OGURA LAB.

[Molecule-sized Nano Space and Catalysis]

Institute of Industrial Science, Department of Materials and Environmental Science

Nano Space and Catalysis

Our research group tackles on the environmental, and resources and energy problems using nano porous materials.

Nano-sized space allows us to... e.g.,
- Store and concentrate materials and energy
- Capture harmful chemicals
- Select or sieve molecules by their size and chemical properties
- Anchor the catalytic site in the nano space
- Catalyze space-selective reactions

Unique Adsorbent
Unique Catalyst

Create The Truly Useful Catalysts via A Design of Nano Space Reaction

Approaches in Ogura Lab

Environment
- Automobile catalyst
- Exhaust gas purification
- deNOx
- Concentration of toxic substance
- Soot combustion

New suggestions
- Nitrogen-cycle
- Academic2-industry2 cooperation

Resources
- C1 conversion
- Olefins production
- CO2 conversion
- Partial oxidation
- Jet fuel

New catalysts
- Hetero-atom
- Base catalytic site
- Hierarchical material

Energy
- Thermal energy storage
- Heat release-store

C1 Conversion

Novel Porous Catalyst

Hydrogen Storage