[TS01] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS01T_BP_1

Microbial Disinfection in Portable Water Bottles Powered by Walking-Induced Electrostatic Charges

Jinsong Kim[1], Young-Jun Kim[2], Zheng-Yang Huo[3], and Sang-Woo Kim[1]

([1]Yonsei University, [2]KRICT, [3]Renmin University of China)

TS01T_BP_2

Engineered Thermoplastic Polyurethane with Tunable Tribopolarity and Biodegradability for Advanced Triboelectric Nanogenerator

Yugyung Jin, Hyeonseo Joo, and Ju-Hyuck Lee

(DGIST)

TS01T_BP_3

Electrodynamic Screen-Based Dust Removal using Wind-Driven Triboelectric Nanogenerators for Solar Panels

Junyeong Yang, Minsu Heo, and Ju-Hyuck Lee

(DGIST)

TS01T_BP_4

Enhancing Sensitivity of MWCNT/Ecoflex Composite Strain Sensors via Pre-Stretching and Circular Auxetic Metamaterials

Jaewon Cho, Dong Hwi Kim, Yong Jun Choi, and Miso Kim

(Sungkyunkwan University)

TS01T_BP_5

Activating Hydrogen Evolution Reaction Activity of Layered Double Hydroxide-Based Catalysts with Atomically Dispersed Rhodium Sites in Acidic Environments

Youngeun Kim and Wooseok Yang

(Sungkyunkwan University)

TS01T_BP_6

Geometric Optimization of Cu_2Se-Based Thermoelectric Device for Maximizing Power Generating Performance

Jungsoo Lee, Seungjun Choo, and Jae Sung Son

(POSTECH)

TS01T_BP_7

Ductile $(Ag,Cu)_2(S,Se,Te)$-Based Auxetic Metamaterials for Efficient and Durable Thermoelectric Power Generation

Seong Eun Yang[1], Youngtaek Oh[2], and Jae Sung Son[1]

([1]POSTECH, [2]UNIST)

TS01T_BP_8

Ultrasound-Driven, Capacitance-Optimized Triboelectric Implants for Neurostimulation

Jinyoung Jeon[1], Young-Jun Kim[2], and Sang-Woo Kim[1]

([1]Yonsei University, [2]KRICT)

TS01T_BP_9

High-Performance and Super-Flexible Core-Shell Fiber Moisture Electric Generators Enabled by Biomimetic Dual Driving Forces

Guangtao Zan and Cheolmin Park

(Yonsei University)

TS01T_BP_10

Fabrication of Complex 3D Structured Ceramics based on Direct Ink Writing

So-Min Song, Hyun-Cheol Song, and Sunghoon Hur

(KIST)

TS01T_BP_11

Intelligent Sensor Applications using Conductive Carbon Nanotube Sponge-Integrated Triboelectric Nanogenerators

Jaehee Shin, Doohyun Han, and Jinhyoung Park

(KOREATECH)

TS01T_BP_12

Surface Reconstruction of Ni-Fe Layered Double Hydroxide Inducing Chloride Ion Blocking Materials for Outstanding Overall Seawater Splitting

Enkhbayar Enkhtuvshin and HyukSu Han

(Sungkyunkwan University)

TS01T_BP_13

Biological Mechano-Electric Coupling Properties based on β-Chitin Nanofibrils of Deep-Sea Tubeworms

Hyunseung Kim[1], Gyoung-Ja Lee[2], Yu Ogawa[3], Yebin Lee[1], Min-Ku Lee[2], Changyeon Baek[2], and Chang Kyu Jeong[1]

([1]Jeonbuk National University, [2]KAERI, [3]Université Grenoble Alpes)

TS01T_BP_15

Beyond Traditional Droplet-Based Electricity Generators: Exploring the Potential of Energy Harvesting with Droplet Squeezing Motion on Stenocara-Inspired Surface with Heterogeneous Wettability

Soban Ali Shah, Sunmin Jang, Sumin Cho, and Dongwhi Choi

(Kyung Hee University)

TS01T_BP_16

Sound-Based Triboelectric Platform Fabricated by using Mechanically 4D Printing Technology

Girak Gwon, Dongik Kam, Yoonsang Ra, Donghan Lee, and Dongwhi Choi

(Kyung Hee University)

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[TS01] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
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TS01T_P_1

Electronic Structure of Polytetrafluoroethylene with Surface States and its Role on Contact Electrification

Yong Hyun Kwon, Seong Min Kim, and Sang-Woo Kim

(Yonsei University)

TS01T_P_2

Injectable and Fully Biodegradable Triboelectric Nanogenerator Powered by Ultrasound

Yong Hyun Kwon, Xiao Xiao, and Sang-Woo Kim

(Yonsei University)

TS01T_P_3

Eu and Mn Co-Doped High Tc PIN PMN PT Piezoelectric Ceramics for High Power Application

Min Woo Kim[1,2], Dong-Gyu Lee[1,2], Chong-Yun Kang[1], Sahn Nahm[2], and Hyun-Cheol Song[1,3]

([1]KIST, [2]Korea University, [3]Sungkyunkwan University)

TS01T_P_4

Selective Wavelength Multi-Stacked Layer Absorber for Solar Desalination

Ga Eun Lee and Jeong Min Baik

(Sungkyunkwan University)

TS01T_P_5

Recent Advances in Functional Fiber-Based Wearable Triboelectric Nanogenerators

Seongmin Na and Dukhyun Choi

(Sungkyunkwan University)

TS01T_P_6

Extraction of Heavy Metals from Contaminated Soil using Electrokinetic Process and Different Chelating Agents

Muhammad Awais, Muhammad Ramzan Khawar, and Dongwhi Choi

(Kyung Hee University)

[TS02] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS02T_BP_1

Mesoporous Silicon-Graphene Composite Anode for High-Performance Lithium-Ion Batteries

Subin Lee, Na-Yeong Kim, and Ji-Won Jung

(University of Ulsan)

TS02T_BP_2

Preparation of Sagoe Starch Based Activated Porous Carbons as Cathode's Components for Lithium Sulfur Battery

Nicholas Jonathan[1,2], Hans Kristianto[3], Sang Ok Kim[1,2], and Arenst Andreas Arie[3]

([1]KIST, [2]UST, [3]Parahyangan Catholic University)

TS02T_BP_3

Off-Stoichiometric Composition Strategy for High Structural Integrity in Co-Free Li-Rich Layered Cathode

Youngsu Lee and Kyu-Young Park

(POSTECH)

TS02T_BP_4

Surface Roughness-Induced Enhancement of Binder Fibrillation Processibility in Dry Electrode Manufacturing for Lithium-Ion Battery

Jonggyu Park[1], Jeong-Keun Yoo[2], and Kyu-Young Park[1]

([1]POSTECH, [2]KIST)

TS02T_BP_5

Effect of Elastic Framework for Shape Resilience Lithium-Ion Batteries

Jong-Heon Lim[1], Jaehyun Kim[2], Jaesub Kwon[1], Kyoung Eun Lee[1], Youngsu Lee[1], Seongeun Park[1], Janghyuk Moon[2], and Kyu-Young Park[1]

([1]POSTECH, [2]Chung-Ang University)

TS02T_BP_6

3-D Interconnected Porous Cu Current Collector for Anode-Free Lithium-Metal Batteries

Suji Kim[1], MinJae Lee[2], SeKwon Oh[2], and Won-Hee Ryu[1]

([1]Sookmyung Women's University, [2]KITECH)

TS02T_BP_7

Surface Stabilization of High-Nickel Cathodes via Solvent-Free Mechanofusion Process for Li-Ion Batteries

Yoo-Jung Choi, Hyeon-Ju Song, and Won-Hee Ryu

(Sookmyung Women's University)

TS02T_BP_8

Hierarchical Growth of Durable Carbon Nanotube Bundles from Graphite Interlayer Seeds for Free-Standing Oxygen Electrodes for Lithium-Oxygen Battery

Yeji Lim, Fuxi Peng, Huiju Kim, Boran Kim, Hyun-Soo Kim, Zhenyu Wang, Zuowan Zhou, Jinyang Li, and Won-Hee Ryu

(Sookmyung Women's University)

TS02T_BP_9

Revealing On-Demand Molecular Traps Effects of Electrostatic Covalent Organic Frameworks for High-Energy Li Metal Battery Electrodes

Jae-Seung Kim[1], Kyeong-Seok Oh[2], Sodam Park[2], Sang-Young Lee[2], and Dong-Hwa Seo[1]

([1]KAIST, [2]Yonsei University)

TS02T_BP_10

Complex Charge Transport of Carbon Network in Composite Cathode for Solid-State Batteries

Juho Lee[1,2], Hyeong-Jong Kim[2], Chanhyun Park[2], Jingyu Choi[2], Sung-kyun Jung[2], and Jinsoo Kim[1]

([1]KIER, [2]UNIST)

TS02T_BP_11

Cycling Protocol for Mn-Based Disordered Rock-Salt Li-Ion Cathodes for Improved Cycling Stability

DongHwa Seo

(KAIST)

TS02T_BP_12

Coated Current Collector for All Solid State Battery

Hyeon-Seong Oh[1,2] and Hun-Gi Jung[1]

([1]KIST, [2]Yonsei University)

TS02T_BP_13

Facial Synthesis of Single Crystal Mo_4P_3 Nanowires with Large D-Spacing for Easy Li + Ion Uptake

Jeong In Lee, Seo Hyun Kim, Minjeong Shin, and Hyeuk Jin Han

(Sungshin Women's University)

[TS02] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
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TS02T_P_1

Study on the Improvement of Rate Capability and Application as Anode Material of $Li_4Ti_5O_{12}$ using NH_4F

Il-Seop Jang[1,2], Bo-Ye Song[1,2], Eunhye Kim[1,2], and Jinyoung Chun[1]

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

TS02T_P_2

A Study on the Removal of Residual Silica in Waste Silicon, Nanopore Generation, and Enhancement of Electrochemical Properties using NH_4F

Il-Seop Jang[1,2], Bo-Ye Song[1,2], Byeong-Jun Ahn[1,2], and Jinyoung Chun[1]

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

TS02T_P_3

Effect of Mg^{2+} Doping on the Ionic Conductivity and Density Enhancement of von-Alpen Type NASICON Ceramics

Gunhee Park[1,2], Byeong-Jun Ahn[1,2], Eun-Hye Kim[1], and Jinyoung Chun[1]

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

TS02T_P_4

Enabling Uniform Distribution of Carbon Nanotubes for Thick-Cathode in Lithium-Ion Batteries using Electrospray

Ho-Jin Lee, Na-Yeong Kim, and Ji-Won Jung

(University of Ulsan)

TS02T_P_5

Zinc-Bridged Lithium on Carbon Nanofibers for Enhancing Anode-Free Li-Metal Battery Performance

Ho-Jin Lee[1], Ilgyu Kim[1], Tae-Hyeon Pyo[2], Sang-Joon Kim[2], and Ji-Won Jung[1]

([1]University of Ulsan, [2]KRICT)

TS02T_P_6

Scanning Transmission X-Ray Microscopy Study of In-Situ Annealing Effect on Cathode Primary Particles for Secondary Ion Batteries

Hansol Jang[1], Namdong Kim[2], Changhoon Jung[3], and Hyun-Joon Shin[1]

([1]Chungbuk National University, [2]Pohang Accelerator Laboratory, [3]SAIT)

TS02T_P_7

Construction of Dual Crosslinked Network Binder via Sequential Ionic Crosslinking for High-Performance Silicon Anodes

Chao Chen

(Jiaxing University)

TS02T_P_8

Refreshing Lithium Metal Anodes: Mechano-Thermal Milling for Native Passivation Layer Removal

Sanghyeon Park and Hongkyung Lee

(DGIST)

TS02T_P_9

Designing Durable Zn Anodes: The Efficacy of In-Situ Coated Metal Fluoride/Polymer Bi-Layers

Jaewoong Han and Hongkyung Lee

(DGIST)

TS02T_P_10

Characterization of Sulfonated Cross-Linked Reinforced Films for Polymer Electrolyte Fuel Cells (PEFCs) using Microporous Flat Sheet Membranes

Suk-Yong Jang, Ji-Su Lee, and Sien-Ho Han

(Tech University of Korea)

TS02T_P_11

Facile Synthesis of Si/rGO Composites based on Particle Size Differences with High Reversibility for Lithium Ion Batteries

Wanseop Shin, Chaewon Kim, and Sang-Wha Lee

(Gachon University)

TS02T_P_12

Atomic Layer Deposition for Lithium-Ion Battery Cathode Materials

Chae-Woong Kim, Hyoug Kwon, Yonghyeon Kim, Junil Kim, Sungjun Jeong, and Hyngsang Park

(ISAC Research)

TS02T_P_13

Synthesis of Nickel Fluoride (NiF_2)/Porous Carbon Nanomposites and their Electrochemical Properties as the Electrode of Li-Ion Batteries

Gunhee Park[1,2], Il-Seop Jang[1,2], and Jinyoung Chun[1]

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

TS02T_P_14

Ni/LiF/C Nanocomposite as Pre-Lithiation Cathode Additive for High Energy Density Lithium-Ion Batteries

Bo-Ye Song[1], Gunhee Park[1,2], Byeong-Jun Ahn[1,2], and Jinyoung Chun[1]

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

TS02T_P_15

Synthesis of Sodium Cobalt Fluoride ($NaCoF_3$) Nanocomposite and Electrochemical Performance as Lithium-Ion Batteries

Bo-Ye Song[1], Il-Seop Jang[1,2], Eun-Hye Kim[1], and Jinyoung Chun[1]

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

[TS03] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS03T_BP_1

Operando Monitoring of VOCs Photodegradation Reaction and Air Purifying Simulation under Atmospheric Moisture Control

Gahye Shin and Wooyul Kim

(KENTECH)

TS03T_BP_2

Synthesis of Porous Thermoelectric PEDOT:PSS for Thermal Insulation and Efficient Environment-Friendly Energy Harvesting

Jeong Seob Yun and Sang Hyuk Im

(Korea University)

TS03T_BP_3

Grain Boundary Passivation for Wide Bandgap Sub-Cell of Perovskite Tandem Solar Cells using Inorganic Potassium Lead Halide

Sunwoo Kim[1], Doyun Im[1], Yeonghun Yun[2], Devthade Vidyasagar[1], and Sangwook Lee[1]

([1]Kyungpook National University, [2]Helmholtz-Zentrum Berlin für Materialien und Energie GmbH)

TS03T_BP_4

Advancing Energy Harvesting and Storage with ZnO-PTFE Composite Thin Films

Swathi Ippili[1], Venkatraju Jella[1], Subhashree Behera[1], Hyun-Suk Kim[2], and Soon-Gil Yoon[1]

([1]Chungnam National University, [2]Dongguk University)

TS03T_BP_5

Efficient Photocatalytic Reverse Electrodialysis Cell for Simultaneous Electricity Generation and Degradation of Tetracycline Hydrochloride

Shristi Bevinakatti, Jung Hwan Kim, and Jae-Woo Park

(Hanyang University)

TS03T_BP_6

Improved PEC Water Splitting Performance using Type-II Heterostructure based on NiO/InGaN Nanorods

Yun-Hae Shim, Na-Hyun Bak, Kedhareswara Sairam Pasupuleti, Roshani Awanthika Jayarathna, Isak Lee, Eui-Tae Kim, and Moon-Deock Kim

(Chungnam National University)

TS03T_BP_7

Exploring BZCYYb Synthesis Methods and Sintering Temperature Variations in Proton Conducting Fuel Cells

Owen Khosashi, Emilio Audasso, Hizkia Manuel Vieri, and Sun-Hee Choi

(KIST)

TS03T_BP_8

Nonstoichiometric Pt-CeOx Janus-type Nanoarchitecture for Highly Efficient and Durable Polymer Electrolyte Membrane Fuel Cell

Juyoung An[1], Ho Young Kim[2], Jin Young Kim[3], and Yeon Sik Jung[1]

([1]KAIST, [2]Sangmyung University, [3]KIST)

TS03T_BP_10

Selective Reactivity-Assisted Sacrificial Additive Coating for Surface Passivation of Wide Bandgap Perovskite Solar Cells with Cesium Tetrafluoroborate

Jaehyuk Koh[1], Daehan Kim[1], Sang Woo Park[2], Hyungjun Kim[1], Ki-Ha Hong[2], and Byungha Shin[1]

([1]KAIST, [2]Hanbat National University)

TS03T_BP_11

Photoelectrochemical Device based on a Halide Perovskite Solar Cell Protected by a Single Crystal TiO_2

Choongman Moon, Jaehyuk Koh, and Byungha Shin

(KAIST)

[TS03] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
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TS03T_P_1

Optimizing the Growth Rate of Zn(O,S) Buffer Layers through Zinc Sulfate Concentration Variations in Cu(In,Ga)Se_2 Thin-Film Solar Cells: A Chemical Bath Deposition Approach

Woo-Jung Lee[1,2], Dae-Hyung Cho[1,2], Tae-Ha Hwang[1], and Yong-Duck Chung[1,2]

([1]ETRI, [2]UST)

TS03T_P_2

Investigating the Role of Post-Deposition Treatment Materials on the Defect Mitigation Process in Cu(In,Ga)Se_2 Thin-Film Solar Cells: An Empirical Approach

Woo-Jung Lee[1,2], Dae-Hyung Cho[1,2], Tae-Ha Hwang[1], Kwangsik Jeong[3], Rina Kim[1], Soyoung Lim[1], Mangu Kang[1], and Yong-Duck Chung[1,2]

([1]ETRI, [2]UST, [3]Yonsei University)

TS03T_P_3

Surface Ion-Mediated Synthesis of Monodisperse Cobalt Nanoparticles/Molybdenum Oxide Heterostructures as Electrocatalysts for Hydrogen Evolution Reaction

Lichun Liu

(Jiaxing University)

TS03T_P_4

Study on the Properties of Mg-Based Hydrogen Storage Alloy using Ni/Al_2O_3 Catalyst

Young Jun Kwak and Ki-Tae Lee

(Jeonbuk National University)

TS03T_P_5

Utilizing Ti_3C_2Tx MXene Nanosheets as Potential Interfacial Components in Electrochemical Capacitors

Segi Byun[1], Hyewon Hwang[2], Seoyeon Yuk[2], and Dongju Lee[2]

([1]KIER, [2]Chungbuk National University)

TS03T_P_6

Enhancement of Photocatalytic Properties of CdS Composite through its Structural Modification via Citrate Addition

KiSeong Lim, Abhijit N. Kadam, and Sang-Wha Lee

(Gachon University)

TS03T_P_7

Tailoring Bandgap Grading via a Hybrid Growth Method to Achieve $Sb_2(S,Se)_3$ Solar Cells Approaching 8% Efficiency

Seunghwan Ji, Yazi Wang, and Byungha Shin

(KAIST)

[TS04] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
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TS04T_P_1

Enhanced Tellurium Field-Effect Phototransistors Utilizing Chemical Solution Deposited Ferroelectric La-Doped HfO_2 on Silicon

Joo-on Oh, Uisik Jeong, and Sunkook Kim

(Sungkyunkwan University)

TS04T_P_2

Inhibiting Intermetallic Compound (IMC) Growth in Al/Cu Composites by Nanodiamond Addition for Power Conductor Materials

Wonho Yoon, Changtaeg Seo, Junsoong Lee, Minki Kim, Joongtak Back, and Sungwook Jo

(Gyeongbuk Hybrid Technology Institute)

TS04T_P_3

Fabrication of Flexible Pressure Sensor using $Ti_3C_2T_x$ MXene Nanosheets and Polymer-MXene Nanocomposites

Daegwon Noh and Eunsoon Oh

(Chungnam National University)

TS04T_P_4

AE Parameter Correlation Characteristics during Fatigue and Burst Test of the Type 4 CFRP Winding Hydrogen Storage Tank

Jaesung Kim

(Institute for Advanced Engineering)

TS04T_P_5

Low-Magnetic-Field Alignment of Carbon Fibers in Polymer Matrix towards High-Performance Thermal Interface Materials

Seok-Hwan Chung, Jong Tae Kim, Jeongmin Kim, and Dong Hwan Kim

(DGIST)

TS04T_P_6

Synthesis and Characterization of Nanostructured Coatings for Enhanced Performance of Push Rods in Hybrid Vehicles

Wang Ryeol Kim, Sungbo Heo, and In-Wook Park

(KITECH)

TS04T_P_7

Mechanical Property of Cu-Cr Composites by a Spark Plasma Sintering

Yu-Gyun Park[1,2], Min-Hyeok Yang[1,2], Bum-Soon Park[1,2], Jeong-Han Lee[1], Jae-Cheol Park[1], and Hyun-Kuk Park[1]

([1]KITECH, [2]Chonnam National University)

TS04T_P_8

Thermal and Mechanical Property of Cu-Ti Composites as a Function of Ti Content by a Spark Plasma Sintering and Rolling Process

Min hyeok Yang[1,2], Bum soon Park[1,2], Yu gyun Park[1,2], Jeong han Lee[1], Jae cheol Park[1], and Hyun kuk Park[1]

([1]KITECH, [2]Chonnam National University)

[TS05] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
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TS05T_BP_1

Enhanced Cryogenic Tensile Properties of Additive Manufacturing STS316L Steel using Nano-Oxide Dispersion of Reusable Powder

Cho Hyeon Lee[1], Won Hui Jo[1], Tiwari Saurabh[1], Jung Gi Kim[1], Hyoung Seop Kim[2], and Jae Bok Seol[1]

([1]Gyeongsang National University, [2]POSTECH)

TS05T_BP_2

Influence of Direct Energy Deposition Manufacturing Parameters on the Printability, Microstructure, and Mechanical Properties of Medium-Mn Steels

Won Hui Jo[1], Cho Hyeon Lee[1], Tiwari Saurabh[1], In Seon Kim[2], Hyun Joong Kim[2], Sung Jae Jo[2], Jung Gi Kim[1], Hyokyung Sung[3], Soon Jik Hong[2], and Jae Bok Seol[1]

([1]Gyeongsang National University, [2]Kongju National University, [3]Kookmin University)

TS05T_BP_3

Controlling Heterogeneity of Ni Based Super Alloy and Austenitic Steel Interface by Functionally Gradient Method using Gas Atmosphere Alteration

Seong Gyu Chung, Seung Hoon Lee, Omer Cakmak, Hwasung Yeom, and Jung Wook Cho

(POSTECH)

TS05T_BP_4

Fabrication of Ti-Zr-Nb Based Composite Part using Laser Powder Directed Energy Deposition

Wonjong Jeong and Hojin Ryu

(KAIST)

TS05T_BP_5

Microstructure and Mechanical Properties of ECAP Processed High Mn Steel under Different Temperature

Young Hoon Jung[1], Beom Joon Kim[1], Hyeonseok Kwon[2], M. Abramova[3], Hyoung Seop Kim[2], N. Enikeev[3,4], and Jung Gi Kim[1]

([1]Gyeongsang National University, [2]POSTECH, [3]UST, [4]Saint Petersburg State University)

TS05T_BP_6

Effect of Heat Treatment Condition on the Mechanical Properties of Laser Powder Bed Fusion-Processed 18Ni300 Maraging Steel

Gun Woo No, Jonghyun Jung, Jae Bok Seol, and Jung Gi Kim

(Gyeongsang National University)

TS05T_BP_7

Correlation between Defects and PBTI, NBTI Stress Instability in Amorphous n- and Polycrystalline p-Type Thin-Film Transistors Plane under Hydrogen Ion irradiation Conditions

Junho Noh and Byoungdeog Choi

(Sungkyunkwan University)

TS05T_BP_8

Additive Manufacturing of Nitride and Oxide Dispersion Strengthened Fe12Cr6Al Alloys

Omer Cakmak and Jung Wook Cho

(POSTECH)

TS05T_BP_9

Prediction of Evaporation in Multi-Component Melt Pool during Additive Manufacturing Process

Matae Lee and Byeong-Joo Lee

(POSTECH)

TS05T_BP_10

Analysis of Microstructure and Ductile-Brittle Transition Behavior of SUS316L Material Manufactured by L-PBF in the Charpy Impact Test

Tae Hyeong Kim[1], Jun Seok Lee[1], Haeum Park[2], Jeong Min Park[2], and Jae Wung Bae[1]

([1]Pukyong National University, [2]KIMS)

TS05T_BP_11

Development of Bimodal Nanoporous TiZrHfNbTaNi High-Entropy Alloy using Liquid Metal Dealloying

Jaehyuk Lee[1], Soovin Ha[1], Jihye Seong[1], Jee Eun Jang[2], Seong Hyuk Park[2], Hidemi Kato[3], and Soo-Hyun Joo[1]

([1]Dankook University, [2]Kyungpook National University, [3]Tohoku University)

TS05T_BP_12

Surface Heterostructuring of Laser-Clad 316L Stainless Steel through Texture-Driven Deformation Twinning

Jeong Min Lee[1], Rae Eon Kim[2], Hyoung Seop Kim[2], and Jongun Moon[1]

([1]Kongju National University, [2]POSTECH)

TS05T_BP_13

Development of 3D Interconnected Heterogeneous High-Entropy Alloys via Liquid Metal Dealloying with CoCrFeMnNi Precursor and Pure Cu Melt

MunSu Choi[1], GangHee Gu[2], YongSeok Choi[1], JongUn Moon[3], SeungJeon Han[4], HyoungSeop Kim[2], Hidemi Kato[5], and SooHyun Joo[1]

([1]Dankook University, [2]POSTECH, [3]Kongju National University, [4]KIMS, [5]Tohoku University)

TS05T_BP_14

Ultra-Low Temperature Tensile Behavior of Additively Manufactured 316L Stainless Steel

Haeum Park[1,2], Heechan Jung[2], Min Young Sung[2], Young-Kyun Kim[1], Kyung Tae Kim[1], Jeong Min Park[1], and Seok Su Sohn[2]

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

TS05T_BP_15

Comparative Study on Nanoparticle-Added Composites as Sacrificial Thermal Protective Materials

Junyoung Lee and Sanghyuk Yum

(KOREATECH)

TS05T_BP_16

Optimized Post-Processing of High Performance Doped Reduced Graphene Oxide Reinforced Magnesium-Based Matrix Nanocomposites

Adinda Rosadi, Tae Yeong Kong, Cheolhyeon Lee, and Ho Jin Ryu

(KAIST)

TS05T_BP_17

The Effect of Surface Modification for Improved Stability of Ni-Rich NCM Cathodes in Air and Moisture

Seunghyoen Lee, Changdae Im, Jongyeop Choi, and Seunghoon Nam

(Myongji University)

TS05T_BP_18

The Role of Intercritical Annealing Temperature on Tensile Properties and Impact Toughness in an Fe-Mn-Si-C-Based TRIP-Assisted Steels

Chang-Gon Jeong[1], T.T.T. Trang[1], Young Yoon Woo[2], Eun Yoo Yoon[2], Youngseon Lee[2], and Yoon-Uk Heo[1]

([1]POSTECH, [2]KIMS)

TS05T_BP_19

Effect of Chemically Heterogeneous Microstructure on Hydrogen Embrittlement in Martensitic Steel

Ho Hyeong Lee[1], Ki-Taek Jung[2], and Dong-Woo Suh[1]

([1]POSTECH, [2]POSCO)

TS05T_BP_20

The Impact of Initial Microstructure on the Yield Strength in Nb-Ti Added Cold-Rolled Steel

Seok-Hwan Hong[1], Ji Hoon Kim[2], and Dong-Woo Suh[1]

([1]POSTECH, [2]Tohoku University)

TS05T_BP_21

Additive Manufacturing of Aluminum Alloy by Addition of Micro-Reinforcement Particles

Hyeongseob Kim, Wonjong Jeong, and Hojin Ryu

(KAIST)

TS05T_BP_22

Development of Co-Free High Entropy Alloys Strengthened by Coherent $L1_2$ Precipitates Showing Suppressed Mechanical Instability at Cryogenic Temperatures

Jun Seok Lee, Tae Hyeong Kim, and Jae Wung Bae

(Pukyong National University)

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[TS05] Poster Session 2

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Place	Exhibition Hall 4,5

TS05T_P_1

Strengthening the Additively Manufactured NiCoCrC Medium Entropy Alloy through Controlling Nano-Sized Precipitation and Sub-Cell Structure

So-Yeon Park[1], Soo-Bin Kim[1], Ji-Eun Ahn[1], Young-Kyun Kim[1,2], and Kee-Ahn Lee[1]
([1]Inha University, [2]KIMS)

TS05T_P_2

High Temperature Corrosion Behavior of Pure Nickel in NaCl-$MgCl_2$ Molten Salt at 600 °C

Lee Won Chan[1], Nam Seung Ju[1], Ko Uijun[1], Park jin woong[1], Hwang Seong Sik[2], Jeon Soon Hyeok[2], Yoon Jihyun[2], and Kim Jeoung Han[1]
([1]Hanbat National University, [2]KAERI)

TS05T_P_3

Application of the Radial Distribution Function for Analyzing the Uniformity of Neutron Absorbers

Junhyun Kwon, Sun-Young Park, Hyung-Ha Jin, and Young-Bum Chun
(KAERI)

TS05T_P_4

Ti-Gd Alloys with Superior Neutron Absorbing Capability and Structural Function

Do Haeng Hur, Ji-Hoon Kang, and Young-Bum Chun
(KAERI)

TS05T_P_5

Cu-B Neutron Absorber with High Thermal Conductivity for Spent Nuclear Fuel Storage Applications

Young-Bum Chun and Ji-Hoon Kang
(KAERI)

TS05T_P_6

Removal of Radioactive Elements using Transition Metal Carbide Based Nanomaterials

Changhyun Roh[1,2], Sion Kim[1,2], Sujung Min[1], and Sang Bum Hong[1]
([1]KAERI, [2]UST)

TS05T_P_7

Nano-Scale Co-Precipitation Mechanism in Al–Si–Mg Alloys

Saif Haider Kayani, Sang-Ik Lee, Yoon-Ho Lee, Jung-Moo Lee, Kwangjun Euh, and Young Hee Cho
(KIMS)

[TS06] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS06T_BP_1

Rational Design of a Mobile Fiber System Integrated nIR Fluorescent Sensors for Chemical Production On-Site Monitoring

Damee Koh, Youngwook Cho, Nahyeon Kim, and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_2

Rational Design of nIR Fluorescent Nanosensor Array for Multivariate Cellular Products Monitoring

YoungWook Cho and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_3

Integration of nIR Fluorescent Nanosensor 3D Micropatch for Molecular Recognition in Infinitesimal Volume Biofluids

Seyoung Shin, Yeon Soo Lee, Changhyun Pang, and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_4

Multivariate Analysis of ROS Production Kinetics using Molecular Recognitions of nIR Fluorescent Nanosensors

Nahyeon Kim, Damee Koh, and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_5

Deep Learning-Integrated Single-Cell Image Cytometry for Precision Evaluation of Therapeutic Efficacy in Lymphoma Patients

Seongcheol Park, Youngho Song, Changyu Tian, Sang Eun Yoon, and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_6

Machine Learning Integrated Fluroescent Nanosensors Provide Enhanced Sensitivity for Heavy Metals Detection

Changyu Tian, Yullim Lee, and Sooyeon Cho

(Sungkyunkwan University)

TS06T_BP_7

Nanosensor Chemical Cytometry to Reveal Aging Heterogeneity in Dermal Fibroblast Populations

Youngho Song, Changyu Tian, Seongcheol Park, Changi Baek, and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_8

Memristor-Based pH Sensor for Application in an Artificial Gustatory System

Da Ye Kim, June Soo Kim, Hyunjun Kim, Noah Jang, Yujin Nam, Maeum Han, and Seong Ho Kong

(Kyungpook National University)

TS06T_BP_9

Lab-on-a-Chip Based Pump-Less Nanofluidic Resistive Pulse Sensing Platform for Rapid Liquid Biopsy

Hyunjun Kim, June Soo Kim, Noah Jang, Da Ye Kim, Yujin Nam, Maeum Han, and Seong Ho Kong

(Kyungpook National University)

TS06T_BP_10

Vacancy Modulated Memristive Gas Sensor for Selective Gas Detection for Exhaled Breath Analysis

June Soo Kim, Maeum Han, Hyunjun Kim, Da Ye Kim, Noah Jang, Yujin Nam, and Seong Ho Kong

(Kyungpook National University)

TS06T_BP_11

3D-Printed Flexible Pressure Sensors for Bio-Signal Monitoring Applications

Hyeon Yun Jeong, Soo Wan Kim, Hyeon Beom Kim, Jeong Beom Ko, and Sung Hyun Park

(KITECH)

TS06T_BP_12

Development of CNT-MOF Composite with Increased Acidity for Chemiresistive Ammonia Detection

Se-Hong Park, Yeon-Joo Kim, Ga-Yeon Baek, Seung-Ho Choi, Jae-Woo Seo, and Seon Jin Choi

(Hanyang University)

TS06T_BP_13

Rapid Detection of Circulating Tumor DNA using nIR Fluorescent Single Walled Carbon Nanotube by Oligonucleotide Hybridization

SeungJu Lee and Soo-Yeon Cho

(Sungkyunkwan University)

TS06T_BP_14

PEG-Lipid Wrapped nIR Fluroescent SWCNT for Antibody-Free Virus Identifications using 3D Corona Interfaces

Yullim Lee[1], Woojin Kim[2], Yongjoo Kim[2], and Sooyeon Cho[1]

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

TS06T_BP_15

Excitation Wavelength Optimization of Europium Doped Carbon Dots (Eu-CDs) for Highly Selective and Sensitive Detection of Tetracycline

Aigerim Babenova, Kamila Zhumanova, and Timur Atabaev

(Nazarbayev University)

TS06T_BP_16

Development of Visible-NIR Responsive Nanoporous Morphology on Large-Scale IGZO and Realization of High-Performance Image Sensor

Jaeseong Kim, Anamika Sen, Siyun Lee, and Sunkook Kim

(Sungkyunkwan University)

TS06T_BP_17

Development of Zero-Dimensional Lead-Free Metal Halide Indirect Type X-Ray Imaging Detector Suitable for Extreme Environments

Joo Hyeong Han and Won Bin Im

(Hanyang University)

TS06T_BP_18

Multifunctional Thermoelectric-Based Sensor Systems using a Highly Crystalline, Transferable Copper Sulfide Membrane

Myungwoo Choi[1], Geonhee Lee[2], Yea-Lee Lee[2], Hosun Shin[3], Seokwoo Jeon[1], Jeong-O Lee[2], and Donghwi Cho[2]

([1]Korea University, [2]KRICT, [3]KRISS)

TS06T_BP_19

Stabilization of Single-Atom Catalyst on Metal Oxide Derived by Dual Ligand Metal Hydroxide-Organic Frameworks

Sungyoon Woo and Il-Doo Kim

(KAIST)

TS06T_BP_20

Hybrid Structure of Metal Oxide and Metal-Organic Framework for Enhanced Selectivity of Chemiresistive Sensor via Unique Top-Down Lithography

Hyewon Jeon, Jaedong Jang, Hohyung Kang, and Hee-Tae Jung

(KAIST)

TS06T_BP_21

Unveiling the Potential of Hydrogen-Substituted Graphdiyne for Fast and Reversible Gas Sensing Capability

Hohyung Kang[1], Yoon Tae Nam[1], Sanggyu Chong[1], Jihan Kim[1], Soo-Yeon Cho[2], and Hee Tae Jun[1]

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

TS06T_BP_22

Semi-Automated Preparation of ssDNA-Wrapped SWCNTs Dispersions for Consistent Sensor Performance

Jaewon Chang, Sanghwa Jeong, Yeongjoo Suh, and Seonghyeon An

(Pusan National University)

TS06T_BP_23

Atomic Layer Modified 3D Pd Nanochannels for High-Performance H2 Sensor

Ahyeon Cho[1], Hojin Kang[2], Hee-Tae Jung[1], and Soo-Yeon Cho[2]

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

TS06T_BP_24

Ultrasensitive and Highly Selective Heterostructured Chemiresistive Sensor for Diethyl Carbonate Leakage in a Lithium-Ion Battery

Seunguk Son, Hohyung Kang, Hayeon Kim, and Hee-Tae Jung

(KAIST)

TS06T_BP_25

Electrochemical Sensor Integrated Smart Contact Lens for Continuous Cortisol Monitoring

Minyeong Yoon[1,2,3], Seung-Rok Kim[2,3], Yullim Lee[1,2], Soo-Yeon Cho[1], and Ali Javey[2,3]

([1]Sungkyunkwan University, [2]University of California at Berkeley, [3]Lawrence Berkeley National Laboratory)

TS06T_BP_26

Quantitative Detecting Methodology for Identifying Poorly Soluble Molecules in Microparticles

Yuri Nam and Chan Ho Park

(Gachon University)

TS06T_BP_27

$Mo_2TiC_2T_x$ MXene/Polyaniline Nanocomposite for Highly Selective NH_3 Sensing at Room Temperature and Humid Environment

Juyun Lee[1,2] and Seon Joon Kim[1]

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

TS06T_BP_28

Neutral pH-Sensitive Polymer Chains as a Powerful Building Block for Next-Generation Sensors

Min Kyeong Pyo and Chan Ho Park

(Gachon University)

[TS06] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS06T_P_1

Enhancing Infrared Performance of Two-Dimensional Tin Monoselenide Photodetectors through Tellurium Doping

Do Hyung Lee[1,2], Hyeong-ku Jo[1,2], Min Hyeok Lim[1], Garam Bae[1], YeongMin Kwon[1], and Wooseok Song[1]
([1]KRICT, [2]Sungkyunkwan University)

TS06T_P_2

Development of Wavelength-Selective Prefabricated 2D photodetector using Up-Conversion Particle

Hyeongku Jo, Dohyung Lee, Yeong Min Kwon, Da Som Song, Minhuk Lim, and Wooseok Song
(KRICT)

TS06T_P_3

Performance-Based Evolution of Serotonin Optical Nanosensor from Random ssDNA-SWCNT Constructs

Nguyen Tri Tuan and Sanghwa Jeong
(Pusan National University)

[TS07] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS07T_BP_1

Development of Cell-Derived Extracellular Matrix (CD-ECM) Bioink for Tissue Regeneration

Utami Siwi Setya[1,2], Yeong-Jin Choi[2], and Hui-Suk Yun[1,2]

([1]UST, [2]KIMS)

TS07T_BP_2

Single-Walled Carbon Nanotube Nanocarrier for Genetic Materials Delivery as a Microspore Engineering Tool

Hyuna Kwak[1], Hyun Soo Kwon[1], Hye Won Beak[1], Min Jeong Lee[1], Woo Jin Jeong[1], Byung Cheol Kang[1], Eun Young Yang[2], Jin Hee Kim[2], Hyeran Kim[3], and Seonyeong Kwak[1]

([1]Seoul National University, [2]National Institute Horticultural and Herbal Science, [3]Kangwon National University)

TS07T_BP_3

Cell-Interfacing Lipid Nanotablet for Cell Membrane Protein Analysis

So Young Choi, Young Suk Yu, Eunhye Park, Sunge Hee Baek, and Jwa-Min Nam

(Seoul National University)

TS07T_BP_4

A Novel Scandium-Doped Aluminum Nitride System for Enhanced Measurement of Muscle Tissue Contractility

Byunggik Kim[1], YoungIl Kim[2], Sungmin Hong[2], and Deok-Ho Kim[1]

([1]Johns Hopkins University, [2]KETI)

TS07T_BP_5

Visible Light-Induced ConA Binding Au/ZnO Bimetallic Nanoparticles with Enhanced Antibacterial Properties

Khongorzul Enkhtaivan[1], Jang Jaehee[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Gahyun Lee[1], Seongeun Park[1], Hyejun Ko[1], Yerin Jang[1], Jihyuk Yang[1], Yonghyun Choi[1,2], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_6

Highly Sensitive Encoded Hydrogel Microparticle-Based Multiplex Immunoassay using Tyramide Signal Amplification

Young Hee Kim, Jun Hee Choi, Yong Jun Lim, Jiwoo Kim, and Ki Wan Bong

(Korea University)

TS07T_BP_7

Enhanced Fouling Resistance for Multiplex Immunoassays using Phosphorylcholine-Based Encoded Hydrogel Microparticles

Yoon Ho Roh, Jiae Seo, Ju Yeon Kim, Hyeon Ung Kim, Seok Joon Mun, So Jung Oh, Ji-Hun Seo, and Ki Wan Bong

(Korea University)

TS07T_BP_8

Immunotherapy and Photothermal Therapy using SNA/Man Conjugated Gold Nanorod (AuNR) on Pancreatic Cancer

Hyejun Ko[1], Jaehee Jang[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Khongorzul Enkhtaivan[1], Gahyun Lee[1], Seongeun Park[1], Jihyuk Yang[1], Yerin Jang[1], Younghyun Choi[1,2], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_9

Ag/Cu/ZnO Tri-metal Nanoparticles Synthesis on Mesoporous Silica Nanoparticle for Enhanced Antibacterial Function and Safety

Seongeun Park[1], Yonghyun Choi[1,2], Jaehee Jang[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Gahyun Lee[1], Khongorzul Enkhtaivan[1], Hyejun Ko[1], Yerin Jang[1], Jihyuk Yang[1], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_10

Engineering CD73 Antibody-Modified Oxygen Liposome for Reversal of Adenosine-Rich Tumor Microenvironment

Yerin Jang[1], Jaehee Jang[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Khongorzul Enkhtaivan[1], Gahyun Lee[1], Seongeun Park[1], Hyejun Ko[1], Jihyuk Yang[1], Yonghyun Choi[1,2], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_11

Antibacterial Bicontinuous Zinc Oxide Nanostructure for Wound Infection Treatment

Jiwon Kim[1], Jaehee Jang[1], Seongeun Park[1], Gahyun Lee[1], Mark-Jefferson Buer Boyetey[1], Jihyuk Yang[1], Hyejun Ko[1], Yerin Jang[1], Khongorzul Enkhtaivan[1], Yonghyun Choi[1,2], Daeyeon Lee[3], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology, [3]University of Pennsylvania)

TS07T_BP_12

Drug and Oxygen Co-Delivery to Tumor Micro-Environment through Targeted Oxygen Nanosomes

Gahyun Lee[1], Yonghyun Choi[1,2], Jaehee Jang[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Seongeun Park[1], Khongorzul Enkhtaivan[1], Hyejun Ko[1], Yerin Jang[1], Jihyuk Yang[1], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_13

Development of Bimetal-Carbon Nanocomplex for Wound Healing Applications

Jaehee Jang[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Khongorzul Enkhtaivan[1], Gahyun Lee[1], Seongeun Park[1], Jihyuk Yang[1], Hyejun Ko[1], Yerin Jang[1], Younghyun Choi[1,2], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_14

Development of Polyaniline/ Graphene Nanocomposite-Based Wearable pH Sensor

Seo Jin Kim[1], Bong Gill Choi[2], Kyoung G. Lee[3], and Oh Seok Kwon[1]

([1]Sungkyunkwan University, [2]Kangwon National University, [3]NNFC)

TS07T_BP_15

Real-Time Response Photonic Crystal Patch for Inflammation Recovery of Excisional Wound

Yonghoe Koo and Jinmyoung Joo

(UNIST)

TS07T_BP_16

Biodistribution Assessment of Radio-labeded Extracellular Vehicles Following Various Routes of Administration

Kyuwan Kim[1], Ran Ji Yoo[1,2], Changjin Lee[3], Minseok Suh[2], Kyo Chul Lee[4], Yong Jin Lee[4], Young Ju Kim[1], Yun-Sang Lee[1,2], Yong Song Gho[5], and Dong Soo Lee[1,5]

([1]Seoul National University College of Medicine, [2]Seoul National University Hospital, [3]SL BIGEN. Co., Ltd., [4]KIRAMS, [5]POSTECH)

TS07T_BP_17

Liposomal Nanocarrier with pH Sensitivity for Restoring the Tumor Vasculature and Transforming the Tumor Microenvironment via Oxygen Delivery

Mark-Jefferson Buer Boyetey[1], Younghyun Choi[1,2], Jiwon Kim[1], Jaehee Jang[1], Khongorzul Enkhtaivan[1], Gahyun Lee[1], Seongeun Park[1], Hyejun Ko[1], Yerin Jang[1], Jihyuk Yang[1], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_18

PSA Lectin Conjugated PS and Silica Nanoparticles for Glycan Specific Pancreatic Cancer Targeting

Jihyuk Yang[1], Yonghyun Choi[1,2], Jaehee Jang[1], Jiwon Kim[1], Mark-Jefferson Buer Boyetey[1], Gahyun Lee[1], Seongeun Park[1], Khongorzul Enkhtaivan[1], Hyejun Ko[1], Yerin Jang[1], and Jonghoon Choi[1,2]

([1]Chung-Ang University, [2]Feynman Institute of Technology)

TS07T_BP_19

Exploiting Porous Silicon Nanoparticle and HIF-2a Inhibitor for Inducing Immunogenic Cell Death in Merkel Cell Carcinoma

Juyoung Seong and Jinmyoung Joo

(UNIST)

[TS07] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS07T_P_1

Amplification-free Detection of Monkeypox Virus using Multiple crRNA Based Cas12a Biosensors

Hyowon Jang and Taejoon Kang

(KAIST)

TS07T_P_2

Kirigami-Structured Stretchable Microsupercapacitors Array with MnO_2/V_2O_5 Nanocomposites

Seung Kyu Kim, Hee Uk Lee, and Bong Guen Chung

(Sogang University)

TS07T_P_3

Development of an Integrated Device for Direct Microdroplet Generation

Daekyeong Jung, Donggee Rho, Yoomin Park, Namho Bae, Moonkeun Lee, Taejae Lee, Sukjae Lee, and Kyoung G. Lee

(NNFC)

TS07T_P_4

Multifunctional Self-Priming Hairpin Probe-Based Isothermal Nucleic Acid Amplification for COVID-19 Diagnosis

Hansol Kim[1,2], Hyun Gyu Park[1], and Taejoon Kang[2]

([1]KAIST, [2]KRIBB)

TS07T_P_5

On-Site Pathogen Detection Enabled by Nanotopology for Managing Atopic Dermatitis

Jueun Kim[1], Booseok Jeong[2], Yoo Min Park[3], Donggee Rho[3], Seok Jae Lee[3], Sung Gap Im[2], Kyoung G. Lee[3], and Bong Gill Choi[1]

([1]Kangwon National University, [2]KAIST, [3]NNFC)

TS07T_P_6

Evaluation of Size-Dependent Uptake and Cytotoxicity of Polystyrene Microplastic in a Blood-Brain Barrier (BBB) Mode

Yeongseon Cho and Hong Nam Kim

(KIST)

TS07T_P_7

Fabrication of an Advanced Aging Model and Research on Aging Mechanisms through Induction of Aging in the Blood-brain Barrier (BBB)

Eun U Seo[1,2] and Hong Nam Kim[1,2]

([1]UST, [2]KIST)

TS07T_P_8

Graphene Field-Effect Transistors for the Rapid Identification and Surveillance of Cyanobacterial Harmful Algal Blooms

Jae Hyeon Kim and Oh Seok Kwon

(Sungkyunkwan University)

TS07T_P_9

Receptonics-Driven Approach for Rapid, Simultaneous Detection of Respiratory Virus Variants through Receptor-Ligand Dynamics

Jung In Kim and Oh Seok Kwon

(Sungkyunkwan University)

TS07T_P_10

Ultrastable Biosensors based on Covalent Bond between N-Heterocyclic Carbene and Graphene Nanotransistor

Kyung Ho Kim and Oh Seok Kwon

(Sungkyunkwan University)

TS07T_P_11

Reusable Electronic Tongue based on TRPV1 Based GFET through Ultra Stable Organic Chemistry for Pain Evaluation

Sung Eun Seo and Oh Seok Kwon

(Sungkyunkwan University)

TS07T_P_12

In vitro 3D Unidirectional Cerebral Region Circuit Analytic Platform for Brain Inflammation

Kyeong Seob Hwang[1], Hyun Wook Kang[1,3], Minjin Kan[1], Nakwon Choi[1], Jongbaeg Kim[2], and Hong Nam Kim[1]

([1]KIST, [2]Yonsei University, [3]Korea University)

TS07T_P_13

Colorimetric Immunoassay via Precipitation in Hydrogel Particles for Prognosis Preeclampsia

Yoon Ho Roh[1], Hyun Jee Lee[1], Ju Yeon Kim[1], Hyeon Ung Kim[1], Sun Min Kim[2], Ji Won Byun[1], and Ki Wan Bong[1]

([1]Korea University, [2]Seoul National University Borame Medical Center)

TS07T_P_14

An Analysis of Colloidal Droplet Evaporation Behavior and Particle Aggregation on Porous Micropatterned Surfaces

Yoo Joo Han, Woo Young Kim, Seok Kim, and Young Tae Cho

(Changwon National University)

NANO KOREA 2024 Symposium

[TS08] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS08T_BP_1

Tri-Achiral Buckling Sensors for Continuous Monitoring of Pressure and Shear Forces via Convolutional Neural Networks

Yoorim Loh[1], Younghan Kim[1], Dongjin Lee[1], Sangwon Kim[1], Namhyeong Lee[1], Seongju Lee[1], Hakyoung Lee[1], Hyeonseok Han[2], Seokjoo Cho[2], Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_2

Real-Time Visualization of Multiple Signals Collected from Wireless Sensors in Virtual Environments

Hakyoung Lee[1], Seongju Lee[1], Yoorim Loh[1], Sangwon Kim[1], Namhyeong Lee[1], Younghan Kim[1], Dongjin Lee[1], Hyeonseok Han[2], Seokjoo Cho[2], Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_3

Development of Core Technology for Ultra-Miniaturized Multimodal Sensor based on Cantilever Beam

Nam Hyeong Lee[1], Dong Jin Lee[1], Sangwon Kim[1], Younghan Kim[1], Yoorim Loh[1], Seongju Lee[1], Hagyoung Lee[1], Hyeonseok Han[2], Seokjoo Cho[2], Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_4

Wireless, Battery-Free Optoelectronic Pressure Sensor based on a Thin and Porous Film

Sang Won Kim[1], Dongjin Lee[1], Younghan Kim[1], Namhyeong Le[1], Yoorim Loh[1], Seongju Lee[1], Hakyoung Lee[1], Hyeonseok Han[2], Seokjoo Cho[2], Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_5

Battery-Free, Wireless Optoelectronic Sensor for Measuring Hydration using a Thin, Patterned Hydrogel Film

Seongju Lee[1], Younghan Kim[1], Yoorim Loh[1], Dongjin Lee[1], Sangwon Kim[1], Namhyeong Lee[1], Hakyoung Lee[1], Hyeonseok Han[2], Seokjoo Cho[2], Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_6

Closed-Loop System based on Wireless Sensor and Robotic Bed for Pressure Relief

Dong Jin Lee[1], Nam Hyeong Lee[1], Sangwon Kim[1], Younghan Kim[1], Yoorim Loh[1], Seongju Lee[1], Hagyoung Lee[1], Hyeonseok Han[2], Seokjoo Cho, Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_7

Fully Integrated Wireless Neural Recorder for Studying Instinctive Behaviours in Primates

Saehyuck Oh, Janghwan Jekal, and Kyung-In Jang

(DGIST)

TS08T_BP_8

Development of a Shear Sensor Utilizing Mechanical Deformation of Serpentine Structure

Younghan Kim[1], Yoorim Loh[1], Dongjin Lee[1], Sang Won Kim[1], Nam Hyeong Lee[1], Seongju Lee[1], Hakyoung Lee[1], Hyeonseok Han[2], Seokjoo Cho[2], Inkyu Park[2], and Yong Suk Oh[1]

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

TS08T_BP_9

Scalable Crack-Based Strain Sensor Array on Skin Adhesives with Cost-Effective Metals

Chaeyoung Kang[1], Hyoungyoun Lee[2], and Hanwool Yeon[1]

([1]GIST, [2]Chonnam National University)

TS08T_BP_10

A Breathable and Stretchable Temperature Sensor using Partially Reduced Graphene Oxide and Mesh-Shaped Textile Substrate for Human Health Monitoring

Hyun Jin Kang and Jung Woo Lee

(Pusan National University)

TS08T_BP_11

Cyclic Mechanical Stimulus Regulates Mechanotransduction of Smooth- and Skeletal-Muscle Cells

Geon-Woo Kim and Junmin Lee

(POSTECH)

TS08T_BP_12

Fabrication of Layer Engineered MXene Based Resistance Pressure Sensors for Healthcare Monitoring

Jeong Eun Byun[1], Debananda Mohapatra[2], Soo-Hyun Kim[2], and Jung Woo Lee[1]

([1]Pusan National University, [2]UNIST)

TS08T_BP_13

Enhancing Plant Physiology Monitoring with Hydrogel Microneedle-Based Electrodes

Geonho Lee and Junmin Lee

(POSTECH)

TS08T_BP_14

Nucleic Acid Detection with Single-Base Specificity Integrating Isothermal Amplification with Light-Up Aptamer Probes

Jaekyun Baek and Youngeun Kim

(Seoul National University)

TS08T_BP_15

Rapid, Multiplexable Nucleic Acid-Based Paper Sensors (Building Easy-to-use DNA Paper Sensors for Encoding/Decoding Information)

HyunBin Lee and Youngeun Kim

(Seoul National University)

TS08T_BP_16

Ion Transport Promoter for Wearable Applications of Stretchable Poly(Ionic Liquid)-Based Organic Synaptic Transistors

Seung-Woo Lee, Kwan-Nyeong Kim, and Tae-Woo Lee

(Seoul National University)

TS08T_BP_17

Biodegradable Magnesium Coatings for Promoting Nerve Regeneration in Healthcare Applications

Hyewon Kim[1,2], Hyeok Kim[1], Sunhee Lee[1], Ji-Young Lee[1,3], Seongchan Kim[1], Hyojin Lee[1], Hojeong Jeon[1,2], Myoung-Ryul OK[1,3], Hyung-Seop Han[1], Seok Chung[2], and Yu-Chan Kim[1,3]

([1]KIST, [2]Korea University, [3]UST)

TS08T_BP_18

Lubricant-Infused Organic Multilayer Encapsulations for Implantable Bioelectronic Devices

Sangwoo Park, Kijun Park, and Jungmok Seo

(Yonsei University)

[TS09] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS09T_BP_1

Radiation-Induced Drug Release via Hyaluronic Acid Based Double Drug Loaded Nanoparticles for Cancer Treatment

Woo Hyun Kwon[1,2], GeumByeol Park[1], Sang Jun Park[1], Chun-Ho Kim[1], and Jun Shik Choi[1]

([1]KIRAMS, [2]Yonsei University)

TS09T_BP_3

Ginseng-Derived Nanovesicles Promote Osteoblast Differentiation and Mineralization

Sang-Hoon Lee, Hyun-Ju Seo, and Young-Eun Cho

(Andong National University)

TS09T_BP_5

Utility of Edible Plant-Derived Exosome-Like Nanovesicles as a Novel Delivery Platform for the Vaccine Development

Yu-Seong Park, Sang-Hoon Lee, and Young-Eun Cho

(Andong National University)

TS09T_BP_6

Development of SPION and Dox-Loaded Nanoparticles for Targeted Cancer Treatment under PEMF Activation

Jaehoon Ko, Yoonho Hwang, Hyeyoun Cho, Seonmin Choi, and Jaehong Key

(Yonsei University)

TS09T_BP_7

Advanced PLGA-Based Discoidal Polymeric Particles for Enhanced Nintedanib Delivery in Idiopathic Pulmonary Fibrosis Therapy

Hyeyoun Cho, Seonmin Choi, Yoonho Hwang, Jaehoon Ko, Sanghyo Park, and Jaehong Key

(Yonsei University)

[TS10] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS10T_BP_1

Enhanced Memory Window in MIFIS-FeFET using Si_3N_4 Charge Injection Layer

Hyo Jin Ahn, Hyun Jin Lim, Sang Kuk Han, Hyeong Jun Kim, Jihyeon Sim, Kisub Kim, Yoon Ji Kim, and Changhwan Choi

(Hanyang University)

TS10T_BP_2

Nonreciprocal Multimode Phonon Transfer in Microwave Optomechanical System at Room Temperature

Mungyeong Jeong and Junho Suh

(POSTECH)

TS10T_BP_3

One-Dimensional WO_x-Based Physical Reservoir Computing for Wearable Neuromorphic Applications

H. Shin[1], H. Cho[1], D. H. Kim[2], T. W. Kim[2], and G. Wang[1]

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

TS10T_BP_4

Reliable, Secure, and Energy-Efficient Physical Unclonable Functions via Dynamic Dewetting Process

Gwangsik Mun, Yeongin Cho, Hanhwi Jang, Jeongsu Pyeon, Hyoungsoo Kim, and Yeon Sik Jung

(KAIST)

TS10T_BP_5

Boron-Doped Carbon Nanotubes: Field Emission Applications Explored through Density Functional Theory and Experimental Analysis

Syed Muhammad Zain Mehdi, Jeung Choon Goak, and Naesung Lee

(Sejong University)

TS10T_BP_6

16x16 Active-Matrix Thermal Sensor Array using IGZO Thin-Film Transistor

Hyunsoo Kim, Hyerin Jo, and Hongseok Oh

(Soongsil University)

TS10T_BP_7

FN Tunneling Properties of A-BN and its Application to Synaptic Transistors

Won Suk Oh, Hwaseon Jo, Jaegoo Lee, and Hongseok Oh

(Soongsil University)

TS10T_BP_8

Exploring the Effect of Metal Silicides on Adhesion Strength and Field Emission Performance of CNT Field Emitters: A Study on Ni_2Si and Fe_2NiSi

Sayed Zafar Abbas and Naesung Lee

(Sejong University)

TS10T_BP_9

Investigation of Channel Thickness and Low-Frequency Noise Modulation via Substrate-Biasing of Double-Gated Multilayer MoS_2 Field-Effect Transistors with h-BN Dielectrics

Jimin Park[1,2], Junho Nam[1], Jangyup Son[1], Dae-Young Jeon[3], Seong Heon Kim[2], and Dong Su Lee[1]

([1]KIST, [2]Jeonbuk National University, [3]Gyeongsang National University)

TS10T_BP_10

CNTs Field Emitter with Exceptionally Stable Field Emission Performance by Improving Cohesion and Adhesion Strength through Metal Phosphide Formation

Jaewon Cho and Naesung Lee

(Sejong University)

[TS10] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS10T_P_1

Ultrahigh-Photocurrent Gain Photodetector based on 2D Materials/High Density Nanodot Array Hybrid Structure

Jiyeong Kim, Gwangtaek Oh, Jihoon Jeon, Sohwi Kim, and Bae Ho Park

(Konkuk University)

TS10T_P_2

Synaptic MoS_2 Transistors based on Charge Trapping Two-Dimensionally Confined in $Sr_{2-x}CoxNb_3O_{10}$ Nanosheets

DaYea Oh, Haena Yim, So Yeon Yoo, Gwangtaek Oh, Chansoo Yoon, Ji-Won Choi, and Bae Ho Park

(Konkuk University)

TS10T_P_3

Implementation of Threshold- and Memory-Switching Memristors based on Electrochemical Metallization in an Identical Ferroelectric Electrolyte

Chansoo Yoon and Bae Ho Park

(Konkuk University)

TS10T_P_4

Vertical Floating Gate Memristor Array with Diode Characteristics for Neuromorphic System Development

Sohyeon Park and Woojong Yu

(Sungkyunkwan University)

TS10T_P_5

Fabrication and Investigation of Graphene-Based Heterojunction Structures with Ferroelectric Materials for Enhanced Semiconductor Devices

Duk Hyun Lee, Jihoon Jeon, Dayea Oh, Woohyeon Ryu, and Bae Ho Park

(Konkuk University)

TS10T_P_6

Mixed-Dimensional Halide Perovskite QDs Synapses for Self-Rectifying and Luminous Artificial Neural Networks

Young Ran Park and Gunuk Wang
(Korea University)

TS10T_P_8

IGZO as a Resistive Switching Layer and its Non-Volatile Property

Hyongsuk Choo and Jin-Hong Park
(Sungkyunkwan University)

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[TS11] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS11T_BP_1

Simulating Luminal Gratings with Spatiotemporally Modulated Coupled Resonator Optical Waveguides

Minwook Kyung, Kyungmin Lee, Yung Kim, and Bumki Min

(KAIST)

TS11T_BP_2

Ultrafast Topological Phase Switching of Non-Hermitian Photonic System

Sangha Lee, Donghak Oh, Junho Park, Soojeong Baek, Fabian Rotermund, and Bumki Min

(KAIST)

TS11T_BP_3

Dynamic Terahertz Polarization Modulation through Fermi-Level Engineering in Graphene

Eunjin Hwang[1], Sodam Jeong[1], Dawoon Jo[1], Kyeongnam Park[1], Kwang-Seop Kim[1,2], Jaehyun Kim[1,2], and Hyeon-Don Kim[1,2]

([1]KIMM, [2]UST)

TS11T_BP_4

Fabrication of Metallic Metasurface Mirrors for Ultrahigh Definition OLED Displays via Nanotransfer Printing

Hyuk-Jun Kang[1,2], Joo-Yun Jung[2], Jun-Hyuk Choi[2], Jihye Lee[2], Jun-Ho Jeong[2], and Dae-Geun Choi[1,2]

([1]UST, [2]KIMM)

TS11T_BP_5

Elucidating Plasmon Damping Induced by Chemical and Metal Interface Damping Interplay on Single Ultrathin Pd Shell Gold Nanorods (AuNRs@Pd)

Metya Indah Firmanti and Ji Won Ha

(University of Ulsan)

TS11T_BP_6

Polarization-Dependent Plasmon Coupling in Gold Nanorod-Gold Nanosphere Core-Satellite Nanoassemblies

Ina Jeong, Seokhyun Yun, and Sangwoon Yoon

(Chung-Ang University)

TS11T_BP_7

Study on Fabricating 3D Pattern Molds for Drawing Lithography using the SPPW Process

Jun Ho Song, Seok Kim, and Young Tae Cho

(Changwon National University)

TS11T_BP_8

Morphology-Controllable Wrinkled Hierarchical Structure for Multifunctional Superhydrophobic Platform

Junseong Ahn[1], Inkyu Park[2], and Jun-Ho Jeong[3]

([1]Korea University, [2]KAIST, [3]KIMM)

TS11T_BP_9

Development of Piezo-Transmittive Mechanical Metamaterial for Self-Powered Strain Sensor

Junseong Ahn[1], Ji-Hwan Ha[2], Sohee Jeon[2], Inkyu Park[3], and Jun-Ho Jeong[2]

([1]Korea University, [2]KIMM, [3]KAIST)

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[TS11] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS11T_P_1

Lightweight Holographic Optical System for Augmented Reality Displays

Jinsoo Jeong, Byounghyo Lee, and Jisoo Hong
(KETI)

[TS12] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS12T_BP_1

Study of Dry Autothermal Reforming Process and Catalysts to Treat Flue Gases Directly

JinHee Lee[1], Tae-Jin Kang[1], Ji Hyeon Kim[1], Da-hye Lee[1], Byung Chan Kwon[2], No-kuk Park[2], and Suk-Hwan Kang[1]

([1]IAE, [2]Yeungnam University)

TS12T_BP_2

Sustainable Electrochemical Epoxidation by Metal-Porphyrin Catalysts

Sojin Kim, Dibya Yadav, Eunji Baek, and Kyoungsuk Jin

(Korea University)

TS12T_BP_3

Electrochemical Fluorination through Paired Electrolysis of Polytetrafluoroethylene Degradation

Eunjun Lee, Eunji Lim, and Kyoungsuk Jin

(Korea University)

TS12T_BP_4

Stretchability and Superior Electronic Property Achieved through Introduction of a Novel Double-Cable Polymer

Dasol Chung and Taiho Park

(POSTECH)

TS12T_BP_5

Cathode Designs for the Improved Performances of Next-Generation Aqueous Zinc-Iodine Battery

Yoongu Lim[1], Gyoung Hwa Jeong[1], Joon Young Kim[1], Dae Jun Moon[1], and Uk Sim[1,2,3]

([1]KENTECH, [2]NEEL Sciences, [3]Chonnam National University)

[TS12] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS12T_P_1

Rationally Designed Eco-Friendly Solvent System for High-Performance, Large-Area Perovskite Solar Cells and Modules

Yeonkyeong Ju, Nam Joong Jeon, and Young Yun Kim

(KRICT)

TS12T_P_2

Scalable Fabrication of High-Performance Perovskite Solar Modules and their Application to High Power Output Solar Rechargeable Batteries

So-Min Yoo, Se-Hee Kim, Jungdon Suk, Nam Joong Jeon, and Young Yun Kim

(KRICT)

TS12T_P_3

Hetero-Polytypic Perovskites for Efficient and Stable Perovskite Solar Cells

Hobeom Kim

(GIST)

TS12T_P_4

Self-Crystallized 2D Perovskites with Carbon Electrodes for Low Temperature Processed Perovskite Solar Cells

Hobeom Kim

(GIST)

TS12T_P_5

Optimization of CIGS Bandgap Grading for High Performance Perovskite/CIGS Tandem Solar Cell

Passarut Boonmongkolras[1,2], Hojin Lee[1], Jaehyuk Koh[1], Chaeyeon Kim[1], Gil Sang Han[2], and Byungha Shin[1]

([1]KAIST, [2]KRICT)

[TS13] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS13T_BP_1

Development of Nanoscale Pattern Production Technology using Machining and MEMS Process Convergence Technology

Hae In Hwang[1], In Ho Jo[1], Yeongeun Yoo[2], Yong Jun Oh[1], and Jeong Hwan Kim[1]

([1]Hanbat National University, [2]KIMM)

TS13T_BP_2

The Electrical, Magnetic, and Optical Properties of ZnO on Co Nano-Dot Template via Atomic Layer Deposition for Transparent Electronic Devices

Seung-Hun Lee[1], Sehwan Song[2], In Ho Jo[1], Sungkyun Park[2], Yeongeun Yoo[3], Yong Jun Oh[1], and Jeong Hwan Kim[1]

([1]Hanbat National University, [2]Pusan National University, [3]KIMM)

TS13T_BP_3

Inkjet-Printed Stretchable Thin-Film Transistors with Van Der Waals Heterostructures

Jiwoo Yang[1,2], Kyungjune Cho[1], Takhee Lee[2], Yongtaek Hong[2], and Seungjun Chung[1]

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

TS13T_BP_4

Oxidation and Ellipsometry Method for Molybdenum Thin Film Thickness and Quality Monitoring for EUV Pellicle Applications

Jonghyuk Yoon[1,2], Heongyu Lee[1], Yongkyung Kim[1,3], Kihun Seong[1,2], Su Min Lee[1,4], Hyun-Mi Kim[1], Il Jeon[2], Hyeongkeun Kim[1], and Seul-Gi Kim[1]

([1]KETI, [2]Sungkyunkwan University, [3]Hanyang University, [4]Dankook University)

TS13T_BP_5

Enhanced Mo_2C-Capped Carbon Nanotube Membranes with Atomic Layer Deposition for EUV Lithography

Su Min Lee[1,2], Yongkyung Kim[1,3], Jiwon Chung[1], Jonghyuk Yoon[1,4], Kihun Seong[1,4], Sun Gil Kim[1], Hyun-Mi Kim[1], Gu Young Cho[2], Seul-Gi Kim[1], and Hyeongkeun Kim[1]

([1]KETI, [2]Dankook University, [3]Hanyang University, [4]Sungkyunkwan University)

TS13T_BP_6

Characterization of ALD-Grown Tellurium FETs as a Function of Precursor Pressure

Kyuheon Kim, Minjae Kim, Hae-Won Lee, and Byoung Hun Lee
(POSTECH)

TS13T_BP_7

Characterization of Ferroelectric Annealing using Continues Wave-Laser Scanning Annealing (CW-LSA)

Chan Bin Lee, Seung-Mo Kim, Minjae Kim, and Byoung Hun Lee
(POSTECH)

TS13T_BP_8

A Study on the Hierarchical Nanostructure for Tactile Sensor

Nguyen Hoang Minh[1,2], Kwanoh Kim[1], Do Hyun Kang[1], Yeong-Eun Yoo[1,2], and Jae Sung Yoon[1,2]
([1]KIMM, [2]UST)

TS13T_BP_9

Investigating the Impact of Multilayer Structure on the Emissivity of EUV Pellicles

Young Woo Kang, Haneul Kim, Won Jin Kim, Jungyeon Kim, Young Wook Park, and Jinho Ahn
(Hanyang University)

[TS13] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS13T_P_1

User Switchable Biosensor (USB) Platform for Standardization of Sensor

Jaehee Lee[1], Seok Jin Hwang[2], Donggee Rho[1], Jun Ho Jang[1], Tae Jae Lee[1], Seok Jae Lee[1], Yoo Min Park[1], Won Chan Seo[2], Hea Yeon Lee[2], and Nam Ho Bae[1]

([1]NNFC, [2]Mara Nanotech Korea, Inc.)

TS13T_P_2

Sensitive Detection of Acute Cardiac Disease using Polypyrrole-Based Surface Coating Technique to Stably and Immobilize the Receptor

Jaehee Lee, Jun Ho Jang, Nam Ho Bae, Donggee Rho, and Yoo Min Park

(NNFC)

TS13T_P_3

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

Jaehee Lee, Yonghee Lee, Yeon-Wha Oh, Moon-Keun Lee, Tae Jae Lee, and Yoo Min Park

(NNFC)

TS13T_P_4

Long-Term Stable Antibacterial and Biocompatible Polymer Coating on Contact Lenses for the Prevention of Keratitis

Sang Yu Sun[1], Nahyun Park[1], Kyoung G. Lee[2], and Sung Gap Im[1]

([1]KAIST, [2]NNFC)

TS13T_P_5

Development of Nanostructure-Based Biosensor Platform by using Improved Gold Etching Process

Donggee Rho, Yoo Min Park, Nam Ho Bae, Kyoung G. Lee, Moon-Keun Lee, and Tae Jae Lee

(NNFC)

[TS14] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS14T_BP_1

Design of a Toy Cell System Including a Lithium-Source to Analyze In-Situ Lithium Electrodeposition Morphology on Electrode

Kyu-Min Jo, Yu-Jeong Yang, Abin Kim, Byoungwoo Kang, and Si-Young Choi

(POSTECH)

TS14T_BP_2

Real-Time Imaging of Polar Domain Dynamics in Multilayer WTe2 via Operando TEM

Seungho Hong and Hyobin Yoo

(Sogang University)

TS14T_BP_3

Investigating OLED Cell Characteristics using Imaging Spectroscopic Ellipsometry: Lateral Resolution, Thickness, and Thickness Uniformity

Mangesh Diware[1], Yoon-Shik Kang[1], Minjun Kim[2], GaYoon Jeong[1], Jeonghun Kwak[2], Yong Woon Lim[1], Ahjin Jo[1], and Sang-Joon Cho[1]

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

TS14T_BP_4

Thermal Transport Properties of Ni-Containing High-Entropy Alloys at Elevated Temperatures (< 850 K)

Byungjun Kang, Dongwhan Kim, Chan Park, Eun Soo Park, and Hyejin Jang

(Seoul National University)

TS14T_BP_5

Structural Characterization of Micrometer-Scaling Cu Single Crystals Grown by Electrochemical Method

Giho Jeong and Jae Yong Song

(POSTECH)

TS14T_BP_6

High Performance Neuromorphic Device of Ferroelectric $Hf_{0.7}Zr_{0.3}O_2/La_{0.7}Sr_{0.3}MnO_3$ Heterostructure by Inhomogeneous Polarization Reversal and Defect Engineering

Joonbong Lee[1], Hojin Lee[1,2], Hyewon Lee[1,2], Ayoung Cho[1], Jinhong Park[1], Yurim Lee[1], Cheongwon Kim[1], Kwang Heo[1], Sungkyu Kim[1], and Taekjib Choi[1]

([1]Sejong University, [2]Samsung Electronics Co., Ltd.)

TS14T_BP_7

Exploring Eddy Current in Electrical Steels at the Nansocale

Jinyoung You and Yunseok Kim

(Sungkyunkwan University)

TS14T_BP_8

AFM-Based EUV Mask Defect Repair System

Ki-Young Jung, Min Seok Gu, Byoung-Woon Ahn, and Sang-Joon Cho

(Parksystems)

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[TS15] Poster Session 2

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
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TS15T_P_1

A 28 Days Inhalation Toxicity Testing and 7 and 28 Days Recovery Testing of Carbon Black in Sprague-Dawley Rats

Jae Hyuck Sung, Seung Han Lee, Hye-Jin Kim, Hyeon-Yeol Ryu, Mi-Jung Kim, Byunggil Choi, and Kyung-Seuk Song

(KCL)

TS15T_P_2

Holographical Analysis of Interaction between Brain Cells and Nanoplastics using Optical Diffraction Tomography

Jiyoung Gong[1,2], Bohyeon Jeong[1], Da Yong Lee[1,2], and Jinyoung Jeong[1,2]

([1]KRIBB, [2]UST)

TS15T_P_3

In Vitro Acute Nanoparticle Phototoxicity Assay in Skin Cell Lines

Eunha Kim[1,2], Ye Ryeong Lee[1,2], Nagyoung Kim[1,2], Jeongbin Kim[1,2], Ahruem Baek[1], Tae Geol Lee[1], and Min Beom Heo[1]

([1]KRISS, [2]Chungnam National University)

TS15T_P_4

Beneficial Effect of Differently-Coated Selenium Nanoparticles in 3D Cell Culture Models Mimicking the Respiratory Tract and Intestinal Epithelium

Pamina Weber[1], Nikolina Kalčec[2], Nikolina Peranić[2], Ivana Vinković Vrček[2], and Tommaso Serchi[1]

([1]Luxembourg Institute of Science and Technology, [2]Institute for Medical Research and Occupational Health)

TS15T_P_5

Measurement Procedure for Assessing Oxidative DNA Damage Caused by Nanomaterials using Enzyme-Linked Immunosorbent Assay

Geun Hoe Kim[1,2], Min Beom Heo[1], Tae Geol Lee[1], and Jun-Hyuck Choi[1,2]

([1]KRISS, [2]UST)

[TS16] Poster Session 2 Best Poster Awards Candidates

Date & Time	July 4(Thu.), 2024 / 10:30-12:00
Place	Exhibition Hall 4,5

TS16T_BP_1

Regulating Li ion Migration Pathway through Structural Distortion in Monoclinic Halide Solid Electrolytes

Seung-Hui Ham and Dong-Hwa Seo

(KAIST)

TS16T_BP_2

First-Principles Study Exploring the Influence of Structural Vibrational Entropy on Thermally Regenerative Electrochemical Systems

You-Yeob Song[1], Ahreum Choi[2], Seok Woo Lee[3], Hyun-Wook Lee[2], and Dong-Hwa Seo[1]

([1]KAIST, [2]UNIST, [3]Nanyang Technological University)

TS16T_BP_3

Artificial Intelligence-Based Modeling for Predicting Precipitates in Aluminum Alloys

AhYeon Cho[1], HyunJoo Choi[1], and YongJoo Kim[2]

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

TS16T_BP_4

First-Principles Calculation Study on Lithium-Ion Conduction Mechanisms in Halide Solid Electrolytes

Chang-Dae Lee and Dong-Hwa Seo

(KAIST)

TS16T_BP_5

Dispersant Effect in Cathode Material Slurry System

Minyoung Seo[1], Anseong Park[2], Je-Yeon Jung[2], Seungtae Kim[2], WooJin Kim[2], Sangdeok Kim[2], YongJoo Kim[1], and Won Bo Lee[2]

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

TS16T_BP_6

Molecular Dynamics Simulation Study on the Additive Manufacturing Process of NiAl Shape-Memory Alloys

Jong-Hoon Park and Won-Seok Ko

(Inha University)

TS16T_BP_7

Effect of Solute Elements on the Performance of Mg_2Ni-Based Hydrogen Storage Alloys: A First-Principles Study

Min-Seok Yoon and Won-Seok Ko
(Inha University)

TS16T_BP_8

Deformation Behavior of Nanotwin Structured Metals with Molecular Dynamics Simulation

Jea-Young Hwang and Won-Seok Ko
(Inha University)

TS16T_BP_9

Demonstration of ZnO-Te Anti-Ambipolar Switch Compatible with BEOL for Energy-Efficient System

Jae Hyeon Jun, Minjae Kim, Hae-Won Lee, Chan Bin Lee, Kyuheon Kim, and Byoung Hun Lee
(POSTECH)

TS16T_BP_10

Leveraging Large Language Models for Parameter Findings in Device Simulation of Perovskite Solar Cells

Eun Ha Shin, Sang Woo Park, Jong Su Chae, and Ki-Ha Hong
(Hanbat National University)

TS16T_BP_11

Study on the Performance Enhancement Mechanism of Ultrathin HfO_2 and ZrO_2 Superlattice Structure

Woo Won Jeong and Ki-Ha Hong
(Hanbat National University)

TS16T_BP_12

Dopant Selection for Enhanced Structural Stability in $CsPbI_3$ Perovskite Materials: A Computational Investigation

Atefeh Yadegarifard, Jung Hoon Lee, and Byungju Lee
(KIST)

TS16T_BP_13

Phase-Field Simulation of Thin Film Deposition and Crystallization

Hwanwook Lee and Yongwoo Kwon
(Hongik University)

TS16T_BP_14

Full Quantum Electron Transfer Theory

Yoosang Son[1], Oleg V. Prezhdo[2], and Hyungjun Kim[1]
([1]KAIST, [2]University of Southern California)