

Kohsuke Mori



Professor

Division of Materials and Manufacturing Science, Graduate School of Engineering, The University of Osaka

2-1 Yamadaoka, Suita, Osaka 565-0871, Japan

Tel: +81-6-6879-7460

Email: mori@mat.eng.osaka-u.ac.jp

Webpage: <http://www.mat.eng.osaka-u.ac.jp/mspl/mori/en/index.html>

Education:

PhD (2000 – 2003) Chemical Engineering, Osaka University

M.S. (1999 – 2000) Chemical Engineering, Osaka University

B.S. (1995 – 1999) Chemical Engineering, Osaka University

Professional Career

2025 – present Professor, Grad. School of Eng., Osaka University

2009 – 2025 Associate Professor, Grad. School of Eng., Osaka University

2005 – 2009 Assistant Professor, Grad. School of Eng., Osaka University

2004 – 2005 Post-doctoral fellow, University of California, Berkeley (JSPS research fellow)

Selective Honors & Awards:

1. Royal Society of Chemistry, Physical Chemistry Chemical Physics Prize (2010)
2. The Japan Petroleum Institute, Award for Encouragement of Research and Development (2010)
3. Catalysis Society of Japan, Young Scientist Award (2013)
4. The Japan Institute of Metals and Materials, Meritorious Award (2017)
5. JACI Green Sustainable Chemistry Award (2023)

Research Areas:

Unique Alloy Nanoparticle Catalysts/ Catalytic Reactors Designed by Metal 3D Printing/ Control and Utilization of Hydrogen Spillover

Selective Publications:

1. “Unlocking Hydrogen Spillover: Dynamic Behavior and Advanced Applications”, *Acc. Chem. Res.*, 58 (2025) 3060.
2. “Layered Na₂Ti₃O₇-supported Ru Catalyst for Ambient CO₂ Methanation”, *Nat. Commun.*, 16 (2025) 2697
3. “Heteroatom Doping Enables Hydrogen Spillover via H⁺/e⁻ Diffusion Pathways on a Non-reducible Metal Oxide”, *Nat. Commun.*, (2024) 15, 6403.
4. “Hydrogen Spillover-driven Synthesis of High-entropy Alloy Nanoparticles as a Robust Catalyst for CO₂ Hydrogenation”, *Nat. Commun.*, 12 (2021) 3884.
5. “Controlled Release of Hydrogen Isotope Compounds and Tunneling Effect in the Heterogeneously-Catalyzed Formic Acid Dehydrogenation”, *Nat. Commun.*, 10 (2019) 4094.