Physical Chemistry Seminar

Tuesday, October 12, 2010 | **11:00 a.m.** | **Room 1315 Chemistry Building**

Polymer Micelles and Gels in Ionic Liquids: New Opportunities in Science and Engineering

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Block polymers provide a remarkably versatile platform for achieving desired nanostructures by self-assembly, with lengthscales varying from a few nanometers up to several hundred nanometers. Ionic liquids are an emerging class of solvents with an appealing set of physical attributes. These include negligible vapor pressure, high chemical and thermal stability, tunable solvation properties, high ionic conductivity, and wide electrochemical windows. For various applications it will be necessary to solidify the ionic liquid into particular spatial arrangements, such as membranes or gels, or to partition the ionic liquid in coexisting phases, such as microemulsions and micelles. We have begun a systematic exploration of ways to achieve this by block copolymer self-assembly. In so doing, a number of fascinating physical phenomena have emerged, which will be highlighted in this talk.

Refreshments will be available prior to the seminar at 10:45 a.m. outside room 1315

Graduate Students and Post Docs may meet with the speaker at 1:00 p.m. in Room 8335