



Hiromi Yamashita

Professor Emeritus

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Education:

1987, Ph.D., Graduate School of Engineering, Kyoto University, Japan

Experience:

Professor Emeritus, The University of Osaka (2025-present), Invited Professor, SANKEN, The University of Osaka (2025-present), Special Professor, Shanghai Normal University (2025-present) Professor, Graduate School of Engineering, Osaka University (2004-2025)

Editor, Applied Catalysis B (2006-present), President of Asia-Pacific Association of Catalysis Societies (APACS) (2019-2023), President of Catalysis Society of Japan (2019-2020),

Honors & Awards:

Awards from Asia-Pacific Association of Catalysis Societies (APACS), International Mesoporous Materials Association, the Chemical Society of Japan, Catalysis Society of Japan, Japanese Photochemistry Association, the Japan Petroleum Institute, the Japan Institute of Metals and Materials, and Japan Society of Coordination Chemistry, Japan Society of Vacuum and Surface Science, Honda Memorial Foundation, etc.

Research Areas:

Design of Nanostructured Catalysts and Applications for Environmental Friendly Reactions

Selected Publications:

1. Y. Zhao, H. Yamashita, et al., "Two-phase Reaction System for Efficient Photocatalytic Production of Hydrogen Peroxide", *ACS Catal.*, **2025**, 15, 11313–11325.
2. H-J. Kim, K. Mori, H. Yamashita, et al., "Layered Na₂Ti₃O₇-supported Ru Catalyst for Ambient CO₂ Methanation", *Nature Comm.*, **2025**, 16, 2697.
3. K. Shun, K. Mori, H. Yamashita, et al., "Heteroatom Doping Enables Hydrogen Spillover via H⁺/e⁻ Diffusion Pathways on a Non-Reducible Metal Oxide", *Nature Comm.*, **2024**, 15, 6403.
4. Y. Kondo, H. Yamashita, et al., "Design of Metal-organic Framework Catalysts for Photocatalytic Hydrogen Peroxide Production", *Chem*, **2022**, 8, 2924-2938.
5. Y. Isaka, H. Yamashita, et al., "Two-Phase System Utilizing Hydrophobic Metal-Organic Frameworks (MOFs) for Photocatalytic Synthesis of Hydrogen Peroxide", *Angew. Chem. Int. Ed.*, **2019**, 58, 5402-5406.
6. H. Yamashita, et al., "Single-site and Nano-confined Photocatalysts Designed in Porous Materials for Environmental Uses and Solar Fuels", *Chem. Soc. Rev.*, **2018**, 47, 8072-8096.
7. Y. Kuwahara, H. Yamashita, et al., "Mild Deoxygenation of Sulfoxides over Plasmonic Molybdenum Oxide Hybrid with Dramatic Activity Enhancement under Visible Light", *J. Am. Chem. Soc.*, **2018**, 140, 9203-9210.
8. K. Mori, H. Yamashita, et al., "Surface Engineering of a Supported PdAg Catalyst for Hydrogenation of CO₂ to Formic Acid: Elucidating the Active Pd Atoms in Alloy Nanoparticles", *J. Am. Chem. Soc.*, **2018**, 140, 8902-8909.