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Title

17th Annual ALS Users' Association Meeting

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Publication Date

2004-11-29

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It's not exactly Russian roulette, but scheduling October events outdoors is not risk-free, even in usually sunny California. An overflow crowd of more than 400 registered users, ALS staff, and vendors enjoyed a full indoor program featuring science highlights and workshops spread over two and a half days from October 18 to October 20. However, a major storm, heralding the onset of the San Francisco Bay Area rainy season, posed a few weather challenges for the events on the ALS patio.

Users' Executive Committee chair Dennis Lindle (University of Nevada, Las Vegas) started the meeting off with a warm welcome to new BerkeleyLab Director Stephen Chu. Coming from a laser-based science background, Chu confessed he was not yet intimately familiar with the ALS but was already hearing that it is one of the best facilities for users to do great science. Acting ALS Director Janos Kirz followed Chu by introducing a surprise guest: Daniel Chemla, who is on extended medical leave from his normal duties as ALS Director while recovering from major surgery.

Kirz continued with an overview of the ALS, starting with a nod of appreciation to division deputies Ben Feinberg, Neville Smith, and Jim Krupnick for keeping the facility on track in Daniel's absence and bringing him up to speed soon after his June arrival at the ALS. He emphasized the need for continuous attention to safety in the face of the continuing rapid growth in the user count, summarized several accelerator improvements and new beamlines, and took a look at the future. Coming up in February 2005 is a major DOE review of the ALS, which will also include a presentation of the new ALS strategic plan now being constructed. The plan is based on an upgrade to higher brightness by means of top-off operation, lower emittance, advanced insertion devices, and specialized beamlines. A user support building to serve both the ALS and other Berkeley Lab user facilities that will reside in the space now occupied by Building 10 adjacent to the ALS and a nearby user hostel for onsite housing are also progressing.

ALS operation is funded by the DOE Office of Basic Energy Sciences, so the annual "view from Washington" by DOE Associate Director for BES, Pat Dehmer, is always eagerly anticipated. Like Kirz, she emphasized the seriousness of safety, calling attention to recent stand downs at Los Alamos and SLAC that resulted from laser and electrical mishaps, respectively, and pointedly noted that the same could happen at the ALS. Regarding the budget outlook, fiscal year 2005 is uncertain, as Congress has not finished its actions [an appropriations bill has now been passed with some growth for BES], but in future years there is likely to be pressure on non-defense R&D spending in order to reduce the federal deficit. At the end of her talk to thank her for her support of the ALS, David Attwood of the Berkeley Lab Center for X-ray Optics presented Dehmer with a framed artwork showing a University of California, Berkeley, art student's impression of the ALS.

In other Monday morning presentations, Uwe Arp (NIST) described lightsources.org, a Website to be launched in early 2005 that will be a one-stop-shopping venue for a broad audience for news and information about light sources (see SRN 17.6, pp. 40-41).

Michael Lubell (Director of Public Affairs, American Physical Society) spoke of the need to emphasize what science can do for the country in order to preserve support for science in the coming budget climate. And Dennis Lindle conducted a town hall meeting on the strategic planning process that has been under way at the ALS.

Monday afternoon sessions were devoted to “Looking Forward: New Science at the ALS” and to science highlights.

Tuesday was dedicated to a set of eight focused workshops, some of which carried over onto Wednesday. The workshops and organizers were “Actinide Spectroscopy at the ALS,” David Shuh (Berkeley Lab) and Jim Tobin (Lawrence Livermore National Laboratory); “Advances in Crystallographic Data Analysis and Acquisition,” Christine Trame (Berkeley Lab); “Magnetic Nanostructures, Interfaces, and New Materials: Theory, Experiment, and Applications,” Elke Arenholz (ALS) and Yves Idzerda (Montana State University); “Nanoscience at Synchrotrons,” Franz Himpsel (University of Wisconsin–Madison) and Louis J. Terminello (Lawrence Livermore National Laboratory); “New Complex Materials for Synchrotron Science,” Byron Freelon (ALS) and R. Ramesh (University of California, Berkeley); “New Directions in Hard X-Ray Microspectroscopy and Spectromicroscopy,” Matthew Marcus (ALS); “Photon-In and Photon-Out X-Ray Spectroscopy in Material Sciences,” Environmental Energy, and Chemical Analysis, Jonathan Denlinger and Jinghua Guo (ALS); “X-Ray Microscopy: Advances and Challenges,” Carolyn Larabell (University of California, San Francisco, and Berkeley Lab) and Mark LeGros (Berkeley Lab). See the pages following this article for reports on these workshops.

The workshops were prefaced by an accelerator tutorial: “What's Behind the Shielding? An ALS Accelerator Tutorial,” David Robin and Christoph Steier (ALS). In addition, on Wednesday at the Stanford Synchrotron Radiation Laboratory, there was a joint SSRL-ALS workshop during the SSRL user meeting held in the second half of the week (see SRN 18.1, pp. xx): “Modern Valence Band Photoemission Spectroscopy: The Legacy of W. E. Spicer and a Powerful Tool for Materials,” Ingolf Lindau (Stanford University), Piero Pianetta (SSRL), Zhi-Xu Shen (Stanford University), and Neville Smith (ALS).

By Tuesday evening, the elements were calmed sufficiently for everyone to enjoy a well-prepared BBQ dinner under an open air tent on the ALS patio. After dinner, user meeting program co-chair Corie Ralston (Berkeley Lab) hosted the user award session. Mandana Veisheh (University of Washington) won the student poster award for her poster titled “Direct Bacterial Detection by Single-Cell-Based Sensors and Synchrotron FTIR Spectromicroscopy.” James Holton (Berkeley Lab) took home the Tim Renner User Service Award “For friendly and tireless support of users and for implementation of his ELVES program that optimizes the usage of beamtime.”

Klaus Halbach's widow Ruth presented the Klaus Halbach Award for Innovative Instrumentation at the ALS to Frank Ogletree (Berkeley Lab), Hendrik Bluhm (Berkeley Lab), Zahid Hussain (ALS), and Miquel Salmeron (Berkeley Lab) “For the development of a photoelectron spectrometer that operates in ambient gas pressures of up to tens of

Torr.” And the David A. Shirley Award for Outstanding Scientific Achievement at the ALS went to Andrea Cavalleri (Berkeley Lab) for “For pioneering ultrafast x-ray experiments on the metal-insulator transition.”

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Figure 1. During the Monday morning opening session, Berkeley Lab Director Steve Chu (left) welcomed meeting attendees; CXRO's David Attwood presented Pat Dehmer, DOE Associate Director of Basic Energy Sciences, with an art student's impression of the ALS (center) ; and ALS Acting Director Janos Kirz gave an overview of the facility, research activities, and plans for the future.



Figure 2. User award winners line up for photos with program co-chairs Corie Ralston and Keith Jackson (Berkeley Lab). From left to right: Zahid Hussain, Frank Ogletree, James Holton, Ralston, Miquel Salmeron, Andrea Cavalleri, Hendrik Bluhm, and Jackson.

