### A Friday Synthesis Symposium Presentation:
Multifunctional vesicles from a self-assembled cluster-containing diblock copolymer

- **Speaker:** Anastasia Voevodin (Roy Group)
- **When:** Friday, November 16th, 2018 at 4:00 PM
- **Where:** Havemeyer 209

**Abstract:**

Metal chalcogenide molecular clusters have been employed as building blocks for the design of functional solid-state materials. While the self-assembly of metal chalcogenide clusters in the solid-state is well studied, their incorporation into polymer systems has been limited. In this talk I will introduce a new block copolymer containing a pendant site-differentiated Co₆Se₈ molecular cluster. The polymer is capable of multi-electron redox processes that can be silenced upon assembly. The block copolymer system self-assembles in solution to form vesicle structures at the mesoscale whose walls can be further crosslinked. Moreover, the vesicles can be loaded with molecular cargo exemplified with a methylene blue dye. This talk will describe the synthesis, self-assembly and characterization of the novel cluster-containing diblock copolymer. The integration of a transition metal-containing molecular cluster into well-defined block copolymers offers exciting possibilities to develop multifunctional assemblies for further applications in electrochemistry, and biomedicine. This cluster-containing polymer could also be used to direct hierarchical assembly of novel metal chalcogenide mesostructures.