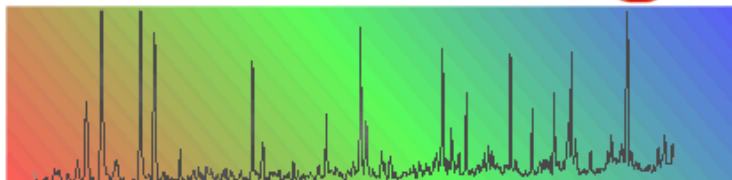




# SAS-Chicago



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## September Meeting

Tuesday, September 14, 2010

The September 2010 meeting will be held at the Holiday Inn, located at 1000 Busse Road, Elk Grove Village, IL 60007. See the map on the following page.

Social Hour: 5:30 PM

Dinner: 6:30 PM

Speaker: 7:30 PM

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### Semiconductor Nanocrystal Synthesis and Functionalization for Biological Applications

Prof. Preston T. Snee  
University of Illinois, Chicago



### Interested in volunteering?

The Museum of Science and Industry is looking for volunteers. See page 3 for details.

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Please make your dinner reservations for the upcoming meeting by email at [sas.chicago1@gmail.com](mailto:sas.chicago1@gmail.com), using our online form <http://www.sas-chicago.org/Online%20Registration%20at%20Elk%20Grove%20Holiday%20Inn%20.htm> or by calling Slav Stepanovich at 847-421-2056. Leave your name, company affiliation, a telephone number, the number of reservations and your choice of entree. Please call by noon Friday, September 10th, so that proper arrangements can be made with the restaurant. Credit card payments must be made online at [sas-chicago.bbnw.org](http://sas-chicago.bbnw.org) prior to the meeting. Only payment by cash and check will be accepted at the meeting. Contact us if you can't attend; the SAS is charged for no-shows.

**Entree choices: London Broil, Chicken Marsala, or Vegetarian Lasagna.**

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Dinner Cost Members: \$30

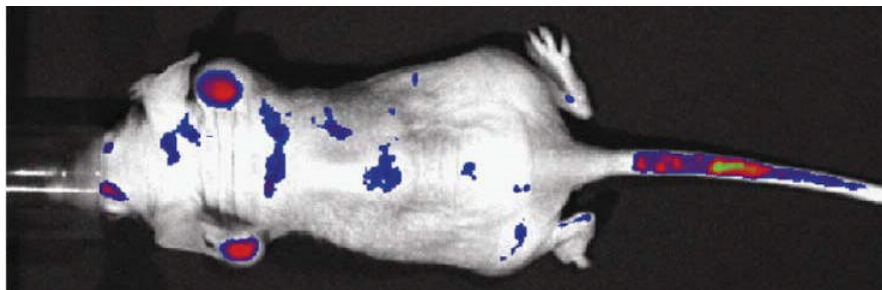
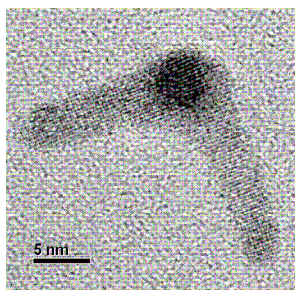
Students and Unemployed Members: \$10

Non-members: \$35

# Semiconductor Nanocrystal Synthesis and Functionalization for Biological Applications

Preston T. Snee, UIC, Dept. of Chemistry

Semiconductor nanocrystals (NCs, or quantum dots) are very bright chromophores which possess unlimited potentials in biological sensing and imaging, as well as for the efficient generation of renewable energy. This seminar will examine the synthesis of NCs by presenting our recent results on the development of novel semiconductor nanomaterials with asymmetric shapes which may have important uses for solar energy generation. Our group has also studied problems with the functionalization of NCs. Many existing methods for creating coupled NC / biological or chemical vector conjugates result in the quenching or precipitation of water soluble semiconductor nanocrystals. By directly synthesizing a series of novel activating reagents, our group has demonstrated the facile creation of fluorophores that can simultaneously function as biological imaging agents and optically report on the local environment. We have utilized these methods to synthesize ratiometric, or "selfcalibrating" sensors, for pH, for toxic metals, DNA, and proteins. Our group has recently devised a method for the specific optical detection of proteins with the lowest detection limit recorded to date.



Preston received a BS in Chemistry from the University of North Carolina at Chapel Hill where he graduated summa cum laude. After two years at Research Triangle Institute, Preston headed of to the Univeristy of California, Berkley. There he completed his Ph.D. in Physical Chemistry with Charles B. Harris in 2002 and accepted a postdoctoral position with Moungi Bawendi at MIT. In 2006, Preston joined the faculty of the Chemistry department of UIC where his research group focuses on synthesizing new materials which display size dependent properties and then developing techniques to impart function to those same materials

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## Volunteer at the Museum of Science and Industry!

### Science Storms (Color Booth)

**Volunteer Description:** Volunteers will facilitate in the *Billion Color Booth* in the brand new *Science Storms* exhibit. The *Billion Color Booth* teaches guests how the colors of light are absorbed or reflect off each object we see. In addition, each volunteer will spend time leading facilitation on the *Science Storms* trivia wheel, which allows guests the chance to share their knowledge of everything from avalanche to atoms and all things physics and fun!

Interested volunteers should be have high energy with a voice that can carry and be able to stand for long periods of time. Volunteers should be able to commit to volunteering in *Science Storms* a minimum of twice a month for a total of 40 hours per year.

Perks: FREE parking and FREE admission to the Museum..and more!  
Days: Monday, Friday, Saturday, or Sunday (based on your availability)  
Times: 10:00am-2:00pm  
Volunteers needed: 1 per shift

**Applications due:** September 29, 2010

#### Requirements:

- Complete Adult Volunteer Application ([www.msichicago.org](http://www.msichicago.org))
- Training: Saturday, October 2, 2010

**Location:** Museum of Science and Industry  
57<sup>th</sup> St and Lakeshore Drive

**Contact:** Rachel Carter  
[Rachel.carter@msichicago.org](mailto:Rachel.carter@msichicago.org)  
773-753-1382

\*\*Easy access using public transportation and free parking

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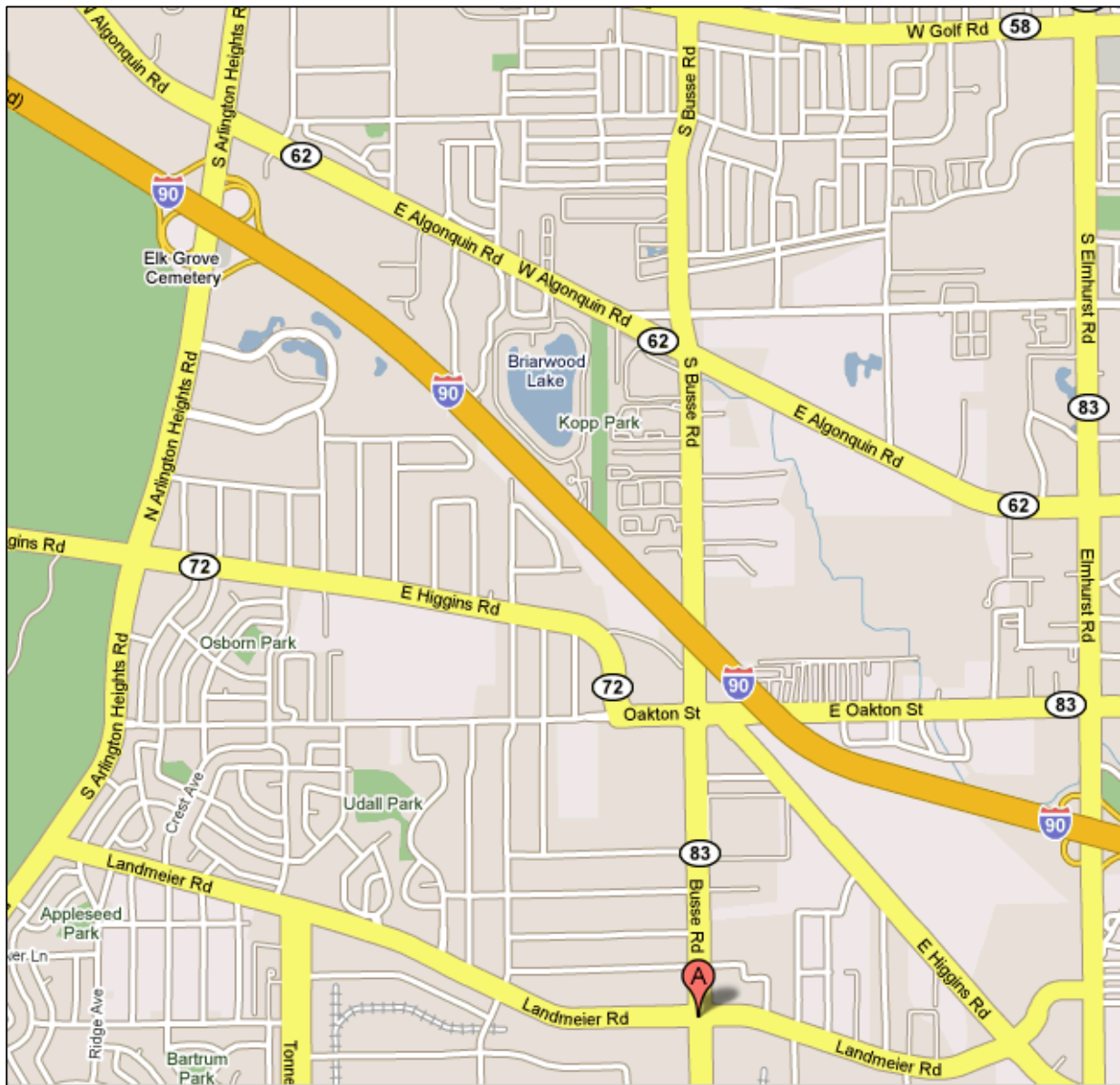
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