03 Program at a **Glance**

SECTION · NOVEMBER 3 – 4

TIME	Nov 3 (Tue)	Nov 4 (Wed)			
		Room A	Room B	Room C	Room D
09:00		**Opening Ceremony** 09:00 – 09:20			
		Plenary Lecture 1 09:20 – 10:00			
10:00		**Keynote Lecture 1** 10:00 – 10:30			
		Coffee Break 10:30 – 10:45			
11:00		**Keynote Lecture 2** 10:45 – 11:15			
		Oral A1 Corrosion Protection I 11:20 – 12:20	**Oral B1** Energy / Storage I 11:20 – 12:05	**Oral C1** Biomaterials I	**Oral D1** Shipbuilding / Marine I
12:00		Lunch 12:20 – 13:30			
13:00		**Plenary Lecture 2** 13:30 – 14:10			
14:00		**Keynote Lecture 3** 14:10 – 14:40			
		Oral A2 Corrosion Protection II 14:45 – 15:45	**Oral B2** Corrosion Protection III 14:45 – 15:45	**Oral C2** Energy / Storage II 14:45 – 15:45	**Oral D2** Nuclear / Fossil I 14:45 – 15:45
15:00					
16:00	Registration 16:00 – 18:00	Coffee Break 16:00 – 16:20			
		Keynote Lecture 4 16:20 – 16:50	**Poster Session A** London Hall (2F) 16:20 – 17:20		
17:00					
18:00					
19:00	**Welcome Reception** BWORK SEOUL 18:30 – 21:00				
20:00					

NOVEMBER 5 – 6

TIME	Nov 5 (Thu)				Nov 6 (Fri)	
	Room A	Room B	Room C	Room D	Room A	Room B
09:00	**Plenary Lecture 3** 09:00 – 09:40				**Plenary Lecture 5** 09:00 – 09:40	
	Keynote Lecture 5 09:40 – 10:10				Coffee Break 09:40 – 09:55	
10:00	**Oral A3** Corrosion Protection IV 10:15 – 11:00	**Oral B3** Nuclear / Fossil II + Oil & Gas I 10:15 – 11:15	**Oral C3** Innovative Technologies I + Oil & Gas II 10:15 – 11:15	**Oral D3** Corrosion Protection V 10:15 – 11:00	**Oral A6** Automotive / Aerospace II + Corrosion Protection VI 09:55 – 11:25	**Oral B6** Functional Surface Eng. II + Marine III 09:55 – 11:25
11:00	Coffee Break 11:15 – 11:30					
	Keynote Lecture 6 11:30 – 12:00				**Closing Ceremony / Awards**	
12:00	**Keynote Lecture 7** 12:00 – 12:30					
	Lunch 12:30 – 13:40					
13:00						
	Plenary Lecture 4 13:40 – 14:20					
14:00		**Oral B4** Shipbuilding / Marine II 14:25 – 15:25	**Oral C4** Concrete / Reliability 14:25 – 15:25	**Oral D4** Detection / Monitoring 14:25 – 15:40		
15:00	**Poster Session B** London Hall (2F) 15:40 – 16:40					
16:00						
		Oral B5 Energy / Storage III 16:50 – 17:50	**Oral C5** Innovative Technologies II	**Oral D5** Automotive / Aerospace I		
17:00						
18:00	**Banquet** 18:00 – 21:00					
19:00						
20:00						

Ceremony · Plenary Lecture · Keynote Lecture · Oral Session · Poster Session

Break · Meal · Registration · Social Program

04 SECTION Daily **Program**

Tuesday, November 3 — DAY 1

16:00 – 18:00	Registration	
18:30 – 21:00	Welcome Reception · BWORK SEOUL	

Wednesday, November 4 — DAY 2

09:00 – 09:20	Opening Ceremony	Room A
09:20 – 10:00	**Plenary Lecture 1** Chairperson:	Room A
	Stress Corrosion Cracking in Nuclear – From Nano, Micro to Real Engineering Structure **Prof. En-Hou Han** · Institute of Corrosion Science and Technology, China	
10:00 – 10:30	**Keynote Lecture 1** Chairperson:	Room A
	High Temperature Steam Oxidation Behavior of PEO/Cr Composite Coatings on Zirconium Alloys for Nuclear Fuel Cladding **Prof. Wenbin Xue** · Beijing Normal University, China	
10:30 – 10:45	Coffee Break	
10:45 – 11:15	**Keynote Lecture 2** Chairperson:	Room A
	How Microbes Disrupt Passive Films via Extracellular Electron Transfer **Prof. Dake Xu** · Northeastern University, China	
11:20 – 12:20	**A1 · Corrosion Protection I – Protective Coatings** Chairperson:	Room A
11:20 – 11:35	Microstructure and Corrosion Resistance of Electroless Ni–P Coatings Reinforced with a Novel Thermoplastic Polyimide Composite **Dr. Mostafa Sliem** · Qatar University, Qatar	
11:35 – 11:50	Effects of Copper Displacement Plating and PVDF Coating on the Corrosion Resistance and Magnetocaloric Performance of La-Co-Fe-Si Magnetocaloric Alloy **Mr. Dong-Hyeon Lee** · Chosun University, Korea	
11:50 – 12:05	Corrosion Resistance of Zinc Flake Coatings: Effect of Flake Morphology and Lamellar Microstructure **Mr. Junbeom Park** · Gyeongsang National University, Korea	
12:05 – 12:20	Development of Anticorrosion Self-Healing Coating Based on Phosphorylated Oil-Filled Microcapsules **Prof. Ayoub Ouarga** · University Mohammed VI Polytechnic, Morocco	

Wednesday, November 4 DAY 2

11:20 – 12:05	**B1 · Electrochemical Energy Conversion and Storage I – Electrocatalysis & Anode Materials** Chairperson:	**Room B**
11:20 – 11:35	From Corrosion to Catalysis: Surface Engineering of High-Mn Steel for the Oxygen Evolution Reaction **Dr. Aasiya Sadiq Jamadar** · Sunchon National University, India	
11:35 – 11:50	Breaking the Stability-Activity Trade-Off in Single-Atom Catalysis via Interlayer Electric Fields in Van der Waals Heterostructure **Mr. Khayankhyarvaa Narmandakh** · Yonsei University, Korea	
11:50 – 12:05	Development of Barium Strontium Titanate Ferrite (BSTF) Perovskite Anodes with In-situ Fe Exsolution for Ammonia-fueled SOFCs **Prof. Hwan Kim** · Gwangju Campus of Korea Polytechnic, Korea	
11:20 – 11:50	**C1 · Biomaterials I** Chairperson:	**Room C**
11:20 – 11:35	Effects of Polydopamine Coating on the Corrosion Resistance of Porous Ti–Nb–Zr–Sn Scaffolds Under Simulated Inflammatory Conditions **Mr. Kai-Yi Lin** · National Yang Ming Chiao Tung University, Taiwan	
11:35 – 11:50	Evaluation of the Effects of Crystal Orientation and Grain Boundary on the Corrosion Initiation of Magnesium by First-Principles Calculations **Mr. Rikuto Watanabe** · Shibaura Institute of Technology, Japan	
11:20 – 11:50	**D1 · Shipbuilding & Marine Technology I** Chairperson:	**Room D**
11:20 – 11:35	A Study on Erosion-Corrosion Characteristics of Materials for Ship Ballast Pipeline **Mr. Jinho Kim** · HD Korea Shipbuilding & Offshore Engineering/Sungkyunkwan University, Korea	
11:35 – 11:50	Cavitation Erosion Behavior of Wire Arc Additive Manufactured Alloy 625 for Marine Impellers **Dr. Seunghyun Kim** · Korea Institute of Materials Science, Korea	
12:20 – 13:30	Lunch	
13:30 – 14:10	**Plenary Lecture 2** Chairperson:	**Room A**
	Driving Green Transition Technologies: Importance of corrosion control of materials to devices **Prof. Rajan Ambat** · Technical University of Denmark, Denmark	
14:10 – 14:40	**Keynote Lecture 3** Chairperson:	**Room A**
	From Corrosion Behavior to Surface Engineering: Electrochemical Approaches in Biomedical Metals **Prof. Her-Hsiung Huang** · National Yang Ming Chiao Tung University, Taiwan	
14:45 – 15:45	**A2 · Corrosion Protection II – Protective Coatings** Chairperson:	**Room A**
14:45 – 15:00	Accelerated versus Field Corrosion of Defective Painted Steel: Acceleration Factors and a Transferable Blister–Corrosion Relationship **Dr. Gang Chen** · The University of Tokyo, Japan	

Wednesday, November 4 — DAY 2

14:45 – 15:45	**A2 · Corrosion Protection II – Protective Coatings** Chairperson:	**Room A**
15:00 – 15:15	Gradient Electric Field-Regulated Synergistic Corrosion Inhibition in Thermally Oxidized Al/Al2O3/NaVO3 Multiphase Heterojunctions **Ms. Mengke Wang** · Beijing Institute of Petrochemical Technology, China	
15:15 – 15:30	EDTA–Mn Complexation-Assisted Fabrication of Mn-Containing Micro-Arc Oxidation Coatings on AZ91D Magnesium Alloy: Corrosion Resistance, Wear Resistance, and Antibacterial Properties **Mr. Shihao Xia** · Beijing Institute of Petrochemical Technology, China	
15:30 – 15:45	Preparation and Performance Evaluation of Microcapsules-Based Self-Healing Coatings for Corrosion Protection **Ms. Rabab Zeguim** · UM6P, Morocco	
14:45 – 15:45	**B2 · Corrosion Protection III – Performance, Failure & Prognostics** Chairperson:	**Room B**
14:45 – 15:00	Early-Stage Solar Salt Corrosion of 310N Austenitic Stainless Steel under Accelerated Condition **Dr. Srinivasan Swaminathan** · Federal Institute for Materials Research and Testing (BAM), Berlin, Germany	
15:00 – 15:15	Rehydration of Molten Chloride Salts during Melting and Its Impact on Corrosion **Ms. Seol Kim** · UST-KAERI, Korea	
15:15 – 15:30	Early Corrosion Failure of a Buried Fire-Fighting Pipeline in Sulfate-Rich Soil **Dr. Sungnam Kim** · Research Institute of Industrial Science & Technology, Korea	
15:30 – 15:45	Data-Driven Monitoring and Prognostics for Corrosion State Prediction via Image Analytics **Mr. Seonghun Woo** · Gyeongsang National University, Korea	
14:45 – 15:45	**C2 · Electrochemical Energy Conversion and Storage II** Chairperson:	**Room C**
14:45 – 15:00	Nanoscale Visualization of Electrochemical Degradation and Dynamic Phase Evolution in Energy Materials via Operando STXM **Dr. Juwon Kim** · Research Institute of Industrial Science & Technology, Korea	
15:00 – 15:15	Synergistic Effect of Citric Acid and EDTA Electrolyte Additives Mixture on the Performance of AZ31 Anode in Mg-Air Batteries **Prof. Guy Ben Hamu** · Shamoon College of Engineering, Israel	
15:15 – 15:30	Interface-Engineered mPEG-Grafted LLZO/PEO Composite Solid Electrolytes for High-Performance Solid-State Lithium-Oxygen Batteries **Mr. Jun-Hyeong Seo** · Chonnam National University, Korea	
15:30 – 15:45	Tailoring 3D Nano-architectured Na3.3Zr1.7La0.3Si2PO12 Fillers via In-situ Polymerization for Accelerated Na-ion Transport and Enhanced Interfacial Stability in Composite Solid Electrolytes **Mr. Jeong-Min Kim** · Chonnam National University, Korea	

Wednesday, November 4 — DAY 2

14:45 – 15:45	**D2 · Nuclear & Fossil Power I – Molten Salt & LBE** Chairperson:	**Room D**
14:45 – 15:00	Corrosion behavior of HIP and wrought 316H and Alloy 625 in molten chloride fuel and coolant salt **Dr. Chaewon Kim** · Korea Atomic Energy Research Institute (KAERI), Korea	
15:00 – 15:15	Investigation of Corrosion Mechanism of 316H Stainless Steel in molten NaCl-KCl-MgCl2 Using Electrochemical Analysis **Dr. Minsung Hong** · Korea Atomic Energy Research Institute (KAERI), Korea	
15:15 – 15:30	Effect of Adding Si and Ultrafine-Grained on corrosion behavior of 9 wt% Cr Ferritic/Martensitic steels in liquid Lead-Bismuth Eutectic at 550 °C **Ms. Hong Lu** · Institute of Metal Research, Chinese Academy of Sciences, China	
15:30 – 15:45	Corrosion Degradation of Ferritic-martensitic Steel and High-entropy Alloy in High-Temperature Lead-bismuth Eutectic **Prof. Xinqiang Wu** · Institute of Metal Research (IMR), Chinese Academy of Sciences (CAS), China	
16:00 – 16:20	Coffee Break	
16:20 – 16:50	**Keynote Lecture 4** Chairperson:	**Room A**
	Active Machine Learning Accelerated Exploration of Single-atom Catalysts for Clean Fuel Generation **Prof. Byungchan Han** · Yonsei University, Korea	

Thursday, November 5 — DAY 3

09:00 – 09:40	**Plenary Lecture 3** Chairperson:	**Room A**
	Research and Development of Anti-corrosion Protective Coatings Fabricated by Plasma Technologies **Prof. Jyh-Wei Lee** · Ming Chi University of Technology, Taiwan	
09:40 – 10:10	**Keynote Lecture 5** Chairperson:	**Room A**
	Recent Advances in Plasma Electrolytic Oxidation-Based Hybrid Coatings for Corrosion Protection of Magnesium Alloys **Prof. Mosab Kaseem** · Sejong University, Korea	
10:15 – 11:00	**A3 · Corrosion Protection IV – Alloy Design & Processing** Chairperson:	**Room A**
10:15 – 10:30	Effect of Surface Condition and Thermal Processing on the Corrosion Behavior of Hot-Rolled AISI 440C and Modified AISI 430F Stainless Steels **Prof. Stefano Rossi** · University of Trento VAT IT00340520220, Italy	
10:30 – 10:45	Volumetric Energy Density-Driven Corrosion Response of Laser Wire-DED printed ER70S-6/SS316L Bimetallic Structures **Ms. Kawtar Zahfir** · King Fahd University of Petroleum and Minerals, Saudi Arabia	

Thursday, November 5 DAY 3

10:15 – 11:00	**A3 · Corrosion Protection IV – Alloy Design & Processing** Chairperson:	**Room A**
10:45 – 11:00	Effect of Austenitization Temperature on Electrochemical Behavior and Passive Layer Evolution in Q&P-Processed Martensitic Stainless Steels **Mr. Bugra Sahin** · Yeungnam University, Korea	
10:15 – 11:00	**B3 · Nuclear & Fossil Power II + Oil & Gas I** Chairperson:	**Room B**
10:15 – 10:30	Evaluation of IASCC Initiation Susceptibility in Proton-Irradiated Cold-Worked Type 304 Stainless Steel **Mr. Ji-Yun Kim** · Korea Atomic Energy Research Institute, Korea	
10:30 – 10:45	Investigation of SCC Initiation of Type 304 Stainless Steel in Primary Water of PWRs using the Rupture Disk Corrosion Test Method **Mr. Si Young Choi** · Korea Atomic Energy Research Institute, Korea	
10:45 – 11:00	Effect of Ductility Dip Cracking and Strain Amplitudes on Corrosion Fatigue Behavior of Stainless steel Weld metal in High-temperature pressurized water **Mr. Long Zhou** · Institute of Metal Research, Chinese Academy of Sciences, China	
10:15 – 11:00	**C3 · Innovative Technologies I + Oil & Gas II** Chairperson:	**Room C**
10:15 – 10:30	Bioinspired Interfacial Regulation and Blue-Energy-Powered Cathodic Protection for Marine Corrosion Control **Prof. Miaomiao Cui** · Northeastern University, China	
10:30 – 10:45	Mechanical Damage Characteristics and Corrosion Resistance Mechanisms of Ni-W Coated Oil Tubulars in High-Temperature CO2/H2S Environments **Dr. Tao Zhang** · China University of Petroleum (Beijing), China	
10:45 – 11:00	Development of Ni-Based Alloys for High Temperature Application Using Artificial Intelligence **Dr. Dae Won Yun** · Korea Institute of Materials Science, Korea	
10:15 – 11:00	**D3 · Corrosion Protection V – Inhibition & Cathodic Protection** Chairperson:	**Room D**
10:15 – 10:30	Evaluating Concentrated Water Hyacinth (Eichhornia crassipes) Extract as a Corrosion Inhibitor for Enhancing Residential Steel Roofing Durability **Ms. Mae Allyzon Emralino De Chavez** · College of Engineering National University, Philippines	
10:30 – 10:45	Eco-Friendly Corrosion Inhibition of Magnesium Anodes Using Plant Extracts for Carbon-Capturing Mg-CO_2 Battery Applications **Ms. Khine Wai Zin** · University of Science and Technology - Korea Institute of Materials Science, Korea	
10:45 – 11:00	Electrochemical Investigation of the Corrosion Inhibition Efficiency of Choline-based Ionic Liquids in Protecting Mild steel Structures **Dr. Isehaq Al Nafai** · Sultan Qaboos University, Oman	
11:00 – 11:15	**B3 · Nuclear & Fossil Power II** Chairperson:	**Room B**
11:00 – 11:15	Minor-Element Modulation of High-Temperature Oxidation Behavior in a Ni-Based Superalloy for Molten-Salt Environments **Dr. Shulin Liu** · Chungnam National University, Korea	

Thursday, November 5 DAY 3

11:00 – 11:15	**C3 · Innovative Technologies I + Oil & Gas** Chairperson:	Room C
11:00 – 11:15	The Adsorption of the Mixture of C-16 Cationic Surfactant on Carbon Steel in a CO2-Saturated Environment using TOF-SIMS **Dr. Chaymae Hejjaj** · Qatar Energy and Environment Research Institute, Qatar	
11:15 – 11:30	Coffee Break	
11:30 – 12:00	**Keynote Lecture 6** Chairperson:	Room A
	Issues in Aluminum Anodizing Science and Technology for Corrosion Protection **Dr. Sungmo Moon** · Korea Institute of Materials Science, Korea	
12:00 – 12:30	**Keynote Lecture 7** Chairperson:	Room A
	Surface Engineering Strategies for Dental Metallic Materials: Bridging Corrosion Behavior and Clinical Performance **Prof. Peng Chen** · Tohoku University, Japan	
12:30 – 13:40	Lunch	
13:40 – 14:20	**Plenary Lecture 4** Chairperson:	Room A
	Chloride-induced Stress Corrosion Cracking in Dry Storage Canisters Made of Austenitic Stainless Steels Exposed to Seashore Environments **Prof. Tsung-Kuang Yeh** · National Tsing Hua University, Taiwan	
14:25 – 15:25	**B4 · Shipbuilding & Marine Technology II** Chairperson:	Room B
14:25 – 14:40	Laser Enhanced Surface Carbonization for Improved Corrosion Resistance **Mr. Atif Ejaz** · Mokpo National Maritime University, Korea	
14:40 – 14:55	Characterization and Performance of TiC-Reinforced Ni-P Nanocomposite Coatings for Enhanced Durability and Corrosion Resistance **Mr. Hafiz Muhammad Ghuffran Qamar** · Mokpo National Maritime University, Korea	
14:55 – 15:10	Corrosion Behavior of Cold Sprayed Aluminum Alloys for Structural Repair Applications **Dr. Munsu Kim** · The University of Alabama, Korea	
15:10 – 15:25	Hot Corrosion Behavior of Ni-38Cr-3.8Al alloy as a Function of Heat Treatment Temperature in V2O5 + Na2SO4 Molten Salt Mixture at 700 °C **Mr. ChangMin Kang** · Chosun University, Korea	
14:25 – 15:25	**C4 · Steel in Concrete & Social Infrastructures + Reliability & Cost** Chairperson:	Room C
14:25 – 14:40	Corrosion Failure Analysis of Heat Exchange Tube in Combined Heat and Power Plant (CHP) **Mr. Keun Hyung Lee** · Chungnam National University, Korea	
14:40 – 14:55	Application of Corrosion Resistant Coating in Landfill Gas Boiler **Mr. Gyeong Min Song** · Chungnam National University, Korea	

Thursday, November 5 DAY 3

14:25 – 15:25	**C4 · Steel in Concrete & Social Infrastructures + Reliability & Cost** Chairperson:	**Room C**
14:55 – 15:10	Evaluation of the Water Treatment Chemicals on FAC **Mr. Seong Ho Hong** · Chungnam National University, Korea	
15:10 – 15:25	Leakage Current-Based Accelerated Corrosion Testing for Coated High-Voltage Cable Shielding Systems in Electric Vehicles **Dr. Jisook Yang** · Gwangju Institute of Science and Technology, Korea	
14:25 – 15:40	**D4 · Detection / Monitoring / Remedy** Chairperson:	**Room D**
14:25 – 14:40	Determination of Phosphorus and Silicon in Stainless Steel by Spectrophotometry for Corrosion Performance Evaluation **Dr. Yatian Liu** · Guobiao(Beijing) Testing & Certification Co., Ltd., China	
14:40 – 14:55	Fabrication of ZIF-8@GO Composites and its Application and Research in Trace Psychoactive Substances in Sludge **Mr. Kongli Ran** · Beijing Institute of Petrochemical Technology, China	
14:55 – 15:10	Machine Learning Augmented Mechanistic Modelling of Hydrogen-Based Reduction of Iron Ore-PIR Pellets for Waste-Integrated Green Ironmaking **Mr. Yash Prakash Mishra** · IIT Delhi, India	
15:10 – 15:25	Demonstration of Extended Polarization Resistance Method for Data-Driven Corrosion and Asset Integrity Management **Mr. Danny Tan** · C-Cube International B.V., Netherlands	
15:25 – 15:40	Microelectrodes for In-Situ and Localized Electrochemical Monitoring in Molten Salt Environments **Prof. Changkyu Kim** · Seoul National University, Korea	
16:50 – 17:50	**B5 · Electrochemical Energy Conversion and Storage III – Batteries & Electrolytes** Chairperson:	**Room B**
16:50 – 17:05	Noncovalent-Interaction-Regulated Polymerizable Deep Eutectic Solvent Electrolyte for Sodium Metal Batteries **Mr. Rushikesh Kale** · Chonnam National University, Korea	
17:05 – 17:20	Glass-Phase-Assisted Grain-Boundary Engineering of Na3Zr2Si2PO12 for High-Performance Solid-State Sodium Metal Batteries **Mr. Muhammad Abaid Ashraf** · Chonnam National University, Korea	
17:20 – 17:35	Flame-Retardant PVDF-HFP Based Composite Quasi-Solid Electrolyte with Interphase-Modulating Additive for Enhanced Safety in High-Energy Lithium-Ion Batteries **Mr. Asif Javid** · Chonnam National University, Korea	
17:35 – 17:50	Synergistic Ion Transport in a 3D Single-Ion Conductive Polymer–Ether Network Electrolyte for Lithium-Metal Batteries **Mr. Tapabrata Dam** · Chonnam National University, Korea	

Thursday, November 5 — DAY 3

16:50 – 17:35	**C5 · Innovative Technologies II** Chairperson:	**Room C**
16:50 – 17:05	Effect of semi-coherent interface precipitates on wear behavior of F/M ODS steels fabricated by L-PBF **Dr. Joowon Suh** · Korea Atomic Energy Research Institute, Korea	
17:05 – 17:20	Effect of Heat Treatment on the Microstructural Evolution and Corrosion Resistance of Ti-6Al-4V Alloy Produced by Directed Metal Tooling **Mr. KyungBin Ahn** · Chosun University, Korea	
17:20 – 17:35	Electrochemical Degradation of Passive Film by Hydrogen Generation on Ni–Ti Alloy **Prof. Jun-Seob Lee** · Changwon National University, Korea	
16:50 – 17:35	**D5 · Automotive & Aerospace I + Biomaterials II + Functional Surface Engineering I** Chairperson:	**Room D**
16:50 – 17:05	Dielectrophoretic Removal of Contaminants in Autonomous Driving Sensor Systems **Dr. Kang Yong Lee** · Microsystems, Inc., Korea	
17:05 – 17:20	Investigation of corrosion resistance and surface characteristics in metallic bipolar plate materials with noble metal coatings for PEMFC application **Prof. Hye-Jin Kim** · Tech University of Korea, Korea	
17:20 – 17:35	Corrosion and Wear Behavior of Additive Manufacturing Co-Cr-Mo Alloy for Dental Applications **Prof. Guy Ben Hamu** · Shamoon College of Engineering, Israel	
18:00 – 21:00	Banquet	

Friday, November 6 — DAY 4

09:00 – 09:40	**Plenary Lecture 5** Chairperson:	**Room A**
	Research Cases of Metallic Bio-materials and Corrosion for Dental Applications **Prof. Han-Cheol Choe** · Chosun University, Korea	
09:40 – 09:55	Coffee Break	
09:55 – 11:25	**A6 · Automotive & Aerospace II + Corrosion Protection VI** Chairperson:	**Room A**
09:55 – 10:10	Metallurgical Approaches to Corrosion Resistance Improvement in Magnesium Alloys **Dr. Bong Sun You** · Korea Institute of Materials Science, Korea	
10:10 – 10:25	Effect of Al contents and extrusion process parameters on the corrosion behavior of AZ series Mg alloys **Dr. Jae-Yeon Kim** · Korea Institute of Materials Science, Korea	

Friday, November 6 DAY 4

09:55 – 11:25	**A6 · Automotive & Aerospace II + Corrosion Protection VI** Chairperson:	**Room A**
10:25 – 10:40	Hydrogen Embrittlement Behavior of Q&P Steels: Role of Retained Austenite Stability and Matrix Constituents **Prof. Hye-Jin Kim** · Tech. University of Korea, Korea	
10:40 – 10:55	Analysis of Object Perception Characteristics of LiDAR Sensors under Dust Contamination **Mr. Jiwoong Yang** · Korea Automoblie Testing and Research Institute, Korea	
10:55 – 11:10	Semiconductor and Corrosion–Cavitation Properties of Yttrium-Microalloyed Austenitic Steel in Aggressive Industrial Media **Mr. Bichev Maksym** · University, Ukraine	
11:10 – 11:25	Effect of Ti and C Addition on the Corrosion Behavior of FeCrMnNiCo High-Entropy Alloy **Ms. Juhee Lee** · Chosun University, Korea	
09:55 – 11:25	**B6 · Functional Surface Engineering II + Shipbuilding & Marine Technology III** Chairperson:	**Room B**
09:55 – 10:10	Tailoring Corrosion-Resistant Composite Coatings on Titanium Alloys via Two-Stage Plasma Electrolytic Oxidation **Prof. An Liu** · Shaanxi University of Technology, China	
10:10 – 10:25	Multimodal AI-Guided Aluminum Surface Diffusion of Electrical Steel: Simultaneous High-Frequency Iron-Loss Reduction, Weld-Free Lamination Bonding, and Corrosion Resistance **Prof. Semin Park** · Pukyung National University, Korea	
10:25 – 10:40	Dual-Barrier Protection of RGO/Epoxy Composite Coatings for Enhanced Wear and Corrosion Resistance **Dr. Jun Zhang** · Chungnam National University, Korea	
10:40 – 10:55	Surface-driven phase transitions: A multi-scale modelling study of low-index Palladium surfaces **Mr. Yash Prakash Mishra** · IIT Delhi, India	
10:55 – 11:10	Superaerophobic Layered Hydroxide Catalyst-Coated Electrodes for Durable Hydrogen Generation in Non-Ideal Water Sources **Dr. Jothi Prakash Chakrapani Gunarasan** · Chosun University, Korea	
11:10 – 11:25	Influence of Substrate Surface Pretreatment on Adhesion and Durability of Electroless Ni–P–TiC–CeO_2 Nanocomposite Coatings for Marine Applications **Mr. Hafiz Muhammad Ghuffran Qamar** · Mokpo National Maritime University, Korea	
11:30 – 11:50	Closing Ceremony / Awards	**Room A**

07 SECTION Poster Presentation and **Exhibition**

POSTER SESSION

November 4 (Wed), 2026 · 16:20 – 17:20
November 5 (Thu), 2026 · 15:40 – 16:40

PLACE

London Hall (2F, Seoul Olympic Parktel)

SCHEDULE FOR AFFIXATION & REMOVAL

- Poster size: A0 portrait (84.1 cm × 118.9 cm).
- All posters must be mounted by 16:20 on November 4 (Wed).
- All posters must be removed by 12:00 PM on November 6 (Fri).

Poster **Presenters**

Wednesday, November 4

POSTER SESSION · 16:20 – 17:20

AUTOMOTIVE AND AEROSPACE

P01	A Study on the Accelerated Life Testing and Field Reproduction of Automotive Oil Coolers Under Corrosive and Erosive Environments	**Mr. Sijoon Park** · KATECH(Korea Automotive Technology Institute), Korea
P67	A Method for Characterizing Multivariate Field Exposure for Corrosion Assessment	**Dr. Janggyun Lim** · Korea Automotive Technology Institute, Korea

BIOMATERIALS

P02	Triple-ion (Sr-Zn-Cu) Substituted Hydroxyapatite Coatings on PEO-Treated AZ31 Magnesium Alloy for Enhanced Corrosion Resistance, Bioactivity	**Ms. Deepalakshmi Jayakumar** · Chosun University, Korea
P03	Enhancement of Surface Characteristics and Functionality of Dental Titanium Membranes through Dual Surface Treatment	**Ms. Minyeong An** · Company, Korea
P31	PEO-Engineered Ti-40Ta-xHf Alloys Incorporating 58S Bioactive Glass Nanoparticles for Enhanced Surface Performance and Biocompatibility	**Mr. Kyeong-Tae Kim** · Chosun University, Korea
P32	Effect of Mn Content on the Mechanical Properties and Corrosion Behavior of Biodegradable Magnesium Alloy Microtubes	**Ms. Min-Seo Lee** · Korea University/Korea Institute of Materials Science, Korea

CORROSION PROTECTION

P04	Microstructure and Corrosion Behavior of Al-10Si-7.5Zn- xMg Coatings	**Ms. Juyeon Jin** · Chosun University, Korea
P05	The Effect of SO42- on the Passive Film Stability and the localized Corrosion Behavior of Pure Aluminum in a Chloride Environment	**Ms. YeWon Han** · KITECH, Korea
P06	Si Refinement and Enhanced Corrosion Resistance of Hot-Dip Al-Si Coatings on Hot-Press Formed Steel with Sr Addition	**Ms. Sohui Kim** · Korea Maritime & Ocean University, Korea
P07	Experimental and FEM-Based Numerical Investigation of the Effect of IMC Morphology on Micro-Galvanic Corrosion in Al–Mn Alloys	**Ms. Haerim Kim** · Korea Maritime & Ocean University, Korea

Wednesday, November 4

POSTER SESSION · 16:20 – 17:20

P08	Numerical Prediction of Micro-Galvanic Corrosion in Aluminium Alloys under Ethylene Glycol (EG) Coolant at High Temperature **Ms. Jiwoo Byeon** · Institute for Advanced Engineering (IAE), Korea
P09	Effects of Misch Metal (MM) Additions on Microstructure, Mechanical properties and Corrosion Resistance of Al 3102 Alloy **Dr. Hyeon-Taek Son** · Korea Institute of Industrial Technology, Korea
P10	Comparative Study of the Corrosion Resistance of Zinc Dust and Zinc Flake Coatings with Different Binder Systems **Mr. Seong Ho Hwang** · Oh Sung Tech Co., Ltd., Korea

ELECTROCHEMICAL ENERGY CONVERSION AND STORAGE

P11	Highly Conductive Na3Zr2Si2PO12 Solid Electrolytes via Grain-Boundary Phase Modification and Compositional Tuning for Solid-State Sodium Metal Batteries **Mr. Hyun-Su Kim** · Chungnam National University, Korea
P12	Electrochemical Kinetics Enhancement of Ni-Rich NCM811 Cathodes via Cost-Effective MWCNT Networks in Solid Polymer Electrolyte Cells **Mr. Jeong-Min Kim** · Chonnam National University, Korea
P13	ZnO Dual-Substitution for Enhanced Interfacial and Air Stability in Borohydride Argyrodite Electrolytes **Ms. Nayeon Lee** · Kookmin University, Korea
P14	Ag-Decorated g-C_3N_4@Si Composite Anodes for Lithium-Ion Batteries **Mr. Oh Hyun Kwon** · Kookmin University, Korea

FUNCTIONAL SURFACE ENGINEERING

P15	Effects of Nitrogen Flow Control on Electrochemical Properties of Titanium Nitride Coated 316L Stainless Steel **Prof. Seong-Jong Kim** · Mokpo National Maritime University, Korea
P16	Study on Corrosion Prevention Technology Through Enhanced Gas Barrier Properties of Polymer Materials Based on Ion Implantation Technology **Mr. Woo Seong Jeong** · RADPION Inc., Korea
P17	Effect of heat treatment condition after Ag PVD coating on Ag layer and electrochemical behavior on super duplex stainless steel UNS S 32750 **Mr. Yongwoo Cheon** · Dong-Eui University, Korea
P18	Effect of Cu Layer with Cu Plating Time on Cu Layer and Electrochemical Behavior on Super Duplex Stainless Steel JIS SUS329J4L **Prof. Ilguk Jo** · Dong-Eui University, Korea

INNOVATIVE TECHNOLOGIES

P19	Effect of Laser Beam Size on Melt Pool Structure, Pores, and Corrosion Behavior of Additively Manufactured 316L Stainless Steel **Ms. Soojin Lee** · Chosun University, Korea
P20	Effect of Milling Time on Corrosion Behaviors of Spark Plasma Sintered FeCrMnNiCo High Entropy Alloys **Ms. Se-Bin Na** · Chosun University, Korea

NUCLEAR AND FOSSIL POWER

P21	Effects of Lead on Oxide Film Evolution and SCC of Alloy 690 in Alkaline Environments **Mr. Jungho Shin** · Korea Atomic Energy Research Institute, Korea
P22	High-Temperature Corrosion Behaviour of As-Received and Ex-Service Super304H and HR3C in a Simulated Ammonia Co-Firing Flue Gas at 650 °C **Mr. Yeonkwan Kang** · KEPRI(KEPCO Research Institute), Korea

OIL AND GAS

P23	Hydrogen Infusion and Transport in High-strength Steel under Sour-corrosion and Tensile Loading **Mr. Seung Woo Jin** · Sunchon National University, Korea

Wednesday, November 4

POSTER SESSION · 16:20 – 17:20

P24 Experimental Study on Stress Corrosion Cracking Behavior of Flexible Pipes in High-Pressure CO_2 Environments
Dr. Jae-Won Lee · Pohang Institute of Metal Industry Advancement, Korea

SHIP BUILDING AND MARINE TECHNOLOGY

P25 Effects of Ammonia on Sulfuric Acid Dew-point Corrosion of Economizer Materials under Ammonia Co-firing System
Prof. Seung-Jun Lee · Kunsan National University, Korea

P26 Mechanical Properties & Electrochemical Characteristics of Welded Joints in Ni Alloy Steel for Ships in Natural Seawater
Prof. Jin-A Jeong · Korea Maritime & Ocean University, Korea

P27 Corrosion Behavior of Boiler Tube Steels under Simulated Ammonia Co-Firing Environments
Mr. JinYeong Bak · Kunsan National University, Korea

P28 Influence of CeO2 Particle Concentration on the Corrosion Performance of Electroless Ni-P Composite Coatings on AH32 Steel
Ms. Amina Majeed · Mokpo National Maritime University, Korea

P29 Investigation on Tribocorrosion Behavior of Ti/TiN/TiCN Multilayer-coated 316L Stainless Steel in Seawater
Prof. Seong-Jong Kim · Mokpo National Maritime University, Korea

P65 Structure Property Correlation Between Porosity, Electrochemical Impedance and Adhesion in TiC/CeO_2Reinforced Electroless Ni–P Coatings
Mr. Hafiz Muhammad Ghuffran Qamar · Mokpo National Maritime University, Korea

P70 Corrosion Behavior of Metallic Materials for Marine Auxiliary Equipment under Liquid- and Gas-Phase Ammonia Exposure
Mr. JinYeong Bak · Kunsan National University, Korea

STEEL IN CONCRETE & SOCIAL INFRASTRUCTURES

P30 Effect of Heat Treatment on Hydrogen Embrittlement Behavior of Laser Powder Bed Fusion CoCrFeNi Medium-Entropy Alloy
Mr. Hyun Jeong · Chungnam National University, Korea

Thursday, November 5

POSTER SESSION · 15:40 – 16:40

CORROSION PROTECTION

P33 Accelerated Corrosion Testing of Grounding Materials under Simulated Soil Environments
Mr. Jin Won Kim · Research Institute of Industrial Science & Technology, Korea

P34 Development of Powder Coating System for the Conversion of Conventional Liquid Coatings in Shipping Container Applications
Mr. ByungSoo Moon · Company, Korea

P35 Spangle Refinement and Enhanced Corrosion Resistance of Hot-Dip Al–Si Coated Steel Sheet by Electrostatic Powder Coating with Mixed Al/Zn Powder
Ms. Sohui Park · Korea Maritime & Ocean University, Korea

P36 Effect of Crevice Width on Heat Exchanger Design for Corrosion Resistance Through Simulation and Experimental Validation Based on Critical Crevice Solution Theory
Mr. Sangin An · Korea Maritime & Ocean University, Korea

P37 Enhancing Tube sheet Integrity of Reactor at Oil and CasSulfur Recovery Units
Mr. Askar Alhajri · Oil & Gas, Saudi Arabia

P38 Effect of Residual Stress with Cold-rolled Ratio on Microstructure and Electrochemical Behavior on Super Duplex Stainless Steel EN 1.4501
Mr. Hyeonil Kim · Dong-Eui University, Korea

P61 Bioelectrochemical reduction of TiO2 destabilizes the corrosion-protective titanium passive film
Ms. Jiaqi Li · Northeastern University, China

Thursday, November 5

POSTER SESSION · 15:40 – 16:40

P63 Corrosion Inhibition of Carbon Steel SA 106 Gr.B Using 1,3-Diethyl-2-Thiourea in HyBRID Chemical Decontamination Solution
Mr. Sion Kim · Korea Atomic Energy Research Institute / University of Science and Technology, Korea

P64 Effects of microporous layer (MPL) treatment on the passive film stability of Ti PTL in PEMWE operation conditions
Ms. On Yu Ha · Korea Institute of Industrial Technology, Korea

ELECTROCHEMICAL ENERGY CONVERSION AND STORAGE

P39 High-Rate Performance of Nanostructured ZnP2/Carbon Composite Anodes Synthesized Via Mechanochemical Route for Sodium-Ion Batteries
Mr. Pyo-Chan Kim · Chonnam National University, Korea

P40 Uncertainty-Guided Active Learning of Machine Learning Interatomic Potentials for Ligand–Metal Nanoparticle Interfaces
Mr. Junyoung Choi · Yonsei University, Korea

P41 Oxide-Bypassing Nitridation via Solid Precursors for Robust Artificial SEI Engineering in Silicon Anodes
Mr. HyungRae Kim · Kookmin University, Korea

P42 Interfacial Stabilization of $Li_{5.5}PS_{4.5}Cl_{1.5}$ Argyrodite Electrolyte via Cu Substitution
Ms. Jaeeun Lee · Kookmin University, Korea

P43 DFT-Driven Rational Design of Ni–Fe/CeO2–Al2O3 Core–Shell Catalysts for Low-Temperature Ammonia Decomposition
Ms. Sanhee Kim · Gwangju Campus of Korea Polytechnics, Korea

FUNCTIONAL SURFACE ENGINEERING

P44 Electrochemical properties of TiCN-coated 316L stainless steel under gas diffusion layer compression for metallic bipolar plates of PEMFCs
Prof. Seong-Jong Kim · Mokpo National Maritime University, Korea

P45 Investigation on the friction and wear behavior of CrN-coated stainless steel using design of experiments
Prof. Seong-Jong Kim · Mokpo National Maritime University, Korea

P46 Enhanced electrochemical chracteristics and interfacial contact resistance of carbon-coated titanium in a polymer fuel cell environment
Prof. Seong-Jong Kim · Mokpo National Maritime University, Korea

P47 Correlation Between Ni Coating Growth Behavior and Electrochemical Properties in Al–cBN Composites
Mr. Yongwoo Cheon · Dong-Eui University, Korea

P48 Effect of Ni layer with electroless Ni plating time on plating and electrochemical behavior on super duplex stainless steel EN 1.4501
Prof. Ilguk Jo · Dong-Eui University, Korea

P49 Comparative Study on the Tribological and Electrochemical Corrosion Behaviors of Arc-PVD Nitride and PECVD DLC Coatings for Ammonia-Fueled Marine Engines
Dr. Jae Un Kim · JNLTECH, Korea

INNOVATIVE TECHNOLOGIES

P50 Effect of Laser Beam Size on the Microstructure and Corrosion Behavior of Inconel 625 Fabricated by Directed Energy Deposition
Mr. Seung Hwan Lee · Chosun University, Korea

P51 Construction of a Database for Corrosion Properties of High-Entropy Alloys
Ms. Seoyeon You · Chosun University, Korea

NUCLEAR AND FOSSIL POWER

P52 Electrochemical Corrosion Behavior of Ni-Cu alloys in Simulated Deep Geological Disposal Environments
Dr. Gha-Young Kim · KAERI, Korea

P53 Corrosion behavior of Ni-Cu alloys under anaerobic groundwater as a canister material for deep geological disposal
Dr. Junhyuk Jang · KAERI, Korea

Thursday, November 5

POSTER SESSION · 15:40 – 16:40

OIL AND GAS

P54 Effect of Cu and Cr Alloying and Heat Treatment on Sour Corrosion and Hydrogen-Induced Cracking Resistance of API X55 Line Pipe Steel
Dr. Jae-Won Lee · Pohang Institute of Metal Industry Advancement, Korea

SHIP BUILDING AND MARINE TECHNOLOGY

P55 Corrosion behavior of T12 low-alloy steel in ammonium nitrate environment for ammonia-coal co-firing power plants
Prof. Seung-Jun Lee · Kunsan National University, Korea

P56 Hot Corrosion Behavior of Ni–Cr–Al Alloys with Si, Ta, or Nb addition
Mr. Yi Jeong · Chosun University, Korea

P57 Study on hydrogen embrittlement mechanisms in 316L stainless steel under ammonia environment
Prof. Seung-Jun Lee · Kunsan National University, Korea

P58 Investigation of Passivation Behavior and Surface Chemistry of Metallic Materials in Chloride and Ammonium Environments
Mr. JinYeong Bak · Kunsan National University, Korea

P59 Multi-stage Current Density Controlled Sulfuric Acid Anodizing of Aluminum Alloy for Enhanced Corrosion Resistance in Marine Application
Mr. Atif Ejaz · Mokpo National Maritime University, Korea

P66 Long-Term Degradation Mechanisms of Electroless Ni–P–TiC–CeO_2 Hybrid Coatings in Natural Seawater
Mr. Hafiz Muhammad Ghuffran Qamar · Mokpo National Maritime University, Korea

STEEL IN CONCRETE & SOCIAL INFRASTRUCTURES

P60 Improvement of Cathodic Protection Performance for Reinforced Concrete Using Moisture Adsorbing Conductive Mortar
Prof. Jin-A Jeong · Korea Maritime & Ocean University, Korea

BIOMATERIALS

P62 Eco-Friendly Hybrid Surface Treatment of Titanium Implants via Femtosecond Laser and Hydrothermal Synthesis for Enhanced Osseointegration
Mr. SeungPyo Kim · Company, Korea

AUTOMOTIVE AND AEROSPACE

P68 Stray-Current Corrosion Mechanisms and Lifetime Assessment of Grounding Connections in Electrified Vehicles
Dr. Seung Ho Ahn · CHONNAM NATIONAL UNIVERSITY, Korea

P69 Effects of High-Voltage Cable Corrosion on Electromagnetic Characteristics of Electrified Vehicles
Dr. SEUNG HO AHN · CHONNAM NATIONAL UNIVERSITY, Korea