



# Hara-Kamata Lab

## Creation of Advanced Inorganic Catalyst Materials Construction of Environment-Friendly Chemical Processes

Laboratory for Materials and Structures  
Sustainable Chemical Resource Production Units

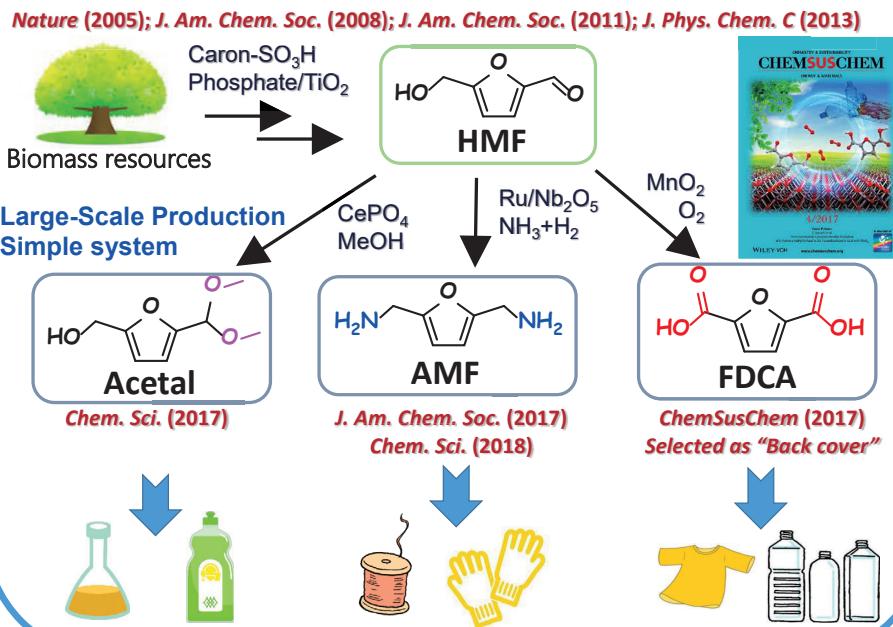
<http://www.msl.titech.ac.jp/~hara/index.html>

- Efficient Utilization of Biomass Resources
- Low-energy Ammonia Synthesis
- Development of Difficult Selective Oxidation

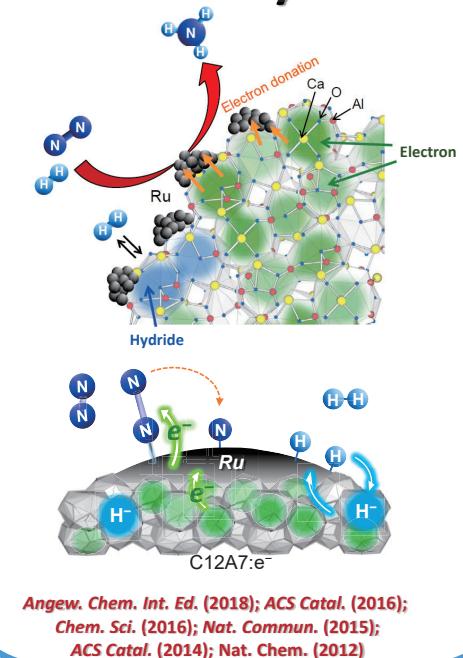
Hara-Kamata Lab is investigating catalysis and material science.

Our aims are creation of innovative catalyst materials to produce chemical resources and energy without environmental burden. Our ongoing projects are as follows.

### Utilization of Biomass Resources

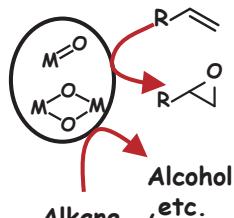


### Low-energy Ammonia Synthesis

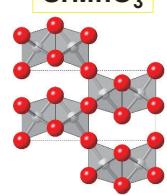


### Development of Difficult Selective Oxidation

Electrophilic oxidant

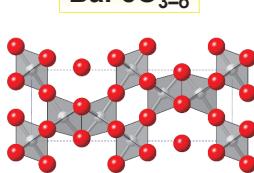


SrMnO<sub>3</sub>



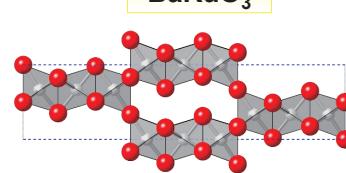
ChemCatChem (2016)  
ACS Omega (2017)

BaFeO<sub>3-δ</sub>



Chem. Commun. (2018)

BaRuO<sub>3</sub>



ACS Appl. Mater. Interfaces (2018)

