Program of PSA-24

Time/Place	Nov. 17 (Sun) PSA-24 (Eng) Capri Room
18:00-21:00	Welcome Reception

Time/Place	Nov. 18 (Mon) PSA-24 (Eng) Capri Room
08:00-09:00	Registration
09:00-09:20	Opening Ceremony
09:20-10:05	Plenary Lecture I. Donald Baer
10:05-10:50	Plenary Lecture 2. Ian Gilmore
10:50-11:10	Break
11:10-12:10 (S1)	David Cant, Wonja Min
12:10-13:30	Luncheon Seminar (Thermo Fisher Scientific)
13:30-14:30 (S1)	Hidehiko NONAKA, Seung Mi Lee
14:30-14:45	Break
14:45-16:15 (S2)	Aleksander Jablonski, Hiroshi Shinotsuka, Yongho Seo
16:15-16:30	Break
16:30-17:30 (S2)	Samuel Bertolini, Manhee Lee
17:30-17:45	Break
17:45-19:35 (S3)	Alex Henderson, Sven Tougaard, Stanislav Cichon, Sang-Joon Cho

Time/Place	Nov. 19 (Tue) PSA-24 (Eng) Capri Room	KoSSA (Kor) Grand Ballroom I
08:00-09:00	Registration	
09:00-10:20 (S3, S8)	Satoka AOYAGI, In-Hui Hwang, Satoshi TOYODA	Yeonjin Yi, Kyung-Tae Ko, Jeongjin Kim, Siwoo Noh
10:30-10:50	Break	Break
10:50-12:10 (S4, S9)	Chales Clifford, Si-Young Choi, Daniel Khaykelson	Sung-Dae Kim, Jiwon Park, Jung In Yeo
12:10-13:30	Luncheon Seminar (Ametek Korea)	Luncheon Seminar (KRATOS)
13:30-15:30 (S4,S9)	John Sader, Tsutsumi Kenichi, Young Min Kim, Benedikt Paul Klein, SeHo Kim	Young Heon Kim, Ju-Young Kim, Jungjae Park
15:30-15:40	Break	Break
15:40-17:20 (S5, S10)	Wooyoung Jung, Yoshiyuki Yamashita, Yongsup Park, Adam Bushell	Kyeryung Kim, Myoung Choul Choi, Yun Jung Jang, Kyungsu Park
17:20-17:30	Break	
17:30-19:20	Poster Session (odd numbers)	

Time/Place	Nov. 20 (Wed) PSA-24 (Eng) Capri Room	KoSSA (Kor) Grand Ballroom I
08:00-09:00	Registration	
09:00-09:50	Plenary Lecture 3. Sung-Chan Jo	
09:50-10:10	Break	
10:10-12:10 (S5, S11)	Richard Morris, Hwi Je Woo, Chanwon Jung, Dongchul Ihm, Pyuck-Pa Choi	Un Jeong Kim, Sooji Nam, Seokjoon Yun, Yoon Mi Choi
12:10-13:30	Luncheon (GSEM)	Luncheon Seminar (SPECS)
13:30-15:10 (S6, S11)	Chris Blomfield, Takahiro Suzuki, Tanguy Terlier	Kwangseuk Kyhm, Chaejeong Heo, Jung hwa Seo
15:10-15:30	Break	
15:30-18:20	Poster Session (even numbers)	
18:20-18:30	Break	
18:30-20:00	Banquet	

Time/Place	Nov. 21 (Thu) PSA-24 (Eng) Capri Room	KoSSA (Eng) Grand Ballroom I
08:00-09:00	Registration	
09:00-10:20 (S6, S12)	Hyun-Wook Lee, Hasmat Khan, Hyejun Kim	Yunseok Kim, Jungchul Lee, Ikbum Park
10:20-10:40	Break	Break
10:40-12:10 (S6, S12)	Masahiro Terashima, Hyun-Woo Gong, Hongjin Park, Alireza Razazzadeh	Dong Hyeon Kim, Junghoon Jahng, Young-Jun Yu
12:10-13:30	Photo & Luncheon Seminar (Park Systems)	
13:30-18:20 (S12)	Excursion	Eunpa Kim, Sangmin An, Manhee Lee, Taesung Lee

Time/Place	Nov. 22 (Fri) PSA-24 (Eng) Capri Room
08:00-09:00	Registration
09:00-10:20 (S7)	Jaekyung Hyun, Jun-ichiro SAMESHIMA, Maciej Mazur
10:20-10:40	Break
10:40-11:40 (S7)	Tanguy Terlier, HeeJin Lim
11:40-12:00	Closing Ceremony

Blue : Invited Speaker (30 min)
Black: Oral Speaker (20 min)

PSA-24
KoSSA
PSA-24+KoSSA

S1. Standardization and pre-standardization
S2. Theory and simulation
S3. Data analysis and treatment
S4. Novel techniques and instrumentations
S5. 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)
S10. Ion Beam Technology (Korean only)
S11. Photon Beam Technology (Korean only)
S12. Nano Scientific Symposium Korea (NSSK)

KoSSA
Korean Society of Surface Analysis

SASJ
Surface Analysis Society of Japan

Proceedings

Nov. 18 (Mon), 2024

Registration
08:00-19:00

Opening Remark
09:00-09:20
Kyung Joong Kim (Chair, 9th International Symposium on Practical Surface Analysis (PSA-24)

Plenary Talk 1

O-01 I 09:20-10:05
Donald Baer (Pacific Northwest National Laboratory)**
A Perspective on XPS Challenges, Needs and Opportunitie

Plenary Talk 2

O-02 I 10:05-10:50
Ian Gilmore (National Physical Laboratory)**
Evolution and Revolution in Secondary Ion Mass Spectrometry

S1. Standardization and Pre-standardization
(11:10-14:30)

O-03 I 11:10-11:40
David Cant* (National Physical Laboratory)
A Roadmap to HAXPES Standardisation
O-04 I 11:40-12:10
Wonja Min* (HB Solution)
Standardization of Medium Energy Ion Scattering Spectrometry

★Luncheon Seminar
12:10-13:30

O-05 I 13:30-14:00
Hidehiko NONAKA* (Tsukuba University)
Standardization Activities in ISO TC 201 (Surface Chemical Analysis)
O-06 I 14:00-14:30
Seung Mi Lee* (Korea Research Institute of Standards and Science)
Quantitative Analysis of Binary Alloy Films by Surface Analysis

Break
14:30-14:45

S2. Theory and Simulation
(14:45-17:30)

O-07 I 14:45-15:15
Aleksander Jablonski* (Polish Academy of Sciences)
Parameters Needed for Simulations of Electron Transport in Condensed Matter
O-08 I 15:15-15:45
HIroshi Shinotsuka* (National Institute for Materials Science (NIMS))
Innovative Sample Structure Prediction Using Bayesian Estimation and XPS Simulator
O-09 I 15:45-16:15
Samuel Bertolini Da Silva Oliveira* (Université Catholique de Louvain)
Molecular Dynamics Simulations of Gas Cluster Induced Protein Desorption, Transfer and Soft/reactive Landing

Break
16:15-16:30

O-10 I 16:30-17:00
Yongho Seo* (Sejong University)
Smart Algorithm for Three-Dimensional AFM Imaging of High Aspect Ratio Nanostructures
O-11 I 17:00-17:30
Manhee Lee* (Chungbuk National University)
Nondestructive Nanoscopy through Bifurcation-Controlled Nonlinear Dynamics of Micro-Cantilever

Break
17:30-17:45

S3. Data Analysis and Treatment

(17:45-19:35)

O-12 I 17:45-18:15
Alex Henderson* (The University of Manchester)
Towards a Common Data File Format for Hyperspectral Images
O-13 I 18:15-18:45
Sven Tougaard* (University of Southern Denmark, DK-5230 Odense M, Denmark)
XPS/HAXPES, and NAP-XPS, for Characterization of Nano-Structured Materials
O-14 I 18:45-19:05
Stanislav Cichon (Institute of Physics, the Czech Academy of Sciences)
Surface composition of Sc and ScN by XPS
O-15 I 19:05-19:35
Sang-Joon Cho* (Institute of Physics, the Czech Academy of Sciences)
Surface Composition of Sc and ScN by XPS

Nov. 19 (Tue), 2024

S3. Data Analysis and Treatment
(09:00-10:20)
O-16 I 09:00-09:30
Satoka AOYAGI* (Seikei University)
Data-driven Analysis of Spectrum and Image Data
O-17 I 09:30-09:50
In-Hui Hwang (POSTECH)
X-ray Emission Spectroscopy Data Processing and Analysis Using Artificial Intelligence
O-18 I 09:50-10:20
Satoshi TOYODA* (Scienta Omicron Japan)
Towards advanced interface visualization in multi layer stacks: Big data and and simulation approaches using angle-resolved XPS

Break
10:30-10:50

S4. Novel Techniques and Instrument
(10:50-15:30)

O-19 I 10:50-11:20
Chales Clifford* (National Physical Laboratory)
Scanning Probe Microscopy: from Research to International Standards
O-20 I 11:20-11:50
Si-Young Choi* (POSTECH)
TBD
O-21 I 11:50-12:10
Daniel Khaykelson (Weizmann Institute of Science)
Structural Insights into Non-Crystalline (“Amorphous”) Thin Silicone-Nitride Films

★Luncheon Seminar
12:10-13:30

O-22 I 13:30-14:00
John Sader* (Caltech)
Suspended Microchannel Resonators
O-23 I 14:00-14:20
Tsutsumi Kenichi (JEOL Ltd.)
Applications of New Hyper Spectral Map Method by Auger Electron Spectroscopy
O-24 I 14:20-14:50
Young-Min Kim* (Sungkyunkwan University)
Machine Learning-assisted Electron Spectroscopic Imaging for Chemical Analysis of Energy-related Materials
O-25 I 14:50-15:10
Benedikt Paul Klein (Korea Basic Science Institute)
Practical Determination of the Transmission Function of a Near Ambient Pressure Hemispherical Electron Analyzer
O-26 I 15:10-15:30
SeHo Kim (Korea University)
Designing Energy Materials Guided by 3D Atomic-Resolution Tomography

Break
15:30-15:40

S5. Applications I (Device and Materials)

(15:40-17:20)

O-27 I 15:40-16:10

Wooyoung Jung* (SK hynix)

Innovative Applications of Surface Analysis for 3D Semiconductor Structures

O-28 I 16:10-16:30

Yoshiyuki Yamashita (NIMS)

Photoelectron Holographic Study of Atomic Site Occupancy of the Si Dopant in k-Ga2O3(001)

O-29 I 16:30-16:50

Yongsup Park (Kyung Hee University)

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

O-30 I 16:50-17:20

Adam Bushell (Thermo Fisher Scientific)

Correlative XPS Multi-technique sample analysis

Break

17:20-17:30

★Poster Session

17:30-19:20

S8. Electron Spectroscopy
(09:00-10:50)

O-31 I 09:00-09:30
Yeonjin Yi* (Yonsei University)
Electronic Structure of Halide Perovskites: Insights from Photoelectron Spectroscopy Measurement Techniques
O-32 I 09:30-10:00
Kyung-Tae Ko* (Korea Basic Science Institute)
Investigation on Electronic Structure of Exotic Layered Chalcogenide Materials
O-33 I 10:00-10:30
Jeongjin Kim* (Pohang Accelerator Laboratory, POSTECH)
Probing the Surface Electronic Structure and Reaction Intermediate using Synchrotron-Based AP-XPS
O-34 I 10:30-10:50
Siwoo Noh (Korea University/ PAL)
Recent Advances in Soft and Tender X-ray Photoemission Spectroscopies at the Pohang Accelerator Laboratory

Break
10:50-11:00

S9. Electron Microscopy
(11:00-14:50)
O-35 I 11:00-11:30
Sung-Dae Kim* (Pukyong National University)
Understanding Dislocation Dynamics in Advanced Steels via Transmission Electron Microscopy
O-36 I 11:30-11:50
Jiwon Park (Korea Research Institute of Chemical Technology)
대기 중 단일 입자의 모양 및 성분 분석

O-37 I 11:50-12:10
Jung In Yeo (Chung-Ang University)
Gate-dependent Interactions between Fe Atoms on Graphene

★Luncheon Seminar
12:10-13:30

O-38 I 13:30-14:00
Young Heon Kim* (Chungnam National University)
In situ and Operando Transmission Electron Microscopy Study of One-dimensional InAs-based Compound Semiconductor Nanowires
O-39 I 14:00-14:30
Youngung Jeong* (Changwon National University)
Recent Advancements in Elasto-visco-plastic Self-consistent Model and its Application to Various Polycrystal Metals
O-40 I 14:30-14:50
Jungjae Park (Research Institute of Industrial Science & Technology)
Real-Time Investigation of Corrosion Behaviors in Zn-Mg-Al Alloys Using Liquid-Phase TEM

Break
10:50-11:00

S10. Ion Beam Technology
(15:10-16:50)
O-41 I 15:10-15:40
Kyeryung Kim* (Korea Atomic Energy Research Institute)
Status and Utilization of Tandem Accelerator-Based Ion Beam Analysis System of KAERI
O-42 I 15:40-16:00
Myoung Choul Choi (Korea Basic Science Institute)
Development of Gas Cluster Ion Beam and Application to the Surface Processing in X-ray Mirror

O-43 I 16:00-16:30
Jang Yun Jung* (Korea Institute of Science and Technology)
Effect of Ag Incorporation on CIGS Solar Cells Using Surface Analytical Techniques
O-44 I 16:30-16:50
Kyungsu Park (HB SOLUTION)
Advantages of Non-Destructive Depth Profile Analysis Using TOF-MEIS Over Destructive Method

Break
16:50-17:30

★Poster Session
17:30-19:20

Nov. 20 (Wed), 2024

Plenary Talk 3
O-45 I 09:00-09:50
Sung-Chan Jo (Samsung Display)**
Advanced Surface Analysis for the Perspective in Display/Semiconductor Industry

Break
09:50-10:10

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

O-46 I 10:10-10:40
Richard Morris* (IMEC)
Atom Probe Tomography: Application and Challenges within the Semiconductor Field
O-47 I 10:40-11:00
Hwi Je Woo (Korea Research Institute of Standards and Science)
Nano Imaging of Ultrafast Exciton Dynamics in 2-Dimensional Materials with s-SNOM
O-48 I 11:00-11:20
Chanwon Jung (Pukyoung National University)
Investigation of 3D Atomic Distributions in Functional Materials through Atom Probe Tomography
O-49 I 11:20-11:50
Dongchul Ihm* (Samsung Electronics)
Advancements and Challenges in Surface Metrology and Inspection for the 3D Integration Era
O-50 I 11:50:12:10
Pyuck-Pa Choi (Korea Advanced Institute of Science and Technology)
Characterization of Colloidal Pd Nanoparticles using Atom Probe Tomography

★Luncheon Seminar
12:10-13:30

S6. Applications II (Energy)
(13:30-15:10)

O-51 I 13:30-14:00
Chris Blomfield **(Kratos Analytical Ltd.)**
Using High-throughput XPS Analysis in Determining Na-Fe-Mn-O Cathode Materials Chemistry
O-52 I 14:00-14:20
Takahiro Suzuki* (Cataler Corporation)
Investigation on XPS Charge Neutralization Method for Carbon-Based Battery Materials
O-53 I 14:20-14:50
Tanguy Terlier (Rice University)
Novel Strategies for the Characterization of the Next-generation Energy Storage Materials by ToF-SIMS: from an In-situ Exploration to an Operando Measurement

Break
15:10-15:30

★Poster Session
15:30-18:20

S11. Photon Beam Technology
(10:10-15:00)

O-54 I 10:10-10:40
Un Jeong Kim* (Dongguk University)
Optical Properties of Low Dimenstional investigated by Light-Matter Interactions
O-55 I 10:40-11:10
Sooji Nam* (Electronics and Telecommunications Research Institute)
Analysis of Tellurium/Indium Zinc Tin Oxide Heterostructures and Their Device Applications
O-56 I 11:10-11:40
Seokjoon Yun* (University of Ulsan)
Bottom-up Synthesis of 2D Materials for Future Electronics
O-57 I 11:40-12:00
Yoon Mi Choi (Korea research Institute of Chemical Technology)
Molecular-level structural understanding of temperature induced phase transitions in bromine functionalized metal organic framework

★Luncheon Seminar
12:10-13:30

O-58 I 13:30-14:00
Kwangseuk Kyhm* (Pusan National University)
Ultrafast Spectroscopy and Microscopy on Nanostructures
O-59 I 14:00-14:30
Chaejeong Heo* (Sungkyunkwan University)
Label-free Spectroscopic Detection of Biomolecules for Diagnosing Alzheimer's Disease
O-60 I 14:30-15:00
Jung hwa Seo* (University of Seoul)
Photoelectron Spectroscopic Study of the Interfacial Electronic Structures of Metal-Ion Containing Polyelectrolytes on ITO Substrates

Break
15:10-15:30

★Poster Session
15:30-18:20

Nov. 21 (Thu), 2024

S6. Applications II (Energy)
(09:00-12:10)

O-61 I 09:00-09:30
Hyun-Wook Lee* (Ulsan National Institute of Science and Technology)
Observation of the Nucleation and Growth of Lithium Metal Dodecahedra in Anode-free Lithium Batteries
O-62 I 09:30-09:50
Hasmat Khan (Pusan National University)
Surface Engineering and Regulation of a Photoelectrode for Solar Rechargeable Zn-Air Batteries
O-63 I 09:50-10:10
Hyejun Kim (Sungkyunkwan University)
The Solidification Effect of Using Benzenesulfonyl Fluoride Assistants for Liquid Electrolyte in Lithium-Sulfur Batteries

Break
10:20-10:40

O-64 I 10:40-11:10
Masahiro Terashima* (ULVAC PHI)
Chemical State and Energy Band Structure Analysis for Interface Modification in All-Solid-State Battery Materials
O-65 I 11:10-11:30
Hyun-Woo Gong (Korea Institute of Science and Technology)
Unveiling the Longevity Mechanism of Si/Graphite Composite Anodes in Sulfide-based All Solid-State Batteries: Interplay of Nanostructure Evolution and Interface Stability
O-66 I 11:30-11:50
Hongjin Park (Chungnam National University)
Single-Atom Platinum Catalyst for CO Oxidation on Multi-Component Vanadia/Titania Support
O-67 I 11:50:12:10
Alireza Razazzadeh (Pusan National University)
Ru-Based High Entropy Oxide as Acid Stable Electrocatalyst for Oxygen Evolution Reaction

★Photo & Luncheon Seminar
12:10-13:30

★Excursion
13:30-18:20

S12. Nano Scientific Symposium Korea (NSSK)
(09:00-15:20)

O-68 I 09:00-09:30
Yunseok Kim* (Sungkyunkwan University)
Improved Sensitivity of Atomic force Microscopy Images by Machine Learning
O-69 I 09:30-10:00
Jungchul Lee* (Korea Advanced Institute of Science and Technology)
Unconventional Micro-/Nanofabrication via High Temperature Annealing
O-70 I 10:00-10:20
Ikbum Park (Korea Research Institute of Chemical Technology)
Ultra-sensitive and Nanoscale Imaging of Individual Biomarkers in a Single Neuronal Cell Using Force-Based AFM

Break
10:20-10:40

O-71 I 10:40-11:10
Dong Hyeon Kim* (HanYang University)
The Nanoscale Lattice Deformations in Two-dimensional Materials
O-72 I 11:10-11:40
Junghoon Jahng* (Korea Research Institute of Standards and Science)
Advances and Challenges in Dynamic Photo-induced Force Microscopy
O-73 I 11:40-12:10
Young-Jun Yu* (Chungnam National University)
Charge Trapping Memory Based on 2D Materials Heterostructures

★Photo & Luncheon Seminar
12:10-13:30

O-74 I 13:30-14:00
Eunpa Kim* (Samsung)
The Present and Future of Scanning Probe Technology for Advanced Semiconductor Device Manufacturing
O-75 I 14:00-14:30
Sangmin An* (Jeonbuk National University)
Atomic Force Microscope-based Analysis of the Nanoscale Materials and Fabrication of the Microscale Probes
O-76 I 14:30-15:00
Manhee Lee* (Chungbuk National University)
Quartz Tuning Fork-based Microviscometry for Selecting High-quality Sperm from Semen
O-77 I 15:00-15:20
Taesung Lee (Oxford Instruments)
Tip Displacement Detection Technology AFM Using Quadrature Phase Differential Interferometry

Nov. 22 (Fri). 2024

S7. Applications III (Bio and Organics)
(09:00-11:40)

O-78 I 09:00-09:30
Jaekyung Hyun* (Sungkyunkwan University)
Unraveling of Complex Poxvirus Structure using Cryo-Electron Microscopy
O-79 I 09:30-10:00
Jun-ichiro SAMESHIMA* (Toray Research Center, Inc.)
Mass Imaging Analyses for Practically Utilized Polymers and Bio Materials
O-80 I 10:00-10:20
Maciej Mazur* (University of Warsaw)
Arrays of Spherical Cap Particles: Fabrication of Substrates for Cell Cultures by Dewetting of Thin Polymer Films

Break
10:20-10:40

O-81 I 10:40-11:10
Tanguy Terlier* (Rice University)
Multiplexing Analysis Using Microarray by ToF-SIMS: a High Throughput Exploration Tool for Rapid Chemical Screening
O-82 I 11:10-11:40
HeeJin Lim* (Korea Basic Science Institute)
Time-of-flight secondary ion mass spectrometry imaging of biological samples

Closing Ceremony