



AGH-HU Joint Symposium 2013

AGH University of Science and Technology, Poland

Hokkaido University, Japan

17 to 20 July, 2013, Sapporo, Japan



Wednesday, 17 July

18:00 **Reception Dinner**

Thursday, 18 July (venue: Academic Lounge 1, Graduate School of Engineering)

Session 1 **Chaired by Prof. Kiyotaka Asakura**

- 09:10 Welcome address
Prof. Toyoji Kakuchi
Dean of Graduate School of Chemical Science and Engineering, HU
- 09:20 AGH Current development and future trends
Prof. Mirasław Karbowiczek
Vice Rector of AGH University of Science and Technology
- 09:40 Combustion Synthesis of beta-SiAlON
Professor Tomohiro Akiyama
Faculty of Engineering, HU
- 10:00 AGH Faculty of Materials Science and Ceramics
– Research development and teaching facilities
Prof. Jerzy Lis
Faculty of Materials Science and Ceramics, AGH
- 10:20 A Concept of Functional Microchannel Lining for Metallic Microreactors
Assoc. Prof. Tatsuya Ohmi
Faculty of Engineering, HU

10:40 **Coffee Break**

Session 2 **Chaired by Assoc. Prof. Seiji Miura**

- 11:00 Introduction of Hokkaido University
HU students
- 11:30 Introduction of AGH University of Science and Technology
AGH students

Session 3 **Chaired by Prof. J. Krzysztof Fitzner**

- 12:00 Aluminium nitride versatile but challenging material
Prof. Dariusz Kata
Faculty of Materials Science and Ceramics, AGH

- 12:20 A New Development of Organocatalytic Group Transfer Polymerization
Prof. Toyoji Kakuchi
Faculty of Engineering, HU
- 12:40 **Lunch Break**
- Session 4** **Chaired by Prof. Kazuhisa Azumi**
- 14:10 Local surface modification by solution flow type micro-droplet cell
Assoc. Prof. Masatoshi Sakairi
Faculty of Engineering, HU
- 14:30 Research and development projects realized in the years 2008-2013
in the Laboratory of Production Engineering
Dr. Krzysztof Żaba
Faculty of Non Ferrous Metals, AGH
- 14:50 Oxygen Reduction Reaction on Nitrogen-doped Graphene Grown
by Low Temperature Chemical Vapor Deposition
Lect. Satoshi Yasuda
Faculty of Science, HU
- 15:10 **Coffee Break**
- Session 5** **Chaired by Prof. Tadeusz Telejko**
- 15:30 Vibronic Switching of Fluorescence Output from Urea-Functionalized Poly
(P-Phenylene) Receptor by Fluoride-Anion Recognition
Assoc. Prof. Shin-ichiro Sato
Faculty of Engineering, HU
- 15:50 Effect of Plastic Deformation on Stent Surface Roughness Considering Different
Plaque Length
Prof. Katsuhiko Sasaki
Faculty of Engineering, HU
- 16:10 EELS and ab-initio study on electronic structure of faceted CSL boundary
in silicon
Assoc. Prof. Norihito Sakaguchi
Faculty of Engineering, HU
- 16:30 Effect of ternary additives on the microstructure and mechanical properties
of Nb-Si alloys
Assoc. Prof. Seiji Miura
Faculty of Engineering, HU

Friday, 19th of July (venue:

Morning sessions: Academic Lounge 1, Graduate School of Engineering

Afternoon sessions: Hall, Jozankei Manseikaku Millione)

Session 6**Chaired by Prof. Maria Richert**

- 09:00 Synthesis of a Monolithic Carbon-Based Acid Catalyst for Flow Reaction Systems
Assoc. Prof. Isao Ogino
Faculty of Engineering, HU
- 09:20 AGH Faculty of Metals Engineering and Industrial Computer Science
- Research and development
Prof. Tadeusz Telejko
Faculty of Metals Engineering and Industrial Computer Science, AGH
- 09:40 Molecular motions in organic crystals and their application to design of ferroelectrics
Assoc. Prof. Jun Harada
Faculty of Science, HU
- 10:00 **Coffee Break**
- 10:20 In-situ Corrosion Measurement of Metals in Various Environments
Prof. Kazuhisa Azumi
Faculty of Engineering, HU
- 10:40 High-Temperature Corrosion of SiO₂-Forming Materials
Prof. Kazuya Kurokawa
Faculty of Engineering, HU
- 11:00 Reaction Mechanisms of Hydrogen Storage Materials
Assist. Prof. Shigehito Isobe
Faculty of Engineering, HU

Session 7**Chaired by Prof. Masatoshi Sakairi**

- 11:20 Influence of sintering conditions on phase evolution of SHS-derived materials in the Ti-Al-N system (Poster)
Dr. Leszek Chlubny
Faculty of Materials Science and Ceramics, AGH
- 11:30 Mechanical and Thermal Properties of High Thermal Conductive Aluminum Based Composites Containing CF-CNT Filler (Poster)
Mr. Ken Yamamoto
Graduate School of Engineering, HU
- 11:40 Influence of sintering conditions on phase evolution of SHS-derived materials in the Ti-Al-N system (Poster)
Dr. Leszek Chlubny
Faculty of Materials Science and Ceramics, AGH
- 11:50 CO₂ Gas Decomposition Using ZrO₂ anode in Molten Salt (Poster)
Mr. Takuya Uchiyama
Graduate School of Engineering, HU

- 12:00 The EBSD analysis of microstructure of deformed materials (Poster)
Dr. Małgorzata Perek –Nowak
Faculty of Non Ferrous Metals, AGH
- 12:10 Pure-shear test analysis using Finite Element Method and Evaluation for CRSS of non-basal plastic deformation mechanisms of Mg-Y alloys (Poster)
Mr. Takahiro Mineta
Graduate School of Engineering, HU

12:20 **Lunch Break**

13:00 **Transportation by bus to a resort hotel Jozankei Manseikaku Millione**
<http://www.milione.jp/>

Session 8 **Chaired by Prof. Katushiko Sasaki**

- 14:30 Fabrication of Al-coated Mg alloy sheet and its superplastic behavior (Poster)
Ms. Toko Tokunaga
Graduate School of Engineering, HU
- 14:40 Elektrochemical methods of oxide nanotubes synthesis on transition metals (Ti,Zr,Nb) (Poster)
Dr. Piotr Handzlik Faculty of Non Ferrous Metals, AGH
- 14:50 Experimental study on the phase diagram of the (Nb,Mo)-rich region of the Nb-Mo-Si-B quaternary system (Poster)
Mr. Takuya Yamanouchi
Graduate School of Engineering, HU
- 15:00 Effect of severe plastic deformation on microstructure and properties of polycrystalline Cu and Al (Poster)
Dr. Beata Leszczyńska – Madej
Faculty of Non Ferrous Metals, AGH
- 15:10 Kinetic analysis of oxygen reduction reaction on Cobalt-porphyrin-modified Electrode (Poster)
Ms. Shino Sato
Graduate School of Chemical Science and Engineering, HU
- 15:20 Rheological properties and thermal conductivity of highly loaded AlN suspension (Poster)
Dr. Maciej Wozniak
Faculty of Materials Science and Ceramics, AGH

15:30 **Coffee Break**

Session 9 **Chaired by Prof. Shin-ichiro Sato**

- 15:50 Effect of Ni on the oxidation behavior of austenitic Fe-Cr-Ni alloys in air (Poster)
Mr. Dai Takashima
Graduate School of Engineering, HU
- 16:00 Studies on properties of silicaorganic gels (Poster)
Ms. Joanna Mastalska
Faculty of Metals Engineering and Industrial Computer Science, AGH

- 16:10 Strengthening of Silica Monolith Having Microhoneycomb Structure Using Treatment with Silane Solution (Poster)
Mr. Yoshitaka Satoh
Graduate School of Chemical Science and Engineering, HU
- 16:20 Studies on properties of silicaorganic gels (Poster)
Ms. Joanna Mastalska
Faculty of Metals Engineering and Industrial Computer Science, AGH
- 16:30 Rheological and functional properties of clay-cement suspensions (Poster)
Mr. Łukasz Wójcik
Faculty of Materials Science and Ceramics, AGH
- 16:40 Precise Synthesis of Star-Shaped Thermoresponsive Polymethacrylate by Group Transfer Polymerization (Poster)
Mr. Seiya Kikuchi
Graduate School of Chemical Science and Engineering, HU
- 16:50 Improvement of Oxidation Resistance of NbSi₂ by Addition of Al (Poster)
Mr. Toshihiro Kanaya
Graduate School of Engineering, HU
- 17:00 Chemical properties of sewage sludge ashes designed for producing faced bricks (lab-scale trials) (Poster)
Dr. Agata Stempkowska
Faculty of Mining and Geoengineering, AGH
- 17:10 Crystal Structure and Magnetic Properties of New Melilite-type Compounds (Poster)
Mr. Takashi Endo
Graduate School of Chemical Science and Engineering, HU
- 17:20 Preparation of AlON materials by SHS (Poster)
Dr. Dariusz Zientara
Faculty of Materials Science and Ceramics, AGH

Saturday, 20th of July (venue: Hall, Jozankei Manseikaku Millione)

Session 9

Chaired by Prof. Jun Harada

- 09:00 Cyclic deformation and recrystallization annealing in shaping of shell elements made of nickel superalloys (Poster)
Mr. Maciej Nowosielski
Faculty of Non Ferrous Metals, AGH
- 09:10 Reactive Sintering of Ni-Al Alloys with Controlled Porosity Distribution (Poster)
Mr. Yuya Teshirogi
Graduate School of Engineering, HU
- 09:20 Synthesis of End-functionalized Polyacrylates by Group Transfer Polymerization (Poster)
Mr. Kenji Takada
Graduate School of Chemical Science and Engineering, HU

- 09:30 Hydroxyapatite Coating Deposited on Ti-6Al-7Nb Alloy by Micro-arc Oxidation for Medical Applications (Poster)
Ms. Joanna Karbowniczek
Faculty of Metals Engineering and Industrial Computer Science, AGH
- 09:40 Development and Application of Environmental Cell in High Voltage Electron Microscope (Poster)
Mr. Takenobu Wakasugi
Graduate School of Engineering, HU
- 09:50 Pulsed Laser Deposition technique for high-temperature superconductor thin films (Poster)
Mr. Grzegorz Szwachta
Faculty of Metals Engineering and Industrial Computer Science, AGH
- 10:00 Electrocodeposition of Al-Zn alloy from $AlCl_3$ -EMIC ionic liquid including Zn Complexes (Poster)
Mr. Yusuke Sato
Graduate School of Chemical Science and Engineering, HU

Poster Session (venue: Hall, Jozankei Mansaikaku Millione)

10:30-