



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 Karbowniczek
 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

- 16:10 Faculty of Metals Engineering and Industrial Computer Science, AGH
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

Poser Session (venue: Hall, Jozankei Mansaikaku Millione)

10:30-