

# The 285<sup>th</sup> MANA Special Seminar



## Self-directed structuring of hybrid silicas and their functionalisation

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Bridged silsesquioxanes (BS) are obtained by the sol-gel hydrolysis-condensation of organo-bridged silane precursors,  $(RO)_3Si-R'-Si(OR)_3$  ( $R'$ =organic groups;  $R=Me, Et$ ). Since the past two decades, much efforts have been devoted to the structuring of these hybrid silicas and in this field our pioneering work showed that structured BS (nano-, micro- and macro) can be prepared from molecular precursors endowed with additional self-assembly groups mainly through hydrogen bonding (urea groups, nucleic bases, ...).

The successful means to achieve such structuring on several length scales are not only based on the self-assembly of the organic fragments but it also depends on the reaction conditions (solvent, temperature, catalyst used, processing, ...). Importantly the functionalisation of these hybrids are expected and hence are desired.

In this work, the different way to obtain such organized hybrids will be presented and a simple route using Click Chemistry to their functionalisation for several potential applications will be given.

**Namiki site**

**Venue: Auditorium, 1F, WPI - MANA Bldg.**

**Date: September 27<sup>th</sup>, Thursday Time: 11:00am-11:45am**

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