

Meeting Program

May 8, 2014

WEDNESDAY JUNE 4

8:00-9:00
Registration

9:00-9:15
Opening Ceremony

Co-Chairs: H. Terryn and H. Masuda

9:15-10:00
Opening Plenary Lecture
[I-01] TiO₂ Nanotubes: Recent Structures and Applications - P. Schmuki (University of Erlangen)

10:00-10:20
Invited Presentation
[I-02] Anodisation in 3D-Printed Electrochemical Cells - Achim W. Hassel (Christian Doppler Laboratory for combinatorial oxide chemistry at the Institute for chemical technology of inorganic materials, Johannes Kepler University Linz, CEST), Martina Hafner (Christian Doppler Laboratory for combinatorial oxide chemistry at the Institute for chemical technology of inorganic materials), Sarah Walkner, Gabriela Schimo (Johannes Kepler University Linz, CEST), and Jan Philipp Kollender (Johannes Kepler University Linz)

10:20-10:40
Invited Presentation
[I-03] Morphological and Electrical Instabilities during Anodic Oxide Growth - Joris Proost, Frédéric Blaffart, and Quentin Van Overmeere (Université Catholique de Louvain)

10:40-11:00
Coffee Break

Co-Chairs: M. G. S. Ferreira and J. Proost

11:00-11:30
Keynote Lecture
[I-04] Morphological Instability Leading to Formation of Porous Anodic Oxides - Kurt R. Hebert, Ömer Özgür Çapraz, and Pranav Shrotriya (Iowa State University)

11:30-11:50
Invited Presentation
[I-05] Growth Mechanism of Self-Ordered Porous Anodic Films on III-V Semiconductors - Sachiko Ono, Kosuke Sugawara, Shunsuke Kotaka, and Hidetaka Asoh (Kogakuin University)

11:50-13:10
Lunch

Room A

Co-Chairs: P. Schmuki and S. Ono

13:10-13:30

O-01 Anodizing of Bulk-Al-Cu Intermetallic Phases in Sulfuric Acid Dealloying Effect of Al_2Cu , $\text{Al}_7\text{Cu}_2\text{Fe}$, Al_2CuMg and $(\text{Al,Cu})_{16}\text{Fe}_4\text{Si}_3$ - Emmanuel Rocca, Joffrey Tardelli, and Stephane Mathieu (Université de Lorraine-CNRS)

13:30-13:50

O-02 Fabrication of $\text{Al}_2\text{O}_3/\text{Al}$ Composite Membranes Using a Modified Process of Lithography and Anodizing - Balasankar Athinarayanan and Dae-Yeong Jeong (University of Science and Technology, Korea Electrotechnology Research Institute)

13:50-14:10

O-03 Lithiation Behaviour of Electrochemically Grown Titania Nanotubes - Andreas Bund and Svetlozar Ivanov (Technische Universitaet Imenau)

14:10-14:30

O-04 Effect of Different Oxidant on TiO_2 Nanotubes Array Formation - Mustaffa Ali Azhar Taib (Advanced Technology Training Centre, Universiti Sains Malaysia), Monna Rozana, Dede Miftahul Anwar, Nyein Nyein, Cheong Kuan Yew, Khairunisak Abdul Razak, and Zainovia Lockman (Universiti Sains Malaysia)

14:30-14:50

O-05 Fabrication of Nanoporous Anodic TiO_2 -TiN Composite Films toward Multi-functional Nanomaterials - Song-Zhu Kure-Chu, Saharu Saito, Hitoshi Yashiro (Iwate University), Hiroyo Segawa, Kenji Wada, and Satoru Inoue (National Institute for Materials Science (NIMS))

14:50-15:10

O-06 Laminated Porous Structure Produced by Selective Dissolution and Anodization - Daixiu Wei, Yuichiro Koizumi, and Akihiko Chiba (Tohoku University)

15:10-15:50

Group Photo and Coffee Break

Co-Chairs: K. R. Hebert and S. -Z. Kure-Chu

15:50-16:10

O-07 Formation of Self-organized Iron Oxides Nanoporous Film via Anodic Oxidation Process as Adsorbent Material - Monna Rozana (Universiti Sains Malaysia), Go Kawamura (Toyohashi University of Technology), Khairunisak Abdul Razak (Universiti Sains Malaysia), Atsunori Matsuda (Toyohashi University of Technology), and Zainovia Lockman (Universiti Sains Malaysia)

16:10-16:30

O-08 In-situ Temperature Measurement Close to the Interface Metal/Oxide under Hard Anodizing Condition - C. Lämmel, M. Schneider, R. Johne-Michaelis, and A. Michaelis (Fraunhofer Institute for Ceramic Technology and Systems)

16:30-16:50

O-09 Porous Anodic Oxide Films on Ti-Al Powder Alloy - Yakovleva Natalia, Stepanova Kristina, Kokatev Aleksandr, Savchenko Olga (Petrozavodsk State University), Pettersson Håkan (Halmstad University), Yakovlev Aleksandr, Chupakhina Elena, and Khanina Elena (Petrozavodsk State University)

16:50-17:10

O-10 Appearance of Anodized Layer on Al: Optical Effects due to Partial Oxidation of Al-Zr and Al-Ti Intermetallics - Visweswara Gudla, Stela Canulescu (Technical University of Denmark), Rajashekhara Shabadi (Unité Matériaux et Transformations), Jørgen Schou, and Rajan Ambat (Technical University of Denmark)

17:10-17:30

O-11 **Controlled Growth and Cancelling of Anodic Titanium Oxides Showing Interference Colors** - Maria Vittoria Diamanti and MariaPia Pedefferi (Politecnico di Milano)

17:30-17:50

O-12 **Incorporation of Complex Ions, Organic Molecules and Nanoparticles into Anodic Alumina Walls** - Wojciech J. Stepniowski, Małgorzata Norek, Marta Michalska-Domańska, Agata Nowak-Stepniowska (Military University of Technology), Sławomir Kret (Polish Academy of Sciences), Sanjay Thorat, Marco Salerno (Italian Institute of Technology), Anna Mostek, Paulina Chilimoniuk, Wioletta Florkiewicz, Bartłomiej Jankiewicz, Aneta Bombalska, Miron Kaliszewski, Magdalena Gajda-Rączka, Bartosz Bartosewicz, and Zbigniew Bojar (Military University of Technology)

19:00-

Welcome Reception at Sapporo Beer Garden

Room B

Co-Chairs: S. Moon and K. Fushimi

13:10-13:30

O-13 **Initial Stages of Aluminum Alloys Micro-arc Anodizing: Growth Mechanisms and Effect on the Corrosion Resistance** - Delphine Veys-Renaux and Emmanuel Rocca (Université de Lorraine – CNRS)

13:30-13:50

O-14 **Corrosion of Al and Al Alloys in Cl⁻ And Cu²⁺ Solutions at High Temperature -Effects of Inhibitor and Anodizing-** - M. Chiba, Y. Nakayama, T. Hiraga, S. Saito (Ashikawa National College of Technology), Y. Shibata (Daikin Industries Ltd.), and H. Takahashi (Ashikawa National College of Technology)

13:50-14:10

O-15 **The Role of Anodic Oxide Chemistry in the Interfacial Bonding of Aluminium in the Aerospace Industry** - S.T. Abrahami (Materials Innovation Institute, Delft University of Technology), J. de Kok (Fokker Aerostructures BV), J.M.C Mol (Materials Innovation Institute), and H. Terryn (Delft University of Technology, Vrije Universiteit Brussel)

14:10-14:30

O-16 **Corrosion Behavior of AA3103 Alloy in Dilute Cl⁻ Solution Containing SO₄²⁻ and / or NO₃⁻** - Takuya Murata, Yoshiyuki Oya, Takahiro Koyama, and Yoichi Kojima (UACJ Corporation)

14:30-14:50

O-17 **Electrochemical Noise Evaluation of Metal Cation Effects on Galvanic Corrosion of Aluminum in Model Tap Waters** - M. Sakairi (Hokkaido University), K. Otani (Hokkaido University, Toyo Seikan Kaisha, Ltd.), R. Sasaki (Hokkaido University), and A. Kaneko (Nippon Light Metal co. Ltd.)

14:50-15:10

O-18 **Effect of Cations on Corrosion Behavior of Aluminum Alloy in Atmospheric Environment** - Takatoshi Shimada, Yoshiyuki Oya, Takahiro Koyama, and Yoichi Kojima (UACJ Corporation)

15:10-15:50

Group Photo and Coffee Break

Co-Chairs: A. W. Hassel and H. Tsuchiya

15:50-16:10

O-19 **Modifying Anodic Oxide Layers on Magnesium Alloys by Implementing Nanoparticle-bound Corrosion Inhibitors for Enhanced Corrosion Protection** - D. Tabatabai and W. Fürbeth (DECHEMA-Forschungsinstitut)

16:10-16:30

O-20 Effect of Ca on Corrosion Resistance and Bioactivity of Anodic Oxide Film Formed on Mg-6Al and Mg-6Al-1Zn Alloys - Anawati, Hidetaka Asoh, and Sachiko Ono (Kogakuin University)

16:30-16:50

O-21 Electrochemical Synthesis of TiO₂Nanotubes on Ti6Al7Nb Alloy and Their Interaction with the Simulated Body Fluid - Michał Stepień, Piotr Handzlik, and Krzysztof Fitzner (AGH University of Science and Technology)

16:50-17:10

O-22 Ellipso-microscopic Imaging of Anodized Titanium Surface under UV-light Irradiation - Koji Fushimi, Kazunori Kurauchi, Takayuki Nakanishi, Yasuchika Hasegawa, and Mikito Ueda (Hokkaido University)

17:10-17:30

O-23 Microstructure and Optical Appearance of Friction Stir Processed and Anodized Al-Metal Oxide Surface Composites - Rajan Ambat, Visweswara Gudla, Flemming Jensen, Stela Canulescu (Technical University of Denmark), Aude Simar (Université Catholique de Louvain), Rajashekhara Shabadi (Unité Matériaux et Transformations), and Jørgen Schou (Technical University of Denmark)

19:00-

Welcome Reception at Sapporo Beer Garden

THURSDAY JUNE 5

Co-Chairs: K. Nisancioglu and H. Asoh

8:30-9:00

Keynote Lecture

I-06 Post Processing of Anodic Oxide Films on Al: Interaction of Al Oxides with Organic and Inorganic Coatings - Herman Terryn (Vrije Universiteit Brussel)

9:00-9:20

Invited Presentation

I-07 Plasma Electrolytic Oxidation Treatment of AZ31 Mg Alloy - Sungmo Moon (Korea Institute of Materials Science)

9:20-9:40

O-24 Plasma Electrolytic Oxidation of Ti6Al4V Alloy in Alkaline Solutions: Effect of OH⁻ ion - D. Quintero, O. Galvis, J.A Calderón, M.A Gómez, J.G Castaño, and F. Echeverría (Universidad de Antioquia UdeA)

9:40-10:00

Invited Presentation

I-08 Influence of the Alumina Barrier Layer Properties on Electrodeposition of Zinc from Ionic Liquids - M. Starykevich, M. Zheludkevich, and M.G.S. Ferreira (University of Aveiro)

10:00-10:20

O-25 Electropolishing and Anodic Oxidation of Niobium in Phosphoric Acid Solution - M. Sowa, K. Greń (Silesian University of Technology), A.I. Kukhareno, D.M. Korotin (Russian Academy of Sciences-Ural Division, Ural Federal University), L. Szyk-Warszyńska (Jerzy Haber Institute of Catalysis and Surface Chemistry PAS), E. Pamuła (AGH University of Science and Technology), E.Z. Kurmaev (Russian Academy of Sciences-Ural Division), S.O. Cholakh (Ural Federal University), and W. Simka (Silesian University of Technology)

10:20-10:40

Coffee Break

Co-Chairs: M. Santamaria and H. Habazaki

10:40-11:00

Invited Presentation

I-09 Fabrication of Nanoporous Anodic Gold Oxide Films and Reduction to Nanoporous Gold Films - Kazuyuki Nishio (Tokyo University of Technology), Hitomi Yamamoto, and Hideki Masuda (Tokyo Metropolitan University)

11:00-11:20

Invited Presentation

I-10 Metal-assisted Etching of Silicon: Formation and Control of Porous Structures - Shinji Yae (University of Hyogo), Susumu Sakamoto (University of Hyogo, Nippon Oikos Co., Ltd.), Naoki Fukumuro, and Hitoshi Matsuda (University of Hyogo)

11:20-11:40

O-26 Fabrication of InP Microhole Arrays by Site-selective Anodic Etching and Subsequent Chemical Etching - Hidetaka Asoh and Sachiko Ono (Kogakuin University)

11:40-12:00

O-27 Structure Control of Porous Silicon Produced by Metal Assisted Etching for Electroless High Reliability Metal Film Formation - Masato Enomoto (University of Hyogo, C.Uyemura & Co.,Ltd.), Shinji Yae, Naoki Fukumuro (University of Hyogo), Susumu Sakamoto (University of Hyogo, Nippon Oikos Co., Ltd.), and Hitoshi Matsuda (University of Hyogo)

12:00-13:00

Lunch

13:00-14:30

Poster Presentations

Barrier Anodic Oxides

P-01 **In-situ Anodization of Aluminum Surfaces Studied by X-ray Reflectivity and Electrochemical Impedance Spectroscopy** - Florian Bertram (Lund University), Fan Zhang (KTH Royal Institute of Technology), Jonas Evertsson (Lund University), Francesco Carlà (ESRF), Jinshan Pan (KTH Royal Institute of Technology), and Edvin Lundgren^a (Lund University)

P-02 **Study of Anodic and Thermal Oxides Formed on Aluminum Alloy Surfaces** - Jonas Evertsson (Lund University), Fan Zhang (KTH Royal Institute of Technology), Florian Bertram, Lisa Rullik, Mikhail Shipilin, Lindsay Richard Merte, Edvin Lundgren (Lund University), Jinshan Pan (KTH Royal Institute of Technology)

P-03 **Formation of Anodic Films on Magnesium in Ethylene Glycol-H₂O Electrolytes Containing Fluoride** - F. Kataoka, E. Tsuji, Y. Aoki (Hokkaido University), S. Nagata (Tohoku University), H. Habazaki (Hokkaido University)

P-04 **On Electrochromism of Nb₂O₅ Anodic Oxide Films under Pulse Electrochemical Polarization** - Leonid Skatkov (PCB "Argo"), Valeriy Gomofov (NTU "Kharkov Polytechnical Institute")

P-05 **On the Process of Niobium Anodic Oxidation in Potassium Nitrate Melt** - Leonid Skatkov (PCB "Argo"), Valeriy Gomofov (NTU "Kharkov Polytechnical Institute")

P-06 **Characterization of Anodic Films Formed on Ti-Zr Alloys** - Kohei Kobayashi, Etsushi Tsuji, Yoshitaka Aoki (Hokkaido University), Shinji Nagata (Tohoku University) and Hiroki Habazaki (Hokkaido University)

P-07 **Anodic Oxide Film Formed on Iron Depending on Crystallographic Orientation** - Yu Takabatake, Koji Fushimi, Takayuki Nakanishi, Yasuchika Hasegawa (Hokkaido University)

Corrosion

P-08 **Analysis of Passive Film Structure Formed on A3003 in Sulfate Solutions** - Ryo Sasaki, Masatoshi Sakairi (Hokkaido University), and Akira Kaneko (Nippon Light Metal Co.)

P-09 **The Improved Anti-corrosive Behavior of Anodic Iron Oxide through Subsequent Annealing Treatment** - Yong-Wook Choi, Yeonmi Gim, Hyeonseok Yoo, Dongeun Lee, and Jinsub Choi (Inha University)

P-10 **In-situ Coupling Photocurrent Method for Atmospheric Corrosion** - Shohei Yamazoe, Kazuhisa Azumi (Hokkaido University)

P-11 **Mg AZ91 Alloy Anodizing in Alkaline Medium: In-situ Ellipsometry and Electrochemical Measurements** - Delphine Veys-Renaux, Nicolas Stein, Emmanuel Rocca (Université de Lorraine – CNRS)

P-12 **Compositions and Corrosion Behavior of Plasma Electrolytic Oxide Coatings on AZ31B Mg Alloy Produced with Phosphate - Silicate Mixture Electrolyte** - Yoichi Mori, Akihiko Koshi, Jinsun Liao (Kurimoto, Ltd.), Hidetaka Asoh, Sachiko Ono (Kogakuin University)

P-13 **Corrosion Monitoring of Metals Embedded in Bentonite Clay** - Yuto Nagai, Kazuhisa Azumi (Hokkaido University)

P-14 **Generation of Sulfide Ions from Ag-Microelectrode on Iron Electrode** - J.-S. Lee, K. Fushimi, T. Nakanishi, Y. Hasegawa (Hokkaido University)

Porous Anodic Oxides (Aluminum)

P-15 **Fabrication of Geometrically-Controlled Metal Nanostructure Array Using Anodic Porous Alumina and Its Application to SERS Measurements** - [Toshiaki Kondo](#), Nishio Kazuyuki, Hideki Masuda (Tokyo Metropolitan University)

P-16 **Preparation of Monodisperse Hydrogel Particles by Membrane Emulsification Using Anodic Porous Alumina** - [Yuya Machida](#), Takashi Yanagishita, Kazuyuki Nishio, and Hideki Masuda (Tokyo Metropolitan University)

P-17 **Control of Pitting Sites in Anode Etching of Al for Electrolytic Capacitors** - [Hidemitsu Kou](#), Toshiaki Kondo, Takashi Yanagishita, Kazuyuki Nishio, and Hideki Masuda (Tokyo Metropolitan University)

P-18 **Effects of a Magnetic Field Applied during Porous Anodizing of Aluminum** - [A. Ispas](#) (Technische Universität Ilmenau), I. Vrublevsky (Belarusian State University of Informatics and Radioelectronics), U. Schmidt, and A. Bund (Technische Universität Ilmenau)

P-19 **Nano-structural Analysis of Anodic Oxide Film on Aluminum before and after a Sealing Treatment in Boiling Water** - [K. Tsutsumi](#), M. Shima, K. Yazawa, M. Hashimoto, T. Kanazawa, N. Endo, H. Hashiguchi, H. Onodera, T. Suzuki (JEOL Ltd.), H. Asoh, and S. Ono (Kogakuin University)

P-20 **Chemical State Analyses of Anodic Oxide Films on Aluminum in a Sulfuric Acid and Oxalic Acid Solution before and after Sealing** - [M. Shima](#), K. Tsutsumi, K. Yazawa, M. Hashimoto, T. Kanazawa, N. Endo, H. Hashiguchi, T. Suzuki, H. Onodera (JEOL Ltd.), H. Asoh, and S. Ono (Kogakuin University)

P-21 **Porous-alumina-assisted Formation of Columnlike Nanostructured Anodic Films on a Nitrogen-doped Titanium Layer** - [Maria Bendova](#), Jaromir Hubalek, and Alexander Mozalev (Brno University of Technology)

P-22 **Micro- and Nano-technologies Based on Anodic Alumina for Various Applications** - [Mukhurov Nikolai](#), Gasenkova Irina (Institute of Physics of National Academy of Sciences of Belarus)

P-23 **Pt/Platelet Carbon Nanofibers Synthesized by Liquid Phase Carbonization in Porous Anodic Alumina Templates for Oxygen Reduction Reaction** - [T. Yamasaki](#), E. Tsuji, Y. Aoki and H. Habazaki (Hokkaido University)

P-24 **Fabrication of Highly Ordered Anodic Porous Alumina by Selenic Acid Anodizing** - Osamu Nishinaga, [Tatsuya Kikuchi](#), Shungo Natsui, and Ryosuke O. Suzuki (Hokkaido University)

P-25 **Crystallization Process of Anodic Nanoporous Alumina Membrane by Heat Treatment** - [Tatsuya Masuda](#), Hidetaka Asoh and Sachiko Ono (Kogakuin University)

P-26 **Formation of Composite Coatings of Porous Anodic Oxide/Polypyrrole on Iron** - [Yoshiki Konno](#), Etsushi Tsuji, Yoshitaka Aoki, Toshiaki Ohtsuka, Hiroki Habazaki (Hokkaido University)

P-27 **Potentiodynamic Study of the Formation of Anodic Alumina Films in Oxalic Acid Electrolyte** - [Y. Nakayama](#), E. Tsuji, Y. Aoki, and H. Habazaki (Hokkaido University)

P-28 **Control the Pore Size of AAO Templates for Electrochemical Capacitors** - [Soo-Gil Park](#), Jin-Kwon Choi (Chungbuk National University), Hong-Il Kim (PureEchem co. ltd.), Dal-Woo Shin, Sung-Han Kim, Moon-Su Lee (Korea JCC co.), Hiroki Habazaki (Hokkaido University)

Porous Anodic Oxides (Titanium and Other Metals)

P-29 **Well Controllable of TiO₂ Nano-Architecture for Effective Photo-induced Hydrogen Generation** - [Chin Wei Lai](#) (University of Malaya)

P-30 **Tunable Interference Colour of Anodic Tantalum Oxide Nanotubes** - [Corie A. Horwood](#), David T. Cramb, and Viola I. Birss (University of Calgary)

P-31 Electrolytic Formation of Tantalum Nanotube Arrays on the Metal Substrate through the Alumina Nanopores - [Helena Simunkova](#), Lukas Kalina, Jiri Sedlacek, Jaroslav Bousek, and Alexander Mozalev (Brno University of Technology)

P-32 Cyclic Voltammometric Study of the Formation of Crystalline TiO₂ Mesoporous Anodic Films in Hot Phosphate/glycerol Electrolytes - [Shiki Matsuura](#), Etsushi Tsuji, Yoshitaka Aoki, and Hiroki Habazaki (Hokkaido University)

P-33 Fabrication of 3D Ni-P Nanotube Arrays on Industrial Pure Aluminum by Anodization and Electroless Deposition - [Song-Zhu Kure-Chu](#), Kyosuke Osaka, Hitoshi Yashiro (Iwate University), Hiroyo Segawa, Kenji Wada, and Satoru Inoue (National Institute for Materials Science (NIMS))

P-34 On the Influence of Electric Field on Dissolution Rate of Anodic Films on Iron - Khurram Shahzad, Etsushi Tsuji, Yoshitaka Aoki (Hokkaido University), Shinji Nagata (Tohoku University), Hiroki Habazaki (Hokkaido University)

P-35 High Aspect Ratio Ordered Anodic Zirconia Nanotubes Formation by Anodisation in Fluoride Electrolyte - [Zainovia Lockman](#), Monna Rozana (Universiti Sains Malaysia), Syahriza Ismail, Dede Miftahul Anwar (Universiti Teknikal Malaysia Melaka), Cheong Kuan Yew, Khairunisak Abdul Razak (Universiti Sains Malaysia)

Surface Finishing

P-36 Effect of Additive for Smooth Al Electroplating in AlCl₃-EMIC Ionic Liquid - [Chika Namekata](#), Toshiaki Ohtsuka, and Mikito Ueda (Hokkaido University)

P-37 Direct Adhesion of PPS Resin and Triazine Thiol Polymeric Nanofilm Plates on Aluminum by Electrochemical Anodic Oxidation - [Eun Hyuk Chung](#), Eun-kyung Jang, Tae Eun Hong, Jong-Seong Bae, Jong Sung Jin and Euh Duck Jeong (Korea Basic Science Institute)

P-38 Fabrication of Superoleophobic Hierarchical Surfaces on Aluminum by Chemical Etching and Anodizing - [Katsutoshi Nakayama](#), Etsushi Tsuji, Yoshitaka Aoki, and Hiroki Habazaki (Hokkaido University)

P-39 Effect of Cathodic Polarization on the Removal of Chloride Ions inside Anodized Al₂O₃ during Cu Electroless Plating - [Byoung-gu Lee](#) (Inha University), Hyung-seon Choi, Sung-su Kim (SamYoung Electronics), and Yongsug Tak (Inha University)

P-40 Development of an Accelerator Sensor for Copper Plating Bath Applications - [Jia-Cing Lin](#), Yu-Ching Weng (Feng Chia University)

P-41 Electrodeposition of Al-Zn Alloy Layer by Applying Double Counter Electrodes System - [Yusuke Sato](#) and Kazuhisa Azumi (Hokkaido University)

P-42 Electrochemical Surface Treatment of Indium Gallium Zinc Oxide Films - [Tzu-Hsuan Tsai](#), Hsiu-Ching Chen (National Taipei University of Technology), Yung-Fu Wu, Li-Wei Yao, Wei-Chung Chao, and Yu-Hsun Chien (Ming Chi University of Technology)

P-43 Fabrication of 1,3,5-triazine-2,4,6-trithiol Polymeric Nanofilm on Magnesium Metal Surface by Chemical Oxidation - [Jong-Seong Bae](#), Bo Bae Kang, Eun Hyuk Chung, Tae Eun Hong, Jong Pil Kim, Jong Sung Jin and Euh Duck Jeong (Korea Basic Science Institute)

P-44 Surface Modification of Ti-13Nb-13Zr Alloy by PEO Process for Biomedical Applications - A. Kazek-Kęsik, [M. Sowa](#) (Silesian University of Technology), M. Krok-Borkowicz, E. Pamuła (AGH University of Science and Technology), W. Simka (Silesian University of Technology)

P-45 Optimization of Electrodeposition Al on Mg Alloy from the Molten Salt Bath - [Hiroki Murakoshi](#), Kazuhisa Azumi, and Mikito Ueda (Hokkaido University)

P-46 Powerful Pulsed Discharge Anodization of Aluminium in Hydrogen Peroxide and Distilled Water - [A. D. Lisenkov](#) (University of Aveiro), S. K. Poznyak (Belarusian State University), M. L. Zheludkevich, M. G. S. Ferreira (University of Aveiro)

P-47 Polytetrafluoroethylene-Oxide Coatings on Aluminum and Titanium Formed by Plasma Electrolytic Oxidation - V. S. Rudnev, A. A. Vaganov_Vil'kins, P. M. Nedozorov, and T. P. Yarovaya (Russian Academy of Sciences)

P-48 The Effect of Annealing on the Composition and Morphology of the Surface of Ni-containing Oxide Layers on Titanium Formed by Plasma-Electrolytic Method - M. S. Vasilyeva, and V. S. Rudnev (Far Eastern Federal University, Russian Academy of Sciences)

Semiconductors

P-49 Fabrication of InP Line Pattern by Metal Assisted Chemical Etching under UV Irradiation - Yuta Suzuki, Hidetaka Asoh and Sachiko Ono (Kogakuin University)

P-50 Antireflection Using Porous Structure Produced by Metal-assisted Etching for Efficient Silicon Solar Cells - Kano Yamakawa, Shinji Yae (University of Hyogo), Masato Enomoto (University of Hyogo, C. Uyemura & Co., Ltd.), Naoki Fukumuro (University of Hyogo), Susumu Sakamoto (University of Hyogo, Nippon Oikos Co., Ltd.) and Hitoshi Matsuda (University of Hyogo)

P-51 Development of the Zinc Oxide Composition Photocatalyst Material by Scanning Electrochemical Microscopy - Guan-Ting Xiao, Yu-Ching Weng (University of Feng-Chia)

Co-Chairs: F. di Quarto and H. Takahashi

14:30-15:00

Keynote Lecture

I-11 Seeing is Believing - K. Shimizu (Keio University, i-SEM Laboratory)

15:00-15:20

Invited Presentation

I-12 In-Situ Optical and Electrochemical Study of Low Temperature Oxide Growth and Dissolution on Aluminum in Aqueous Media - Nils-Håvard Giskeødegård, Ola Hunderi, and Kemal Nisancioglu (Norwegian University for Science and Technology)

15:20-15:40

O-28 Mapping of Properties for Optical Appearance of Anodized Aluminum - Villads Egede Johansen (Technical University of Denmark), Flemming Jensen, Visweswara Chakravarthy Gudla, and Martin (Bang og Olufsen)

15:40-16:00

Coffee Break

Co-Chairs: K. Nishio and M. Sakairi

16:00-16:20

Invited Presentation

I-13 Effect of Incorporation of Foreign Species on the Solid State Properties of Anodic Films on Ti - M. Santamaria, F. Di Franco (Università di Palermo), S. Miraghei (Isfahan University of Technology), H. Habazaki (Hokkaido University), and F. Di Quarto (Università di Palermo)

16:20-16:40

O-29 Characterization of Instability Phenomenon during the Anodization of Titanium - Mu Fan and Fabio La Mantia (Ruhr-Universität Bochum)

16:40-17:00

Invited Presentation

I-14 Energy Storage System with Anodizing Technology - Soo-gil Park (Chungbuk National University), Hong-il Kim, Han-joo Kim (PureChem Co. Ltd.), and Hiroki Habazaki (Hokkaido University)

17:00-17:20

O-30 **Formation of Porous Structures on Metallic Biomaterials and their Applications -**
Hiroaki Tsuchiya, Sayaka Miyabe, and Shinji Fujimoto (Osaka University)

17:20-17:40

O-31 **Fabrication of Ordered Nanostructures by Nanoimprinting Using Anodic Porous**
Alumina - Takashi Yanagishita, Kazuyuki Nishio, and Hideki Masuda (Tokyo Metropolitan University)

19:00-

Banquet

FRIDAY JUNE 6

Co-Chairs: S. G. Park and T. Yanagishita

8:30-9:00

Keynote Lecture

[I-15] Physico-chemical Properties of Anodic Oxide Films: from Passivity to Electronics - F. Di Quarto, F. Di Franco, and M. Santamaria (Università di Palermo)

9:00-9:20

Invited Presentation

[I-16] Formation of ZrO₂-based Nanocomposite Anodic Films with High Capacitance - Hiroki Habazaki, Masatoshi Ishizuka, Shun Koyama, Etsushi Tsuji, Yoshitaka Aoki (Hokkaido University), and Shinji Nagata (Tohoku University)

9:20-9:40

[O-32] Band Structure Modification of Anodized Al by Ti-alloying - Stela Canulescu (Technical University of Denmark), Kristian Rechendorff (Danish Technological Institute), Camelia Borca (Paul Scherrer Institute), Nykola C. Jones (Aarhus University), Kirill Bordo, Jørgen Schou (Technical University of Denmark), Søren V. Hoffmann (Aarhus University), Rajan Ambat (Technical University of Denmark), and Lars Pleth Nielsen (Danish Technological Institute)

9:40-10:00

Invited Presentation

[I-17] Electrochemical Deposition of TiO₂ for Electrochemical Photocatalytic Decoloration of Dyes - Chi-Chang Hu (National Tsing Hua University), Tsai-Fang Wu (National Tsing Hua University, National Chiao Tung University), Yu-Cheng Hsiao (National Tsing Hua University), and Chihpin Huang (National Chiao Tung University)

10:00-10:20

[O-33] Critical Factors of Dye-Sensitized Solar Cells Using TiO₂ Nanotubes - Seulgi So and Patrik Schmuki (University of Erlangen-Nuremberg)

10:20-10:40

Coffee Break

Co-Chairs: C.-C. Hu and S. Yae

10:40-11:00

Invited Presentation

[I-18] Highly Stable Transparent PEDOT Film for Pt-Free Dye-Sensitized Solar Cells - Kenji Machida (Nippon Chemi-Con Corporation)

11:00-11:20

[O-34] Catalysts-doped Anodic Nanotubular TiO₂ in Negatively-charged Complex Ions - Yeonmi Gim, Hyeonseok Yoo, Dongeun Lee, Yong-Wook Choi, and Jinsub Choi (Inha University)

11:20-11:40

[O-35] Evaluating the Sensitizing Effect on the Photocatalytic Decoloration of Dyes Using Anatase-TiO₂ - Yu-Cheng Hsiao (National Tsing Hua University), Tsai-Fang Wu (National Tsing Hua University, National Chiao Tung University), Yu-Sheng Wang, Chi-Chang Hu (National Tsing Hua University), and Chihpin Huang (National Chiao Tung University)

11:40-12:00

[O-36] Photoelectrochemical Zero Bias Hydrogen Generation Utilizing Self-Assembled Nanoarchitecture Electrode Associated with Chemical Bias for Reducing the Theoretical Water Electrolysis Voltage (5) - Haruka Endo, Masataka Sato, Yoichi Kamo, and Kenji Sakamaki (Fukushima National College of Technology)

12:00-12:15
Closing Remarks

12:15-13:30
Lunch

13:30-20:30
Excursion