[TS01F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS01F_P_1

Ultrathin Cyano-Functionalized Copolymer Memristors via iCVD for High-Resolution CNN Computing

Minsu So[1], Ji In Kim[1], Taehoon Kim[1], Woo Jin Wang[2], Yong Goo Shin[2], Min Ju Kim[1], and Junhwan Choi[1]

([1]Dankook University, [2]Korea University)

TS01F_P_2

Interfacial Charge-Trapping Bilayer Dielectric Transistor for Dual Memory-Synapse Functionality

Sunwoo Jeong[1], Gyeongho Lee[2], Hyeonjung Kim[3], Seyong Oh[3], Hocheon Yoo[3], and Junhwan Choi[1]

([1]Dankook University, [2]Korea University, [3]Hanyang University)

TS01F_P_3

Ultra-Low Voltage ReRAM with High-Speed and Low-Power Switching

Min Kyung Lee[1], Hyun Kyu Seo[2], Jae Jun Lee[2], Changhwan Shin[1], and Min Kyu Yang[2]

([1]Korea University, [2]Sahmyook University)

TS01F_P_4

Optimization of Ga_2O_3 Passivation and Post-Annealing Conditions for Enhanced Reliability of IGZO Thin-Film Transistors

Yoonmi Kim, Yoonsu Kim, Suhwon Choi, Hyeonjeong Sun, Seungmin Choi, Seungjae Lee, Yeoeun Yun, Taeyang Kim, Hyoseon Lee, Heesun Lim, and Seung-Beck Lee

(Hanyang University)

TS01F_P_5

An Aqueous Route to Oxygen-Deficient Wake Up-Free La-Doped HfO_2 Ferroelectrics for Negative Capacitance Field Effect Transistors

Taewoong Kim, Pavan Pujar, Haewon Cho, and Sunkook Kim

(Sungkyunkwan University)

TS01F_P_6

A Study on Low-Temperature Plasma-Assisted Growth of Large-Area MoS_2 for Transparent Phototransistors

Hyunsoo Kim, Arindam Bala, and Sunkook Kim

(Sungkyunkwan University)

TS01F_P_7

Ultrasensitive Volatile Organic Compound Detection Using a LUSH-Functionalized Nanoporous MoS_2 Transistor

Minhyuk Jeon, Junoh Shim, and Sunkook Kim

(Sungkyunkwan University)

TS01F_P_8

Solution-Processed La:ZrO_2 Ferroelectric Oxide FETs for Neuromorphic Computing

Md Mobaidul Islam and Sunkook Kim
(Sungkyunkwan University)

TS01F_P_9

Trap-Engineered Chalcogenide Selector-Only Memory for Enhanced Threshold Voltage Modulation and Array-Level Stability

Jae Jun Lee, Min Kyung Lee, Hyun Kyu Seo, and Min Kyu Yang
(Sahmyook University)

TS01F_P_10

Enhanced NO_2 Gas Sensing Performance of Pt Nanoparticle-Decorated IGZO TFTs

Dong Chan Jung, Seong Ho Kong, Hyunjun kim, Da Ye kim, Noah Jang, Gyeonghyeon Lee, and Young Hwan Yu
(Kyungpook National University)

TS01F_P_11

A Next-Generation NH_3Sensors based on Polyaniline-Carbon Nanotube Nanocomposite Thin Films

Namdev Harale[1] and Pramod Patil[2]
([1]Sadguru Gadge Maharaj College, Karad, [2]D. Y. Patil Education Society)

TS01F_P_12

Fe-MST Memory Enabled by Ferroelectric-Driven Phase Transition in van der Waals Heterostructures

Dokyoeng Yun and WooJong Yu
(Sungkyunkwan University)

TS01F_P_13

Wafer-Scale Mn Substitutional Doping in Epitaxial WS_2 Monolayers via MOCVD Toward 2D Nanoelectronics

Yunjung Cho, Wonchan Lee, Seohee Park, and Seunguk Song
(Sungkyunkwan University)

TS01F_P_14

Seed-Assisted Substitutional Doping of the Late 3d-Transition Metals in Transition Metal Dichalcogenides

Enoch Elorm Anthonio[1], Hang Sik Kim[1], Young-Min Kim[1], Young-Kyu Han[2], and Ki Kang Kim[1]
([1]Sungkyunkwan University, [2]Dongguk University)

TS01F_P_15

Reconfigurable Signed Photoresponse for In-Sensor Analog Vision Processing

Hai Phuong Duong[1], Vu Khac Dat[2], Hue Tran[1], Van Cao Nguyen[1], Hongseok Oh[3], and Ki Kang Kim[1]
([1]Sungkyunkwan University, [2]VinUniversity, [3]Soongsil University)

TS01F_P_16

Graphene Based Hot Carrier Solar Cell with Enhanced Carrier Extraction

Hue Tran, Hayoung Ko, Jaewoo Kim, and Ki Kang Kim
(Sungkyunkwan University)

TS01F_P_17

Gate-Tunable Out-of-Plane Polarization in h-BN Encapsulated Monolayer MoSeS

Van Cao Nguyen[1], Swathi Krishna[1], Ngoc Thanh Duong[2], and Ki Kang Kim[1]
([1]Sungkyunkwan University, [2]Phenikaa University)

TS01F_P_18

Sn-Doped GeSbSeTe Selector-Only Memory: From Expanded V_{th}Margin to Robust BNN Inference

Hyun Kyu Seo[1], Min Kyung Lee[2], Jae Jun Lee[2], Min Hyuk Park[1], and Min Kyu Yang[2]
([1]Seoul National University, [2]Sahmyook University)

TS01F_P_19

Ternary Inverter Operation for Multivalued Logic in WSe_2 Multilayers without Heterojunctions

Hyejin Kim, Seojin Nam, and Min-Kyu Joo
(Sookmyung Women's University)

TS01F_P_20

Geometry, Anchor, and Bond Engineering of Monolayer MoS_2Nanoribbon Transistors for Sub-500 nm Channel Scaling

Jejun Lee and Jin-Hong Park
(Sungkyunkwan University)

TS01F_P_21

Vertical Stacked Heterostructure Devices and Its Applications to HighDensity Multi-Valued Logic System

Kyu Hyun Han and Hyun Yong Yu
(Korea University)

TS01F_P_22

Diagonal Gate Molybdenum Disulfide Transistor Array Enabling Fast and Energy-Efficient In-Sensor Computing

Seungguan Lee[1], Mincheol Kim[2], Seungkwon Hwang[2], Jihoon Jeon[1,3], Yonghoon Kim[2], Seung Keun Kim[1,3], and Gunuk Wang[1,3,4]
([1]KU-KIST, [2]Korea Institute of Materials Science, [3]Korea Institute of Science and Technology, [4]Korea University)

TS01F_P_23

Ultra-Flexible Memristive Reservoir Array for Always-On Wearable Audio Temporal Computing

Hyojin Shin[1], Haein Cho[2], Sangyeon Kim[3], Sungju Ryu[3], and Gunuk Wang[1]
([1]Korea University, [2]University of Virginia, [3]Sogang University)

TS01F_P_24

Ferroelectric Van Der Waals α-In_2Se_3-Based Electrochemical Metallization Memristors with Programmable Volatile-Nonvolatile Switching for Neuromorphic Computing

Soo-hyun Lee[1], Jong-Hyun Kim[1], Hyeong-Kyu Jin[1], Deji Akinwande[2], and Hyun-Yong Yu[1]
([1]Korea University, [2]University of Texas at Austin)

TS01F_P_25

Top-Electrode-Dependent Dielectric Characteristics of Morphotropic Phase Boundary in $Hf_xZr_{1-x}O_2$ Capacitors for DRAM Applications

Donguk Lee, Eunjin Kim, and Jiyong Woo
(Kyungpook National University)

TS01F_P_26

MeaSSUre:I-V: Open-Source Software for I-V Characterization of Electronic Devices

Hongseok Oh
(Soongsil University)

TS01F_P_27

Mapping Local Pressure by Coupling Resistive Pressure Sensor and Thermochromic Panel

Sungjun Ahn and Wooyoung Shim
(Yonsei University)

TS01F_P_29

SiOx Threshold Switching Device-Based Probabilistic Bits for Probabilistic Logic Gates

Seolhwa Lee, Jihyun Kim, Eunjin Kim, and Jiyong Woo
(Kyungpook National University)

TS01F_P_30

Crystallinity Optimization of $BaTiO_3$ Thin Films for High-K MIM Capacitor Applications

Dain Kwon[1,2], Seongmo Kang[1], Seock-Jin Jeong[1], Byeongjin Park[1], Junwoo Kim[1,2], Mincheol Kim[1,2], Jiwoo Kim[1], and Yonghun Kim[1,2]
([1]Korea Institute of Materials Science, [2]University of Science and Technology)

TS01F_P_31

Phase-Transition-Mediated Co-Intercalation of for Room-Temperature 2D Spintronics

Joonmin Woo and Woojong Yu
(Sungkyunkwan University)

NANO KOREA 2026 Conference

[TS02F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS02F_P_1

Wafer-Scale Dual-Vision Active Pixel Image Sensor Array Using Large-Area Bilayer WS_2 Phototransistors

Siyun Lee and Sunkook Kim

(Sungkyunkwan University)

TS02F_P_2

Recrystallization-Driven Performance and Stability Enhancement in Te TFTs for Stable CMOS Operation

Jaeyoon Shim[1], Jaemin Jung[1], Dahui Jeon[1], Jae-Seung Lee[2], and In-Hwan Baek[1]

([1]Inha University, [2]A-Tech System)

TS02F_P_3

Self-Aligned Atmospheric CF_xPlasma Engineering of p-Type SnO TFTs for BEOL-Compatible Monolithic 3D Integration

Jaemin Jung[1], Jaeyoon Shim[1], Dahui Jeon[1], Chi Hun Lee[1], Eun Seong Yoo[1], Sung Kwang Lee[2], Taek-Mo Chung[2], Jae-Seung Lee[3], Hyung Chul Ham[1], and In-Hwan

([1]Inha University, [2]Korea Research Institute of Chemical Technology, [3]A-Tech System)

TS02F_P_4

Enhanced Non-Destructive Read-Out in HZO Ferroelectric Capacitors via Asymmetric C-V Engineering with MPB and Al_2O_3 Trap Layer

Sungju Jung and Rino Choi

(Inha University)

TS02F_P_5

Vertical Nanogap Engineering via SiO_2 Undercut for Enhanced SERS Detection

Qi Qin[1,2], Hyojin An[1,2], Byeong-Kwon Ju[2], and Joo-Yun Jung[1]

([1]Korea Institute of Machinery & Materials, [2]Korea University)

TS02F_P_6

Plasma-Assisted Nanotransfer Printing of Porous Au Nanostructures on Reflective Substrates toward High-Performance SERS Sensing

Hyojin An[1,2], Byeong-Kwon Ju[2], Joo-Yun Jung[1], and Jun-Ho Jeong[1]

([1]Korea Institute of Machinery & Materials, [2]Korea University)

TS02F_P_7

Bias-Tunable Wavelength Discrimination in Back-to-Back Diodes Enabled by a Patterned oCVD Transport Layer

Yongju Lee[1], Yonggeon Lee[2], Gunyoung Jung[2], and Hyeonghun Kim[1]

([1]Chonnam National University, [2]Gwangju Institute of Science and Technology)

TS02F_P_8

Noise-Limited Optimal Q-Factor in Quasi-BIC Refractive Index Sensors

Tae Young Kang, Seunghun Lee, Soojung Kim, Seonwoo Jeong, Yu Been Byoun, Yoobean Lee, and Kyujung Kim
(Pusan National University)

TS02F_P_9

GaN MIS-HEMTs with a Plasma-Oxidized 2-Nm Insulating Layer Enabled by Fixed-Charge Reduction

Songyi Han[1], Won Yong Choi[2], and Dae-Myeong Geum[1]
([1]Inha University, [2]Genesem Inc.)

TS02F_P_10

High Current Stress Induced Performance Degradation of AlGaInP/GaInP Red MicroLEDs

Yeonbin Kang[1], Won Yong Choi[2], and Dae-Myeong Geum[1]
([1]Inha University, [2]Genesem Inc.)

TS02F_P_11

All-Inorganic Nanoribbon Yarns for Wearable Transducers

Junseong Ahn
(Korea University)

TS02F_P_12

Ultra-Thin, High-Adhesion Capacitive Strain Sensors with Polyimide Support for Underwater Rehabilitation Monitoring

Dongju Gwak and Yongrok Jeong
(Kyungpook National University)

TS02F_P_13

Improved IGZO TFTs with W Contacts via Deuterium Annealing through Suppression of Oxygen Diffusion

Woosub Byun[1], Won Yong Choi[2], and Dae-Myeong Geum[1]
([1]Inha University, [2]Genesem Inc.)

TS02F_P_14

Integrated Aligned Nanofiber Gold Nanoline Scaffolds for Spinal Cord Regeneration

Cheolhee Lee and Ji-Hwan Ha
(Hanbat National University)

TS02F_P_15

Rational Design of Middle-Bandgap Perovskite Solar Cells for Si/Perovskite/Perovskite Triple-Junction Tandems

Sungyeon Lim, Yeo Jin Choi, and Jin Young Kim
(Seoul National University)

TS02F_P_16

Fabrication of Nanoparticle-Embedded Nanowire-Mirror Junctions for Enhanced SERS

Hyojin An[1,2], Byeong-Kwon Ju[2], and Joo-Yun Jung[1]
([1]Korea Institute of Machinery & Materials, [2]Korea University)

TS02F_P_17

A Thermostable Microneedle-Based Recombinant Vaccine Against Botulinum Neurotoxin Serotype A

Gyunhee Cho and Yunwoo Lee
(Soongsil University)

TS02F_P_18

3D-Printed Microrobots Using Two-Photon Polymerization

Yunwoo Lee
(Soongsil University)

NANO KOREA 2026 Conference

[TS03F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS03F_P_1

Synthesis of Antimony Sulfobromide Nanowire Bundles Exhibiting Ambipolar Photoelectrochemical Photocurrent Switching via Colloidal Hot-Injection Method

Yerin Kim, Dagam Kim, Da Won Lee, Ho Young Woo, Yoonjoo Choi, Hyungyoon Choi, Giyoung Park, and Taejong Paik
(Chung-Ang University)

TS03F_P_2

Geometric Confinement Engineering of Wrinkles for Angle-Encoded Photonic Fingerprints

Kaliannan Thiyagarajan[1], Sungjoon Ji[1], Nguyen Hoang Minh[2], Kwanoh Kim[2], Jae Sung Yoon[2], and Taesung Kim[1]
([1]Ulsan National Institute of Science and Technology, [2]Korea Institute of Machinery & Materials)

TS03F_P_3

Wafer-Scale Nanowell Electrochemical Biosensor Array for Simultaneous Point-of-Care Detection of SARS-CoV-2, Influenza A Virus, and RSV

Hyunsuh Kim[1], Myeongeun Yeom[1], Wonchan Seo[2], Youngtae Seo[3], Yoomin Park[4], Namho Bae[4], Seokjae Lee[4], Younggeun Park[5], Zahra Razaei[6], Suryon Shin[6], and HeaYeon Lee[1,3,6]
([1]MARA Nanotech Inc., [2]Pukyong National University, [3]MARA Nanotech New York, Inc., [4]National NanoFab Center, [5]Yonsei University, [6]Harvard Medical School-Brigham and Women's Hospital)

TS03F_P_4

Quantitative Limitations of Microplastic Detection in SERS Measurement

Minjeong Kim, Donggeon Lee, and Jung-Sub Wi
(Hanbat National University)

TS03F_P_5

Hybrid Electrical-Optical PUFs: Utilizing Random Micro-Wrinkles in oCVD PEDOT Thin Film on PDMS Substrates

Eunjeong Jang, Minkyu Jeon, and Hyeonghun Kim
(Chonnam National University)

TS03F_P_6

Physical Unclonable Functions from Random Conductive Pathways in Ultrathin PEDOT Shells on Dewetted Au Nanoparticles

Kiho Choi, Juram Yun, and Hyeonghun Kim
(Chonnam National University)

TS03F_P_7

Anti-Reflection Coating Technology based on Effective Refractive Index Control Using Nanoparticles

Yu Jin Chang, Min Kyu Choi, and Seung-Chul Park
(Korea Institute of Machinery & Materials)

TS03F_P_8

Evaluation of Process Control and Reproducibility of Pneumatic Valve-Based Automated Microfluidic Systems

Da-In Kwon[1,2], Jae-Ho Jin[3], Kwanoh Kim[1], Jae Sung Yoon[1], Do Hyun Kang[1,4,5], and YeongEun Yoo[1]

([1]Korea Institute of Machinery & Materials, [2]Sogang University, [3]Neo Nanotech Co., Ltd., [4]Chung-Ang University, [5]University of Science and Technology)

TS03F_P_9

Structure-Guided 3D-Biprinted Linear Soft Actuator Using MTG-Crosslinked Gelatin and a Spring-Shaped PCL Framework

Ara Lee[1,2], Junhee Lee[1], Sunwoong Kang[3], Kang Moo Huh[2], Seunggyu Jeon[1], and Hosub Lim[1]

([1]Korea Institute of Machinery & Materials, [2]Chungnam National University, [3]Korea Institute of Toxicology)

TS03F_P_10

Laser-Induced Phase Transformation of Amorphous Ga_2O_3 Thin Films to β-Ga_2O_3 on Sapphire

Gi Hwan Kang[1], Min Cheol Cheon[1], Sukang Bae[2], and Lee Seoung-Ki[1]

([1]Pusan National University, [2]Korea Institute of Science and Technology)

TS03F_P_11

High-Performance Optoelectronic Synaptic Photomemristor based on ZnO/MoS_2 Heterojunction for Neuromorphic Computing

Sung Hyun Kim and Woo Jong Yu

(Sungkyunkwan University)

TS03F_P_12

Particle Ordering and Encapsulation within Droplets Using Acoustic Force in Newtonian Fluid Flow

Taeuk Eom[1], Youngseo Cho[1], Sangwook Lee[2], and YoungHak Cho[1]

([1]Seoul National University of Science and Technology, [2]PCL, Inc.)

TS03F_P_13

Pretreatment-Free Colorimetric Metrology Platform for Biomarker Quantification in Biological Sample

Seoyeon Bae[1,2] and Chanyong Park[1]

([1]Korea Institute of Machinery & Materials, [2]Kyungpook National University)

TS03F_P_14

Large-Area Graphene Synthesis toward Optical Interconnects via Joule-Heating CVD

Dae-Woong Seok[1,2], Kyeong-Shik Kim[1], Jae-Hyun Kim[1,3], Chan Kim[1], Sang-Hoon Lee[4], Kwang-Seop Kim[1,3], and Jae-Hyun Lee[2,5]

([1]Korea Institute of Machinery & Materials, [2]Sungkyunkwan University, [3]University of Science and Technology, [4]Jeonbuk National University, [5]National University of Singapore)

TS03F_P_15

Structural Thermal Analysis and Performance Evaluation of Large-Area Stretchable Transparent Micro-Heaters Using Computational Fluid Dynamics

Dong Woo Man[2], Se Yong Park[1], Chang Ju Shin[2], and Yoonkap Kim[1]

([1]Gumi Electronics & Information Technology Research Institute, [2]Korea Institute of Ocean Science and Technology)

TS03F_P_16

AI-Integrated Graphene Sensor for High-Precision Molecular Identification

Yun Ji Hwang, Teajong Hwang, Hang Dong, Geon Mo Kim, Seojun Yoon, and Seong Chan Jun
(Yonsei University)

TS03F_P_17

Cymatics-Driven 3D Nanoparticle Superlattice Assembly via Tunable Periodic Wave Patterns

Gyuhyeon Cho and Wooyoung Shim
(Yonsei University)

TS03F_P_18

Soft-Mask Near-Field Lithography for Parallel Nanoscale Patterning of Non-Planar Substrates

Jaehyeok Seo and Wooyoung Shim
(Yonsei University)

TS03F_P_19

Direct High Aspect Ratio Patterning of Quantum Dots for Next Generation Displays via Nanoimprint Lithography

Hyeoncheol Yang[1], Namyoung Gwak[1], Yoonjeong Lee[1,2], Yunji Eom[1], Soongeun Kwon[1], Hyungjun Lim[1], Jaejong Lee[1], Kee-Bong Choi[1], Sua Park[1], and Hak-Jong Choi[1]
([1]Korea Institute of Machinery & Materials, [2]Hanyang University)

TS03F_P_20

Molecular Printing of Thermochromic Ink for Rapid and Reversible Color Switching

Seungyeon Kim and Wooyoung Shim
(Yonsei University)

TS03F_P_21

Study of Edge Chipping on 3D Shaping of Single-Crystal Piezoelectric Elements for Ultrasound Transducer Application

Dong-Hyun Seo[1,2], Eun-Ji Gwak[1,2], Doo-Sun Choi[1], and Jun Sae Han[1,2]
([1]Korea Institute of Machinery & Materials, [2]University of Science and Technology)

TS03F_P_22

Evaluation of Mechanochromic Sensors for Small-Scale Displacement Measurement in Structural Health Monitoring

Kwangmo Lim[1], Ilhwan You[2], Gihong An[1], and Gumsung Ryu[1]
([1]Korea Institute of Civil Engineering and Building Technology, [2]Jeonbuk National University)

TS03F_P_23

Optimization of Microfluidic Packaging for Hermetic Sealing with Adhesive Film and Low Contact Resistance Using Cantilever Electrodes

Yeun-Jung Jung[1,2], Do-Hyun Kang[2], Kwanoh Kim[1,2], Jae-Sung Yoon[1,2], and Yeong-Eun Yoo[1,2]
([1]University of Science and Technology, [2]Korea Institute of Machinery & Materials)

[TS04F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS04F_P_1

Dual-Aluminum Metastructure with Process-Realistic SiO_2 Geometry for Broadband Quarter-Wave Plate Applications

Hyun Su Choi[1], Jongcheol Park[2], Choung Hyeon Lee[1], Joo Wan Kim[1], Hui Jae Cho[2], and Jong-Kwon Lee[1]
([1]Cheongju University, [2]National NanoFab Center)

TS04F_P_2

Microstructural Analysis of Cu-SiO_2 Wafer-to-Wafer Hybrid Bonding Interfaces as a Function of Annealing Temperature

Suhyun Mun[1], Hoil Cha[1], Jong Hoon Kim[2], Kyung Jin Park[1], Yun Chang Park[1], Taesung Jeong[1], Seungyun Ha[1], Hee Yeoun Kim[1], Jae Hyuck Jang[3], Sang Sub Han[3], and Ji-In Park[3]
([1]National NanoFab Center, [2]Chungnam National University, [3]Korea Basic Science Institute)

TS04F_P_3

Quantitative Evaluation of SEM Probe Current Stability for Precision Nanoscale Metrology in Intelligent Device Fabrication

Ha Rim Lee[1], Youngkwon Haam[1,2], Takashi Ogawa[1], Junhyeok Hwang[1], Jeong-Woong Lee[1], Hoon Kang[1], and In-Yong Park[1,2,3]
([1]Korea Research Institute of Standards and Science, [2]Chungnam National University, [3]University of Science and Technology)

TS04F_P_4

Design and Thermal Reliability Evaluation of MEMS Heating Chips for Insitu TEM

Jin Young Kim[1], Ji Min Lee[1], Jong Chul Park[2], Yun Chang Park[2], Hoil Cha[2], and Young Heon Kim[1]
([1]Chungnam National University, [2]National NanoFab Center)

TS04F_P_5

Ge Diffusion in Epitaxial & Multi-Stacked(≥100) Si/SiGe Heterostructures on 300mm Si Wafers for a Novel 3D DRAM Device Performance

Wan-Gyu Lee[1], Wang Jun Park[2], and Jae Sung Roh[2]
([1]National NanoFab Center, [2]VIATRON Technologies Inc.)

TS04F_P_6

Brightness Enhancement in a CeB_6Electron Gun via Virtual Source Mode for Low-Voltage Scanning Electron Microscopy

Youngkwon Haam[1,2], Ha Rim Lee[1], Takashi Ogawa[1,3], Junhyeok Hwang[1], Jeong-Woong Lee[1], Seunghon Lee[1,2], Hyunmo Gu[1], and In-Yong Park[1,2,3]
([1]Korea Research Institute of Standards and Science, [2]Chungnam National University, [3]University of Science and Technology)

TS04F_P_7

Optimization and Mechanism Analysis of NTBC Leveler-Based 2-Step Electroplating Process for Defect-Free Filling of High-Aspect-Ratio TGVs

Yubin Kim, Soobin Park, Jongmin Yook, and Jein Yu
(Korea Electronics Technology Institute)

TS04F_P_8

Synergistic Application of Low Voltage-SEM, Dynamic SIMS, and In-Operando STEM-EBIC for the Advanced Metrology of p-n Junctions

Myung Keun Lee[1], Da Mi Kwon[1], Jong Hoon Kim[2], Sung-Jin Chang[1], Moon Seop Hyun[1], Kyung-Jin Park[1], Yoon Kyung Seo[1], Hoil Cha[1], and Yun Chang Park[1]
([1]National NanoFab Center, [2]Chungnam National University)

TS04F_P_9

Atomic Layer Deposited Ru-Ir Binary Alloy Thin Films for Sub-10 nm Interconnects

Yeong-Seo Cho, Myung-Jin Jung, Jae-Hyun Kim, Yeon-Seo Lee, and Se-Hun Kwon
(Pusan National University)

TS04F_P_10

Initial Surface Control via Impurity-Free Accelerators for Low-Resistivity, Ultrathin ALD-Ir Films in Advanced Interconnects

Myung-Jin Jung, Jae-Hyun Kim, Jae-Yun Jo, Jeong-Eun Park, and Se-Hun Kwon
(Pusan National University)

TS04F_P_11

Hybrid-ALD Process Development of Ultra-Thin TiO_2 Hardmask for Nano-Scale Semiconductor Patterning Applications

Hyuk-Min Kwon, Myung-Jin Jung, Jae-Hyun Kim, Jun-Su Jang, Jae-Yun Jo, and Se-Hun Kwon
(Pusan National University)

TS04F_P_12

Precision IC Embedding in a Glass Substrate for High-Density, Low-Loss 3D System-in-Packaging

Ju-yong Lee[1], Seongjae Won[1], Hyungsup Lee[2], Euisun Hwang[2], and Jongmin Yook[1]
([1]Korea Electronics Technology Institute, [2]Dowooinsys)

TS04F_P_13

High-Yield Sub-3 Nm Quantum Tunneling Nanogap Electrodes for Single-Nucleotide Sensing And DNA Base Readout

Chengmin Zhang and Byung Yang Lee
(Korea University)

[TS06F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS06F_P_1

Synergistic Strategy of Electrolyte Engineering and Electrospun Activated Carbon Nanofiber Hosts for High-Performance Aqueous Zn-I_2 Batteries

Jae-hyuk Choa and Ji-won Jung

(Konkuk University)

TS06F_P_2

High-Efficiency Amphiphilic Carbon Nanofiber Energy Device for Transpiration-Driven Electrokinetic Power Generation

Ho-Jin Lee[1], Yonghan Kim[2], Hyungsub Yoon[3], and Ji-Won Jung[1]

([1]Konkuk University, [2]Ajou University, [3]Chung-Ang University)

TS06F_P_3

Spray-Drying Synthesis of Li-Rich Layered Oxide via Precursor Engineering for High-Energy-Density Electrodes

Wun-Ha Roh and Ji-Won Jung

(Konkuk University)

TS06F_P_4

Bio-Inspired 2D Material Composites: Overcoming Brittleness for Flexible and Fire-Safe Polymer Films

Hwai Kim and Dae Woo Kim

(Yonsei University)

TS06F_P_5

Three-Dimensional CNT Network Supporting h-BN for Neutron Shielding

Younghoon Joung and Dae woo Kim

(Yonsei University)

TS06F_P_6

High Spatiotemporal Resolution, Label-Free Real-Time Monitoring of Photoaging Using nIR Fluorescent Nanosensor Arrays

Youngwook Cho and Sooyeon Cho

(Sungkyunkwan University)

TS06F_P_7

Carbon-Based Functionalization of MXene for Enhanced Hydrophobicity in Separation Membranes

Yong Moon Hong[1,2], Dae Woo Kim[2], and Seon Joon Kim[1]

([1]Korea Institute of Science and Technology, [2]Yonsei University)

TS06F_P_8

Graphene-Supported NiFe Metal-Organic Framework-Derived Electrocatalysts for Enhanced Oxygen Evolution Reaction

Wooseok Jang and Daewoo Kim
(Yonsei University)

TS06F_P_9

Probing Zeolite Core Effects in Ion-Exchange-Derived Zeolite@MOF Core-Shell Series for Gas Separation

Hye Leen Choi and Tae-Hyun Bae
(Korea Advanced Institute of Science and Technology)

TS06F_P_10

High-Performance Flexible Fiber-Shaped Supercapacitors based on Carbon Nanotube Fibers and Polyurethane Gel Electrolytes

Hyewon Jung[1,2], Jahyeon Koo[1], Jeyoung Park[2], and Hyeonsu Jeong[1]
([1]Korea Institute of Science and Technology, [2]Sogang University)

TS06F_P_11

Microneedle-Mediated Delivery of Bioluminescent Nanoparticles for Deep-Penetrating Antimicrobial Photodynamic Therapy

Dayoung Yu[1], Jieun You[1], Yujin Kim[1], Jayeon Kim[1], Doohee Lee[1], Hao Yan[2], and Wonjoon Moon[1]
([1]Seoul National University, [2]Tsinghua Shenzhen International Graduate School)

TS06F_P_12

Ultrasensitive SERS Detection of Halogenated Hydroxybenzoic Acid via Ag Nanoparticles-Loaded Squaramide-Functionalized Metal-Organic Framework Composite

Da-Hee Song, Dong-Hee Lee, Jae-Woo Seo, Joon-Seok Lee, Yeon-Joo Kim, Ji-Hyun Lee, and Seon-Jin Choi
(Hanyang University)

TS06F_P_13

LMO/CNT Sheet Electrodes for Energy-Efficient Lithium Recovery

MinGook Han[1,2], Jieun Choi[1], Hye-Jin Hong[2], and Hyeon Su Jeong[1]
([1]Korea Institute of Science and Technology, [2]Chungbuk National University)

TS06F_P_14

Functionalized Carbon Nanotube-Integrated MOF Electrocatalyst Layer for Enhanced OER in AEM Water Electrolysis

Suhyeon Lee and Dae Woo Kim
(Yonsei University)

TS06F_P_15

Enhanced Nitrogen Dioxide Detection through Interfacial Charge Transfer Mechanisms in IGZO/Graphene Heterostructures

Noah Jang and Seong Ho Kong
(Kyungpook National University)

TS06F_P_16

Non-Covalent Functionalization of Boronic Acid-Based Selector on P4VP-SWCNT for Selective Chemiresistive Dopamine Sensing

Ji-Hyun Lee, Dong-Hee Lee, Yeon-Joo Kim, Jae-Woo Seo, Joon-Seok Lee, Da-Hee Song, and Seon-Jin Cho
(Hanyang University)

TS06F_P_17

Chemisorbed Oxygen-Mediated Detection of Volatile Organic Compounds on Conductive 2D Metal-Organic Frameworks

Joon-Seok Lee[1], Jae-Woo Seo[1], Minhyuk Kim[2], Honghui Kim[3], Jihan Kim[3], Hoi Ri Moon[2], and Seon-Jin Choi[1]
([1]Hanyang University, [2]Ewha Womans University, [3]Korea Advanced Institute of Science and Technology)

TS06F_P_18

Understanding and Controlling Nanoscale Polarization during Galvanic Replacement Reactions

Hyun Jun Cho, Sangwon Choi, and Jaeyune Ryu
(Seoul National University)

TS06F_P_19

Polyaniline-Modified Carbon Nanotube Fibers Enabling Dendrite-Free Zinc Anodes for High-Performance Flexible Zinc-Ion Batteries

Dayeon Cheon[1,2], Sungju Lee[1], Daewoo Kim[2], and Hyeonsu Jeong[1]
([1]Korea Institute of Science and Technology, [2]Yonsei University)

TS06F_P_20

Transparent Conducting Polymer Electrodes with Tunable Plasma Frequency for Pressure Sensing

Jaehyeok Choi and Wooyoung Shim
(Yonsei University)

TS06F_P_21

Overcoming Thickness-Durability Trade-Off in PEM Fuel Cells via Stretched PTFE Nanofiber-Reinforced Composite Membranes

Ji Hyun Lee[1], Kyung Ah Lee[2], Yung-Eun Sung[2], and Ki Ro Yoon[1,3]
([1]Korea Institute of Industrial Technology, [2]Seoul National University, [3]Korea Institute of Industrial Technology)

TS06F_P_22

Highly Tunable Neuromorphic Devices based on Black Phosphorus Utilizing Native Oxide Trap Layers and Thickness-Dependent Bandgap

Janguk Cho and Hyungjin Kim
(Yonsei University)

TS06F_P_23

Photoluminescence-Based Ferroelectric Memory and Synaptic Behavior in a WS_2/h-BN/Graphene/CIPS van der Waals Heterostructure

Minji Kim, Jong Hun Moon, and Hyungjin Kim
(Yonsei University)

TS06F_P_24

Janus Transition Metal Dichalcogenide Monolayer with Gas Detection Capability

Sanghyun Nam and Hyungjin Kim
(Yonsei University)

TS06F_P_25

Gate-Tunable Black Phosphorus/Graphene Diode for Polarization-Sensitive In-Sensor Photodetection

Sion Kim and Hyungjin Kim
(Yonsei University)

TS06F_P_26

Machine Learning-Assisted Transient Pattern Recognition via Nanoporous Zeolite A/NaY Film-Engineered Gas Inlet for Selective Quantification of Aromatic VOCs

Yunho Choi, Mugyeom Kim, and Hyeonghun Kim
(Chonnam National University)

TS06F_P_27

Structural Elucidation, Hirshfeld Surface Analysis, ADME Profiling and Molecular Docking Studies of (4r)-2-Amino-4-Phenyl-4h-Benzo[h]Chromene3-Carbonitrile as a Potential Bioactive Molecule

Yuvasri Chinnadurai[1], R. R. Saravanan[1], and Manikantan Pappuswamy[2]
([1]Bharathidasan University, [2]Christ University)

TS06F_P_28

Taming Nano-Scale Side Reactions and Beyond the Trade-Off via Rational Design of Spray-Dried Bimodal ZnV_2O_4 for High-Volumetric-Energy ZIBs

Hyunmin Na and Ji-Won Jung
(Konkuk University)

TS06F_P_29

Suppressing Polyiodide Migration with a Functional CNT Interlayer in Aqueous Zn-I_2 Batteries

Jeong-Ho Park[1], Minju Jung[2], Hyun-Tak Kim[2], and Ji-Won Jung[1]
([1]Konkuk University, [2]Korea Research Institute of Chemical Technology)

TS06F_P_30

Ni-Deficient NiO/Downsized RuO_2 Composite Catalyst with Rivalrous Size Evolution for Rechargeable Li-CO_2 Batteries

Dae-Kwon Boo and Ji-Won Jung
(Konkuk University)

TS06F_P_31

Mapping Cellular Aging Heterogeneity at Single-Cell Resolution with Nanosensor Chemical Cytometry

Youngho Song, Seongcheol Park, Changi Baek, and Sooyeon Cho
(Sungkyunkwan University)

TS06F_P_32

Real-Time Online PAT Framework for Plasma-Driven H_2O_2 Production Using a Molecular Recognition Nanosensor Array

Youngwook Cho and Sooyeon Cho
(Sungkyunkwan University)

TS06F_P_33

Selectivity Switching at Room Temperature by Employing Nanoporous Gold Film-SnO_2 Hybrid Gas Sensors

Jinwook Lee and Ji-Soo Jang
(Sungkyunkwan University)

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[TS07F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS07F_P_1

Carbon-Composite Positive Electrode for High-Capacity Lead-Carbon Battery Capacitors

Bumjin Kim[1,2], Jeonghun Baek[1,3], Sanghui Kang[1,2], Hyojoon An[1,4], Heon-Jin Choi[2], and Jungjoon Yoo[1]
([1]Korea Institute of Energy Research, [2]Yonsei University, [3]Hanyang University, [4]Sungkyunkwan University)

TS07F_P_2

In Situ Polymerizing Fluorine-Free Binder System Enabling Scalable Dry-Process Fabrication of High-Loading NMC811 Cathodes

Bekalu Zelalem Israel[1,2], Areum Kim[2], Yunseon Jang[2], Dong-woo Kim[2], Van-Phu Vu[2], Jin Young Lee[2], Hye-Mi So[2], Minsub Oh[2], Abin Kim[2], and Seungmin Hyun[1,2]
([1]University of Science and Technology, [2]Korea Institute of Machinery & Materials)

TS07F_P_3

Development and Application of a Fluorine-Free Cross-Linkable Binder for High-Loading Dry Electrodes

Dongwoo Kim[1,2], Chaehwan Im[1], Israel Bekalu[1], Woo-Jin Song[2], Areum Kim[1], and Seungmin Hyun[1]
([1]Korea Institute of Machinery & Materials, [2]Chungnam National University)

TS07F_P_4

Roll-To-Roll Dry-Processed Electrodes Enabled by a Fluorine-Free Curable Epoxy Binder for Lithium-Ion Batteries

Van-Hoan Hoang[1,2], Van-Phu Vu[2], Areum Kim[2], Hye-Mi So[2], Jin Young Lee[2], Minsub Oh[2], Abin Kim[2], Seungmin Hyun[2,3], and Kyunghoon Kim[1]
([1]Sungkyunkwan University, [2]Korea Institute of Machinery & Materials, [3]University of Science and Technology)

TS07F_P_5

PFAS-Free Petroleum-Based Binder Enabling Cost-Effective Roll-to-Roll Dry Processing of High-Energy NCM811 Cathodes

Chaehwan Im[1,2], Dongwoo Kim[1], Wooseok Yang[2], Areum Kim[1], and Seungmin Hyun[1]
([1]Korea Institute of Machinery & Materials, [2]Sungkyunkwan University)

TS07F_P_6

Atomically Dispersed Noble Metal Sites on Antimony-Doped Tin Oxide: A Versatile Strategy to Break Scaling Relation for Selective Electrocatalytic Chlorine Evolution

Hyein Park, Dogyeong Jeon, and Il-Doo Kim
(Korea Advanced Institute of Science and Technology)

TS07F_P_7

Oxide-Based Interlayers for Stabilizing Lithium Metal Anodes

Chaeyeon Lee, Yujang Cho, and Il-Doo Kim
(Korea Advanced Institute of Science and Technology)

TS07F_P_8

Uniform Electrochemical Deposition of Large-Area Ultrathin Lithium Metal with Lithiophilic Silicon Seed Layers and an Ion-Conductive Polymer Layer

Jongmin Lee, Daeil Kim, and Boyun Jang
(Korea Institute of Energy Research)

TS07F_P_9

Stable Catholyte Interface Enables Practical Operation of Sulfide-Based All-Solid-State Li Metal Batteries

Hyeongseok Lee, Sumin Ko, Soojin Park, and Sang-Min Lee
(Pohang University of Science and Technology)

TS07F_P_10

Etching Time-Controlled Synthesis of Vanadium Carbide (V_4C_3) MXene for Tunable Structural, Electrochemical Properties and Symmetric Supercapacitor Device

Aditya Rohila, Shalendra Kumar, Ranjeet Kumar Brajpuriya, and Aditya Sharma
(University of Petroleum and Energy Studies)

TS07F_P_12

Nanoframework-Engineered Electrocatalysts for Energy-Based Applications

Heon-Young Choi, Bhavna Hedau, and Tae-Jun Ha
(Kwangwoon University)

TS07F_P_13

Enhanced Kinetics and Dual-Interfacial Stability in High-Areal-Loading Electrodes for Lithium Metal Batteries via Crosstalk-Active Polymer-Functionalized Carbon Nanotubes

Jaeho Jung, Sungho Kim, and Soojin Park
(Pohang University of Science and Technology)

TS07F_P_14

Precision Thickness Control in Dry Electrode Fabrication via Dry Powder Layer Printing

Seungwoo Shin, Jaehyeon Ha, Seonggeun Song, Hyuntae Kim, Sin Kwon, and Kyoohee
(Korea Institute of Machinery & Materials)

TS07F_P_15

Ion Highways: Creating Vertical Microchannels for High-Performance Dry-Processed Thick Electrodes

Seonggeun Song[1,2], Suhyun Choi[3], Seungwoo Shin[2], Jaehyeon Ha[1,2], Hyuntae Kim[2], Sin Kwon[2], and Kyoohee Woo[2]
([1]Sungkyunkwan University, [2]Korea Institute of Machinery & Materials, [3]Korea Textile Machinery Convergence Research Institute)

TS07F_P_16

Porosity-Driven Charge Storage Mechanism and Electrochemical Behaviour of Chromium Metal-Organic Framework for Supercapacitor Application

Prachi Rawat, Nirmal Kumar Katiyar, and Shalendra Kumar
(University of Petroleum and Energy Studies)

TS07F_P_17

Nitrogen-Doped Microporous Activated Carbon Host Enabling Stable Iodine Redox Chemistry in Aqueous Zn-I_2 Systems

Sanghui Kang[1,2], Jeonghun Baek[1,3], Bumjin Kim[1,2], Hyojoon An[1,4], Kyu-Nam Jung[1], Myunghyun Ryu[1], HeonJin Choi[2], and Jungjoon Yoo[1]
([1]Korea Institute of Energy Research, [2]Yonsei University, [3]Hanyang University, [4]Sungkyunkwan University)

TS07F_P_18

NiCoFeCrMn High-Entropy Alloy Catalyst for Efficient Ammonia Decomposition

JeoungAhh Seo[1,2], Sukwoo Nam[2], Hyansoo Jeong[2], Yongmin Kim[2], Keunsoo Kim[2], and Hyuntae Sohn[2]
([1]Korea University, [2]Korea Institute of Science and Technology)

TS07F_P_19

Modulating the CO Oxidation Performance of Pt Single-Atom Catalysts through CeO_xSupport Size Engineering

Jieun Yun[1], Eunji Kang[1], Hyuk Choi[2], Hongjin Park[1], Minkyung Kim[1], Ju Hyeok Lee[1], and Hyun You Kim[1]
([1]Chungnam National University, [2]Nanyang Technological University)

TS07F_P_20

In-Situ Formation of Bimetal-Based Superconductive Network in Cu2SnS3@MWCNT Anode Enabling Ultrafast Sodium Storage

Min Jung, Jacob Choi, Chaeyoung Hwang, Junpyo Hur, and JongMin Yuk
(Korea Advanced Institute of Science and Technology)

TS07F_P_21

Modulating Anionic Redox Activity in Layered Cathodes for Sodium-Ion Battery via Strategic Fluorine Doping

Minseong Kim and Jong min Yuk
(Korea Advanced Institute of Science and Technology)

TS07F_P_22

Improving Stability of $FAPbI_3$ Perovskite Solar Cells via Controlling Single Crystal Precursor Storage Condition

Geumha Lim[1], Jihyun Kim[2], and William Jo[1]
([1]Ewha Womans University, [2]University of Oxford)

TS07F_P_23

In-Situ TEM Observation of Cu_xS_y Phase Transition in Sodium Polysulfide Environment Using a Graphene Liquid Cell

Jeongmin Kim, Jacob Choe, Sanghyeon Ji, Junpyo Hur, and Jong Min Yuk
(Korea Advanced Institute of Science and Technology)

TS07F_P_24

Optimization of the Middle-Bandgap Subcell in Perovskite/Perovskite/Si Triple-Junction Tandem Solar Cells

Ju Yeong Hong, Young Seon Yoon, Yeo Jin Choi, and Jin Young Kim
(Seoul National University)

TS07F_P_25

A Study on the Influence of PbO_2 Nanoparticle Size on Degradation Mechanisms in Lead-Acid Batteries

Sunggeun Jo and Wooyoung Shim
(Yonsei University)

TS07F_P_26

Synergistic Chemisorption and Electrocatalysis of Bismuth Oxyhalide-Modified Separators for Li-S Batteries

Daeun Lee, Changhoon Choi, and Minjeong Shin
(Sungshin Women's University)

TS07F_P_27

Interfacial Engineering in $FAPbI_3$ Perovskite Solar Cells: Investigating the Role of Spiro-OMeTAD Contact Properties on Photovoltaic Performance

Hyeonjeong An, Taehwan Kim, and William Jo
(Ewha Womans University)

TS07F_P_28

Polysulfide-Mediated Solid-State Wetting for Low-Pressure All-Solid-State Lithium Metal Batteries

Jihun Sung and Soojin Park
(Pohang University of Science and Technology)

TS07F_P_29

Stable Wide-Bandgap Quasi-2D Perovskites for Triple-Junction Si Tandems

Young Seon Yoon, Ju Yeong Hong, Kun Woo Kim, and Jin Young Kim
(Seoul National University)

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[TS08F_P] Poster Session 3

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Location	Exhibition Hall 4 (1F)

TS08F_P_1

Size Effect of Fluorine-Doped Graphene Nanoribbon@CNT for Anticorrosive PEMFC

Ye-rim Kim[1], Song Jin[2], Daehun Kim[1], Kiju Lee[2], Juwan woo[1], Minseon Park[3], and Min Ho Seo[1]
([1]Pukyong National University, [2]Korea Institute of Materials Science, [3]Pohang University of Science and Technology)

TS08F_P_2

Bayesian Based Machine Learning Simulation of Heat Treatment Induced Formation of Highly Ordered PtNi Nanoparticles

Sojin Bae[1], Seung Min Woo[1], Minseon Park[2], and Min Ho Seo[1]
([1]Pukyong National University, [2]Pohang University of Science and Technology)

TS08F_P_3

Electronic Modulation of Single-Atom Catalysts for High-Performance Lithium-Sulfur Batteries

S.E. Chun and B.H. Lee
(Korea University)

TS08F_P_4

Microcube $NiCoO_2$ Binder-Free Electrode with Enhanced Electrolyte Diffusion for Energy-Efficient Electroreduction of Nitrate to Ammonia

Seonghyeon Park[1], Hyojung Lim[1], Jinuk Choi[2], Junho Shim[1], and Uk sim[1,3]
([1]Sungkyunkwan University, [2]Korea Institute of Energy Technology, [3]NEEL Sciences, Inc.)

TS08F_P_5

Data Driven Machine Learning-Guided Design of Li-Rich NiFe Nano Alloys on Manganese Oxide for Selective Electrochemical Nitrate-to-Ammonia Conversion Towards Green Hydrogen Production

Junho Shim[1], Seonghyeon Park[1] and Uk Sim[1,2]
([1]Sungkyunkwan University, [2]NEEL Sciences, Inc.)

TS08F_P_6

AI-Driven Nanomaterial Discovery for Energy Applications

Seohyeon Jang, Seyoung Choi, Seoyeon Jeong, Yeeun Bae, Jihun Yeom, and Inho Nam
(Chung-Ang University)

TS08F_P_7

Nanoscale Interfacial Design for Trimodal Stabilization of Zinc Anodes: Paving the Way for Scalable Energy Harvesting

Jae Hyun Kim, Junhyeop Shin, Jongkwon Park, and Inho Nam
(Chung-Ang University)

TS08F_P_8

Multi-Agent RAG Systems for Advanced Energy Nanomaterials

Seoyeon Jeong, Seohyeon Jang, Seyoung Choi, Yeeun Bae, Jihun Yeom, and Inho Nam
(Chung-Ang University)

TS08F_P_9

Design of Oxide-Hybridized Carbon Support for High-Performance Anion Exchange Membrane Water Electrolysis

Jong Seok Park[1,2], Seung-Ho Yu[2], Myeong-Geun Kim[1], and Sung Jong Yoo[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS08F_P_10

Enhanced Electrochemical Ammonia Oxidation Using NiCu-Based Multimetallic Catalysts

Minseo Jeon[1], Chanmin Jo[1], Gyoung Hwa Jeong[1], Kiho Bae[1], and UK Sim[2]
([1]Korea Institute of Energy Technology, [2]Sungkyunkwan University)

TS08F_P_11

Immobilized Ir Complex Catalyst for Hydrogen Production from Dehydrogenation of Formic Acid

Bayasgalan Ulambayar[1], Yuichiro Himeda[2], and So-Hye Cho[1]
([1]Korea Institute of Science and Technology, [2]National Institute of Advanced Industrial Science and Technology)

TS08F_P_12

Mitigating Local Hydroxide Depletion for High-Current-Density Operation of Pure Water-Fed AEM Water Electrolyzers

Sooan Bae[1], Yoonsu Park[1], Myeong-Geun Kim[1,2], and Sung Jong Yoo[1,2]
([1]Korea Institute of Science and Technology, [2]University of Science and Technology)

TS08F_P_13

Micro-Patterning on Porous Transport Layers for Enhancing Localized Mass Transport in Proton Exchange Membrane Water Electrolysis (PEMWE)

Hye Jin Lee and Youngseung Na
(University of Seoul)

TS08F_P_14

Novel Multifunctional Porous Silicon Carbide p-SiC_x (p-SiC_3 and p-SiC) Nanosheets for Photocatalytic Hydrogen Production and Storage

Umair Mumtaz[1], Yi Ding[1], Ibrahim Khan[1], Shahid Iqbal[1], J. Andreas Larsson[2], and Muhammad Sajjad[1,2]
([1]University of Nottingham Ningbo China, [2]Luleå University of Technology)

TS08F_P_15

Enhanced Durability and Efficiency in Anion Exchange Membrane Water Electrolyzers via One-Step Hot-Press Electrode Fabrication

Shin-Woo Myeong[1,2], Chiho Kim[1], Jooyoung Lee[1], and Sung Mook Choi[1,3]
([1]Korea Institute of Materials Science, [2]Ulsan National Institute of Science and Technology, [3]University of Science and Technology)

TS08F_P_16

Interfacial Proton Coupling as a Mechanistic Descriptor for Oxygen Evolution Catalysis

Jiwoo Lee and Dong Young Chung
(Korea Advanced Institute of Science and Technology)

TS08F_P_17

Architecting Layered CoFeOOH for Oxygen Evolution Reaction: Engineering Structure for Anion Exchange Membrane Water Electrolyzer

Nam In Kim[1,2], Youngji Kim[3], Jaehun Lee[1], Jooyoung Lee[1], Seunghwa Lee[3], and Sung Mook Choi[1,4]
([1]Korea Institute of Materials Science, [2]Seoul National University, [3]Changwon National University, [4]University of Science and Technology)

TS08F_P_18

Interfacial Engineering of PtNi Alloys on Ni-N-C Support for Cost-Effective Alkaline Hydrogen Evolution

Uhyeok Son and Han-Ik Joh
(Konkuk University)

TS08F_P_19

Phase-Dependent HER Performance of Nickel-Molybdenum Sulfide Catalysts across pH Environments

Seon-Yeong Lee, Seunggyun Han, and Han-Ik Joh
(Konkuk University)

TS08F_P_20

Hetero-Structured UiO-66-NH_2/CeO_2-x Radical Scavenging Additives for Long-Term Operation of Proton Exchange Membrane Fuel Cells

Ji Hyo Kim, Jinwon Choi, and Taehyun Kwon
(Incheon National University)

TS08F_P_21

Concentration Polarization Landscapes Govern Pure-Water-Fed AEMWE Performance

Changyeob Lee, Yoonsuh Cho, Sanghwi Han, and Jaeyune Ryu
(Seoul National University)

TS08F_P_22

One-Step Synthesis of Nanostructured SnO_2@C with Carbon Support as a High-Capacity Anode for Next-Generation Energy Storage Systems

Juyeon Hong and Han-Ik Joh
(Konkuk University)

TS08F_P_23

Enhancement of Electrochemical Activity of OER Catalysts for AEMWE via Layered Double Hydroxide and Metal Oxide Composite Structures

Na-Young Sohn[1], Sang-Seok Lee[2], Jin-Ho Lee[1], Chan-Woo Park[1], Kang-Un Lee[1], Geon-Ju Choi[1], Sung-Jong Yoo[2], and Il-Kyu Park[1]
([1]Seoul National University of Science and Technology, [2]Korea Institute of Science and Technology)

TS08F_P_24

Titanium Oxynitride (TiO_xN_Y) Nanofiber Originated from Polyacrylonitrile Polymer for Low Iridium OER Catalysts Support of PEMWE

Seung-Chul Choi and Han-Ik Joh
(Konkuk University)

TS08F_P_25

Electrochemically Robust Conducting Metal Oxide-Based Catalyst Supports for AEMWE

Kang Un Lee[1], Kyu Mi Gang[1], Jin Ho Lee[1], Sang Hyun Shon[1], Na Young Sohn[1], Chan Woo Park[1], Sang Seok Lee[2], Sung-Jong Yoo[2], and Il-Kyu Park[1]
([1]Seoul National University of Science and Technology, [2]Korea Institute of Science and Technology)

TS08F_P_26

Tuning Lattice Strain and Ordering Degree of Intermetallic PtNiCo/C Catalysts for Enhanced Catalytic Activity and Stability in AEMWE

Junyoung Park[1,2], Jooyoung Lee[1], Song Jin[1], and Sung Mook Choi[1,3]
([1]Korea Institute of Materials Science, [2]Daegu Gyeongbuk Institute of Science and Technology, [3]University of Science and Technology)

TS08F_P_27

Ternary-Intermetallic Alloy Nanoparticle Catalysts for Electrochemical Ozone Production

Youngshin Kim and Taehyun Kwon
(Incheon National University)

TS08F_P_28

Enhanced Hydrogen Evolution via Ni-CeO_2 Interfacial Engineering in Practical AEM Water Electrolysis Using Waste Alkaline Electrolyte

Jaehun Lee[1], Nam In Kim[1], Song Jin[1], Jaehoon Jeong[1], Jooyoung Lee[1], Jang Yong Lee[2], Min Ho Seo[3], and Sung Mook Choi[1,4]
([1]Korea Institute of Materials Science, [2]Konkuk University, [3]Pukyong National University, [4]University of Science and Technology)

TS08F_P_29

Core-Shell ZIF-67@ZIF-8 Derived Nitrogen-Doped Porous Carbon Host Embedded with Co/Zn Species for Stable Lithium Metal Anode

Hyeokjun Yoo and Han-Ik Joh
(Konkuk University)

TS08F_P_30

Synergistic $Co(OH)_2$-FeOOH Heterostructure Derived from ZIF-67 for High-Efficiency Anion Exchange Membrane Electrolyzer

In Tae Kim[1,2], Sung Mook Choi[2], and Yoo Sei Park[3]
([1]Pohang University of Science and Technology, [2]Korea Institute of Materials Science, [3]Pusan National University)

TS08F_P_31

Spillover Effect in Pd Anchored NiO-ZnO Nanostructures Improves Hydrogen Gas Sensor's Performance

Suraj Barala, Ankur Gupta, and Mahesh Kumar
(Indian Institute of Technology Jodhpur)

TS08F_P_32

From Outer-Sphere to Inner-Sphere: Unlocking Acidic H_2O_2 Electrosynthesis

Minjun Kim, Jaehyuk Jung, Wonseak Choi, and Heejong Shin
(Sogang University)

TS08F_P_33

Replacing OER with Value-Added Oxidation via Redox Mediator Strategies

Seongjin Lim, Jun Ko, Junyoung Hong, and Heejong Shin
(Sogang University)

TS08F_P_34

Synergistic Effect of Y-Induced Lattice Engineering and Ir-Doping for Acidic OER Stability

Sung Jong Yoo and Daekyu Kim
(Korea Institute of Science and Technology)

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TS09F_P_1

Monolithic 3D-Printed FORCE Platform for Functional Maturation and In-Situ Contractility Assessment of 3D Skeletal Muscle

Seonghun Mun, Sangmin Lee, Dohyun Kim, and Seokyoung Bang

(Dongguk University)

TS09F_P_2

Engineering a 3D-Printed Compartmentalized Voxel Platform with Dynamic Reconfigurability for Spatiotemporal Microenvironment Control

Minkyeong Jeong, Dawit Jung, and Seokyoung Bang

(Dongguk University)

TS09F_P_3

Nanofiber-Based Second-Skin Platform for Rapid Colorimetric Detection of γ-Hydroxybutyrate

Chung Hyeon Lee and Oh Seok Kwon

(Sungkyunkwan University)

TS09F_P_4

Tattoo Sticker for GHB Detection to Prevent Date Rape

Maryam Shabbir and Oh Seok Kwon

(Sungkyunkwan University)

TS09F_P_5

Rapid Detection of Hemolytic Uremic Syndrome Using an Ultrasensitive Diagnostic Platform

Jai Eun An[1,2], Kyong-Cheol Ko[1], and Oh Seok Kwon[2]

([1]Korea Research Institute of Bioscience and Biotechnology, [2]Sungkyunkwan University)

TS09F_P_6

Graphene-Based Immuno-FET for Cortisol Detection Using a Novel Cortisol-Specific Antibody

Jae Hyeon Kim and Oh Seok Kwon

(Sungkyunkwan University)

TS09F_P_7

Multiplexed Ultrafast Photothermal Digital PCR Enabled by Oligo (Phenylene Ethynylene)-Functionalized Nanostructures

Jae Hwan Oh and Oh Seok Kwon

(Sungkyunkwan University)

TS09F_P_8

Ultrastable Biosensors based on Covalently Bonded N-Heterocyclic Carbene-Graphene Nanotransistors

Tae Wan Kwon and Oh Seok Kwon
(Sungkyunkwan University)

TS09F_P_9

Bioelectronic Detection of Bitter Phytocompounds Using Human Bitter Taste Receptor Nanodiscs

Hye Yeon Kim and Oh Seok Kwon
(Sungkyunkwan University)

TS09F_P_10

Portable Solid-Phase Photonic PCR Platform for Rapid Nucleic Acid Analysis of Respiratory Pathogens

Chang Xie and Oh Seok Kwon
(Sungkyunkwan University)

TS09F_P_11

Automated Lab-on-a-Disc Platform for Ultrasensitive SARS-CoV-2 Detection via Integrated NESBA Assay

Jaemin Kim[1], Rakyeom Kim[2], Hyun Gyu Park[2], and Taejoon Kang[1,2]
([1]Korea Research Institute of Bioscience and Biotechnology, [2]Korea Advanced Institute of Science and Technology)

TS09F_P_12

Development of Ultrasensitive Gas Sensing Materials for the Detection of Exhaled Hydrogen Sulfide as a Disease Biomarker

Shin Joon Kang[1,2], Hyung Mo Jeong[1], and Joon-Shik Park[2]
([1]Sungkyunkwan University, [2]Korea Electronics Technology Institute)

TS09F_P_13

Sensing Area-Variable Electrode: Overcoming Limitations in Wide-Range Droplet Size Detection

Jaewook Ryu, Kyoung G. Lee, and Donggee Rho
(National NanoFab Center)

TS09F_P_14

Fusogenic Lipid Nanoparticles for Rapid Delivery of Large Therapeutic Molecules to Exosomes

Jiyoung Song[1], Gamsong Son[1,2], Jae chul Park[1,2], Hojun Kim[1,2], and Hong Nam Kim[1]
([1]Korea Institute of Science and Technology, [2]University of Science and Technology)

TS09F_P_15

Single-Atom Ru-Decorated Hollow Polypyrrole Interfaces for Selective Ammonia Detection in Smart Meat Packaging at Room-Temperature

Sonam Sonwal, Yonghyeon Park, Jeongju Lee, Hanseung Kim, and Yun Suk Huh
(Inha University)

TS09F_P_16

Engineering an Immune-Integrated Lung-on-a-Chip to Reveal TOX-RAGE Axis-Driven Fibrosis and RAGE Blockade as a Therapeutic Strategy

Hyelim Kim[1,2], Wonhwa Lee[3], Seung-Woo Cho[2], and Hong Nam Kim[1]
([1]Korea Institute of Science and Technology, [2]Yonsei University, [3]Sungkyunkwan University)

TS09F_P_17

Ferredoxin-Mimicking Fe-S Cluster Nanozymes for High-Performance Electrochemical H_2O_2 Sensing

Phan Gia Le and Moon Il Kim
(Gachon University)

TS09F_P_18

Bioelectronics based on Antibody-Conjugated Graphene Field-Effect Transistor for Response of Staphylococcal Enterotoxin B as a Biological Weapon

Anjana Sureshbabu and Oh Seok Kwon
(Sungkyunkwan University)

TS09F_P_19

Anomalous Expansion and Physical Properties of Lipidic Lamellar Phases

Jongeon Park[1] and Hojun Kim[2]
([1]Korea University, [2]Korea Institute of Science and Technology)

TS09F_P_20

Gallium-Doped In_2O_3/ZnO Semiconductor Gas Sensor for Highly Selective NO_2 Detection at Room Temperature

Se Jeong Park[1,2], Hyung Mo Jeong[1], and Joon-Shik Park[2]
([1]Sungkyunkwan University, [2]Korea Electronics Technology Institute)

TS09F_P_21

Signal-Amplified Colorimetric Lateral Flow Assay for Multiplex Detection of Influenza A Virus and SARS-CoV-2 Using MXene@Au-Pt Nanoflakes (MX-APH NFs)

Seoyoung Kim and Jin-Ha Choi
(Jeonbuk National University)

TS09F_P_22

One-Pot Isothermal Detection of Carbapenemase-Producing Enterobacteriaceae via Cas9 Nickase-Triggered Hairpin Exponential Amplification

Yeonkyung Park and Taejoon Kang
(Korea Advanced Institute of Science and Technology)

TS09F_P_23

Automated On-Chip Identification of Microplastics

Ji Woo Jeon, Jiyul Ha, Ji Wook Choi, Yonghee Shin, Taewook Kang, and Bong Geun Chung
(Sogang University)

TS09F_P_24

Programmable Electrochemical Biosensing Using dCas9 and Rolling Circle Amplification

Soobin Lee and Hyun Gyu Park
(Korea Advanced Institute of Science and Technology)

TS09F_P_25

Development of Uracil DNA Glycosylase Detection Method based on Phosphorothioated-Terminal Hairpin Formation and Self-Priming Extension

Dong Yeon Jo and Hyun Gyu Park
(Korea Advanced Institute of Science and Technology)

TS09F_P_26

Catalytically Amplified Lateral Flow Assay Using CrN Nanozyme for Quantification of Transglutaminase 2

Mungyeong Jeong and Hye Jin Lee
(Kyungpook National University)

TS09F_P_27

Multifunctional Cu-TiO_2 Filters with Enhanced Photocatalytic Activity and Antiviral Performance

Heehyeon Lee, Dong-Chan Seo, Darya Burak, Seung Eun Lee, Youngtak Oh, and So-Hye Cho
(Korea Institute of Science and Technology)

TS09F_P_28

Microfluidic-Integrated Potentiometric Sensor with Cross-Linked Polyaniline Nanofiber Network on Ordered Nanopillar Arrays for Real-Time Calcium Ion Monitoring in Biofluids

Juha Park and Bong Gill Choi
(Kangwon National University)

TS09F_P_29

Consideration on the Reliability of the Application based on Smart Devices for Medical Screening

Wan-Ho Cho
(Korea Research Institute of Standards and Science)

TS09F_P_30

Self-Reporting RNA Nanoparticles for Translation-Dependent Optical Monitoring in Nanobiotechnology Applications

Yeochan Yun and Hyeon-Yeol Cho
(Kookmin University)

TS09F_P_31

Catalytic DNA-Triplex Nanoprobes for Non-Destructive Optical Detection of Short DNA Fragments

Hyewon Jang, Jeongsik Yun, and Hyeon-Yeol Cho
(Kookmin University)

TS09F_P_32

Single Metal-Organic Framework-Embedded Nanopit Arrays: A New Way to Control Neural Stem Cell Differentiation

EunCheol Kwak, Yeon-Woo Cho, and Tae-Hyung Kim
(Sungkyunkwan University)

TS09F_P_33

FRET-Based Detection of Thrombin Using Dual Aptamer Assembly

Ji-Woon Myeong and Hyun Gyu Park
(Korea Advanced Institute of Science and Technology)

TS09F_P_34

Generative Scaffolding of Atomistic Motifs Enables de Novo Design of Nanomolar Protein Antidotes for Small-Molecule Narcotics

Hyunsub Ji, Songha Lee, Hayeon Kim, Eun Sung Kang, Hayeon Bae, Do Hyun Bae, Minah Suh, and Yong Ho Kim
(Sungkyunkwan University)

TS09F_P_35

A-Site Vacancies Actively Regulate Dopant Clustering and Exsolution in La-Doped $SrTiO_3$

Changho Yeon and Chan-Woo Lee
(Dongguk University)

TS09F_P_36

Graphene Oxide-Wrapped Hierarchical Gold Nanopillar Hybrids for Real-Time, Non-Destructive Dopamine Sensing in Neurons and Midbrain Organoids

Min-Ji Kang[1], Yeon-Woo Cho[1], Jin-Ha Choi[2], and Tae-Hyung Kim[1]
([1]Sungkyunkwan University, [2]Jeonbuk National University)

TS09F_P_37

Electrochemical Dopamine Detection from Neurons Using Graphene Oxide-Incorporated Polypyrrole-Gold Nanocluster Nanopattern Arrays

Se-Yeon Park, Yeon-Woo Cho, Joon-Ha Park, Min-Ji Kang, and Tae-Hyung Kim
(Sungkyunkwan University)

TS09F_P_38

Activatable Afterglow Nanosensors for Acute Kidney Injury Imaging

Honghwan Choi[1] and Sehoon Kim[2]
([1]KU-KIST, [2]Korea Institute of Science and Technology)

TS09F_P_39

Shape-Controlled Synthesis of Uniform Lanthanide-Doped CaF_2 Upconversion Nanocrystals

Ho Young Woo and Taejong Paik
(Chung-Ang University)

TS09F_P_40

Colloidal Synthesis of Hierarchically Ordered $Bi_{13}S_{18}Br_2$ Superstructures for NIR-Active Sensor

Da Won Lee, Ho Young Woo, Yoonjoo Choi, and Taejong Paik
(Chung-Ang University)

TS09F_P_43

A Tumor Spheroid Array Chip for High-Fidelity Evaluation of Liposomal Drug Delivery through the EPR Effect

Sujin Kim, Sang Yoon Kyung, and Jihoon Ko
(Gachon University)

TS09F_P_44

Comparative Analysis of the Biological Interactions between Gas-Specific Nanobubbles and Human Lung Fibroblasts: Focusing on Viability and Proliferation

Hansol Heo, Junseon Park, Yi Hyeon Beak, Seung-Hyeon Kang, Joong Yull Park, and Jong-Min Kim
(Chung-Ang University)

TS09F_P_45

Development of Flexible Substrate-Based Biosensor Platform by Using Improved Au Deposition Process

Jeong Su Kim, Donggee Rho, Yoo Min Park, Kyoung G. Lee, and Nam Ho Bae
(National NanoFab Center)

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[TS10F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS10F_P_1

Fabrication and Characterization of Conductive GelMA/PEDOT:PSS Hydrogel for Enhanced Neuronal Differentiation

Ga Yeon Pyo, Yeon Tae Kang, and Hyun Jong Lee

(Gachon University)

TS10F_P_2

Development of pH-Responsive Alginate-Phenylboronic Acid Hydrogel for Controlled Delivery of Polyphenolic Antioxidants in Skin Protection Applications

So Hui Cheon and Hyun Jong Lee

(Gachon University)

TS10F_P_3

Cholesterol-Chitosan Modified Bioinspired Extracellular Vesicles Platforms for Controlled Delivery of Quercetin

Chaeeun Noh and Hyun Jong Lee

(Gachon University)

TS10F_P_4

Optimization of GelMA Concentration for Cellular Alignment in Fiber-Incorporated GelMA Hydrogels

Haeyeong Kim and Hyun Jong Lee

(Gachon University)

TS10F_P_5

Chitosan-Coated Extracellular Vesicles for Enhanced Ocular Mucoadhesion and Drug Delivery

SeoHyun Yoon and HyunJong Lee

(Gachon University)

TS10F_P_6

ROS-Responsive Split Aptamer-Gold Nanoparticle Hydrogel for Postoperative Tumor Microenvironment Modulation

So Yeon Jeon[1], Seongmin Kim[1], and Won Jong Kim[1,2,]

([1]Pohang University of Science and Technology, [2]OmniaMed Co., Ltd.)

TS10F_P_7

Cyclization-Enhanced Multifunctional Bioactivity of CYGSR Peptide: A Comparative In Vitro and In Silico Study for Biomedical Applications

Ga-hyun Kim, Jeong-eun Bang, Ji-min Jeong, and Bo-mi Kim

(Wonkwang University)

TS10F_P_8

A Multi-Cellular Breast-on-a-Chip: An Efficient Screening Platform for Evaluating Selective Pro-Apoptotic Effects on Cancer Cells

Bumjun Park[1], Byeongsu Kim[1], Sung-Min Kang[2], and Yun Suk Huh[1]
([1]Inha University, [2]Sangmyung University)

TS10F_P_9

A Simple Normalization Strategy for Organoid Viability

Nagyoung Kim, Hyeono Nam, Tae Geol Lee, and Ahruem Baek
(Korea Research Institute of Standards and Science)

TS10F_P_10

Cationic Lipid Nanoparticles Optimized via Definitive Screening for Targeted Lung mRNA Delivery

Jaeseong Lee and Gayong Shim
(Soongsil University)

TS10F_P_11

Multi-Cargo Lipid Nanoparticles as a Platform for Lung-Targeted Drug Delivery

Jisu Park and Gayong Shim
(Soongsil University)

TS10F_P_12

Prolonged Tumor Retention and Enhanced Immune Activation via Injectable Fibrous Nanoparticles Delivering Immune-Activating Nanocomplexes

Junseob Lee, Yong Taik Lim, and Wooram Park
(Sungkyunkwan University)

TS10F_P_13

Dual-Functional HfO_2 Nanoplatform Combining Radiosensitization and Bcl-2 siRNA Delivery for Enhanced Cancer Radiotherapy

Seok-Hee Lee, Seungyong Shin, Ga-Hyun Bae, and Wooram Park
(Sungkyunkwan University)

TS10F_P_14

Development of a Human-Mimetic In Vitro Circulatory Model for Evaluating Oxygen Transport Properties of Artificial Blood

Jiyun Hwang, Hyeseon Park, Seung Heon Lee, Seo Hyun Lee, and Gayong Shim
(Soongsil University)

TS10F_P_15

Development of High-Sensitivity Gold Nanorod-Based Nanocellulose SERS Platforms for Biomedical Diagnostics and Hazardous Substance Detection

Goomin Kwon[1], Jungmok You[2], and Jeonghun Kim[1]
([1]Yonsei University, [2]Kyung Hee University)

TS10F_P_16

Engineering Self-Sustaining Macrophage Spheroids via Bioorthogonal Chemistry for Next-Generation Cancer Immunotherapy

Taehyeon Kim and Won-Gun Koh
(Yonsei University)

TS10F_P_17

Biomineralized Nanofiber-Integrated MSC Spheroids in GelMA Hydrogels for Enhanced Chondrogenic Differentiation

Eunji Park[1], Jinkyu Lee[2], and Heungsoo Shin[1]
([1]Hanyang University, [2]Dong-A University)

TS10F_P_18

Electrostatically Assembled Granular Hydrogel Inks for High-Resolution 3D Bioprinting

Seungcheol Yang[1], Min Suk Lee[1], Nopphadol Udomluck[1,2,3], Daun Seo[1], Hansoo Park[2], and Jae Young Lee[1]
([1]Gwangju Institute of Science and Technology, [2]Chung-Ang University, [3]National Science and Technology Development Agency)

TS10F_P_19

ICVD-Based pDMAMS Coating for Efficient Extraction of SARS-CoV-2 Genomic RNA

Sung Hwa Cho, Soobin Lee, and Hyun Gyu Park
(Korea Advanced Institute of Science and Technology)

TS10F_P_20

Steric Effects of N-Terminal Amino Acid Side-Chain Volume on the Production Yield of Engineered M13 Bacteriophage Variants

Kangmin Park, Na-Yeong Kim, Sunwoo Park, Tae-Young Jeong, and Jin-Woo Oh
(Pusan National University)

TS10F_P_21

Construction of Anti-Inflammatory Peptide-Displaying M13 Bacteriophage via pVIII N-Terminal Engineering and Biocompatibility Evaluation as Nanobiomaterials

Sunwoo Park, Na-Yeong Kim, Kangmin Park, Tae-Young Jeong, and Jin-Woo Oh
(Pusan National University)

TS10F_P_22

Investigating the pVIII N-Terminal Amino Acid Functional Group-Au Interaction of M13 Bacteriophage for SERS-Based Urinary Metabolite Profiling

Minsu Jang, Na-Yeong Kim, Sunwoo Park, Kangmin Park, Tae-Young Jeong, and Jin-Woo Oh
(Pusan National University)

TS10F_P_23

Biogenic Nanoscale Silver: A Multifunctional Platform for Rapid Catalysis and Nanomedicine

Manthae C Phom and Tovishe Phucho
(Nagaland University)

TS10F_P_24

Host-Guest Self-Assembled Nanoparticles for Dual Paclitaxel and Nitric Oxide Delivery in Chemoimmunotherapy

Kyeong Jin Cho and Jihoon Kim
(Chung-Ang University)

TS10F_P_25

Mesenchymal Stem Cell-Inspired Microneedle Platform for NIR-Activated Immunomodulation and Chronic Wound Regeneration

Hee Gyeong Ko and Han Young Kim
(The Catholic University of Korea)

TS10F_P_26

Synthesis of Autotaxin-Scavenging Nanoliposomes to Alleviate Inflammatory Bowel Disease

So Won Jeon and Han Young Kim
(The Catholic University of Korea)

TS10F_P_27

Enucleated Cancer Cells Backpacking M1 Nanovesicles via Click Chemistry for Enhanced Immune Activation

Hye June Yang and Han Young Kim
(The Catholic University of Korea)

TS10F_P_28

Biomimetic MSC-RBC Hybrid Nanovesicles for Spleen-Targeted Macrophage Modulation

Min Hee Lee and Han Young Kim
(The Catholic University of Korea)

TS10F_P_29

A Bioorthogonal Cell-Hydrogel Platform based on Enucleated MSCs and DBCO-Functionalized Hyaluronic Acid for Immunomodulatory Applications

Chohyang Jang and HanYoung Kim
(The Catholic University of Korea)

TS10F_P_30

Metabolic Click Conjugation of IL-10 Enhances the Immunomodulatory and Wound Healing Functions of Mesenchymal Stem Cell-Derived Nanovesicles

Yun-A Kim and Han Young Kim
(The Catholic University of Korea)

TS10F_P_31

Aloe-Derived Nanovesicles Alleviate Experimental Colitis by Modulating Inflammatory Responses and Strengthening Intestinal Barrier Integrity

Sang-Hun Choi and Jihoon Kim
(Chung-Ang University)

TS10F_P_32

Biocompatible GelMA/MXene Composite Hydrogels for Enhanced Electrical Signaling in Neural Regeneration

Hyun Ji Lee, Ga Yeon Pyo, and Hyun Jong Lee
(Gachon University)

TS10F_P_35

Glycoliposomes Target Lymphatic Dendritic Cells for Selective Activation of Inflammatory NKT Cells

Taehun Hong[1,2], Keita Masuda[3], Yuki Nakashima[3], Shangwei Li[3], Pengwen Chen[3], Guanghao Hu[3], Kazunori Igarashi[3], Ayumi Kimura[3], Koji Fujita[1], Tomohiro Umezu[1], Masahiko Kuroda[1], and Horacio Cabral[3]
([1]Tokyo Medical University, [2]Ambicion Inc., [3]The University of Tokyo)

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[TS11F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS11F_P_1

Fixed-Channel Readout Architecture for Multimodal Tactile Sensor Arrays with Reduced Wiring

Seungtaek Jang[1], Jungrak Choi[2], and Inkyu Park[1]

([1]Korea Advanced Institute of Science and Technology, [2]Electronics and Telecommunications Research Institute)

TS11F_P_2

Development of MOF-Derived Catalysts for Hydrogen Production from Combustible Waste

Beomsu-Cheon[1], Juyeon Kim[1], Hak Min Kim[2], and Dae-Woon Jeong[1]

([1]Changwon National University, [2]Dongseo University)

TS11F_P_3

Liquid Biopsy-Based Cancer Metastasis Diagnosis Using the EMT Phenotypic Index of Extracellular Vesicles

Geeyoon Kang, Minsu Park, Hyeri Moon, Jinseock Kong, and Hongsik Park

(Kyungpook National University)

TS11F_P_4

Multiple Tetraspanins-Based Normalization Strategy of Extracellular Vesicles Cancer Biomarker Expressions

Hyeri Moon, Geeyoon Kang, Jinseock Kong, Byounggi Park, Seungha Kim, and Hongsik Park

(Kyungpook National University)

TS11F_P_5

Amorphous-Crystalline Multilayered Architecture for Brittleness Mitigation of Metallic Glass and Reliable Wearable Motion Sensing

Jae Sang Cho[1], Keum Hwan Park[1], and Dong Hwan Wang[2]

([1]Korea Electronics Technology Institute, [2]Chung-Ang University)

TS11F_P_6

Lichen Secondary Metabolites as Internal Chemical Filters Shaping Endolichenic Fungal Community Assembly

Yoonjoo Noh and Seung-Yoon Oh

(Changwon National University)

TS11F_P_7

Comparative Mitogenomic Analysis of Four Novel Trichoderma Species: Insights into Genome Organization and Phylogenetic Relationships

Munkhgerel Dalantai, Yehyeon Cha, Yoonjoo Noh, and Seung-Yoon Oh

(Changwon National University)

TS11F_P_8

Isolation and Characterization of Pulmonary-Specific Extracellular Vesicles from Mouse Bronchoalveolar Lavage Fluid

Nayoung Lee, Huijae Cho, Gyeongmin Jeong, Jun Go, and Heedoo Lee
(Changwon National University)

TS11F_P_9

Development of Surface-Engineered Extracellular Vesicles for Lung Epithelial Cell Targeting

Jihye Park, Budjav Jadamba, Jooseong Jeong, Seoyun Lee, Byeonggeun Seok, and Heedoo Lee
(Changwon National University)

TS11F_P_10

Optimization of the Support Composition of Ni-Ce(x)Zr(1-x)O_2 Catalysts for Hydrogen Production from Waste Plastic-Derived Pyrolysis Oil

Ju-Yeon Kim[1], Jin-Sik Bang[1], Beom-Su Cheon[1], Hak-Min Kim[2], and Dae-Woon Jeong[1]
([1]Changwon National University, [2]Dongseo University)

TS11F_P_11

Chloroplast Genome and Evolutionary Analyses of the Medicinal Genus Vincetoxicum

Bumjin Jang[1], Byung Jun Jin[1], Yun Ji Park[1], Sumin Jeong[1], Yeseul Kim[1], Bo-Mi Nam[2], and Inkyu Park[1]
([1]Changwon National University, [2]Honam National Institute of Biological Resources)

TS11F_P_12

Comparative Study on the Densification Behavior of $BaTiO_3$ during Cold Sintering

Muhammad Uzair, Pathan Sharief, Ninad Velhal, Ha-Jin Gu, Young-Jae Kim, Ah-Hyeon Park, and Sang-Chae Jeon
(Changwon National University)

TS11F_P_13

A Comparative Study of Lycopus lucidus and Lycopus lucidus var. hirtus based on Chloroplast Genome and Phylogenetic Analysis

Seojeong Choi, Beomjin Jang, Thi Tuyen Cu, Sumin Jeong, Yeseul Kim, Yun ji Park, Byung jun Jin, and Inkyu Park
(Changwon National University)

TS11F_P_14

Molecular Dynamics Simulation of Ion Transport and Electrochemical Debonding in PEGDE-Ionic Liquid Epoxy Systems

Yujin Park[1], Hwasu Yoo[2], Junpyo Kwon[2], and Taeyoung Yoon[1]
([1]Changwon National University, [2]Ajou University)

TS11F_P_15

Mechanical Behavior of CoCrCuFeNi High-Entropy Alloys Containing Helium Bubbles with Varying Microstructures: A Molecular Dynamics Study

Chanhyuk Moon and Taeyoung Yoon
(Changwon National University)

TS11F_P_16

Ketone Metabolism Mediates Enhanced Thermogenesis in Brown Adipose Tissue under a Ketogenic Diet

Junhyeok Lee, Jeongwoo Yoo, Yusra Ahmad, Wanjun Kim, Siwoo Lee, Dongsoo Seo, Huiyoung Kwon, Ho Jung Bae, and Younghoon Jang
(Changwon National University)

TS11F_P_17

Adipose Tissue Macrophage Remodeling in HFD-Induced Obesity Models

Wanjun Kim, Dongsoo Seo, Yusra Ahmad, Junhyeok Lee, Jeongwoo Yoo, Siwoo Lee, Huiyoung Kwon, Ho Jung Bae, and Younghoon Jang
(Changwon National University)

TS11F_P_18

BCAA Diet Modulates Macrophage Populations in Adipose Tissue during Aging-Associated Fibrosis

Siwoo Lee, Dongsoo Seo, Yusra Ahmad, Junhyeok Lee, Jeongwoo Yoo, Wanjun Kim, Huiyoung Kwon, Ho Jung Bae, and Younghoon Jang
(Changwon National University)

TS11F_P_19

The Role of Branched-Chain Amino Acids in Brown Adipose Tissue Thermogenesis and Energy Homeostasis

Jeongwoo Yoo, Yusra Ahmad, Junhyeok Lee, Wanjun Kim, Siwoo Lee, Dongsoo Seo, Huiyoung Kwon, Ho Jung Bae, and Younghoon Jang
(Changwon National University)

TS11F_P_20

Simultaneous Dual-Parameter Characterization of Nanoparticles by Decoupling Brownian Motion and Electrophoretic Drift

Jinseock Kong, Minsu Park, Geeyoon Kang, Hyeri Moon, and Hongsik Park
(Kyungpook National University)

TS11F_P_21

Effects of Helium-Ion Irradiation on the Superconducting Properties of MgB_2 Thin Films

Minju Jeong[1], Han Yoon[1,2], Tien Le[2], Jung Min Lee[2], Won Nam Kang[2], Hye-ran Jeon[3], Tuson Park[2], Soon-Gil Jung[4], and Soonbeom Seo[1]
([1]Changwon National University, [2]Sungkyunkwan University, [3]Korea Atomic Energy Research Institute, [4]Sunchon National University)

TS11F_P_22

Improved Diagnostic Accuracy of Canine Cancer based on Extracellular Vesicles Using a CD9-Based Normalization Strategy

Seungha Kim, Hyeri Moon, Geeyoon Kang, Jinseock Kong, Byounggi Park, and Hongsik Park
(Kyungpook National University)

TS11F_P_23

Efficient Extracellular Vesicle Isolation from Biological Sample Using a Dielectrophoresis-Based Microfluidic Chip

Byounggi Park, Hyeri Moon, Geeyoon Kang, Jinseock Kong, Seungha Kim, and Hongsik Park
(Kyungpook National University)

TS11F_P_24

Study on the Magnetic Structure of $CePtAl_4Ge_2$ under Pressure and Magnetic Field

Yunha Kim[1], Soohyeon Shin[2], Minju Jeong[1], and Soonbeom Seo[1]
([1]Changwon National University, [2]Forschungszentrum Jülich Centre for Neutron Science)

TS11F_P_25

Superconducting Properties of SHS-Synthesized $CoZr_2$

Junhyeong Park[1], Dogyun Byeon[1], Yunha Kim[1], Jaegu Song[2], Han Yoon[2], Tuson Park[2], and Soonbeom Seo[1]
([1]Changwon National University, [2]Sungkyunkwan University)

TS11F_P_26

Biological Role of Cytochrome P450 Family 1 Subfamily A Member 1 (CYP1A1) in Ketogenic Diet-Induced Modulation of Lung Cancer

Yusra Ahmad, Jungwoo Yu, Junhyeok Lee, Wanjun Kim, Siwoo Lee, Dong Soo Seo, Huiyoung Kwon, Ho Jung Bae, and Younghoon Jang
(Changwon National University)

TS11F_P_27

Non-Contact Nanostructured Alignment Layers for Liquid Crystal Alignment by Oblique Angle Deposition

Se-In Jung, Hyeonguk Nam, Hyun-Min Cheon, Jinmoo Seo, Gyu-Chang Lee, Byeong-Yun Oh, Jae-In Lee, and Hae-Chang Jeong
(Changwon National University)

TS11F_P_28

Wireless Neural Recorder for Neural Decoding

Janghwan Jekal, Saehyuck Oh, and Kyung-In Jang
(Daegu Gyeongbuk Institute of Science and Technology)

TS11F_P_29

Electrochemical Detection of Heavy Metal Ions Using Nanoframework-Based Electrocatalysts

Sun-Ho Lee, Myeong-Hyeon Kim, and Tae-Jun Ha
(Kwangwoon University)

TS11F_P_30

Electrochemical Detection of Allantoin Using a MWCNT/Cu-MOF/Polypyrrole Molecularly Imprinted Sensor

Misgana Mengistu Asmare, Shahid Wahab, and Soon-Il Yun
(Jeonbuk National University)

[TS12F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS12F_P_1

Rationally Defined Pt Single-Atom Catalysts via Electrodeposition for Efficient Hydrogen Evolution

Sohui Kim[1], Mansu Kim[2], and Dongmok Whang[1]

([1]Sungkyunkwan University, [2]Northwestern University)

TS12F_P_2

Designing NiFeOOH @CeO_2 Hetero Interface for Enhanced Electrochemical Methane to Methanol Conversation

Ritashree Chakraborty and Jeong Min Baik

(Sungkyunkwan University)

TS12F_P_3

Hierarchical Co-Fe Alloy/N-Doped Carbon Electrocatalysts for Efficient Oxygen Evolution in Anion Exchange Systems

Tae Min Yang[1], Minjeong Park[2], and Ji-Hoon Lee[1]

([1]University of Seoul, [2]Korea Institute of Materials Science)

TS12F_P_4

Photonic Sintering-Induced Electrode Structuring for Enhanced Activity and Durability in AEM Water Electrolysis

Ji Min Ahn[1], Minjeong Park[2], and Ji-Hoon Lee[1]

([1]University of Seoul, [2]Korea Institute of Materials Science)

TS12F_P_5

Utilization of Ferrocene-Nickel Metal Organic Framework for Sequential Nitrate Reduction Reaction

Minki Kim[1], Suhyeon Lee[2], Dae Woo Kim[2], and Chansol Kim[1]

([1]Korea Institute of Science and Technology, [2]Yonsei University)

TS12F_P_6

Structurally and Electronically Coupled Bi/Bi_3Ni-Carbon Dot Catalyst for Efficient and Long-Lived CO_2 Electroreduction to Formate

Jae Hyun Lee, Sung Yeol Choi, and Jeong Min Baik

(Sungkyunkwan University)

TS12F_P_7

PSU-Based Partially Fluorinated Proton Exchange Membrane for PEM Fuel Cells

Seung Won Baek, Ara Cho, Dong Chan Kim, Jeong Bang Ko, and Jang Yong Lee

(Konkuk University)

TS12F_P_8

Enhancing Proton Conductivity of Polycarbazole-Based PEMs through Acidity Control

Dong Chan Kim, Jeong Bang Ko, and Jang Yong Lee
(Konkuk University)

TS12F_P_9

Enhancing Chemical Stability of Carbazole-Based Anion Exchange Membranes via Incorporation of Radical Scavenging Extenders for AEMWE

Ara Cho, Sein Park, Dae Hwan Shin, Seung Won Baek, and Jang Yong Lee
(Konkuk University)

TS12F_P_10

Phase-Resolved Optical Detection of Hydrogen Using Plasmonic NanoCandle Arrays

Min-Joong Kim[1], Nu-Ri Park[1,2], Jongsu Lee[3], Minah Seo[4], Myung-Ki Kim[1], and Yong-Sang Ryu[1]
([1]Korea University, [2]Korea Institute of Science and Technology, [3]Kumoh National Institute of Technology, [4]Sogang University)

TS12F_P_11

Liquid-Phase Atomic Layer Deposition of Cu-Zn Clusters on Al_2O_3 for Improved CO_2 Hydrogenation Performance

Tayyab Muhammad[1], Soyun Lee[1], Jeong-myeong Ha[1], Jae-wook Choi[1], Chun-jae Yoo[1], Joona Bang[2], and Seongmin Jin[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS12F_P_12

Heterostructured CuO/MgO Multifunctional Electrocatalysts for Zinc-O_2/NO_3 Dual Battery as Environmental Systems

Yoongu Lim[1], Subramani Surendran[1], Tae-Yong An[1], Dongin Choi[1], and Uk Sim[2,3]
([1]Korea Institute of Energy Technology, [2]Sungkyunkwan University, [3]NEEL Sciences)

TS12F_P_13

Local pH Control Strategy Using Ag-SiO_2 in Anion Exchange Membrane (AEM) Based Zero-Gap CO_2 Electrolyzers

Chulwan Lim[1], Sangkuk Kim[2], Woong Hee Lee[1], and Hyung-Suk Oh[1,3]
([1]Korea Institute of Science and Technology, [2]POSCO HOLDINGS, [3]Sungkyunkwan University)

TS12F_P_14

Electrocatalytic Production of Plastic Monomers from Crude Biomass Feedstocks

Jongin Woo[1], Donggu Han[2], Ung Lee[1,2], and Dong Ki Lee[1,2]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS12F_P_15

Porous Solid Electrolyte Platforms for Electrochemical Microenvironment Engineering

Yejin Lee[1,2], Ji-Soo Jang[3], and Chansol Kim[1]
([1]Korea Institute of Science and Technology, [2]Seoul National University, [3]Sungkyunkwan University)

TS12F_P_16

Raman and Morphological Analysis of Binder Effects in RCC Electrodes

Young jin Doh, Jae yeon Lee, and Kitae Park
(Konkuk University)

TS12F_P_17

Optimization of Electrode Substrate and Binder Properties for Cation Exchange Membrane (CEM)-Based MEA Cells with Catalyst Coated Membranes (CCMs)

Young Bin Yoon, Yeo Min Kang, Su Bin Ohn, and Ki Tae Park
(Konkuk University)

TS12F_P_18

Enhanced Electrochemical CO2 Reduction in MEA-Based Reactive Carbon Capture (RCC) Systems through EDTA Concentration Optimization

Jae Yeon Lee, Young Jin Doh, and Ki Tae Park
(Konkuk University)

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CO_2 Hydrogenation to Methyl Formate Using Nanoporous Ru-Based Heterogeneous Catalyst and Reactive Distillation

Minji Kang and Sungho Yoon
(Chung-Ang University)

TS12F_P_20

Rapid Joule Heating of a FeNi Metal-Organic Framework Toward Enhanced Electrochemical Nitrate-to-Ammonia Conversion

Dayeon Kim[1,2], Minki Kim[1], Wooseok Jang[2], Dae Woo Kim[2], and Chansol Kim[1]
([1]Korea Institute of Science and Technology, [2]Yonsei University)

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Quinone-Assisted CO_2 Reduction in a Cation-Exchange-Membrane-Based MEA under Pure Water Conditions

Younghyun Chae and Dahye Won
(Korea Institute of Science and Technology)

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Integrated Process Design for CO_2RR-Based Sustainable Aviation Fuel Production: Impact of Operating Pressure on System Performance

Ayeon Kim and Changsoo Kim
(Korea Institute of Science and Technology)

TS12F_P_23

Range-Specific Sensitivity Analysis for CO_2 Utilization Processes

Hyein Jung[1], Suk Hoon Choi[1], Damdae Park[2], TaeUng Lee[3], Hyerim Kim[4], Changsoo Kim[1,5], Ung Lee[1,5], and Kyeongsu Kim[1,5]
([1]Korea Institute of Science and Technology, [2]Chungnam National University, [3]Korea University, [4]Korea Institute of Machinery & Materials, [5]UST-KIST School)

TS12F_P_24

Practical CO_2-to-Formic Acid Conversion in a Single-Amine System: Ru-MACHO-POMP Catalysis and Process Analysis

Jiseong Baek, Hongjin Park, and Sungho Yoon
(Chung-Ang University)

TS12F_P_25

Tailoring Photocatalytic CO_2 Reduction on Bismuth Chalcohalide Nanostructures: Insights from in Situ Spectroscopy

Subhash Chandra Shit and Wooyul Kim
(Korea Institute of Energy Technology)

TS12F_P_26

Interfacial Water Regulation Enables Selective Photoelectrochemical Ammonia Oxidation on Ph-POP/$BiVO_4$

Taesik Koh, Subhash Chandra Shit, and Wooyul Kim
(Korea Institute of Energy Technology)

TS12F_P_27

Hierarchically Porous Carbon-Augmented Electrocatalysts for Efficient Ethanol Production by CO_2Electroreduction

Seongyeon Kim[1], Taemin Lee[2], and Dae-Hyun Nam[1]
([1]Korea University, [2]Daegu Gyeongbuk Institute of Science and Technology)

TS12F_P_28

A Generative Model Workflow for Redox-Active Organic Molecules(ROMs) Targeting Prescribed Property Values

Janghoon Kang[1,2], Mirin Ryu[1], Kyeongsu Kim[1], Ung Lee[1], and Changsoo Kim[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS12F_P_29

Exploring the Effect of Alloying and Sulfur Doping on Electrochemical Nitrate Reduction via Carbothermal Shock Strategy

Suhyun Hwang[1,2], Minki Kim[1], Eugene Huh[1], Seung-Ho Yu[2], and Chansol Kim[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS12F_P_30

Catalyst Structure Modulation and Microenvironment Control for Selective Oxygenates Production via CO/CO_2 Electroreduction

Taemin Lee[1], Adith Ramakrishnan Velmurugan[2], Sojung Park[3], Wooyul Kim[3], Stefan Ringe[2], and Dae-Hyun Nam[2]
([1]Daegu Gyeongbuk Institute of Science and Technology, [2]Korea University, [3]Korea Institute of Energy Technology)

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Active Learning Guided Discovery of ROMs for Non-Aqueous Electrochemical CO_2 Capture and Release

Mirin Ryu, Changsoo Kim, and Janghoon Kang
(Korea Institute of Science and Technology)

TS12F_P_32

Optimizing Clamping Pressure and Operating Parameters for High-Performance Anion Exchange Membrane Water Electrolysis

Jae-Yeop Jeong[1,2], Jun Seok Ha[1], In Tae Kim[1], Donghun Gwak[1,2], and Sung Mook Choi[1,3]
([1]Korea Institute of Materials Science, [2]Pusan National University, [3]University of Science and Technology)

TS12F_P_33

In-Situ Observation of SEI Formation on Cathode under Discharge/Charge Cycling in Li-CO_2Batteries

Sangho Byon[1], Sojung Park[2], and Wooyul Kim[1]
([1]Korea Institute of Energy Technology, [2]Fritz Haber Institute of the Max Planck Society)

TS12F_P_34

Regulating CO_2 Mass Transport via Carbon Porosity Control in Electrocatalysts for Efficient Conversion of CO_2-to-C_2+ Chemicals

Yujin Lee[1], Kyung Hee Oh[2], Ji Chan Park[2], and Dae-Hyun Nam[1]
([1]Korea University, [2]Korea Institute of Energy Research)

TS12F_P_35

Study on Base-Free CO_2 Hydrogenation Using Single-Atom Ru-Macho-POMP Catalyst

Hyerim Jung, Inrack Choi, and Sungho Yoon
(Chung-Ang University)

TS12F_P_36

Reconstruction-Driven Product Selectivity in Cu-Al Bimetallic Oxide Catalysts for CO_2 Reduction Reaction

Geon-Woo Kim[1], Jinoh Jung[2], and Dae-Hyun Nam[1]
([1]Korea University, [2]Daegu Gyeongbuk Institute of Science and Technology)

TS12F_P_37

Process-Integrated Catalyst Layer Engineering for Durable and High-Performance Anion Exchange Membrane Water Electrolysis

Hoseok Lee[1,2], Chiho Kim[1], and Sung Mook Choi[1,3]
([1]Korea Institute of Materials Science, [2]Ulsan National Institute of Science and Technology, [3]University of Science and Technology)

TS12F_P_38

Simulation-Based Optimization of an Integrated CO_2 to e-SAF Process via Fischer-Tropsch Synthesis

Dongyeong Kim, Changsoo Kim, Kyeongsu Kim, and Ung Lee
(Korea Institute of Science and Technology)

TS12F_P_39

Optical Hydrogen Sensor based on a Fabry-Perot Etalon Structure Incorporating a Hydrogen-Reactive Layer

Hyeon Bin Woo, Tae Hyun Kim, and Yong-Sang Ryu
(Korea University)

TS12F_P_40

Electrochemical Nitrogen Reduction on Carbon-Supported Titanium Niobate with Wadsley-Roth Structure

Tae-yong An[1], Kiho Bae[1], and Uk Sim[2,3]

([1]Korea Institute of Energy Technology, [2]NEEL Science, Inc., [3]Sungkyunkwan University)

TS12F_P_41

Unlocking the Catalytic Potential of Ni Foam: Electrochemically Reconstructed High-Performance Electrode for Sustainable Water Splitting: Toward Solar-Assisted Green Hydrogen Production

Dongin Choi[1], Subramani Surendran[1], and Uk Sim[2]

([1]Korea Institute of Energy Technology, [2]Sungkyunkwan University)

TS12F_P_42

Enhance the Electrocatalytic Hydrodeoxygenation of Lignin-Oil by Support π-π Interactions

Jialu Wang[1], Hyung-Suk Oh[1,2], and Woong Hee Lee[1,3]

([1]Korea Institute of Science and Technology, [2]Sungkyunkwan University, [3]Korea University of Science and Technology)

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[TS13F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS13F_P_1

Self-Assembly Prediction of Architecture-Controlled Bottlebrush Copolymers in Solution Using Graph Convolutional Networks

Wooseop Hwang[1], Sangwoo Kwon[2], YongJoo Kim[1], and Won Bo Lee[2]

([1]Korea University, [2]Seoul National University)

TS13F_P_2

Development of a Real-Time Multimodal Sensor-Based Intelligent Mattress for Pressure Injury

Gyutae Lee, Namhyeong Lee, Hyun Su Jang, and Yongsuk Oh

(Changwon National University)

TS13F_P_3

Beyond Numerical Hallucination: Context-Alignment Failures in AI-Curated Quantum Dot Datasets for Smart Nanomaterial Workflows

Seungwon Yoo

(Chungbuk National University)

TS13F_P_4

Simulation-Based MXene Interlayer Design for Shuttle-Governed Battery Systems

Hyunki Kim and Han Seul Kim

(Chungbuk National University)

TS13F_P_5

Computational Design of 2D Heterostructures for Ultra-Low-Power Logic and Memory Applications

Euiyoung Choi and Han Seul Kim

(Chungbuk National University)

TS13F_P_6

Automated NEB Pathway Construction for Concerted Knock-Off Ion Migration in Battery Electrode Materials

Haneol Cho[1], Seungho Baek[2,3], Yoonhwan Kang[2], Chansoo Kim[2,3], and Kyu-Hwan Lee[2]

([1]Sejong University, [2]Korea Institute of Science and Technology, [3]University of Science and Technology)

TS13F_P_7

Strain-Dependent Adsorption Energy Prediction Using Machine Learning

Younghyun Choi, Girim Park, Yujin Kim, and Kihyun Shin

(Hanbat National University)

TS13F_P_8

Active Learning for Efficient Exploration of M-N-C Single Atom Catalyst Design Space

Janghyeon Oh, Yeonwoo Do, Seokho Lee, Seohee Jang, and Kihyun Shin
(Hanbat National University)

TS13F_P_9

Oxygen Evolution Reaction on Clean, Stepped, and Kinked IrO_2 (110) Surfaces

Girim Park, Younghyun Choi, Yujin Kim, and Kihyun Shin
(Hanbat National University)

TS13F_P_10

Rethinking OER Activity on Doped IrO2(110) through SCAN Insights

Eujin Kim, Younghyun Choi, Girim Park, and Kihyun Shin
(Hanbat National University)

TS13F_P_11

Synergistic Ru-Fe Bimetallic Nanoparticles Supported on MgO for Enhanced N_2 Activation in Ammonia Synthesis

Suin Hwang[1], Hyuk Choi[2], and Hyun You Kim[1]
([1]Chungnam National University, [2]Nanyang Technological University)

TS13F_P_12

Budget-Constrained Augmentation of Universal Interatomic Potentials for Reliable Multicomponent Molecular Dynamics

Hyeon-Jong Lee, Donghun Kim, and Dong-Hwa Seo
(Korea Advanced Institute of Science and Technology)

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[TS14F_P] Poster Session 3

Date & Time	July 10(Fri.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS14F_P_1

High-Fidelity 3D Molecular Imaging of Multicellular Tumor Spheroids via Cryogenic ToF-SIMS: Preserving Native Lipid Distributions

Hyun Kyong Shon[1], Jemin Yeun[2], Sung Gap Im[2], Tae Geol Lee[1], and Jin Gyeong Son[1]
([1]Korea Research Institute of Standards and Science, [2]Korea Advanced Institute of Science and Technology)

TS14F_P_2

Neurotoxicity of Polypropylene Nanoplastics in 3D Human Midbrain Organoids

Yeongkag Kwon, Yugyeong Sim, Jinyoung Jeong, and Mi-Ok Lee
(Korea Research Institute of Bioscience and Biotechnology)

TS14F_P_3

Fragment vs. Fiber: Distinct Chronic Toxic Effects of Polyethylene Terephthalate Microplastics on Marine Amphipod Monocorophium uenoi

Jinyoung Song[1], Jin Soo Choi[1], Hyeonji Nam[1], Asna Ali[2], and June-Woo Park[1,2]
([1]Korea Institute of Toxicology, [2]Korea University of Science and Technology)

TS14F_P_4

Sublethal-Level Acute Nanotoxicity Evaluation Using Heart Rate Distributions

Shinhye Park[1,2], Gisu Park[1,2], and Youngsam Kim[1,2]
([1]Korea Institute of Science and Technology-Europe, [2]University of Science and Technology)

TS14F_P_5

Nano-IR Characterization of Nanomaterials for Safety Assessment

Daseul Jeong[1], Mingu Kang[4], Hwi Je Woo[2], Eun Seong Lee[2], Junghoon Jahng[2], Kyoung-Ho Kim[3], and Evan S.H. Kang[1]
([1]Chungbuk National University, [2]Korea Research Institute of Standards and Science, [3]Kyung Hee University, [4]Pohang University of Science and Technology)

TS14F_P_6

Post-Incident Health and Safety Net for Workplace Burn Injuries

Seungmin Baik, Seung Hyeon Weon, Sanghun Kim, Suyong Kim, and Min Soh
(HTnB Inc.)

TS14F_P_7

Obesity Exacerbates TiO_2Nanoparticle-Induced Respiratory Inflammation through TLR4-MAPK Signaling in a Sex-Specific Manner in Mice

Hyoung-Yun Han[1,2], Hyun Jegal[1], Se-Myo Park[1], Mi-Sun Choi[1], Jung-Hwa Oh[1,2], and Seokjoo Yoon[1,2]
([1]Korea Institute of Toxicology, [2]University of Science and Technology)

TS14F_P_8

Cradle-to-Gate Life Cycle Assessment of Carbon Nanotubes: Hotspot Identification and Improvement Strategies

Byung-Tae Lee and Geun-Bae Yoo
(Gwangju Institute of Science and Technology)

TS14F_P_9

Electrochemical Biosensing Nanoplatform for Detection of Pesticide

Byeong-Ji Kim, Bhavna Hedau, and Tae-Jun Ha
(Kwangwoon University)

TS14F_P_10

Seagrass under Seige: Navigating the Dual Threats of Climate Change and Microplastics

Asna Ali[1,2], Jinyoung Song[2], Taeyong Shim[3], and June-Woo Park[1,2]
([1]University of Science and Technology, [2]Korea Institute of Toxicology, [3]University of Seoul)

TS14F_P_11

Green-Synthesized Nanoparticles from Citrus Reticulata

Samuel Araújo de Sousa, Isabella Márcia S. N. Teotônio, Anderson de Jesus Gomes, and Claure Nain Lunardi
(University of Brasilia)

TS14F_P_12

Rapid Molten Salt-Assisted Carbonization of Diverse Biomass Precursors into Nanoporous Carbon Materials under Ambient Atmosphere

Cheyeon Park, Dain An, Soo-Hyun Park, and Ha-Jin Lee
(Seoul Women's University)

TS14F_P_13

Nanomaterial Mediated Corrosion Inhibition: The Role of Medicinal Plant Extracts and Nanoparticles

Therola Sangtam and Ambrish Singh
(Nagaland University)

TS14F_P_14

Development of a Vascularized Human Liver Organoid Model for Enhanced Nanotoxicity Assessment

Jeongbin Kim[1], Joongwon Baek[2], Tae Geol Lee[2], and Ahruem Baek[2]
([1]Kyung Hee University, [2]Korea Research Institute of Standards and Science)

TS14F_P_15

Cradle-to-Gate Life Cycle Assessment of Carbon Black: Upstream Hotspots and Sustainability Improvement Strategies

Byung-Tae Lee and Keun-Bae Yu
(Gwangju Institute of Science and Technology)

TS14F_P_16

Energy Transfer between i-Motif DNA Encapsulated Silver Nanoclusters and Fluorescein Amidite Efficiently Visualizes the Redox State of Live Cells

Hari Chandana Yadavalli[1], Yeolhoe Kim[1], Il Lae Jung[2], Sooyeon Park[1], Tae-Hwan Kim[3], Jin Young Shin[1], Riddhi Nagda[1], Peter Waaben Thulstrup[4], Morten Jannik Bjerrum[4], Yong Joo Bhang[5], Phil Hyu Lee[1], Won Ho Yang[1], Pratik Shah[6], and Seong Wook Yang[1]

([1]Yonsei University, [2]Korea Atomic Energy Research Institute, [3]Jeonbuk National University, [4]University of Copenhagen, [5]Xenohelix Co., Ltd., [6]Roskilde University)

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