SEMINAR SERIES

International Institute for Carbon-Neutral Energy Research
Kyushu University

Title **Design of Highly Functionalized Polyoxometalate-based Nano-structured Catalysts**

Speaker Dr. Noritaka Mizuno
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Date & Time Friday, Oct. 19, 2012 4:00 p.m.

Place INAMORI Hall, Ito campus, Kyushu University

Abstract

Polyoxometalates (POMs) are a large family of anionic metal–oxygen clusters of early transition metals and stimulated many current research activities in broad fields of science including oxidation catalysis. In addition, POMs are thermally and oxidatively stable in comparison with common organometallic complexes and enzymes. We have succeeded in the developments of highly atom-efficient and green functional group transformations by precise design and synthesis of novel POM-based molecular catalysts as follows: (1) Design and synthesis of novel POMs and the catalysis, (2) POM-based heterogeneous catalysts, and (3) nano-structured POM-macrocation complexes for separation and catalysis. The present lecture introduce our recent studies on these topics.

About the Speaker

Dr. Noritaka Mizuno received his Bachelor's degree in synthetic chemistry at the University of Tokyo in 1980. Then he started his research on the heterogeneous oxidation catalysis of heteropoly compounds at the University of Tokyo and received his Ph. D. in 1985. He continued the study of heterogeneous catalysis as a research associate at the same place. In 1989 he did a postdoctoral work with Professor Richard G. Finke at University of Oregon. In 1990, he returned to Japan as an Associate Professor at Catalysis Research Center, Hokkaido University. In 1994, he moved to the Institute of Industrial Science, the University of Tokyo, and then to the Department of Applied Chemistry of the same university, where he has been an full Professor since 2001. Dr. Mizuno has authored 262 original papers, 50 reviews, and 32 chapters in books. For these achievements, he was recently awarded Showa Shell Sekiyu Environmental Research Award (2005), Nissan Science Award (2006), Green Sustainable Chemistry Award (2008), Hattori Hoko Award (2009), and Catalysis Society of Japan Award (2010). He is currently serving as an associate editor of Catalysis Science & Technology (RSC). His current research interests involve design and synthesis of novel POMs, POM-based heterogeneous catalysts, and nanostructured macrocation–POM complexes, and development of supported catalysts.

Host: Professor Tatsumi ISHIHARA

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