

Program at a Glance

DAY-1: Sunday, March 8

	Lobby	Noh Theatre	Conference Room 1	Reception Hall	Hotel Nikko Nara
16:30 – 18:30					Registration
18:30 – 20:30					Get together

DAY-2: Monday, March 9

	Lobby	Noh Theatre	Conference Room 1	Reception Hall	Hotel Nikko Nara
08:30 – 09:20	Registration				
09:20 – 10:40		Session 1 Opening remarks Plenary (PL-1) Keynote (K-1)			
10:40 – 11:00	Coffee break				
11:00 – 12:00		Session 2A Oral Session (O-1,2,3)	Session 2B Oral Session (O-4,5,6)		
12:00 – 13:30				Lunch	
13:30 – 14:55		Session 3 Keynote (K-2,3) Invited (I-1)			
14:55 – 15:15	Coffee Break				
15:15 – 16:35		Session 4 Keynote (K-4) Invited (I-2,3)			
16:35 – 16:50		Interval			
16:50 – 17:20		Session 5 Keynote (K-5)			
19:00 – 21:00					Welcome reception

DAY-3: Tuesday, March 10

	Lobby	Noh Theatre	Conference Room 1	Reception Hall	Hotel Nikko Nara
08:30 – 09:20	Registration				
09:20 – 09:30					
09:30 – 10:40		Session 6 Plenary (PL-2) Keynote (K-6)			
10:40 – 11:00	Coffee break				
11:00 – 12:00		Session 7A Oral Session (O-7,8,9)	Session 7B Oral Session (O-10,11,12)		
12:00 – 12:30				Group Photo	
12:30 – 13:30				Lunch	
13:30 – 15:30				Poster Session (P-1~14)	

Program at a Glance

DAY-4:Wednesday, March 11

	Lobby	Noh Theatre	Conference Room 1	Reception Hall	Hotel Nikko Nara
08:30 – 09:20	Registration				
09:20 – 09:30					
09:30 – 10:40		Session 8 Plenary (PL-3) Keynote (K-7)			
10:40 – 11:00	Coffee break				
11:00 – 12:00		Session 9A Oral Session (O-13,14,15)	Session 9B Oral Session (O-16,17,18)		
12:00 – 13:30				Lunch	
13:30 – 14:55		Session 10 Keynote (K-8,9) Invited (I-4)			
14:55 – 15:15	Coffee Break				
15:15 – 17:25		Session 11 Keynote (K-10) Invited (I-5,6,7,8)			
19:00 – 21:00					Banquet

DAY-5:Thursday, March 12

	Lobby	Noh Theatre	Conference Room 1	Reception Hall	Hotel Nikko Nara
08:30 – 09:20	Registration				
09:20 – 09:30					
09:30 – 11:00		Session 12 Keynote (K-11,12,13)			
11:00 – 11:10		Interval			
11:10 – 11:50		Plenary (PL-4) Closing remarks			

Program

SUNDAY March 8

Registration

16:30–18:30 (Hotel Nikko Nara)

Get together

18:30–20:30 (Hotel Nikko Nara)

MONDAY March 9

Registration

8:30–9:20 (Lobby)

Session 1 (*Noh Theatre*) chairs: Kazuhisa Azumi, Roger Newman

9:20–9:30 (Opening remarks)

Shinji Fujimoto (The University of Osaka, National Institute of Technology(KOSEN), Suzuka College)

9:30–10:10 (Plenary)

PL-1: Growth, Structure and Composition of Passive Films: from Pure Metals to Stainless Alloys, and to High Entropy Alloys

Philippe Marcus (Chimie ParisTech-CNRS, PSL University)

10:10–10:40 (Keynote)

K-1: In-situ evaluation of the transition from active state to passive state on metal surfaces

Koji Fushimi (Hokkaido University)

Coffee break

10:40–11:00 (Lobby)

Session 2A (*Noh Theatre*) chair: Yu Sugawara

11:00–11:20 O-1: Effects of Al Additives on the Passivation Behavior of 11Cr Stainless Steels

Masatoshi Abe (Nippon Steel Corporation)

11:20–11:40 O-2: Transport model to investigate the role of an anion-selective rust deposit in stainless steel pitting corrosion

Thi Van Anh Nguyen (University of Toronto)

11:40–12:00 O-3: Effect of phosphate additives on corrosion resistance of stainless steel for seawater electrolysis environments

Tomoya Hashimoto (National Institute for Materials Science)

Session 2B (*Conference Room 1*) chair: Yoshinao Hoshi

11:00–11:20 O-4: Intergranular corrosion of Fe-0.01 wt.% P alloy: Roles of grain boundary segregation and misorientation

Saya Ajito (Tohoku University)

11:20–11:40 O-5: Effect of Cu on pit initiation behavior at MnS inclusions in carbon steel

Masashi Nishimoto (Tohoku University)

11:40–12:00 O-6: Effect of Si addition on corrosion resistance of Cr-alloyed steel rebar in sulfuric acid environment

Ko Ebina (National Institute for Materials Science)

Lunch

12:00–13:30 (Reception Hall)

Program

Session 3 (Noh Theatre) chair: Jan Macak

- 13:30–14:00 (Keynote)
K-2: Oxides: From passivity to functionality
Patrik Schmuki (University of Erlangen-Nuremberg)
- 14:00–14:30 (Keynote)
K-3: Concentration Behavior of Alloying Elements in Anodic Oxide Films on AC8A Aluminum Alloy and Its Influence on Porous Cell Morphology
Sachiko Ono (Kogakuin University)
- 14:30–14:55 (Invited)
I-1: Fabrication of anodic porous alumina with selectively sealed pores
Takashi Yanagishita (Tokyo Metropolitan University)

Coffee Break

- 14:55–15:15 (Lobby)

Session 4 (Noh Theatre) chair: Sachiko Ono

- 15:15–15:45 (Keynote)
K-4: Metal-Assisted Etching of Silicon - Formation and Dissolution of Composite Porous Structure -
Shinji Yae (University of Hyogo)
- 15:45–16:10 (Invited)
I-2: Porous gallium oxide obtained by anodization process
Toshiaki Kondo (Aichi University of Technology)
- 16:10–16:35 (Invited)
I-3: Surface layer with double structure for corrosion protection of aluminum materials
Makoto Chiba (National Institute of Technology, Asahikawa College)

Interval

- 16:35–16:50

Session 5 (Noh Theatre) chair: Patrik Schmuki

- 16:50–17:20 (Keynote)
K-5: Protection of Electrochemically Active Surfaces by Ultrathin Barrier Layers Using Atomic Layer Deposition
Jan Macak (Univerzita Pardubice)

Welcome reception

- 19:00–21:00 (Hotel Nikko Nara)

Program

TUESDAY March 10

Registration

8:30–9:20 (Lobby)

Session 6 (*Noh Theatre*) chairs: Koji Fushimi, Sanakaisa Virtanen

9:30–10:10 (Plenary)

PL-2: Charge Transport under Extreme Conditions, From High Fields over Material Libraries to Memristors
Achim Walter Hassel (Johannes Kepler University Linz)

10:10–10:40 (Keynote)

K-6: Electrochemical impedance spectroscopy to analyze various morphologies of localized corrosion
Masayuki Itagaki (Tokyo University of Science)

Coffee break

10:40–11:00 (Lobby)

Session 7A (*Noh Theatre*) chair: Sachiko Hiromoto

11:00–11:20 O-7: Passive Film Stability of Ti dental Implants in Commercial Mouth Rinse Solutions and Artificial
Andreas Greul (Johannes Kepler University)

11:20–11:40 O-8: Corrosion resistance of autoclaved Type 304 stainless steel in NaCl solutions
Takumi Kosaba (Institute of Science Tokyo)

11:40–12:00 O-9: On the use of the dielectric bi-layer model to characterize passive film properties grown on stainless steel
Benoit Ter-Ovanessian (INSA Lyon - MATEIS lab)

Session 7B (*Conference Room 1*) chair: Yusuke Tsutsumi

11:00–11:20 O-10: Visualization of hydrogen entry associated with pitting corrosion of stainless steel
Hiroshi Kakinuma (Tohoku University)

11:20–11:40 O-11: Numerical Simulation of Localized Corrosion Behavior on Stainless Steel after Micro Pit Initiation: Effect of Anolyte Diffusion Inhibition
Akira Nagaoka (Institute of Science Tokyo)

11:40–12:00 O-12: Optical Microscopy Analysis of Initiation and Growth of Localized Corrosion of Die-Cast ADC12 Aluminum Alloy in pH-Buffered NaCl
Kaito Takeuchi (Tohoku University)

Group Photo

12:00–12:30 (Reception Hall)

Lunch

12:30–13:30 (Reception Hall)

Program

Poster Session

13:30–15:30 (Reception Hall)

P-1: Localized dissolution behavior of sintered 55%Al-Zn alloys

Euihyuk Chung (Tohoku University)

P-2: Identifying the sub-micron initiation site of pitting corrosion using micro-scale galvanostatic polarization method in 17-4PH stainless steel

Kota Ujihara (Tohoku University)

P-3: Passivation of Fe-1% Cu alloy in sulfate solution investigated by online ICP- OES

Keita Fukuchi (Hokkaido University)

P-4: In Situ Observation of Localised Corrosion Behaviour in High-Chromium Cast Iron by Optical Microscopy

Tian-Yuan Zhu (Changwon National University)

P-5: Pitting Mechanisms of Machined Type 304 Stainless Steel Surfaces and Laser-Induced Surface Modification

Siqi Wang (Tohoku University)

P-6: Effects of Mechanical Deformation on Passive Film Breakdown and Repassivation Behavior of Reinforcing Steels in Simulated Concrete Pore Solution Including Chloride Ions

Kotaro Doi (National Institute for Materials Science)

P-7: Analysis of the Corrosion Resistance of Ferritic Stainless Steel Containing TiS Inclusions Fabricated by SPS

Jiaqi Gao (Tohoku University)

P-8: Influence of concentration on anodization of aluminum in sulfuric acid

Yusuke Murata (Kogakuin University)

P-9: Plasma electrolytic oxidation of aluminum in alkaline silicate electrolyte containing insoluble polymer

Hayato Morimoto (Kogakuin University)

P-10: Microvolume Liquid Analysis by Surface-Enhanced Laser-Induced Breakdown Spectroscopy Using Porous Silicon Fabricated by Metal-Assisted Etching? Detection of Trace Gold in Microvolume Samples?

Yui Sugita (University of Hyogo)

P-11: Visualization of Hydrogen Entry into High-Strength Steel under Simulated Atmospheric Corrosion Condition Using MnO₂ Thin Film

Rin Takada (Shimane University)

P-12: Photoelectrochemical transients of porous TiO₂ films formed by anodization

Tatsuya Oka (The University of Osaka)

P-13: First-Principles Insights into Hydrogen Adsorption and Corrosion Mechanisms of Alloyed Iron

Haruka Sato (Nippon Steel Corporation)

P-14: Anodization of Ti alloys: Impact of texture and microstructure on the growth and morphology of anodic oxide layers

Hiroaki Tsuchiya (The University of Osaka)

Program

WEDNESDAY March 11

Registration

8:30–9:20 (Lobby)

Session 8 (*Noh Theatre*) chairs: Masatoshi Sakairi, Kevin Ogle

9:30–10:10 (Plenary)

PL-3: Engineering Passivity in Titanium Biomedical Implants: From Native Oxides to Functional Anodic Films
Monica Santamaria (Universita di Palermo)

10:10–10:40 (Keynote)

K-7: Stability of passive films of metals in relation to the amount of water desorbed from the film
Takumi Haruna (Kansai University)

Coffee break

10:40–11:00 (Lobby)

Session 9A (*Noh Theatre*) chair: Toshiaki Kondo

11:00–11:20 O-13: Polarization behavior of Mg alloy bare metal surfaces with different Al concentrations
Yayoi Niiyama (Waseda University)

11:20–11:40 O-14: Effect of film formation on corrosion behavior of Al and Zn-Al alloys in simulated concrete environments
Mari Maeda (Central Research Institute of Electric Power Industry)

11:40–12:00 O-15: Molybdate-Loaded LDH Coatings for Surface Protection of Al Alloy via Electrophoretic Deposition
Supicha Trakuldit (Waseda University)

Session 9B (*Conference Room 1*) chair: Hiroaki Tsuchiya

11:00–11:20 O-16: Time-Resolved Monitoring of Metal Dissolution at Ultralow Rates Using Online ICP-MS
Azusa Ooi (Institute of Science Tokyo)

11:20–11:40 O-17: Electrochemical Non-Destructive Monitoring Method for a Biofilm Formed on Titanium Surface
Syunsuke Maruyama (Kobe University)

11:40–12:00 O-18: Development of a Non-destructive Evaluation Method for Passivation Films
Nobuyasu Shinoda (Chiyoda Corporation)

Lunch

12:00–13:30 (Reception Hall)

Session 10 (*Noh Theatre*) chair: Masayuki Itagaki

13:30–14:00 (Keynote)

K-8: New insights into transpassivity with electrochemistry-coupled respirometry
Sannakaisa Virtanen (Friedrich-Alexander University Erlangen-Nuremberg)

14:00–14:30 (Keynote)

K-9: Role of metal cation in corrosion resistance property of passive film
Masatoshi Sakairi (Hokkaido University)

14:30–14:55 (Invited)

I-4: Wear Resistant Cr-Co-Ni Medium-Entropy Alloy Coatings Prepared by Electrodeposition
Kazuhiro Fukami (Kyoto University)

Coffee Break

14:55–15:15 (Lobby)

Program

Session 11 (*Noh Theatre*) chair: Takumi Haruna

- 15:15–15:45 (Keynote)
K-10: Corrosion behavior of zinc in aqueous solutions
Eiji Tada (Institute of Science Tokyo)
- 15:45–16:10 (Invited)
I-5: 3D impedance analysis of oxide film formation process on additively manufactured Al alloys
Yoshinao Hoshi (Nagoya Institute of Technology)
- 16:10–16:35 (Invited)
I-6: Passivation for Inhibition of Corrosion and Hydrogen Entry by Plasma Surface Treatment
Yu Sugawara (Shimane University)
- 16:35–17:00 (Invited)
I-7: Investigation of Growth, Stability, and Breakdown of Passive Films in Corrosion-Resistant Metallic Materials Used in Severe Environments on Biomedical and Energy Fields
Yusuke Tsutsumi (National Institute of Materials Science)
- 17:00–17:25 (Invited)
I-8: Achieving structural coloration in calcium phosphate nanocoatings via aqueous process on magnesium alloys
Sachiko Hiromoto (National Institute for Materials Science)

Banquet

- 19:00–21:00 (Hotel Nikko Nara)

THURSDAY March 12

Registration

- 8:30–9:20 (Lobby)

Session 12 (*Noh Theatre*) chairs: Phillipe Marcus, Monica Santamaria

- 9:30–10:00 (Keynote)
K-11: Elucidating the role of alloying elements in the spontaneous passivation of the CoCrFeNi multi-principal element alloy (MPEA) family
Kevin Michael Ogle (Chimie ParisTech, PSL University)
- 10:00–10:30 (Keynote)
K-12: Revisiting the Critical Pitting Temperature
Roger C Newman (University of Toronto)
- 10:30–11:00 (Keynote)
K-13: Overview of Semiconductive Properties and Functions of Passive Films: dedicated to the late Professor Norio Sato
Kazuhisa Azumi (Hokkaido University)

Interval

- 11:00–11:10
- 11:10–11:40 (Plenary)
PL-4: Passivity study in Japan
Shinji Fujimoto (The University of Osaka, National Institute of Technology(KOSEN), Suzuka College)
- 11:40–11:50 (Closing remarks)
Kazuhisa Azumi (Hokkaido University), **Takumi Haruna** (Kansai University)