Program of the 2nd Asian Symposium on Electrochemical Impedance Spectroscopy (AEIS2017)

Organizers and Sponsors
Thursday, 7 December 2017 – Morning

Opening

10:00 to 10:10
Introductory remarks
Local Organizing Committee of AEIS2017

Plenary

Chaired by: Masayuki ITAGAKI

10:10 to 10:50

Jianbo ZHANG (Tsinghua University, China)
Application and Development of Electrochemical Impedance Spectroscopy (EIS) in Electrochemical Power Sources

Invited Talk

Chaired by: Yueh-Lien LEE

10:50 to 11:10

Takeshi KONDO (Tokyo University of Science, Japan), Tatsuo AIKAWA and Makoto YUASA
Fabrication and Electrochemical Application of Boron-Doped Diamond Powder

11:10 to 11:30

Sayoko SHIRONITA (Nagaoka University of Technology, Japan), Sakurako YAMADA and Minoru UMEDA
Electrochemical Impedance Spectroscopy Study of Corrosion Resistance Ni-free Stainless Steel for Polymer Electrolyte Fuel Cell

11:30 to 11:50

Yoshinao HOSHI (Tokyo University of Science, Japan), Hiroyuki TOKIEDA, Taisuke KOIKE, Isao SHITANDA, Masayuki ITAGAKI and Yoshitaka KATO
Indirect Measurement to Detect Corrosion Site of Steel Rebar in Concrete by EIS

11:50 to 13:10
Lunch
Thursday, 7 December 2017 - Afternoon

Invited Talk

*Chaired by: Hideki KATAYAMA*

13:10 to 13:30

**Eiji TADA** (Tokyo Institute of Technology, Japan), Yumiko TSURUMAKI, Azusa OOI and Atsushi NISHIKATA

EIS Behavior of Zn in Aqueous Solutions Containing Mg²⁺

13:30 to 13:50

**Yuta YAGI** (Nakabohtec Corrosion Protecting Co., LTD., Japan), Ryosuke TAKASUKA and Kazuhiko NODA

Corrosion Protection Behavior of Zinc Rich Paint on Fe

13:50 to 14:10

**Xingyue YONG** (Beijing University of Chemical Technology, China), Jiang LIN, Qingfei MA, Yong FU and Rihui CHEN


14:10 to 14:20

Coffee Break

14:20 to 15:50

Poster Presentation

15:50 to 16:00

Coffee Break

Invited Talk

*Chaired by: Xingyue YONG*

16:00 to 16:20

**Hideki KATAYAMA** (National Institute for Materials Science (NIMS), Japan)

Long-term Corrosion Performances of Thermally Sprayed Zn, Al and Zn–Al Coatings Exposed in a Coastal Area

16:20 to 16:40

**Y. L. LEE** (National Taiwan University, Taiwan) and B. E. GU

Effects of Multi-wall Carbon Nanotube Addition on the Corrosion Resistance and Underwater Acoustic Absorption Properties of Polyurethane Composite Coatings

16:40 to 17:00

**Kazuhiko NODA** (Shibaura Institute of Technology, Japan), Yuta YAGI and Ryouji SUZUKI

Evaluation of Galvanized Steels Using Electrochemical Measurement

18:00 to 20:00

Conference Dinner
Friday, 8 December 2017 – Morning

Invited Talk

Chaired by: Jianbo ZHANG

10:00 to 10:20

Toshiyuki MOMMA (Waseda University, Japan)
Analysis on Impedance Response of Lithium Ion Battery

10:20 to 10:40

Naoto KITAMURA (Tokyo University of Science, Japan) and Yasushi IDEMOTO
Investigation of Solid Electrolytes for Solid Oxide Fuel Cell by Electrochemical Impedance Spectroscopy and Density Functional Theory Calculation

10:40 to 11:00

Takurou N. MURAKAMI (National Institute of Advanced Industrial Science and Technology (AIST), Japan), Atsushi KOGO, Myoung KIM, Tetsuhiko MIYADERA, Takashi FUNAKI, Masayuki CHIKAMATSU and Hiroshi SEGAWA
EIS study of the Shifts in Conduction Band Edge of TiO2 Compact Layer for the Perovskite Solar Cells

11:00 to 11:20

Isao SHITANDA (Tokyo University of Science, Japan), Yoshinao HOSHI, Masayuki ITAGAKI and Seiya TSUJIMURA
Electrochemical Impedance Analysis of Mesoporous Carbon Electrode for Wearable Paper-based Self-powered Biosensor

11:20 to 13:00

Lunch
Program of the 2nd Asian Symposium on Electrochemical Impedance Spectroscopy (AEIS2017)

Friday, 8 December 2017 - Afternoon

Invited Talk

Chaired by: Takurou N. MURAKAMI

13:00 to 13:20
Masaki YAMAGUCHI (TOYO Corporation, Japan) and Naohisa SUITA
Latest Technique on Measurement of Electrochemical Impedance Spectroscopy for Solid Electrolyte

13:20 to 13:40
Jun HUANG (Central South University, China)
Theory of Impedance Response of Electrochemical Interfaces in Confined Space

13:40 to 14:00
Noboru KATAYAMA (Tokyo University of Science, Japan)
In-line Impedance Spectroscopy for Energy Devices using Power Electronics Circuits

14:00 to 14:20
Coffee Break

14:20 to 15:00
Poster Awards Ceremony
Taking Group Photo at Morito Memorial Hall

15:00 to 15:10
Closing Remarks
Local Organizing Committee of AEIS2017
Thursday, 7 December 2017 - Afternoon

Poster

Co-Chaired by: Masayuki ITAGAKI and Yoshinao HOSHI

P-01

Maya YAMADA (Tokyo University of Science, Japan), Hideki KATAYAMA, Yoshinao HOSHI, Isao SHITANDA, and Masayuki ITAGAKI

Influence of Permeated Chloride Ion in Mortar on Corrosion Behavior of Reinforcing Steel

P-02

Guanxing TENG (Tsinghua University, China), Zhe LI and Jianbo ZHANG

The Evolution of EIS of Lithium-ion Cells under Thermal Abuse Operation Conditions

P-03

Meiko UEYAMA (Tokyo University of Science, Japan), Chinatsu TSUKIOKA, Yoshinao HOSHI, Isao SHITANDA, Masayuki ITAGAKI, Satoshi TAKATA and Tomonari KOGURE

Electrochemical Impedance Measurements of Stainless Steel at Anodic Polarization

P-04

Zhongxiao LIU (Tsinghua University, China), Zhe LI and Jianbo ZHANG

Distribution of Electrochemical Impedance Spectroscopy (EIS) in Aged Lithium-ion Cell

P-05

Haruto SATO (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA, Masayuki ITAGAKI and Michiko TAGAYA

3D Impedance Measurement to Investigate Electrodeposition Behavior by GPES

P-06

Bin WU, Ruqing FANG (Tsinghua University, China), Zhe LI and Jianbo ZHANG

A Frequency-domain Thermal Parameter Determination Method for Large-format Laminated Lithium-ion Cell

P-07

Yuka NARUI (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA, Masayuki ITAGAKI, Hiroshi YANAGIMOTO, Motoki HIRAOKA and Hirofumi IISAKA

EIS Analysis on Charge Transfer Mechanisms in LF-SED of Copper

P-08

Dechun SI (Tsinghua University, China), Yuncong XIAO, Shaopeng ZHANG, Yong LIU and Jianbo ZHANG

The EIS Analysis of Electrospun Nanofiber Electrodes during the Pre-conditioning Process

P-09

Hirotaka KATO (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI

In-situ EIS to Determine Charge Transfer Resistance of Lithium Ion Rechargeable Battery at Different C-rate during Charge-Discharge Cycle
P-10
Shangshang WANG (Tsinghua University, China) and Jianbo ZHANG
Spatially Resolved Electrochemical Impedance Spectroscopy of Polymer Electrolyte Fuel Cells

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Tatsuki OKAMOTO (Tokyo University of Science, Japan), Hiroyuki TOKIEDA, Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
EIS to Monitor Conditions of Reinforced Concrete Using Probe Electrodes

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Zhengguo WU (Tsinghua University, China), Zhe LI and Jianbo ZHANG
EIS Examination of Aging Mechanism of Lithium-ion Cells Cycled at Different Temperatures

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Tomohiro MATSUNAGA (Tokyo University of Science, Japan), Takeshi KONDO, Takahiro OSASA, Akihiro KOTSUGAI, Tatsuo AIKAWA and Makoto YUASA
Sensitive Electrochemical Detection of Ciprofloxacin at Screen-Printed Diamond Electrode

P-14
Kei MIYAZAWA (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
Development of pH Sensing CFDE to Investigate Anodic Dissolution of Mg and 3D Impedance Analysis

P-15
Fusen HUANG (Tsinghua University, China) and Jianbo ZHANG
Study on Evolution Characteristics of EIS during PEFC Sub-zero Start-up Process

P-16
Yita SU (Waseda University, Japan), Toshiyuki MOMMA, Daikichi MUKOYAMA and Tetsuya OSAKA
Impedance-Based Model of Lithium Ion Battery for Simulation of Constant Current Discharge at Low C-Rate

P-17
Akashi EGUCHI (Tokyo University of Science, Japan), Erika KAGAWA, Noboru KATAYAMA, Yoshihiko SAKAI and Masaya ITO
Effects of a Crack Cell in Photovoltaic Panel on AC Impedance Characteristics

P-18
Naoto FUJII (Tokyo University of Science, Japan), Akihiro AIBA, Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
Impedance Response of Screen-Printed Corrosion Monitoring Sensor During Wet and Dry Conditions

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Peng DONG (Beijing Institute of Technology, China), Zhe LI and Jianbo ZHANG
Investigation the Mechanisms of Sudden Rapid Aging of Lithium-Ion Cells Using EIS
P-20

**Kengo KUMAGAI** (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA, Masayuki ITAGAKI and Chihomi TAKAMI

Analysis of Pitting Corrosion Mechanism of Tin-plated Copper in Freshwater by Electrochemical Impedance Spectroscopy

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**Koichi UI, Yushi SATO** (Iwate University, Japan), Toshihiko MANDAI and Tatsuya TAKEGUCHI

Analysis of Electrochemical Behavior at Interface of Room-temperature Ionic Liquids / Air Electrodes in Lithium-Air Secondary Batteries

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**Erika KAGAWA** (Tokyo University of Science, Japan), Akashi EGUCHI, Noboru KATAYAMA, Yoshihiro SAKAI and Masaya ITO

Diagnosis of PID Phenomenon/Crack Failure for Solar Cell Modules Utilizing Alternating Current Impedance Method

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**Yoshihiro NISHIHARA** (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI

Impedance Analysis of Dezincification Corrosion of Brass with TLM

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**Jun HUANG** (Central South University, China)

Probing Reaction Interface in Lithium-Oxygen Battery

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**Yuki SATO** (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA, Masayuki ITAGAKI, Hiroshi YANAGIMOTO, Motoki HIRAOKA and Hirofumi IISAKA

Analysis of Mass and Charge Transfers in Solid Electro Deposition of Copper by EIS

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**Kazune SATO** (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI

Electrochemical Impedance Analysis of Lithium Ion Capacitor Using Three-electrode Cell

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**Chinatsu TSUKIOKA** (Tokyo University of Science, Japan), Meiko UEYAMA, Yoshinao HOSHI, Isao SHITANDA, Masayuki ITAGAKI, Satoshi TAKATA and Tomonari KOGURE

Influences of Chloride and Fluoride Ions on Impedance of Stainless Steel in Transpassive Region

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**Kenjo MIYASHITA** (Tokyo University of Science, Japan), Tsuyoshi KATO, Takeshi KONDO, Tatsuo AIKAWA and Makoto YUASA

Electrochemical Investigation of Boron-doped Diamond Powder for Aqueous Supercapacitors

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**Masato KOMODA** (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI

Electrochemical Impedance Study of Screen-printed Solid-state Ag/AgCl Reference Electrode
S. F. NAMI-ANA (Shiraz University, Iran), J. TASHKHOURIAN and M. SHAMSIPUR
Carbon Paste Modified Electrode with Layered Co(OH)$_2$ Deposited Polymeric Carbon Nitrides for High-Performance Nonenzymatic, Impedimetric Glucose Sensor

Yufan ZHANG (Beihang University, China), Dechun SI, Jianglan SHUI, Jianbo ZHANG
Fabrication and Characterization of a Novel Catalyst Layer for PEFC

Ying SUN (Tsinghua University, China), Shangshang WANG, Jun HUANG and Jianbo ZHANG
Determination of Surface Charging Relation of Pt Electrodes via EIS

Honami SHINODA (Tokyo University of Science, Japan), Hideki KATAYAMA, Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
Response Characteristics of Two Electrodes Type Sensor under Wet/Dry Cyclic Condition

Kazuki WATANABE (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
Fabrication of Wearable Impedimetric Sensor by Screen Printing for Sweat Conductivity Measurement

Tomo SAITO (Shibaura Institute of Technology, Japan), Shunsuke ABE, Yuta YAGI, Kazuhiko NODA and Yoshimi WATANABE
Localized Corrosion Behavior of Austenitic Stainless Steel Containing Martensitic Phases in NaCl Solution

Fumiya KATSUMATA (Tokyo University of Science, Japan), Takeshi KONDO, Tatsuo AIKAWA and Makoto YUASA
Investigation of Platinum Loading Method on Conductive Diamond Powder for PEFC Cathode Catalyst

Yusuke GAMANO (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
Determination of Electrochemical Impedance of Lithium-ion Rechargeable Batteries in Operation by Wavelet Transformation

Tomohiro TANAKA (Tokyo University of Science, Japan), Yoshinao HOSHI, Isao SHITANDA and Masayuki ITAGAKI
Electrochemical Impedance Study for Porous Electrode having Non-cylindrical Pores