

The following news briefs are sent to you by the National Synchrotron Light Source at Brookhaven National Laboratory, Upton, New York [www.nsls.bnl.gov](http://www.nsls.bnl.gov)

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### 2000 NSLS Users' Meeting and Workshops

The 2000 NSLS Annual Users' Meeting will be held at Berkner Hall at Brookhaven National Laboratory, May 22-24, 2000. Highlights include two days of workshops detailing new research opportunities and significant accomplishments in physics, chemistry, biology, materials science, geology, and medicine.

#### Workshops: Monday, May 22

*XAFS of Dilute Systems*

*Environmental and Geological Sciences*

#### Workshops: Wednesday, May 24

*Very Bright Infrared Sources and Applications*

*New Approaches to Solving Protein Crystal Structures*

*Chemical Applications of Synchrotron Radiation*

Detailed information on the Environmental and Geological Sciences Workshop appears in the next column. For more information about other workshops, visit our website at [www.nsls.bnl.gov](http://www.nsls.bnl.gov).

The annual meeting will be Tuesday, May 23. Invited speakers include Arthur Bienenstock, Assoc. Director for DOE's Office of Science and Technology Policy, Washington, DC, who will present the Keynote Address, "Views from OSTP's Science Division," and Professor Janos Hajdu of Uppsala University, Sweden, who will present a Scientific Highlight, "Femtosecond Imaging of Biomolecules with X-Rays."

Contributed Posters and Contest: This year, we are offering cash prizes (\$150, \$100, \$50) for the three best posters at the NSLS user meeting. Anyone registered for the meeting is eligible, but must also register for the poster session in advance. This year, the poster session will be held in the Berkner Hall lobby during the open-bar reception on Monday evening, which is sure to spark extra interest in your work.

Instrumentation and Equipment Vendors will hold an exhibit in the Lobby at Berkner Hall Monday and Tuesday.

Social events include a Welcoming Reception at Berkner Hall on Monday, May 22, from 5:30 to 8:00 p.m. with hors d'oeuvres, a beverage bar and live music. A banquet will be held on Tuesday at Giorgio's Restaurant.

The deadline to register for the 2000 NSLS Users' Meeting is fast approaching. **Register by April 30 to avoid late fees.** Registration forms and materials are available on the web. Visit the NSLS website at [www.nsls.bnl.gov](http://www.nsls.bnl.gov) or call (631) 344-7976 for registration information.

### Environmental & Geological Sciences Workshop

*by Barbara Illman and Sue Wirick*

The application of synchrotron-based techniques in the environmental and geosciences provides helpful information about the speciation and biogeochemical association of elements in natural materials, such as minerals, soils, wood, natural organic and microbial matter. Techniques such as X-ray absorption fine-structure (XANES) and extended X-ray absorption fine-structure spectroscopy (EXAFS) have been used to determine the oxidation state speciation, bonding and coordination environment of contaminants and non-contaminants in environmental systems. These methods can be applied on a bulk scale (several mm) and at the microscopic (micron or less) scale. Spatially resolved techniques such as microprobe X-ray fluorescence (XRF) and soft X-ray imaging can provide additional complementary information on elemental co-association in these systems. The scope of this workshop will be to enlighten participants of recent work using these applications.

List of speakers and titles: Barbara Illman, Univ. Wisconsin, "Nanoscale analysis of microbial remediation and degradation of lignocellulosics in forestry", George Cody, Carnegie Institute, "Biogeochemistry at nanoscales: soft x-ray microscopy and microbial degradation of vascular woods", Darrell Schulze, Purdue Univ., " Probing Mn redox processes in microbially reduced soil using micro-XANES and XRF spectroscopies", Cleve Dodge, BNL, " Uranium speciation by EXAFS: implications for environmental restoration", Richard Reeder, SUNYSB, " XAFS and micro-XAS studies of uranyl uptake by carbonate minerals", Martine Duff, Savannah River Ecology Lab., "Examination of plutonium sorption behavior on tuff with XAS and XRF techniques: importance of fracture fill minerals", William Bleam, Univ. Wisconsin, " Xray absorption studies of mercury chemistry in the environment: the association of mercury and methylmercury with humic acids"

### Special Interest Group (SpIG) Vote

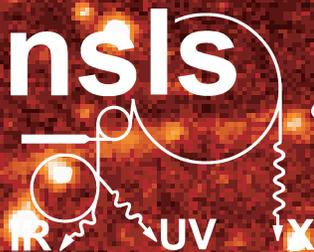
*by Barbara Illman, UEC Chair*

It's that time of year again! Vote for the representative of your Special Interest Group (SpIG). To cast your vote, go to:

<http://nslsweb.nsls.bnl.gov/nsls/dbforms/spigvote.asp>.

The election results will be announced at the NSLS Users' Meeting on Tuesday, May 23, 2000. Your SpIG represents your interest group on the Users' Executive Committee and is your link to addressing user needs at the NSLS. Please take the time to cast your vote. The voting deadline is April 28, 2000.

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# National Synchrotron Light Source

## 2000

## Annual

## Users' Meeting

### Keynote Address

by Arthur Bienenstock, Associate Director,  
Office of Science and Technology Policy,  
Washington, DC, *"Views from OSTP's  
Science Division"*

May  
22-24

### Scientific Highlight Presentation

by Professor Janos Hajdu, Uppsala  
University, Sweden, *"Femtosecond Imaging  
of Biomolecules with X-Rays"*

**Workshops:** **Monday May 22:** (1) Environmental and Geological Sciences, (2) XAFS Studies of Dilute Systems. **Wednesday May 24:** (1) Very Bright Infrared Sources and Applications, (2) New Approaches to Solving Protein Crystal Structures, (3) Chemical Applications of Synchrotron Radiation

**Annual Meeting - Tuesday May 23** beginning at 8:30 a.m.

**Social Events:** Monday May 22: Welcoming Reception, Berkner Hall, 5:30 - 8 p.m.  
Hors d'oeuvres, beverage bar, live music. Poster Session and Equipment Exhibit.  
Tuesday May 23: Banquet, Giorgio's Restaurant, Baiting Hollow, 6:30 p.m.

**Registration** packets, forms and full details are located at User Administration, NSLS Bldg. 725, Rm 2-100 or visit our website at <http://www.nsls.bnl.gov> (click on NSLS 2000 Users' Meeting). For additional information, contact Linda Feierabend at (631) 344-5763.

The background image is a diffraction pattern on a 10  $\mu\text{m}$  dia. olivine aggregate (Kilbourn Hole, NM). See NSLS 1999 Activity Report Abstract, Beamline X26A, "New Combined Micro-diffraction and Micro-XAFS Studies at the X26A Beamline," A. Lanzirotti, S. Sutton, J. Parise and M. Vaughan. Go to website: [www.nsls.bnl.gov](http://www.nsls.bnl.gov) (click on Abstracts for 1999 Activity Report).