

The 5th International Conference on MEXT Project of Integrated
Research on Chemical Synthesis

“Chemical Science for Future Societies”

Noyori Materials Science Laboratory

Program

January 29 (Friday)

Drawing a Lesson from the Brilliant Functions of the Metalloenzymes for Future Societies

9:00–9:10 Opening Remarks

(Chair: Bernt Krebs, University of Münster)

9:10–9:50 **Kazuyuki Tatsumi** (Nagoya University, Japan)

“Cluster Active Sites of Nitrogenase: Stereo-electronic Flexibility of Fe(Mo)-Sulfide Clusters”

9:50–10:30 **Serena DeBeer** (Max-Planck Institute, Germany)

“X-ray spectroscopic studies of the nitrogenase and hydrogenase active sites”

10:30–10:50 *Coffee Break*

10:50–11:30 **Markus Ribbe** (University of California, Irvine, U.S.A.)

“Nitrogenase: A Tale of Carbon(s)”

11:30–12:10 **Luis Rubio** (Univerisdad Politécnica de Madrid, Spain)

“Nitrogenase assembly in eukaryotes”

12:10–12:50 **Yuichi Fujita** (Nagoya University, Japan)

“Nitrogenase-like reductases in bacteriochlorophyll biosynthesis: Reaction mechanism and plasticity.”

12:50–13:30 *Lunch*

13:30–15:00 *Poster session*

(Chair: Tsuyoshi Matsumoto, Nagoya University)

- 15:00–15:40 **Marc Fontecave** (College de France)
“New homogeneous and heterogeneous catalysts for (photo) electro-reduction of protons and carbon dioxide”
- 15:40–16:20 **Yoshinori Naruta** (Chubu University, Japan)
“Efficient CO₂ Reduction with Dinuclear Iron Complexes: Lesson from Enzymes”
- 16:20–17:00 **Kazunari Yoshizawa** (Kyusyu University, Japan)
“Molecular Understanding of the Mechanism of Adhesion: From Epoxy Resin to Biological Recognition”
- 17:30–19:00 *Reception*

January 30 (Saturday)

(Chair: Atsushi Fukuoka, Hokkaido University)

09:00–9:40 **Yuichi Shimakawa** (Kyoto University, Japan)
“Control of properties by cation order in transition-metal oxides”

9:40–10:20 **Mario Ruben** (Karlsruhe Institute of Technology, Germany)
“Molecules as Qubits in Quantum Spintronics Devices”

10:20–10:40 *Coffee Break*

(Chair: Fumiyuki Ozawa, Kyoto University)

10:40–11:20 **Kathryn Preuss** (University of Guelph, Canada)
“Supramolecular Architectures with Metal-Radical Complexes”

11:20–12:00 **Yohei Uemura** (Institute for Molecular Science, ICAT Fellow Hokkaido University, Japan)
“Time-resolved X-ray Absorption Spectroscopy and Catalytic Reactions”

12:00–12:40 **Wei Zhang** (Soochow University, China)
“Construction of Supramolecular Chirality in Achiral Polymer Systems”

12:40–14:00 *Lunch Break*

(Chair: Katsuhiko Tomooka, Kyusyu University)

14:00–14:40 **Udo Radius** (Julius-Maximilians Universität Würzburg, Germany)
“25 years of N-Heterocyclic Carbenes: Activation of Both Main Group Element-Element bonds and NHCs themselves”

14:40-15:20 **Kenichiro Itami** (Nagoya University)
“Single-molecule Carbon Nanotube, Nanoribbon, and a New Form of Carbon”

15:20- Closing Remarks