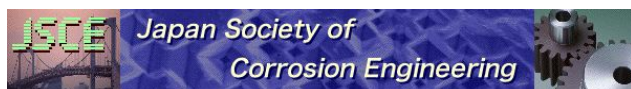


Program of the 9th International Symposium on Electrochemical Impedance Spectroscopy

Organizers and Sponsors



Tokyo Ohka Foundation for The Promotion of Science and Technology

TOKUYAMA SCIENCE FOUNDATION



Monday, 17 June 2013 – Morning

Opening

Room : A1

08:30 to 08:40

Introductory remarks

Local Organizing Committee and International Society of Electrochemistry

Plenary

Room : A1*Chaired by: Bernard Tribollet*

08:40 to 09:40

Mark E. Orazem (Department of Chemical Engineering, University of Florida, Florida, USA)The Promise and Challenges of Impedance Spectroscopy

09:40 to 10:00

Coffee Break

Session 1: Corrosion

Room : A1*Chaired by: Annick Hubin and Flavio Deflorian*10:00 to 10:40 **Keynote****Flavio Deflorian** (Department of Industrial Engineering, University of Trento, Trento, Italy), M. Fedel, L. Ecco, A. AhniyazElectrochemical Study of the Corrosion Inhibition Effect of CeO₂ Nanoparticles10:40 to 11:20 **Keynote****Annick Hubin** (Vrije Universiteit Brussel, Electrochemical and Surface Engineering, Brussels, Belgium), C. Cordioli, T. Muselle, Y. Van IngelgemCorrosion of Coated Hot Dip Galvanized Steel: from Mechanistic Study of the Corrosion to Benchmarking of the Coating Performance

11:20 to 11:40

Victor Padilla (Department of Materials Engineering, University of British Columbia, BC, Canada), Akram AlfantaziEIS and Polarization Study of the Corrosion Performance of Galvanized Steel in Sulphate-Chloride Solutions

11:40 to 12:00

Eiji Tada (Department of Chemistry & Materials Science, Tokyo Institute of Technology, Tokyo, Japan),
Atsushi Nishikata

The Effects of SO_4^{2-} and Cl^- Ions on Zinc Corrosion in Neutral Aqueous Solutions

12:00 to 12:20

Hideki Katayama (Corrosion Analysis Group, National Institute for Materials Science, Ibaraki, Japan),
Satoshi Mukawa, Masayuki Itagaki

Corrosion Behavior and Corrosion Protection Property of Zinc Galvanized Steels in Coastal Area

12:20 to 12:40

Fabienne Suedile (Laboratoire des Matériaux et Molécules en Milieux Amazonien, UAG-UMR ECOFOG,
Cayenne, French Guiana), Mounim Lebrini, Florent Robert, Christophe Roos

Corrosion Inhibition of Zinc by *Mansoa Alliacea* Plant Extract in Sodium Chloride Media: Extraction,
Characterization and Electrochemical Studies

Session 2: Surface Functional Electrodes and Sensors

Room : B1

Chaired by: Takeshi Kondo and Pierre Millet

10:00 to 10:40 **Keynote**

Takeshi Kondo (Department of Pure and Applied Chemistry, Faculty of Science and Technology and
Reserach Institute for Science and Technology, Tokyo University of Science, Chiba, Japan), Hironori
Sakamoto, Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Makoto Yuasa

Electrochemical Characteristics of Screen-Printed Diamond Electrodes

10:40 to 11:00

Vasilica Lates (PGM Group, Chemical Resource Beneficiation (CRB) Research Focus Area, North-West
University, Potchefstroom, South Africa), A. Falch, R.J. Kriek

Electrochemical Impedance Characterization of Carbon Dioxide Electro-reduction on Gold-based
Catalysts

11:00 to 11:20

Manuela L. Petrova (Vrije Universiteit Brussel, Research Group Electrochemical and Surface Engineering,
Brussels, Belgium), L. Fernandez Macia, T. Hauffman, T. Doneux, A. Hubin

An ORP-EIS and Surface Analysis Study of Self-Assembled Monolayers of
2-mercaptobenzimidazole-5-sulfonate on Gold

11:20 to 11:40

Xochitl D. Benetton (Separation & Conversion Technologies, VITO - Flemish Institute for Technological
Research, Mol, Belgium), Sharma M., Sarma P.M., Alvarez-Gallego Y., Pant D.

Parametric Frequency Response Analysis of Cathodic SRB-Electrocatalysis for Acetic and Butyric Acid
Reduction

11:40 to 12:00

Pierre Millet (Université Paris-Sud, ICMMO, Orsay, France), R. Ngameni

EIS Analysis of Hydrogen Incorporation into Pd-based Planar, Spherical and Cylindrical Bi-layers

Monday, 17 June 2013 - Afternoon

Session 3: Corrosion

Room : A1

Chaired by: Mario G.S. Ferreira and Jörg A. Vogelsang

14:00 to 14:40 Keynote

Mario G.S. Ferreira (CICECO, DEMaC, University of Aveiro, Aveiro, Portugal), M.L. Zheludkevich, J. Tedim

Active Anticorrosion Coatings with Inhibitor Nanocontainers

14:40 to 15:20 Keynote

Victoria J. Gelling (Coatings and Polymeric Materials Department, North Dakota State University, North Dakota, USA), Niteen Jadhav, Abhijit Suryawanshi, Joseph Byrom

Electrochemical Investigations of Polypyrrole (PPy) Micro and Nanostructures

15:20 to 15:40

Jörg A. Vogelsang (Sika Technology AG, Zürich, Schweiz), Mirdash Bakalli

Innovation in the Coatings Industry Using EIS and Other Electrochemical Methods

15:40 to 16:00

Coffee Break

16:00 to 16:20

Tom Breugelmans (Vrije Universiteit Brussel, Research Group Electrochemical and Surface, Engineering, Brussels, Belgium; University of Antwerp, Research Group Advanced Reactor Technology, Hoboken, Belgium), T. Muselle, L. Paussa, T. Hauffman, J.Lataire, L. Fedrizzi, A. Hubin

Odd Random Phase Multisine Electrochemical Impedance Spectroscopy (ORP-EIS) to Calculate an Instantaneous Impedance Value of Unstable Coated Metallic Substrates

16:20 to 16:40

Azizul Helmi Sofian (Graduate School of Engineering, Shibaura Institute of Technology, Tokyo, Japan; Faculty of Chemical & Natural Resources Engineering, Universiti Malaysia Pahang (UMP), Kuantan, Malaysia), Teguh Dwi Widodo, Kazuhiko Noda

Application of EIS to Evaluate the Efficiency of Zinc Rich Paint (ZRP) Coating on Steel

16:40 to 17:00

Kiryl A. Yasakau (CICECO/Dep. Materials and Ceramics Engineering, Campus Universitario, University of Aveiro, Aveiro, Portugal), M.L. Zheludkevich, M.G.S. Ferreira

Analysis of the Influence of the Sol-Gel Processing on the Protection Properties of the Coating Using EIS

17:00 to 17:20

Carmen Pérez (Corrosion Engineering and Materials (ENCOMAT) Group. E.E.I., University of Vigo, Vigo, Spain), D. Álvarez, A. Collazo, X.R. Nóvoa

Effect of the Hydrotalcite Addition on the Anticorrosion Properties of Sol-gel Films Applied on Tinplate

17:20 to 17:40

Mireille Poelman (Materia Nova, Mons, Belgium), C. Vandermiers, D. Lahem, C. Motte, M.-G. Olivier

EIS Investigation of the Protective Properties of Sol-gel Doped with Nanoparticles

Session 4: Surface Functional Electrodes and Sensors

Room : B1

Chaired by: Valentina Lazarescu and Seiya Tsujimura

14:00 to 14:20

Lourdes M. Bravo-Anaya (Universidad de Guadalajara. Departamento de Ingeniería Química y Química, Jalisco, Mexico), E. R. Macías, F. Carvajal Ramos, J. G. Álvarez-Ramírez, N. Casillas, J. F. A. Soltero, E. R. Larios-Durán

DNA Transitions by an Adsorption Impedance Study

14:20 to 14:40

Valentina Lazarescu (Institute of Physical Chemistry "Ilie Murgulescu", Bucharest, Romania), Mirela Enache, Mihai Anastasescu, Gianina Dobrescu, Catalin Negri, Mihai Florin Lazarescu

EIS Investigations on the L-Cysteine-thiolate Self-Assembled Monolayers Formed at p-GaAs (100) Electrodes

14:40 to 15:00

Adriano Sacco (Center for Space Human Robotics @POLITO, Istituto Italiano di Tecnologia, Torino, Italy), Stefano Stassi, Giancarlo Canavese

Impedance Spectroscopy Analysis of the Tunneling Conduction Mechanism in Piezoresistive Composites

15:00 to 15:20

Elena Tresso (Center for Space Human Robotics @POLITO, Istituto Italiano di Tecnologia, Torino, Italy), Simelys Hernández, Mauro Tortello, Adriano Sacco, Marzia Quaglio, Stefano Bianco

EIS Characterization of a New Designed Photo-Electrochemical Device for Water Splitting exploiting Transparent Laser-Drilled FTO-covered Quartz Electrodes

15:20 to 15:40

Ilka Schmueser (Institute for Integrated Micro and Nano Systems (IMNS), University of Edinburgh, Edinburgh, UK), Damion K Corrigan, Jonathan G Terry, Anthony J Walton and Andrew R Mount

Detection of DNA Hybridisation with Electrochemical Impedance Spectroscopy (EIS) using a PNA Film and Electrodes of Varying Dimensions

15:40 to 16:00

Coffee Break

16:00 to 16:20

Vlastimil Vyskocil (Charles University in Prague, Faculty of Science, University Research Centre UNCE "Supramolecular Chemistry", Prague, Czech), Andrea Hajkova, Marta Blaskova, Klara Stavkova

A Novel Impedimetric DNA Biosensor for the High Throughput Detection of DNA Damage

16:20 to 16:40

Gilbert Nöll (University of Siegen, Organic Chemistry, Nöll Junior Research Group, Siegen, Germany), Stephan Vogt

Monitoring DNA Hybridization by Faradaic Impedance Spectroscopy in Combination with QCM-D and SPR

Program of the 9th International Symposium on Electrochemical Impedance Spectroscopy

16:40 to 17:00

Ching-Chou Wu (Department of Bio-industrial Mechatronics Engineering, National Chung Hsing University, Taichung, Taiwan), Dong-Jie Yang

A Label-Free Impedimetric DNA Sensing Chip Integrated with AC Electroosmotic Stirring

17:00 to 17:20

Neha Verma (School of Mechanical and Aerospace Engineering, Seoul National University, Seoul, South Korea), Chang-Hyuk Yoo, Junghoon Lee

A Point Electrode Array Sensor for Highly Specific Detection of Infinitesimally Small Quantities of Bacteria

Tuesday, 18 June 2013 – Morning

Plenary

Room : A1

Chaired by: Joao S. Fernandes

08:40 to 09:40

Atsushi Nishikata (Department of Chemistry and Materials Science, Tokyo Institute of Technology, Tokyo, Japan)

Electrochemical Impedance Spectroscopy under a Thin Electrolyte Layer

09:40 to 10:00

Coffee Break

Session 1: Battery

Room : A1

Chaired by: Toshiyuki Momma and Fu-Ming Wang

10:00 to 10:40 **Keynote**

Toshiyuki Momma (Faculty of Science and Engineering, Waseda University, Tokyo, Japan), Daikichi Mukoyama, Hiroki Nara, Tetsuya Osaka

Strategic Analysis of Li Ion Battery by EIS Response

10:40 to 11:00

Meike Slocinski (Daimler AG, Group Research and Advanced Engineering, Ulm, Germany), Fabian Stolz, Herbert Kabza

Approximation and Implementation of a Fractional Capacitance for the Simulation of Li-Ion Cells

11:00 to 11:20

Friedrich E. Hust (Electrochemical Energy Conversion and Storage Systems Group, Institute for Power Electronics and Electrical Drives (ISEA), RWTH Aachen University, Aachen, Germany; Jülich Aachen Research Alliance, JARA-Energy, Aachen, Germany), Heiko Witzhausen, Dirk Uwe Sauer

Distribution of Relaxation Times for Lithium-Ion Batteries

11:20 to 11:40

Jörg Illig (Institut für Werkstoffe der Elektrotechnik (IWE) Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany), Jan-Philipp Schmidt, Michael Weiss, André Weber, Ellen Ivers-Tiffée

Multi-Step Approach for Impedance Analysis of 18650 Lithium-Ion Cells

11:40 to 12:00

Tsutomu Takamura (Harbin Institute of Technology, Harbin, China), Naoko Maejima, Kyoichi Sekine

Impedance Analysis of a Vacuum-Deposited Silicon Film Used as the Negative Electrode of Li-Ion Battery

12:00 to 12:20

Fu-Ming Wang (Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology, Taipei, Taiwan)

Electrochemical Impedance Spectroscopy (EIS) Studies to the Solid Electrolyte Interface (SEI) Formation on Lithium Ion Battery

Session 2: Theory and Experimental Methods

Room : B1

Chaired by: David A. Harrington and Yasushi Katayama

10:00 to 10:20

Sarah Walkner (Institute for Chemical Technology of Inorganic Materials, Johannes Kepler University, Linz, Austria; Competence Centre for Electrochemical Surface Technology, Wiener Neustadt, Austria), A. W. Hassel

The Impedance Titrator for Fully Automatic Electrochemical Characterization of Materials

10:20 to 10:40

Roman Gruden (Seuffer GmbH & Co. KG, Calw, Germany), Olfa Kanoun

Online Determination of Hardness Forming Ions for Improvement of Washing Processes

10:40 to 11:00

Michael Schoenleber (Institut fuer Werkstoffe der Elektrotechnik (IWE), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany), Dino Klotz, Ellen Ivers-Tiffée

A Method for Improving the Robustness of Model-Based Kramers-Kronig Validity Tests

11:00 to 11:20

Paul Büschel (Chair for Measurement and Sensor Technology, Technische Universität Chemnitz, Chemnitz, Germany), T. Günther, O. Kanoun

Reconstruction of the Distribution of Relaxation Times from Impedance Data

11:20 to 11:40

David A. Harrington (Chemistry Dept., University of Victoria, Victoria, Canada)

The Rate-Determining Step in EIS

11:40 to 12:00

Yasushi Katayama (Department of Applied Chemistry, Faculty of Science and Technology, Keio University, Kanagawa, Japan), Yuichi Toshimitsu, Takashi Miura

Electrode Kinetics of the Redox Reaction of Tris (2,2'-bipyridine) nickel Complexes in an Ionic Liquid

12:00 to 12:20

Alberto Battistel (Zentrum für Elektrochemie, Fakultät für Chemie und Biochemie, Ruhr-Universität, Bochum, Germany), Fabio La Mantia

Intermodulation Technique: a Study on the Mechanism of Hydrogen Evolution Reaction

12:20 to 12:40

Omar Aaboubi (LISM, UFR Sciences, Reims, France), Eunice Dzoyem, Jacques Douglade, Samuel Créquy

Impedance Investigations of Catalytic Performance of Electrodeposited NiMn Alloys during Ethanol Oxidation

12:40 to 13:00

Carl A. Schiller (ZAHNER-elektrik, Kronach, Germany), F. Richter, N. Wagner, W. Strunz

Relaxation Impedance - The Nature of Inductive and Capacitive Behaviour in Low Frequency Impedance Spectra of Corroding Electrodes, Batteries and Fuel Cells

Session 4: Battery

Room : A1

Chaired by: Jianbo Zhang and Hideki Katayama

14:00 to 14:20

Masayoshi Takayanagi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Takao Tsujimura, Takahiro Fujii

Evaluation of Copper-plated Carbon Steel as Current Collector for Anode in Li-ion Rechargeable Batteries by Electrochemical Impedance Spectroscopy

14:20 to 14:40

Jun Huang (State Key Laboratory of Automotive Safety and Energy, Tsinghua University, Beijing, China), Zhe Li, Jianbo Zhang, Shaoling Song, Ningning Wu

Exploring Differences between Charging and Discharging of $\text{Li}_x\text{Mn}_2\text{O}_4/\text{Li}$ Half-cell with Dynamic Electrochemical Impedance Spectroscopy (DEIS)

14:40 to 15:00

Omar Mendoza (Nagaoka Univ. of Technol., Niigata, Japan), Yuki Maruyama, Hiroaki Ishikawa, Yoshitsugu Sone, Minoru Umeda

Electrochemical Impedance Spectroscopy Study of Cathode Reactions of LiCoO_2 -Graphite Cell

15:00 to 15:20

De Li (Energy Technology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki, Japan), Haoshen Zhou

A Hybrid Phase-Transition Model of Olivine LiFePO_4 for the Charge and Discharge Processes

15:20 to 16:00

Coffee Break

Tuesday, 18 June 2013 - Afternoon

Session 3: Capacitor

Room : B1

Chaired by: Krzysztof Fic and Wataru Sugimoto

14:00 to 14:20

Krzysztof Fic (Poznan University of Technology, Institute of Chemistry and Technical Electrochemistry, Poznan, Poland), Mikołaj Meller, Grzegorz Lota and Elzbieta Frackowiak

Enhancement of Hybrid Electrochemical Capacitor Performance by Understanding its Impedance Response – Theoretical and Experimental Study

14:20 to 14:40

Mikołaj Meller (Poznan University of Technology, Institute of Chemistry and Technical Electrochemistry, Poznan, Poland), Krzysztof Fic, Grzegorz Lota, , Elzbieta Frackowiak

EIS study of Carbon Electrode Grafting Process for Supercapacitor Application

14:40 to 15:00

Wataru Sugimoto (Faculty of Textile Science and Technology, Shinshu University, Nagano, JAPAN), Takahiro Mitsui, Zhongwei Lei

Electrochemical Impedance Analysis of Reduced Graphite Oxide Nanosheet Electrodes Prepared by Layer-by-Layer Assembly

15:00 to 15:20

Yuta Okabe (Department of electrical and electronic information engineering, Toyohashi University of Technology, Aichi, Japan), Yoshiyuki Suda, Hirofumi Takikawa, Hideto Tanoue, Hitoshi Ue, Kazuki Shimizu

Electrical Impedance Spectroscopy of Electric Double Layer Capacitors using Carbon Nanoparticles: Arc-black and Carbon Nanoballoon

15:20 to 16:00

Coffee Break

Wednesday, 19 June 2013 – Morning

Plenary

Room : A1

Chaired by: Masayuki Itagaki

08:40 to 09:40

Hiroyoshi Naito (Department of Physics and Electronics, Osaka Prefecture University, Osaka, Japan)

Impedance Spectroscopy for Characterization of Organic Light-emitting Diodes and Organic Solar Cells

09:40 to 10:00

Coffee Break

Session 1: Semiconductor and Photovoltaic Cell

Room : A1

Chaired by: Mutsumi Sugiyama and Stefano Rossi

10:00 to 10:40 **Keynote**

Mutsumi Sugiyama (Research Institute for Science and Technology, Faculty of Science & Technology, Tokyo University of Science, Chiba, Japan), M. Hayashi, B. H. Nafisah, C. Yamazaki, Y. Hirose, M. Itagaki

Investigation of Defects Properties of CIGS “Semiconductor-used” Solar Cells by Impedance Spectroscopy

10:40 to 11:00

Stefano Rossi (Department of Industrial Engineering, University of Trento, Trento, Italy), M. Fedel, C. Zanella, F. Deflorian

Electrochemical Characterization of Al₂O₃ Atomic Layer Depositions on Silver Mirrors for Solar Energy Applications

11:00 to 11:20

Fabio La Mantia (Zentrum für Elektrochemie - CES, Ruhr-Universität Bochum, Bochum, Germany), J. Stojadinovica, M. Santamaria, F. Di Quarto

On the Validity of the Theory of Schottky Barrier in Amorphous Semiconductors

11:20 to 11:40

Tomoki Hamada (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Theoretical Analysis for Inductive Loop on Impedance Spectrum of P-N Junction Device

Session 2: Corrosion

Room : B1

Chaired by: Masatoshi Sakairi and X. Ramón Nóvoa

10:00 to 10:40 **Keynote**

X. Ramón Nóvoa (ENCOMAT Group, Universidade de Vigo, Vigo, Spain), J. M. Deus, B. Díaz, L. Freire

The Electrochemical Behaviour of Steel Rebars in Concrete: EIS Study of the Effect of Temperature

10:40 to 11:00

Shunsuke Otani (Nakabohtec Corrosion Protecting Co., Ltd., Saitama, Japan), Hiroyuki Kobayashi, Toru Wakabayashi, Noriyasu Motizuki

Consideration of Cathodic Polarization of Steel in Concrete

11:00 to 11:20

Xochitl D. Benetton (Separation & Conversion Technologies, VITO - Flemish Institute for Technological Research, Mol, Belgium), Cho E., Royhman D., Wimmer M.A., Shokuhfar T., Sukotjo C., Mathew M.T.

Frequency Response of Dental Implant Materials Exposed to Nicotine under Physiological Conditions

11:20 to 11:40

Masatoshi Sakairi (Faculty of Engineering, Hokkaido University, Hokkaido, Japan), A. Kaneko, R. Sasaki, Y. Seki, D. Nagasawa

Evaluation of Effect of Metal Cations on Galvanic Corrosion Behavior of Al alloy by Impedance

11:40 to 12:00

Burak Ulgut (Gamry Instruments Inc., Warminster, USA), Samuel B. Madden, John R. Scully

Fast Single Frequency Impedance Investigation of Aluminum Repassivation

12:00 to 12:20

Joao S. Fernandes (DEQ, Instituto Superior Tecnico, Lisboa, Portugal; ICEMS, Instituto Superior Tecnico, Lisboa, Portugal), R. Pedro, A.B. Lopes, M.G.S. Ferreira

EIS Studies on Pure Aluminium after Sulphuric-Boric Acid Anodizing

Thursday, 20 June 2013 – Morning

Plenary

Room : A1

Chaired by: Mark E. Orazem

08:40 to 09:40

Tetsuya Osaka (Faculty of Science and Engineering, Waseda University, Tokyo, Japan)

EIS Analysis for Commercially Available Lithium-Ion Batteries

09:40 to 10:00

Coffee Break

Session 1: Battery

Room : A1

Chaired by: Norbert Wagner and Zurina Osman

10:00 to 10:40 **Keynote**

Norbert Wagner (German Aerospace Centre (DLR), Institute of Technical Thermodynamics, Stuttgart, Germany), Andreas K. Friedrich

Electrochemical Characterization of Silver Gas Diffusion Electrodes during Oxygen Reduction in Alkaline Solution

10:40 to 11:00

Juhyun Song (Department of Chemical Engineering, Massachusetts Institute of Technology, Massachusetts, USA), Martin Z. Bazant

Anisotropic Faradaic Impedance of a Battery Electrode

11:00 to 11:20

Thomas Günther (Chair for Measurement and Sensor Technology, Technische Universität Chemnitz, Chemnitz, Germany), Paul Büschel, Olfa Kanoun

Digital Filter based Impedance Measurement suitable for Embedded Hardware

11:20 to 11:40

Zurina Osman (Department of Physics, University of Malaya, Kuala Lumpur, Malaysia), N. H. Zainol, S.M. Samin, W.G. Chong, K.B. Md Isa, L.Othman, I.Supa'at, F. Sonsudin

Electrochemical Impedance Spectroscopy Studies of Magnesium-Based PMMA Gel Polymer Electrolytes

11:40 to 12:00

Izlina Supa'at (Physics Division, Centre for Foundation Studies in Science, University of Malaya, Kuala Lumpur, Malaysia), Z. Osman, L.Othman, K.B. Md Isa, W.G. Chong, N. H. Zainol, S.M. Samin, F. Sonsudin

Ionic Conductivity Studies of Gel Polymer Electrolytes Containing Sodium Salt

12:00 to 12:20

Faridah Sonsudin (Chemistry Division, Centre for Foundation Studies in Science, University of Malaya, Kuala Lumpur, Malaysia), Z. Osman, W.G. Chong, K.B. Md Isa, L.Othman, N. H. Zainol, S.M. Samin, I. Supa'at

AC Impedance and Dielectric Behavior Studies of Polyacrylonitrile Based Ion Conducting Polymer Electrolytes

Session 2: Corrosion

Room : B1

Chaired by: Toshiaki Ohtsuka and Hisasi Takenouti

10:00 to 10:40 **Keynote**

Toshiaki Ohtsuka (Faculty of Engineering, Hokkaido University, Hokkaido, Japan), Yuki Sasaki, Aysushi Hyono

AC Potential Modulation Reflectance of Electrodes Covered by Thin Passive Oxide

10:40 to 11:00

Sri Hastuty (Environment and Energy Materials Division, National Institute for Materials Science (NIMS), Ibaraki, Japan), Hideki Katayama, Atsushi Nishikata

EIS Characterization of Passive Film Behavior of Passivated Ferritic Stainless Steels

11:00 to 11:20

Hisasi Takenouti (CNRS, UPR 15, Laboratoire Interfaces et Systèmes Electrochimiques, Paris, France; UPMC Univ. Paris VI, UPR 15, Paris, France), Y. Ben Amor, A. Micheletti, E. Sutter, B. Tribollet, M. Boinet, R. Faure, J. Balencie, D. Durieu

Complex Capacitance to Characterize a Tarnished Silver Surface

11:20 to 11:40

Wei Wang (Department of Materials Engineering, The University of British Columbia, Vancouver, Canada), Akram Alfantazi

An Electrochemical Impedance Spectroscopy and Polarization Study of Grain Dependence on Niobium Single Crystals

11:40 to 12:00

Yu Takabatake (Graduate School of Chemical Sciences and Engineering, Hokkaido University, Hokkaido, Japan), K. Fushimi, T. Nakanishi, Y. Hasegawa

Grain-dependent Passive Oxide Film Formed on Iron in Sulphate Solution

12:00 to 12:20

Benoit Ter-Ovanesian (MATEIS, UMR CNRS 5010, INSA de Lyon, Villeurbanne, France), C. Alemany-Dumont, B. Normand

Correlation between passive film properties and anions adsorption on Ni-Cr alloys

12:20 to 12:40

Teguh D. Widodo (Graduate School of Engineering, Shibaura Institute of Technology, Tokyo, Japan), Azizul Helmi Sofiana, Kazuhiko Noda

Electrochemical Behaviors Observation of Shot Peened 304 Stainless Steel in 0.5 M Sodium Chloride Solution

Thursday, 20 June 2013 - Afternoon

Session 3: DSSC

Room : A1

Chaired by: Takurou N. Murakami and Eliane Sutter

15:40 to 16:00

Eliane Sutter (CNRS, UPR15, Laboratoire Interfaces et Systèmes Electrochimiques, Paris, France), H. Cachet, P. Pu

Characterization of Surface States in Self-organized TiO₂ Nanotubes by Impedance Spectroscopy

16:00 to 16:20

Adriano Sacco (Center for Space Human Robotics @POLITO, Istituto Italiano di Tecnologia, Torino, Italy), A. Lamberti, D. Costenaro, M. Gerosa, F. Carniato, N. Shahzad, D. Pugliese, A. Chiodoni, S. Bianco, G. Gatti, C. Bisio, E. Tresso, L. Marchese

Inclusion of Al₂O₃ nanoparticles in liquid electrolyte for Dye-sensitized Solar Cells: an impedance spectroscopy analysis

16:20 to 16:40

Motonari Adachi (Hautform Division, Fuji Chemical Co., Ltd., Osaka, Japan), Fumio Uchida

Consideration on Some Problems of Analysis by Electrochemical Impedance Spectroscopy

16:40 to 17:00

Takurou N. Murakami (National Institute of Advanced Industrial Science and Technology (AIST), Research Center for Photovoltaic Technologies (RCPVT), Ibaraki, JAPAN), Eri Yoshida, Nagatoshi Koumura

Carbazole Dye with Phosphonic Acid Anchoring Group for Heat-stable Dye-sensitized Solar Cells

Session 4: Fuel Cell

Room : B1

Chaired by: Eiji Tada and Jimmi Nielsen

15:40 to 16:00

Viktor Hacker (Graz University of Technology, Graz, Austria), Harald Brandstaetter, Stephan Weinberger
Real-time Diagnosis of the Operating State of Fuel Cells by Electrochemical Impedance Spectroscopy

16:00 to 16:20

Xochitl D. Benetton (Separation & Conversion Technologies, VITO - Flemish Institute for Technological Research, Mol, Belgium), Dalak E., Alvarez-Gallego Y.
EIS as Electroanalytic Tool for in-situ Determination of Hydroxylamine Product in a NO-H₂ Fuel Cell

16:20 to 16:40

Xochitl D. Benetton (Separation & Conversion Technologies, VITO - Flemish Institute for Technological Research, Mol, Belgium), Sevda S., Pant D.
EIS Response of a Microbial Fuel Cell Operating in Continuous Mode as a Function of Hydraulic Retention Time and External Resistance

16:40 to 17:00

Pierre Millet (Université Paris-Sud, ICMMO, Orsay, France)
EIS Characterization of PEM Water Electrolysis Cells

17:00 to 17:20

Clément Boissy (INSA-Lyon, MATEIS, Villeurbanne, France), Catherine Alemany-Dumont, Bernard Normand
Temperature Effect on the Modification of the Passive Film Grown on 316L Dedicated to Bipolar Plate for PEMFC Application until 120°C

17:20 to 17:40

Jimmi Nielsen (Department of Energy Conversion and Storage, Technical University of Denmark, Roskilde, Denmark), Johan Hjelm
Impedance of SOFC Composite Electrodes

17:40 to 18:00

Aziz Nechache (Laboratoire d'Electrochimie, Chimie des Interfaces et Modélisation pour l'Energie, UMR 7575 CNRS, ENSCP Chimie-Paristech, PSL, Paris, France), Michel Cassir, Armelle Ringuedé
Diagnosis of a Cathode-supported Solid Oxide Electrolysis Cell by Electrochemical Impedance Spectroscopy

18:00 to 18:20

Adriano Sacco (Center for Space Human Robotics @POLITO, Istituto Italiano di Tecnologia, Torino, Italy), Tonia Tommasi, Diana Hidalgo, Alessandro Sanginario
Dynamic study of energy losses in Microbial Fuel Cells by means of Electrochemical Impedance Spectroscopy

Friday, 21 June 2013 - Morning

Plenary

Room : A1

Chaired by: Isao Shitanda

08:40 to 09:40

Bernard Tribollet (LISE, UPR15 du CNRS, Université Pierre et Marie Curie, PARIS, France)

Constant Phase Elements: From Improved Fits to New Information

09:40 to 10:00

Coffee Break

Session 1: Theory and Experimental Methods

Room : A1

Chaired by: Vincent Vivier and Achim W. Hassel

10:00 to 10:40 **Keynote**

David A. Harrington (Chemistry Dept., University of Victoria, Victoria, Canada), Frode Seland, Robert L. Sacci, Per Kristian Dahlstrøm

Dynamic EIS Study of Electrocatalytic Reactions

10:40 to 11:20 **Keynote**

Vincent Vivier (CNRS, UPR 15 du CNRS, LISE, Paris, France and Université P. et M. Curie, LISE, Paris, France)

Local Transfer Function Performed with the Scanning Electrochemical Microscope

11:20 to 11:40

Achim W. Hassel (Institute for Chemical Technology of Inorganic Materials, Johannes Kepler University, Linz, Austria), J. P. Kollender, A. I. Mardare

Localised Impedance Spectroscopy using the Scanning Droplet Cell Microscope

11:40 to 12:00

Mireille Turmine (CNRS, UPR 15 du CNRS, LISE, Paris, France, Université P. et M. Curie, LISE, Paris, France), C. Gabrielli, T. H. Ho, M. Keddam, H. Perrot

Is It Possible to Perform EIS in a Droplet of Solution?

12:00 to 12:20

Yoshinao Hoshi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Takahiro Imai, Isao Shitanda, Masayuki Itagaki

Relation between Penetration Depth and Potential Distribution in Porous Electrode

12:20 to 12:30

Closing remarks

International Scientific Committee and Local Organizing Committee

Tuesday, 18 June 2013 - Afternoon

Poster

Room : A2

Chaired by: Isao Shitanda

Battery

P01-01

Arata Okuyama (ESPEC Corp., Osaka, Japan), Hideki Kawai, Yuichi Aoki, Keiichirou Honda, Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Investigation of Degradation Analysis of Lithium-ion Secondary Battery Performance using AC Impedance Spectroscopy

P01-02

Norbert Wagner (German Aerospace Centre (DLR), Institute of Technical Thermodynamics, Stuttgart, Germany), Andreas K. Friedrich

Simultaneous Electrochemical Impedance Spectroscopy and Adiabatic Calorimetric Measurements (ARC) of Lithium-Ion Batteries

P01-03

Christa Bünzli (Paul Scherrer Institut, Villigen PSI, Switzerland), Juan Luis Gómez-Cámer, Petr Novák

Experimental Challenges of Electrochemical Impedance Spectroscopy of Practical Electrodes for Lithium-Ion Batteries

P01-04

Yuhei Gima (Waseda Univ., Tokyo, Japan), T. Yokoshima, H. Nara, T. Momma, T. Osaka

Distinction of Impedance Responses on Li-ion Batteries by Separable Cell

P01-05

Yoshiyasu Saito (Energy Technology Research Institute, AIST, Ibaraki, Japan; Graduate School of Systems and Information Engineering, University of Tsukuba, Ibaraki, Japan), Kiyonami Takano, Nobuko Hanada, Masayoshi Ishida

Transient Heat Generation of Lithium-ion Batteries under AC Current Application

P01-06

Hiroki Nara (Research Institute for Science and Engineering, Waseda University, Tokyo, Japan), Daikichi Mukoyama, Toshiyuki Momma, Tetsuya Osaka

Temperature Dependence on Impedance Responses of 5 Ah class Li-ion Battery

P01-07

Takehiko Yokoshima (Waseda Univ., Tokyo, Japan), D. Mukoyama, D. kameoka, H. Isawa, Y. Gima, H. Nara, T. Momma, Y. Mori, T. Osaka

Fundamental Study on Electrochemical Impedance Spectra Using Square Potential/Current Input

P01-08

Daikichi Mukoyama (Research Institute for Science and Engineering, Waseda University, Tokyo, Japan), Tokihiko Yokoshima, Daizo Kameoka, Hidehiko Isawa, Hiroki Nara, Toshiyuki Momma, Yasuro Mori, Tetsuya Osaka

EIS Analysis of Degradation by Square Current for Commercial LIB

P01-09

Heiko Witzenhausen (Electrochemical Energy Conversion and Storage Systems Group, Institute for Power Electronics and Electrical Drives (ISEA), RWTH Aachen University, Aachen, Germany and Jülich Aachen Research Alliance, JARA-Energy, Aachen, Germany), Friedrich Hust, Dirk Uwe Sauer

Comprehensive Approach for Impedance Based Battery Model Parameterization

P01-10

Vladimir Yufit (Department of Earth Science and Engineering, Energy Storage Research Network, Imperial College London, London, UK), D.A. Howey, P.D. Mitcheson, G.J. Offer, N.P. Brandon

On-line Battery Condition Monitoring using a low-cost Fast Electrochemical Impedance Spectroscopy for Automotive Applications

P01-11

Norbert Wagner (German Aerospace Centre (DLR), Institute of Technical Thermodynamic, Institute for Thermodynamic and Thermal Engineering, University of Stuttgart, Stuttgart, Germany), Natalia A. Cañas, Kei Hirose, Andreas K. Friedrich

Investigations of Lithium-sulfur Batteries using Electrochemical Impedance Spectroscopy

PEFC

P01-12

Stephan Weinberger (Graz University of Technology, Graz, Austria), Florian Gebetsroither, Viktor Hacker

Real Time Analysis of Operating Conditions of PEFC

P01-13

Weiqi Zhang (Department of Materials Science and Technology, Nagaoka University of Technology, Niigata, Japan), Takahiro Maruta, Sayoko Shironita, Minoru Umeda

Anode and Cathode Degradation in PEFC Single Cell Investigated by Electrochemical Impedance Spectroscopy

P01-14

Ryohei Furusawa (Department of Electrical and Electronic Engineering, Graduate School of Engineering, University of Miyazaki, Miyazaki, Japan), Akira Tomisima, Daisuke Tashima

Impedance Analysis of the Deterioration of the Membrane Electrode Assembly in a Proton-exchange Membrane Fuel Cell after 10000 Cycles

P01-15

Kiyotaka Mitake (Department of Chemistry and Materials Science, Graduate School of Science and Engineering, Tokyo Institute of Technology, Tokyo, Japan), Shingo Kanazawa, Eiji Tada, Atsushi Nishikata

EIS Characteristics of Pt Cathode Catalyst in PEMFC

P01-16

Futoshi Matsumoto (Department of Material and Life Chemistry, Kanagawa University, Kanagawa, Japan), Govindachetty Saravanan, Takao Gunji, Yoshiyuki Mochida, Genki Kobayashi

AC Impedance Analysis of Electrocatalytic Formic Acid Oxidation on Ordered Intermetallic Nanoparticles

P01-17

Jong Hyun Jang (Fuel Cell Research Center, Korea Institute of Science and Technology (KIST), Seoul, Korea), Soo Jin Kim, Byung-Seok Leea, Sang Hyun Ahn, Jun Young Han, Sung Jong Yoo, Hyoung-Juhn Kim, EunAe Cho, Soo-Kil Kim, Dirk Henkensmeier, Suk Woo Nam, Tae-Hoon Lim, Sung Hyun Kim

Performance Evaluation and Electrochemical Impedance Analysis of Polybenzimidazole Based Electrochemical Hydrogen Pumps with Various Pt loadings

DMFC

P01-18

Hiroshi Fukunaga (Faculty of Textile Science and Technology, Division of Chemistry and Materials, Materials and Chemical Engineering Course, Shinshu University, Nagano, Japan), N. Takahashi, T. Takatsuka

Equivalent Circuit to Analyze Electrochemical Impedance Spectroscopy of Direct Methanol Fuel Cell Anode

P01-19

Shiyan Feng (Graduate School of Science and Engineering, Yamaguchi University, Yamaguchi, Japan), Nobutaka Endo, Ryosuke Hara, Mitsuru Higa

DMFC Performance of Polymer Electrolyte Membrane Prepared from Poly(vinylalcohol)-based Polyanion

P01-20

Nobutaka Endo (Graduate School of Science and Engineering, Yamaguchi University, Yamaguchi, Japan), Ryosuke Hara, Shiyan Feng, Mitsuru Higa

DMAFC Performance of Polymer Electrolyte Membrane Prepared from Poly(vinylalcohol)-based Polycation

Bio-fuel Cell

P01-21

Seiya Tsujimura (Faculty of Pure and Material Sciences, University of Tsukuba, Ibaraki, Japan), Wataru Akatsuka, Kazuya Murata, Isao Shitanda, Masayuki Itagaki

Impedance Analysis of Bioelectrocatalytic Hydrogel-modified Mesoporous Carbon Electrodes

P01-22

Hiroki Nakafuji (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), I. Shitanda, Y. Hoshi, M. Itagaki, S. Tsujimura

Electrochemical Impedance Analysis of Screen-printed MgO-templated Porous Carbon Electrode

P01-23

Isao Shitanda (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Hiroki Yanai, Yoshinao Hoshi, Masayuki Itagaki, Seiya Tsujimura

Impedance Study of Bilirubin Oxidase-modified Carbon Cryogel Electrode

P01-24

Yuki Yagi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Characterization of Biofuel Cell Anode by Electrochemical Impedance Spectroscopy using Wavelet Transformation

Biointerfaces and Gel

P01-25

Takashi Ofuji (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Electrochemical Impedance Study for Local Non-uniform Diffusion Layer Induced by Bioconvection

P01-26

Lourdes M. Bravo-Anaya (Universidad de Guadalajara, Departamento de Ingeniería Química, Jalisco, Mexico), E. R. Macías, J.L. Hernández-López, V.V. Fernández Escamilla, M.A. Carreón Alvarez, J. F. A. Soltero, E. R. Larios-Durán

Structural Behavior of Au-Calf Thymus DNA Interface Estimated Through an EIS and SPR Study

P01-27

Ryoma Asano (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Kazutake Takada

Electrochemical Impedance Analysis of Cupric Ion Diffusion in Poly (acrylic acid) Gel on Printed Carbon Electrode

Corrosion

P01-28

Miwako Arai (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Electrochemical Impedance Spectroscopy Analysis on Aluminum and Aluminum Alloys in Neutral Aqueous Solution

P01-29

Ryota Miyahara (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Hideki Katayama, Masayuki Itagaki

Electrochemical Evaluation of Microbiologically Influenced Corrosion of Type 304 Stainless Steel

P01-30

Yoshinao Hoshi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Taiki Kinoshita, Isao Shitanda, Masayuki Itagaki

Corrosion Detection of Steel in Soil and Cement by Multi-transfer Functions

P01-31

Yoshinao Hoshi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Toshihiro Hayashi, Isao Shitanda, Masayuki Itagaki, Kazuhiko Noda

Impedance Analysis of Film formed on Iron by Chemical Conversion Treatments

P01-32

Omar Aaboubi (LISM, UFR Sciences, Reims, France), Razika Mehdaoui, Ahmed Khelifa

EIS Studies of Anionic Surfactants Inhibiting Effect of Al-2017 Corrosion in HCl Aqueous Solutions

P01-33

Hisasi Takenouti (LISE -UPMC, UPR15 du CNRS, Paris, France), Wafaa Qafsaoui, H. Perrot, M.W. Kendig

Corrosion Inhibition of Al 2024 Alloy in a Dilute NaCl by 1-pyrrolidine Dithiocarbamate

P01-34

Mounim Lebrini (Laboratoire Matériaux et Molécules en Milieux Amazonien, UMR ECOFOG-Université Antilles-Guyane, Cayenne, Guyane Française), Maxime Chevalier, Nadine Amusan, Michel Traisnel, Florent Robert, Christophe Roos

Enhanced Corrosion Resistance of Mild Steel in 1 M Hydrochloric Acid Solution by Alkaloids Extract from *Aniba rosaeodora* Plant: Electrochemical, Phytochemical and XPS Studies

Sensor

P01-35

Olga Mergel (Institute of Physical Chemistry II, RWTH Aachen University, Aachen, Germany), Felix Plamper

Influence of Polycation Architecture on the Electrochemistry of Hexacyanoferrates

P01-36

Masaji Tamura (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Fabrication of Screen-printed Algal Biosensor using Ultraviolet Curable Resin for Toxicity Test

P01-37

Koji Tanaka (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Electrochemical ATP Sensing System Monitoring Flagellar Algal Bioconvection

P01-38

Tasuku Yamaguchi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Electrochemical Impedance Study for Fully Screen-printed Paper-based Electrochemical Biosensor Chip

P01-39

Taiga Sagisaka (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Light-accelerated TiO₂/Pt/Au Nanomotor Fabricated by Using Porous Aluminum Template

Theory and experimental methods

P01-40

Koichiro Isobe (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Impedance Spectroscopy Calculated by Wavelet Transformation -Influence of background on Impedance Spectra-

P01-41

Natsuki Yakabe (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Discussion of Suitable Center Frequency and Scale Parameter and Bandwidth Involved in Complex Morlet Mother Wavelet to Calculate Impedance Spectrum by Wavelet Transformation

P01-42

Krzysztof Mech (AGH University of Science and Technology, Faculty of Non-Ferrous Metals, Department of Physical Chemistry and Metallurgy of Non – Ferrous Metals, Krakow, Poland), P. Żabiński, R. Kowalik

EIS, Voltammetric and Chronopotentiometric Studies of HER on Different Substrates

Thursday, 20 June 2013 - Afternoon

Poster

Room : A2

Chaired by: Isao Shitanda

Li ion battery

P02-01

Jae Ha Lee (Department of Materials Science and Engineering, Korea University, Seoul, Korea), Jun Kyu Lee, Bok Ki Kim, Woo Young Yoon

The effect of Lithium Powder Size on the Li-powder/LiV₃O₈ Secondary Battery through Impedance Analysis

P02-02

Masayoshi Takayanagi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Effect of Graphite Particle Size on Impedance Spectrum of Anode in Li-ion Rechargeable Batteries

P02-03

Sylvia Ayu Pradanawati (Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology, Taipei, Taiwan), Fu-Ming Wang

The Electrochemical Impedance Spectroscopy (EIS) Investigation on Solid Electrolyte Interface (SEI) to the Lithium Salt Effects of Lithium Ion Battery

P02-04

Nur Laila Hamidah (Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology, Taipei, Taiwan), Fu-Ming Wang

The Electrochemical Impedance Spectroscopy (EIS) Study of Solid Electrolyte Interface (SEI) Formation to the Electrolyte Additive Effects of Lithium Ion Battery

P02-05

Keiichirou Honda (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Arata Okuyama, Hideki Kawai, Yuichi Aoki

Simultaneous Analyses of Positive and Negative Electrodes of the Lithium-ion Rechargeable Battery by in-situ EIS

Corrosion

P02-06

Yanhua Lei (Graduate School of Engineering, Hokkaido University, Hokkaido, Japan), Atsushi Hyono, Mikito Ueda, Toshiaki Ohtsuka

EIS and EQCM for Corrosion Process of Copper Covered with Polypyrrole in NaCl Solution

P02-07

Yosuke Matsuda (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Electrochemical Impedance Spectroscopy Study of Anodic Dissolution of Copper in Freshwater with Channel Flow Double Electrode

P02-08

Kentaro Ochi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Stability of Film Formed on Copper in Fresh Water by EIS

Electrodeposition

P02-09

Azizul Helmi Sofian (Graduate School of Engineering, Shibaura Institute of Technology, Tokyo, Japan and Faculty of Manufacturing Engineering, Universiti Teknikal Malaysia Melaka, Melaka, Malaysia), Muhammad Zaimi, Kazuhiko Noda

Electrochemical Analysis of Electroless Quaternary Nickel Alloy in 3.5 wt% NaCl Solution

P02-10

Omar Aaboubi (LISM, UFR Sciences, Reims, France), Jacques Douglade, Jean-Paul Chopart, Piotr Zabinski

Electrodeposition of NiMo Catalysts under Magnetic Field Control

P02-11

Mamie Sancy (Academia Politécnica Aeronáutica, Fuerza Aérea de Chile, Santiago, Chile), Evelyn González, Maritza Páez, Jonathan Elizondo, Bernard Tribollet

A Hybrid Coating Modified with Zirconia and Cerium Nanoparticles for Protection of 2024-T3 alloy

P02-12

Remigiusz Kowalik (AGH University of Science and Technology, Faculty of Non-Ferrous Metals, Department of Physical Chemistry and Metallurgy of Non-Ferrous Metals, Krakow, Poland), Krzysztof Mech, Piotr Żabiński

Analysis of the Underpotential Deposition of Cadmium on Copper

P02-13

Yusuke Ito (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

EIS study on Copper Electrodeposition in Acidic Plating Bath Containing MoO_4^{2-}

Ion Conductivity

P02-14

Yuki Nagao (School of Materials Science, Japan Advanced Institute of Science and Technology, Ishikawa, Japan)

Anomalous Proton Transport Property in Nafion Thin Films

P02-15

Yuriko Kakihana (Graduate School of Science and Engineering, Yamaguchi University, Yamaguchi, Japan), Yoshiaki Ogawa, Ryosuke Hara, Mitsuru Higa

Characterization of Cation-exchange Membranes Prepared from Graft Copolymer using Polysulfone

P02-16

Mohd F. Z. Kadir (Centre for Foundation Studies in Science, University of Malaya, Lumpur, Malaysia), M.F. Shukur, N.A. Majid, R. Ithnin

Conductivity Enhancement of Silver Ion Conducting Starch Based Solid Biopolymer Electrolyte by Plasticization and Addition of Nanofiller

P02-17

Ohmin Kwon (Department of Electronic Chemistry, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, Kanagawa, Japan), Masaaki Hirayama, Yuki Kato, Koji Kawamoto, Masao Yonemura, Ryoji Kanno

Conduction Mechanism of $\text{Li}_{4-x}\text{Ge}_{1-x}\text{P}_x\text{S}_4$

DSSC

P02-18

Kazuma Kawakami (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Takurou Murakami

Anodized Carbon Black for Counter Electrode in Dye-sensitized Solar Cell investigated by EIS

P02-19

Hiroataka Ohno (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Kazuya Inoue, Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Effect of Current Collecting Electrodes on Internal Resistance of Dye-sensitized Solar Cell

P02-20

Tomomi Ohtaki (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Current Distribution in Dye-Sensitized Solar Cells during Impedance Measurement -Calculation by FEM-

P02-21

Adriano Sacco (Center for Space Human Robotics @POLITO, Istituto Italiano di Tecnologia, Torino, Italy), Andrea Lamberti, Samuele Porro, Angelica Chiodoni, Stefano Bianco

Investigation of Transport and Recombination Properties in Graphene/Titanium Dioxide Nanocomposite for Dye-Sensitized Solar Cell Photoanodes

Biodiesel, Biofuel cell

P02-22

Fernando J. S. Barros (Federal University of Maranhão, Av. dos Portugueses, São Luís, Brazil), V. D. da Silva, J. R. P. Rodrigues, A. A. P. Ferreira, E. P. Marques, A. L. B. Marques

Development of Electrochemical Device for Analysis of Biodiesel

P02-23

Seiya Kato (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Seiya Tsujimura

Electrochemical Impedance Study for Screen-printed Paper-based Biofuel Cell

P02-24

Yukihiro Yoshihata (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki, Seiya Tsujimura

Multi-impedance Study for Biofuel Cell Based on Screen-Printed Porous Carbon Electrodes

Capacitor

P02-25

Chi-Chang Chen (Department of Chemistry, National Cheng Kung University, Tainan, Taiwan), Sheng-Min Wang, Tzi-Yi Wu, Hong-Ping Lin, I-Wen Sun

Carbon Paper Electrodes for Ionic Liquid Based Supercapacitors

P02-26

Keita Yajima (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), T. Kondo, H. Okano, M. Hayase, M. Yuasa

Fabrication and Electrochemical Properties of Porous Boron-doped Diamond Pillar Array

P02-27

Satoshi Ikezoe (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Takeshi Kondo, Makoto Yuasa

Fabrication and Electrochemical Properties of Porous Diamond Electrodes

P02-28

Chungho Lee (Department of Chemical Engineering, University of Seoul, Seoul, Korea), Fan Xu, Jeom-soo Kim, Cheolsoo Jung

Effect of 1,3,5-Trifluorobenzene to Increase a High Rate Performance of Li Ion Capacitor

Semiconductor

P02-29

Daisuke Kawade (Research Institute for Science and Technology, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), L. J. Sharon, M. Yoneoka, I. Tsunoda, K. Takakura, M. Itagaki, M. Sugiyama

Investigation of Degradation Properties around Cds/CIGS Interfaces of CIGS Solar Cells by Impedance Spectroscopy

P02-30

Taisuke Seishu (Research Institute for Science and Technology, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Y. Hirose, T. Yamashita, D. Kawade, M. Itagaki, M. Sugiyama

Utilization of Impedance Spectroscopy for Evaluation of Defect Physics of Oxide-semiconductor-related Solar Cells

P02-31

Soichi Sato (Research Institute for Science and Technology, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), K. Hisatomi, H. Nagayasu, M. Itagaki, and M. Sugiyama

Application of Impedance Spectroscopy to Investigate the Defect Properties around the *pn* Interface of Thin Film Solar Cell

P02-32

Hidenori Sakakura (Research Institute for Science and Technology, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), S. Chang, M. Itagaki, M. Sugiyama

Investigation of Sputtering Damages around *pn* Interfaces of CIGS Solar Cells by Impedance Spectroscopy

Theory and Experimental Methods

P02-33

Suguru Suzuki (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Time Domain Analysis of Equivalent Circuit Involving CPE

P02-34

Burak Ulgut (Gamry Instruments Inc., Warminster, USA)

A New AutoFit Implementation Using Semi-Empirical Initialization of Parameters

P02-35

Thibault Muselle (Vrije Universiteit Brussel, Research Group Electrochemical and Surface Engineering, Brussels, Belgium), T. Breugelmans, J. Lataire, R. Pintelon, A. Hubin

Using “Odd Random Phase Electrochemical Impedance Spectroscopy” to Quantify a Non-stationary Behavior Validation on a Dummy Cell

P02-36

Carl A. Schiller (ZAHNER-elektrik, Kronach, Germany), F. Richter, C. Böhmer, U. Tröltzsch

A Versatile Transmission Line Model for Porous Electrodes Applied on the Diffusion Impedance under Various Boundary Conditions

P02-37

Satoshi Kobayashi (Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Chiba, Japan), Yoshinao Hoshi, Isao Shitanda, Masayuki Itagaki

Digital Simulation of Finite Diffusion Impedance

P02-38

Hisatsugu Yamasaki (Battery Research Division, Toyota Motor Corp., Shizuoka, Japan), Toshiyuki Koyama, Kohei Kawai, Shunsuke Yamakawa, Yuhki Tsukada

Image-based Impedance Calculation Coupled with Phase-Field Method

P02-39

Sebastien Benoit (Bio-Logic SAS, Claix, France), A. Pellissier, N. Murer, B. Molina-Concha, J.-P. Diard

Z Fit : A Powerful Tool for Multiple Impedance Diagrams Fitting