye-Mi Kim, Su Hwan Choi, and Jin-Seong Park (Hanyang Univ., Korea)

[P1-039]

Novel Precursors of ZrO_2 and HfO_2 for High-κ Metal Oxide Thin Films

Ga Yeon Lee, Seungmin Yeo, Taeyong Eom (KRICT, Korea), Jeong Hwan Kim (Hanbat Nat'l Univ., Korea), and Taek-Mo Chung (KRICT, Korea)

[P1-040]

Thermally Stable HfN_x Based Bidirectional Diode and Its Integration in the Crossbar Array Enabled by Atomic Layer Deposition

Ha Young Lee, Jae Hee Go, Seok Choi, and Byung Joon Choi (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-041]

Thermal Analysis of Ovonic Threshold Switch Devices based on Various Chalcogenide Films

Ju Hwan Park, Myeong Jun Jung (Seoul Nat'l Univ. of Science and Tech., Korea), Gun Hwan Kim (KRICT, Korea), Min Kyu Yang (Sahmyook Univ., Korea), and Byung Joon Choi (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-042]

Molybdenum Thin Film Formation from Molybdenum Nitride Deposited by Plasma-Enhanced Atomic Layer Deposition with Modulated Plasma Conditions

Jeong Hyeon Park, Yewon Kim and Woojin Jeon (Kyung Hee Univ., Korea)

[P1-043]

The Effect of Gas Composition on the Properties of Silicon Oxynitride Thin Film Prepared Using Nitridation of Silicon Oxide Substrates in Low-Pressure Inductively Coupled Plasma

Woojin Park, Jonggu Han, Soi Park, Jihoon Kim, and Se Youn Moon (Jeonbuk Nat'l Univ., Korea)

[P1-044]

Development of New Germanium Precursors for ALD

Heenang Choi, Taeyong Eom, and Taek-Mo Chung (KRICT, Korea)

[P1-045]

Comparison of Self-Rectifying Behavior of Oxide Based Monolayer and Bilayer Device

Jae Hee Go, Min Gyoo Cho, and Byung Joon Choi (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-046]

Effect of La Doping on the Ferroelectricity of HfO_2 Films Deposited by Atomic Layer Deposition

Juyoung Jeong, Yoogeun Han, Jaeyeon Kim, and Hyunchul Sohn (Yonsei Univ., Korea)

[P1-047]

Fabrication of Hf-Zr-O Based Ferroelectric Field Effect Transistor Using In-Ga Sn-O Channel Layer by Atomic Layer Deposition

Hyeonhui Jo, Jina Kim, Pil Ju Youn, Hee Won Jang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-048]

Low-Resistivity Molybdenum Carbide and Nitride Thin Films Grown by Modified Atomic Layer Deposition

Wang Kang and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-049]

Hollow Cathode Plasma Atomic Layer Deposition of NbN Film Using Novel Nb Precursor

Wonho Jo, Wangu Kang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-050]

Growth and Characterization of Atomic Layer Deposited In_2O_3 Thin Film Using Novel Liquid in Precursor

Hee Won Jang, Sang Hyeon Jo (Seoul Nat'l Univ. of Science and Tech., Korea), Ji-Seoung Jeong, Ji Yeon Ryu (KRICT, Korea), and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-051]

Work Function Tunable Molybdenum Carbonitride Thin Films by Plasma Enhanced Atomic Layer Deposition for Metal Gate Application

Ji Sang Ahn and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-052]

Low-Power and High-Performance P-Channel SnO Thin Film Transistor Using Hafnia-Based Gate Oxide

Jina Kim, Myeong Gil Chae, Hee Won Jang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-053]

Growth and Film Characteristics of Ruthenium Thin Films by Thermal Atomic Layer Deposition

Jae Yeon Kim, Eun Chong Ko, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-054]

RF Magnetron Sputtering of Molybdenum Dioxide for Next-Generation DRAM Electrode

Jae Hyeon Lee, Wangu Kang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-055]

Study of Pad Surface Asperity by Various of Diamond Arrangement in Ceria CMP Process

Dong-Hoon Lee (Sungkyunkwan Univ., Korea), Y.H Hong (Saesol Diamond Ind. Co., Ltd., Korea), and Tae-Sung Kim (Sungkyunkwan Univ., Korea)

[P1-056]

Chemisorption of Fluorinated Species on the 3D-NAND Dielectric Deposition Chamber Wall in Chamber Cleaning Step

Young Min You, Min Ho Kim, and Sang Jeen Hong (Myongji Univ., Korea)

[P1-057]

Effect of Scrubbing Parameters on Mechanical Properties and Wafer Cleaning during Post-CMP PVA Brush Cleaning

Kwang-Min Han, Suprakash Samanta, Jerome Peter, and Jin-Goo Park (Hanyang Univ., Korea)

[P1-058]

Control Galvanic Corrosion of Cu/Ru in Chemical Mechanical Planarization

Hojin Jeong, Yeram Lee, Donghwan Kim, Myungju Woo, Sungmin Kim, Ganggyu Lee, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

[P1-059]

Size Dependent Surface Chemistry of CeO_2 Nanoparticles for Silicate Adsorption

Sungmin Kim, Ganggyu Lee, Hojin Jeong, Donghwan Kim, Yeram Lee, Myungju Woo, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

[P1-060]

Polymer Link Breakage of Polyimide-Film-Surface Using Hydrolysis Reaction Accelerator for Enhancing Chemical-Mechanical-Planarization Polishing-Rate

Man-Hyup Han, Eun-Seong Kim, Hyeong-Ju Jin, Kyung-Sik Lee, and Jea-Gun Park (Hanyang Univ., Korea)

[P1-061]

Fenton Reaction for Enhancing Polishing Rate and Protonated Amine Functional Group Polymer for Inhibiting Corrosion in $Ge_1Sb_4Te_5$ Film Surface Chemical-Mechanical-Planarization

Seong-Wan Hong, Man-Hyup Han, and Jea-Gun Park (Hanyang Univ., Korea)

[P1-062]

Sustainable Dry Etching Process with High Performance Using Low GWP Gas

Jeonga Ju, Jinkoo Park, Joonki Suh, and Hongsik Jeong (UNIST, Korea)

[P1-063]

Design of Non-Flammable Mixed Refrigerant Joule-Thomson Refrigerator for Cryogenic Etching Process

Cheonkyu Lee, Hak-Jun Lee, Jung-Gil Lee, and Jin Man Kim (KITECH, Korea)

[P1-064]

Understanding of Cryogenic Etch with Fluorine and Silicon Surface Reaction

Myeong Seok Seo and Sang Jeen Hong (Myongji Univ., Korea)

[P1-065]

A Study on the Generation of the Ultra-Low Electron Temperature Plasma

Min-Seok Kim, Deok Hwan Kim, and Chin-Wook Chung (Hanyang Univ., Korea)

[P1-066]

Etch Characteristics of Magnetic Tunnel Junction Materials Using Reactive Ion Beam Etching without a Neutralizer

Hae In Kwon, Ye Eun Kim, Doo San Kim, Yun Jong Jang, Hong Seong Gil, Jong Woo Hong, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-067]

Cyclic Isotropic Etching of $PdSe_2$

Ji Eun Kang, Seong Jae Yu, Ki Hyun Kim, You Jin Ji, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-068]

Plasma Etching of High Aspect Ratio Trench Pattern under Ion Tilting

Min Young Yoon, Hee Jung Yeom, Jung-Hyung Kim (KRISS, Korea), Jong-Ryul Jeong (Chungnam Nat'l Univ., Korea), and Hyo-Chang Lee (KRISS, Korea)

[P1-069]

High Aspect Ratio Contact Etching Using $C_xH_2F_6$

Seong Bae Kim, Hyun Woo Tak, Hye Joo Lee, Seul Ki Kim, Byung Jin Kang, Geesu Park, Jiyeon Kim, Dong Woo Kim, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-070]

Electron-Assisted PR Etching in an Inductively Coupled Oxygen Plasma via Low Energy Electron Beam

Jiwon Jung and Chin-Wook Chung (Hanyang Univ., Korea)

[P1-071]

Plasma Ashing of Low-k Dielectric Films by Using the Ferrite-Core Technologies

Suk Woo Kang, Ka Yoon Shin, Wansik Oum, Dong Jae Yu, Eun Bi Kim, Hyeong Min Kim, S.P. Bharath, and Hyoun Woo Kim (Hanyang Univ., Korea)

[P1-072]

Impedance Measurement of SiC Using Multi-Frequency Analysis for Real-Time Control of the Focus Ring in Plasma Processing

Beom-Jun Seo, Se-Hun Ahn, and Chin-wook Chung (Hanyang Univ., Korea)

[P1-073]

A Study on MoS_2 Etching Using Ultra-Low Electron Temperature Plasma

Junyoung Park, Jiwon Jung, Min-Seok Kim, Chang-Min Lim, and Chin-Wook Chung (Hanyang Univ., Korea)

[P1-074]

Control of Temperature Distribution of Microwave Heater for Etching by Slot Antenna

Sung-Hyeon Jung, Min-Sang Park, Jong-Hoon Oh, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-075]

A Particle-In-Cell Simulation for the Two-Dimensional Structural Effect of Pulse-Driven Capacitively Coupled Ar Plasmas

Seo I Choi, Ji Hyun Shin, Hwan Ho Kim, and Hae June Lee (Pusan Nat'l Univ., Korea)

[P1-076]

Study of Plasma and Sensor Data for Plasma Process Equipment Intelligence

Jongsik Kim, Yonghyun Kim, Jongbae Park, Jonghyun Shin, Daechul Kim, Youngwoo Kim, Jungho Song, Kihwan Cho, and Jungsik Yoon (KFE, Korea)

[P1-077]

The Magnetized Inductively Coupled Ar/O_2 Plasma

Sang-Woo Kim, Jee-Hun Jeong, Min-Seok Jang, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-078]

Analysis of Inductively Coupled Plasma Characteristics Using $Ar/CF_4/O_2$ Mixed Gas

Tae-Hui Wang, Mijin Kim, Da-Hui Yoo, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-079]

High Aspect Ratio Oxide Etching Process Using $CF_4/C_6F_{12}O$ Plasma in ICP Etching System with a Low Frequency Bias Power

Jinhyuk Kim, Gilyoung Choi, and Kwang-Ho Kwon (Korea Univ., Korea)

[P1-080]

Improved Aspect Ratio Dependent Etching of Nanoscale Si Trench by Using Asynchronously Pulsed Plasma

Hee Ju Kim, Soo Namgoong, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-084]

A Study on High Uniformity Windows in Atomic-Scale Etching via the Purgeless Atomic Layer Etching Approach

Ye-Bin You, Young-Seok Lee, Si-Jun Kim, Chul-Hee Cho, In-Ho Seong, Won-Nyoung Jeong, Min-Su Choi, Byoung-Yeop Choi, Ji-Won You, Seong-Ha Kim, and Shin-Jae You (Chungnam Nat'l Univ., Korea)

[P1-085]

Self-Consistent Spatially Averaged Global Model of HBr/Cl_2 Inductively Coupled Plasma Discharge

Sang-Young Chung, Yeong Geun Yook, Won-Seok Chang, Heechol Choi (KFE, Korea), Yeon Ho Im (Jeonbuk Nat'l Univ., Korea), and Deuk-Chul Kwon (KFE, Korea)

[P1-086]

Study for 3D Feature Profile Simulation of Polysilicon Etching under the Various HBr/Cl_2 Mixture Plasma Conditions

Yeong-Geun Yook, Sang-Young Jung (KFE, Korea), Jae-Hyung Park (Jeonbuk Nat'l Univ., Korea), Deuk-Chul Kwon (KFE, Korea), Dong-Hun Yu (Kyung Won Tech. Inc., Korea), Won-Seok Chang (KFE, Korea), and Yeon-ho Im (Jeonbuk Nat'l Univ., Korea)

[P1-087]

Atomic Layer Etching Process with Radical Selective Adsorption and Ion Energy Control

Junho Jeong, Yunseok Lee, Eunchong Kang, and Kyongnam Kim (Daejeon Univ., Korea)

[P1-088]

Research on HBP-ALE (High Boiling Point Atomic Layer Etching) Source Technology and Surface Reaction Mechanism Using Fluorocarbon-Based Alternative Gas

Eunchong Kang, Junho Jeong, Yunseok Lee, and Kyongnam Kim (Daejeon Univ., Korea)

[P1-089]

High-Speed Impedance Matching with Gradient Descent Algorithm for Advanced RF Plasma Etch System

Dongwon Shin and Sang Jeen Hong (Myongji Univ., Korea)

[P1-090]

A Study on High Aspect Ratio (HAR) Oxide Etching Process through Independent Control at Low Frequency Bias Using ICP System

ByungJun Woo, Gilyoung Choi, and Kwang-Ho Kwon (Korea Univ., Korea)

[P1-091]

Dry Etching of Copper Thin Films Using Acetylacetonate/O_2/Ar Plasma

Seon Jae Kim, Sung Young Park, Seung Hyun Kim, Su Hyun Song, and Chee Won Chung (Inha Univ., Korea)

[P1-092]

Layer-by-Layer Etching of Copper Thin Films Using Organic Chelator/O_2 Gas and Ar Plasma

Seung Hyun Kim, Sung Young Park, Seon Jae Kim, Su Hyun Song, and Chee Won Chung (Inha Univ., Korea)

[P1-093]

Newly Synthesized Cluster Photoresist for Extreme Ultraviolet (EUV) Nanolithography

Hyeok Yun, Jiyoung Bang (Chonnam Nat'l Univ., Korea), Siwoo Noh, Geonhwa Kim, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-094]

Preparation and Characterization of Hydrogen Silsesquioxane/Tin Oxo Cluster Blend Films for EUV Photoresist

Jiyoung Bang, Hyeok Yun, Wonchul Kee (Chonnam Nat'l Univ., Korea), Siwoo Noh, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-095]

Application of a Tin Oxo Cluster Photoresist under E-Beam and EUV Exposure

Minyeop Kim, Hyeok Yun, Jiyoung Bang (Chonnam Nat'l Univ., Korea), Siwoo Noh, Geonhwa Kim, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-096]

Effect of SiN_x Passivation Layer on the Radiation Efficiency of EUV Pellicle

Won Jin Kim, Seong Ju Wi, Haneul Kim, Youngwoo Kang, Jungyeon Kim, and Jinho Ahn (Hanyang Univ., Korea)

[P1-097]

A Quantitative Evaluation System for EUV Material Damage Caused by Hydrogen Plasma

Eun-Seok Choe (KRISS, Korea), Seungwook Choi, Ansoon Kim (Univ. of Science and Tech., Korea), Kwan-Yong Kim, H. J. Yeom, Min Young Yoon, Seongwan Hong, Jung-Hyung Kim (KRISS, Korea), Dong-Wook Kim (Chungnam Nat'l Univ., Korea), and Hyo-Chang Lee (KRISS, Korea)

[P1-098]

Tin Oxo Clusters of No Tin-Carbon Bond for Extreme Ultraviolet Photoresist

Wonchul Kee (Chonnam Nat'l Univ., Korea), Siwoo Noh, Geonhwa Kim, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-099]

High-Speed Parallel Processing Sobel Filter Hardware Design

Su-Bin Park and Sunhee Kim (Sangmyung Univ., Korea)

Session Title:	[P2] Poster Session II
Session Date:	November 16 (Wed.), 2022
Session Time:	15:10~16:30
Session Room:	Grand Ballroom 4, 2F

[P2-001]

The Effect of Self-Annealing Property on Copper-to-Copper Bonding

Haneul Han, Youjung Kim, and Bongyoung Yoo (Hanyang Univ., Korea)

[P2-002]

Warpage Simulation with Consideration of a Cure Shrinkage of EMC Measured Using FBG Sensor and Dielectric Sensor

Jeong-Hyeon Baek, Dong-Woon Park (Hanyang Univ., Korea), Han-Sung Ryu, Gyung-Hwan Oh (Samsung Electronics Co., Ltd., Korea), and Hak-Sung Kim (Hanyang Univ., Korea)

[P2-003]

The Study of the Fabrication of Thin Film Transistor Using Molybdenum Electrode Sintered by Intense Pulsed Light Sintering Process with Non-Vacuum and Room Temperature Processed

Jong-Whi Park and Hak-Sung Kim (Hanyang Univ., Korea)

[P2-004]

Wafer Layer Transfer for Monolithic 3D (M3D) Integration Using SOI Substrate and Smart-Cut

Sun Bum Kim, Chan Seul Lee, Jin Ho Park, Se Hyeon Choi, and Changhwan Choi (Hanyang Univ., Korea)

[P2-005]

Analysis of Stress Characteristics on Thin Film Variant in TSV Structure

Cheong-Ha Jung, YeJi Kim, Jun-Hyeok Park, Sung-Uk Kim, NaYeon Kim, and Gu-Sung Kim (Kangnam Univ., Korea)

[P2-006]

The Fabrication of Thin Film Transistor with Silver Nanowire Bottom Gate Electrode Welded by Intense Pulsed Light Welding Process with Simultaneous Mechanical Roll-Pressing

Young-Min Ju, Jong-Whi Park, and Hak-Sung Kim (Hanyang Univ., Korea)

[P2-007]

Electroplating Simulation of Tin on 12 inch Wafer for High Bandwidth Memory (HBM)

Jae-Seong Jeong, Young-Gi An (KETI, Korea), and Woon-Seok Jung (Hojinplatech, Korea)

[P2-008]

Hardware Neuromorphic System with Diffusion Memristor-Based Artificial Synapses Using Heterogeneous Integration

Yu Rim Jeon, Chul Won Chung, Jin Ho Park (Hanyang Univ., Korea), Donguk Seo (Sungkyunkwan Univ., Korea), and Changhwan Choi (Hanyang Univ., Korea)

[P2-010]

Stability Enhancement of Dynamic Spectroscopic Imaging Ellipsometer

Gukhyeon Hwang, Vamara Dembele, Sukhyun Choi, Saeid Kheiryzadehkhanghah, Inho Choi, Junbo Shim (Jeonbuk Nat'l Univ., Korea), Sungtae Kim, Sangjun Kim (AUROS Tech., Korea), and Daesuk Kim (Jeonbuk Nat'l Univ., Korea)

[P2-011]

A Study on Harmonic Currents Generated by AC Voltage in Double Langmuir Probes

NaYeon Kim, JaeHwi Kim, Jeonghyun Lee, HyoJun Choi, and Chin-Wook Chung (Hanyang Univ., Korea)

[P2-012]

Ultrasonic Powder Buildup Measure in Semiconductor Deposition Equipment Facility for Condition-Based Monitoring

Chan Young Kim, Hwang Gyu Kim, and Sang Jeen Hong (Myongji Univ., Korea)

[P2-014]

Estimation of Electron Density and Electron Temperature of Inductive Coupled Ar Plasmas from Optical Emission Spectra with Collisional Radiative Model

Jaehyeon Kim, Sanghun Lee, Sanghee Han, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P2-015]

Effect of the Composition of Yttrium Oxyfluoride (YO_xF_y) for Semiconductor Equipment Parts on the Plasma Resistance and Heat Resistance

Jongho So, Minjoong Kim, Hyuksung Kwon, SangWon Nam, SeonJeong Maeng (KRISS, Korea), Chin-Wook Chung (Hanyang Univ., Korea), and Ju-Young Yun (KRISS, Korea)

[P2-016]

Characterization of Highly Transparent Ga_2O_3-Based Thin Film Transistor

Jisu Kim, Yerin Jeon, Seokwon Lim, Dukhwan Kim, Jiyeong Park, Chiwan Park, and Hyungtak Seo (Ajou Univ., Korea)

[P2-017]

Analysis of Ferroelectric and Electric Properties in Ti Doped HfO_2 Deposited by RF Sputtering

Yerin Jeon, Seokwon Lim, Jisu Kim, Dukhwan Kim, Jiyeong Park, and Hyungtak Seo (Ajou Univ., Korea)

[P2-018]

Characterization of the Mechanism of Annealing and Crystal Phase for Mott Transistor Operation

Seok Won Lim, Duk Hwan Kim, Yeong Hwan Ahn, Ye Lin Jeon, Ji Yeong Park, Ji Woong Kim, Ji Su Kim, Mohit Kumar, and Hyungtak Seo (Ajou Univ., Korea)

[P2-019]

Study of Comprehensive Data Collection Device for Inductively Coupled Plasma

Yonghyun Kim, Jong-Sik Kim, Jong-Bae Park, and Jong-Hyeon Shin (KFE, Korea)

[P2-020]

Plasma Diagnostics for the Uniform Nitriding Process on 300 mm Wafers

Jong-Bae Park, Jonghyeon Shin, Yong-Hyun Kim, and Jong-Sik Kim (KFE, Korea)

[P2-021]

Analyzing Inductively Coupled Plasma Nitridation Process through Experimentation and Data Analysis

Jong-Hyeon Shin, Jong-Bae Park, Yong-Hyun Kim, and Jong-Sik Kim (KFE, Korea)

[P2-022]

Developed Technology for Thickness and Process Diagnosis Sensor to Improve the Reliability of Nano-Etching

Yunseok Lee, Junho Jeong, Eunchong Kang, and Kyongnam Kim (Daejeon Univ., Korea)

[P2-023]

Effective Methods for Eliminating $(NH_4)_2SiF_6$ Powders Generated on Si_3N_4 Wafers Processed by HF VPD

Hyojun Kwon, Wooguk Lee, Taehun Shim, and Jeagun Park (Hanyang Univ., Korea)

[P2-024]

Temperature Dependent Interface Barrier Behavior of the Ni/Au Schottky Contacts to Epitaxial α-Ga_2O_3 Films on Sapphire Substrate

Sosorburam Boldbaatar, V. Janardhanam, Munkhsaikhan Zumuukhorol, Hoon-Ki Lee, Kyu-Hwan Shim (Jeonbuk Nat'l Univ., Korea), Zagarzusem Khurelbaatar (Mongolian Univ. of Science and Tech., Mongolia), and Chel-Jong Choi (Jeonbuk Nat'l Univ., Korea)

[P2-025]

Gate-All-Around with Back-Gate (GAAB) NAND Structure for Advanced 3D NAND Flash Memory

Jae-Min Sim, Jiho Song, Beom-Su Kim, and Yun-Heub Song (Hanyang Univ., Korea)

[P2-026]

Improvement of Spatial Distribution Measurement of Plasma Parameters through Asymmetric Probe in Double Langmuir Probe

Tae-Wung Hwang, Hyun-Dong Eo, Seong-Joon Park, and Chin-Wook Chung (Hanyang Univ., Korea)

[P2-027]

Investigation of Mechanical Stress on Tungsten and Molybdenum Gate 3D NAND Flash Memory with Tapered Channel Hole

Dong-Gwan Yoon and Yun-Heub Song (Hanyang Univ., Korea)

[P2-028]

A GPU-Based Graph Engine for Large-Scale Network Analysis

Myung-Hwan Jang (Hanyang Univ., Korea), Yunyong Ko (Univ. of Illinois Urbana-Champaign, USA), Dongkyu Jeong, Jeong-Min Park (Hanyang Univ., Korea), and Sang-Wook Kim (Hanyang Univ., Korea)

[P2-029]

RealGraph^{Web}: A Graph Analysis Platform on the Web

Myung-Hwan Jang, Yong-Yeon Jo, and Sang-Wook Kim (Hanyang Univ., Korea)

[P2-030]

The Simulation Study on Optimal Electrode Width and Gap Ratio and Electroadhesion Force in ESC

Choong-Hwan Lim and Dong-Kyun Min (Korea Univ. of Tech. & Education, Korea)

[P2-031]

Performance Improvement of β-Ga_2O_3 Deep Ultraviolet Photodetector by Plasma Assisted Pulsed Laser Deposition

Taeyoung Kim, Yoonsok Kim, Wonchae Jeong, and Eun Kyu Kim (Hanyang Univ., Korea)

[P2-032]

Effect of Polymer Passivation on Performance of WSe_2/n+-Si Junction Field-Effect Transistors

Yoonsok Kim, Taeyoung Kim, and Eun Kyu Kim (Hanyang Univ., Korea)

[P2-033]

High-Performance Self-Powered Perovskite Photodetector with ZTO Electron Transport Layer

Hang Shu (Hanyang Univ., Korea), Naushad Khan, Rohit Chuahan, Vikash Singh, V.C. Srivastava (Indian Inst. of Tech. Roorkee, India), Md. Naushad (King Saud Univ., Saudi Arabia), and Jinsub Park (Hanyang Univ., Korea)

[P2-034]

Effects of UV Ozone Surface Treatment on Leakage Current in AlGaN/GaN Schottky Diode

Wonjun Heo, Minjun-Kim, Jae-Hyuck Choi (Hanyang Univ., Korea), Jung-Hun Park (Seoul Nat'l Univ., Korea), and Jinsub Park (Hanyang Univ., Korea)

[P2-035]

Design of Optimal Cooling Conditions for Polymer Electrolyte Membrane Fuel Cell (PEMFC) Using Finite Element Method and Various Variables Affecting It

Seung-Wook Kim, Hwa-Pyeong Lee, Min-Kyu Kim, and Dae-Yong Jeong (Inha Univ., Korea)

[P2-036]

Enhanced Dielectric Properties of BNT-SBT Thick Film by Polishing Fabricated through Aerosol Deposition

Hwa-Pyeong Lee, Seung-Wook Kim, Min-Kyu Kim, and Dae-Yong Jung (Inha Univ., Korea)

[P2-037]

Optimization of Synthesizing Process of Ultra-High-Purity Quartz Powder via Sol-Gel Process based on Potassium Silicate Solution

Woo-Guk Lee, Ji-Ho Choi, Tae-Hun Shim, and Jea-Gun Park (Hanyang Univ., Korea)

[P2-038]

Numerical Investigation of the Membrane Distillation to Produce the Industrial Water

Jung-Gil Lee, Cheonkyu Lee, and Jinman Kim (KITECH, Korea)

[P2-039]

Structural, Optical and Magnetic Properties of Yttrium-Substituted Erbium Iron Garnet

Yeon Woo Nahm, Yujin Cho, and Suyeon Cho (Ewha Womans Univ., Korea)

[P2-040]

Systolic Array with Convolution Sliding Operations for Depth-Wise Convolution

Do Won Kim, Ye Eun Kim, and Jungwook Choi (Hanyang Univ., Korea)

[P2-041]

Fully Stretchable One-Dimensional Triboelectric Generators via Stretchable Carbon Nanotube Conductor

Woo Jong Kim, Sobi Cho (Hanyang Univ., Korea), Minkyung Kim, John Hong (Kookmin Univ., Korea), and Jin Pyo Hong (Hanyang Univ., Korea)

[P2-042]

Control of Spin Hall and Rashba Efficiency in a HM/FM/Oxide Frame by External Bias of HfOx Gate Oxide

Jeonghun Shin, Jeongwoo Seo, and Jinpyo Hong (Hanyang Univ., Korea)

[P2-043]

Sparse PointPillars Accelerator for Real-Time Point Cloud 3D Object Detection

Hyungmin Kim and Jungwook Choi (Hanyang Univ., Korea)

[P2-044]

Analysis of RLM Reduction by POD Scheme in PAM4 Applied Next-Generation Graphic Memory Interfaces

Hyuntae Kim and Jaeduk Han (Hanyang Univ., Korea)

[P2-045]

Low-Power Continuous-Time Delta-Sigma ADC Design for Robust Signal Sensing

Jaedo Kim and Jeongjin Roh (Hanyang Univ., Korea)

[P2-046]

A Chopper Current-Feedback Instrumentation Amplifier with Negative-C

Hwaseong Shin and Jeongjin Roh (Hanyang Univ., Korea)

[P2-047]

StrongArm Latch with Multi-Threshold Voltage Design Technique

Sunoh Yeom and Jaeduk Han (Hanyang Univ., Korea)

[P2-048]

Electrovibration Tactile Layer for Stretchable Touch Display

Beom Hee Park (Hanyang Univ., Korea), Haleen Hong (North Carolina State Univ., USA), Byeonghak Park (Stanford Univ., USA), and Yei Hwan Jung (Hanyang Univ., Korea)

[P2-049]

Effects of Temperature and Humidity Conditions on Morphology of Spin-Coated $Cs_2AgBiBr_6$ Film

Jeongah Lim, UiJin Jung, Bomseumin Jung, Shen Wenhu and Jinsub Park (Hanyang Univ., Korea)

[P2-050]

Time Series Forecasting with Graph Structure Learning

JuHyeon Kim (Hanyang Univ., Korea), LarkKwon Choi (Qualcomm, USA), and KiJung Yoon (Hanyang Univ., Korea)

[P2-051]

Connectivity Inference of Biological Neural Networks through Systematic Perturbations

Taehoon Park (Hanyang Univ., Korea), Muryong Kim (Qualcomm, USA), and Kijung Yoon (Hanyang Univ., Korea)

[P2-052]

Laser-Driven Phase Transition in $Mo_{1-x}W_xTe_2$ Alloy

Ha Heun Lee, Eunji Lim, Seohui Kang (Ewha Womans Univ., Korea), Yonas Assefa Eshete, Dongyeun Won (Sungkyunkwan Univ., Korea), Yongjoon Lee, Ju-Yeong Jeong, Heejun Yang (KAIST, Korea), Ching-Yu Chiang (NSRRC, Taiwan), Suyeon Cho (Ewha Womans Univ., Korea)

[P2-053]

Optimization of Amorphous In-Ga-Zn-O High Voltage Thin Film Transistor

Sangduk Kim, Hyoungbeen Ju, Jiyoung Bang, Hyeonjeong Sun, Minjin Kwon, Yeonghun Lee, Eunsuk Choi, Onejae Sul, and Seung-Beck Lee (Hanyang Univ., Korea)

[P2-054]

Plasma Density Spatial Distribution Measurement Using Flat Cutoff Array Sensor in Low-Pressure Plasmas

Hee Jung Yeom, Min Young Yoon, Gwang-Seok Chae, Jung Hyung Kim, and Hyo-Chang Lee (KRISS, Korea)

[P2-055]

Electrotactile Epidermal Electronics Using PVA Transfer Printing

Jun Hee Lee (Hanyang Univ., Korea), Jong Uk Kim, Jaeyoung Yoo (Northwestern Univ., USA), and Yei Hwan Jung (Hanyang Univ., Korea)

[P2-056]

Cortical Surface Segmentation based on Graph Neural Network Using Non-Spherical Spatial Coordinates

Donghee Kang (Hanyang Univ., Korea), Juhun Lee (The Univ. of Pittsburgh, USA), and Kijung Yoon (Hanyang Univ., Korea)

[P2-057]

The Effect of Roughness of Substrate for PCB Patterning

Min-Woo Kim, Da-Kyoung You, Yu-Jin Chae, and Hye-Keun Oh (Hanyang Univ., Korea)

[P2-058]

Memory Reduction Implementation of NTT: Cornerstone of PQC Implementation on Low-End Hardware

Jinhang Kim, Dongwoo Han, and Dong-Joon Shin (Hanyang Univ., Korea)

[P2-059]

Modeling of the Heat Transfer and Off-Gas Emissions during the Production of Polyacrylonitrile-Based Carbon Fibers

Zaher Ramadan, Gyo Woo Lee, and Ik-Tae Im (Jeonbuk Nat'l Univ., Korea)

[P2-060]

Applying XAI to Fault Detection and Classification for Semiconductor Manufacturing Processes

Jongsoo Lee, Byeongtae Park, and Dong-Kyu Chae (Hanyang Univ., Korea)

[P2-061]

A Sequential Neural Model towards Fault Detection and Classification for Semiconductor Manufacturing Processes

Byeongtae Park, Jongsoo Lee, and Dong-Kyu Chae (Hanyang Univ., Korea)

[P2-062]

MoS_2-$MoSe_2$ Heterostructures for Efficient Hydrogen Evolution Reaction

Seungyeon Lee (Ewha Womans Univ., Korea), Jeongwon Park, Kibum Kang, Heejun Yang (KAIST, Korea), and Suyeon Cho (Ewha Womans Univ., Korea)

[P2-063]

Effects of Plasma-Induced Etch Damage to Channel Surface in a-IGZO TFTs and Post-Annealing Process for Recovery

Minjin Kwon, Hyongbeen Ju, Jiyoung Bang, Jinsil Gong, Yeonsu Lee, Hyeonjeong Sun, Sangdeok Kim, Yeonghun Lee, Onejae Sul, and Seung-Beck Lee (Hanyang Univ., Korea)

[P2-064]

Analysis of the Field-Effect Mobility Boosting of IGZO TFTs Depending on Ta Capping Layer Dimensions

Hyeonjeong Sun, Hyoungbeen Ju, Jiyoung Bang, Minjin Kwon, Sangdeok Kim, Yeonghun Lee, Onejae Sul, and Seung-Beck Lee (Hanyang Univ., Korea)

[P2-065]

Efficient OCSSD Firmware Technology for Storage-Level Data Relocation

Inyeong Song and Sang-Won Lee (Hanyang Univ., Korea)

[P2-066]

Research on the Correlation between Process Information and Block I/O Patterns

Kexin Wang and Sang-Won Lee (Hanyang Univ., Korea)

[P2-067]

Enhancement of Photoresist Etching by Controlling the Impedance between Bias Electrode and Ground in an Inductively Coupled Plasma

He You, Jiang Yilang, and Chin-Wook Chung (Hanyang Univ., Korea)

[P2-068]

Low Power Depletion-Mode Gate Driver Using a-IGZO TFTs

June-Hee Lee, Yong-Duck Kim, and Byong-Deok Choi (Hanyang Univ., Korea)

[P2-069]

Small Area, Wide Dynamic Range Photocurrent Difference Read-Out Circuit for TFT Photosensor Using a-IGZO TFT

Yuna Ju, Yong-Duck Kim, and Byong-Deok Choi (Hanyang Univ., Korea)

[P2-070]

Interactive Bicycle Game Design Using AR Technology

HaeKyung Chung (Konkuk Univ., Korea) and JangHyok Ko (Shamyook Univ., Korea)

[P2-071]

I-V Curve Prediction Modeling of Si Solar Cells Using Artificial Neural Network

KyeongMin Kim, SeongGyeom Kim, and Jonghwan Lee (Sangmyung Univ., Korea)

[P2-072]

Improvement in Maximum Power Point Tracking Accuracy of Photovoltaic System based on Neural Network

Younghyun Lee and Jonghwan Lee (Sangmyung Univ., Korea)

[P2-073]

Comparison of I-V Curves of Solar Cells based on Neural Network

Soyoung Park and Jonghwan Lee (Sangmyung Univ., Korea)

[P2-074]

Smart Farm Using Raspberry Pi for Optimal Environmental Conditions

Jong-Huy Choi, Yong-Hyeok Yoon, Tae-Kyeong Song, and Dae-Ki Hong (Sangmyung Univ., Korea)

[P2-075]

Influences of Thickness and Substrate on Apparent Color of Exfoliated WS_2 Flakes

Jungyoon Cho, Anh Thi Nguyen, Jungeun Song, Eunseo Cho, Seoyeong Lim, Soyeong Kwon, and Dong-Wook Kim (Ewha Womans Univ., Korea)

[P2-076]

Highly Crystallized ALD SnO Semiconductor by In-situ Stacking Al_2O_3 Layer and the Associated P-Type Oxide Device Performances

Hye-Mi Kim, Su-Hwan Choi, and Jin-Seong Park (Hanyang Univ., Korea)

[P2-077]

The Role of Sn Element on PEALD ITGO TFTs with Reliable NBIS Stability

Dong-Hyeon Lee, Dong-Gyu Kim, Minseok Kim (Hanyang Univ., Korea), Sangoon Uhm, Taewon Kim, Bongjin Kuh (Samsung Electronics Co., Ltd., Korea), and Jin-Seong Park (Hanyang Univ., Korea)

[P2-078]

Plasma Density Measurement Using Power of Reflected Signal

Jae-Hyeon Kim, Gi-Won Shin, Woo-Jae Kim, Hee-Tae Kwon, Sun-Hee Lee, Ji-Hwan Kim, Yeon-Soo-Park, In-Young Bang, and Gi-Chung Kwon (Kwangwoon Univ., Korea)

[P2-079]

Thickness Dependent Electrical Characteristics on Ultra-Thin Body IGZO Field Effect Transistors

Min Jae Kim, Hyeong Jin Park (Hanyang Univ., Korea), Sungwon Yoo, Min Hee Cho (Samsung Electronics Co., Ltd., Korea), Junghwan Kim, Hideo Hosono (Tokyo Inst. of Tech., Japan), and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P2-081]

Achieving Low-Power Consumption and High Stability of BEOL Compatible IGZO Thin-Film Transistors

Cheol Hee Choi and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P2-082]

Improved Synaptic Behaviors in Oxide/Suboxide HfO_x Bilayer RRAM Devices

D.P. Sahu, P.H. Chung, K. Park, J. Han, and T.-S. Yoon (UNIST, Korea)

[P2-083]

Delta-Sigma Modulator for Low-Power Smart Manufacturing Sensors

Chiho Song and Jeongjin Roh (Hanyang Univ., Korea)

[P2-084]

Microstructure Control and Mechanical Properties Evaluation of Multi-Layered Thin Film Plated in Various Thicknesses

Han-Kyun Shin, Hyun Park, Young-Jun Cho, and Hyo-Jong Lee (Dong-A Univ., Korea)

[P2-085]

Novel Strontium Precursors for Next-Generation Capacitor in DRAM

Chanwoo Park, Bo Keun Park, and Taek-Mo Chung (KRICT, Korea)

[P2-086]

Comparative Analysis of Electronic Power Absorption in Dual Frequency Capacitive Coupled Plasma Device Using a Two-Dimensional Particle-In-Cell Simulation

SunJeong Hwang, Hwan Ho Kim, Ji Hyun Shin, and Hae June Lee (Pusan Nat'l Univ., Korea)

[P2-087]

Position-Selective Growth of Lateral $PtTe_2$-MoS_2 Heterojunctions for Atomic Transistors with Edge Contacts

Seunguk Song, Aram Yoon, Jong-Kwon Ha, Jihoon Yang, Sora Jang (UNIST, Korea), Chloe Leblanc (Univ. of Pennsylvania, USA), Jaewon Wang, Yeoseon Sim (UNIST, Korea), Deep Jariwala (Univ. of Pennsylvania, USA), Seung Kyu Min (IBS, Korea), Zonghoon Lee (UNIST, Korea), and Soon-Yong Kwon (UNIST, Korea)

[P2-088]

Painting of Solution-Processed 2D Carbide MXene Flakes for Ultrathin Coatings with Tunable Thickness and Electrical Conduction

Shi-Hyun Seok, Seungjun Choo, Jinsung Kwak, Hyejin Ju, Ju-Hyoung Han, Woo-Seok Kang (UNIST, Korea), Joonsik Lee (KIMS, Korea), Se-Yang Kim, Do Hee Lee, Jungsoo Lee, Jaewon Wang, Seunguk Song, Wook Jo (UNIST, Korea), Byung Mun Jung (KIMS, Korea), Han Gi Chae, Jae Sung Son (UNIST, Korea), and Soon-Yong Kwon (UNIST, Korea)

[P2-089]

Epitaxial Process for Dislocation Free SiGe Layer by Ultra-High-Vacuum CVD

Jihoon Kim, Kijun Kim, Hyojun Kwon, Taehun Shim, and Jeagun Park (Hanyang Univ., Korea)

[P2-090]

Synaptic Characteristics of the In-Ga-Zn-O Thin-Film Transistors with Defective Oxides

Donghyeok Park, Hyunjoon Jeon, Chanwoo Kim, Hyunjin Choi, Juhyun Hong, Yerin Shin, Danyoung Cha, Yeonsu Kang, and Sungsik Lee (Pusan Nat'l Univ., Korea)

[P2-091]

Tunable Resistive Switching based on Sulfur Vacancy Engineering of Polycrystalline MoS_2

Ojun Kwon and Byungjin Cho (Chungbuk Nat'l Univ., Korea)

[P2-092]

Highly Stable InGaZnO Field Effect Transistor with Buried-Gate Structure

Do Hyeong Kim and Byungjin Cho (Chungbuk Nat'l Univ., Korea)

[P2-093]

Outstanding Optical Performance of NbS_2/n-MoS_2/p-Si Heterostructured Photodiode via One-Step CVD Process

Hyun Young Seo and Byungjin Cho (Chungbuk Nat'l Univ., Korea)

[P2-094]

N-MoS_2/p-Si Heterojunction with Graphene Interlayer for High-Performance IR Photodetector

Wondeok Seo, Woojin Park, Do Hyeong Kim, and Byungjin Cho (Chungbuk Nat'l Univ., Korea)

[P2-095]

Development of Low-Temperature Curable Overcoat Materials with a High Hardness

Il-Ji Bae, Hohyun Yang, Sun Hong Yoon (KETI, Korea), Yu Sun (Herachem Tech. Co., Ltd., Korea), and Miyoung Kim (KETI, Korea)

[P2-096]

Excavating the Optimal Composition and Combination of Ferroelectric/Dielectric for Developing Practical NCFET

Yuri Kim, Joonki Suh, Hongsik Jeong, and Dong-Hyeok Lim (UNIST, Korea)

[P2-097]

Nano-Structural Analysis of Organic and Organic/In-Organic Hybrid Semiconductor Thin Films Using Synchrotron X-Rays

Seungyeon Hong, Haeun Yoon, Sung Hun Lee, Hanbin Lee, Kyungmin Lee, Hyomin Seo, Inhwa Cho, and Hyo Jung Kim (Pusan Nat'l Univ., Korea)

[P2-098]

Using Nano-Porous Polymer Film: Optical Physical Unclonable Function

Min Seong Kim and Gil Ju Lee (Pusan Nat'l Univ., Korea)

[P2-099]

Rethinking the Advantages of Linear Conductance Learning Curves on On-Chip Memristor Synapse Devices for Neural Networks Training

Donghyun Lee, Hanbin Cho, Joonki Suh, Hongsik Jeong, and Dong-Hyeok Lim (UNIST, Korea)

[P2-100]

Omnidirectionally Stretchable Strain Sensor Using Crumple MoS_2

Min-Ji Jeon (Pusan Nat'l Univ., Korea), Seoungwoong Park, Byung Hee Hong (Seoul Nat'l Univ., Korea), and Seoung-Ki Lee (Pusan Nat'l Univ., Korea)

[P2-101]

Implementation of PECVD Equipment Monitoring and Diagnosis System Using Machine Learning

Younji Lee, Jeong Eun Choi, Surin An, and Sang Jeen Hong (Myongji Univ., Korea)

[P2-102]

Study for Measurements of Plasma-Generated Radicals in Inductively Coupled Fluorocarbon Plasma

Won-Seok Chang, Sang-Young Jung, Yeong-Geun Yook (KFE, Korea), Jae-Hyung Park (Jeonbuk Nat'l Univ., Korea), Deuk-Chul Kwon (KFE, Korea), Dong-Hun Yu (Kyung Won Tech. Inc., Korea), Hee-Chul Choi (KFE, Korea), and Yeonh-Ho Im (Jeonbuk Nat'l Univ., Korea)

[P2-103]

Real-Time Endpoint Detection of Si3N4 Films in Plasma Etching Using Optical Emission Spectroscopy with Spectral Clustering

Seonghyeon Lee, Hojun Choi, Jaehyeon Kim, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P2-104]

Development of Tip/Tilt Stage for Alignment of Wafer Bonding

Hak-Jun Lee (KITECH, Korea), Dahoon Ahn (Seoul Nat'l Univ. of Science and Tech., Korea), and Cheonkyu Lee (KITECH, Korea)

[P2-105]

Ruthenium Filling Using Electroplating for 3D Integration

Youjung Kim, Haneul Han, and Bongyoung Yoo (Hanyang Univ., Korea)