Requests for Collaboration

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Research Interests

- Solid state photocatalysis
- Artificial photosysnthesis (CO_2 reduction, water splitting)
- X-ray absorption spectroscopy (XAFS)

Creative achievements in the application of new and existing science and technology

Artificial photosynthesis technology is expected to produce low-carbon fuel such as hydrogen, carbon monoxide or methanol from water and carbon dioxide using solar energy. It's heralded as an innovative technology that may lead to the solution of energy problems that we face today in the modern world. I would like to establish a new structural and electronic state analysis using synchrotron radiation spectroscopy and electron microscope to develop solid-state photocatalysts that promote artificial photosynthesis.

Research theme that I want to collaborate

- Synthesis of solid photocatalysts for environmental chemistry e.g. [1],[2]
- Structural and electronic state analyses of functional materials by XAFS e.g. [3-5]

A list of 5 key publications

1. Tomoko Yoshida, Naoto Yamamoto, Tsuyoshi Mizutani, Muneaki Yamamoto, Satoshi Ogawa, Shinya Yagi, Hirofumi Nameki, Hisao Yoshida: *Catalysis Today*, 303, 320-326 (2018).
2. Akanksha Tyagi, Akira Yamamoto, Muneaki Yamamoto, Tomoko Yoshida, Hisao Yoshida: *Catalysis Science & Technology*, 8, 2546-2556 (2018).
3. Tomoko Yoshida, Satoshi Niimi, Muneaki Yamamoto, Toyokazu Nomoto, Shinya Yagi: *Journal of Colloid and Interface Science*, 447, 278-281 (2015).
4. Muneaki Yamamoto, Tomoko Yoshida, Naoto Yamamoto, Toyokazu Nomoto, Shinya Yagi: *Nuclear Instruments and Methods in Physics Research Section B*, 359, 64-68 (2015).
5. Muneaki Yamamoto, Tomoko Yoshida, Naoto Yamamoto, Toyokazu Nomoto, Yuta Yamamoto, Shinya Yagi, Hisao Yoshida: *Journal of Material Chemistry A*, 3, 16810-16816 (2015).