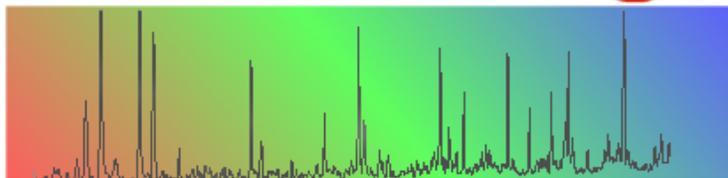




SAS-Chicago



February Meeting

Tuesday, February 12, 2008

The February 2008 meeting will be held at the Argonne Guest House, Argonne National Lab, 9700 S. Cass Avenue, Argonne, IL. Please note Argonne requires advance notice of visitors so no registration to the meeting can be accepted after noon on Friday Feb. 8th. In addition all attendees are required to have proof of picture identification (e.g. drivers license) on entering Argonne and must be US citizens. Instructions for entering and map of the Argonne National Lab are on the last page. A tour of the Advanced Photon Source will follow the presentation.

Social Hour: 5:30 PM

Buffet Dinner: 6:15 PM

Speaker: 7:00 PM

Tour: 7:30 PM

Probing Metal Ion Speciation in Solution

by

L. Soderholm

Argonne National Laboratory

Historically solutions have been described as dynamic amorphous systems that are homogeneous at the molecular length scale. With the advent of modern analytical and structural techniques solute ions, such as dissolved heavy metals, are now understood to possess a well defined first coordination sphere. Synchrotrons have played a critical role the development of our current understanding by providing a probe of speciation, including direct measures of the oxidation state and the coordination environment, in amorphous systems including solutions. The recent availability of a high-flux of high-energy X-rays at the Advance Photon Source (APS) is now allowing studies that probe even longer-range correlations in such systems. The results are making it clear that the simple picture of a dissolved metal ion in a random environment is often much too simplistic. Instead, we are observing preorganized structural units that can drastically change the chemistry of real world samples from that found in the laboratory. The new opportunities provided by the APS to study solution chemistry will be discussed with examples taken from heavy-metal environmental contaminants

Please make your dinner reservations for the upcoming meeting by email at sas.chicago@bigfoot.com, by using the form on our web page < <http://www.sas-chicago.org/Online%20Registration%20at%20Argonne%20National%20Labs.htm> > or by calling Slav Stepanovich at 847-421-2056. Leave your name (as it appears on your drivers license), company affiliation, and a telephone number. Please register by noon Friday, February 8th, so that proper arrangements can be made. If you can't attend, cancel by Monday noon. For security reasons, only US citizens are permitted in the Argonne National Laboratory facility without special arrangements. You must register before the deadline if you plan to attend this meeting!

Buffet includes:

- Italian garlic bread
- Caesar salad and fresh mixed greens with choice of three dressings
- Penne pasta with 3-cheese sauce
- Spinach fettuccine with grilled chicken and pomodoro sauce
- Fresh fruit platter
- Assorted cakes and dessert bars
- Assorted hot and cold beverages



Dinner Cost Members: \$25

Students and Unemployed Members: \$10

Non-members: \$30

Biography of Lynda Soderholm

Lynne received her undergraduate and graduate training at McMaster University in Canada. After a NATO post-doctoral appointment with CNRS in France, Lynne joined Argonne National Laboratory with a post-doctoral position in 1984 and became a staff scientist in 1985. She is currently the Group Leader of the Heavy Element Chemistry and Separations group in the Chemistry Division (recently re-named the Chemical Sciences and Engineering Division). She is also Director of the Actinide Facility at Argonne and is an Adjunct Professor at the University of Notre Dame in Indiana.

Lynne's interest is in developing and executing programs designed to further understand the influence of f elements, specifically actinides, on the physical properties of systems in which they are contained. In particular, she is focused on achieving a predictive understanding of metal-ion speciation in solutions and in solids, and its influence on physicochemical properties.

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