



PI Name : Yuichi SHIMAKAWA

Position : Professor

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Staff: Associate Prof. Daisuke KAN

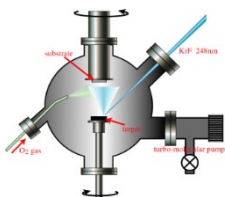
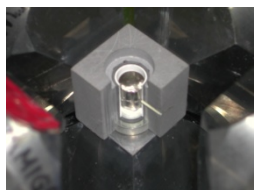
Staff: Assistant Prof. Masato GOTO

## Research Field

We are focusing on fundamental chemistry and physics of transition-metal oxides and seeking new materials with new functions. We are conducting systematic studies of material synthesis, precise crystal structure analysis by x-ray and neutron diffraction. Electronic and magnetic structures are discussed based on the results of electronic structure calculations and physical property measurements.

## Research Facility

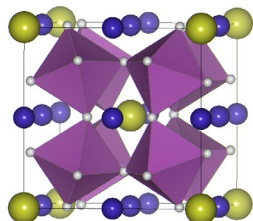
High-pressure synthesis, epitaxial thin film growth, and low-temperature topotactic reactions are our powerful techniques for making new materials.



We also have strong collaboration with large-scale facilities for structure analysis with electron microscopy, synchrotron x-ray, and neutron.

## Research Activities

Discovery of new functional materials, such as the multiferroic  $\text{Bi}_2\text{NiMnO}_6$  and the negative thermal expansion  $\text{LaCu}_3\text{Fe}_4\text{O}_{12}$ .



We are conducting international collaboration project: JSPS Core-to-Core program (A) Advanced Research Network: "Solid-state chemistry for transition-metal oxides: Exploring for new materials with novel functionalities"

## Comments

We have accepted many foreign students from all over the world. You are more than welcome to become our members.

<https://www.scl.kyoto-u.ac.jp/~shimakgr/indexE.html>