

**11th International Symposium on Electrochemical/Chemical Reactivity of Metastable
Materials.**

"Chemistry for Materials Science"

12 - 14 September 2012

AGH University of Science and Technology

Krakow, Poland

Wednesday 12-09-2012				
Room 101 Bldg. A2, AGH				
8.00 – 9.00	Registration Room 119, Bldg. A2, AGH			
9.00 – 9.15	Opening Ceremony			
Technical Session I – Chairman Prof. Krzysztof Fitzner				
9.15 – 10.00	PL1	Prof. Koji Hashimoto	Tohoku Institute of Technology, Japan	The use of renewable energy in the form of methane via electrolytic hydrogen generation
10.00 – 10.20	L1	Mr. Hiroyuki Takano	Daiki Ataka Engineering Co., Ltd. , Japan	Methanation of hydrocarbons in relation to methanation of CO ₂ and CO with hydrocarbons
10.20 – 10.50	L2	Prof. Stanislaw M. Filipek	Institute of Physical Chemistry PAS, Poland	High hydrogen pressure treatment of selected intermetallic compounds: novel hydrides, novel phenomena.
10.50 – 11.10	L3	Dr. Piotr Kędzierzawski	Institute of Physical Chemistry PAS, Poland	Direct Formic Acid Fuel Cells on Nanocrystalline Catalysts: Basics, Current State and Possible Applications
11.10 – 11.30	Coffee Break Room 119, Bldg. A2, AGH			
Technical Session II – Chairman Prof. Hiroki Habazaki				
11.30 – 12.00	PL2	Prof. Maria Janik- Czachor	Institute of Physical Chemistry PAS, Poland	Corrosion/degradation and passivation processes as the methods of functionalization of new materials
12.00 – 12.20	L4	Dr. Marcin Pisarek	Institute of Physical Chemistry PAS, Poland	Biomimetic calcium-phosphates coatings on Ti – formation, physico-chemical surface characterization, biological response
12.20	L5	Dr.	Institute of Physical	Evaluation of biological activity

– 12.40		Agata Rogulska	Chemistry PAS, Poland	of Ag loaded TiO ₂ nanotubes
12.40 – 13.00	L6	Dr. Grzegorz Sulka	Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Poland	Nanoporous anodic metal oxides for applications in nanotechnology
13.00 – 15.00	Lunch Break			
Technical Session III – Chairman Prof. Arpad Molnar				
15.00 – 15.30	PL3	Prof. Pawel J. Kulesza	Warsaw University, Department of Chemistry, Poland	Nanostructured Hybrid Electrocatalytic Materials: Activation of Noble Metal Centers through Modification with Metal Oxo Species
15.30 – 15.50	L7	mgr Przemysław Kwolek	Faculty of Non-Ferrous Metals, AGH University of Science and Technology, Poland	Photoelectrochemistry of lead molybdate – towards information processing at the nanoscale
15.50 – 16.20	Coffee Break Room 119, Bldg. A2, AGH			
Technical Session IV – Chairman Prof. Stanisław Filipek				
16.20 – 16.50	L8	Prof. Sachiko Ono	Kogakuin University, Japan	Effect of nitrogen and carbon species inclusion on dielectric properties and photoresponse of anodic films formed on niobium
16.50 – 17.10	L9	mgr Justyna Mech	Faculty of Non-Ferrous Metals, AGH University of Science and Technology, Poland	Photoelectrochemistry of hybrid organic-inorganic materials - influence of geometry of substituents
19.00 – 20.30	Polish Piano Music Concert Krakow Main Square, Bonerow Palace,			
Thursday 13-09-2012 Room 101 Bldg. A2, AGH				
Technical Session V – Chairman Dr. Andrzej Kudelski				
9.00 – 9.30	PL4	Prof. Árpád Molnár	University of Szeged, Department of Organic Chemistry, Hungary	Heterogeneous catalysis – where to go?
9.30 – 9.50	L10	mgr Anna Mikołajczuk	Institute of Physical Chemistry PAS, Poland	Palladium-Gold Multiwall Carbon Nanotubes Supported Anode Catalysts for Direct Formic Acid Fuel Cell
9.50 – 10.20	L11	Prof. Hiroki Habazaki	Faculty of Engineering, Hokkaido University, Japan	Efficient proton-conducting amorphous anodic oxide films for intermediate temperature fuel cells
10.20	L12	mgr	Faculty of Non-Ferrous	Influence of the cathodic cycle on

– 10.40		Wojciech Gębarowski	Metals, AGH University of Science and Technology, Poland	properties of alumina coatings on aluminium produced by plasma electrolytic oxidation
10.40 – 11.00	Coffee Break Room 119, Bldg. A2, AGH			
Technical Session VI – Chairman Prof. Jean-Paul Chopart				
11.00 – 11.30	PL5	Dr. Andrzej Kudelski	Warsaw University, Department of Chemistry, Poland	Raman analysis of surfaces using silica-covered silver nano- resonators
11.30 – 11.50	L13	Dr. Michał Mosiałek	Institute of Catalysis and Surface Chemistry PAS, Kraków, Poland	The instability of silver and silver containing composite cathode materials in the SOFC’ environment
11.50 – 12.30	Scientific Committee Meeting			
12.30 – 14.00	Lunch Break			
14.00 – 18.00	Wieliczka Salt Mine Excursion			
20.00 – 22.00	Conference Dinner Villa Decjusza			
Friday 14-09-2012 Room 101 Bldg. A2 AGH				
Technical Session VII – Chairman Dr. Marcin Pisarek				
9.00 – 9.30	PL6	Dr. Naokazu Kumagai	Daiki Ataka Engineering Co., Ltd., Japan	Status of radioactive contamination by nuclear accident in Japan. Our efforts for decontamination
9.30 – 9.50	L14	Mr. Yoshihiko Nishizaki	Daiki Ataka Engineering Co., Ltd., Japan	New technologies for decontamination of radioactive substances scattered by nuclear accident
9.50 – 10.10	L15	Dr. Ralph Sueptitz	Department of Chemistry of Functional Materials, Institute of Complex Materials, IFW Dresden, Dresden, Germany	Electrochemical methods for micro-patterning of bulk metallic glasses
10.10 – 10.30	L16	Prof. Tsvetina Dobrovolska	Institute of Physical Chemistry, Bulgarian Academy of Sciences, Bulgaria	Self-organization phenomena during electrodeposition of some alloys
10.30 – 11.00	Coffee Break Room 119, Bldg. A2, AGH			
Technical Session VIII – Chairman Prof. Tsvetina Dobrovolska				
11.00	PL7	Prof.	Laboratory of	The magnetic field effects on the

- 11.30		Jean-Paul Chopart	Engineering and Material Science LISM EA 4695, University of Reims, France	electrodeposited Co-Cu binary alloy onto copper seed-layer
11.30 - 11.50	L17	mgr Honorata Kazmierczak	Institute of Metallurgy and Materials Science of Polish Academy of Sciences, Poland	Electrodeposition of Zn-Mo alloys from citrate solutions
11.50 - 12.10	L18	Dr. Fedor Fedorov	Department of Chemistry of Functional Materials, Institute of Complex Materials, IFW Dresden, Germany	Capacitance Performance and Cycling Stability of Electrodeposited Cobalt Hydroxide in Near-Neutral Electrolytes
12.10 - 12.30	L19	mgr Agnieszka Bigos	Polish Academy of Sciences, Institute of Metallurgy and Materials Science, Poland	Electrodeposition and properties of nanocrystalline Ni-Mo alloys obtained from citrate-ammonia baths
12.30 - 13.00	Coffee Break Room 119, Bldg. A2, AGH			
Technical Session IX – Chairman Dr. Ralph Sueptitz				
13.00 - 13.20	L20	mgr Krzysztof Mech	Faculty of Non-Ferrous Metals, AGH University of Science and Technology, Poland	Electrochemical behavior of cobalt - ammonium complexes during polarization of Au electrode in alkaline solution
13.20 - 13.40	L21	Dr. Marcin Hołdyński	Institute of Physical Chemistry PAS, Poland	Phase and electrical behavior in $\text{Bi}_4\text{NbO}_{8.5}$
13.40 - 14.30	Discussion and Closing Ceremony			
14.30 -	Lunch Break			
Poster Session 12 - 14 September 2012, Room 119, Bldg. A2, AGH				
POSTER1		Prof. Maria Janik- Czachor	Institute of Physical Chemistry PAS, Poland	Ag/TiO ₂ -n/Ti and Ag/Al ₂ O ₃ -n/Al hybrid materials: role of Ag particles in their behavior as SERS-active and biomedical substrates
POSTER2		Dr. Marcin Hołdyński	Institute of Physical Chemistry PAS, Poland	Nano - porous titania and alumina layers loaded with Ag nanoparticles as SERS-active substrates for adsorption studies
POSTER3		mgr Anna Mikołajczuk	Institute of Physical Chemistry PAS, Poland	The effect of formic acid impurities on the performance of palladium-carbon supported catalyst in direct formic acid fuel cells

POSTER4	Dr. Piotr Kędzierzawski	Institute of Physical Chemistry PAS, Poland	Synthesis of Multiwall Carbon Nanotube – Palladium Composite and Its Application in Direct Formic Acid Fuel Cell.
POSTER5	Prof. Stanislaw M. Filipek	Institute of Physical Chemistry PAS, Poland	Hydrides formed in Zirconium - based intermetallic compounds under high hydrogen pressure