



## Over 160 Attend SSRL Two-Day Users Meeting

THE 23RD ANNUAL SSRL USERS MEETING highlighted the recent achievements and advances in science and technology made possible by SSRL. Featuring sessions on the future of SSRL facilities, biological applications of synchrotron radiation, structure and properties of solid state materials, and recent research in environmental science, the event, chaired by David Shuh from Lawrence Berkeley National Laboratory and Herman Winick from SSRL, was attended by over 160 worldwide users.



Photos: M. St. Pierre and C. Pacini

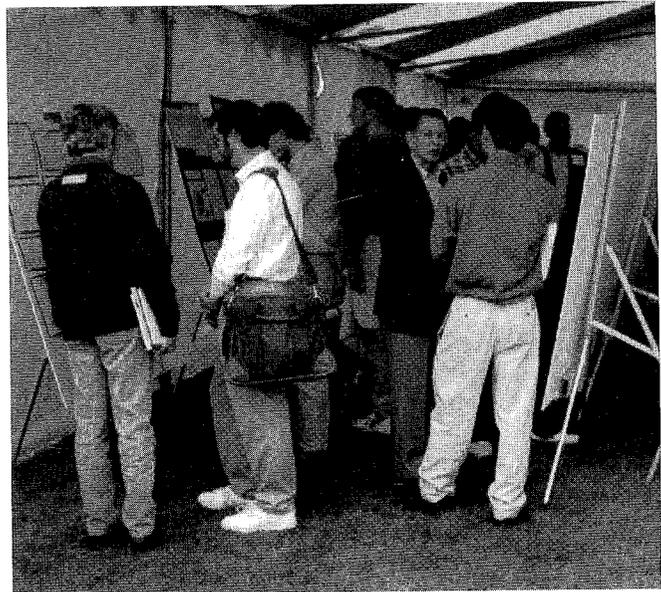
Over 46 scientific posters submitted by SSRL users, including graduate and post

doctoral students, were on display during the meeting. After careful deliberation by the SSRL Users Organization, the first place prize was presented to Hua Holly Zhang of Stanford University for her poster on "Multiple-Edge XAS Studies of Synthetic Iron-Copper Bridged Molecular Assemblies Relevant to Home-Copper Oxidases."

A workshop on Approaches to Modern and Advanced Analysis of XAS Data, chaired by Britt Hedman, was held the day before the Users Meeting. This workshop was attended by over 60 researchers and earned rave reviews from the attendees.

Following the workshop, Keith Hodgson chaired a mini-symposium on Structural Molecular Biology that

*Roland Hirsch, left, and Robert Marianelli of the DOE view the vendor displays.*



*Scientific posters on display during the SSRL Users Meeting were caught in the first storm of the season. They were quickly moved under a large tent in front of the cafeteria for protection.*

included scientific talks from four researchers in the field. The busy day culminated in a formal Beam Line 9 Dedication ceremony. Roland Hirsch, head of the OHER division of the Department of Energy, shared a few words about the new beam line that will provide three stations specialized for protein crystallography and X-ray absorption spectroscopy.

## Holiday Reminder

SLAC WILL BE CLOSED during the Christmas and New Year's holiday period from midnight Sunday, December 22 through midnight Wednesday, January 1, 1997, with the exceptions outlined in Dr. Richter's September 12, 1996, memo, "Winter Closing." University holidays are December 24, 25, and January 1; December 23 is a paid day off; and December 26, 27, 30, and 31 can be charged to vacation time (you can borrow from future accruals if needed), personal time, or taken as leave without pay.

## "Ask Lana"



WHOM DO YOU CALL when something needs repair or service? No, not Ghost Busters, but Lana Smith in the Facilities Office, located in the A&E building, x2207. In addition to routing your request to the right person, she can send you a Request for Facilities Services list for future requests.

Lana does much more than just route calls; in fact, she just completed the major task of coordinating the site-wide rekeying for all buildings. She worked closely with the locksmith and all building managers for over six months to ensure that every door, padlock, and deadbolt on site (over 3,000 in all) were included. Was she seeing keys and key combinations in her sleep? You bet!

"I hope this rekeying lasts for the next ten years," she said, "but I'm here to help, so please let me know if there are any complications from the rekeying."

Keys are issued daily from 1:30 p.m. to 3:30 p.m. Bring a key card, completed and signed by an authorized approver (see your local Administrative Associate or call Lana if you are unsure who can sign for a particular key) between those hours to obtain keys.

### Correction

IN THE ARTICLE "Personal Info Available Electronically" in the November issue of *TIP*, the Web address for home address information should read: <http://www.infospace.com> (instead of *infosource*).

## Small Company Tech Transfer Grants Available

THE DEPARTMENT OF ENERGY has issued a call for proposals for its FY97 Small Business Technology Transfer (STTR) program. Small businesses with expertise in one of the following topic areas are encouraged to participate: characterization and treatment of mixed waste; improved heating and cooling thermal distribution systems for residential buildings; technology in support of nuclear physics research; novel materials for energy applications; and materials and control technology for fossil energy applications. SLAC technology will most likely fit into several subcategories of the above topic areas.

STTR is a relatively new program that funds R&D at small companies in areas of importance to DOE and some of its laboratories if those companies can convince DOE that such R&D may lead to successful commercialization of the technology that is being developed. STTR projects can be funded through three phases. Phase I projects evaluate the scientific or technical merit and feasibility for commercialization of the ideas. Typically, fifteen to twenty Phase I projects are selected for funding, with each project receiving up to \$100,000 for a period of nine months. Phase II awards are made to those companies with results from their Phase I effort that show good promise for successful commercialization. Phase II awards may be up to \$500,000 per project for a period of up to twenty four months. Phase III is when the company is expected to pursue commercial applications of the R&D performed under Phases I and II.

This call is for Phase I grant applications only. The STTR program requires that small business applicants must team with non-project research institutions in their project proposals with at

least 30 percent of the work to be performed by the research institution partners. This means that a small business winning an award must provide at least 30 percent of its award to its research institution partner.

Any SLAC staff member who works with a small business and is aware of a common technical interest between that company and the laboratory in one of the above five topic areas now has the opportunity to pursue a fully funded project of mutual benefit with the effort to be undertaken at the laboratory. If this is the case, the SLAC staff member should alert the small business of this funding opportunity and contact Jim Simpson of the Office of Technology Transfer at x2213 for details. The deadline for the call is December 16, 1996.

## Work Safe, Work Smart

How safely are SLAC staff members working?

"As of November 11th in the fourth quarter (which runs from October through December), there were 46 calendar days that elapsed without a lost time incident being filed," reported Sharon Haynes, the Workers' Compensation Coordinator. In the third quarter, which ran from July through September, SLAC employees filed six worker's compensation claims that involved a lost time incident. The number of days between incidents ranged from 9 to 21 days.

"We are pleased with the improvement from 21 days to 46 days without a lost time incident. I hope that publishing this information in future *Interaction Points* will help increase awareness of the Work Safe, Work Smart campaign," said Haynes.

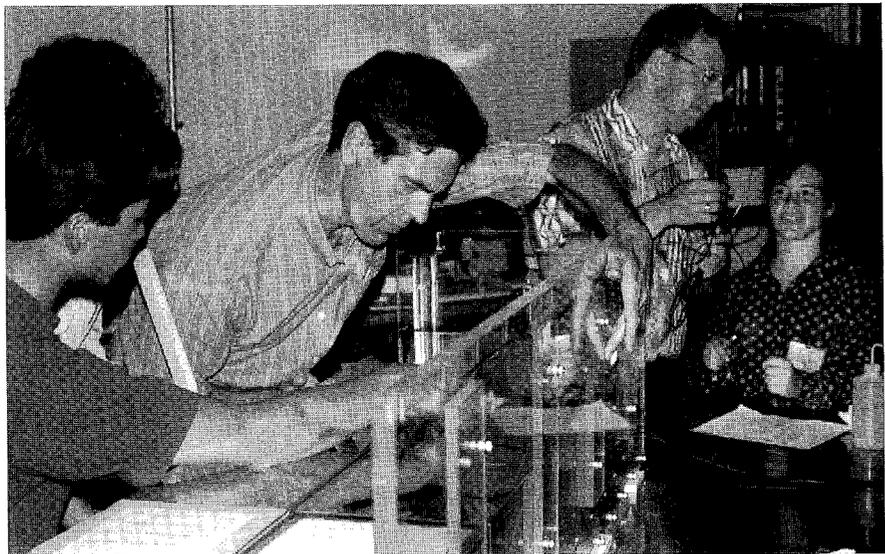
# Highlights of the Millicharged Particle Search

DURING THE SUMMER of 1994, high school physics teacher Jerry Loomer was here as part of a Department of Energy program that places teachers in research experiences at national laboratories. During the course of the summer, he took these photos to document the stages of the millicharge detector construction and to show his students in Rapid City, South Dakota, how he spent his summer vacation.

Alyssa Prinz, a Stanford graduate student, has been analyzing the data collected from 1994 through 1995. She gave a talk in May at the American Physical Society, and a paper will be submitted to *Physical Review Letters*. Prinz's thesis advisor is John Jaros.

The purpose of the experiment was to look for particles with less than 1/1000th of an electron charge. If they exist and have mass, then they may be a candidate for dark matter. Other experiments have looked at weakly interacting particles, but not with the same very high sensitivity.

A millicharged particle was not found in this experiment, so what's next? "It's possible we might run (the experiment) again if we use a different type of scintillator and a different photomultiplier tube," according to Prinz. "Martin Perl is running a parallel experiment in a higher charged region."



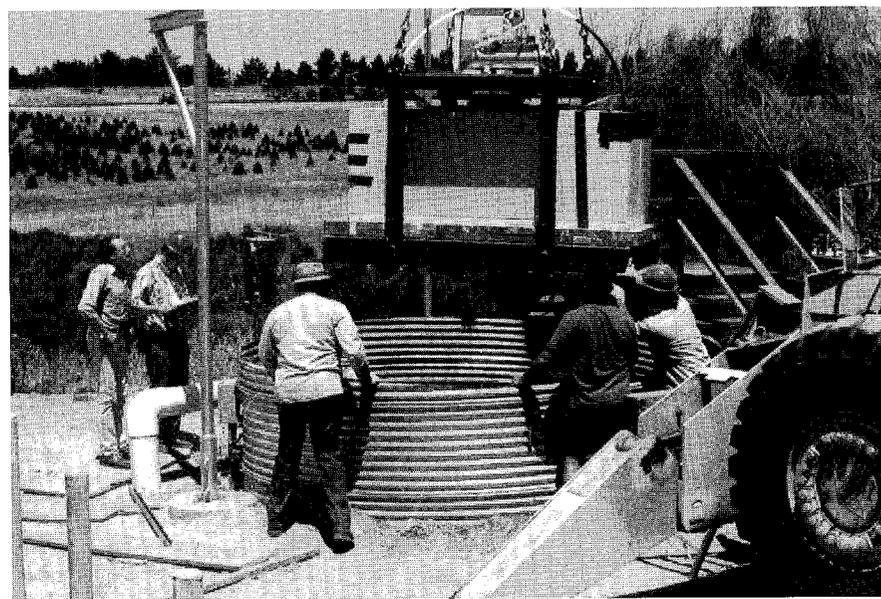
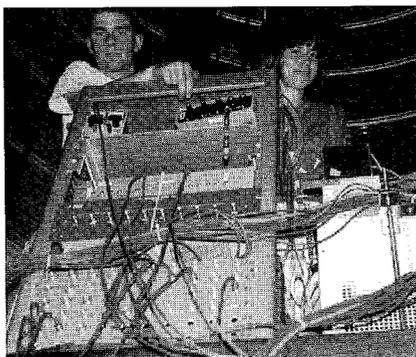
*Above (l to r) Tom Nakashima, John Jaros, Willy Langeveld, and a visiting Girl Scout Kirsten Mortenson install scintillators in a container.*

*Right: The four tubes are in place and the detector will be lifted straight up for visual inspection from all sides by Willy Langeveld (back), Tom Nakashima, John Jaros, and Chad Fertig.*



*Bottom left: Chad Fertig and Alyssa Prinz in the pit with the detector.*

*Below: The millicharge particle detector is lifted for placement into the pit by SLAC staff.*



## An Attorney at SLAC?

YEP. AND YOU PROBABLY WONDER what she does all day.

In fact, she is quite busy.

As a representative of the University, Rachel Claus works under the auspices of the Office of General Counsel. Her charge is to protect and advance the interests of SLAC and of the University, the contractor operating and managing SLAC for the Department of Energy.

Rachel calls it "an absolutely wonderful job," that allows her to work for a world-renown research facility at an internationally famous university. "Here I can contribute to the non-profit sector, unlike many others in my profession," said Claus. Also unlike others in the legal field, Claus developed an interest in particle physics in the mid-1970s when Burton Richter won his Nobel prize. Even if the science were not enough to keep her interested, she finds fascination in some of SLAC's convoluted legal issues.



*Rachel Claus models the vest worn by Public Information Officers during emergency activities. "Just another part of the job," says she.*

For example, PEP-II and BaBar have unique requirements that might involve a purchase of raw materials from one country, which are then sent to another country for fabrication, then forwarded to a third country for some critical input, shipped to SLAC for tweaking, returned to the second country for another bit of work, then back to SLAC for the duration of the experiment. Such a complicated scenario calls into play domestic and foreign import-export law, federal acquisition regulations, applicable international agreements and treaties, and foreign and domestic taxation rules, to name but a few. It is an exercise guaranteed to give new meaning to the concept of "transubstantiation," which Claus goes on to define as the physics equivalent of changing of water to wine.

In addition to familiarity with the miles of federal statutes and regulations running over, under, around, and through DOE activities, Rachel's work requires an understanding of many other areas of the law. A brief list includes such items as intellectual property and proprietary rights, academic affairs, conflicts of interest, international relations, third-party liability (that is, personal injury and property damage claims), and cyberspace and telecommunications issues. "If that isn't enough," Claus added, "there are topics such as personnel and employment, environment and health, as well as general business concerns such as risk management, contract negotiation, and land use."

## Many Happy Returns

HAVE YOU MOVED recently? Have you informed Personnel Records of your move? The time to prepare and mail W-2 forms is fast approaching. Be sure to let the Personnel Records staff know any change of address by December 10. Send e-mail to [Tineke@slac.stanford.edu](mailto:Tineke@slac.stanford.edu) and to [Claudia@slac.stanford.edu](mailto:Claudia@slac.stanford.edu) or call them at x2366 or x3345, respectively.

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## FactinOs

### *Look for us on TV*

said Roz Pennacchi and Son Nguyen. They were both extras during filming in the Klystron Gallery by a British company working on a six-part series called "Stephen Hawkings' Universe."

### *Willy Langeveld*

says he fully deserves his SLAC parking ticket and he is glad that the system is working. "I'm looking forward to getting out of prison soon," he said. Cards, letters, and lemon squares appreciated.

### *Dosimeter damage*

Who's been taking apart their dosimeters? A recent memo cautions against damaging the casing and interfering with readings. If you feel the urge, call Dosimeter Vandalists Anonymous for support at 1-800-DOSI-VAN.

### *GERT training incentives*

Management is aware of the recent memo reminding people to fulfill their GERT training requirement or else. The "or else" is that you will get suspended. According to Bette Jane Ferandin in the Director's Office, the original punishment was much worse. "Slackers were going to be sent to aerobics class twice a week." Now that's punishment!

### *SLAC music men*

Rumor has it that the SLAC Holiday Party will feature a new band consisting of Sid Drell on violin, Ralph Nelson on upright bass, Jamie Davis on guitar, Bebo White on banjo, and Walt Innes on bagpipes. Ready for the "Twelve Days of Christmas?"

### *SLAC's holiday party*

will be held December 19. Check your mailbox for details. A food and toy drive will be held, so watch for those collection bins. Contact Karen McClenahan at x2265 to volunteer to help.