



## CHEMISTRY SEMINAR SERIES SPRING 2015



**TIME: 12:30-2:00 PM**    **PLACE: SCIENCE HALL WEST 301**

**WHEN: THURSDAY JANUARY, 29<sup>TH</sup> 2015**



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### **Functional Porous Silsesquioxane Monoliths from Organotrialkoxysilane-derived Sol-Gel Systems**

Silsesquioxanes ( $\text{RSiO}_{1.5}$ ) derived from organotrialkoxysilanes ( $\text{RSi}(\text{OR}')_3$ ) via sol-gel offer attractive features especially in surface characters and mechanical properties. The monolithic form of those silsesquioxanes, however, is not popular because of the high tendency to form polyhedral oligomeric silsesquioxanes (POSS) and/or uncontrolled hydrophobic precipitates.

We have been studying on porous monoliths based on three-dimensional random networks derived from organotrialkoxysilanes through careful controls over fundamental synthetic parameters in sol-gel chemistry[1,2]. The length scale of the porous structures is designed from several tens nanometers (typical aerogels) to microns (macroporous gels) by controlling phase separation tendency in the system. From the basics of our concept and technique to recent topics including the followings will be presented in the lecture.

**FOR ADDITIONAL INFORMATION PLEASE CONTACT:**

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