Curriculum Vitae

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Position

Professor

Birth Date

June 14th, 1976, Kyoto, Japan
Gender: Male, Age: 46, Nationality: Japan

Degrees

Mar., 1999	Earned Bachelor's degree from Kyoto University (Undergraduate School of Industrial Chemistry, Faculty of Engineering)
Mar., 2001	Earned Master’s degree from Kyoto University (Department of Molecular Engineering, Graduate School of Engineering)
Mar., 2004	Earned Doctor’s degree of Engineering from Kyoto University (Department of Molecular Engineering, Graduate School of Engineering)

Professional Carriers

Apr., 2004-May, 2005	Post-doctoral fellow of Japan Science & Technology Agency (Prof. Kazunari Domen Laboratory)
Jun., 2005-Nov., 2006	Assistant Professor at Department of Chemical System Engineering, Graduate School of Engineering, The University of Tokyo (Prof. Kazunari Domen Laboratory)
Dec., 2006-Mar., 2011	Assistant Professor at Kyoto University Research Unit for Next Generation (KUPRU, tenure track)
Apr., 2009-Mar., 2011	Senior research fellow at Kyoto University Research Unit for Next Generation (because of S rating in interim appraisal of KUPRU)

Apr., 2011-Mar., 2013	Lecturer at Department of Molecular Engineering, Graduate School Engineering, Kyoto University (tenure)
Oct., 2011-Mar., 2014	Research fellow of the Precursory Research for Embryonic Science and Technology of Japan Science and Technology Agency (PREST/JST)
Apr., 2013-Nov., 2021	Associate Professor at Department of Molecular Engineering, Graduate School Enginnering, Kyoto University
Dec., 2021-present	Professor at Department of Molecular Engineering, Graduate School Engineering, Kyoto University
Feb., 2012-May., 2013	Sponsored researcher at Chemical Research Laboratory, University of Oxford, United Kingdom.

Award

2012 The Japan Petroleum Institute Award for Encouragement of Research and Development (Development of Selective Catalytic Reduction of NO_x with NH_3 at Low Temperature Using Light Energy (Photo-SCR))

2013 The Catalysis Society of Japan Award for Encouragement of Research and Development (Clarification of Photoexcitation Mechanism of Highly Dispersed Vanadium Oxide And Its Application for Photocatalysis)

Research Projects

1. **Development of Conversion of CO_2 into Valuable Fuel and Feedstocks**
   - 1-1 Photocatalytic conversion of CO_2 with H_2O (Artificial Photosynthesis)
     supported by the Mitsubishi foundation.
   - 1-2 Electrochemical reduction of CO_2
     supported by the ENEOS hydrogen foundation.
   - 1-3 Hydrogenation of CO_2 into CO (reverse water-gas shift reaction) and CH_4 (methanation)
     supported by the ALCA-Next project of Japan Science & Technology Agency and the Iwatani Naoji foundation.
2. **Dynamics and Kinetics of Small Molecules Adsorbed on a Solid Surface for Catalytic Processes and Catalysis**
3. **Study on *operando* X-ray Absorption Spectroscopy (XAS) with Other Characterization Techniques**

Publications

ORIGINAL REFEREED PAPERS

The selected papers published within last 5 years excluding 208 papers and 28 reviews.

1. **Ag co-catalyst prepared by ultrasonic reduction method for efficient photocatalytic conversion of CO_2 with H_2O using $ZnTa_2O_6$ photocatalyst**

   Kawata, Kio; Iguchi, Shoji*; Naniwa, Shimpei; Tanaka, Tsunehiro; Nishimoto, Masamu; Teramura, Kentaro*

   Catalysis Science & Technology (2024), 14(21), 6207-6214.

   DOI: 10.1002/cctc.202400871

   ChemRxiv (2024), 1-36.

DOI: 10.26434/chemrxiv-2024-1j428

2. **Promoting Effect of Pd Nanoparticles on $SrTi_{0.8}Mn_{0.2}O_3$ in the Reverse Water-Gas Shift Reaction via the Mars-Van Krevelen Mechanism**

   Kobayashi, Minori; Naniwa, Shimpei*; Goto, Keita; Matsuo, Hiroki; Iguchi, Shoji; Tanaka, Tsunehiro; Teramura, Kentaro*

   ChemCatChem (2024), 16(22), e202400871. Selected as a front cover

   DOI: 10.1002/cctc.202400871

   ChemRxiv (2024), 1-28.

   DOI: 10.26434/chemrxiv-2024-60m8b

   ChemCatChem (2024), 16(22), e202482201

   DOI: 10.1002/cctc.202482201

3. **Fourteen-membered macrocyclic cobalt complex for low-concentration CO_2 electrolysis with high faradic efficiency towards CO**

   Inada, Takeshi; Iguchi, Shoji*; Moriya, Makoto; Ohyama, Junya; Nabae, Yuta; Naniwa, Shimpei; Tanaka, Tsunehiro; Teramura, Kentaro*

   Catalysis Science & Technology in press

   DOI: 10.1039/D3CY01177A

   ChemRxiv (2023), 1-4

   DOI: 10.26434/chemrxiv-2023-0crqz

4. **Mg-doped $SrTiO_3$ photocatalyst with Ag-Co cocatalyst for enhanced selective conversion of CO_2 to CO using H_2O as the electron donor**

   Nakamoto, Takechi; Iguchi, Shoji*; Naniwa, Shimpei; Tanaka, Tsunehiro; Teramura, Kentaro*

   Catalysis Science & Technology (2023), 13(15), 4534-4541

   DOI: 10.1039/d3cy00576c

   ChemRxiv (2023), 1-40

   DOI: 10.26434/chemrxiv-2023-x7zgc

5. **Kinetic Study of Heterogeneous Photocatalytic CO_2 Reduction: Development of a General Formula for Relations between Activity and Reaction Conditions**

   Morishita, Masashige; Asakura, Hiroyuki; Hosokawa, Saburo; Tanaka, Tsunehiro; Teramura, Kentaro*

   ACS Catalysis (2023), 13(10), 6966-6973

   DOI: 10.1021/acscatal.2c05823

6. **Hydrogenation of CO_2 over Mn-Substituted $SrTiO_3$ Based on the Reverse Mars-van Krevelen Mechanism**

   Matsuo, Hiroki; Kobayashi, Minori; Naniwa, Shimpei ; Iguchi, Shoji; Kikkawa, Soichi ; Asakura, Hiroyuki; Hosokawa, Saburo ; Tanaka, Tsunehiro ; Teramura, Kentaro*

   Journal of Physical Chemistry C (2023), 127(19), 8946-8952

   DOI: 10.1021/acs.jpcc.3c01183