CHEMISTRY SEMINAR SERIES
SPRING 2016

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

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WHEN: THURSDAY, MARCH 10TH, 2016

THE USE OF NANOCRYSTALS IN ENERGY TECHNOLOGY NANOCOMPOSITE CAPACITORS IN POWER CONVERSION

The field of nanotechnology is now familiar to most of us, and can be broadly defined as the science and engineering of matter at or around the nanometer lengthscale. Energy technology is of great current importance in our society because of the problems associated with fossil fuel dependence, and the enormous benefits we can imagine when contemplating a society based on renewable energy. Nanotechnology became big news because it was discovered that physical properties can change, and even be engineered as a function of size. Combined with the ability to manipulate matter through chemistry, this is an exciting prospect for the control and design of materials for new energy technology. There are many topics within the field of nanotechnology but I will discuss two notable ones: nanoparticles and self-assembly. I will give a brief overview of these topics including some applications. I will talk about my own research in nanoparticles, self-assembly and applications in energy storage: using nanoparticle chemistry and nanotechnology techniques for device integration, we designed capacitors for electrical circuits that can be used in power electronics for LED lighting.