

Monday, October 14, 2019
10:30-12:00

MA1 S1: Stress Corrosion, Corrosion Fatigue & Hydrogen Embrittlement 1 Chair: Seong Sik Hwang (KAERI, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MA1-1	P00006	Keynote	Common Corrosion Failures in Shell and Tube Heat Exchangers: Roots & Counteractive	Hosni M	A Zubeir
MA1-2	P00020	General	Increasing Acid Dew Point Corrosion Resistance with Thin Coating Layer on Steel	Changhoon	Choi
MA1-3	P00068	General	Effect of heat treatment conditions on corrosion and hydrogen diffusion behaviors of ultra-strong steel used for automotive applications	Jin-seong	Park
MA1-4	P00081	General	Effect of UNSM Conditions on Microstructure and Corrosion Properties of Alloy 600MA	KiTae	Kim

MB1 S11: Cathodic Protection and Protective Coatings Chair: Myung Jin Lyoo (International Paint Korea, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MB1-1	P00013	Keynote	Nanocrystalline coating with high thermal stability for oxidation protection of superalloy	Fuhui	Wang
MB1-2	P00046	General	Anti-corrosive effect of modified cathodic protection technique on the automobile	Daehong	Sohn
MB1-3	P00058	General	Optimizing cathodic protection by temporary coatings in Sea water	Min	Du
MB1-4	P00064	General	Effect of Surface Corrosion on the Adhesion Strength for Anti-Corrosive Paint on Steel Plate	Young-Rae	Cho

MC1 S9: Electrochemical Energy Conversion and Storage 1 Chair: Chunjoong Kim (Chungnam National University, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MC1-1	P00126	Keynote	Redox Activities of Organic Single Molecules and Their Use for Energy Storage	Chunjoong	Kim
MC1-2	P00014	General	Inhibitors of Hydrogen Evolution Reaction for Aluminum-Air Battery in Alkaline Electrolyte	Seok-Ryul	Choi
MC1-3	P00029	General	Enhancement of the Thermal Properties of Natural Graphite Anode Materials Through Surface Treatment by Incorporating Phosphorus	Kyungbae	Kim
MC1-4	P00127	General	DMPZ electrochemical properties in lithium ion battery and its redox activity mechanism	Vitalii	Ri

Monday, October 14, 2019**13:30-15:00**

MA2 S1: Stress Corrosion, Corrosion Fatigue & Hydrogen Embrittlement 2 Chair: Chaofang Dong (University of Science and Technology Beijing, China)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MA2-1	P00024	Keynote	Keynote: Progress in High-throughput Materials Data Collection and Database Fusion Technique	Chaofang	Dong
MA2-2	P00113	General	On Hydrogen Embrittlement Testing Methods	Young Suk	Kim
MA2-3	P00056	General	Stress Corrosion Cracking of Alloy 690 with an Inhomogeneous Microstructure in Simulated Primary Water	Hong Pyo	Kim

MB2 S2: Techniques for Detection/Monitoring/Remedy Chair: Deok Soo WON (KOGAS, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MB2-1	P00005	Keynote	Ex-situ and In-situ Analysis of Thickness of Passive Film on Stainless Steel by XPS, TEM and AFM	Rongguang	Wang
MB2-2	P00023	General	Ex-situ Characterization of Corrosion in Carbon Steel using Atomic Force Microscopy	Changhyo	Sun
MB2-3	P00018	General	Effect of Corrosion Behavior of Rivet Coating on Mechanical Performance Degradation of Self-piercing Riveted Joints	Md Abdul	Karim
MB2-4	P00104	General	Reduce the Cost of Corrosion Under Insulation (CUI) – A Technical Comparison between Several Commercially Available Traditional Coating Technologies and Novel Alkylated Epoxy Amine Technology, for CUI Mitigation.	George	Sykes

MC2 S9: Electrochemical Energy Conversion and Storage 2 Chair: Seunghoon Nam (Andong National University, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MC2-1	P00067	General	Durable Nano-oxide Dispersed Ferritic Steel as Metallic Interconnects for Solid Oxide Fuel Cells	Rak-Hyun	Song
MC2-2	P00106	General	N-doped Carbon Incorporated CoP Nanostructures as a Flexible Electrode for High Energy Supercapattery Systems	Uk	Sim
MC2-3	P00122	General	X-ray Microscopy across Scales, Dimensions, and Platforms	Young-Sang	Yu

Monday, October 14, 2019
15:00-16:30

Poster Session 1					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
P1-01	P00036	General	Factors Affecting the Difference in Stress Corrosion Cracking Occurrence in Alloy 600MA Steam Generator Tubes	YONG SEOK	KANG
P1-02	P00045	General	Use of a Pressurized Autoclave System with Recirculating Loop to Investigate Stress Corrosion Cracking of 316L under PWR Primary Water Conditions	Djamel	Kaoumi
P1-03	P00060	General	Solid particle impingement behavior of 9Cr-1MoVNb steel degraded at 750 °C	Seong-Jong	Kim
P1-04	P00111	General	High temperature oxidation resistance of Ni-based alloys predicted by deep learning	HeeJin	Jang
P1-05	P00059	General	Investigation on corrosion-erosion mechanism of electroless nickel plated layer in marine environment	Seong-Jong	Kim
P1-06	P00061	General	Effects of impressed current on cavitation damage of Al alloy in natural seawater solution	Seong-Jong	Kim
P1-07	P00062	General	Electrochemical acceleration method of offshore wind tower substructure material for evaluation of durability	Seong-Jong	Kim
P1-08	P00112	General	Effects of Na ₂ S, NaCl, and H ₂ O ₂ on the corrosion behavior of aluminum	HeeJin	Jang
P1-09	P00118	General	A Study on the adhesion and corrosion of Organic-coating on the vehicle's body panel	CHANG OK	PARK
P1-10	P00120	General	A Study on the Practical Use of Ultrasonic Thickness Measuring Device for Determination of Thin Plate Corrosion	WOON CHEL	RYU
P1-11	P00121	General	A Research of Accelerated Corrosion Mechanism of High Voltage Cable Connector on Electrification Vehicles by Current	Hwi Yong	Lee
P1-12	P00027	General	A Comparative Study On The Corrosion Behaviors of Q235B and 12MnNiV Carbon Steel in soil	Mosong	Li
P1-13	P00043	General	Lifetime Prediction of GFRP Used for Gathering Pipelines in Oil Field Based on High Temperature Accelerated Test	Bin	Wei
P1-14	P00116	General	Case Study of Flowline Design for Subsea Gas Field Development	YoungKeun	Kim
P1-15	P00054	General	The Effect of Existing Rust on the Bond Strength of Concrete and Reinforcement	Byung-Duk	Lee
P1-16	P00075	General	Inhibition Effects of Sodium Nitrite, Sodium Hexametaphosphate, Triethylamine, Sugar and Urea on Corrosion of Steel	HeeJin	Jang
P1-17	P00087	General	Effects of Carbon Nanotubes on the Corrosion of Aluminum and Copper in Ethylene Glycol Aqueous Solution	HeeJin	Jang

P1-18	P00089	General	CORROSION OF STAINLESS STEEL MATERIALS IN CHLORIDE INFLUENCED HUMID TROPICAL CONDITIONS	TRU NHI	NGUYEN
P1-19	P00028	General	Synthesis and Electrochemical Properties of Niobium Oxide-Silicon-Carbon Composite for Li-Ion Battery Electrodes	Dahye	Park
P1-20	P00030	General	Synthesis and Electrochemical Properties of SnS/C Composite for Reversible Lithium Storage	Hae-Ri	Yang
P1-21	P00031	General	Synthesis and Electrochemical Properties of Spherical Antimony-Niobium Oxide Composite for Reversible Li Storage	Hyungeun	Seo
P1-22	P00088	General	Understanding of Early Stage Oxidation Behavior on Ni Surface Using Molecular Dynamics	KwangBeom	Ko

Monday, October 14, 2019**16:30-18:00**

MA3 S1: Stress Corrosion, Corrosion Fatigue & Hydrogen Embrittlement 3 Chair: Djamel Kaoumi (North Carolina State University, USA)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MA3-1	P00044	Keynote	In-situ Synchrotron X-Ray Micro-Tomography of Stress Corrosion Cracking in 304 SS under humid air environment	Djamel	Kaoumi
MA3-2	P00098	Keynote	Effect of Hydrogen on Pitting Corrosion of Stainless Steels	Lijie	Qiao

MB3 S14: New Materials and Coatings Chair: Il Ryung SOHN (POSCO, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MB3-1	P00038	General	Investigation of pitting corrosion of high strength duplex stainless steels	Qian	Xiao
MB3-2	P00093	General	Anti corrosion performance and applications of ZnMgAl alloy coated PosMAC® steel	ILRYOUNG	SOHN
MB3-3	P00102	General	Effect of pre-cold rolling and intermediate annealing on Inter-crystalline corrosion in AlMg9 alloy	Kweon-Hoon	Choi
MB3-4	P00103	General	Effect of Grain boundary structures on the hot corrosion behavior of Ni base superalloys	Dong-Ik	Kim

MC3 S9: Electrochemical Energy Conversion and Storage 3 Chair: Young-Sang Yu (Lawrence Berkeley National Laboratory, USA)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
MC3-1	P00123	General	Enhancement of Si Electrodes with In-Situ Polymerized Binders for Li-Ion Batteries	Seunghoon	Nam
MC3-2	P00124	General	Lithium protection layer for lithium metal batteries	Taeseup	Song
MC3-3	P00125	General	Untangling the Coupling between Anion Redox-Structure-Electrochemistry of Li-rich Layered Oxides	Jihyun	Hong
MC3-4	P00129	General	Advanced Neutron Diffraction Researches on Electrode Materials for Li Rechargeable Batteries	Hyungsub	Kim

Tuesday, October 15, 2019
10:30-12:00

TA1 S3: Nuclear and Fossil Power 1 Chair: Dong-Jin KIM (KAERI, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TA1-1	P00008	Keynote	History of the Discussion on the Mechanism of PWSCC	Toshio	Yonezawa
TA1-2	P00007	General	Standard development for repair by Ni plating for PWR reactor vessel cladding	Seong Sik	Hwang
TA1-3	P00009	General	Stress Corrosion Cracking and Surface Oxidation of Ni-base Alloys Exposed to Simulated PWR Primary Water	Yun Soo	Lim
TA1-4	P00022	General	Steam Control Valve Stem Damage Analysis	Qing-Lin	Zhu

TB1 S15: Corrosion in Bio Materials Chair: Han Cheol CHOE (Chosun University, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TB1-1	P00052	Keynote	Surface Modification of Metallic Medical Implants Using Electrochemical Process	Her-Hsiung	Huang
TB1-2	P00011	Keynote	The effect of Ti intermediate layer on the properties of HAp Plasma Spray Biocompatible coatings	Seisho	TAKE
TB1-3	P00109	General	Effects of Dopant and Doping Concentration on the Electrochemical Properties of Silicon in Molten Oxide Glasses	Joo-Youl	Huh

TC1 S5: Automotive and Aerospace 1 Chair: Seung Ho AHN (Hyundai Motor Company, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TC1-1	P00066	General	Anti-Corrosion Performance of Automotive ZnMgAl-Coated Steel	Yun Ha	Yoo
TC1-2	P00090	General	A Study of Corrosion Resistance on the Q&P Steel according to Zinc Phosphate Condition	Wonseog	Yang
TC1-3	P00115	General	Electrochemical Behavior and Material Performance of Electroplated Zn and Phosphate treatment for Automobile Bodies	Yonkyun	Song
TC1-4	P00135	General	Internal and External Corrosion Evaluation of Aluminum Plated Steel Sheet for Automobile Exhaust System	Sungnam	Kim

Tuesday, October 15, 2019

13:30-15:00

TA2 S3: Nuclear and Fossil Power 2 Chair: Yutaka Watanabe (Tohoku University, Japan)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TA2-1	P00042	Keynote	Material Factors in Flow Accelerated Corrosion of Carbon Steel	Yutaka	Watanabe
TA2-2	P00037	General	Evaluation the thermal aging effect on the corrosion behaviors of austenitic stainless steel welds in modified green death solution	Junjie	Chen
TA2-3	P00048	General	Corrosion Behavior of Carbon Steel for Containment Liner Plate According to Environmental Factors	Won Jun	Choi

TB2 S16: Others Chair: Soo Yeol LEE (Chungnam National University, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TB2-1	P00025	General	Corrosion behavior of in situ TiC·Al ₂ O ₃ reinforced 6063 aluminium matrix composites in 3.5% NaCl solution	Min	Ao
TB2-2	P00047	General	Case Study on Corrosion Failure in Korea District Heating	Hobyung	Chae
TB2-3	P00049	General	Corrosion Analysis of Heat Recovery Steam Generator and Peak Load Boiler in District Heating System	Min Ji	Song
TB2-4	P00071	General	A Study on the Electrochemical Behavior and Passive Film Stability of Lean Duplex Stainless Steel in Chloride-Containing Synthetic Tap Water	Sangwon	Cho

TC2 S5: Automotive and Aerospace 2 Chair: Wonseog Yang (Hyundai Steel, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TC2-1	P00117	General	A Study on Galvanic Corrosion Simulation Method for Predicting Corrosion Lifetime in Dissimilar Materials Joints of Automotive Parts	SEUNG HO	AHN
TC2-2	P00119	General	A study of correlation between LAB test result and field phenomenon for aluminum chassis component of vehicle	Byungsu	Kim
TC2-3	P00105	General	Oxidation behavior of sputtered NiFe ₂ coating on Ferritic stainless steel for SOFC interconnect application	Shujiang	Geng

Tuesday, October 15, 2019

15:00-16:30

Poster Session 2					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
P2-01	P00041	General	A Study on corrosion behavior of magnesium alloy sealed with chemical conversion coating and sol-gel coating.	Dong Uk	Lee
P2-02	P00051	General	The effect of inorganic substance addition on corrosion resistance of epoxy powder coatings	Bora	Park
P2-03	P00053	General	Application of High Performance Coatings for Service Life Extension of Steel Bridges Coatings	Chan-Young	Lee
P2-04	P00070	General	Electrochemical characterization of the corrosion behaviors of Al -based coatings for the steel sheet	Si-On	Kim
P2-05	P00077	General	Adhesion of paint coating film on Zn-Mg-Al alloy coated steel sheets	Se-Young	Oh
P2-06	P00078	General	Influence of Rectifier Interference on Defect Detection of Coated Pipes buried at the different depths in the Soil	Min-Gi	Kim
P2-07	P00110	General	Effects of Mg and Fe on the morphology and growth of intermetallic phases during hot-dip coating of Al-Zn-Si-(Mg, Fe) alloys on steels.	Seung Hui	Ko
P2-08	P00073	General	Electrochemical Behaviors on the PEO-treated Ti-25Nb-xTa Alloys for Biomaterials	Seung-Pyo	Kim
P2-09	P00074	General	Corrosion Characteristics of Micropore-formed Ti-xNb-2Ag-2Pt Alloy by Plasma Electrolytic Oxidation	Hyun Jun	Kim
P2-10	P00095	General	The characterization of surface oxides on Zn-0.2%Al and Zn-1.4%Al-1.4%Mg galvanized irons	Sung	Kang
P2-11	P00039	General	Fabrication of superhydrophobic aluminum alloy surface with hierarchical pore nanostructure for anti-corrosion	Hyejeong	Ji
P2-12	P00040	General	Analysis of PVDF coating properties with addition of hydrophobically modified fumed silica	Nam Kyu	Lee
P2-13	P00132	General	Corrosion Behavior and Surface Appearance of Copper by 10-Years Outdoor Exposure Test in Korea	IK JUN	JANG
P2-14	P00079	General	Relationship between Environmental Factors and Corrosion rate of Carbon steel for 10-years Outdoor Exposure Test in Korea	IK JUN	JANG
P2-15	P00082	General	Atmospheric Corrosion of Weathering Steel for 10-years Outdoor Exposure Test in Korea	IK JUN	JANG
P2-16	P00133	General	Analysis on Corrosion behavior of Aluminum by 10-years Outdoor exposure test in Korea	IK JUN	JANG
P2-17	P00080	General	Effect of Surface Treatment to Mitigate the Galvanic Corrosion between Metals and CFRP	Seung-Young	Hur
P2-18	P00084	General	Comparison of Corrosion Behavior of Galvanized Steels after 10-Years Outdoor Exposure Test in Korea	Jong Mo	Jeon

P2-19	P00085	General	Failure and Stress Analysis of Copper Pipe for Heating Water Supply	Hobyung	Chae
P2-20	P00086	General	Evaluation of Tensile Properties of Materials used in Low Pressure Evaporator at High-Temperature Corrosion Environment	Min Ji	Song
P2-21	P00069	General	Corrosion Inhibition Studies of Magnesium Alloy with and without Cl ⁻ in the Alkaline Electrolytes in addition with Various Additives	Yoonji	Shin

Tuesday, October 15, 2019

16:30-18:00

TA3 S3: Nuclear and Fossil Power 3 Chair: En-Hou Han (Institute of Metal Research, Chinese Academy of Sciences, China)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TA3-1	P00130	Keynote	In-situ Scratching Repassivation Test for Rapid Evaluation of SCC Sensibility in High Temperature Pressurized Water	En-Hou	Han
TA3-2	P00092	General	Cause Analysis for a Lining Damage Installed in the Seawater System Piping of a Korean Industrial Plant	Kyeongmo	Hwang
TA3-3	P00094	General	Study of Cathodic Protection Criteria for a Modification of the Chemistry at the Steel Surface around Coating Defects on Buried Pipes of Nuclear Power Plants	Butaek	Lim
TA3-4	P00131	General	Investigation of crystal-shaped boron from CRUD using an EPMA X-ray image mapping	Yang Hong	Jung

TB3 S8: Steel in Concrete & Social Infrastructures Chair: HeeJin JANG (Chosun University, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
TB3-1	P00015	General	Improving Water Absorption of Concrete by Waterproofing-chemical Admixture	Ahmad	Fahrizal
TB3-2	P00063	General	Extension of corrosion life of steel by using water-soluble plant extract forming organic protective layer	Jae Yeon	Kim
TB3-3	P00065	General	Review of Corrosion Experience for Service Water Piping in NPP	Sangkyu	Park

Wednesday, October 16, 2019**13:30-15:00**

WA1 S4: Ship Building and Marine Chair: Min Young SHON (Pukyong National University, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
WA1-1	P00010	Keynote	Studies on Corrosion/Failure Behavior of Metals/Protective Coatings in Deep Sea Environment	Liu	Li
WA1-2	P00016	General	Corrosion Resistance of Stainless Steel in Marine Exhaust Gas Scrubber Environment	Hanjin	Ryu
WA1-3	P00055	General	Improvement of Thermal Resistance Performance for Heat-resistant Coatings on Ship Exhaust Pipes	Hyang An	Hwang
WA1-4	P00057	General	Study on corrosion properties of additive manufactured 316L stainless steel and alloy 625 in seawater	Geunsu	Jung

WB1 S10: Corrosion 4.0 - Emerging Issues in Industry 4.0 Chair: Hyun Young CHANG (KEPCO E&C, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
WB1-1	P00033	General	Effect of α' phase on the resistance to corrosion of additive-manufactured (3D printing) Ti-6Al-4V using microdroplet cell techniques and critical pitting temperature measurements	Dong-Il	Seo
WB1-2	P00034	General	New concepts for evaluation on the resistance to corrosion of stacked Ti-6Al-4V by the electrochemical critical localized corrosion temperature (E-CLCT)	Jae-Bong	Lee
WB1-3	P00100	General	Application of Machine Learning Methods on the Estimating Flow-Accelerated Corrosion Rates in Metal Pipes	Gyeong-Geun	Lee
WB1-4	P00107	General	Pattern recognition algorithm for rust classification in steel surface using artificial intelligence based surface inspection drone	Hyunyoung	Chang

Wednesday, October 16, 2019**15:30-17:00**

WA2 S7: Oil and Gas Chair: Jin Hee LEE (SK E&C, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
WA2-1	P00035	Keynote	Key Corrosion Challenges in Sulfur Recovery Units	Houssameldin Sabry	Ibrahim
WA2-2	P00019	General	Research on Corrosion Law of Bottom Plate of Large Crude Oil Tank and Risk-based Maintenance Technology	fangwei	luo
WA2-3	P00026	General	Application of HPLC/MS method for identification of corrosion inhibitor composition and assess its residual concentration in produced water	Pavel	Zadorozhny
WA2-4	P00128	General	The Development of a Volumetric, Water Repellent Topcoat and the Benefits of Using This Topcoat, as Part of a Two Coat System, for Extended Corrosion Protection in an Offshore or Marine Environment	David	Morton

WB2 S12: Corrosion Management and Reliability Chair: Seon Yeob LI (Hyundai E&C, Korea)					
	Paper No.	Paper Type	Paper Title	First Name	Last Name
WB2-1	P00021	General	Corrosion Inhibitor Batch Treatment for Downhole Tubing	Ahmad	Fahrizal
WB2-2	P00097	General	Investigation of Heat Treatment Effect on the Corrosion Resistance of Ferritic Stainless Steel for Absorption Chiller Heat Exchange Pipe	Seunghwan	Lee
WB2-3	P00108	General	Atmospheric Corrosion Monitoring of Steel and Zinc in Different Environments in Korea	Seonyeob	Li