OGURA LAB.

[Molecule-sized Nano Space and Catalysis]

Institute of Industrial Science, Department of Materials and Environmental Science

Our research group tackles on the environmental, and resources and energy problems using nano porous materials. Nano-sized space allows us to...

- 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

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

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**Synthesis**

**Porous Materials**

**Zeolite**

- Rare-metal-free cat. for NO removal
- Compact system for vehicle installation
- Alternative catalytic system instead of Urea-SCR (Cu-CHA)

**Mesoporous Silica**

- Common technical problems
- Severe requirements from a society in performance and exhaust restriction
- All-Japan OEMs work together to improve the engine efficiency and decrease pollutant emissions

**Application**

**Joint Research for DeNOx Cat. Development**

Collaborate with automobile companies and academic labs

AICE Team (Shimada, Ohnishi)

**Structured Surface for Unique Reactions**

- High diffusivity/accessibility
- Lose of structural selectivity?

**Catalytic Reaction for CO₂ Recycling**

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**M2 Yusuke**

**M2 Aisa**

**D1 Kiyoyuki**

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