

# INTERACTION POINT



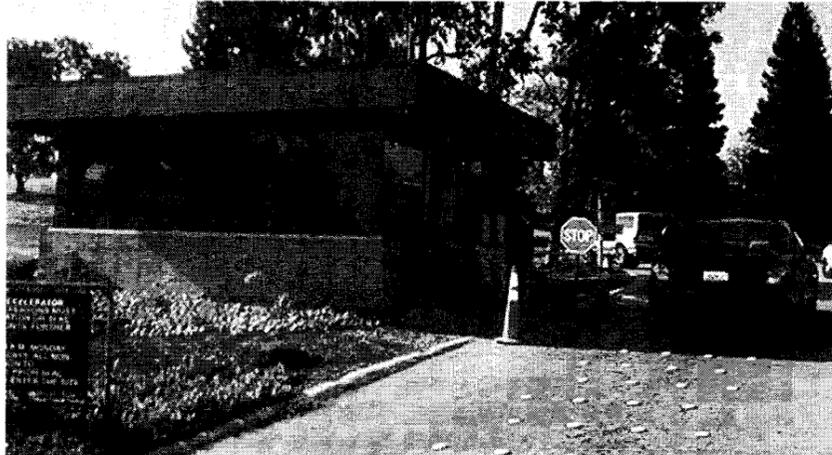
September 5, 2003

## New Gate House Opens

By Linda DuShane White

SLAC's sleek new Main Gate House was a long time coming. Ten years ago it became apparent that a tiny Gate House no longer filled the needs of the Security staff for a growing Lab. So when Project Manager David Saenz (SEM) came to SLAC four years ago, a new Gate House was one of his initial projects. "We originally were going to bring in one of those prefab buildings like they have at Disneyland. But that wouldn't work for us. We have very stringent earthquake requirements," Saenz said.

Saenz designed the building three years ago using input from Security personnel, Stanford University and SLAC members of the architectural committee. University technical representative (UTR) Tom Sherry coordinated the project.



The new Gate House at SLAC's Main Gate

"One of the big things was space," said Rick Yeager (BSD). "The space down there was about five by eight feet." The new building is four times larger than the old one; with a 20-foot counter-style desk area for the two officers on duty during each shift.

By October a central fire alarm system directing all 911 calls to computers at the Main Gate will be in place. The

911 phone system, which now goes to the central dispatch in Palo Alto or San Mateo, is also being upgraded. At the same time emergency personnel are notified, Security Officers at the Main Gate will receive notice of the extension the call came from, enabling them to take paramedics or fire fighters to the exact site immediately.

(See GATE HOUSE, page 3)

## Staff Tours Explore B Factory

By Emily Ball

They say seeing is believing, and over 100 SLAC employees recently became B Factory believers.

Staff tours of the B Factory, twelve in all, were given in August. Staff members from 25 different groups had the opportunity to see the PEP-II tunnel, the BABAR detector and the BABAR control room. The Laboratory staff tour program is a way for employees to have direct contact with the scientific mission.

"I have a far better sense of what it means when people talk about the BABAR experiment," said Erin Smith (HR). "Now that I've seen the tunnel, the detector and the control room, I feel more connected to that area of science here at SLAC."

(See TOURS, page 3)

## SLAC Hosts SULI Summer Interns

By Heather Rock Woods

Undergraduates from around the country converged at SLAC this summer to set up neutron counters, purify xenon, write feedback software, hear lectures by top physicists, rock-climb, hike and dance—all in fine California weather.

The DOE Science Undergraduate Laboratory Internships (SULI) program brought 25 students to SLAC to contribute to and gain experience in lab research. Students were paired with staff physicists who served as mentors and role models. During the 8-week program, students had to complete a research project and a formal report, which may be submitted to the DOE Journal of Undergraduate Research. The group also heard lectures twice a week from Nobel laureates and other top people in their respective fields.

The SLAC selection committee looks for academically outstanding

applicants for whom this experience will really make a difference—groups not well represented in science as a rule—including minorities, women, those from small colleges or community colleges and those with a non-traditional path to undergraduate school. One of this year's students spent six years in the Navy after high school, for example.

"I think this program is great. I have only compliments," said Verena Martinez Outschoorn, a double major in physics and math at Harvard University. The soon-to-be junior is doing R&D for a double-beta decay experiment, and she spent a lot of time in the lab purifying the heaviest isotope of xenon under ultra high vacuum conditions.

"This is all absolutely, completely new to me," she added. "More than anything, it's great to be in the environment and get a feel for what it's like to do this kind of work. No one in my family does math or

physics, so it's good to make sure I'm headed in the right direction."

Peter Rowson (SLD), Outschoorn's mentor, enjoys working with SULI students. "It's fun having someone young around here, to ask you questions you don't usually hear and to help out. We've had good luck with some very bright kids, including Verena."

This year's crop of students hail from a number of states. They major in the fields of physics, engineering, computer science and math. Students range from those who've just finished high school to others getting ready to attend graduate school.

More than 30 years ago, SLAC started a Summer Science Internship Program to bring more minorities into science careers. When DOE set up the national SULI program about five years ago, it was partly modeled on SLAC's old program.

(See SULI, page 2)

## Help Make 2003 Another Outstanding Year for Lab ES&H Performance

By Mike Grissom

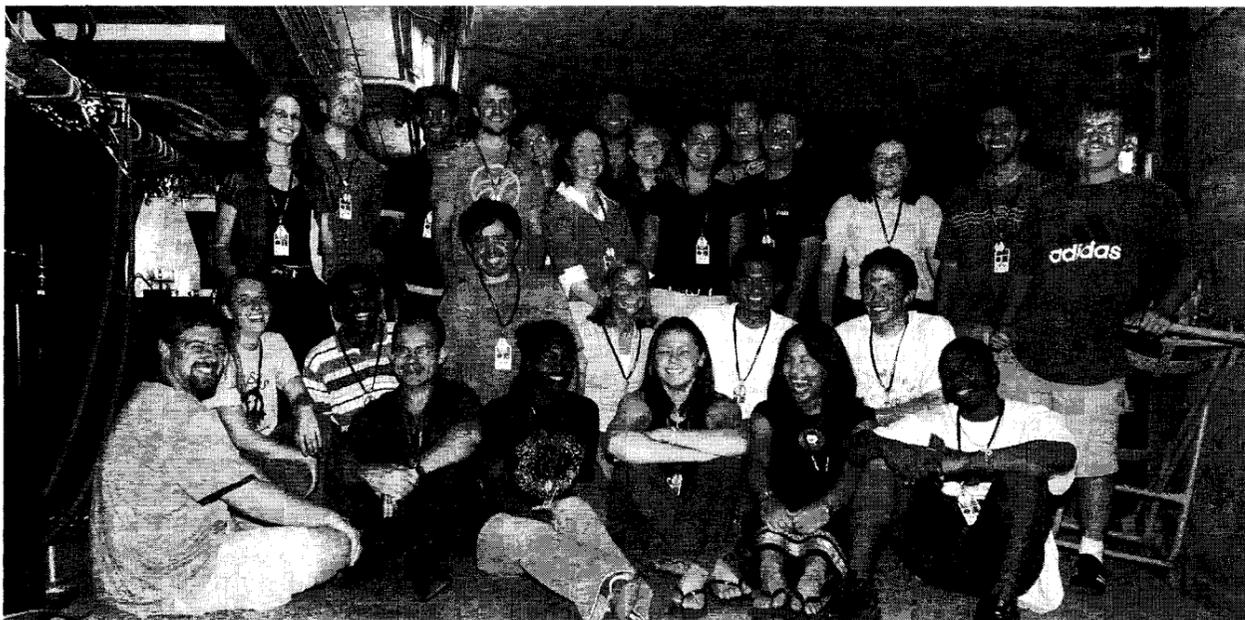
SLAC recently received an Outstanding performance rating for Environment Safety and Health (ES&H) performance in FY02. The criteria for FY03 have become more demanding. To maintain this high rating, all employees have a heightened role to play to ensure that our workplace is safe and we protect the environment.

### SLAC Safety and Environment Performance Goals for FY03

The DOE assesses SLAC's ES&H performance through two measurement types, outcome and process measures (TIP, August 15, 2003).

These measures impact all the work we do at the Lab, from complex science and engineering processes to simple everyday tasks. Everyone should be aware of these goals and how to achieve them.

(See DOE RATING, page 3)



SULI students and program staff: Back Row (left to right, standing): Amy Nicholson (SCS), Christopher Sramek (NLC), Dhevan Gangadharan (ESH), Joe Farrell (AD), Mallory Knodel (EFD), Hillary Cain (EC), Mohammed Al-Adeeb (ESH), Jennifer Docktor (EC), Angela Little (EA), Jason Heimann (GLAST), Travis Lau (GLAST), Verena Martinez-Outschoorn (SLD), Manuel Reyes (EC), Daniel Birt (SCS). Center Row (left to right): Melissa Berry (EE), Mesfin Getaneh (KLY), Gabriel Alaniz (EE), Kristi Adamson (PE), Philip Tanedo (ARDA), Ryan Quiller (BABAR). Front row (left to right, seated): Randall Newhouse (ARDB), Roberto Vega (TH), Renata Rawlings (GLAST), Kelly Cone (AD), Sharon Chao (NLC), Patrick Smith (GLAST)

# Director's Corner

By Jonathan Dorfan

Two of the cornerstones of our Laboratory mission are:

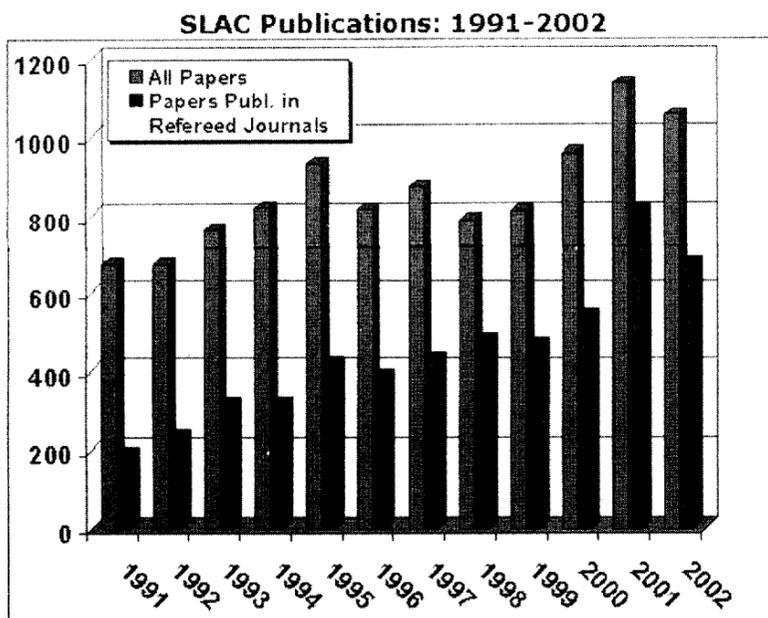
"Perform and support world-class research in high-energy physics, particle astrophysics and disciplines using synchrotron radiation," and,

"Advance the art of accelerators, and accelerator-related technologies and devices, through the development of new sources of high-energy particles and synchrotron radiation, plus new techniques for their scientific utilization."

By any objective measure, we are very successful in achieving these goals. Part of the obligation that comes with the privilege of using public funds to pursue scientific inquiry is the requirement that the results of the research be made available through open communication and publication in peer-reviewed journals.

Publication of the details of an analysis that lead to a scientific result or the accurate recording of the key elements of a technology advance serves a dual purpose: First to disseminate the data in a formal, accurate manner and second to provide the wherewithall for maintaining standards through the process of peer review. Thus a research institution's publication record provides an important measure of its success.

The accompanying figure shows the publication record of work performed at SLAC for the past ten years. Shown in light gray are all publications, and shown in dark gray are those submitted to peer-reviewed journals.



The publication record of work performed at SLAC for the past ten years. Note that 2002 numbers are smaller due to lag times in publishing.

Two aspects of this figure are very impressive. Both the sheer annual volume of publications that result from work done at SLAC—typically about 800 publications per year—and the great increase in publications over the past decade speak to the increased productivity and remarkable effort achieved over the last decade.

Not everyone in the Lab gets to explicitly put their names on publications that result from the work done here. Yet without the contributions made by each and every person at the Lab, a body of work this extensive and impressive would not be possible. The tremendous success that is indicated by our publication record is in every way your success.

## Disseminating Data

Looking more deeply into our publications record, one finds that there is an equal number of publications coming from the HEP/Astro research program as come from the SSRL research program. Both produce equal numbers of publications and both have experienced a similar growth trend. Yet the two communities have rather different patterns in the way they disseminate data.

These differences in large measure reflect the differences in the way in which the science is performed. The x-ray science is done at SSRL by small research groups of typically less than 10 scientists each, in experiments that

can accumulate their data in less than one or two days. Researchers analyze their data and it is typical that the first 'airing' of that data will be when it is submitted for publication to a prominent scientific journal.

SSRL provides for us all a very helpful interface to that publication stream by selecting and highlighting one of those publications each month (see Science Highlights at [http://www-ssrl.slac.stanford.edu/research/highlights\\_archive/](http://www-ssrl.slac.stanford.edu/research/highlights_archive/), and for more general information see User & Staff Publications at <http://www-ssrl.slac.stanford.edu/pubs/>). Thus we see that the large body of publications coming from SSRL is built up from a very large number of individual experimental setups, most of which involve distinct groups of researchers.

In stark contrast, the HEP experiments at SLAC are far fewer in number but typically involve hundreds of collaborators, and the process for getting data to publication is very different from x-ray science. Data taking can last anywhere from a few months to upwards of ten years. Examples of such experiments are BABAR and E-158. Analysis and internal review of the data prior to public release is clearly a complicated process, which in the case of BABAR involves over 500 physicists from 10 nations. With each year of additional data taking, the process of updating previous results must be confronted.

These large experiments should properly be thought of as facilities, data engines capable of providing scientific results in a very wide range of topics. Thus the body of HEP publications is built up from a copious number of distinct analyses coming from a small number of very large collaborations.

It is also traditional in HEP to make some results available (often labeled preliminary) prior to the ultimate publication in a journal. This is driven by a calendar of well-established annual conferences and workshops that are viewed as an opportunity to showcase experimental data and, to a lesser extent, new theoretical ideas.

Integrity of the process is protected in large measure by having the conference results accompanied by publically-available support documentation,

conference papers and formal write-ups of talks. For instance, the most prominent of the many HEP conferences is held each summer and is alternatively called the Lepton-Photon Conference or the International Conference on HEP. The Lepton-Photon Conference was held at Fermilab this year and involved about 800 physicists. BABAR submitted about 30 new results to the conference. Several of the 'hottest' results were sent for journal publication prior to the conference, and most of the others will soon be submitted. (BABAR publications can be found at <http://www-public.slac.stanford.edu/babar/>, while E-158 are at <http://www.slac.stanford.edu/exp/e158/>.)

The advanced accelerator experiments done at SLAC, and parts of the particle-astrophysics program, resemble a collaboration size and data taking pattern more like the x-ray experiments, although they often share data prior to final publication through the traditional HEP conference mode. GLAST, however, which will fly for 5 to 10 years, in most aspects conforms to the typical HEP facility mode.

I will share our publications record with you as it is updated annually, in full expectation that the success and growth of research at SLAC—which this record so clearly indicates—will continue for many years to come.



Photo by Diana Rogers

## SULI

(continued from page 1)

"The experience changes student's lives," said Program Manager Helen Quinn (THP). "At the start they feel their projects are impossibly complicated and difficult. Almost all of them achieve more than they thought possible. The confidence that gives them about their capabilities to tackle further challenges is the most valuable thing they take from here."

"The lecture series is quite intellectually stimulating," said Program Director Roberto Vega (THP). "We had an outstanding lecture from [Stanford cosmologist] Andrei Linde. For two hours the students were just mesmerized by inflation theory in cosmology and bubble universes." In addition, a lecture by Research Director Persis Drell on her life in physics put a human face on an otherwise intimidating arena, according to Vega.

For more information on the SULI program, see: <http://www.slac.stanford.edu/gen/edu/undergraduate.html>

## BSD Picnic a Poi-fect Event

By Ruth Thomas

The BSD Annual Picnic was held on Friday, August 22 at the Sector 6 picnic area. The picnic was a great success this year with a luau theme and lots of Hawaiian style food and entertainment. There were Tahitian/Hawaiian dancers and singers. The coloring and hula hoop contests added to the fun for the staff who attended. A good time was had by all!



Photo by Diana Rogers

Leilani Tatsuno (Stanford U) demonstrates hula dancing

## Science Buddies

Want to 'give back to society' in a meaningful way without costing you a penny?

Volunteer as a Science Buddies online Advisor and role model for science students.

Find out more at a brown bag presentation:

**September 16, noon  
Sierra Room (Bldg. 40)**

## Gate House

(continued from page 1)

Another important change is the greatly improved visibility, close to 360 degrees. "The tinted windows and nicer lighting make it a much more pleasant work space," said Yeager. "The Security Officers really like it." The efficient new climate control system is another welcome addition.

## Tours

(continued from page 1)

B Factory staff tours accomplished more than just bringing staff closer to the science that steers day-to-day laboratory operations. The tours also provided a way for employees to feel their voices being heard. Tours were encouraged through a submission to the Suggestion Program, which was restarted in 2001.

"I submitted my suggestion [to have tours for staff] in April," said Bonnie Rose (DO). "It was my vision that a Laboratory tour program would be designed for employees who

The builder was former SLAC employee Brian Harris' company—Harris Construction—who won the competitive bid. They "did an absolutely wonderful job," said Yeager, adding with a smile, "We've had a couple of people stop and order hamburgers and french fries."

For more information on Safeguards and Security, see: <https://www-inter.nal.slac.stanford.edu/ssec/Security/Gates.html>

could take a group tour with their co-workers and supervisors." Four months later, Rose's vision became reality.

"Now all employees have a chance to speak up and know that their suggestions will be taken seriously," said Rose. "I began working for SLAC in 1991 and was very anxious to go on the SLAC tour. What an eye opening experience—to see experiments in the works."

If you missed the BABAR staff tours, contact the Public Affairs Office (Ext. 2204, [pao@slac.stanford.edu](mailto:pao@slac.stanford.edu)) about joining an employee orientation tour of SLAC.



Photo by Diana Rogers

SLAC staff on a tour of the B Factory. Shown left to right: Joseph Kenny (ESH), Daniel Harrington (SSRL), Raphael Meyer (TD), Bonnie Rose (DO), Tiefeng Qiang (TD), Kathryn McMillen (KLY), John VanPelt (KLY), Alex Maxson (MFD), Karl Amrhein (SCS), Adam Edwards (BABAR), Michael Sullivan (TD), Roslind Pennacchi (DO)

## Big Truths about Small Appliances: Preventing Electrical Fires in Your Office

By Robert Reek

During a recent site walk through, several potential fire hazards from the unsafe use of small electrical appliances were identified and corrected. The appliances were either removed or relocated to appropriate places. If you have a hot plate or other small appliance in your office, it could be a fire hazard.

### Know Fire Facts First

Most electrical fires result from faulty electrical outlets and old wiring. According to the Federal Emergency Management Agency, faulty wiring accounts for 33 percent of residential electrical fires.

In addition, many electrical fires can be blamed on the misuse of electric cords, overloaded circuits or poor maintenance. Running cords under rugs or in high traffic areas can also create dangerous situations.

Unfortunately, the devices we use most often—electric (toaster) ovens, coffee makers, space heaters, radios and CD players—are frequently involved in electrical fires. Many of us have these items in our personal work areas.

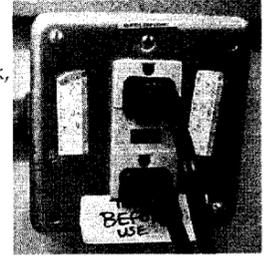
### How to Prevent Electrical Fires

When buying electrical appliances, ensure that they meet standards for safety from a recognized listing agency like Underwriters Laboratory (UL). The UL seal should be on your appliances and/or their cords.



Sample UL stamp of approval

To protect against electric shock, keep floors and counters around electric appliances dry and ensure that electrical



A GFI outlet

outlets in bathroom and kitchen areas are protected with a Ground Fault Interrupter (GFI) device.

Replace light switches that are hot to the touch and replace lights that flicker. Install outlet caps, making electrical outlets 'child-proof.'

### Can I Keep My Coffee Pot and Hot Plate?

Most SLAC buildings have specific areas for food preparation. According to ES&H Manual Chapter 12 on Fire Safety (<http://www.slac.stanford.edu/esh/eshmanual/ESI1ch12.pdf>), portable electrical appliances must be located in areas that minimize fire hazards. Portable cooking appliances, such as toaster ovens and hot plates, are prohibited in individual offices.

If you must have that cup of Joe in your own office, make sure your coffee maker is connected to an approved outlet, that the outlet and coffee maker are in good repair and located away from combustible items, and that the coffee maker is unplugged when you are not using it.

### Need More Information?

If you have questions, please call SLAC Fire Marshal Robert Reek (Ext. 4509, [robertr@slac.stanford.edu](mailto:robertr@slac.stanford.edu)).

(Photos by Robert Reek)

## DOE Rating

(continued from page 1)

For FY03, our key outcome goals are to:

- Anticipate, identify, evaluate and control personnel hazards.
- Perform work in a manner that does not present a threat of harm to the public or the environment, and also to identify, control and respond to environmental hazards.
- Demonstrate sound stewardship of our site through safe and effective hazardous and radioactive waste minimization and management, and through restoration of the site where degradation has occurred.

Our process measures were recently updated to account for the January ladder accident at SSRL (TIP, August 18, 2003). They focus on ensuring greater responsibility and accountability for safety, developing and implementing processes for work planning and control, and assessing our performance in implementing the Lab's Integrated Safety Management Systems (ISMS).

The complete list of performance measures for FY03 is on the Web at: <http://www.slac.stanford.edu/esh/isms/perfmeas/FY03OutPM051203.pdf>

### How You Can Help

You help achieve SLAC worker safety and environmental protection outcome goals when you:

- Maintain controls on personnel exposures to chemical, physical and biological hazards. This may require monitoring your workplace with help from industrial hygienists in the ES&H Division.
- Strive to avoid accidents and injuries and help injured employees recover and return to work. Help from our industrial safety engineers is available to you for workplace hazard assessments. For some staff members, help includes participation in the Behavior-Based Safety Program.
- Minimize personnel exposures to ionizing radiation. The Radiation Health Physics staff can assist you through workplace surveys.
- Control radioactive material you possess. Coordinate this control with help from the Radiation Health Physics staff.
- Maintain a fire protection program. The Fire Department or Fire Marshall are available to help you.
- Control your use of hazardous materials to prevent environmental releases. Get help from the waste minimization/pollution prevention

and other environmental engineers.

- Manage hazardous waste in a safe and effective manner. Coordinate with the Waste Management department staff.

Individuals and supervisors help achieve SLAC worker safety and environmental protection process goals by:

- Enhancing ISMS line management responsibility for ES&H performance. To promote this goal, SLAC senior management is developing high-level ES&H performance goals.
- Ensuring that employees' work is evaluated on how well they include effective measures for safety and environmental protection. The new performance evaluation form used during the recent cycle (reporting year ending 3/31/03) was designed to make it easy to evaluate performance related to safety and environmental protection.
- Assisting ES&H in accomplishing goals that are represented in performance metrics. For example, we measure how many supervisors complete Employee Training Assessments (ETAs) and how many employees complete their required ES&H training. These metrics will be used in assessing SLAC's ES&H performance in FY04.

### You Can Get Help Integrating Safety and Environmental Protection into Your Work

Contact information about ES&H subject matter experts, such as industrial safety engineers and health physicists, is on the resource list available at: <http://www.slac.stanford.edu/esh/resource.pdf>

Your Divisional ES&H Coordinator can also help you identify the most appropriate ES&H expert to consult about your workplace safety issue. For the list of ES&H Coordinators, see: <http://www.slac.stanford.edu/esh/reference/safeco.html>

For details about the SLAC ISMS program, including the Safety Management System document, see: <http://www.slac.stanford.edu/esh/isms/>

Achieving our ES&H goals is an integral part of achieving our scientific goals, so make environment, safety and health a top priority in your work.

For more information on environmental, health and safety at SLAC, see: <http://www.slac.stanford.edu/esh/>

## POLICIES AND PROCEDURES

### Training and Tuition Reimbursement Programs

As you all know, the University is engaged in a variety of cost reduction measures. A couple of years ago during more robust economic times, the Staff Training Assistance Program (STAP) funds were increased from \$800 to \$1200 per fiscal year for each employee. In light of its current financial situation, the University has decided to go back to the \$800 per fiscal year funding level beginning September 1, 2003.

The STAP program provides financial assistance for job-related training and career development purposes. This covers costs of tuition, registration fees and required textbooks related to an identified and planned training objective for career development.

Services paid for with STAP funds need to be completed, and invoices must be submitted to the Training and Organization Development Department prior to August 31, 2003.

Otherwise the new maximum of \$800 will apply. This also applies to the purchase of required text books.

We also want to take this opportunity to clarify our current policy on the SLAC tuition assistance program. This program allows SLAC to pay up to 90% of an employee's tuition costs that exceed those paid for by the University's educational assistance programs.

For example, the University's STRP program pays up to \$5250 per fiscal year for tuition costs and, when applicable, the STAP program pays up to \$800 of tuition costs. If these University programs do not cover the full cost of the employee's tuition, SLAC will pay up to 90% of what the tuition cost would be for a comparable degree program at one of the California state universities.

Contact: Erin Smith, Ext. 2265 or Carmella Huser, Ext. 2358. ●

## E-Mail Abuse—Protecting SLAC Against Viruses

The recent SoBig e-mail worm has affected us all. It is upsetting and time-consuming to be bombarded with so many messages.

This is a good time to share just what SLAC Computing Services (SCS) can do to shield you from e-mail abuse (SPAM and virus) on the Internet.

### SPAM

SCS introduced new software in May 2003, which scans each incoming e-mail and gives each a rating (percentage) based on the software's assumption of the e-mail being SPAM. More information on our SPAM tagging software is available at: <http://www2.slac.stanford.edu/comp/messaging/puremessage.htm>

This software has been very useful for many at SLAC. However, it is not perfect and some valid e-mail has been marked as SPAM. Therefore, we ask e-mail users to create a rule to automatically redirect the tagged e-mail into another folder instead of automatically deleting it. SCS does not delete any e-mail. E-mails are tagged so you can more easily identify any SPAM. After reviewing, you can delete all unwanted e-mails.

### Viruses

E-mails that might contain a worm or virus attachment are actually easier to deal with. We only need to prevent the dangerous attachment from getting into your e-mail. We have been very successful in protecting SLAC by stripping executables from e-mails for the past several years. More information can be found at: <http://www.slac.stanford.edu/comp/net/email/slaonly/filestripping.htm>

Our mail servers replace the suspicious attachment with an informative text file. Some viruses can start spreading before the anti-virus vendors can get their updates to the public. This was exactly the case with the SoBig worm that SLAC started receiving very early on August 19. The anti-virus companies did not have their updates out to us until several hours later. Again, we are not deleting e-mails. We are stripping executable attachments as well as attachments with macros before delivery.

### The Latest Difficulty

Recently, the most difficult side effect of both SPAM and virus e-mails has been that e-mails are being sent with forged 'From:' addresses. This has resulted in receiving confusing bounce messages about e-mail you never really sent!

More than half of the e-mails SLAC users have seen with respect to the SoBig worm are the bounces, not the e-mails that had the virus to begin with. There is nothing we can do about these, as they don't fall into either the SPAM or virus attachment categories.

Unfortunately this is a fact of life now. If you have an e-mail address, sooner or later you are going to experience everything mentioned above.

Rest assured we are doing everything possible to protect SLAC computers so everyone can continue working with as few interruptions as possible.

Contact: Teresa Downey, SCS, Ext. 2903, [teresa.downey@slac.stanford.edu](mailto:teresa.downey@slac.stanford.edu) ●

## Backpack Drive Sets New Record

By Erin Smith

This year, SLAC set a new record in our annual Back-to-School Backpack Drive! We collected 33 backpacks, compared to just 12 last year, and five the year before. Each of these backpacks will help a local underprivileged student go back to school with the tools needed to succeed.

The backpack drive is a partnership between The Family Giving Tree and Resource Area for Teachers ([www.raft.org](http://www.raft.org)). My personal thanks to everyone who made this year's drive a success! ●



Photo by Erin Smith

Donated backpacks await their new students

## Upcoming Events

### Sept. 5 - 6

SLAC, ROB Bldg, Redwood Room,  
SLAC MEETING  
Persis Drell/Lowell Klaisner, SLAC  
GLAST International Finance  
Committee Meeting

### Sept. 8 - 11

SLAC, Panofsky Auditorium  
SLAC PHYSICS MEETING  
Richard Mount/Arla LeCount, SLAC  
Statistical Problems in Particle  
Physics, Astrophysics and Cosmology  
<http://www-conf.slac.stanford.edu/physstat2003/>

### Tues., Sept. 16, 8:00 a.m.

SLAC, ROB Bldg, Redwood Rooms  
SSRL SCIENTIFIC SEMINAR  
Cathy Knotts, Coordinator  
SSRL Structural Molecular Biology  
Summer School

### Tues., Sept. 16, Noon

SLAC, Auditorium  
SLAC MEDICAL DEPT/HEALTH  
AND WELLNESS LECTURE  
Dr. Marincovici, ImmuneTech  
"My Allergy Test"

### Wed., Sept. 17, 4:15 p.m.

SLAC, Orange Room  
(Refreshments 4:00)  
SLAC ASTROPHYSICS SEMINAR  
Kin-Wang Ng, Academie Sinica,  
Taipei  
"Decaying Superheavy Dark Matter  
and Subgalactic Structure of the  
Universe"

### Wed., Sept. 24, 8:00 a.m. - 3:00 pm

SLAC, Panofsky Aud Lobby  
SLAC/STANFORD BLOOD DRIVE  
Linda Ahlf, SLAC  
Call x2354 for appointment  
Drop-ins Welcome!  
<http://www-group.slac.stanford.edu/hr/d/Blooddrive.html>

### Wed., Oct. 1, 4:15 p.m.

SLAC, Orange Room  
(Refreshments 4:00)  
SLAC ASTROPHYSICS SEMINAR  
Doron Chelouche, Tel-Aviv U  
"Quasar Winds and Ghosts"

Please send additions to:  
[seminars@slac.stanford.edu](mailto:seminars@slac.stanford.edu)

For complete event listings, see:  
<http://www.slac.stanford.edu/grp/pao/seminar.html>

## MILESTONES

### Service Awards

#### 5 Years

Roodman, Aaron (EC), 9/1  
Weaver, Steven (ESRD), 9/1  
Larsen, Alberta (NLC), 9/9

#### 10 Years

Racine, Michael (EFD), 9/1

#### 15 Years

Kharakh, David (ACC), 9/1  
Smith, Stephen (ESD), 9/1  
Rogers, Michael (MET), 9/1  
Beebe, Scott (KLY), 9/1  
Dixon, Lance (THP), 9/1

#### 20 Years

Cassell, Ronald (SLD), 9/1

#### 25 Years

Deporcel, Lilian (EA), 9/1  
Young, Charles (EA), 9/1  
Minich, James (PUR), 9/13

#### 30 Years

Field, R. Clive (EB), 9/1

#### Retired

Campo, Araceli (SEM), 8/16

To submit a Milestone, see:  
<http://www.slac.stanford.edu/pubs/tip/milestoneindex.html>

See Awards and Honors at: <http://www.slac.stanford.edu/slac/award/>

## The Interaction Point

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