[TS01W_BP] Poster Session 1

Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS01W_BP_1

Hydroxyl-Defect-Induced Charge Trapping in IGZO Synaptic Transistors for Physical Reservoir Computing

Minyoung Choi and Byungjin Cho

(Chungbuk National University)

TS01W_BP_2

Metal-Electrode-Dependent Resistive Switching Behavior in Tellurium Memtransistors

Jonghun Jeon and Byungjin Cho

(Chungbuk National University)

TS01W_BP_3

Performance Enhancement of Tellurium Field-Effect Transistors through Compositionally Graded Te/TeO_{3-x} Heterostructure

Jaeyoung Yoon and Byungjin Cho

(Chungbuk National University)

TS01W_BP_4

Enhanced Operational Stability of C-Axis Aligned Crystalline IGZO Synaptic Transistors for Neuromorphic Computing

Jeongwoo Kim and Byungjin Cho

(Chungbuk National University)

TS01W_BP_5

Contact Engineering via a MoxTey Interfacial Layer in MoS_2 Transistors for High Performance Capacitorless DRAM

Yedam Kim and Byungjin Cho

(Chungbuk National University)

TS01W_BP_6

Toward Compact In-Fiber Nonlinear Devices Enabled by Efficient Frequency Conversion in GaN Hole-Type Circular Bragg Nanocavities

Mahsa Haddadi Moghaddam, Kirlie Iulius Figuera Michal, and Jehyung Kim

(Ulsan National Institute of Science and Technology)

TS01W_BP_7

Single-Metal Ferroelectric Fin Diodes with HZO and Transistor-Free TCAM for Compute-in-Memory Applications

Min-Yeong Lee and Hyun-Yong Yu

(Korea University)

TS01W_BP_8

III-V-Derived Van der Waals Memtransistor Enabled by Cation-Eutaxy

Jihong Bae and Wooyoung Shim
(Yonsei University)

TS01W_BP_9

Bioinspired Aerogel-Confined Phase Change Materials for High-Performance Thermal Rectification and Device Cooling

Zubair Ashraf[1], Akbar Bashir[2], Ali Usman[1], Mulin Qin[1], Atif Nazir[1], Haiwei Han[1], Kaihang Jia[1], Sadia Noreen[1], Waseem Aftab[3], Zhenghui Shen[1], and Ruqiang Zou[1]
([1]Peking University, [2]Shenzhen University, [3]University of Birmingham)

TS01W_BP_10

Capacitance Enhancement of Ru/ZrO_2/Ru Metal-Insulator-Metal Capacitors via Annealing-Induced Densification of the Top Ru Electrode

Jun Hyeong Park, Sung Jun Kim, Hoi Yoon Jung, Byeong Hun Pyun, Wang-Chul Shin, Taeho Lee, In-Sung Park, Young Wook Park, and Jinho Ahn
(Hanyang University)

NANO KOREA 2026 Conference

[TS02W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS02W_BP_1

Misalignment-Tolerant Cascaded Plasmonic Janus Metasurfaces for Direction-Dependent Wavefront Control

Eui-Soo Cho, Gyeongsu Jin, Hee-Dong Jeong, and Seung-Yeol Lee

(Kyungpook National University)

TS02W_BP_2

Squid-Inspired Conformable Microneedle SERS Sensor Platform for Minimally Disruptive Food Quality Monitoring

Yeojin Kang and Junseong Ahn

(Korea University)

TS02W_BP_3

Optimization of Hollow Silica Nanoparticles for Efficient UV Diffuser Films

Sunhyoung Koo, Jinhyeong Kim, Jaehyeok Park, and Seunghyup Yoo

(Korea Advanced Institute of Science and Technology)

TS02W_BP_4

Extended-Durability Piezoionic Sensor for Broad-Range and Self-Powered Pressure Sensing

Jong-An Choi[1,2], Jiwon Moon[2], Sohee Jeon[1], Soon Hyoung Hwang[1], Inkyu Park[2], and Jun-Ho Jeong[1]

([1]Korea Institute of Machinery & Materials, [2]Korea Advanced Institute of Science and Technology)

TS02W_BP_5

Plant Inspired Capillary Driven Nanoribbon Yarn Pump for Transfer Free Capture of Micro-volume Liquid and ML Assisted SERS Analysis

Sunhee Park and Junseong Ahn

(Korea University)

[TS03W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS03W_BP_1

Deep Learning Hidden-State Analysis for Explainable Anomaly Detection in Semiconductor Manufacturing Process Monitoring

Byeong Jun Song[1,2], Jihun Kim[1,2], Sung Kyu Jang[1], Jihye Seo[1], Mincheol Kim[1,2], Ji Won Suk[2], Hyeongkeun Kim[1], and Jong Hyun Choi[1]
([1]Korea Electronics Technology Institute, [2]Sungkyunkwan University)

TS03W_BP_2

Data Augmentation-Based Defect Detection for Industrial Visual Inspection Image Analysis

Min Cheol Kim[1,2], Jihun Kim[1,2], Sung Kyu Jang[1], Hyun-Mi Kim[1], Byeong Jun Song[1,2], Jihye Seo[1], Jae-boong Choi[2], Hyeongkeun Kim[1], and Jong Hyun Choi[1]
([1]Korea Electronics Technology Institute, [2]Sungkyunkwan University)

TS03W_BP_3

Nanoconfinement-Driven Conversion of ALD Films for Grain Growth and Void-Free via Interconnects

Seoyeon Jeong[1], Gwangsik Mun[1], Taewoon Kim[1], Hyeuk Jin Han[2], and Yeon Sik Jeong[1]
([1]Korea Advanced Institute of Science and Technology, [2]Sungshin Women's University)

TS03W_BP_4

Multi-Objective Optimization of Bilayer Absorber Structure for High-NA EUV Mask: Imaging Performance and Best Focus Shift

Seungho Lee, Dongmin Jeong, Yunsoo Kim, Seungchan Lee, Taeho Lee, and Jinho Ahn
(Hanyang University)

TS03W_BP_5

Resolution Enhancement in EUV Ptychography via Optimized Probe Overlap Ratio for Diffraction Diversity

Hosun Kwak, Junho Hong, Seungchan Moon, and Jinho Ahn
(Hanyang University)

TS03W_BP_6

Ozone-Based Functionalization of CNT Surfaces for Conformal Coating in EUV Pellicle

Sanghyeok Yang, Young Woo Kang, Inseo Lee, In-Sung Park, and Jinho Ahn
(Hanyang University)

TS03W_BP_7

Low Electron Temperature Plasma Dry Development of Metal-Oxide EUV Photoresists

Minseok Seo, Jiwon Kim, Ji-Hoo Seok, Taeho Lee, Kwang-Sub Yoon, Chin-Wook Chung, and Jinho Ahn
(Hanyang University)

TS03W_BP_8

3D Two-Photon Polymerization Lithography of Structurally Graded Silica Nanostructures

Eunyoung Ahn, Youngjun Chung, Sunwoo Woo, and Myungjae Lee
(Seoul National University)

TS03W_BP_9

Investigation of Force-Dependent Piezoelectric Charge in PZT Thin Films Using Atomic Force Microscopy

Hyunah Cho[1,2], Seungjae Heo[1], Minhyung Kim[1,2], Hyuncheol Song[3], and Yunseok Kim[1]
([1]Sungkyunkwan University, [2]Samsung Institute of Technology, [3]Korea University)

NANO KOREA 2026 Conference

[TS04W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS04W_BP_1

Self-Aligned Nanopatterning of Solution Materials via an Antifouling Agent/NOA Bilayer Template

Sungyun Kim, TaeHyeon kim, Duri Kim, Donghwan Hwang, and Hanul Moon

(Dong-A University)

TS04W_BP_2

Sub-1 V Object Visibility Modulation with Electrically Reconfigurable Nanofilter

Juhwan Kim, Hanyi Kim, Gyurin Kim, Jinkyeong Lee, and Hyeon-Ho Jeong

(Gwangju Institute of Science and Technology)

TS04W_BP_3

Analysis of Surface Plasmon Polaritons in Al-Si_3N_4 Slit Structures for SWIR-to-NIR Conversion

Choung Hyeon Lee[1], Joo Wan Kim[1], Il Suk Kang[2], and Jong-Kwon Lee[1]

([1]Cheongju University, [2]National NanoFab Center)

TS04W_BP_4

Nanostructured and Functional Materials

Jae Hong Park and Yong-Jae Lee

(National NanoFab Center)

NANO KOREA 2026 Conference

[TS05W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS05W_BP_1

Radiation-Tolerant Monolayer All-Graphene Gas Sensor

Jaeyeon Oh and Yeonhoo Kim
(Korea Research Institute of Standards and Science)

TS05W_BP_2

Work Function Tunable Antimony Alloys for Pinning-Free Contact in Two-Dimensional Transistors

Yeon Ho Kim[1], Hyun-Young Choi[1], Dong Beom Seo[1], Youngdeuk Youn[1], Jaeho Lee[1], Hyeonwoo Lee[2], Juwon Han[2], Hyunsoo Kim[2], Bong Gi Lim[1], Changwook Jeong[2], Gwan-Hyoung Lee[1], and Chul-Ho Lee[1]
([1]Seoul National University, [2]Ulsan National Institute of Science and Technology)

TS05W_BP_3

Vertically Aligned MoS_2 Transistors with Sub-10 nm Channel and 1D Graphene Contacts

Moonchul Jung, Kyungmin Yang, Donghoon Moon, Jiwoo Kim, Hyunjun Kim, and Gwan-Hyoung Lee
(Seoul National University)

TS05W_BP_4

Layer-by-Layer Reduction of Sb_2O_3 Single Crystals into Crystallographically Aligned Sb Layers for 2D Electronic Devices

Jundong Yeo, Hyunjun Kim, and Gwan-Hyoung Lee
(Seoul National University)

TS05W_BP_5

Solution-Induced Sub-Contact Doping in p-Type WSe_2 Transistors

Wonseok Choi[1], June-Chul Shin[1], Kyungmin Yang[1,3], Oh Yeong Gong[2], Jin Woo Kim[1], Youngdeuk Youn[1], Junyoung Kwon[5], Junyeon Kim[5], Minsu Seol[5], Doyoon Lee[2], Kenji Watanabe[6], Takashi Taniguchi[6], Hyun Suk Jung[4], and Gwan-Hyoung Lee[1]
([1]Seoul National University, [2]Massachusetts Institute of Technology, [3]University of Pennsylvania, [4]Sungkyunkwan University, [5] Samsung Electronics Co., Ltd., [6]National Institute for Materials)

TS05W_BP_6

Promoter-Free Wafer-Scale Growth of High-Quality Monolayer MoS_2 for Optoelectronic Applications

Jungwoo Bong[1], Keun Heo[2], and Jae-Hyun Lee[1]
([1]Sungkyunkwan University, [2]Jeonbuk National University)

TS05W_BP_7

Interlayer Excitons and Emergent Charged States in PbI_2/TMDC Van Der Waals Heterostructures

Pooja Singh Tomar and Abhishek Misra
(Indian Institute of Technology Madras)

TS05W_BP_8

Achieving E-Mode β-Ga_2O_3 MESFETs with Self-Aligned Gate-Recess Structure by Forward Metal-Assisted Chemical Etching

Woong Choi[1], Jiho Kim[1,2], and Jihyun Kim[1]
([1]Seoul National University, [2]Samsung Electronics Co., Ltd.)

TS05W_BP_9

High-Performance $PtSe_2$ Homojunction Devices via Thickness-Controlled Hypotaxy

Yumin Shin, Moon Chul Jung, Donghoon Moon, Jundong Yeo, and Gwan-Hyoung Lee
(Seoul National University)

TS05W_BP_10

Topological Semimetal Interconnects with Radiation Tolerance for Space Applications

Jae Woo Shin[1], Hyeon Yeong Lee[2], Yong Nam An[1], Yongsu Lee[3], Yong-Ryun Jo[1], Sang Eon Lee[1], Jeong Min Park[3], Chang Goo Kang[3], Sang-Woo Kim[2], and Hyeon-Jin Shin[1]
([1]Gwangju Institute of Science and Technology, [2]Yonsei University, [3]Korea Atomic Energy Research Institute)

TS05W_BP_11

Robust N-Type Conduction with High On/Off Ratios in Violet Phosphorus Field-Effect Transistors

Jae Joon Kim[1], Joonho Kim[1], Seoyoung Lim[2], Dong-gyu Kim[1], Uje Choi[1], Jieun Yeon[1], Jinsub Park[1], Dong-Wook Kim[2], and Kwanpyo Kim[1]
([1]Yonsei University, [2]Ewha Womans University)

TS05W_BP_12

Effect of Coating Method on Film Morphology of Tellurium Nanowire Network (Te-Nanonet) Deposited on Multiple Substrates

Gyudon Han, Adila Rani, and Gangtae Jin
(Gachon University)

TS05W_BP_13

Influence of Nucleation and Film Coalescence on Broadband Photoresponse of Monolayer MoS_2 Phototransistors

Jungin Yoon, Adila Rani, and Gangtae Jin
(Gachon University)

TS05W_BP_14

Controlling Nucleation and Coalescence of Monolayer MoS_2 Grown by Oxy-MOCVD for Enhanced Optical Uniformity

Taesung Park, Adila Rani, and Gangtae Jin
(Gachon University)

TS05W_BP_15

Fluorination-Induced Nanoscale Pore Formation in Carbon Nanotubes via XeF_2 Treatment

Minji Park[1,2], Sanghan Lee[2], and Jangyup Son[1,3,4]

([1]Korea Institute of Science and Technology, [2]Gwangju Institute of Science and Technology, [3]Jeonbuk National University, [4]University of Science and Technology)

TS05W_BP_16

Growth of sp^2 Carbon : From Amorphous sp^2 Carbon to Graphene

Changheon Kim[1,2], Gwan-Hyoung Lee[2], and Jangyup Son[1,3,4]

([1]Korea Institute of Science and Technology, [2]Seoul National University, [3]Jeonbuk National University, [4]University of Science and Technology)

TS05W_BP_17

Oxidation-Mediated Van der Waals Interface Engineering for High-Performance p-Type WSe_2 FETs

Hyun-Young Choi[1], Yeon Ho Kim[1], Youngdeuk Youn[1], Hyeongjun Jang[2], Changwook Jeong[2], Chul-Ho Lee[1], and Gwan-Hyoung Lee[1]

([1]Seoul National University, [2]Ulsan National Institute of Science and Technology)

TS05W_BP_18

Boltzmann Switching MoS_2 Metal-Semiconductor Field-Effect Transistors Enabled by Monolithic-Oxide-Gapped Metal Gates at the Schottky-Mott Limit

Yeon Ho Kim[1], Wei Jiang[2], Donghoon Moon[1], Gwan-Hyoung Lee[1], Tony Low[2], and Chul-Ho Lee[1]

([1]Seoul National University, [2]University of Minnesota)

TS05W_BP_19

Modulation of Metal Work Functions by Quasi-Van-der-Waals Recrystallization

Ha-yeong Sung, Yuna Lee, and Gwan-Hyoung Lee

(Seoul National University)

TS05W_BP_20

Vertical Nb Josephson Junctions Fabricated by Direct Metal Deposition on Both Surfaces of Freestanding Graphene Layers

Yoonkang Kim[1,2], Seongbeom Kim[1,2], Jeonglyul Kim[1], Kikyung Jung[1], Sejin An[1], Jieun Lee[1], Hyobin Yoo[1], Joon Young Park[2], and Gyu-Chul Yi[1]

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

TS05W_BP_21

High-Performance Vertically Stacked WS_2 NMOS Inverter via Layer-by-Layer Assembly of CVD-Grown WS_2 Monolayers

Jiwon Ma[1], Dae Kyu Lee[2], Changwook Lee[1], Junwon Kim[1], Jisoo Seok[1], Joon Young Kwak[3], and Jiwon Chang[1]

([1]Yonsei University, [2]Korea Institute of Science and Technology, [3]Ewha Womans University)

TS05W_BP_22

Position-Selective MoS_2Photoresponse Dynamics for In-Sensor Encoding of Motion History

Hyeonsu Park, Hyuncheol Yun, Yelim Kim, and Won Il Park

(Hanyang University)

TS05W_BP_23

Substrate-Field-Modulated Remote-Van Der Waals Hybrid Epitaxy in Transition Metal Dichalcogenide Heterostructures

Lia Saptini Handriani and Won Il Park
(Hanyang University)

TS05W_BP_24

High-Entropy-Stabilized 1T Transition Metal Dichalcogenides for Efficient and Durable Photoelectrochemical Hydrogen Production

Jin Ho Seo and Ho Won Jang
(Seoul National University)

TS05W_BP_25

Lateral Semimetal-Semiconductor Transition Metal Dichalcogenide Heterostructures for High Performance Transistors

Nurul Hasanah[1,2], Kibum Kang[1], and Seungwoo Song[2]
([1]Korea Advanced Institute of Science and Technology, [2]Korea Research Institute of Standards and Science)

NANO KOREA 2026 Conference

[TS06W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
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TS06W_BP_1

Pyramidal Quantum Dot Arrays for Angle-Selective Light Absorption

Jisoo Seo and Tae Won Nam

(Pusan National University)

TS06W_BP_2

Decoupling Interfacial Roughening from Bulk Phase Separation via Evaporation-Selective Solutal Marangoni Flow in Quaternary Colloid- Polymer Thin Films

Seungpyo Seo and Tae Won Nam

(Pusan National University)

TS06W_BP_3

Nanoscale Quantum Dot Supraparticles via Evaporation-Driven Self-Assembly

Ki Hoon Kim and Tae Won Nam

(Pusan National University)

TS06W_BP_4

A Scalable Photonic Nose based on DNA/Carbon Nanotube Corona Interfaces

Minyeong Yoon, Jeonghyeon Cho, and Sooyeon Cho

(Sungkyunkwan University)

TS06W_BP_5

Ag- and Au-Hybridized Hydrogen-Substituted Graphdiyne for Highly Sensitive Hydrogen Sensing

Yujin Lee, Jaedong Jang, Sangwu Sim, and Hee-Tae Jung

(Korea Advanced Institute of Science and Technology)

TS06W_BP_6

Activation-Free Room-Temperature NO_2 Sensing Enabled by Physisorption-Engineered 3D Sb_2Se_3

Sunwoo Lee[1,2], Myungwoo Choi[3], Jeong-O Lee[1], and Donghwi Cho[1]

([1]Korea Research Institute of Chemical Technology, [2]Korea University, [3]Nano Hybrid Technology Research Center)

TS06W_BP_7

Battery-Free, Wireless Sensing Platform for Integrated Physical and Chemical Monitoring of Pressure Injury

Hyeonbin Park[1,2], Sunwoo Lee[1], Yong Suk Oh[3], Jeong-O Lee[1], and Donghwi Cho[1]

([1]Korea Research Institute of Chemical Technology, [2]Sungkyunkwan University, [3]Changwon National University)

TS06W_BP_8

The Role of Surface Secondary Phases and Their Impact on the Poisoning of $(Pr,Ce)O_{2-\delta}$ Model Electrodes in Solid Oxide Cells

Haerim Jeon and Han Gil Seo
(Dankook University)

TS06W_BP_9

Effects of Sintering Aids on the Microstructure and Electrochemical Properties of Gd-Doped CeO_2 Electrolytes for Solid Oxide Cells

Yumi Chae, Yoon Jae Jo, and Han Gil Seo
(Dankook University)

TS06W_BP_10

Fabrication of High-Aspect-Ratio Yttrium Iron Garnet Structures via Secondary Sputtering Lithography

Hyewon Jeon, Jaedong Jang, and Hee-Tae Jung
(Korea Advanced Institute of Science and Technology)

TS06W_BP_11

Paintable, Lightweight Surface-Engineered MXene/TPU Composites for Microwave Absorption through Impedance Matching

Hyun Seong Yang[1,2] and Seon Joon Kim[1,3]
([1]Korea Institute of Science and Technology, [2]Korea University, [3]University of Science and Technology)

TS06W_BP_12

Cationic Squaramide Functionalized Porphyrin Scaffold for Electrochemical PFAS Detection

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

TS06W_BP_13

Interfacial Engineering of Au/Cr-TiO_2 via Ti Oxidation State Modulation for Enhanced CO_2 Activation in the Reverse Water-Gas Shift Reaction

Noh-Moon Lee and Bonjae Koo
(Sungshin Women's University)

TS06W_BP_14

Hierarchical NbS_2/2D $Cu_3(HHTP)_2$ Heterostructures for Robust Room-Temperature H_2S Detection

Jae-Woo Seo, Joon-Seok Lee, Dong-Hee Lee, and Seon-Jin Choi
(Hanyang University)

TS06W_BP_15

Interconnected CFA-1/MWCNT Composites via Morphology Control for Electrochemical Heavy Metal Ion Sensing

Yeon-Joo Kim, Jae-Woo Seo, Dong-Hee Lee, and Seon-Jin Choi
(Hanyang University)

TS06W_BP_16

Sequential Interfacial Transfer Printing of Three-Dimensional Quantum Dot Structures

Jeong Hun Shin and Tae Won Nam
(Pusan National University)

TS06W_BP_17

Hydrogen-Bonding-Active Porphyrin-Based Covalent Organic Framework@MWCNT for Chemiresistive NO_2 Detection

Dong-Hee Lee, Jae-Woo Seo, and Seon-Jin Choi
(Hanyang University)

TS06W_BP_18

Metal-Embedded Hierarchical CNT-CNF Gas Diffusion Electrode for Sustained Triple Phase Boundary in Zinc-Air Batteries

Su Yeon Bae[1], Dong Kun Song[2], Shi Hyeong Kim[3], Gu Young Cho[2], Caroline Sunyoun Lee[4], and Ki Ro Yoon[1]
([1]Konkuk University, [2]Dankook University, [3]Korea Institute of Industrial Technology, [4]Hanyang University)

TS06W_BP_19

Artificial Olfactory Intelligence Sensor Array for Detecting Chemical and Biological Substances

Minhyeok An[1,2], Hyunsu Ra[1], Juhyun Kang[3], Sungman Lee[3], Young-Seok Shim[4], Yejin Jang[1], Donghwi Cho[1], and Jeong-O Lee[1]
([1]Korea Research Institute of Chemical Technology, [2]Jeonbuk National University, [3]SensorTech Co., Ltd, [4]Korea University of Technology and Education)

TS06W_BP_20

Alkaline-Stable Hydrogel Interfaces for Enhanced Gas Evolution in Water Electrolysis

Siheon Lee[1], Wonjin Lee[1], Sunghak Park[2], Ki Chang Kwon[3], and Juhyuk Park[1]
([1]Seoul National University, [2]Sungkyunkwan University, [3]Korea Research Institute of Standards and Science)

TS06W_BP_21

Processing Optimization of Smart Biopolyol-Based Polyurethane

Wonjin Lee[1], James Sangmin Choo[1], Goum Min[1], Siheon Lee[1], Jeong-Yun Sun[1], Young Seok Song[2], and Juhyuk Park[1]
([1]Seoul National University, [2]Dankook University)

TS06W_BP_22

Smart Thermally Conductive Adhesives for Durable Bonding via Hybrid Packing Design

Jinsoo Na, James Choo, Sangjae Kim, Siheon Lee, and Juhyuk Park
(Seoul National University)

TS06W_BP_23

Curvature-Compliant Reconfigurable Nanogap SERS for Multiscale Molecular Sensing

Goum Min[1], Jinsoo Na[1], Yugyeong Kang[1], Siheon Lee[1], Byounghyun Jeon[2], Hanjae Kim[2], Hyunjun Lee[3], Beomsoo Chun[1], Soojeong Yim[1], Jeonghun Kwak[1], Youngho Eom[3], Chang Yeol Lee[4], Soon Hyoung Hwang[2], and Juhyuk Park[1]
([1]Seoul National University, [2]Korea Institute of Machinery & Materials, [3]Hanyang University, [4]Korea Research Institute of Bioscience and Biotechnology)

TS06W_BP_24

Tracking Time-Resolved Single-Cell Oxidative Dynamics via Nanosensor Chemical Cytometry

Changi Baek, Youngho Song, Seongcheol Park, Changyu Tian, and Soo-Yeon Cho
(Sungkyunkwan University)

TS06W_BP_25

Phase-Separation-Based Conductive Photoresist for Micro-LED Transfer

Se Hoon Jung and Tae Won Nam
(Pusan National University)

TS06W_BP_26

Programmable Peptide Coronas on Single-Walled Carbon Nanotubes for Target Specific nIR Optical Nanosensors

Seungju Lee[1], Jongpil Park[2], and Sooyeon Cho[1]
([1]Sungkyunkwan University, [2]Chung-Ang University)

TS06W_BP_27

Influence of Carbon Nanomaterial Dimensionality on ssDNA Corona Formation and Optical Sensing

Seon Min Park and Sooyeon Cho
(Sungkyunkwan University)

TS06W_BP_28

CMOS-Integrated Platform for Spatially Addressable Enzymatic DNA Synthesis

Wonjoon Choi
(Pohang University of Science and Technology)

NANO KOREA 2026 Conference

[TS07W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
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TS07W_BP_1

Ligand-to-Metal Charge Transfer and Voltage Hysteresis in Li-Rich Cathodes

Hyunsung Cho and Minkyu Kim

(Inha University)

TS07W_BP_2

Understanding Ni-Dependent Synthesis Pathways Toward High-Quality Layered Structures in NCM Cathodes

Dahee Jeong and Minkyu Kim

(Inha University)

TS07W_BP_3

Charge-Discharge Asymmetry in NCM811 Cathodes Driven by FastCharge-Induced Inter-Particle SOC Heterogeneity

Hyeon Gyu Song and Minkyu Kim

(Inha University)

TS07W_BP_5

Sustainable Fabrication of ZrO_2-Functionalized MCM-41 from Rice Husk Ash for Enhanced Boron Adsorption

Syeda Fareesa Hassan, Kuen-Song Lin, Jamshid Hussain, and Thi Kim Cuong Nguyen

(Yuan Ze University)

TS07W_BP_6

Engineering of Metallic Sites in Porphyrin-Paddlewheel Metal-Organic Frameworks for High-Performance Electrocatalytic Nitrogen Reduction to Ammonia

Ali Hussain[1], Ibrahim Khan[1], Imran Mahmood Khan[1], Nicholas M. Musyoka[1], J. Andreas Larsson[2], and Muhammad Sajjad[1]

([1]University of Nottingham Ningbo China, [2]Luleå University of Technology)

TS07W_BP_7

Electroanalytical Probing of Bubble-Catalyst Interactions on NiIrCo Nanostructures for Enhanced Hydrogen Evolution

Subin Choi, Areum Yu, and Youngmi Lee

(Ewha Womans University)

TS07W_BP_8

Electrospun Aluminum-Iridium Nanofibers with Oxide-Metal Synergy for Efficient Overall Alkaline Water Splitting

Yeongeun Lee[1], Dasol Jin[2], and Youngmi Lee[1]

([1]Ewha Womans University, [2]Jeonbuk National University)

TS07W_BP_10

Anion-Specific Effects in Pre-Lithiated PAA Binders for High-Performance Silicon Anodes

Minju Song[1], Junsu Son[2], Minji Park[1], Gyuri Kim[2], Tae Kyung Lee[2], Seulki Song[1], and Woo-Jin Song[1]
([1]Chungnam National University, [2]Hanyang University)

NANO KOREA 2026 Conference

[TS08W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
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TS08W_BP_1

Boosting AEM Water Electrolysis Performance with a Ti-MOF-Derived TiONC Support

Sion Oh[1,3], Eungjun Lee[3], Taekyung Lee[3], Jieun Baik[3], Sungjong Yoo[1,3], and Jinsoo Kim[2,3]
([1]KHU-KIST, [2]Kyung Hee University, [3]Korea Institute of Science and Technology)

TS08W_BP_2

MWCNT Sheet-Integrated Catalyst-Coated Membranes and 3D Graphene-Coated Ni Foam Channels for Mass-Transport-Engineered High-Temperature PEM Fuel Cells

Seongmin Cho, Hyunmoo Cho, and Segeun Jang
(Kookmin University)

TS08W_BP_3

Design Strategies to Transfrom Spent Ternary Battery Cathodes to Electrocatalysts for Water Electrolysis

Taeyeon Cho, Jinwook Jung, and Jin Soo Kang
(Seoul National University)

TS08W_BP_4

Droplet Electricity Generator for High-Output Direct Current Energy Harvesting

Se-Jin Kim, Geon-Ju Choi, Sang-Hyun Sohn, and Il-Kyu Park
(Seoul National University of Science and Technology)

TS08W_BP_5

Electronic Modulation of Ru via Sn-N Sites for Enhanced Alkaline Hydrogen Evolution Reaction Activity

Chan-Woo Park[1], Gyu-Mi Kang[1], Seung-Min Woo[2], Jin-Ho Lee[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)

TS08W_BP_6

Surface Engineered Perovskite Oxides for Durable OER Catalysts of AEMWE

Jin-Ho Lee[1], Gyu-Mi Kang[1], Geon-Ju Choi[1], Na-Young Sohn[1], Chan-Woo Park[1], Kang-Un Lee[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)

[TS09W_BP] Poster Session 1 Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS09W_BP_1

A Protein-Based Virus-Like Particle Nanoplatform Enabling Efficient KillerRed Delivery and Photodynamic Cancer Immunotherapy

Ji-Yeon Sim, Woo-Jin Lee, and Hyung-Jun Im

(Seoul National University)

TS09W_BP_2

miRNA Detection in RPA-CRISPR/Cas12a Microfluidic Sensor for Prostate Disease Diagnostics

Jong Doo Kim, Tae Hyeon Kim, and Bong Geun Chung

(Sogang University)

TS09W_BP_3

siRNA Delivery Nanomaterials for Axonal Regeneration via Modulating Macrophage Phenotypes

Ho Jung Yu, Na Yeon Kim, and Bong Geun Chung

(Sogang University)

TS09W_BP_4

Cascade Digital Microfluidic System with Exosome Separation, Lysis, and PCR for Cancer Early Diagnosis

Yong Ho Kwon, Tae Hyeon Kim, and Bong Geun Chung

(Sogang University)

TS09W_BP_5

Conductive Hydrogel 3D-Printed Platform for Functional and Structural Maturation of Cardiac Organoids

Soo Yun Park, Young Suk Shim, Yoon Young Choi, and Bong Geun Chung

(Sogang University)

TS09W_BP_6

Ceria Nanorods Enriched with Ce^{3+} Species for Effective Intracellular ROS Scavenging

Hai Sang Duong, Trung Hieu Vu, and Moon Il Kim

(Gachon University)

TS09W_BP_7

Dual Enzymatic Bovine Serum Albumin-Copper Hybrid Nanoflowers for Colorimetric Detection of Ascorbic Acid and Degradation of Phenolic Dyes

Seo Ju Kim, Xuan Ai Le, and Moon Il Kim

(Gachon University)

TS09W_BP_8

3D-Printed Bioelectronic Hydrogel Platforms for Cryostorable Skeletal Muscle Tissue Constructs

Young Suk Shim, Jang Ho Ha, Yoon Young Choi, and Bong Geun Chung
(Sogang University)

TS09W_BP_9

Active Site-Inspired HC-Cu Nanozymes for Rapid Colorimetric Detection of Phenolic Compounds

Hye Young Song, Phuong Thy Nguyen, and Moon Il Kim
(Gachon University)

TS09W_BP_10

A Microelectrode-Integrated Perfusable Vessel-on-a-Chip Enabling Simultaneous Measurement of Transendothelial Electrical Resistance and Vascular Permeability

Sanghyeok Park[1], Hyeongjin Ahn[1], Jaehong Min[2], Wooju Park[2], Jihoon Ko[2], and Jungho Ahn[1]
([1]Sungkyunkwan University, [2]Gachon University)

TS09W_BP_11

An Anionic Lipid Platform for Intranasal mRNA Vaccine Delivery

Jinhyeok Choi[1,2], Jeongyun Heo[1,3], and Sehoon Kim[1,2]
([1]Korea Institute of Science and Technology, [2]KU-KIST, [3]Ewha Womans University)

TS09W_BP_12

Adjuvant Enhanced Photodynamic Nanogel for Immunogenic Cell Death

Mingyo Jung[1,2], Jihwan Park[1,2], and Sehoon Kim[1,2]
([1]Korea University, [2]Korea Institute of Science and Technology)

TS09W_BP_13

Development of an Endometrium-on-a-chip Platform for Evaluating Endometrial Receptivity

Gaeun Lee and Jungho Ahn
(Sungkyunkwan University)

TS09W_BP_14

Molecular Fingerprint-Based SERS-AI Platform for Precise Kinetic Analysis of Antibody-Antigen Interactions

Dongkwon Seo[1], Jae Sung Ryu[2], and Taejoon Kang[1,2]
([1]Korea Research Institute of Bioscience and Biotechnology, [2]Korea Advanced Institute of Science and Technology)

TS09W_BP_15

Engineering Quantum Dot Surfaces to Preserve Protein-DNA Interactions for Single-Molecule Visualization

Youngseo Kim[1], Hyerim Kim[1], Munryul Choi[2], Hyun Suk Kim[3], Orlando D. Schärer[3,4], Jongnam Park[1,2], and Ja Yil Lee[1,3]
([1]Ulsan National Institute of Science and Technology, [2]Uniqdot, Inc., [3]Institute of Basic Science, [4]University of Pittsburgh School of Medicine)

[TS11W_BP] Poster Session 1

Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS11W_BP_1

3D Cationic Nano-Architectures for Robust Pathogen Capture and Molecular Diagnostics in Harsh Gastric Environments

Jihoon Lim[1], Booseok Jeong[1], Jinhwan Lee[1], Tae Kon Ahn[1], Sunmin Kwak[1], Taejoon Kang[1], Sung Gap Im[1], and Kyoung G. Lee[2]

([1]Korea Advanced Institute of Science and Technology, [2]National NanoFab Center)

TS11W_BP_2

Biphasic Nanozyme-Driven ROS Amplification in a Biomimetic Nanoplatform for Photodynamic and Immunomodulatory Cancer Therapy

Chih-Chia Huang

(National Cheng Kung University)

TS11W_BP_3

Identification of Antagonists of Staphylococcus aureus through Differential Abundance Analysis of the Human Skin Microbiome

Eunseo Lee, Minchae Kim, and Gna Ahn

(Changwon National University)

TS11W_BP_4

Influence of Contrasting Inland and Island Environments on the Armadillidium Vulgare Fungal Microbiome in South Korea

Yehyeon Cha and Seun-Yoon Oh

(Changwon National University)

TS11W_BP_5

Dimensionality-Engineered PEDOT Organic Electrochemical Transistors as a Unified Neuromorphic Platform for Biosignal Processing

Jaeyoon Song, Masud, and Jinsik Kim

(Dongguk University)

TS11W_BP_6

Wireless, Battery-Free Multi-Axial Sensing Platform for Pressure Injury Prevention

Jiwon Moon, Hyeonseok Han, Seokjoo Cho, and Inkyu Park

(Korea Advanced Institute of Science and Technology)

[TS13W_BP] Poster Session 1

Best Poster Awards Candidates

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4, 1F

TS13W_BP_1

Molecular Dynamics Insight of Phase Separation Strategy in Aromatic Polymers for Bipolar Membranes System

Yoonku Lee[1], Junwoo Lee[2], and YongJoo Kim[1]
([1]Korea University, [2]Ajou University)

TS13W_BP_2

Regulating Lithium Deposition via High-Entropy Alloy Coatings: A Machine Learning-Guided Approach for Dendrite-Free Batteries

Hyechan Park, Kwangsoo Kim, and YongJoo Kim
(Korea University)

TS13W_BP_3

Probing Atomic-Scale Dynamics in Remote Heteroepitaxy Using a Scalable Machine Learning Interatomic Potential

Junhyuk Tak and YongJoo Kim
(Korea University)

TS13W_BP_4

Solvation Reconstruction in Concentrated PAM-BIS-GEL Hydrogel Electrolytes for Zinc-Ion Batteries: A Molecular Dynamics Study

Yedam Kang[1], Sungwook Mhin[2], and YongJoo Kim[1]
([1]Korea University, [2]Dongguk University)

TS13W_BP_5

Hydrogen Penetration into Platinum during Electrochemical Hydrogen Evolution Reaction Revealed by Grand Canonical Machine Learning Molecular Dynamics

Dongmin Kim and YongJoo Kim
(Korea University)

TS13W_BP_6

Density Functional Theory Studies on Defective Copper in Modulating Local Electronic Environment for Efficient Nitrate Reduction Reaction to Ammonia

Pyae Sone Kyaw[1] and Hyeyoung Shin[2]
([1]Chungnam National University, [2]Kyung Hee University)

TS13W_BP_7

Explainable Large Language Model-Driven Framework for the Discovery of Cobalt Spinel Electrocatalysts in Industrial Water Electrolysis

Jongyeop Baek[1,2], Junseok Moon[1,2], and Taeghwan Hyeon[1,2]
([1]Seoul National University, [2]Institute for Basic Science)

[TS01W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS01W_P_1

Investigation of Gate Dependent Photoresponse Characteristics of IGZO TFTs

Sehyeon Jeong and Hongseok Oh

(Soongsil University)

TS01W_P_2

Self-Gated Diode-Coupled Two-Terminal Vertical Floating-Gate Memristor Array with High Yield for Neuromorphic Hardware

Min seo Kim and Woo jong Yu

(Sungkyunkwan University)

TS01W_P_3

Artificial Retina based on 2D Schottky Solar Cells Mimicking Human Visual Perception

Seungmin Baek and Woo Jong Yu

(Sungkyunkwan University)

TS01W_P_4

Non-Volatile Phase Transition in $MoTe_2$ Ferroelectric Transistors for Large Memory Window Operation

Yong Ha Shin and Woo Jong Yu

(Sungkyunkwan University)

TS01W_P_5

A Vertically Integrated Floating-Gate Memristor for Compact and Energy-Efficient Two-Terminal Neuromorphic Systems

So Hyeon Park and Woo Jong Yu

(Sungkyunkwan University)

TS01W_P_6

Growth of $NbSe_2$/Bilayer Nb-Doped WSe_2 Metal-Semiconductor Heterostructures from Exfoliated WSe_2 Flakes

Jin Woo Hong and Woo Jong Yu

(Sungkyunkwan University)

TS01W_P_7

Al-Incorporated HfO_2-Based High-Capacitance Dielectrics for Reliable Insulator Layers in MFMIS FeFETs

Hyeongseok Lee and Jin-hong Park

(Sungkyunkwan University)

TS01W_P_8

Electroluminescent Perovskite QD-Based Neural Networks for Energy-Efficient and Accelerate Multitasking Learning

Young Ran Park and Gunuk Wang
(Korea University)

TS01W_P_9

Characteristics of Nanodiamond in Different Enviornment

Yao-Wei Wang[1], Ting-Chun Huang[2], Ya-Ping Hsieh[3], and Mario Hofmann[1]
([1]National Taiwan University, [2]Chang Gung University, [3]Academia Sinica)

TS01W_P_10

Synaptic Functionality in h-BN/$MoTe_2$ Nanochannel Memristors through Regulated Silver-Ion Intercalation

Yunjae Baek and Woojong Yu
(Sungkyunkwan University)

TS01W_P_11

Tailoring Extrinsic Disorder in Monolayer Graphene via $BiFeO_3$ Nano-Island Arrays for Enhanced Magnetoresistance

Jihoon Jeon, Gwangtaek Oh, Sohwi Kim, and Bae Ho Park
(Konkuk University)

TS01W_P_12

Photodetection in Vertically Stacked Graphene/PZT Nanodot/Graphene Heterostructures via Asymmetric Interfacial Band Alignment

Jiyeong Kim, Gwangtaek Oh, Jihoon Jeon, Sohwi Kim, and Bae Ho Park
(Konkuk University)

TS01W_P_13

Gate-Tunable Photodetector and High-Mobility Ambipolar Transistor with Ion-Gel Gate Dielectrics

Gwangtaek Oh, Sohwi Kim, Woohyeon Ryu, Jihoon Jeon, Donghyeok Jeong, Jiyeong Kim, and Bae Ho Park
(Konkuk University)

TS01W_P_14

1k Active-Matrix Thermal Sensor Array Using IGZO Thin Film Transistors

Hyunsoo Kim, Jaegoo Lee, and Hongseok Oh
(Soongsil University)

TS01W_P_15

Energy-Efficient Neuromorphic System based on Au Nanoparticle Floating-Gate Memristors

Sabeen Hong and Woo Jong Yu
(Sungkyunkwan University)

TS01W_P_16

Performance and Bias Stability Analysis of In_2O_3 Thin-Film Transistors with Sputtered Channels of Varying Thickness

Kyusun Han and Hongseok Oh
(Soongsil University)

TS01W_P_17

Mechanosensory Neuron Implemented by a Single Freestanding Epitaxial $SrTiO_3$ Capacitor

Sohwi Kim, Chansoo Yoon, Jihoon Jeon, Woohyeon Ryu, Gwang Taek Oh, and Bae Ho Park
(Konkuk University)

TS01W_P_18

Impact of Electrostatic Coupling on the Switching Characteristics of Dual-Gate Feedback Field-Effect Transistors

Hyunjin Kang, Jaewon Lee, and Min-woo Kwon
(Seoul National University of Science and Technology)

TS01W_P_19

Atomic Layer Etching of HfO_2 Film for Gate Oxide in MOSFET Devices

Hyosang Kim[1], Yu Bin Kim[2], Jaegoo Lee[1], Seong Jun Kang[2], and Hongseok Oh[1]
([1]Soongsil University, [2]Kyung Hee University)

TS01W_P_20

Gradual Dual Resistive Switching in TiO_2/Al_2O_3 Bilayer Memristors for Neuromorphic Computing

Woohyeon Ryu, Sohwi Kim, and Bae Ho Park
(Konkuk University)

TS01W_P_21

Temperature-Dependent Analysis of Leakage and Disturb Mechanisms in 1z-Generation BCAT DRAM

Subin Lee, Damin Kim, and Min-woo Kwon
(Seoul National University of Science and Technology)

TS01W_P_22

Deterministic Cavity Coupling of Nitrogen Vacancy Center in Silicon Carbide

Haemin Lee[1], Kirlie Iulius Figuera Michal[1], Sijin Sung[1], Hyeran Jeon[2], Hikaru Saito[3], and Jehyung Kim[1]
([1]Ulsan National Institute of Science and Technology, [2]Korea Atomic Energy Research Institute, [3]Kyushu University)

TS01W_P_23

Bright Single-Photon Emission from Cavity-Coupled Quantum Emitters in GaN Membranes

Kirlie Iulius Figuera Michal, Haemin Lee, Jin Hee Lee, and Je-Hyung Kim
(Ulsan National Institute of Science and Technology)

[TS02W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS02W_P_1

Magnetic Impurity Skew Scattering in 2D Materials for Efficient Interfacial Spin Accumulation

Lu-Chih Chen[1,2], Xin-Yang Bi[1,2], Mario Hofmann[2], and Ya-Ping Hsieh[1]
([1]Academia Sinica, [2]National Taiwan University)

TS02W_P_2

Analysis of Interfacial Adhesion and Printing Stability on Slippery Surfaces for Large-Scale Continuous DLP 3D Printing

Chae Hyeok Yoon[1], Seong Min Yoon[1], Seo Rim Park[1], Seo Na Yoon[1], Woo Young Kim[1,2], and Young Tae Cho[1]
([1]Changwon National University, [2]The Ohio State University)

TS02W_P_3

Spatially Controlled Particle Aggregation on Slippery Surfaces via Maskless Digital Exposure

Dong Ju Kim, Chae Hyeok Yoon, Seong Min Yoon, and Young Tae Cho
(Changwon National University)

TS02W_P_4

Analysis of Colloid Evaporation Residual Nanoparticle Distribution Characteristics According to Micro-Pattern Shape

Seong Min Yoon, Dongju Kim, Huisang Yu, and Young Tae Cho
(Changwon National University)

TS02W_P_5

Deep Learning-Based Markless Alignment of Triple-Layer Micropatterns for Moiré Optical Device Fabrication

Seo Na Yoon[1], Woo Young Kim[1,2], and Young Tae Cho[1]
([1]Changwon National University, [2]The Ohio State University)

TS02W_P_6

High-Performance Structural Color Cavities based on Metasurfaces with Fano Resonant Optical Coatings

Hui-Jin Yun and Seung-Yeol Lee
(Kyungpook National University)

TS02W_P_7

Role of Base-Formed Re-Entrant Structures in Nano-Photonic Hierarchical Surfaces for Liquid Repellency

Myung Seo Kim, Seo Rim Park, and Young Tae Cho
(Changwon National University)

TS02W_P_8

Halogen Substitution Symmetry in Carbazole-Based Phosphonic Acid SAMs: Interfacial Dipole Engineering and OLED Performance

Hanbeen Lee[1], Jongin Hong[2], and Jeong-Hwan Lee[1]
([1]Inha University, [2]Chung-Ang University)

TS02W_P_9

Unraveling Temperature-Dependent Charge Generation in Organic p-n Junctions

Jee-Hun Jang and Jeong-Hwan Lee
(Inha University)

TS02W_P_10

Lead-Free Perovskite $RbYbI_3$ as an Efficient Electron Injection Layer for High-Performance OLEDs

Amarja Katware and Jeong-Hwan Lee
(Inha University)

TS02W_P_11

Artificial Intelligence for Deciphering Mobility and Trap Dynamics in OLED Transient Responses

Al Amin and Jeong-Hwan Lee
(Inha University)

TS02W_P_12

Spectrally Confined RGB Fluorescent Organic Light Emitting Diodes in a Top-Emission Architecture for Ultrafast Visible-Light Communication

Jin-Hyup Kim, Kyumi Lee, and Jeong-Hwan Lee
(Inha University)

TS02W_P_13

Skin-Adaptive Stretchable Sensor Film with Deep Learning for Real-Time Motion Capture in Immersive Virtual Environments

Jihyeon Ahn[1,2], Soonhyoung Hwang[1], Sohee Jeon[1], Junseong Ahn[3], Inkyu Park[2], and Jun-Ho Jeong[1]
([1]Korea Institute of Machinery & Materials, [2]Korea Advanced Institute of Science and Technology, [3]Korea University)

TS02W_P_14

Femtosecond Laser Direct Writing of All-LIG Circuits on Electrospun PI Nanofibers for Wearable ECG Sensors

Minkyu Lee and Ji-hwan Ha
(Hanbat National University)

[TS03W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS03W_P_1

Machine Learning-Assisted Frequency-Domain Thermoreflectance for Sub-Spot-Size Pattern Prediction

Sunghwan Kim[1,2], Dongyun Seo[1], Jihyun Kim[1], Tayon Kim[1], Juheon Sim[1], Minkyu Je[1], and Jungwan Cho[1]
([1]Sungkyunkwan University, [2]Samsung Institute of Technology)

TS03W_P_2

Wrinkle-Assisted Nanofluidic Memristors for Geometry-Dependent Ionic Memory

Minsu Kwon, Dongwoo Seo, and Taesung Kim
(Ulsan National Institute of Science and Technology)

TS03W_P_3

Temperature Control of an Induction Heating-Based Microfluidic Platform

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

TS03W_P_4

Pentagonal Vacant Micropatterns Enable Direction-Selective Wrinkle Steering for Reconfigurable Structural Coloration

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)

TS03W_P_5

High-Refractive-Index TiO_2 Nanocomposite Photoresin for Two-Photon Polymerization Nanofabrication

Sangho Lee and Myungjae Lee
(Seoul National University)

TS03W_P_6

Mechanically Driven Color Transition in a Stretchable Device with Programmable Activation Strain

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

TS03W_P_7

Scalable Fabrication of Metal Silicide Nanowires with Resistivity Scaling of Pt_2Si Nanowires for Nanoscale Interconnect

Taewoon Kim[1], Gwangsik Mun[1], Seoyeon Jeong[1], Hyeuk Jin Han[2], and Yeon Sik Jung[1]
([1]Korea Advanced Institute of Science and Technology, [2]Sungshin Women's University)

TS03W_P_8

Manganese-Doped Laser-Induced Graphene Composite Electrode for Large Capacitance Microsupercapacitors

Chanyoung Yang[1], JaeJong Lee[2], Geehong Kim[2], Hyungjun Lim[2], Young-Jin Kim[1], and Soongeun Kwon[2]
([1]Korea Advanced Institute of Science and Technology, [2]Korea Institute of Machinery & Materials)

TS03W_P_9

Scalable Fabrication of 3D Laser-Induced Graphene from Pre-Patterned Photosensitive Polymer Micropatterns

Mun Jeong Choi, Yunji Eom, Youngyoon Lim, Hak-Jong Choi, Hyungjun Lim, Geehong Kim, and Soongeun Kwon
(Korea Institute of Machinery & Materials)

TS03W_P_10

Quantitative Counting of Fluorescent Particles based on MESF Analysis

WonHee Lim, Sihwa Joo, Minjeong Kwak, and Mina Lee
(Korea Research Institute of Standards and Science)

NANO KOREA 2026 Conference

[TS04W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS04W_P_1

Effects of Wafer Singulation-Induced Particles and Plasma Activation on Dielectric Bonding for Hybrid Bonding

Hyeon-Su Shin and Su-Jeong Suh
(Sungkyunkwan University)

TS04W_P_2

Towards Inertial Measurements Over 100 Hz: An ^{87}Rb Atom Interferometer System

Dooyoung Kim[1], Min-hwan Lee[1], Donghyeon Yu[1], Sanglok Lee[2], and Geol Moon[1]
([1]Chonnam National University, [2]Korea Research Institute of Standards and Science)

TS04W_P_3

Design of a Continuous Atomic Beam Source based on 2D MOT and 3D PGC for Quantum Inertial Sensing

Minjae Gwak, Dooyoung Kim, Donghyeon Yu, Min-hwan Lee, and Geol Moon
(Chonnam National University)

TS04W_P_4

High-Precision Characterization Platform for Chip-Scale SERF Magnetometer Sensors

Min-hwan Lee, Sanghyun Park, Hyogi Kim, Jihyeong Ju, and Geol Moon
(Chonnam National University)

TS04W_P_5

In-Line Polarization-Resolved Detector for Larmor-Precession Readout in Alkali-Spin Quantum Sensors

Hui Jae Cho[1,2], Yeeun Na[1,2], Sanghyun Park[3], Min-Hwan Lee[3], Hyogi Kim[3], Jihyeong Ju[3], Dooyoung Kim[3], Il-Suk Kang[1], Jong-Bum You[1], Gayoung Park[1], Gapseop Sim[1], Seung-In Lee[1], Byung Il Lee[1], Suhyeon Gwon[1], Jong Hyun Song[1], Euije Jo[1,2], Tae Hyun Kim[1], Jae-Hyuk Ahn[1], Hyoungho Ko[1], Jongwon Lee[1], Geol Moon[3], and Jongcheol Park[1]
([1]National NanoFab Center, [2]Chungnam National University, [3]Chonnam National University)

TS04W_P_6

Low-Temperature Bonding of PZT ($PbZrTiO_3$) and Flexible Printed Circuits Using Sn52In Solder Anisotropic Conductive Films for Flexible Ultrasonic Transducers

Jae-Hyeong Park and Jongcheol Park
(National NanoFab Center)

TS04W_P_7

Compact Discrete AlN pMUT for Airborne Distance Sensing and System-Level Validation

Chan Park, Il-Suk Kang, Jongcheol Park, Jongbeom Yoo, Jubeom Lee, Yeeun Na, and Joontaek Jung
(National NanoFab Center)

TS04W_P_8

Precision Through-Glass Via Formation by Ultrafast Laser Processing for MEMS and Advanced Interconnect Applications

Yeon-Wha Oh[1,2], Sanghee Jung[1], Chan Park[1], Ga-Won Lee[2], and Il-Suk Kang[1]
([1]National NanoFab Center, [2]Chungnam National University)

TS04W_P_9

Stretchable High-Density Pixelated Silicon-Liquid Metal Electronics for Morphable Imaging Systems

Do Hyeon Kim, Jinyoung Jang, Sehui Chang, and Young Min Song
(Korea Advanced Institute of Science and Technology)

TS04W_P_10

Fabrication of a Comb-Drive MEMS Mirror Structure Using Deep Reactive Ion Etching System

G. S. Heo and G. Y. Hong
(Korea Institute of Industrial Technology)

TS04W_P_11

Effect of Co on Pd Thin-Film Hydrogen Sensors

Hayoung Kim[1], Gap Sub Sim[1], Kwanghee Kim[1], Yeong Ju Kim[1], Bong-no Yoon[1], Young Woo Namkung[2], Jae Jeong Kim[2], Seng Hwan Jung[2], and Jae Sub Oh[1]
([1]National NanoFab Center, [2]MNTek Co., Ltd.)

TS04W_P_12

VOx Memristors for Compact Neuromorphic Computing with IR Sensing

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

TS04W_P_13

Advanced N-Adjustable (A-NA) Design for Compact and Low-Loss SiN Rib Waveguide Bends at 780 nm

Ja-Hyun Ku[1], Hui-jae Cho[1], Ga-Young Park[1], Kap-Joong Kim[2], Byung-Seok Choi[2], and Jong-Bum You[1]
([1]National NanoFab Center, [2]Electronics and Telecommunications Research Institute)

NANO KOREA 2026 Conference

[TS05W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS05W_P_1

Overcoming Contact-Limitations in 2D Electronics by Converting 2D Tungsten Nitride (W_5N_6) into Multilayer-TMDs

Ju-Che Chuang[1,2], Hao-Ting Chin[1,2], and Ya-Ping Hsieh[1,2]
([1]Institute of Atomic and Molecular Sciences, [2]National Taiwan University)

TS05W_P_2

Thickness-Dependent of P3HT/Te Heterostructures for Ion Gel-Gated Synaptic Transistors

Seongchan Kang, Eunjee Shin, and Heekyeong Park
(Kyonggi University)

TS05W_P_3

Nanoporous MoS_2 with Zigzag Terminations for Charge Trap Memory

Jaehyuk Go, Minseo Joo, and Heekyeong Park
(Kyonggi University)

TS05W_P_4

Nanoscale Interface Engineering of hBN/Graphene van der Waals Heterostructures via Dry-Transfer for Quantum Point Contact Applications

DongHyeok Jeong, Gwangteak Oh, Jihoon Jeon, Sohwi Kim, Woohyeon Ryu, Jiyeong Kim, and BaeHo Park
(Konkuk University)

TS05W_P_5

Controllable Sulfur Vacancy Modulation in Monolayer MoS_2 via H_2/H_2S Remote Plasma

Yerin Kim[1,2], Dong-hyun Kim[1,3], Seong-Heon Kim[2], Changgu Lee[3], and Jangyup Son[1,4]
([1]Korea Institute of Science and Technology, [2]Jeonbuk National University, [3]Sungkyunkwan University, [4]University of Science and Technology)

TS05W_P_6

Ultrathin Long-Range Surface Plasmon Polariton Waveguides with Silk Fibroin Cladding

Sunwoo WOO[1], Namyeong KWON[2], Seungju KWON[1], Jaegang JO[2], Hwan Kim[1], Sunghwan Kim[2], and Myungjae LEE[1]
([1]Seoul National University, [2]Hanyang University)

TS05W_P_7

Modulating Wrinkle Orientation of Monolayer MoS_2 through Shear-Lag at Van Der Waals Interfaces

Jeongki Kim and Jaehyung Yu
(Chung-Ang University)

TS05W_P_8

Monolayer MoS_2-Mediated Surface Adhesion Modulation for Selective Transfer and Patterning of Polystyrene Nanosphere Films

Sujeong Cho, Jeongki Kim, and Jaehyung Yu
(Chung-Ang University)

TS05W_P_9

2D Confined Reactions for Atomically Precise Pattern Transfer into SiO_2

Jian-Jhang Lee[1], Mario Hofmann[2], and Ya-Ping Hsieh[1]
([1]Academia Sinica, [2]National Taiwan University)

TS05W_P_11

Nature-Inspired Adaptive Photovoltaic Effects in a Reconfigurable van der Waals Non-Ferroelectric/Ferroelectric p-n Junction for Compact Neuromorphic Vision Systems

Jin Yong An[1,2], Tae Hyun Yoon[2], Sangcheon Park[2], and Chul-Ho Lee[2]
([1]KU-KIST, [2]Seoul National University)

TS05W_P_12

All-Solution Synthesized High-Performance 2D Bi_2O_2Se Thin-Film Transistor

Jin Seok Kim[1], Jaehyung Shim[2], Jaeho Lee[1], Yeon Ho Kim[1], Jin Yong An[2], Su-Yeon Joung[1], Junghoon Kang[1], and Chul-Ho Lee[1]
([1]Seoul National University, [2]KU-KIST)

TS05W_P_13

Metal Organic Chemical Vapor Deposition of Transition Metal Oxy-Chalcogenide for High Performance Field-Effect Transistor

Kyoungsur Kim[1], Ayoung Ham[1], Minsoo Kang[1], Hyun-Jun Chai[1], Han Beom Jeong[2], Seungwoo Song[3], Hu Young Jeong[2], and Kibum Kang[1]
([1]Korea Advanced Institute of Science and Technology, [2]Ulsan National Institute of Science and Technology, [3]Korea Research Institute of Standards and Science)

TS05W_P_14

Wafer-Scale Homogenous Growth of Tungsten Disulfide via Promoter-Assisted Metal Organic Chemical Vapor Deposition

Do Hyoung Koo[1], Jung Hoon Kang[2], Jin Seok Kim[2], Jihoon Chang[2], Ki Jae Jang[2], Sol Lee[3], Yangjin Lee[3], Kwanpyo Kim[3], Gunuk Wang[1], Yong-Sung Kim[4], Donghun Lee[5], and Chul-Ho Lee[2]
([1]KU-KIST, [2]Seoul National University, [3]Yonsei University, [4]Korea Research Institute of Standards and Science, [5]Kookmin University)

TS05W_P_15

Fermi-Level Depinning in p-WSe_2 Transistors Enabled by a Work-Function-Engineered C_{60} Interlayer

Nur Aliesa Johari, Su-Yeon Joung, Donghyun Lee, Myeong Ju Kim, Yeon Ho Kim, and Chul-Ho Lee
(Seoul National University)

TS05W_P_16

Van der Waals Gap-Confined Molecular Engineering in MoS_2 for Selectivity-Enhanced and Humidity-Tolerant Gas Sensing

Jae Hyung Shim[1], Gwang Su Kim[2], Tae Hyung Lee[1], Ji-Soo Jang[2], and Chul-Ho Lee[1]
([1]Seoul National University, [2]Korea Institute of Science and Technology)

TS05W_P_17

Growth and Characterization of Large-Area 2D MoS_2 Films on Sapphire Wafers

Dongwook Lee, Hyunsoo Park, and Honyeon Lee
(Soonchunhyang University)

TS05W_P_18

Real-Time Observation of Skyrmion Dynamics in Fe_3GaTe_2 under External Stimuli

Sejin An[1], Beom Tak Kang[2], Jun Sung Kim[2], and Hyobin Yoo[1]
([1]Seoul National University, [2]Pohang University of Science and Technology)

TS05W_P_19

High-Stability, High-Sensitivity Photodetection Using Plasma-Treated Tellurium Transistors

Dayeong Hur, Uisik Jeong, and Sunkook Kim
(Sungkyunkwan University)

TS05W_P_20

In-Situ TEM Analysis of Ferro-Rotational Order Switching in 1T-TaS_2

Huseung Lee and Hyobin Yoo
(Seoul National University)

TS05W_P_21

Nanoporous MoS_2 Bio-FET Encapsulated with Non-Planar Al_2O_3 for Enhanced Electrostatic Control

SangYeob Lee, Junoh Shim, and Sunkook Kim
(Sungkyunkwan University)

TS05W_P_22

Modulation of Transition Metal Dichalcogenides by Metal Stressor-Induced Strain

Byeong Chan Kim, Jinwoo Kim, Jun Dong Yeo, Hayeong Sung, Won Seok Choi, and Gwan-Hyoung Lee
(Seoul National University)

TS05W_P_23

Engineering Unipolar Transport in WSe_2 for Next-Generation Logic Devices

Junseo Lee and Jin-Hong Park
(Sungkyunkwan University)

TS05W_P_24

EUV Pellicle of Hexagonal Boron Nitride Membrane

Kyung-Min Cho[1,2], Seung-Hwa Baek[1,2], Ju-Hyun Jung[1,2], Cheol-Gyu Lee[3], Chan-Cuk Hwang[3], and Cheol-Joo Kim[1,2]
([1]Pohang University of Science and Technology, [2]Institute for Basic Science, [3]Pohang Accelerator Laboratory)

TS05W_P_25

AB/BA Domain Wall-Mediated Electrical Transport and Ferroelectric Behavior in 3R Bilayer MoS_2

Hyeong Seok Lee[1], Ji-Hwan Baek[2], Seong Chul Hong[1], and Gwan-Hyoung Lee[1]
([1]Seoul National University, [2]Sookmyung Women's University)

TS05W_P_26

Spatially and Thickness-Controlled Growth of Ultra-Uniform 2D $PtSe_2$ Films via Wafer-Scale Multi-Step Selenization

Yuseok Kim[1], Minseung Gyeon[1], Jae Eun Seo[2], Saeyoung Oh[3], Minhuck Choi[4], Chanwook Lee[2], Seongdae Kwon[1], Hu Young Jeong[3], Seungwoo Song[4], Jiwon Chang[2], and Kibum Kang[1]
([1]Korea Advanced Institute of Science and Technology, [2]Yonsei University, [3]Ulsan National Institute of Science and Tehcnology, [4]Korea Research Institute of Standards and Science)

TS05W_P_27

A Preliminary Study on Nanoelectrokinetic Characteristics of Ion-Selective Transport through MoS_2 Films

Minkyu Lee, Jaehyung Shim, Chul-Ho Lee, Jihee Park, and Sung Jae Kim
(Seoul National University)

TS05W_P_28

Full-Band Semi-Classical Monte Carlo Study of Hole Transport in Monolayer and Bilayer W- and Mo-Based Two-Dimensional Materials

Donghyeok Lee, Sukhyeong Youn, and Jiwon Chang
(Yonsei University)

TS05W_P_29

Vapor-Phase Growth of Metal-Organic Framework Thin Films via Chemical Vapor Deposition

Bibi Maryam and Jae-Hyun Lee
(Sungkyunkwan University)

TS05W_P_30

Interfacial Control of Charge Injection Using Topological van der Waals Contacts

Jun-Hui Choi, Ho-Chan Jang, Hyung Jun Kwun, Soheil Ghods, and Jae-Hyun Lee
(Sungkyunkwan University)

TS05W_P_31

Topological Sb_2Te_3 Van Der Waals Contacts Enable High-Performance p- and n-Type Transistors

Kyoungmin Kim[1], Soheil Ghods[2], and Jae Hyun Lee[1,2]
([1]Sungkyunkwan University, [2]National University of Singapore)

TS05W_P_32

Interface-Engineered Hafnia-2D Ferroelectric Field-Effect Transistors Enabling a Nearly Ideal Memory Window for BEOL-Compatible Logic-in-Memory Applications

Jaeho Lee[1], Jihoon Jeon[2,3], Jeonglyul Kim[1], Hyobin Yoo[1], Seong Keun Kim[2,3], and Chul-Ho Lee[1]
([1]Seoul National University, [2]Korea University, [3]Korea Institute of Science and Technology)

TS05W_P_33

Graphene-Integrated Ultrathin Neural Probe for Multiregional Cortical Recordings

Young-Woo Pyo, Heegeun Kim, and Hong-Gyu Park
(Seoul National University)

TS05W_P_34

Strain-Engineered Electron Transport in Monolayer MoS_2 and WS_2: A First-Principles Based Full-Band Semi-Classical Monte Carlo Study

Seongwoo Kang, Ilgu Yun, and Jiwon Chang
(Yonsei University)

TS05W_P_35

Formation of a Stable Gold Nanoparticles on Two-Dimensional MXene

Ravli Maulana Yusuf, Bilah Nabilah, and Joonwon Lim
(Kyung Hee University)

TS05W_P_36

Scalable Growth and Phase Control of van der Waals Topological Semimetal Platinum Tellurides

Kyungwu Kwon[1,2], Sunwoo Yoon[1], Jonghyeon Kim[2], Byung Cheol Park[2], and Seunguk Song[1,2]
([1]Sungkyunkwan University, [2]Institute for Basic Science)

TS05W_P_37

Electrochemically Functionalized Graphene for Ultrafast NO2 Detection at Room Temperature

Jaeyeon Oh[1,2], Hyeon Kim[3], Dongwha Lee[3], and Yeonhoo Kim[1]
([1]Korea Research Institute of Standards and Science, [2]Seoul National University, [3]Pohang University of Science and Technology)

TS05W_P_38

Orbital-Selective Electronic Evolution and Dimensionality-Driven Surface Potential Tuning in Epitaxial 1T-$HfSe_2$

Min Cheol Kim[1,2], Dang Nguyen Hoang[3], Rovi Angelo Beloya Villaos[4], Tae Gyu Rhee[1,2], Young Rok Khim[1], Young Hoon Khim[1], Yeong Gwang Khim[1], Byoung Ki Choi[2], Hyejin Ryu[2], Feng-Chuan Chuang[4], Jungdae Kim[3], and Young Jun Chang[1]
([1]University of Seoul, [2]Korea Institute of Science and Technology, [3]University of Ulsan, [4]National Sun Yat-sen University)

TS05W_P_39

Rose-Petal-Effect Wetting Transition in Ultrathin Laser-Induced Graphene

Hyowon Won[1], Heera Lee[1], Honggun Kim[1], Tae-Wook Kim[2], Sukang Bae[3], JongSeong Bae[3], and Seoung-Ki Lee[1]
([1]Pusan National University, [2]Jeonbuk National University, [3]Korea Basic Science Institute)

TS05W_P_40

Position-Controlled Quantum Emitters in Strained WSe_2/WOx Lateral Quantum Wells Defined by Seamless Phase Patterning

Jin Yong An[1,2], Yoon Seok Kim[2], Jae-Pil So[2,3], Jeonglyul Kim[2], Daesung Park[4], Yunyeong Chang[2], Andrew Crandall Jones[5], Changi Kim[2], Seunghoon Yang[1], Myung-Ki Kim[1], Miyoung Kim[2], Hyobin Yoo[2], Michael Thompson Pettes[5], Jinkyoung Yoo[5], Hong-Gyu Park[2], and Chul-Ho Lee[2]
([1]Korea University, [2]Seoul National University, [3]Soongsil University, [4]Sogang University, [5]Los Alamos National Laboratory)

TS05W_P_41

Suppression of Cobalt Diffusion in Ultra-Scaled Interconnects via van der Waals Epitaxial WS_2 Barrier

Jungsoo Lee, Myungho Choi, and Gangtae Jin
(Gachon University)

TS05W_P_42

Tunable Interlayer Spacing in Non-Van Der Waals Molybdenum Sulfide Wires with a Quasi-Layered Architecture

YeoJin Jo[1], SeoHyeon Moon[1], Hyeon-Sik Jang[2], Sukang Bae[3], Jong-Seong Bae[4], and Seoung-Ki Lee[1]
([1]Pusan National University, [2]Gyeongkuk National University, [3]Korea Institute of Science and Technology, [4]Korea Basic Science Institute)

TS05W_P_43

Pitch-Engineered Copper Nanosheet Grids for Transparent and Flexible EMI Shielding Films

Ho Kwang Choi[1], Byung Joon Moon[1], Tae-Wook Kim[2], and Sukang Bae[1,2]
([1]Korea Institute of Science and Technology, [2]Jeonbuk National University)

TS05W_P_44

Ultrathin CVD-Grown Bi_2S_3 Phototransistors with Ultrahigh Responsivity and Detectivity

Euihoon Jeong[1], Youngchan Kim[2], Sukang Bae[1], and Changgu Lee[3]
([1]Korea Institute of Science and Technology, [2]Kyungsung University, [3]Sungkyunkwan University)

TS05W_P_45

A Phenomenological Model for Mapping 2D Cation-Eutaxy in A-III-V Ternaries

Eunmin Hong and Wooyoung Shim
(Yonsei University)

TS05W_P_46

Pulsed Laser-Controlled Grain Boundary Engineering in MoS_2 for Enhanced NO_2 Gas Sensing

Min-Woo Kim[1,2], Eunyoung Lee[1], Dayoung Yoo[1], Jae-Hyun Lee[2], and Sukang Bae[1]
([1]Korea Institute of Science and Technology, [2]Sungkyunkwan University)

TS05W_P_47

Precision Grain Boundary Engineering of Ultrathin Mo_2C Electrocatalysts via Laser-Based Thermal Processing for Efficient Hydrogen Production

Seok-Ki Hyeong[1], Jae-Hyun Lee[2], Seoung-Ki Lee[3], and Sukang Bae[1]
([1]Korean Institute of Science and Technology, [2]Sungkyunkwan University, [3]Pusan National University)

TS05W_P_48

Crystallographically Vacancy-Induced MOF Nanosheet as Rational Singleatom Support for Accelerating CO_2 Electroreduction to CO

Jin Hyuk Cho and Soo Young Kim
(Korea University)

TS05W_P_49

Permanent Strain Engineering of MoS_2 via Laser Processing for Enhanced Resistive Memory Devices

Seo Hyeon Moon[1], Hee Yoon Jang[1], Sukang Bae[2], and Seoung-Ki Lee[1]
([1]Pusan National University, [2]Korea Institute of Science and Technology)

TS05W_P_50

Observation of Interlayer Reconstruction in Twisted Black Phosphorus

Jin-gu Kim[1], Kihyun Lee[1,2], Dong-gyu Kim[1], and Kwanpyo Kim[1]
([1]Yonsei University, [2]The University of Osaka)

TS05W_P_51

Gas-Phase Alkali Metal Promoter Engineering for Low-Temperature MOCVD Growth of High-Quality TMD Films

Dongyoung Kim[1], Jaehyun Lee[1], Donggeon Park[1], Chan Lim[1], Saeyoung Oh[1], Gunho Moon[2], Byungjo Kim[3], Chang-Soo Lee[2], and Kibum Kang[1,2]
([1]Korea Advanced Institute of Science and Technology, [2]TDS INNOVATION Inc., [3]Ulsan National Institute of Science Technology)

TS05W_P_52

Enabling CMOS-Compatible 2D Semiconductors via Activity-Controlled, All-Gas-Phase Low-Temperature Growth

Jaehyun Lee[1], Dongyoung Kim[1], Donggeon Park[1], Chan Lim[1], Saeyoung Oh[1], Gunho Moon[2], Byungjo Kim[3], Chang-Soo Lee[2], and Kibum Kang[1,2]
([1]Korea Advanced Institute of Science and Technology, [2]TDS Innovation Inc., [3]Ulsan National Institute of Science and Technology)

TS05W_P_53

Universal Strategy for Phase-Selective Synthesis of Monolayer TMDs via Colloidal Chemistry

Hoon Ju Lee[1], Weiguang Yang[1,2], Dae Young Park[1,3], Mrinal Kanti Kabiraz[1], Benoit Mahler[4], and Hyeon Suk Shin[1]
([1]Sungkyunkwan University, [2]Ulsan National Institute of Science and Technology, [3]Jeonju University, [4]CNRS, Claude Bernard University Lyon 1)

TS05W_P_54

Phase-Controlled Synthesis of 2D Layered Metal Oxide Thin Films via Alkali-Metal Intercalation

Mingyu Kim[1], Jeongho Kim[2], and Kibum Kang[1,2]
([1]Korea Advanced Institute of Science and Engineering, [2]TDS innovation)

TS05W_P_55

Dual Activation Nonenzymatic Electrochemical Glucose/Uric Acid Sensor based on Single Atom/Nanoparticle Cobalt on Carbon Complex Structure Unzipped CNT

Alfi Rodiansyah and Joonwon Lim
(Kyung Hee University)

TS05W_P_56

High-Resolution Spectro-Polarimetric Imaging via 2D Materials Embedded Freeform Metasurface and 2D Pushbroom Scanning

Yinhyui Joo and Myungjae Lee
(Seoul National University)

TS05W_P_57

Real-Time Detection of Small Aliphatic Compounds in Alcohol by Surface Plasmon Resonance Using N Doped Graphene

Seungwon Choi and Ho Won Jang
(Seoul National University)

TS05W_P_58

Atomic-Scale Imaging of Stacking Solitons in CrI_3

Doyeop Kim[1], Myeongjin Jang[1], Sol Lee[1], Efrén Navarro-Moratalla[2], and Kwanpyo Kim[1]
([1]Yonsei University, [2]University of Valencia)

TS05W_P_59

Reduction-Induced Palladium Nanoparticle Formation from Zero Dimensional $Cs_3Pd_2I_5$ for Stable Hydrogen Sensors

Ju Hyoeng Yu[1], Myoeng Kwan Song[2], and Seoung-Ki Lee[1]
([1]Pusan National University, [2]Korea Institute of Material Science)

TS05W_P_60

High-Performance p-Type WSe_2 Field-Effect Transistors with WO_x Encapsulation

Byeongchan Kim and Jin-Hong Park
(Sungkyunkwan University)

TS05W_P_61

Highly Efficient, Deep-Ultraviolet Luminescence in hBN Moiré Quantum Wells

Chengyun Hong[1,2] and Jonghwan Kim[1,2]
([1]Institute for Basic Science, [2]Pohang University of Science and Technology)

TS05W_P_62

Gamma-Ray Effects on MoS_2 Field-Effect Transistors: Toward Dielectric and Capping Engineering for Enhanced Radiation Tolerance

Hyeonjung Jung[1], Jin Young Park[1], Dong Ho Kang[1], Sang Eon Lee[1], Yong Nam An[1], Jae Woo Shin[1], Jeong Min Park[2], Yongsu Lee[2], Hyojin Woo[2], Chang Goo Kang[2], and Hyeon-Jin Shin[1]
([1]Gwangju Institute of Science and Technology, [2]Korea Atomic Energy Research Institute)

TS05W_P_63

Atomic-Scale Observation of Grain Boundaries in Highly Oriented 2D Platinum Ditelluride

Saeyoung Oh[1], Minhyuk Choi[2], Sungsoo Hahn[2], Yubin Ji[1], Min-kyung Jo[1,2], Jeongtae Kim[2], Tae-Seong Ju[2], Gyeongbo Kim[2,5], Minseung Gyeon[1], Yuhwa Lee[4], Jeonghyeon Do[4], Seungwook Choi[2], Ansoon Kim[2], Seungmo Yang[2], Chanyong Hwang[2], Kab-Jin Kim[1], Doohee Cho[5], Changyoung Kim[6], Hu Young Jeong[3], Seungwoo Song[2], and Kibum Kang[1]
([1]Korea Advanced Institute of Science and Technology, [2]Korea Research Institute of Standards and Science, [3]Ulsan National Institute of Science and Technology, [4]Korea Institute of Materials Science, [5]Yonsei University, [6]Seoul National University)

TS05W_P_64

Integration of Ferroelectric $Hf_{0.5}Zr_{0.5}O_2$ with Two-Dimensional $MoS_2$for Next-Generation High-Performance Electronics

Jimin Park and Ho Won Jang
(Seoul National University)

TS05W_P_65

High-Performance and Durable Nitrogen-Doped Graphene Quantum Dot Electrocatalyst for Enhanced Oxygen Evolution Reaction

Min Woong Hwang[1,2], Byung Joon Moon[1], Min Ji Im[1,3], Gun Young Jung[3], and Sukang Bae[1]

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

TS05W_P_67

Enhanced Interface Adhesion of Graphene Electrodes via Water-Induced Cleaning for High-Performance PDLC Device

Eun Mi Kim

(Korea Institute of Industrial Technology)

TS05W_P_68

Structural Confinement in the Synthesis of Monolayer 1T-MoS_2 Quantum Dot

Young Jin Park[1], Hoon Ju Lee[2], Suk Woo Lee[2,4], Weiguang Yang[2], Hyuntae Hwang[5], Zonghoon Lee[2,4], and Hyeon Suk Shin[2,3]

([1]Gumi Electronics & Information Technology Research Institute, [2]Institute for Basic Science, [3]Sungkyunkwan University, [4]Ulsan National Institute of Science and Technology, [5]LG Energy Solution)

TS05W_P_69

Area-Selective Atomic Layer Deposition on a 2D Monolayer Lateral Superlattice

Jeongwon Park[1,2] and Kibum Kang[1,2]

([1]Korea Advanced Institute of Science and Technology, [2]TDS Innovation Inc.)

TS05W_P_70

Synthesis-In-Place of V_2O_5 Nanobelts for Ultrasensitive and Wide Range Humidity Detection

Jaeyeon Oh[1,2], Sungjin Cho[1], Si Heon Lim[3], Hyun Ho Kim[3], and Yeonhoo Kim[1]

([1]Korea Research Institute of Standards and Science, [2]Seoul National University, [3]Gwangju Institute of Science and Technology)

[TS06W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS06W_P_1

Hydrogen-Sensitive Antisymmetric Magnetoresistance in Co/Pd Multilayers Driven by Anomalous Hall Effect and Domain Wall

Wen-Chin Lin[1], Yan-Ru Chu[1], Chun-Tse Hsieh[1], Chun-Yen Chen[2], Li-Jie Liaw[1], Takashi Kimura[3], and Jhen-Yong Hong[4]

([1]National Taiwan Normal University, [2]National Central University, [3]Kyushu University, [4]Tamkang University)

TS06W_P_2

2D Tungsten Nitride: Scalable Synthesis and Characterization

Zhi-Long Yen[1,2], Yao-Wei Wang[1], Mario Hofmann[2], and Ya-Ping Hsieh[2]

([1]National Taiwan University, [2]Academia Sinica)

TS06W_P_3

3D Characterization and Predictive Medeling of Electrochemically Localized pH in a CMOS-Based Microelectrode System

Bohyun Kim, Myeongjin Koh, and Woo-bin Jung

(Pohang University of Science and Technology)

TS06W_P_4

Revealing Adaptive Cellular Responses to Electrical Stimulation at the Electrode-Skin Interface Using a Bioelectronic Platform

Yeon Jae Chang, Tae Kyoung Lee, and Jimin Park

(Korea Advanced Institute of Science and Technology)

TS06W_P_5

Crystalline Structure Disruption of Cellulose in Ionic Liquid-Based Deep Eutectic Solvents

Gyuhak Kim[1], Siun Kim[1], Bong-Seop Lee[2], and Ki-Sub Kim[1]

([1]Korea National University of Transportation, [2]Kangwon National University)

TS06W_P_6

Electrochemical Synthesis of Palladium Nanoparticles Using Ionic Liquid Stabilizers

SeungHyeon Yun[1], Yongwon Seo[2], and Ki-Sub Kim[1]

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

TS06W_P_7

Biocompatible Electrochemical Generation of Hydrogen Sulfide for Biological Systems

Changho Lee, Lian Lim, Jaewoong Lee, Myeongeun Lee, Yongha Kim, Tae Kyoung Lee, Gwangbin Lee, Jinsoo Kim, Sang Yeon Oh, Jihan Kim, and Jimin Park

(Korea Advanced Institute of Science and Technology)

TS06W_P_8

Biochar-Grafted Jute Fibers Reinforced Composite Foams with Multidimensional Engineering

Eunsu Gong, James Sangmin Choo, Jinsoo Na, Geunwoong Ryoo, Young In Jo, Jeong-Yun Sun, Woong-Ryeol Yu, Min Sang Kwon, Ki Tae Nam, and Juhyuk Park
(Seoul National University)

NANO KOREA 2026 Conference

[TS07W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS07W_P_1

Characterization of Siloxane Coating for Medium- and Large-Sized Pouches for Electrode Active Materials

Daekyeong Jung[1], Changkeun Choi[2], Min-Seob Shin[1], and Sun Hong Yoon[1]
([1]Korea Electronics Technology Institute, [2]FNSTECH Co., Ltd.)

TS07W_P_2

Low-Temperature, Low-Pressure Sinter-Bonding of Thermoelectric Generator Devices Using Cu Nanoparticle Paste

Seok-Hwan Chung[1], Jong Ho Park[2], Jong Tae Kim[1], Tae-Young Yun[1], Ju-Young Baek[1], Jeongmin Kim[1], and Dong Hwan Kim[1]
([1]Daegu Gyeongbuk Institute of Science and Technology, [2]Korea Electrotechnology Research Institute)

TS07W_P_3

Ultra-Low Temperature Sintering Process Using Ag Nanoparticles for Oxide All-Solid-State Batteries with Simple Heat Treatment

Dong-Hee Kim[1,2], Sehwa Cheon[1,3], Junyoung Heo[1,2], Suhyeon Lim[1], Geunmi Kim[1,2], Hawon Gu[1,2], Joohyun Kim[1], Heetaek Park[1], and Jun-Woo Park[1,2]
([1]Korea Electrotechnology Research Institute, [2]University of Science and Technology, [3]Pusan National University)

TS07W_P_4

Structural Design Factor for Maximizing Sulfur Contents in Li-S Batteries: Freestanding SWCNT@S Architectures

Junyoung Heo[1,2], Youngoh Kim[1,2], Dong-Hee Kim[1,2], Hawon Gu[1,2], Geunmi Kim[1,2], Joohyun Kim[1], Suhyeon Lim[1], and Jun-Woo Park[1,2]
([1]Electrotechnology Research Institute, [2]University of Science and Technology)

TS07W_P_5

A Dual-Functional Self-Healing Binder with Strong Interfacial Interactions and Structural Stability for High-Energy-Density Silicon Anodes

Haeyoung Lee, Jeongmin Lee, Jaewon Lee, and Woo-Jin Song
(Chungnam National University)

TS07W_P_6

Lithiophilic Catalysts Deposited on Carbon Nanofibers for High-Energy-Density Carbon Current Collectors in Anode-Free All-Solid-State Lithium Metal Batteries

Sungwoo Park[1], JaeHong Choi[1], Yoonkook Son[2], and Pilgun Oh[1]
([1]Pukyong National University, [2]Chosun University)

TS07W_P_7

Toward Scalable All-Solid-State Batteries : A Free-Standing Composite Polymer Electrolyte with Room Temperature High Ionic Conductivity

Minjae Kim[1,2], Van Phu Vu[1], Abin Kim[1], Seungmin Hyun[1], Hye-Mi So[1], and Sang-Don Han[2]
([1]Korea Institute of Machinery & Materials, [2]Sejong University)

TS07W_P_8

Overcoming through-Plane Resistance in Lithium-Ion Battery Cathode Electrodes via the Application of Trace High Aspect-Ratio Carbon Nanofiber Additives with Carbon Nanotube-Coated $LiNi_{0.8}Co_{0.1}Mn_{0.1}O_2$

Jahanzaib Ali[1], JaeHong Choi[1], Yoonkook Son[2], and Pilgun Oh[1]
([1]Pukyong National University, [2]Chosun University)

TS07W_P_9

Deciphering the Degradation Mechanisms of NCM811: A Combined Electrochemical and Structural Approach

Seungwook Song, Minjae Kim, Jin Young Lee, Minsub Oh, and Hye-Mi So
(Korea Institute of Machinery & Materials)

TS07W_P_10

Comparative Study of Three Carbon Hosts (Activated Carbon, MWCNTs, Mesoporous Graphene) for Maximizing Sulfur Loading in Li-S Batteries

Hawon Gu[1,2], Junyoung Heo[1,2], Joohyun Kim[1], Dong-Hee Kim[1,2], Suhyeon Lim[1], Geunmi Kim[1,2], Doohun Kim[1,2], and Jun-Woo Park[1,2]
([1]Korea Electrotechnology Research Institute, [2]University of Science and Technology)

TS07W_P_12

Development of Moderate-Concentration DMC-Based Electrolytes for Enhanced Discharge Rate Capability of Lithium-Ion Batteries

Jimin Park, Jiwon Youn, and Nam-Soon Choi
(Korea Advanced Institute of Science and Technology)

TS07W_P_13

Ultrasonication-Assisted Synthesis of g-C_3N_4/$CoWO_4$ Nanocomposites for Electrochemical Energy Storage Applications

Sachin, Manas Nasit, Aditya Sharma, Ranjeet Kumar Brajpuriya, and Shalendra Kumar
(University of Petroleum and Energy Studies)

[TS08W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS08W_P_1

In Situ Electrochemical Cell Enabling Multimodal X-Ray Analyses for Tracking Pt/C Degradation in PEMFC Cathodes under AST Conditions

Jongkyung Ryu[1] and Docheon Ahn[2]

([1]Pohang University of Science and Technology, [2]Pohang Accelerator Laboratory)

TS08W_P_2

Mechanistic Investigation of NiFe-Layered Double Hydroxide Electrocatalysts for Anion Exchange Membrane Water Electrolysis

Taehyeon Kim and Jin Soo Kang

(Seoul National University)

TS08W_P_3

Tailored Bond Length Distribution via High-Entropy Doping Strategy in Ruthenium Oxide for Efficient Water Oxidation Reaction

Sihwa Lee and Byoung-Hoon Lee

(KU-KIST)

TS08W_P_4

Coupling Plastic Waste Conversion with Electrochemical H2O2 Production

Seungwook Baek and Byoung-Hoon Lee

(Korea University)

TS08W_P_5

Electrode Wettability Engineering with Conductive Hydrophobic Carbon for Flooding Suppression in Thick Fe-N-C Cathodes of Proton-Exchange-Membrane Fuel Cells

Yoonbin Cho[1,2], Subin Park[2], Jin Soo Kang[2], and Sung Jong Yoo[1]

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

TS08W_P_6

Spin-Pinning-Enhanced OER Activity in Fe_3O_4@Cu_2O Core-Shell Heterostructures

Seung Heon Jung and Haneul Jin

(Dongguk University)

TS08W_P_7

Upcycling Plastic Waste into Hydrogen Using a Stable and Efficient Photocatalyst

Hahyung Yu and Byoung-Hoon Lee

(Korea University)

TS08W_P_8

Interfacial Stabilization of Ultra-Low-Iridium-Loading MEAs in PEM Water Electrolysis via a TiO_2-Based Dual-Layer Electrode Architecture

Changhyun Park[1,2], Ho Seok Yoon[1,3], Do Hyung Kweon[1], JunHwa Kwon[1], Jong Hyun Jang[1,2], and Hee-Young Park[1]
([1]Korea Institute of Science and Technology, [2]University of Science and Technology, [3]Korea University)

TS08W_P_9

Bias-Free Electrochemical Production of H_2O_2 in a Coupled Reaction Platform through Rational Catalyst Design

Yun Do Kim and Byoung-Hoon Lee
(Korea University)

TS08W_P_10

Strain-Directed Atomic Migration for Confined RuO_2/Pt Interfaces for Durable Oxygen Evolution Reaction

Yeji Park and Sung Jong Yoo
(Korea Institute of Science and Technology)

TS08W_P_11

Development of Tantalum-Hybridized Carbon Supports for Proton Exchange Membrane Water Electrolysis

Dae Yeon Lee[1,2], Jong Seok Park[1,2], Jinhan Cho[1], Sung Jong Yoo[2], and Myeong-Geun Kim[2]
([1]Korea University, [2]Korea Institute of Science and Technology)

TS08W_P_12

Green Hydrogen Production and Storage Integrated Electrochemical Hydrogenation System Utilizing Diphenylmethane as a Liquid Organic Hydrogen Carrier

Do Hyung Kweon[1], Ho Seok Yoon[1,2], Seung-Ho Yu[2], and Hee-Young Park[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS08W_P_13

Ir-Doped Co PBA Derived Co_3O_4 as a Durable and Efficient Oxygen Evolution Catalyst for PEM Water Electrolyzers

Tae Kyung Lee[1,2], Hyung Wook Choi[1], Kwang Ho Song[2], and Sung Jong Yoo[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS08W_P_14

Metal-Phenolic Network-Derived One-Step Synthesis of PtCr Intermetallic Nanoparticles for Seawater Hydrogen Evolution

Seung Min Woo[1,2], Jong Seok Park[1,3], Myeong-Geun Kim[1], and Sung Jong Yoo[1]
([1]Korea Institute of Science and Technology, [2]Seoul National University, [3]Korea University)

TS08W_P_15

Enhanced OER Performance of NiCo Hydroxide via Anion Exchange-Induced Structural Transformation and Oxygen Vacancy Engineering

Sun-Kang Kim[1,2], Seong-Ho Baek[3], and Sung-Jong Yoo[1]
([1]Korea Institute of Science and Technology, [2]Korea University, [3]Dankook University)

TS08W_P_16

Ultrasonic Spray Pyrolysis-Derived Porous Metal Oxide Supports with Sub-Element Engineering for Improved Catalyst Utilization in Proton Exchange Membrane Water Electrolysis

Sang-Seok Lee and Sung Jong Yoo
(Korea Institute of Science and Technology)

TS08W_P_17

Compositional Engineering of Spent Battery Cathodes for Electrochemical Water Splitting

Jinwook Jung, Taeyeon Cho, and Jin Soo Kang
(Seoul National University)

TS08W_P_18

Corrosion-Resistant Pt/HCC Catalysts via Atomic Layer Deposition

Dong Eun Kim[1,2], Jung Woo Shim[1,2], Joon Hyung Shim[2], and Sung Jong Yoo[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS08W_P_19

Mechanistic Insights into the Synergistic Coupling between Ni-Based Perovskites and Fe in the Electrolyte for Enhanced Oxygen Evolution

Janghyun Choi, Taehyeon Kim, and Jin Soo Kang
(Seoul National University)

TS08W_P_20

Strategies for Development of High-Performance Electrocatalysts for Oxygen Evolution Reaction

Jaewon Lee and Jin Soo Kang
(Seoul National University)

TS08W_P_21

Suppressing Local Oxygen Transport Resistance in Low-Pt PEMFCs through TaO_x-Engineered Catalyst Supports

Jieun Baik, Eungjun Lee, and Sung Jong Yoo
(Korea Institute of Science and Technology)

TS08W_P_22

Effect of Promotor (Te, Se) on Pt/Al_2O_3 for Dehydrogenation of Mono-Benzyl Toluene

Yoondo Kim[1,2], Yujung Jung[1,2], Minseok Bae[1], Keunsoo Kim[1], Suk Woo Nam[1], Yongmin Kim[1,4], Hyangsoo Jeong[1,3,5], Kwang Ho Song[2], and Hyuntae Sohn[1,3]
([1]Korea Institute of Science and Technology, [2]Korea University, [3]University of Science and Technology, [4]KU-KIST, [5]KHU-KIST)

[TS09W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS09W_P_1

Separation of Aberrant Stem Cells with E06-Conjugated Magnetic Nanoparticles in a Microfluidic Chip

Ye Jin Cho, Tae Hyeon Kim, Na Yeon Kim, and Bong Geun Chung

(Sogang University)

TS09W_P_2

AI-Integrated Real-Time Microplastic Classification Platform with Plasmonic Heating Droplet Chip

Jiyeon Shin, Tae Hyeon Kim, and Bong Geun Chung

(Sogang University)

TS09W_P_3

Modeling a Sebaceous Gland-Integrated Skin-on-a-Chip Platform for Physiologically Relevant Skin Functions

Jongwoo Ahn, Minji Cho, and Seokyoung Bang

(Dongguk University)

TS09W_P_4

Kidney Organoid-Cancer Spheroid Assembloid in a Microfluidic Platform for Modeling Tumor Progression and Drug Screening

Jae Wook Song[1], Yoon Young Choi[1], Jin Won Kim[2], Jang Ho Ha[1], Yong Kyun Kim[2], and Bong Geun Chung[1]

([1]Sogang University, [2]The Catholic University of Korea)

TS09W_P_5

Iontophoretic Transdermal Drug Delivery and Therapy

Sang Hun Lee, Tae Hyeon Kim, Na Yeon Kim, Jae Wook Song, and Bong Geun Chung

(Sogang University)

TS09W_P_6

A Microfluidic Photo-Engineered Collagen Platform for Decoupling Structural and Biochemical Angiogenic Cues

Jinchul Ahn[1,2], Yeju Jeong[2], Hwanseok Jang[2], Seok-Hyeon Kang[2], Dain Lee[2], Min-seop Kim[2], Seo-Yeon Kim[3], Hong Nam Kim[1], Ji-Hoon Kim[1], Hee-Gyeong Yi[3], Seok Chung[1,2], Jin-A Kim[2], and Yeong-Jin Choi[4,5]

([1]Korea Institute of Science and Technology, [2]Korea University, [3]Chonnam National University, [4]Korea Institute of Materials Science, [5]University of Science and Technology)

TS09W_P_7

SERS-Machine Learning Platform for Hierarchical Classification of SARS-CoV-2 Variants

Jeasung Ryu[1], Dongkwon Seo[2] and Taejoon Kang[1,2]

([1]Korea Advanced Institute of Science and Technology, [2]Korea Research Institute of Bioscience and Biotechnology)

TS09W_P_8

Machine Learning (ML)-Assisted Surface-Enhanced Raman Scattering (SERS)-Based Label-Free SARS-CoV-2 IgG Detection Using Epitopes-Immobilized Customized Gold Nanopillar Substrates

Pei Li[1], Dongkwon Seo[1], Jaesung Ryu[2], Huijun Lee[2], Seokjun Yoon[2], Sung-Gyu Park[3], and Taejoon Kang[1,2]
([1]Korea Research Institute of Bioscience and Biotechnology, [2]Korea Advanced Institute of Science and Technology, [3]Korea Institute of Materials Science)

TS09W_P_9

Bioinspired Silver Nanocoral Surfaces for Safe Water Harvesting from Air

Daseong Kim, Jaehyung Jeon, Heeseon Choi, Hogyun Park, and Sungsu Park
(Sungkyunkwan University)

TS09W_P_10

MXene-Based Glass Bio-Interfacing Platform for Precise Analysis of cTnI as an Acute Myocardial Infarction Biomarker

Jaehee Lee[1], Yonghee Lee[1], Yeon-Wha Oh[1], Ga-Won Lee[2], Moon-Keun Lee[1], Tae Jae Lee[1], and Yoo Min Park[1]
([1]National NanoFab Center, [2]Chungnam National University)

TS09W_P_11

Overcoming PFS-Dependent Sequence Constraints of CRISPR/Cas12a2 for Amplification-Free Detection of miRNAs Using Poly(A) Polymerase

Jinhwan Lee[1,2], Hyowon Jang[1], and Taejoon Kang[1,2]
([1]Korea Research Institute of Bioscience and Biotechnology, [2]Korea Advanced Institute of Science and Technology)

TS09W_P_12

Microfluidic SERS Platform for Detection of Herpes Viruses in Infectious Uveitis Using Minimal Aqueous Humor

Huijun Lee[1], Dongkwon Seo[2], and Taejoon Kang[1,2]
([1]Korea Advanced Institute of Science and Technology, [2]Korea Research Institute of Bioscience and Biotechnology)

TS09W_P_13

Graphene Oxide-Integrated Polypyrrole Nanoarray Platform for Enhanced Osteogenesis of Mesenchymal Stem Cell

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

TS09W_P_14

A Compartmentalized Neural Chip for Human Stem Cell-Based Neurotoxicity Assessment

YoungWon Koo[1], Dohyung Kim[1], Seohui Bae[2], Youmin Bae[2], Haeun Lee[2], Jinju Han[2], and Seokyoung Bang[1]
([1]Dongguk University, [2]Korea Advanced Institute of Science and Technology)

TS09W_P_15

An Electrochemical Platform for Rapid Metabolic Evaluation of Breast Cancer Subtypes and Therapeutic Assessment

Yuju Park, Kyeong-Mo Koo, Chang-Dae Kim, and Tae-Hyung Kim
(Sungkyunkwan University)

TS09W_P_16

Region-to-Region Unidirectional Connection In Vitro Brain Model for Studying Directional Propagation of Neuropathologies

Kyeong Seob Hwang[1], Hui-Wen Liu[2], Yumin Park[1], Seok Chung[2], and Hong Nam Kim[1]
([1]Korea Institute of Science and Technology, [2]Korea University)

TS09W_P_17

Modeling Synergistic Angiogenic Effects in a High-Throughput Pumpless 3D Microenvironment

Seonghyuk Park[1,2], Youngtaek Kim[2], Noo Li Jeon[1], and Hong Nam Kim[2]
([1]Seoul National University, [2]Korea Institute of Science and Technology)

TS09W_P_18

Perfluorooctanoic Acid Ion Sensing with a Single Microhole Water-Gel Interface

Minh Thao Huynh Hua, Eunchan Koh, and Hye Jin Lee
(Kyungpook National University)

TS09W_P_19

Curvature-Guided Paraffin Wax Platform for the Controlled Generation of Microscale Cell Sheets and Spheroids

Huijung Kim and Tae-Hyung Kim
(Sungkyunkwan University)

TS09W_P_20

Molecularly Imprinted Hybrid Composites Comprising Gold and Pyrrole on Indium-Tin Oxide Platform for Evaluation of Dopaminergic Cell Functionality

Joon-Ha Park and Tae-Hyung Kim
(Sungkyunkwan University)

TS09W_P_21

Spatially Controlled Multicellular Differentiation of Stem Cells Using Triple Factor-Releasing Metal-Organic Framework-Coated Nanoline Arrays

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

TS09W_P_22

Colorimetric Foldable Paper Biosensor Integrated with Hybrid Nanoflowers for Sodium Benzoate Detection via D-Amino Acid Oxidase Inhibition

Jiwoo Shin, Thinh Viet Dang, and Moon Il Kim
(Gachon University)

TS09W_P_23

Defect-Engineered Nanozyme with Enhanced Alkaline Phosphatase-Like Activity

Simegnsh Bekele Dekebo and Hye Jin Lee
(Kyungpook National University)

TS09W_P_24

Nanostructured Polymer/Metal Oxide Hybrid for Electrochemical Aptasensing of Amino Acid

Jiaran Lu, Seung Hyeon Lee, and Hye Jin Lee
(Kyungpook National University)

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[TS11W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS11W_P_1

Silver Nanocomposite-Based Stretchable Electrodes for High-Fidelity Electromyography (EMG) Sensing

Falguni Ahmed, Suyoung Lee, Kazim Ahmed, Masud, and Jinsik Kim
(Dongguk University)

TS11W_P_2

Real-Time Monitoring of Gastroesophageal Reflux Using a Wireless Ingestible Sensor Platform

Tae Kon Ahn[1], Booseok Jeong[1], Jihoon Lim[1], Sung Gap Im[1], and Kyoung G. Lee[2]
([1]Korea Advanced Institute of Science and Technology, [2]National NanoFab Center)

TS11W_P_3

Highly Stable Siloxane-Based Polymer Coating for Corrosion Protection of Ingestible Devices

Sunmin Kwak[1], Booseok Jeong[1], Jihoon Lim[1], Sung Gap Im[1], and Kyoung G. Lee[2]
([1]Korea Advanced Institute of Science and Technology, [2]National NanoFab Center)

TS11W_P_4

Minimally Invasive Implantable Drug Delivery System for Localized Therapy

Aejin Kim and Hyojin Lee
(Korea Institute of Science and Technology)

TS11W_P_5

Development of an Isotope Dilution ICP-TOF Based Method for Accurate Quantification of Gadolinium in Alb-SCN-DOTA-Gd

Gizachew Betru Tegegn, Kim Jaeseok, Yong HyeoYim, Jun Hui Jeon, and Tae Geol Lee
(Korea Research Institute of Standards and Science)

TS11W_P_6

High-Performance Wearable Sweat pH Sensor based on a Hydrodynamically Processed Polyaniline-Graphene Nanocomposite

Seo Jin Kim[1], Bong Gill Choi[2], Kyoung G. Lee[3], Oh Seok Kwon[1]
([1]Sungkyunkwan University, [2]Kangwon National University, [3]National NanoFab Center)

TS11W_P_7

An Optical Sensing System for Real-Time Fluorescent Observation of Cell-Free Transcription Activity

Ji Yun Han, Seong Han Pyo, and Kyoung G. Lee
(National NanoFab Center)

TS11W_P_8

Simultaneous Photolithography and Surface Engineering of Quantum Dots via Functional Photoresist

Junhyeok Park, Junhyuk Ahn, Seongkeun Oh, and Soong Ju Oh
(Korea University)

TS11W_P_9

Flexible Piezoresistive Pressure Sensor based on Ag MOD Ink for Wearable Monitoring High-Pressure Sports Motions

Min Joon Park, Dae Yang Oh, Woosik Kim, and Soong Ju Oh
(Korea University)

TS11W_P_10

A Modular Absorbance Analysis Platform (MAAP) for Decentralized ELISA-Based Point-of-Care Diagnostics

Seonghan Pyo, Kyung Won Lee, Kyoung. G. Lee, and Yoo Min Park
(National NanoFab Center)

TS11W_P_11

A Rapid and Ultra-Sensitive Nanoparticle-Based System for Bacterial Detection in Drinking Water

Ji Hyae Choo and Ju Hun Lee
(Hanyang University)

TS11W_P_12

Organ-on-a-Chip Models of Inflammatory Diseases for Drug Evaluation

Soohyun Kim[1], Min Seok Lee[2], Sung Kyun Lee[2], and Dae-Sik Lee[1]
([1]Electronics and Telecommunications Research Institute, [2]Korea Research Institute of Chemical Technology)

TS11W_P_13

Ultrasensitive Electrochemical Detection of Genetic Mutations via Nanoparticle Surface Localized Amplification and Machine Learning

Yo Seop Shin and Ju Hun Lee
(Hanyang University)

TS11W_P_14

Direct SERS Identification of Illicit Drugs in Real-World Clinical Urine

Jinyoung Kim and Eun-kyung Lim
(Korea Research Institute of Bioscience and Biotechnology)

TS11W_P_15

A One-Pot RCA-CRISPR/Cas12a Platform with Machine Learning for Multiplex Profiling of Plasma Exosomal miRNAs in Alzheimer's Disease

Yeonwoo Jeong[1], Jinyoung Kim[1], Eunjung Kim[2], and Eun-Kyung Lim[1,3,4]
([1]Korea Research Institute of Bioscience and Biotechnology, [2]Incheon National University, [3]University of Science and Technology, [4]Sungkyunkwan University)

TS11W_P_16

Plug-and-Play Highly Sensitive Crack-Based Strain Sensor based on SEBS Metal Nanomembrane Electrodes

Sangwook Nam, Kyuha Park, Jaeil Park, Hyuna Kim, Junha Park, Gio Noh, and Sungjun Park
(Ajou University)

TS11W_P_17

Durable Transparent Ag Nanowire/PDMS Platform with Laser-Programmed Adhesion for Wearable Strain Sensing and Thermal Care

Tae Sung Kim[1], Teauk Park[1], Dae-sik Lee[2], Young Ki Hahn[1], and Junyeob Yeo[1]
([1]Kyungpook National University, [2]Electronics and Telecommunications Research Institute)

TS11W_P_18

Improved Charge Transport in Nanostructured Polycrystalline SnO_x Thin-Film Transistors

Jeongjae Park, Seokhyeon Baek, and Sungjun Park
(Ajou University)

TS11W_P_19

Conductive GelMA/PEGDA Hydrogels Incorporating Acrylated Choline Ionic Liquid for Peripheral Nerve Regeneration

Jun Yeong Hwang, Yerim Lee, Eunsoo Kim, and Jahyun Koo
(Korea University)

TS11W_P_20

Miniaturized Non-Enzymatic Glucose Sensors Enabled by Laser-Induced Pattern Growth of Ag-CuO/NiO Nanostructures

Jehoon Lee[1], Tae Sung Kim[1], Dae-sik Lee[2], Young Ki Hahn[1], and Junyeob Yeo[1]
([1]Kyungpook National University, [2]Electronics and Telecommunications Research Institute)

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[TS13W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS13W_P_1

Machine Learning Decodes Hidden Near-Infrared Spectral Features of Single-Walled Carbon Nanotubes for Multiplexed Virus Identification

Changyu Tian, Seungju Lee, and Sooyeon Cho
(Sungkyunkwan University)

TS13W_P_2

Molecular Dynamics Study of Terminal Chain Length Effects on Phase Structure of Bent-Core Liquid Crystals in the B4 Phase

HyeonJun Kim[1], Hyewon Park[2], Dong Ki Yoon[2], and YongJoo Kim[1]
([1]Korea University, [2]Korea Advanced Institute of Science and Technology)

TS13W_P_3

Molecular Dynamics Simulation Study on Binding Affinity of Integrin and RGD-QWNT for Enhanced Biosensor Performance

Junhee Kim[1], Mijin Kim[2], and YongJoo Kim[1]
([1]Korea University, [2]Georgia Institute of Technology)

TS13W_P_4

Data Alignment via Condition-Aware Language Modeling for Interpreting Self-Driving Laboratory

Nayeon Kim[1] and Sang Soo Han[2]
([1]Korea University, [2]Korea Institute of Science and Technology)

TS13W_P_5

A Fully and Adaptive Automated System for Nanoparticle Washing Enabled by Vision and Language AI

Heeseung Lee[1,2], Daeho Kim[1,2], Heyin Lee[3], Namyoung Gwak[4], Nayeon Kim[1,2], Hyuk Jun Yoo[1], Taekyung Yu[3], Nuri Oh[4], Seok Su Sohn[2], and Sang Soo Han[1]
([1]Korea Institute of Science and Technology, [2]Korea University, [3]Kyung Hee University, [4]Hanyang University)

[TS14W_P] Poster Session 1

Date & Time	July 8(Wed.), 2026 / 10:30-12:00
Location	Exhibition Hall 4 (1F)

TS14W_P_1

Surface Modification of Ag_2S Nanoparticles to Enhance Photoluminescence Intensity in the NIR Region

Tae Hun Heo and Juwon Oh

(Kyungpook National University)

TS14W_P_2

Ligand Exchange of Ag_2S Nanocrystals for Efficient Phase Transfer into Pola Media

Kyeong Mo Lim and Juwon Oh

(Kyungpook National University)

TS14W_P_3

A Comprehensive Review of Separation and Characterization Methodologies for Micro- and Nanoplastics: A Strategic Framework for Method Selection

Hee-Jung Sim[1] and June-Woo Park[1,2]

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

TS14W_P_4

Evaluation of Developmental Neurotoxicity of Nanomaterials Using Planarian Model

Youn-Joo Jung[1] and June-Woo Park[1,2]

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

TS14W_P_5

Single-Cell Mass Cytometry Reveals Context-Dependent Responses to Ceria Nanoparticles in Mono-Culture and a 3D Alveolar Tetra-Culture Model

Eunseo Lee, Hyojoo Bang, Seung-geun Park, and Tae Hyun Yoon

(Hanyang University)

TS14W_P_6

Toward Standardization of Isotope-Ratio Filtering for spICP-TOF-MS Analysis of Metal-Containing Nanoparticles

Yewon Han[1], Minseop Kim[1], Seung Min Ha[1], and Tae Hyun Yoon[1,2]

([1]Hanyang University, [2]Yoon Idea Lab. Co., Ltd.)

TS14W_P_7

Non-Linear Correlation between Adsorption Capacity and Toxicity Responses in Nanoplastic-Heavy Metal Complexes

Jihyun Seo[1], Jungman Jo[2], and June-Woo Park[1]

([1]Korea Institute of Toxicology, [2]National Forensic Service)

TS14W_P_8

Standardized Polymeric Reference Particles for Investigating Structure-Toxicity Relationships in Microplastics

Sungjun Yoon, Minseop Kim, Chanmin Kim, Taehyun Yoon, and Hongseok Yun
(Hanyang University)

TS14W_P_9

Integrated Multimodal Imaging System for Biosafety and Efficacy Evaluation of Nanomaterials in 3D Cell Models

Hyun-Ji Lee[1], Ahreum Beak[1], Ik Hwan Kwon[1], Tae Geol Lee[1,2], and Sang-Won Lee[1,2]
([1]Korea Research Institute of Standards and Science, [2]Korea University of Science and Technology)

TS14W_P_10

Mitigating Industrial Radiation Hazards: Cerium-Based Therapeutic Antioxidants as Occupational Countermeasures

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

TS14W_P_11

Comparative Evaluation of UVA-Induced Phototoxicity of Nanomaterials in NIH/3T3 and HaCaT Skin Cell Lines

Eunha Kim, Ye Ryeong Lee, Ahruem Baek, Tae Geol Lee, and Min Beom Heo
(Korea Research Institute of Standards and Science)

TS14W_P_12

Comparative Study of Silica Morphologies for Efficient CO_2 Capture

Su Guan Jang and Jae Young Bae
(Keimyung University)

TS14W_P_13

Differential Cytotoxicity and Cellular Uptake of Fluorescent Nanodiamonds Depending on Cell Phenotype

Yoon Seo Lee[1], Hyeon-Ji Jo[1,2], Goohwan Kim[1,3], Hak-Sung Jung[1], Jeong Hyun Shim[1], and Se-Hwa Kim[1,2]
([1]Korea Research Institute of Standards and Science, [2]University of Science and Technology, [3]Dongguk University)

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