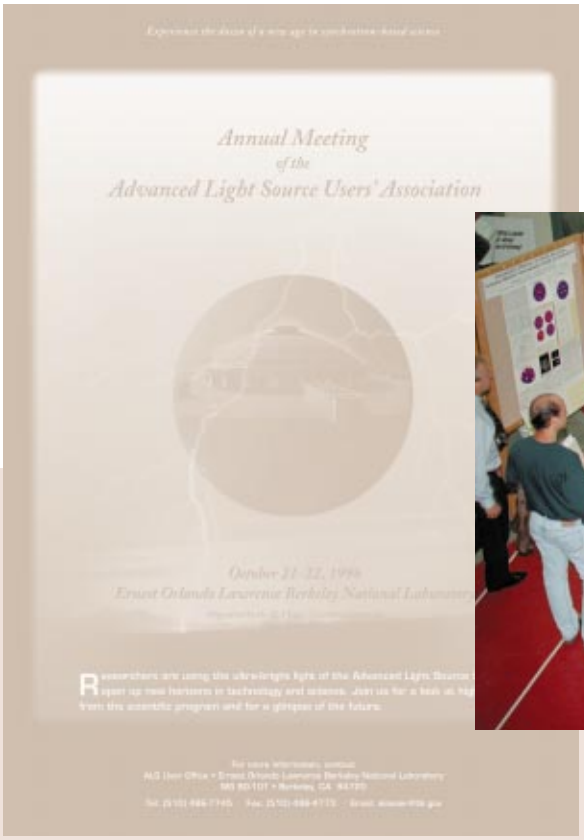
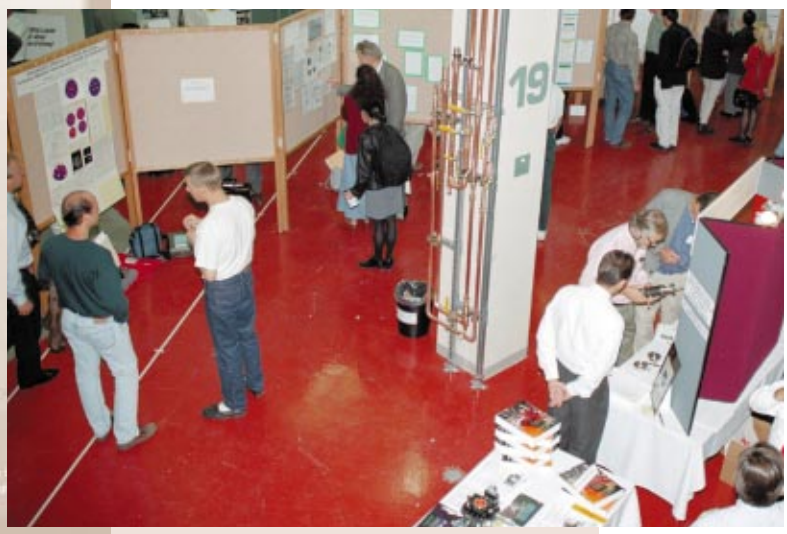
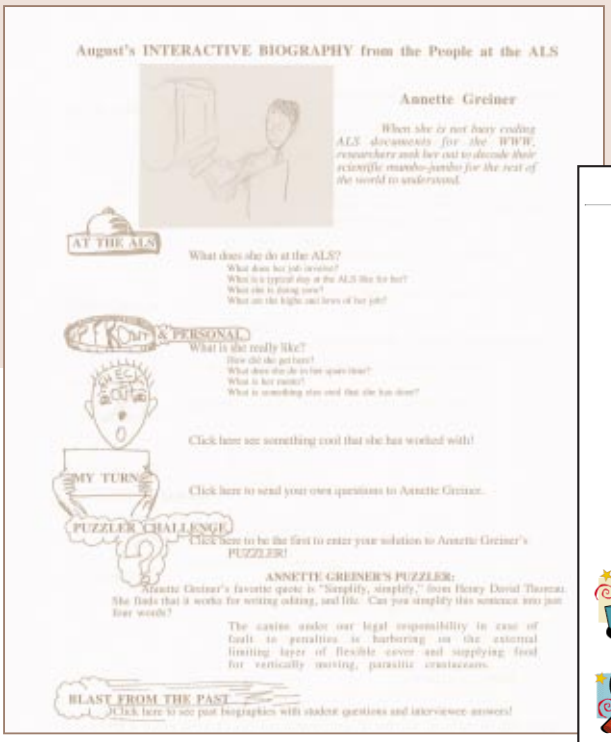
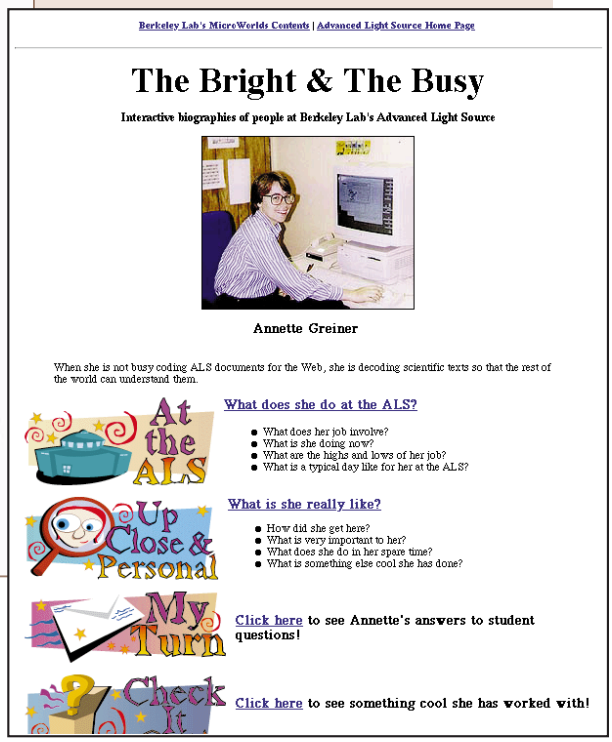
SPECIAL EVENTS





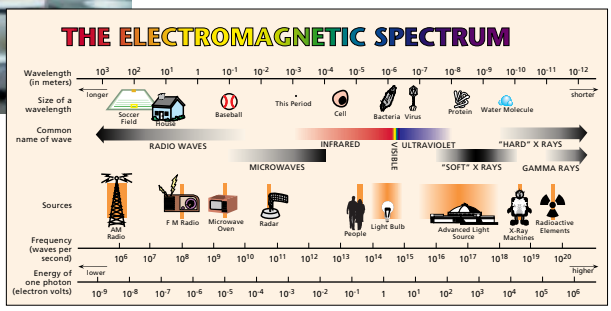




EDUCATIONAL OUTREACH

Teachers' Workshop

In March 1996, the ALS followed up on interest generated at the Lab-wide Open House in 1995 by holding a workshop for teachers from the San Francisco Bay Area and beyond. Teachers explored the ALS and related science topics through tours, presentations, and hands-on activities designed to take back to their classrooms. Several teachers from the workshop have prepared their classes for visits to the ALS using these activities and the popular *Inside the ALS* and *Electromagnetic Spectrum* posters.



School Visits

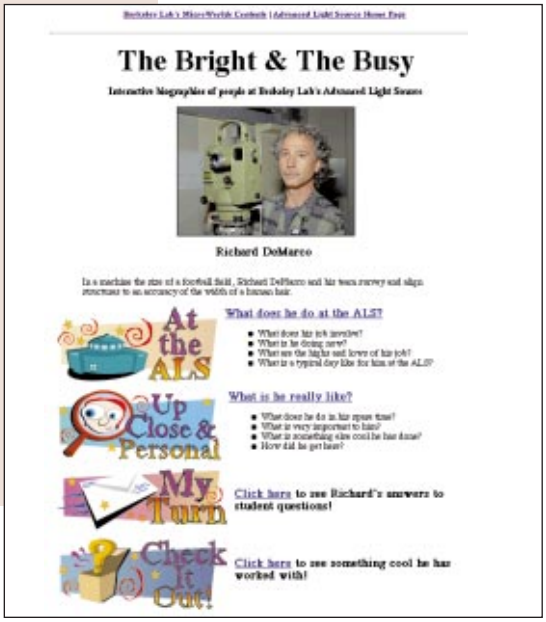
Student visits to the ALS don't stop with a tour of the machine; opportunities abound to put this huge research tool in context. Above, students explore the behavior of polarized light and its interaction with materials. At right, getting friendly with a 4000-kg (8800-lb) bend magnet gives students an appreciation for the scale and precision of the ALS.

Reaching People Close to Home...

Cal Day in April 1997 provided opportunities for members of the local community to learn more about the ALS. During the Cal Day Open House, organized by the University of California at Berkeley, ALS staff gave crowd-pleasing "Cool Science" demonstrations with liquid nitrogen, vacuum pumps, and other scientific tools used at the ALS.

...and Around the World

Student intern Andrea Macfie spent the summer before her senior year in high school at the ALS, creating a fresh new section for the Microworlds Web magazine. "The Bright and the Busy" tells a worldwide student audience about the variety of jobs at a scientific facility and the people doing those jobs. It features profiles of ALS staff members describing what they do at the ALS and their interests off the job. Microworlds (http://www.lbl.gov/MicroWorlds/) makes ALS science accessible to students and teachers by presenting articles with integrated activities to teach the basic concepts involved.

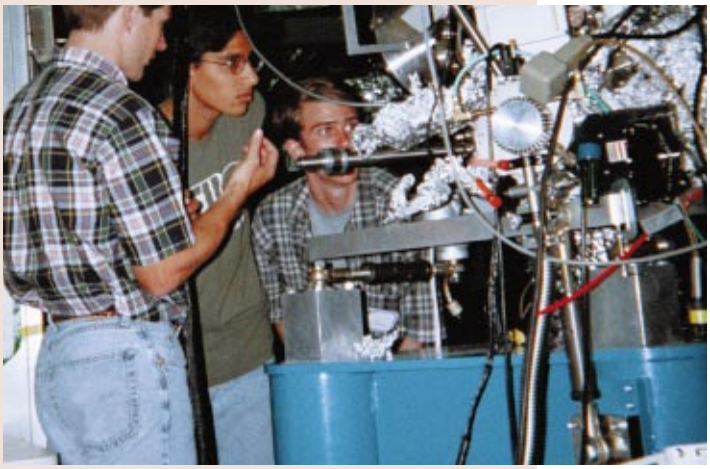


Science Bowl Winners Participate in Research

When choosing their prize for prevailing over 1,700 other teams in the U.S. Department of Energy–sponsored Science Bowl, the team from Venice (California) High School passed up a trip to Alaska's North Slope for a chance to visit the ALS. Team members received a crash course on the ALS for a week in August 1996, from survey and alignment of beamline components to residual gas analysis in ultra-high-vacuum systems and computer-aided design. They then became the first high-school students to participate in experiments on beamlines at the ALS.

Above, the team (clockwise from upper left): Candice Kamachi, My Le Hoang, Richard Erdman (coach), Chris Mayor, Noah Bray-Ali, and David Dickinson.

Above and at right, the team members at work, imaging malaria-infected red blood cells with the x-ray transmission microscope at Beamline 6.1.2, and using photoemission spectroscopy at Beamline 9.3.2 to probe the surface and bulk properties of various materials.



ALS A FOCUS OF COOPERATIVE EFFORT

Industrial Collaboration a Success

Representatives from Intel and Applied Materials joined ALS scientists, engineers, and shops staff on March 5, 1997, to celebrate the on-schedule completion of the first application-specific beamline. Beamline 7.3.1.2 delivers light to a micro x-ray photoelectron spectroscopy endstation (see p. 40) constructed with funding from the two companies and the U.S. Department of Energy and designed to analyze the microstructures and small-area interfaces in integrated circuits (ICs) and the silicon wafers from which ICs are made.

A Visit from Thailand

In May 1997, 23 visitors from the Parliament of Thailand, including six Parliament members, visited Berkeley Lab and the ALS. Led by Pavena Hongsakul (sixth from left, standing), member of Parliament and chair of the House Committee on Science and Technology, the group made a world-wide tour to explore the contributions that high-technology companies and facilities make to the science, technology, and economies of their home countries. A new synchrotron light source, the Siam Photon Project, is under construction in Khorat, Thailand.

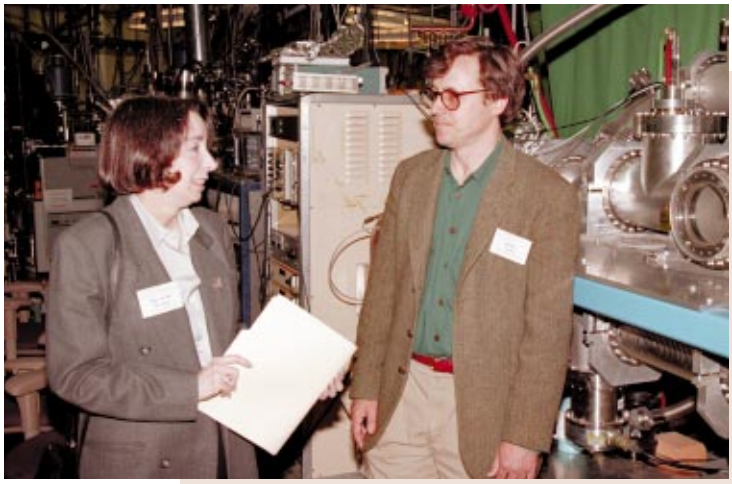
New Links with China

Yang Fujia (left), President of Fudan University in Shanghai and Director of the Shanghai Institute of Nuclear Research (SINR), visited Berkeley Lab in July 1996 to formalize an agreement between SINR and Berkeley Lab on cooperation in synchrotron research. A dinner in Berkeley and an exchange of gifts with Brian Kincaid on behalf of the ALS marked the occasion.

ALS USERS' ASSOCIATION MEETING

Users' Meeting Draws a Crowd

The October 1996 meeting of the ALS Users' Association attracted 220 participants from 12 countries for talks, workshops, and a chance to view the ever-increasing number of beamlines. At the poster session, held in conjunction with vendor exhibits, participants could discuss their work and see the latest offerings in beamline and endstation components.



Patricia Dehmer, head of the Office for Basic Energy Sciences at the U.S. Department of Energy, gave a talk and also came to the experiment floor (left) to talk with scientists about their work.

A banquet (below) gave participants and family members a chance to relax, enjoy each other's company, and witness the presentation of awards.

Klaus Halbach Award for Instrumentation
This award, presented at each Users' Association Meeting, recognizes a significant advance in instrumentation at the ALS. The winners in 1996, led by Berkeley Lab's Wim Leemans (Accelerator and Fusion Research Division) and Robert Schoenlein (Materials Sciences Division), produced ultrashort x-ray pulses (~300 femtoseconds). Their apparatus crosses the relativistic electron beam from the ALS linear accelerator with a pulsed photon beam from an infrared laser, thereby scattering the photons up to x-ray energies. Above, the group. Standing, left to right: Jim Dougherty, Max Zolotorev, Leon Archambault, Wim Leemans, T. Ernest Glover, Robert Schoenlein, Peter Balling, Alan Chin, Swapan Chattopadhyay. Seated: Paul Volfbeyn, Kwang-Je Kim. Not pictured: Charles Shank.

ALS-SPONSORED WORKSHOPS

Adventures in Light and Science Teachers' Workshop
March 4 and 16, 1996

High-Resolution Computed Microtomography
August 12–13, 1996

ALS Users' Association Annual Meeting and Workshops
October 21–23, 1996

Molecular Environmental Science at the ALS
March 27–28, 1997