INSTITUTE OF
CHEMICAL TECHNOLOGY
PRAGUE

New trends in application of photo and electro catalysis

Proceedings of the 2nd Czech–Austrian workshop

2nd – 4th December 2008

Telč, Czech republic

Scientific chairmen: Dr. J. Krýsa, Dr. P. Klusoň

LIST OF PARTICIPANTS

Austria

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CNRS Bellevue, France	Dr. M. Neumann-Spallart
Vienna University of Technology	Dr. A. Brueger Dr. G. Fafilek
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Czech Republic

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Slovenia

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PROGRAMME OF THE WORKSHOP

2nd December

Section A – Photoinduced processes and their application
Chairman: G. Waldner, U. L. Štangar

14.30 - 15.00	*Petr Klusoň*: Phthalocyanines – the transition from the bulk to the thin layer form
15.00 - 15.30	*Gottfried Grabner*: Developing a fluorescence sensor for individual water molecules
15.30 - 16.00	*Jaromír Jirkovský*: Photoactivity evolution of titanium dioxide nanoparticles in course of aging of their colloidal solution.
16.00 - 16.30	coffee break
16.30 - 17.00	*Josef Krýsa:* Photoelectrochemical properties of particulate TiO_2 layers
17.00 - 17.20	*Minoo Tasbihi*: Low-temperature synthesis and photocatalytic activity of anatase TiO_2 powders.
17.20 - 17.40	*Michal Baudys*: Paints with photocatalytical properties - preparation and testing
17.40 -18.00	*Šárka Paušová*: Effect of aging of the TiO_2 colloidal particles on their properties

3rd December

Section B – Application of electrocatalysis in environment
Chairman: P. Klusoň, N. Stelzer

9.00 - 9.30	*Ladislav Kavan*: Electrocatalysis through immobilized thin films of Ru-bipyridine complex with single walled carbon nanotube: Application for Li-ion batteries
9.30 - 10.00	*Markéta Zukalová*: Dye Sensitized Thin Mesoporous Layers of TiO_2 as Photoanodes for Solar Cells
10.00 - 10.20	*Michal Veselý*: Printed layers of titanium dioxide.
10.20 - 10.40	Coffee break
10.40 - 11.00	*Zuzana Mácová*: On the electrochemical ferrate(VI) synthesis
11.00 - 11.20	*Petr Mazur*: The preparation of electrodes for PEM type fuel cell

11.20 - 11.40 *Roman Kodým*:
A three-dimensional mathematical simulation of the processes occurring at the cathodically protected metal surface

11.40 - 12.00 *Tomáš Bystroň*:
Electrochemical methoxylation of 4-methylanisole

Section C – Immobilised thin catalyst films and their application
Chairman: L. Kavan

17.30 - 18.00 *Michael Neumann Spallart*:
Electrochemical aspects of semiconductor based photocatalysis.

18.00 - 18.20 *Andreas Brueger*:
Charge transfer processes and surface morphology in TiO_2 and WO_3 photocatalysts and their application in the photoelectrocatalytic treatment of organic wastewater.

19.00 common dinner.

21.00 wine degustation

4th December

Section C – Immobilised thin catalyst films and their application
Chairman: G. Grabner, J. Jirkovský

9.00 - 9.30 *Urška Lavrenčič Štangar*:
Photoinduced superhydrophilic and catalytic properties of ZnO vs. TiO_2 thin films

9.30 - 9.50 *Olivier Lorret*:
TiO_2 thin films: Part 1. effect of synthesis solvent on photocatalytic activity.

9.50 - 10.10 *Georg Waldner*:
TiO_2 thin films: Part 2. comparison of test methods: resazurin/glycerol (solid/air photocatalysis) vs. methylene blue (solid/liquid phase photocatalysis)

10.10 - 10.40 Coffee break

10.40 - 11.00 *Štěpán Kment*:
Cold Deposition of Crystalline Titanium (IV) Oxide Thin Films by Means of Double Hollow Cathode Plasma Jet System.

11.00 - 11.20 *Martin Paidar*:
Preparation of high surface titanium suboxides

11.20 - 11.40 *Neja Sauta Ogorevc*:
Preparation and characterization of TiO_2 thin films

11.40 - 12.00 *Maria Todorovič*
Photoinduced properties of thin TiO_2 films of various thicknesses