

Wednesday, 7th December

Chair: L. Kavan

9.00 - 9.30 plenary lecture - P. Schmuki

TiO₂ nanotubes: Formation, Properties, Applications

9.30 - 9.50 M. Paidar, K. Bouzek

Electrolysis of water

9.50 - 10.10 P. Mazúr, J. Vít, M. Paidar, K. Bouzek

Influence of the gas diffusion layer material and method of catalyst deposition on performance of anode for the PEM water electrolysis

10.10 - 10.30 J. Polonský, K. Bouzek, C.B. Prag, A.V. Nikiforov, I.M. Petrushina, E.

Christensen, N.J. Bjerrum

Novel Ceramic Materials for Polymer Electrolyte Membrane Water Electrolysers' Anodes

10.30 - 11.00 Coffee break

Chair: P. Klusůň

11.00 - 11.20 K. Vazač, M. Roubalík, M. Paidar

Alkaline water electrolysis with Nafion membrane

11.20 - 11.40 J. Hnát, M. Paidar, K. Bouzek, J. Schauer, J. Žitka

Comparison of the novel homogeneous and heterogeneous anion exchange membranes for alkaline water electrolysis

11.40 - 12.00 J. Mališ, M. Paidar, K. Bouzek

Influence of model organic air pollutants on the fuel cell type PEM

12.00 - 12.20 M. Drakselová, R. Kodým, S. Sunde, K. Bouzek

Two-dimensional dynamic mathematical model of catalytic layer degradation in PEM type fuel

12.30 - 13.30 lunch

Chair: M. Neumann-Spallart

13.30 - 13.50 S. Wibihal, G. Fafilek

Kinetics of cathodic reactions on processed titanium surfaces

13.50 - 14.10 A. Neumann, G. Fafilek

Raman spectroscopy of electrochemical induced blackening of Yttrium stabilised Zirconia

14.10 - 14.30 M. Bouša, O. Frank, L. Kavan

Spontaneous electrochemical activation of LiFePO₄ (olivine) in a composite with few-layer graphene oxide

14.30 - Final remarks

14.45 - departures

4TH CZECH-AUSTRIAN WORKSHOP: NEW TRENDS IN PHOTO AND ELECTRO CATALYSIS



CONFERENCE PLACE: HOTEL HAPPY STAR, HNANICE, CZECH REPUBLIC

(www.hotelhappystar.cz)

Date: 5th - 7th December 2011



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

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

Guenter Fafilek

Participants:

Austria

Vienna University of Technology

Austrian Institute of Technology, AIT, Seibersdorf

Johannes Kepler University, Linz

University of Vienna

Czech Republic

Institute of Chemical Technology, Prague

J. Heyrovský Institute of Physical Chemistry AS CR

Institute of Chemical Process Fundamentals AS CR

Faculty of Chemical Technology, Technical University Brno

France

CNRS Meudon-Bellevue

Slovakia

Slovak University of Technology in Bratislava

Slovenia

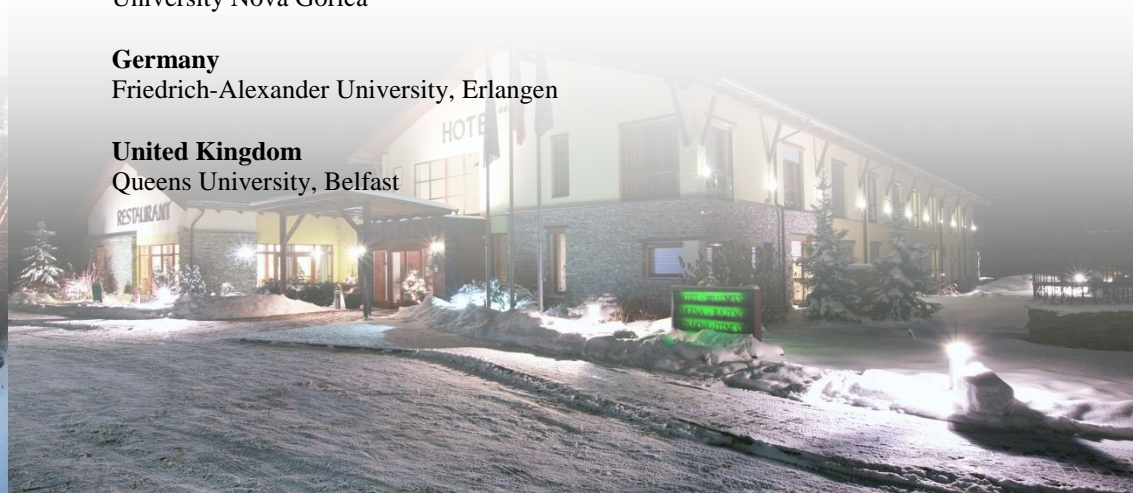
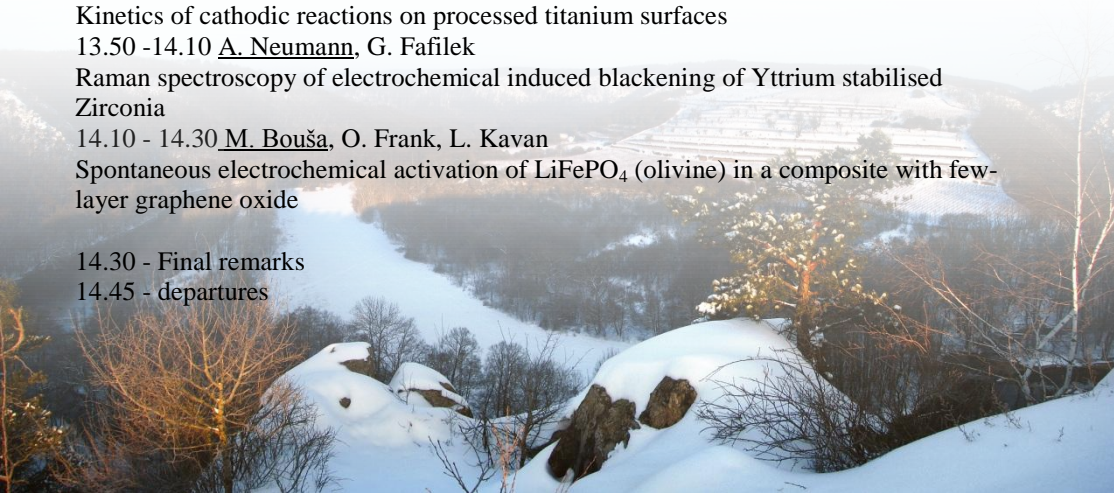
University Nova Gorica

Germany

Friedrich-Alexander University, Erlangen

United Kingdom

Queens University, Belfast



Program

Monday, 5th December 2011

12.30 - 13.30 - registration of participants

13.55 - 14.10 - opening J. Krýsa

Chair: G. Fafilek

14.10 - 14.40 plenary lecture - L. Kavan

Dye sensitised solar cells: New challenges from graphene cathode and iodine-free electrolyte

14.40 - 15.00 U. Lavrencic Stangar

Solution-derived photocatalytic coatings for organics removal from water and air

15.00 - 15.15 M. Morozová, P. Klusoň, J. Krýsa, M. Veselý, P. Dzik, O. Šolcová

Thin Sol-Gel TiO₂ Films Prepared by Inkjet Printing – Synthesis and Characterization

15.15 - 15.30 M. Morozová, P. Klusoň, J. Krýsa, M. Veselý, P. Dzik, O. Šolcová

Thin Sol-Gel TiO₂ Films Prepared by Inkjet Printing – Photoelectrochemical Properties

15.30 - 15.50 M. Brunclíková, P. Novotná, J. Krýsa

Effect of preparation parameters on the properties of sprayed TiO₂ layers

15.50 - 16.10 Kyong Lee, Ning Liu, Patrik Schmuki

TiO₂ nanotubes and other ordered nanostructures for DSSCs

16.10 - 16.30 Coffee break

Chair: V. Brezová

16.30 - 16.50 M. Zukalová, B. Lásková, J. Procházka, Z. Bastl, D. Havlíček and L.

Kavan:

Modification of TiO₂ properties by means of chemical treatment

16.50 - 17.10 M. Neumann-Spallart

Planar electrochemical cells for photocatalysis

17.10 - 17.20 A. Brueger, G. Fafilek, M. Neumann-Spallart

Photocatalysis and TiO₂ in alkaline solutions

17.20 - 17.40 M. Baudys, M. Zlámál, J. Krýsa, L. Hochmanová

Photocatalytic activity of paints containing commercial ZnO and TiO₂ photocatalysts

17.40 - 18.00 D. Hazafi, A. Mills

Development of photoelectrochemical water splitting device

19.30 dinner

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

Tuesday, 6th December 2011

Chair: P. Schmuki

9.00 - 9.30 plenary lecture - V. Brezová, Z. Barbieriková, A. Staško

Application of EPR spectroscopy in the investigation of titania photocatalysts

9.30 - 9.50 G. Waldner, K.F. Pirker, H. Steiner

Continuous Flow Cell for Online EPR Measurement of Oxygen Radicals on Photocatalytic Layers

9.50 - 10.10 Z. Barbieriková, V. Brezová, M. Mihalíková

Photoinduced generation of reactive oxygen species in titanium dioxide suspensions (An EPR study)

10.10 - 10.30 J. Jirkovský

Autocatalytic aspects of oxidative degradations

10.40 - 11.10 Coffee break

Chair: U. Lavrencic Stangar

11.10 - 11.30 M. Zlámál, J. Krýsa, P. Klusoň, E. Sthatis, D. Lloyd

Approaches for MRSA decontamination in pig's environment

11.30 - 11.50 M. Veselý, M. Veselá, P. Dzik

Comparison of two evaluation methods of yeast photokilling on TiO₂.

11.50 - 12.10 U. Zvab, U. Lavrencic Stangar

Determination of antibacterial properties of photocatalytic coatings

12.10 - 12.30 S. Pekárek, J. Krýsa, M. Baudys, F. Moulis and P. Simáček

Treatment of polluted air using photocatalytic processes

12.30 - 12.50 E. Portenkirchner, K. Oppelt, Ch. Ulbricht, D. A.M. Egbe, H. Neugebauer, G. Knör, Niyazi S. Sariciftci

Electrocatalytic reduction of carbon dioxide to carbon monoxide with modified rhenium (2,2'-bipyridyl)(CO)₃Cl compounds

12.50 - 13.10 P. Krystyník, P. Kluson, D. Tito, J. Jones

Electrocoagulation for the treatment of industrial waste waters

13.30-14.30 – lunch

14.45-18.00 – individual discussions or organised visit of Znojmo (historical centre, underground).

19.30 - dinner

