

**CRC International Symposium on Green & sustainable catalysis:
from theoretical and fundamental aspects to catalyst design**

January 26-27, 2012

Catalysis Research Center (CRC), Hokkaido University, Japan

Conference venue:

CRC, Hokkaido University, N-21 W-10, Kita-ku, Sapporo 001-0021, Japan

Conference Room (Sousei building 5th floor): Registration and Oral Presentations

Science Plaza (Sousei building 2nd floor): Poster Presentations & Banquet

Organizing Committee: Dr. Kenichi Shimizu (Chair), Dr. Ryu Abe (Co-chair)

Registration Fee: Free

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Program

January 26 (Thur)

12:30 - 13:00 **Registration**

13:00 - 13:10 **Opening Address**

Prof. Atsushi Fukuoka (Director, CRC, Hokkaido Univ.)

Chair: **Satoru Takakusagi**

O-1 13:10 - 13:50 Osamu Ishitani (Tokyo Institute of Tech., Japan)

Efficient photocatalytic reduction of CO₂ using metal complexes and their hybrids with light harvesting systems

O-2 13:50 - 14:30 Yutaka Tai (AIST, Japan)

Fabrication of effective Pt/FeO_x interface leading to CO oxidation below room temperature

O-3 14:30-15:20 Henrik Grönbeck (Chalmers Univ. of Tech., Sweden)
The active phase of palladium during methane oxidation: A combined DFT and surface x-ray diffraction study

15:20-15:40 *Break*

Chair: **Kenichi Shimizu**

O-4 15:40 - 16:20 Takashi Kamachi (Kyusyu Univ., Japan)
Combined theoretical and experimental approach to understand the reactivity of oxygen-dosed Pd nanoparticle catalyst for green organic syntheses in water

O-5 16:20 - 17:00 Susumu Saito (Nagoya Univ., Japan)
Toward the construction of an interface between homogeneous and heterogeneous Catalysis

17:00-18:30 **Poster Session** (Science Plaza, 2F)

18:30-20:00 **Banquet** (Science Plaza, 2F)

January 27 (Fri)

Chair: **Wataru Ueda**

O-6 09:00 - 09:40 Ken-ichi Tanaka (Saitama Institute of Tech., Japan)
How does the surface become active as catalyst?
- From a viewpoint of materials and chemical reactions –

O-7 09:40 - 10:20 Masatoshi Osawa (CRC, Hokkaido Univ., Japan)
Electrocatalytic oxidation of methanol, formaldehyde, and formic acid on Pt: A combined electrochemical and surface-enhanced infrared absorption (SEIRA) study

10:20 - 10:40 *Break*

Chair: **Bunsho Ohtani**

O-8 10:40 - 11:30 Zhi-Pan Liu (Fudan Univ., China)
Solid-liquid interface catalysis: particle size, shape and activity from first principles

O-9 11:30 - 12:10 Yoshihisa Sakata (Yamaguchi Univ., Japan)
Improvement of the photocatalytic activity of Ga₂O₃ toward the overall splitting of H₂O

12:10-13:10 *Lunch*

Chair: **Ryu Abe**

O-10 13:10-14:00 Leone Spiccia (Monash Univ., Australia)
Nanoparticulate manganese oxides as water oxidation catalysts

O-11 14:00 - 14:40 Nobuo Kamiya (Osaka City Univ., Japan)
Structure and function of Mn₄CaO₅ cluster in oxygen-evolving photosystem II; towards development of novel catalysts

O-12 14:40 - 15:20 Takeo Yamaguchi (Tokyo Institute of Tech., Japan)
Systematic material development for PEMFCs catalysts, membranes and membrane electrode assemblies

15:20 - 15:25 **Closing Remarks**
Prof. Bunsho Ohtani (CRC, Hokkaido Univ.)

15:30 - 16:30 **CRC Tour**