PSA-24

ABSTRACTS

9th International Symposium on Practical Surface Analysis

PSA-24

November 17 (Sun) – 21 (Fri), 2024 Paradise Hotel, Busan, Korea

Organized by

The Surface Analysis Society of Japan



and



Korean Society of Surface Analysis

This symposium is supported by grants from **BUSAN TOURISM ORGANIZATION**



PSA-24

Conference Venue

Q

Paradise Hotel Busan

296, Haeundae haebyeon-ro, Haeundae-gu, Busan, Korea





Busan is the 2nd largest city and number one trading hub in Korea, with a population of 3.4 million and a total area of 770.17 square kilometers as of 2022.

Since opening Korea's first international port in 1876, the city has become a hub of trade, commerce and industry

Global events including the Asia-Pacific Economic Cooperation conference, Busan International Film Festival and Busan Fireworks Festival, as well as various sea-related festivals are held throughout the year. The city is also a tourist destination and home to Asia's largest department store, Haeundae beach, and a yacht marina.

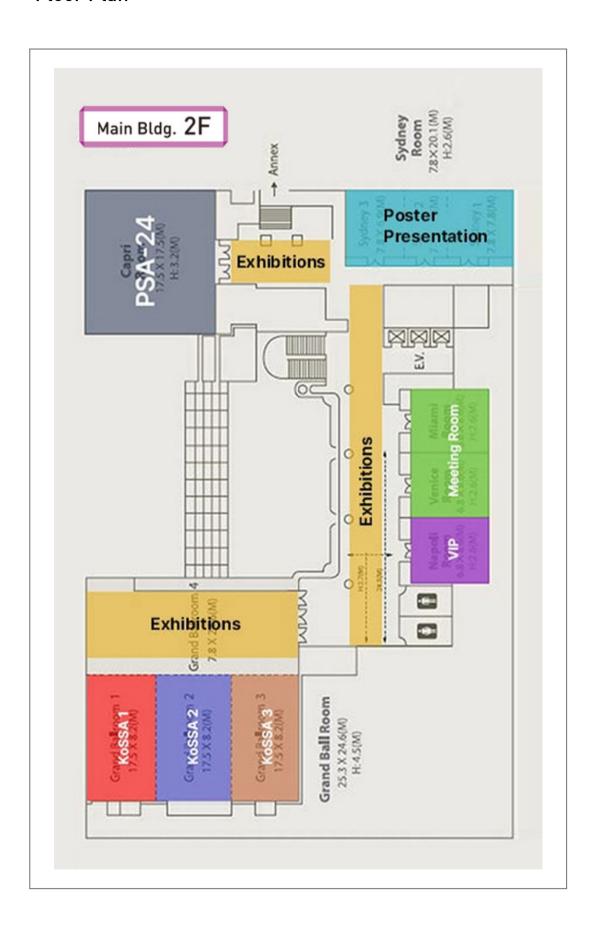
Located on the southern tip of the Korean Peninsula, Busan is a historic city that served as the temporary capital during the Korean War and refuge for men, women and children fleeing the North to build new lives.



Schedule

				4							zation	tions	(8	(y.	y) only) (NSSK)
Nov. 22 (Fri)	PSA-24 (Eng)	Capri Room	Registration	Jaekyung Hyun Jun-ichiro SAMESHIMA	Maciej Mazur	Break	Tanguy Terlier HeeJin Lim	Closing Ceremony	Nov. 17 (Sun) PSA-24 (Eng) Sicily Room	Welcome Reception	51. Standardization and pre-standardization S2. Theory and simulation	53. Data analysis and treatment 54. Novel techniques and instrumentations	SS. Applications I (device and materials) S6. Applications II (energy) S7. Applications III (bio and organic)	S8. Electron Spectroscopy (Korean only) S9. Electron Microscopy (Korean only)	510. Ion Beam Technology (Korean only) 511. Photon Beam Technology (Korean only) 512. Nano Scientific Symposium Korea (NSSK)
	Time/Place		08:00-06:00	09:00-10:20 (S7)		10:20-10:40	10:40-11:40 (S7)	11:40-12:00	Time/Place	18:00-21:00	S1. Standardization and pr S2. Theory and simulation	53. Data analysis and treatment S4. Novel techniques and instrur	55. Applications I (device a S6. Applications II (energy) S7. Applications III (bio and	ectron Spectro ectron Micros	on Beam Tech hoton Beam T ano Scientific
(Thu)	KoSSA (Eng)	Grand Ballroom I	ration	Yunseok Kim Jungchul Lee	IKDUM Park	Break	Dong Hyeon Kim Junghoon Jahng Young-Jun Yu	Photo & Luncheon Seminar (Park Systems)	Eunpa Kim Sangmin An Manhee Lee Taesung Lee		S1. Ste S2. Th	53. Da S4. No		58. Ele 59. Ele	
Nov. 21 (Thu)	PSA-24 (Eng)	Capri Room	Registration	Hyun-Wook Lee Hasmat Khan	Hyejun Kim	Break	Masahi Hyun Hor Alireza			Excursion			Blue : Invited Speaker (30 min) Black: Oral Speaker (20 min)	PSA-24	KoSSA PSA-24+KoSSA
	Time/Place		08:00-03:00	09:00-10:20 [S6, S12]		10:20-10:40	10:40-12:10 [S6, S12]	12:10-13:30		13:30-18:20 [S12]			Blue: Inv Black: On		
Nov. 20 (Wed)	KoSSA (Kor)	Grand Ballroom I	Registration		Break		Un Jeong Kim Sooji Nam Seokjoon Yun Yoon Mi Choi	Luncheon Seminar (SPECS)	Kwangseuk Kyhm Chaejeong Heo Jung hwa Seo	Break		Poster Session (even numbers)		Break	Banzuet
Nov. 2	PSA-24 (Eng)	Capri Room	Regis	Plenary Lecture 3. Sung-Chan Jo		Dichard Morris	Richard Morris Hwi Je Woo Chanwon Jung Dongchul Ihm Pyuck-Pa Choi		Chris Blomfield Takahiro Suzuki Tanguy Terlier	- A	Poster		ă		Bar
	Time/Place		08:00-03:00	09:00-09:50	09:50-10:10		10:10-12:10 (S5, S11)	12:10-13:30	13:30-15:10 (S6, S11)	15:10-15:30		15:30-18:20		18:20-18:30	18:30-20:00
(Tue)	KoSSA (Kor)	Grand Ballroom I	ration	Yeonjin Yi Kyung-Tae Ko	Jeongjin Kim Siwoo Noh		Break Sung-Dae Kim Jiwon Park Jung In Yeo	Luncheon Seminar (KRATOS)	Young Heon Kim Ju-Young Kim Jungjae Park Break	<u>.</u>	Kyeryung Kum Myoung Choul Choi Yun Jung Jang Kyungsu Park	*	Session Mhore		6
Nov. 19	PSA-24 (Eng)	Capri Room	Registration	Satoka A0YAGI In-Hui Hwang	Break		Chales Clifford Si-Young Choi Daniel Khaykelson	Luncheon Seminar (Ametek Korea)	John Sader Tsutsumi Kenichi Young Min Kim Benedikt Paul Klein SeHo Kim	Break	Wooyoung Jung Yoshiyuki Yamashita Yongsup Park Adam Bushell	Break	Poster Session (odd numbers)		
	Time/Place		08:00-08:00	09:00-10:20		10:30-10:50	10:50-12:10 (S4, S9)	12:10-13:30	13:30-15:30	15:30-15:40	15:40-17:20 (S5, S10)	17:20-17:30		17:30-19:20	
Nov. 18 (Mon)	PSA-24 (Eng)	Capri Room	Registration	Opening Ceremony Plenary Lecture I. Donald Baer	Plenary Lecture 2.	Break	David Cant Wonja Min	Luncheon Seminar (Thermo Fisher Scientífic)	Hidehiko NONAKA Seung Mi Lee	Break	Aleksander Jablonski Hiroshi Shinotsuka Yongho Seo	Break	Samuel Bertolini Manhee Lee	Break	Alex Henderson Sven Tougaard Stanislav Cichon Sang-Joon Cho
	Time/Place		08:00-06:00	09:00-09:20	10:05-10:50	10:50-11:10	11:10-12:10 (S1)	12:10-13:30	13:30-14:30	14:30-14:45	14:45-16:15 [S2]	16:15-16:30	16:30-17:30 [S2]	17:30-17:45	17:45-19:35 [S3]

Floor Plan



Excursion



Excursion

Excursion is scheduled in the afternoon of Nov. 21 (Thu), 2024.

Application Form for the Excursion

The schedule of the excursion

-1:30 Meeting at the lobby

1:30-2:30 move

2:30-3:20 Gamcheon Village

3:20-3:50 move

3:50-4:20 Orukdo Skywalk

4:20-5:00 move

5:00-5:50 Haedongyounggungsa Temple

5:50-6:30 Back to Hotel

Destination of Excursion

1. Gamcheon Village

Colorful roofs that seem to touch the sky, A warmth that covers the whole village, here is Gamcheon Culture Village in Busan.

While the village's beautiful landscape gave it the nickname of the Machu Picchu of Korea, the town was a part of the painful history of Busan. Refugees settled in Gamcheon Village during the Korean War and cultivated the mountainous region to make a living. In 2009, students, artists, and residents decorated the village as a part of the Village Art Project, and the town grew into a leading tourist attraction of Busan since then.







2. Orukdo Skywalk

The Busan Sea, encountered between sandy beaches and coastal roads, offers a special view of the ocean. Walk along the three major skywalks of Busan to enjoy the sky and ocean from high above. Opened in 2013, Oryukdo Skywalk is located at the end of a 35 m-long coastal cliff. The clear glass floor looking down on the sea is made of bulletproof glass that can withstand heavy loads. The emerald waters off the coast of Oryukdo Islets, where the East Sea meets the South Sea, are spectacular. The waves breaking under the transparent glass floor against the coastal cliffs present a dizzyingly beautiful spectacle, while the sea unfolds before one's eyes and dazzles with its color.

Excursion







3. Haedongyounggungsa Temple

Haedong Yonggungsa Temple is situated on the coast of the north-eastern portion of Busan. This superb attraction offers visitors the rare find of a temple along the shore line as most temples in Korea are located in the mountains. Haedong Yonggungsa Temple was first built in 1376 by the great Buddhist teacher known as Naong during the Goryeo dynasty.

The main sanctuary of the temple was reconstructed in 1970 with careful attention paid to the colors that were traditionally used in such structures. On the right-hand side, inside a cave, is a uniquely designed Buddhist sanctum, while situated just in front of the main sanctuary is a three-story pagoda with four lions. The four lions symbolize joy, anger, sadness, and happiness. Other special sites at the temple are the 108 stairs and stone lanterns lining the rocky landscape. After going down the 108 steps, one will be delighted with the beauty of the temple. Midway down the 108 steps one can stop and enjoy the calming sounds of the waves, and view the majestic sunrise.







Accompanying person's program

While there is no separate program for accompanying persons, you are welcome to join the tour programs. Please download the application form and send it via email to secretary-psa24@surfaceanalysis.kr.

Information about Korea tourism

You can find information about Korea tourism here.

English Site - http://english.visitkorea.or.kr/enu/index.kto

Japanese Site - http://japanese.visitkorea.or.kr/jpn/index.kto

You can find information about Busan tourism here.

English Site - https://www.visitbusan.net/en/index.do

PSA-24

Nov. 18 (Mon), 2024

08:00-19:00 Registration

09:00-09:20 Opening Remark



Plenary Talk 1

Chair: Yongsup Park (Kyung Hee University, Korea)

PL-01 09:20-10:05

A Perspective on XPS Challenges, Needs and Opportunitie

Donald Baer (Pacific Northwest National Laboratory)



Plenary Talk 2

Chair: Yongsup Park (Kyung Hee University, Korea)

PL-02_10:05-10:50

Evolution and Revolution in Secondary Ion Mass Spectrometry

Ian Gilmore (National Physical Laboratory)



S1. Standardization and Pre-standardization _11:10-14:30

11:10-12:10 Chair: Seung Mi Lee (KRISS, Korea)

S1-01_11:10-11:40

A Roadmap to HAXPES Standardisation

David Cant (National Physical Laboratory)

S1-02_11:40-12:10

Standardization of Medium Energy Ion Scattering Spectrometry

Wonja Min (HB Solution)

12:10-13:30 Luncheon Seminar: Thermo Fisher Scientific

13:30-14:30 Chair: David Cant (National Physical Laboratory, UK)

S1-03 13:30-14:00

Standardization Activities in ISO TC 201 (Surface Chemical Analysis)

Hidehiko NONAKA (Tsukuba University)

Nov. 18 (Mon), 2024

S1-04_14:00-14:30

Quantitative Analysis of Binary Alloy Films by Surface Analysis

Seung Mi Lee (Korea Research Institute of Standards and Science)

14:30-14:45 Break



S2. Theory and Simulation _14:45-17:30

14:45-16:15 Chair: Samuel Bertolini Da Silva Oliveira (Université catholique de Louvain, Belgium)

S2-01 14:45-15:15

Parameters Needed for Simulations of Electron Transport in Condensed Matter

Aleksander Jablonski (Polish Academy of Sciences)

S2-02_15:15-15:45

Innovative Sample Structure Prediction Using Bayesian Estimation and XPS Simulator

HIroshi Shinotsuka (National Institute for Materials Science (NIMS))

S2-03 15:45-16:15

Molecular Dynamics Simulations of Gas Cluster Induced Protein Desorption, Transfer and Soft/reactive Landing

Samuel Bertolini Da Silva Oliveira (Université Catholique de Louvain)

16:15-16:30 Break

16:30-17:30 Chair: Aleksander Jablonski (Polish Academy of Sciences, Poland)

S2-04 16:30-17:00

Smart Algorithm for Three-Dimensional AFM Imaging of High Aspect Ratio Nanostructures

Yongho Seo (Sejong University)

S2-05_17:00-17:30

Nondestructive Nanoscopy through Bifurcation-Controlled Nonlinear Dynamics of Micro-Cantilever

Manhee Lee (Chungbuk National University)

17:30-17:45 Break

Nov. 18 (Mon), 2024



S3. Data Analysis and Treatment _17:45-19:35

17:45-19:35 Chair: Satoka AOYAGI (Seikei University, Japan)

S3-01_17:45-18:15

Towards a Common Data File Format for Hyperspectral Images

Alex Henderson (The University of Manchester)

S3-02_18:15-18:45

XPS/HAXPES, and NAP-XPS, for Characterization of Nano-Structured Materials

Sven Tougaard (University of Southern Denmark, DK-5230 Odense M, Denmark)

S3-03 18:45-19:05

Surface composition of Sc and ScN by XPS

Stanislav Cichon (Institute of Physics, the Czech Academy of Sciences)

S3-04_19:05-19:35

Transformative Data Insights: Advanced Hybrid Nano-Metrology for High-Resolution Material Characterization Sang-Joon Cho (Park Systems)



S3. Data Analysis and Treatment _09:00-10:20

09:00-10:20 Chair: Sang-Joon Cho (Park Systems, Korea)

S3-05_09:00-09:30

Data-driven Analysis of Spectrum and Image Data

Satoka AOYAGI (Seikei University)

S3-06_09:30-09:50

X-ray Emission Spectroscopy Data Processing and Analysis Using Artificial Intelligence

In-Hui Hwang (POSTECH)

S3-07 09:50-10:20

Towards advanced interface visualization in multi layer stacks: Big data and and simulation approaches using angle-resolved XPS

Satoshi TOYODA (Scienta Omicron Japan)

10:20-10:50 Break



S4. Novel Techniques and Instrument _10:50-15:30

10:50-12:10 Chair: Young Min Kim (Sungkyunkwan University, Korea)

S4-01 10:50-11:20

Scanning Probe Microscopy: from Research to International Standards

Chales Clifford (National Physical Laboratory)

S4-02_11:20-11:50

Electron Microscopic Understanding toward Highly-Performed Cathode

Si-Young Choi (POSTECH)

S4-03_11:50-12:10

Structural Insights into Non-Crystalline ("Amorphous") Thin Silicone-Nitride Films

Daniel Khaykelson (Weizmann Institute of Science)

12:10-13:30 Luncheon Seminar: Ametek Korea

13:30-15:30 Chair: Chales Clifford (National Physical Laboratory, UK)

S4-04_13:30-14:00

Suspended Microchannel Resonators

John Sader (Caltech)

S4-05 14:00-14:20

Applications of New Hyper Spectral Map Method by Auger Electron Spectroscopy

Tsutsumi Kenichi (JEOL Ltd.)

S4-06 14:20-14:50

Machine Learning-assisted Electron Spectroscopic Imaging for Chemical Analysis of Energy-related Materials

Young-Min Kim (Sungkyunkwan University)

S4-07 14:50-15:10

 $Practical\ Determination\ of\ the\ Transmission\ Function\ of\ a\ Near\ Ambient\ Pressure\ Hemispherical\ Electron$

Analyzer

Benedikt Paul Klein (Korea Basic Science Institute)

S4-08_15:10-15:30

Designing Energy Materials Guided by 3D Atomic-Resolution Tomography

SeHo Kim (Korea University)

15:30-15:40 Break



S5. Applications I (Device and Materials) _15:40-17:20

15:40-17:20 Chair: Richard Morris (IMEC, Belgium)

S5-01_15:40-16:10

Innovative Applications of Surface Analysis for 3D Semiconductor Structures

Wooyoung Jung (SK hynix)

S5-02 16:10-16:30

Photoelectron Holographic Study of Atomic Site Occupancy of the Si Dopant in k-Ga203(001)

Yoshiyuki Yamashita (NIMS)

S5-03 16:30-16:50

 $Interface\ Energy\ Level\ Offset\ in\ Organic\ Solar\ Cells\ Measured\ by\ UPS\ and\ IPES\ and\ Its\ Correlation\ with\ Voc$

and CT Energy

Yongsup Park (Kyung Hee University)

S5-04_16:50-17:20

Correlative XPS Multi-technique sample analysis

Adam Bushell (Thermo Fisher Scientific)

17:20-17:30 Break

17:30-19:20 Poster Session



S8. Electron Spectroscopy _09:00-10:50

09:00-10:50 Chair: Jouhahn Lee (Korea Basic Science Institute, Korea)

S8-01_09:00-09:30

Electronic Structure of Halide Perovskites: Insights from Photoelectron Spectroscopy Measurement Techniques Yeonjin Yi (Yonsei University)

S8-02 09:30-10:00

Investigation on Electronic Structure of Exotic Layered Chalcogenide Materials

Kyung-Tae Ko (Korea Basic Science Institute)

S8-03 10:00-10:30

Probing the Surface Electronic Structure and Reaction Intermediate using Synchrotron-Based AP-XPS Jeongjin Kim (Pohang Accelerator Laboratory, POSTECH)

S8-04 10:30-10:50

Recent Advances in Soft and Tender X-ray Photoemission Spectroscopies at the Pohang Accelerator Laboratory Siwoo Noh (Korea University/ PAL)

10:50-11:00 Break



S9. Electron Microscopy 11:00-14:50

Chair: Sangmin An (Jeonbuk National University, Korea)

S9-01 11:00-11:30

Understanding Dislocation Dynamics in Advanced Steels via Transmission Electron Microscopy Sung-Dae Kim (Pukyong National University)

S9-02_11:30-11:50

대기 중 단일 입자의 모양 및 성분 분석

Jiwon Park (Korea Research Institute of Chemical Technology)

S9-03 11:50-12:10

Gate-dependent Interactions between Fe Atoms on Graphene

Jung In Yeo (Chung-Ang University)

12:10-13:30 Luncheon Seminar: KRATOS

S9-04 13:30-14:00

In situ and Operando Transmission Electron Microscopy Study of One-dimensional InAs-based Compound Semiconductor Nanowires

Young Heon Kim (Chungnam National University)

S9-05 14:00-14:30

Recent Advancements in Elasto-visco-plastic Self-consistent Model and its Application to Various Polycrystal Metals

Youngung Jeong (Changwon National University)

S9-06 14:30-14:50

 $Real-Time\ Investigation\ of\ Corrosion\ Behaviors\ in\ Zn-Mg-Al\ Alloys\ Using\ Liquid-Phase\ TEM$

Jungjae Park (Research Institute of Industrial Science & Technology)

14:50-15:10 Break



S10. Ion Beam Technology _15:10-16:50

Chair: Taeeun Hong (Korea Basic Science Institute, Korea)

S10-01_15:10-15:40

Status and Utilization of Tandem Accelerator-Based Ion Beam Analysis System of KAERI

Kyeryung Kim (Korea Atomic Energy Research Institute)

S10-02 15:40-16:00

Development of Gas Cluster Ion Beam and Application to the Surface Processing in X-ray Mirror

Myoung Choul Choi (Korea Basic Science Institute)

S10-03 16:00-16:30

Effect of Ag Incorporation on CIGS Solar Cells Using Surface Analytical Techniques

Jang Yun Jung (Korea Institute of Science and Technology)

S10-04 16:30-16:50

Advantages of Non-Destructive Depth Profile Analysis Using TOF-MEIS Over Destructive Method

Kyungsu Park (HB SOLUTION)

16:50-17:30 Break

17:30-19:20 Poster Session

Nov. 20 (Wed), 2024



Plenary Talk 3

Chair: Taeeun Hong (Korea Basic Science Institute, Korea)

PL-03 09:00-09:50

Advanced Surface Analysis for the Perspective in Display/Semiconductor Industry

Sung-Chan Jo (Samsung Display)

09:50-10:10 Break



S5. Applications I (Device and Materials) _10:10-12:10

Chair: Tae-Gon Kim (Hanyang University Korea)

S5-05 10:10-10:40

Atom Probe Tomography: Application and Challenges within the Semiconductor Field Richard Morris [IMEC]

S5-06_10:40-11:00

Nano Imaging of Ultrafast Exciton Dynamics in 2-Dimensional Materials with s-SNOM

Hwi Je Woo (Korea Research Institute of Standards and Science)

S5-07 11:00-11:20

Investigation of 3D Atomic Distributions in Functional Materials through Atom Probe Tomography Chanwon Jung (Pukyoung National University)

S5-08 11:20-11:50

Advancements and Challenges in Surface Metrology and Inspection for the 3D Integration Era Dongchul Ihm (Samsung Electronics)

S5-09 11:50:12:10

Characterization of Colloidal Pd Nanoparticles using Atom Probe Tomography

Pyuck-Pa Choi (Korea Advanced Institute of Science and Technology)

12:10-13:30 Luncheon Seminar: GSEM

Nov. 20 (Wed), 2024



S6. Applications II (Energy) _13:30-15:10

13:30-14:40 Chair: Masahiro Terashima (ULVAC PHI, Japan)

S6-01 13:30-13:50

Using High-throughput XPS Analysis in Determining Na-Fe-Mn-O Cathode Materials Chemistry Chris Blomfield (Kratos Analytical Ltd.)

S6-02 13:50-14:20

Investigation on XPS Charge Neutralization Method for Carbon-Based Battery Materials Takahiro Suzuki (Cataler Corporation)

S6-03 14:20-14:40

Novel Strategies for the Characterization of the Next-generation Energy Storage Materials by ToF-SIMS: from an In-situ Exploration to an Operando Measurement

Tanguy Terlier (Rice University)

14:40-15:30 Break

15:30-18:20 Poster Session



S11. Photon Beam Technology _10:10-15:00

10:10-12:00 Chair: Kwangseuk Kyhm (Pusan National University, Korea)

S11-01_10:10-10:40

Optical Properties of Low Dimenstional investigated by Light-Matter Interactions

Un Jeong Kim (Dongguk University)

S11-02_10:40-11:10

Analysis of Tellurium/Indium Zinc Tin Oxide Heterostructures and Their Device Applications

Sooji Nam (Electronics and Telecommunications Research Institute)

S11-03 11:10-11:40

Bottom-up Synthesis of 2D Materials for Future Electronics

Seokjoon Yun (University of Ulsan)

S11-04 11:40-12:00

Molecular-level structural understanding of temperature induced phase transitions in bromine functionalized metal organic framework

Yoon Mi Choi (Korea research Institute of Chemical Technology)

12:10-13:30 Luncheon Seminar: SPECS

Nov. 20 (Wed), 2024

13:30-15:00 Chair: Un Jeong Kim (Dongguk University, Korea)

S11-05_13:30-14:00

Ultrafast Spectroscopy and Microscopy on Nanostructures

Kwangseuk Kyhm (Pusan National University)

S11-06_14:00-14:30

Label-free Spectroscopic Detection of Biomolecules for Diagnosing Alzheimer's Disease

Chaejeong Heo (Sungkyunkwan University)

S11-07_14:30-15:00

Photoelectron Spectroscopic Study of the Interfacial Electronic Structures of Metal-Ion Containing Polyelectrolytes on ITO Substrates

Jung hwa Seo (University of Seoul)

15:00-15:30 Break

15:30-18:20 Poster Session

Nov. 21 (Thu), 2024



S6. Applications II (Energy) _09:00-12:10

09:00-10:10 Chair: Hyun-Wook Lee (Ulsan National Institute of Science and Technology, Korea)

S6-04 09:00-09:30

Observation of the Nucleation and Growth of Lithium Metal Dodecahedra in Anode-free Lithium Batteries Hyun-Wook Lee (Ulsan National Institute of Science and Technology)

S6-05 09:30-09:50

Surface Engineering and Regulation of a Photoelectrode for Solar Rechargeable Zn-Air Batteries Hasmat Khan (Pusan National University)

S6-06 09:50-10:10

The Solidification Effect of Using Benzenesulfonyl Fluoride Assistants for Liquid Electrolyte in Lithium-Sulfur Batteries

Hyejun Kim (Sungkyunkwan University)

10:10-10:40 Break

10:40-12:10 Chair: Soohyung Park (Korea Institute of Science and Technology, Korea)

S6-07_10:40-11:10

Chemical State and Energy Band Structure Analysis for Interface Modification in All-Solid-State Battery Materials

Masahiro Terashima (ULVAC PHI)

S6-08 11:10-11:30

Unveiling the Longevity Mechanism of Si/Graphite Composite Anodes in Sulfide-based All Solid-State Batteries: Interplay of Nanostructure Evolution and Interface Stability

Hyun-Woo Gong (Korea Institute of Science and Technology)

S6-09 11:30-11:50

Single-Atom Platinum Catalyst for CO Oxidation on Multi-Component Vanadia/Titania Support Hongjin Park (Chungnam National University)

S6-10 11:50:12:10

Ru-Based High Entropy Oxide as Acid Stable Electrocatalyst for Oxygen Evolution Reaction Alireza Razazzadeh (Pusan National University)

12:10-13:30 Photo & Luncheon Seminar: Park Systems

13:30-18:20 Excursion

Nov. 21 (Thu), 2024



S12. Nano Scientific Symposium Korea (NSSK) _09:00-15:20

Chair: Sang-Joon Cho (Park Systems, Korea)

S12-01 09:00-09:30

Improved Sensitivity of Atomic force Microscopy Images by Machine Learning

Yunseok Kim (Sungkyunkwan University)

S12-02_09:30-10:00

Unconventional Micro-/Nanofabrication via High Temperature Annealing

Jungchul Lee (Korea Advanced Institute of Science and Technology)

S12-03 10:00-10:20

Ultra-sensitive and Nanoscale Imaging of Individual Biomarkers in a Single Neuronal Cell Using Force-Based AFM

Ikbum Park (Korea Research Institute of Chemical Technology)

10:20-10:40 Break

S12-04 10:40-11:10

The Nanoscale Lattice Deformations in Two-dimensional Materials

Dong Hyeon Kim (HanYang University)

S12-05 11:10-11:40

Advances and Challenges in Dynamic Photo-induced Force Microscopy

Junghoon Jahng (Korea Research Institute of Standards and Science)

S12-06 11:40-12:10

Charge Trapping Memory Based on 2D Materials Heterostructures

Young-Jun Yu (Chungnam National University)

12:10-13:30 Photo & Luncheon Seminar

S12-07_13:30-14:00

The Present and Future of Scanning Probe Technology for Advanced Semiconductor Device Manufacturing

Eunpa Kim (Samsung)

S12-08 14:00-14:30

Atomic Force Microscope-based Analysis of the Nanoscale Materials and Fabrication of the Microscale Probes

Sangmin An (Jeonbuk National University)

\$12-09 14:30-15:00

Quartz Tuning Fork-based Microviscometry for Selecting High-quality Sperm from Semen

Manhee Lee (Chungbuk National University)

S12-10 15:00-15:20

Tip Displacement Detection Technology AFM Using Quadrature Phase Differential Interferometry

Taesung Lee (Oxford Instruments)

Nov. 22 (Fri). 2024



S7. Applications III (Bio and Organics) _09:00-11:40

09:00-10:20 Chair: Tanguy Terlier (Rice University, USA)

S7-01 09:00-09:30

Unraveling of Complex Poxvirus Structure using Cryo-Electron Microscopy

Jaekyung Hyun (Sungkyunkwan University)

S7-02 09:30-10:00

Mass Imaging Analyses for Practically Utilized Polymers and Bio Materials

Jun-ichiro SAMESHIMA (Toray Research Center, Inc.)

S7-03 10:00-10:20

Arrays of Spherical Cap Particles: Fabrication of Substrates for Cell Cultures by Dewetting of Thin Polymer Films

Maciej Mazur (University of Warsaw)

10:20-10:40 Break

10:40-11:40 Chair: Jaekyung Hyun (Sungkyunkwan Universit, Korea)

S7-04 10:40-11:10

Multiplexing Analysis Using Microarray by ToF-SIMS: a High Throughput Exploration Tool for Rapid Chemical Screening

Tanguy Terlier (Rice University)

S7-05 11:10-11:40

Time-of-flight secondary ion mass spectrometry imaging of biological samples

HeeJin Lim (Korea Basic Science Institute)

Closing Ceremony