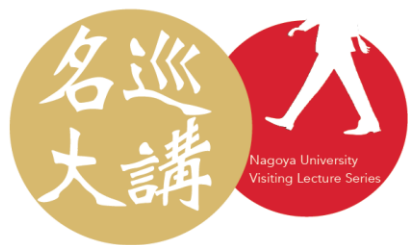


名古屋大学巡講



Nagoya University  
Visiting Lecture Series

名古屋大学巡講

# Construction and Application of Zeolitic Nanoporous Materials

**Lecturer: Prof. Jihong Yu  
(Jilin Univ.)**

**Date: Oct. 2<sup>nd</sup>, 15:00 ~ 16:30**

**Place: Lecture Room in  
Noyori Mat. Sci. Lab.**



Zeolitic materials with nanoporous architectures are involved in various processes of current interest, such as energy saving catalytic processes, environmentally benign sorbents, storage materials for waste and energy, etc. In recent years, we have been devoting our efforts to the computational prediction, rational synthesis, and application of zeolitic materials in energy and environments. We have developed computational methodologies for the prediction of zeolitic materials with desirable porous architectures and properties. Toward the rational synthesis, we have proposed three main strategies on the basis of pre-designed organic structure-directing agent, the heteroatom substitution and computational data mining. By utilization of these synthetic strategies, novel zeolitic materials with desired porous structures and excellent properties can be targeted. Furthermore, we have discovered that the zeolite synthesis mechanism can be promoted through free radicals, which shed a new light on zeolite crystallization. Taking advantage of their confined nanopores and unique properties, we have also explored some new applications of zeolitic materials in H<sub>2</sub> production, liquid separation and light emitting that are beyond their traditional applications.



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