

International symposium on heterogeneous catalysis for sustainable energy and chemical production -6th international symposium of Institute for Catalysis-

- Date:** February 4th(Mon)-5th(Tue), 2019
- Venue:** Conference room at 5th floor, Institute for Catalysis, Hokkaido University
(<http://www.cat.hokudai.ac.jp/access-e.html>)
- Organizer:** Institute for catalysis, Hokkaido University
- Cooperation:** 1) Japan Science & Technology agency (JST)
2) Research Division of Catalytic Biomass Conversion, Catalysis Society of Japan
3) Research and Education Center for Robust Agriculture, Forestry and Fisheries Industry, Hokkaido University
4) STAC-10 Project, Laboratory for Materials and Structures, Institute of Innovative Research, Tokyo Institute of Technology
- Sponsor:** Shimadzu Corporation
- Chair:** Dr. Kiyotaka Nakajima (Institute for Catalysis, Hokkaido University)
- Co-chair:** Prof. Dr. Emiel J.M. Hensen (Eindhoven University of Technology)
- Secretary:** Dr. Abhijit Shrotri
- Description:** The emission of CO₂, a powerful greenhouse gas (GHG), is the leading cause of global warming. To counter this issue, Japan Science & Technology launched the Advanced Low Carbon Technology Research and Development Program in 2010, which was aimed towards the development of technologies that reduce CO₂ emission in the atmosphere. This symposium will highlight the fundamental and applied research topics in the field of heterogeneous catalysis for sustainable production of energy and chemicals from renewable resources with the aim of minimizing CO₂ emission.

Plenary lecture, 60 min: 50 min for presentation, 10 min for discussion

Invited talk, 30 min: 25 min for presentation, 5 min for discussion

Monday, February 4th

- 10:00-10:10 Opening remark by Prof. Jun-ya Hasegawa
Session Chair: Prof. Kiyotaka Asakura
- 10:10-11:10 Plenary Lecture 1 (Prof. Dr. Bert Weckhuysen, Utrecht University)
Making & Breaking of Chemical Bonds: Turning CO₂ and Waste into Chemicals
Session Chair: Prof. Ken-ichi Shimizu
- 11:10-11:40 Invited Lecture 1 (Dr. Keigo Kamata, Tokyo Institute of Technology)
Development of Crystalline Mixed Metal Oxide Catalysts for Biomass Conversion
- 11:40-12:10 Invited Lecture 2 (Dr. Takashi Hisatomi, Shinshu University)
Heterogeneous Photocatalysts and Reaction Systems for Renewable Hydrogen Production via Water Splitting

- 12:10-13:00 Lunch
- Session Chair: Prof. Atsushi Fukuoka
- 13:00-14:00 Plenary Lecture 2 (Prof. Dr. Emiel J.M. Hensen, TU/e)
Valorization of lignocellulosic biomass: from catalytic chemistry to novel processes
- 14:00-14:30 Invited Lecture 3 (Prof. Mizuki Tada, Nagoya University)
XAFS Imaging of Solid Catalysts
- 14:30-15:00 Invited Lecture 4 (Prof. Kazuhiro Takanabe, The University of Tokyo)
Electrolyte engineering for advanced water splitting
- 15:00-15:30 Tea break
Session Chair: Prof. Yuichi Kamiya
- 15:30-16:00 Invited Lecture 5 (Dr. Hiroshi Sano, Mitsubishi Chemical Corporation)
Biomass plastics and biodegradable plastics, solution for the future?
- 16:00-16:30 Invited Lecture 6 (Dr. Kiyotaka Nakajima, Hokkaido University)
Smart HMF conversion to FDCA and its carboxylates with supported Au catalyst
- 16:30-17:00 Invited Lecture 7 (Prof. Michikazu Hara, Tokyo Institute of Technology)
HMF conversion into polymer monomers
- 17:00-17:30 Invited Lecture 8 (Prof. Atsushi Fukuoka, Hokkaido University)
Catalytic depolymerization of cellulose and chitin
- 18:15-20:00 Banquet, Faculty house trillium, Restaurant Elm,
(<https://www.global.hokudai.ac.jp/about/facilities/restaurants-dining/faculty-house-trillium/>)

Tuesday, February 5th

- Session Chair: Prof. Emiel J.M. Hensen
- 9:00-10:00 Plenary Lecture 3 (Prof. Keiichi Tomishige, Tohoku University)
Heterogeneous deoxydehydration catalyst for conversion of polyols to chemicals
- 10:00-10:20 Tea break
- Session Chair: Prof. Emiel J.M. Hensen
- 10:20-10:50 Invited Lecture 9 (Dr. Takato Mitsudome, Osaka University)
Green Sustainable production of Amines from Amides
- 10:50-11:20 Invited Lecture 10 (Dr. Toshiyuki Yokoi, Tokyo Institute of Technology)
Control of heteroatom distribution in zeolite framework and its impact on catalytic properties
- 11:20-11:50 Invited Lecture 11 (Prof. Takao Masuda, Hokkaido University)
Separation of Biomass to Each Component of Lignocellulose in Chemical Reaction Engineering Approach
- 11:50- Closing remark by Prof. Atsushi Fukuoka

Registration:

Please send e-mail to Kiyotaka Nakajima with your name, full affiliation, phone number, email address, and whether or not to attend the banquet. Deadline for registration of banquet is January 18th.

Conference fee: Free of charge

Banquet fee: 5,000 JPY

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