KIFEE 10 Symposium Tromsø - Trondheim

Session Program for Electrolysis Systems and Advanced Inorganic Materials

Saturday 6 October

Joint Session I
Chairs: Mari-Ann Einarsrud, Koji Amezawa

09:30 - 09:55	Satoshi Tominaka, NIMS, "Atomic Structures and Unique Physical Properties of Nanomaterials"
09:55 - 10:20	Geir Martin Haarberg, NTNU, "Electrodeposition of silicon from molten salts using a liquid gallium cathode"
10:20 - 10:45	Coffee
10:45 - 11:10	Toru H. Okabe, The University of Tokyo, "Current Status of Titanium Production, and its Future"
11:10 - 11:35	Dennis Meier, NTNU, "Towards adaptable nano-circuitry - disorder and domain-wall engineering in ferroic oxides"

Parallel Session Electrolysis Systems I
Chairs: Geir Martin Haarberg, Toshiyuki Nohira

11:40 - 12:00	Hiroshi Inoue, OPU, "Electrocatalysts Prepared from Cobalt Silicide for Hydrogen Evolution Reaction"
12:00 - 12:20	Gudrun Saevarsdottir, Rekjavik University, "Direct production of alloys in aluminium reduction cells"
12:20 - 12:40	Yasuhiro Fukunaka, Waseda University, "Electrochemical processing for ISRU"

Parallel Session Advanced Inorganic Materials I
Chairs: Fride Vullum-Bruer, Yasushige Mori

11:40 - 12:00	Nobuhito Imanaka, Osaka University, "Environmental catalysts for the complete oxidationof volatile organic compounds and carbon monoxide"
12:00 - 12:20	Sverre Magnus Selbach, NTNU: "Chemical expansion and electronic structure in perovskite oxides"
12:20 - 12:40	Balachandran Jeyadevan, Shiga Prefecture University, "Synthesis of Highly Catalytic Ni-Pt Nanoparticle Structures with Controllable Size and Composition by Alcohol Reduction Technique"

~12:30 - 13:30 Lunch

Parallel Session Electrolysis Systems II
Chairs: Gudrun Saevarsdottir, Toru H. Okabe

13:40 - 14:00 Egil Skybakmoen, SINTEF, "Urban Mining projects at SINTEF"
14:00 - 14:20 Hironori Nakajima, Kyushu University, "In-plane Current Variations in Solid Oxide Fuel Cells In-situ Identified by Cathode Segmentation"
14:20 - 14:40 Ragnhild Hancke, IFE, "Neutron radiography for the characterization of mass transport in PEM water electrolyzer cells: Upcoming activities at IFE"
14:40 - 15:00 Kouji Yasuda, Kyoto University, "Production of High-purity Silicon Ingot Utilizing Volatile Metal Flux and Solidification Refining"

Parallel Session Advanced Inorganic Materials II
Chairs: Dennis Meier, Nobuhito Imanaka

13:40 - 12:00 Fride Vullum-Bruer, NTNU, "Full cell Li-ion batteries with Si-based anodes"
14:00 - 14:20 Akihide Kuwabara, JFCC, "First principles calculation of charge-carrier and defect concentration of R_2O_3-doped $BaZrO_3$"
14:20 - 14:40 Kjell Wiik, NTNU, "All oxide thermoelectrics for high temperature applications - Materials and devices"
14:40 - 15:00 Yasushige Mori, Doshisha University, "Effect of Size Selective Precipitation on Photoluminescence of ZnS Quantum Dots"

15:10 - 15:30 Coffee break

Sunday 7 October
Parallel Session Electrolysis Systems III
Chairs: Egil Skybakmoen, Hiroshi Inoue

09:30 - 09:50 Karen S. Osen, SINTEF, "The CroCodile Project: Recovery of Cobalt from a Wide Variety of Secondary and Primary European Resources"
09:50 - 10:10 Tsuyoshi Murakami, CRIEPI, "Electrochemical behaviors of silicides in LiCl-KCl melt"
10:10 - 10:30 Yumi Katasho, NTNU, "Electrochemical Reduction of Vitrified Nuclear Waste Simulant in Molten $CaCl_2$"
10:30 - 10:50 Coffee break

10:50 - 11:10 Julien Meyer, IFE, "Advanced multi-functional materials for hydrogen production and CO_2 capture"

11:10 - 11:30 Toshiyuki Nohira, Kyoto University, "Electroplating of Si, Ti and W from Water-Soluble KF–KCl Molten Salts"

Parallel Session Advanced Inorganic Materials III
Chairs: Sverre Magnus Selbach, Akihide Kuwabara

09:30 - 09:50 Katherine Inzani. NTNU, "Ab-initio evaluation of hexagonal $YMnO_3$ and $YGaO_3$ as thermoelectric materials"

09:50 - 10:10 Yuta Kimura, Tohoku University, "Operando 3-dimensional observation of reaction distribution formation in composite positive electrode for bulk-type all-solid-state lithium ion secondary batteries by using CT-XAFS"

10:10 - 10:30 Anders Bank Blichfeld, NTNU, "In situ synchrotron studies during aqueous chemical solution deposition of piezoelectric films"

10:30 - 10:50 Coffee

10:50 - 11:10 Koji Amezawa, Tohoku University, "Investigation of air electrode reaction in proton ceramics fuel cells by using patterned thin film model electrode"

11:10 – 11:30 Julian Walker, NTNU, "Ferroelectric materials for energy harvesting within a sustainability perspective"

11:30 – 11:50 Bjørn Hauback, IFE, "$LiBH_4$-based solid state electrolyte in Li-ion batteries"

~12:30 - 13:30 Lunch

Joint Session II
Chairs: Yumi Katasho, Kouji Yasuda

13:40 – 14:30 Short presentations (3 min) for poster (P1 – P16)

P1. Kenji Nagao, OPU, "All-solid state batteries using a positive electrode in the system Li_2RuO_3-Li_2SO_4"
P2. Misae Otoyama, OPU, "In-situ Optical Microscopy for Cross-sectional Graphite Electrode Layers in All-solid-state Lithium Batteries"
P3. Wataru Matsunaka, Kyushu University, "Evaluation of a Micro CPOX Reformer for Solid Oxide Fuel Cells"
P4. Shunzaburo Murakami, Kyushu University, "Current Distributions in Anode-Supported Honeycomb Solid Oxide Fuel Cells"
P5. Iori Narita, The University of Tokyo, "Recovery of Rhenium from Turbine Blades by Hydro-

metallurgical Route"
P6. Fumiyasu Nozaki, Kyoto University, "Oxidative Dissolution of Tungsten Metal in Molten Na_2CO_3"
P7. Takara Tanaka, The University of Tokyo, "Investigation of the Possibility of Magnesiothermic Reduction of Titanium Oxides for Producing High Purity Titanium"
P8. Elise Østli, NTNU, "Stabilizing cathode/electrolyte interface at high voltages in Li-ion batteries"
P9. Ola Grendal, NTNU, "In situ synchrotron studies during hydrothermal synthesis of $BaTiO_3$/SBN"
P10. Daniel Tevik Rogstad, NTNU, "Ionic liquid based electrolytes for stable Si anodes in Li-ion batteries"
P11. Nikola Kanas, NTNU, "Performance of all-oxide thermoelectric generator enhanced by high-temperature interfacial chemistry"
P12. Gøril Jahrsengene, NTNU, " Impurity Speciation in Petroleum Cokes using XAS Techniques XANES and EXAFS"
P13. Karina Asheim, NTNU, "LiFSI as Electrolyte Salt for Li-Ion Batteries Based on Micron Sized Silicon as Anode Material"
P14. Luis C. G. Bracamonte, NTNU, "Alumina Concentration Measurements in Cryolite Melts"
P15. Alaa Faid, NTNU, "Facile Synthesis of NiMo Nanosheets for Enhanced Hydrogen evolution in Anion Exchange Membrane electrolysis"
P16. Sathiyaraj Kandhasamy, NTNU, "A thermocell based on molten carbonate electrolytes"

14:30 – 15:00 ES & AIM group leader meeting

15:00 – 15:30 Coffee break

15:30 – 17:00 Poster session