



FHI-CRC Joint International Symposium

Surface Science and Catalysis for Sustainable Society

Sapporo, Japan

April 1-2, 2010

Sousei Building 5F Conference Hall

Organized by

Catalysis Research Center

Fritz-Haber Institute

Co-organized by

Hokkaido University Global COE Program

“Catalysis as the Basis for Innovation in Materials Science”

Sponsored by JSPS

Lecturers.

| | |
|------------------|---|
| H.J.Freund(FHI) | Y.Iwasawa(The University of Electro-Communications) |
| R.Schlögl(FHI) | E.Gaignaux(Universite Catholique de Louvain) |
| M.Heyde(FHI) | H.Liu(Peking University) |
| A.Trunschke(FHI) | Y.Yuan(XiamenUniversity) |
| M.Sterrer(FHI) | H.Onishi(Kobe University) |
| S.Levchenko(FHI) | M.Tada(Institute for Molecular Science) |
| M.Behrens(FHI) | T.Taniike (Japan Advanced Institute of Science and Technology) |
| A.Fukuoka(CRC) | C.Pang(University College London) |
| T.Tsukuda(CRC) | S.R.Mukai(Chemistry, Hokkaido University) |
| R.Abe(CRC) | Y.Kamiya (Environmental Earth Science,Hokkaido University) |
| S.Ye(CRC) | K.Murakoshi(Chemistry, Hokkaido University) |
| M.Yamauchi(CRC) | |
| K.Hara(CRC) | |
| M.Ogasawara(CRC) | |

FHI-CRC Joint International Symposium
 Surface Science and Catalysis for Sustainable Society
 Sapporo, Japan, Apr.1-2, 2010

2010 April 1.

| | | |
|-------|---|---|
| 12:30 | Registration | |
| 13:10 | Opening | A. Fukuoka, The Director of CRC |
| 13:15 | Electronic structure relations of oxide supported nanoparticles at the atomic level | H.J.Freund(FHI) |
| 14:00 | Mechanistic Studies Phospholipase A ₂ -catalyzed Hydrolysis of a Supported Phospholipid Bilayer by Sum Frequency Generation (SFG) Spectroscopy | S.Ye(CRC,HokkaidoUniversity) |
| 14:20 | Spectroscopy in tandem with microscopy on rutile TiO ₂ | C.Pang(London Centre for Nanotechnology and Department of Chemistry, University College London) |
| 14:40 | Characterization of An Individual Single-Walled Carbon Nanotube using Surface-Enhanced Raman Scattering | K.Murakoshi(Graduate School of Chemistry, Hokkaido University) |
| 15:00 | Break | |
| 15:15 | DFM in the Surface Science Approach to Model Catalysis | M.Heyde(FHI) |
| 15:35 | Force Spectroscopy at Liquid-Solid Interfaces | H.Onishi(Chemistry Department, Kobe University) |
| 15:55 | Hydroxylation of the MgO(001) surface and its effect on metal nucleation | M.Sterrer(FHI) |
| 16:15 | Preparation and Catalytic Application of Metal-Diisocyanide Monolayer on Gold Surface | K.Hara(CRC) |
| 16:35 | Break | |
| 16:50 | Nanostructured MoV Catalysts in Activation of Light Alkanes | A.Trunschke(FHI) |
| 17:10 | Toward using Wells-Dawson heteropolycompounds as oxidation catalysts : an in situ and operando approach | E.Gaignaux(Institute of Condensed Matter and Nanosciences, Universite Catholique de Louvain) |
| 17:30 | Catalytic and photocatalytic reduction of nitrate to nitrogen molecules in groundwater | Y.Kamiya (Research Faculty of Environmental Earth Science, Hokkaido University) |
| 17:50 | A two-step photoexcitation system for photocatalytic water splitting into H ₂ and O ₂ under visible light irradiation | R.Abe(CRC) |
| 18:00 | Lab Tour | |
| 19:00 | Banquet | Popula |

April 2

| | | |
|-------|---|---|
| 9:15 | Real-time characterization of active structures relevant to selective catalysis on designed surfaces and nanoparticles | Y.Iwasawa(Department of Applied Physics and Chemistry, The University of Electro-Communications) |
| 10:00 | Material concepts for the synthesis of high performance Cu-based methanol catalysts | M.Behrens(FHI) |
| 10:20 | Synthesis of Monolithic Columns Equipped with a Hierarchical Pore System of Micro/Mesopores and Macropores Using the Ice Templating Method | S.R.Mukai(Division of Chemical Process Engineering, Graduate School of Engineerin, Hokkaido University) |
| 10:40 | Enhanced Performance of Carbon Nanotube-Supported Noble Metal Catalysts for Preferential Oxidation of CO in H ₂ Stream by Controlling Metal Size and Interaction | Y.Yuan(State Key Laboratory for Physical Chemistry of Solid Surfaces, XiamenUniversity) |
| 11:00 | Break | |
| 11:15 | Formation and interaction of Li-induced defects on the MgO (001) surface: A theoretical study of the Li doped MgO catalyst for oxidative coupling of methane | S.Levchenko(FHI) |
| 11:35 | A Combined Experimental and Theoretical Study for Propylene Polymerization Mechanism with Heterogeneous Ziegler-Natta Catalysts | T.Taniike(School of Materials Science, Japan Advanced Institute of Science and Technology) |
| 11:55 | Catalytic Enantioselective Synthesis of Planar-Chiral Metallocenes | M.Ogasawara(CRC) |
| 12:15 | Lunch | |
| 13:30 | Single site catalysis: how large is a site? | R.Schlögl(FHI) |
| 14:15 | Size-Specific Catalysis of Gold Clusters | T.Tsukuda(CRC) |
| 14:35 | Direct Phenol Synthesis from Benzene and O ₂ on a Novel Re Catalysts Supported on HZSM-5 Zeolite | M.Tada(Institute for Molecular Science) |
| 14:55 | Break | |
| 15:10 | Cellulose Conversion by Water-tolerant Carbon-supported Metal Catalysts | A.Fukuoka(CRC) |
| 15:55 | Novel Catalysts and Their Active Sites for Selective Oxidation of Methanol | H.Liu(College of Chemistry and Molecular Engineering, Peking University) |
| 16:15 | Hydrogen-Related Properties of Metal and Alloy Nanoparticles | M.Yamauchi(CRC) |
| 16:35 | Closing | |
| 16:45 | Lab Tour 2 | |