

Friday, 30th November

Chair: Michael Neumann-Spallart

9.00 Zdeněk Hubička, Štěpán Kment, M. Čada, Petra Kšířová, Jiří Olejníček, Josef Krýsa, T. Kubart,

Combinations of high power pulse plasma systems for the reactive deposition of thin films mainly at low substrate temperature.

9.20 Jeoung Eun Yoo, Kiyoun Lee and Patrik Schmuki

Critical features in growing highly organized TiO₂ nanotubes.

9.40 Jaromír Hnát, Martin Paidar, Jan Schauer, Jan Žitka, Karel Bouzek

Prolongation of the anion selective polymer membranes' lifetime during alkaline water electrolysis

9.55 Debabrata Chanda, Jaromír Hnát, Karel Bouzek

Synthesis and characterization of NiM₂O₄ (M=Mn, Fe, Co, Zn) electrocatalysts for the hydrogen evolution in alkaline water electrolysis.

10.10 Karel Vazač, Martin Paidar, Karel Bouzek

Optimization of alkaline water electrolyzer with Nafion membrane.

10.25-11.00 coffee break

Chair: Patrik Schmuki

11.00 Georg Waldner

Current projects in the business cases "Water purification" and "Soil remediation"

11.20 Milan Bouša, Otakar Frank, Ladislav Kavan

Characterization of Graphene Oxide Electrochemical Reduction by Raman and X-ray Photoelectron Spectroscopy.

11.35 Georg Brunauer, Guenter Fafilek

Generation of charge carriers and oxygen ion conductivity in SrTi_{1-x}Fe_xO₃ by irradiation of visible light in a thermal activated state.

11.50 Monika Drakselová, Roman Kodým, Svein Sunde, Karel Bouzek

Mathematical modelling of platinum dissolution kinetics in a low temperature PEM type fuel cell

12.05 Michal Němeček, Roman Kodým, Vladimír Mejta, Karel Bouzek

Characterization of net-like spacers for the electro dialysis process: Simple method for evaluation of hydraulic parameters in a broad spectra of flow-rates

12.30 final remarks

13.00-14.00 lunch

14.00- departures



5TH CZECH-AUSTRIAN WORKSHOP: NEW TRENDS IN PHOTO AND ELECTRO CATALYSIS



CONFERENCE PLACE: HOTEL HAPPY STAR, HNANICE, CZECH REPUBLIC

(www.hotelhappystar.cz)

Date: 28th - 30th November 2012



Main Czech partner: ICT Prague - Prof. Dr. Ing. Josef Krýsa

Main Austrian partner: Vienna University of Technology - Assoc. Prof. Dr. Guenter Fafilek

Participants:

Czech Republic

Institute of Chemical Technology, Prague

J. Heyrovský Institute of Physical Chemistry AS CR

Institute of Chemical Process Fundamentals AS CR

Faculty of Chemistry, Brno University of Technology

Institute of Physics AS CR

Austria

Vienna University of Technology

Austrian Institute of Technology, Tulln

University of Vienna

Slovakia

Slovak University of Technology in Bratislava

France

CNRS/Université de Versailles

Slovenia

University Nova Gorica

Germany

Friedrich-Alexander University, Erlangen



Program

Wednesday, 28th November

11-12 arrival

12.30-13.30 – registration of participants

13.30 - Welcome talk

Chair: Guenter Fafilek

13.40 plenary lecture: Ladislav Kavan

Novel nanostructured electrodes for dye sensitized solar cells.

14.10 Petr Klusoň, Magda Morozová, Petr Dzik, Michal Veselý

Thin photoresponding protection elements with frequency and amplitude modulation.

14.30 Petr Dzik, Michal Veselý, Magda Morozová, Lubomír Kubáč, Petr Klusoň

Additive inkjet patterning of semiconducting and UV-absorbing layer stack.

14.50 Hana Krýsová, Markéta Zukalová, Jan Procházka, Jana Trčková, Ladislav

Kavan

Preparation of nanofiber TiO₂ electrodes for dye-sensitized solar cells.

15.10-15.40 coffee break

Chair: Petr Klusoň

15.40 Andraž Šuligoj, Urška Lavrenčič Štangar, Fernando Fresno

TiO₂/SiO₂ composites on aluminium - structural and photocatalytic properties.

15.55 Šárka Paušová, Jaromír Jirkovský, Josef Krýsa, Vanessa Prevot, Gilles Mailhot

Preparation of TiO₂-SiO₂ composite materials for environmental applications.

16.10 Marketa Zukalová, Jan Procházka, Ladislav Kavan and Michael Graetzel

Dense TiO₂ films grown by sol-gel dip coating and other methods for dye sensitized solar cells and electrochemical applications.

16.30 Josef Krýsa, Michal Baudys, Martin Zlámal and Petra Kšírová

Photocatalytic and photoelectrochemical properties of various TiO₂ films.

16.50 Štěpán Kment, Zdeněk Hubička, Josef Krýsa, Petra Kšírová

Plasmatic deposition of α -Fe₂O₃ Thin Films.

17.10 Michaela Brunčliková, Petra Kšírová, Štěpán Kment, Josef Krýsa

Photoelectrochemical properties of thin α -Fe₂O₃ films prepared by sol-gel method.

19.30 dinner

21.00 - Informal discussions of teachers and PhD students about the aspects and experiences from Czech-Austrian exchange programmes

Thursday, 29th November

Chair: Ladislav Kavan

9.00 plenary lecture: Patrik Schmuki

TiO₂ nanotubes: Formation, Properties, Applications

9.30 Kiyoung Lee, Patrik Schmuki

Formation of self-organized porous metal oxide structures and their photocatalytic properties.

9.50 Martin Zlámal, Josef Krýsa

Influence of light source spectra on the photocatalyst performance.

10.10 Miroslava Bobeničová, Andrea Čaklášová, Dana Dvoranová

The decomposition of quinolone derivatives in an aqueous systems.

10.25-10.55 coffee break

Chair: Vlasta Brezová

10.55 Michael Neumann- Spallart, Ramchandra Sapkal, Chandrakant Bhosale,

Photoelectrocatalytic degradation of *E. coli* Davis

11.15 Andreas Brüger, Guenter Fafilek, Michael Neumann-Spallart

Cyanide waste decomposition in water and air.

11.35 Michal Baudys, Josef Krýsa, Jiří Švrček

Photocatalytic properties of ZnO commercial pigments.

11.50 Eva Pližingrová, Martin Zlámal, Lenka Volfová, Petra Pulišová, Lorant

Szatómáry, Snežana Bakardjieva, Petr Bezdička, Jaroslav Boháček, Jan Šubrt, Josef Krýsa

Preparation of titania nanoparticles from titanysulphate using lyofylation,

characterization and photoactivity assessment

12.05 Marko Kete, Urška Lavrenčič Štangar, Monica Celotto

Photocatalytic performance and structural studies of durable photocatalytic layers

prepared from various commercial TiO₂ nanoparticles

12.20 Zuzana Barbieriková, Karol Lušpai, Andrej Staško, Peter Rapta, Vlasta

Brezová

EPR investigation of cathodically and photochemically induced reduction of nitroquinolones.

12.40 Hana Lipšová, Vít Kalousek, Jiří Rathouský, Jaromír Jirkovský

Autocatalytic aspects of oxidative degradations

13.00-14.00 – lunch

14.00-18.00 – Individual discussions

19.30 – dinner

