

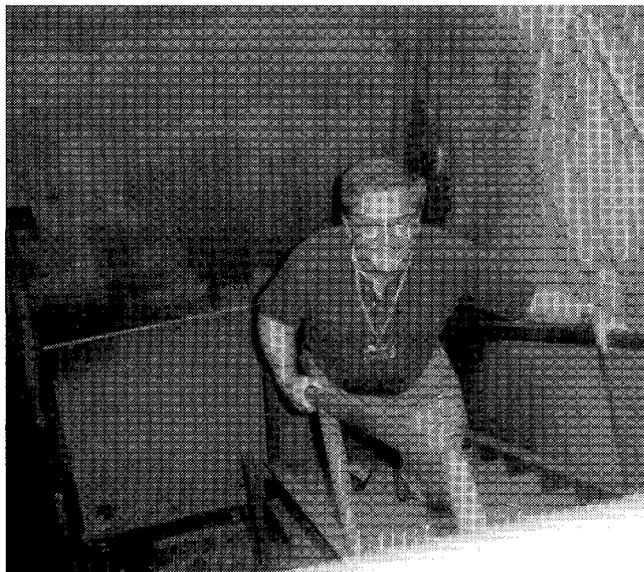
SLAC is operated by Stanford University for the Department of Energy

RAIDERS of the LOST ARC

PICTURE LOWELL KLAISNER AS Indiana Jones. Bullwhip over the shoulder, hat at a jaunty angle, flaming torch held high as he peers into the abyss. "Eureka!" shouts California Klaisner (pictured right). "I've found the lost tunnel!"

Or words to that effect. Klaisner has in fact found a tunnel at SLAC that appears to have been hidden for 30 years. Even Greg Loew didn't know about it, and Greg knows everything. "Well, almost everything," says Loew modestly. Leo Giannini didn't know about it, and he's been here 23 years. Finally, the man who knew it all was Karl Brown, who referred Klaisner to Roger Miller and Bill Herrmannsfeldt. Bill had designed an injector for this tunnel in the beginning. He went as far as the detailed design of the bending magnets before the idea was dropped for lack of funds.

The adventure started when Klaisner was assigned to be Project Engineer for the new Linac Coherent Light Source (LCLS), an x-ray free electron laser (FEL) that will use the last one-third of the linac. Klaisner's idea was that we should dig a trench alongside the gallery for the off-axis injector. In order to find out what he might encounter if he started trenching, he looked up drawings for the Linac from 1966, and there it was! Historians are often amazed at the wisdom of



(Photos: P.A. Moore)

the founding fathers of the Constitution, in that the document has lasted for two hundred years. Engineers feel the same way about the linac designers. "The original linac designers wisely put in off-axis injector tunnels at the one-third and two-thirds points along the linac. Of course, they probably didn't have the FEL in mind, but it was still a smart move," says Klaisner.

The importance of this discovery is operational, according to Klaisner. "We need to do R&D on the injector for the LCLS and this tunnel allows us to do this work while others are using the linac." The injector needs to be able to create and transport a low emittance beam for the LCLS. Jym Clendenin, who is in charge of

(continued on Page 3, Column 1)

Smoking Sewers

COMING SOON TO A sewer near you! While Floridians say they have crocodiles in their sewers, SLAC might have smoking dragons. At least, it will seem that way come summer, when smoke will be used to detect sources of (ahem) undesirable inflow. These undesirables come from areas such as drains, storm drain cross-connections and roof downspouts. The Environmental Protection (EP) Group is evaluating the condition of the sanitary sewer system at SLAC using smoke testing. Areas to be tested are the campus area, the Research Yard and IR-12.

Lots of people are involved in this project: Building Managers, Facilities staff and the SLAC Fire Department. You probably didn't know that smoke testing is routinely performed for local sewer agencies and has also been conducted recently at Lawrence

Livermore National Laboratory. A contractor will perform the smoke testing by blowing a high volume of very low-pressure non-toxic smoke into sewer manholes. Observation of the emergence of smoke will determine inflow sources. (Volunteers for smoke observations are no doubt lining up as we speak.)

A specially manufactured non-toxic smoke is used in these tests. It leaves minimal residuals, no stains and is harmless to humans, animals, furniture and food. Smoke does not enter a building unless the plumbing is faulty. Where there is adequate ventilation, visibility and odor last only a few minutes.

Notices will be posted on the affected buildings one week prior to and on the day of the work. Questions can be addressed to Genevieve Fire at x3458.

—G. Fire

Juneteenth Celebration

MARK YOUR CALEN-DARS, BRING an appetite, and get ready to have fun. This year's Juneteenth promises to be a very important event for the SLAC community. The Black Association of SLAC Employees (BASE) is putting on a special show this year, with the theme "Beyond the Dream." There will be the usual fabulous food, a barbecue with ribs, chicken and hot links, with all the trimmings. Our own Jamie Davis and Friends will perform their cool jazz.

The date for Juneteenth is Wednesday, June 16, at the Cafeteria Picnic Area, from 3 pm to 6 pm. For tickets and other information, contact Glenna Stewart at x2838; other contact names are forthcoming in a flyer. A ticket is necessary in order to have that great barbecue meal, and to be eligible for the drawing. Tickets must be obtained before June 8. There will be no tickets distributed after that date and no tickets available at the event, so plan ahead and don't miss out on what promises to be one of the biggest and best Juneteenth celebrations ever.



SLAC's International Phone Call Usage

SCIENCE IS TRULY AN international adventure and SLAC has the phone bills to prove it. Folks at SLAC place about 1800 international calls a month from about 150 phone extensions to about 40 different countries, reports Les Cottrell, wearing his telecommunications hat. "The most popular countries are Italy, United Kingdom and France, followed by Germany, Japan and Switzerland, reflecting the countries of our major collaborators," he says.

What most people probably don't know is that to place an international call, a phone must be both enabled by telecommunications and authorized by the group/department leader. As experiments change and job responsibilities shift, some phones may need to be enabled and others disabled. Your department's phone ATOM will have the details as to which phones and which people have international calling privileges.

Using the phone for an international call can certainly be cost effective if it reduces the need to travel. Like all DOE facilities, SLAC is working hard to control travel costs, especially at a time when airfares are increasing.

In line with common commercial practices, SLAC tracks phone usage. Generally, we encourage persons to use a personal calling card or a pay phone for personal calls made from SLAC. If you wish to reference SLAC's policy on personal calls, see the SLAC Telephone User's Guide (<http://www2.slac.stanford.edu/comp/telecom/phone/phoneuserguide/TableOfContents.htm>).

—Les Cottrell

TECH PUBS RELOCATION NOTICE

The Technical Publications Group moved to the second floor in the Central Lab, next to the Library, effective May 17, 1999.

Raiders of the Lost Tunnel (continued)



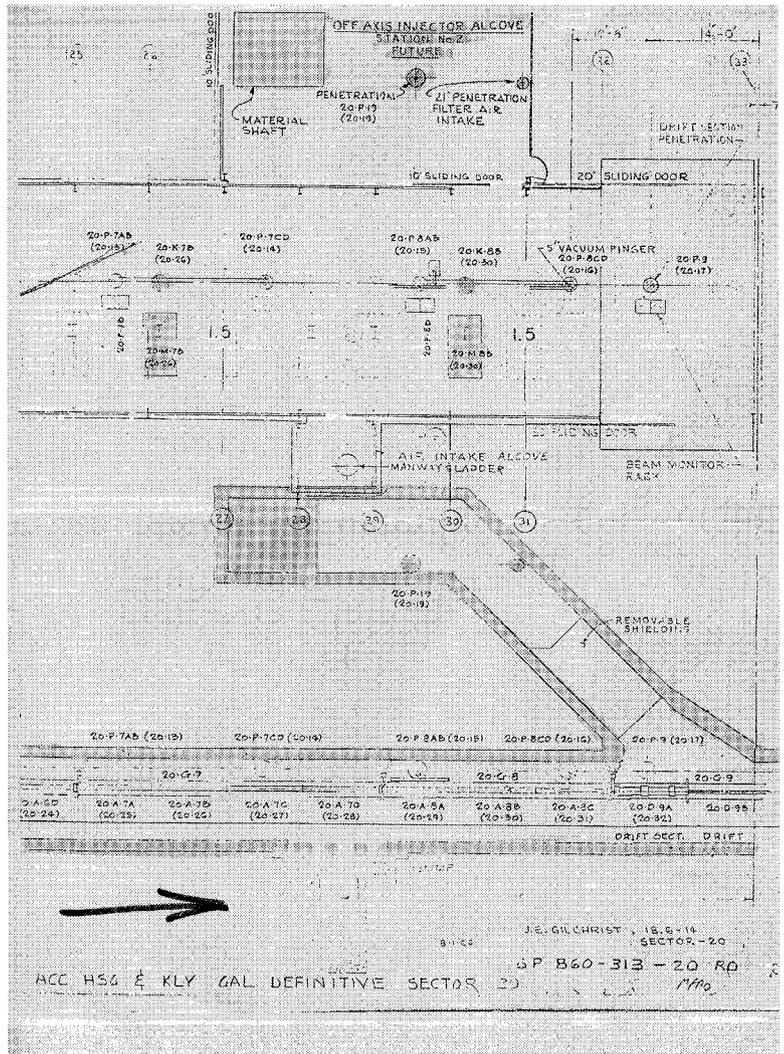
Mike Strittmatter, Plant Engineering, always wondered about that trap door.

the injector, says that "If the Genie who grants three wishes were real, I'd ask for, one: an off-axis injector vault at Sector 20, two: a larger vault, and three: a fully equipped vault. One out of three ain't bad."

Sitting above the entry into the access tunnel is the Plant Engineering instrument shop. Folks there have worked around the vents and manhole covers and the doorway for years without realizing what they were. "It looked interesting, but we weren't sure what was there," says Mike Strittmatter, who has worked in that shop for 11 years. Once Klaisner found the entryway, Burl Skaggs and Frank Brenkus lifted the creaky door while Klaisner peered down thirty feet. "It's amazingly clean," says Klaisner, "no snakes or bats, just a few cobwebs." Bill Myers arranged to rig the hatch open, turn on the ventilation fan and find the original hand rails.

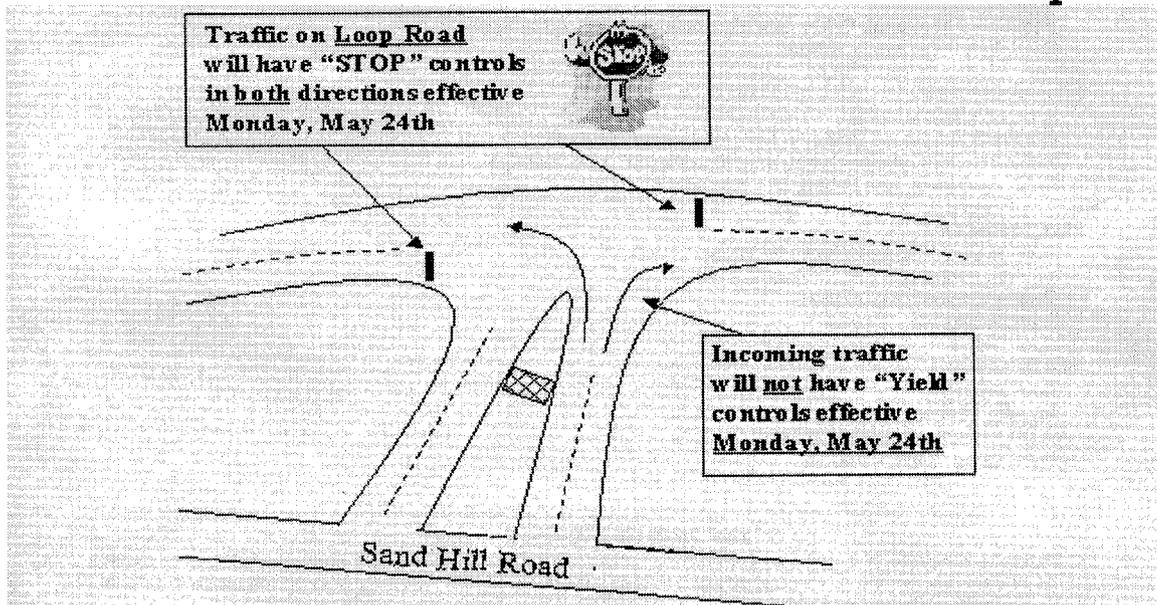
The next step was to assess its radiation level, and Jim Allan from OHP was called in. "It tested clean," says Allan, "so we went exploring and found that 15 feet of shielding was working really well." "The drawing calls this tunnel the Off Access Injector - Station No. 2 -future," says Klaisner. Grinning with delight, Klaisner says "The future is now!"

-P.A. Moore and Lowell Klaisner



The lost tunnel, which comes off the accelerator (bottom of drawing above), is located at Sector 20. The above drawing depicts the view of the linac with the dark arrow pointing west.

New Main Gate Traffic Control Map



DOE Awards SLAC for Efforts in Pollution Prevention

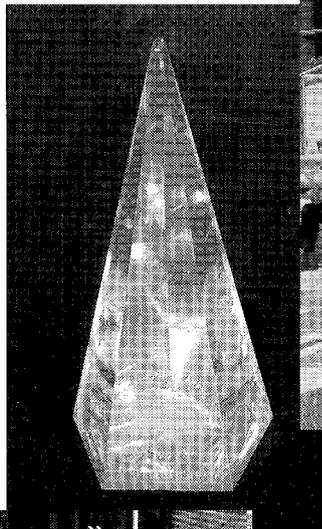
CONGRATULATIONS TO ALI FARVID and Sandy Pierson, winners of DOE/OAK Pollution Prevention Awards. Dr. James Turner, Manager of the DOE Oakland Operations Office, presented the awards on the April 22nd Earth Day celebration at Oakland City Hall Plaza. Winners were selected from nominations for individual or group efforts in pollution prevention as evidenced by continuous improvement, implementation of changes in facility operations or procedures, and the ongoing search for new opportunities. Awards were presented to people from LBNL and LLNL, as well as SLAC. The awards are prisms that were made by LBNL from recycled, leaded shield glass.

Ali Farvid, Plating Shop Supervisor (MFD) accepted the award for his group to reduce hazardous waste generation in SLAC Metal Finishing operations. Some of the waste reduction achievements accomplished by Farvid and his staff included extending the useful life of plating baths, reducing rinse water, reducing hazardous waste in wastewater treatment operations, and reducing solvent usage in cleaning of ultrahigh vacuum systems. Farvid has also been a leader in the promotion of good environmental stewardship by training his staff and encouraging them to use pollution prevention practices in their everyday work.

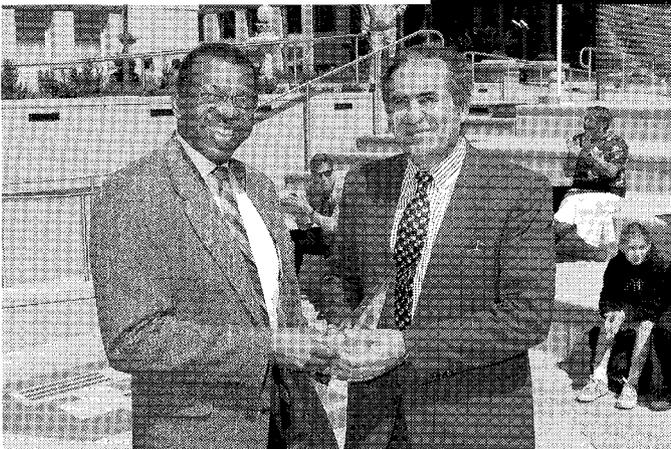
Sandy Pierson, Research Division Staff Safety Specialist, accepted the award for the Plant Engineering team members who helped reuse approximately 1000 tons of concrete blocks. Pierson was instrumental in investigating a number of reuse options for the 200 non-radioactive concrete blocks that were once used to support magnets in the earlier Positron-Electron Project (PEP). The blocks were reused in various on- and off-site projects. He has helped the PEP-II project meet pollution prevention objectives by exercising best management practices in storm water pollution prevention and by promoting alternative cleaning measures to prevent ambient air and surface water pollution.

—Rich Cellemare

(Photos courtesy of LBNL)

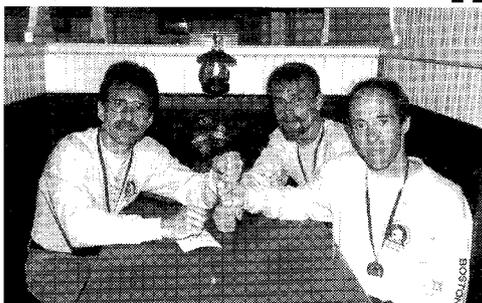


James Turner, DOE Oakland Operations Manager, and Sandy Pierson, SLAC Research Division.



James Turner, DOE Oakland Operations Manager, and Ali Farvid, SLAC Mechanical Fabrication Department.

Marathon Mania Hits SLAC



Pictured (l-r): Michael Disalvo, Bob Traller, and Jim Allan.

YOU'VE GOT TO BE a runner to know the lure of a marathon. Three SLACers felt that call and on April 19, Jim Allan (OHP), Michael Disalvo (PCD) and Bob Traller (Controls

Dept.) participated in the 103rd running of the Boston Marathon. For Jim Allan it was his first Boston. For Jim's running partners Michael and Bob, accompanying Jim was all the reason they needed to qualify for this year's race.

Perhaps the world's most famous marathon, Boston is the only one that requires a minimum qualifying time for entrants. Jim qualified at the Los Angeles Marathon in March 1998 and Michael immediately reserved rooms for all three in Boston. For Michael, who has run four Boston marathons, qualifying again was no problem. He chose the St. George Marathon in Utah as his qualifying race. Bob qualified just once before and ran the centennial Boston in '96. For Bob qualifying was not so easy. He accomplished his qualifying time at Sacramento's California International Marathon in December.

The Boston Marathon is unique in many ways. The race is run at noon on Patriot's Day, which is a holiday in Massachusetts and Maine commemorating the battles of Lexington and Concord. The entire 26 miles, 385

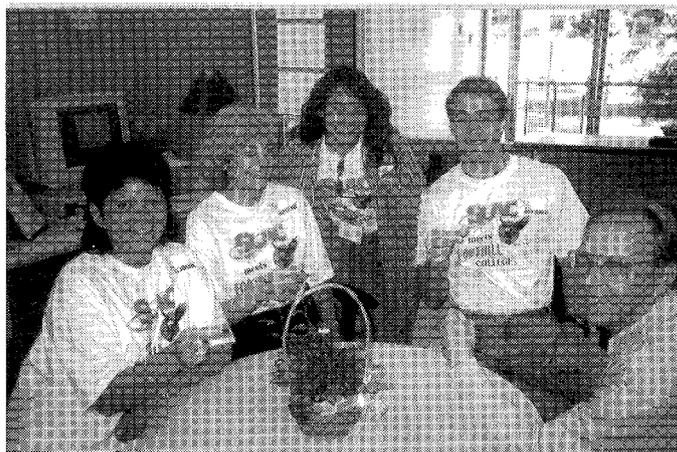
yards of the course, is lined with spectators on both sides cheering the runners and offering them water and fresh orange slices. Near the end of the race the cheers of the crowd are so intense that runners tempted to walk are carried along by the crowd's energy. A veteran of thirteen marathons, Jim said, "There is nothing like Boston. It is great. I'm really glad I went." As a billboard along the route put it: "It's Boston or it's just a qualifier." How'd our guys do? "Well, I beat Bill Rogers," said Bob. The three SLACers met four-time Boston winner Bill Rogers. Bill was trying to set a Boston record for fifty-year-olds, but was overcome by heat and dehydration and had to quit. The heat got to many, including last year's winner Moses Tanui of Kenya.

Mike, Jim and Bob started running together more than five years ago when they formed a team called the Rockets for a relay race around Lake Tahoe. Retired SLAC engineer Jean-Louis Pellegrin was an original member of the Rockets, and also ran Boston this year. The Rockets will be doing the Tahoe relay for the sixth time in June.

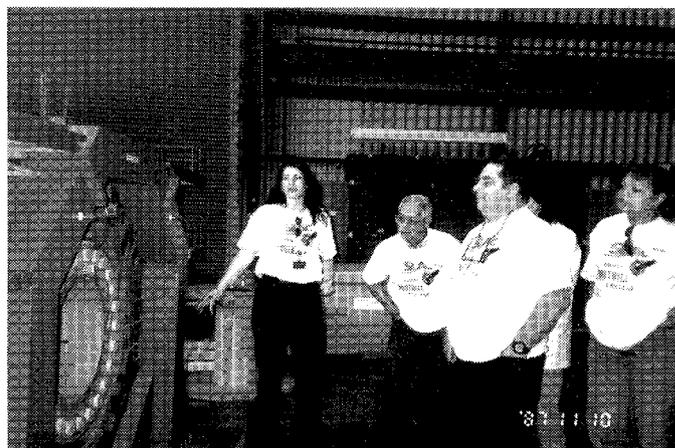
The marathon seems to be gaining in popularity among athletes at SLAC. Michelle (Micki) DeCamara (EPR) ran her first marathon, The Avenue of the Giants Marathon in Humboldt in May, in spite of catching a cold just before the race. Darren Marsh (MFD) ran his debut marathon in April in Big Sur. Darren's 3:29 finish is a great time on a tough course. Robin Gray (PEP) also ran Big Sur. It was Robin's third marathon and his second Big Sur. Congratulations to these exceptional athletes from all of us here at SLAC.

-Bob Traller

Foothill College Teachers Visit SLAC

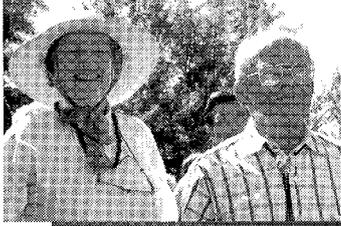


The group organizers decided to have a virtual toast to themselves (no airbrushing here!). (l-r) Ree Dufresne, Fran Kaufmann, June Sison, Kevin Rennert, and J.J. Russell.



In the Collider Hall, tour guide Robin Erbacher uses a model to discuss the structure of SLD with Foothill teachers Don Pon, Eric Stietzel, and Nicole Henley.

Panofsky Auditorium Dedication



Adele and Pief Panofsky beam with pleasure at the recent dedication of the W.K.H. Panofsky Auditorium.



Pief Panofsky enjoys reminiscing with SLAC retirees Bob Gould and Ken Copenhagen after the dedication ceremony.

INS Now Into Bar Codes

FOR SCIENTISTS (AND OTHERS) whose citizenship papers are being held up in the paper trail, hope is at hand. To promote faster, more efficient forms processing, the Immigration and Naturalization Service has developed an electronic version of the Application for Citizenship, which applicants may access on a personal computer via the Internet, sign, and mail to the appropriate INS Service Center.

At the INS a grocery store-type scanner reads the bar code. This method increases data accuracy, reduces processing times and results in better customer service. The INS California Service Center documented that data entry takes approximately 50 percent less time using a bar-coded form as compared to a non-bar-coded application.

More information and a software download is available (<http://www.ins.usdoj.gov/natz/n400p1.htm>).

—Ruth Thor Nelson

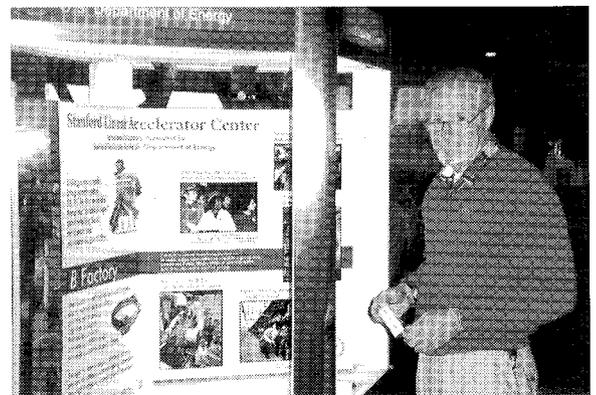
Risky Business

AS A SAFETY CLASS instructor recently reminded me, nothing is fully safe. You got up this morning and drove, rode your bike, walked, or commuted by public transit to work; this was an “acceptable risk.” The Operating Safety Committee (OSC), on the other hand, provides an opportunity for you to bring up concerns that present an “unacceptable risk” in your daily routines at SLAC. The ES&H Division teaches us how to recognize hazards and to control them. OSC provides a way for all of us to make learning an ongoing process, and to both encourage and benefit from inquiring minds.

Gene Holden of ES&H Training does a good job of telling new hires (and refreshing “old hire” memory) about the existence of OSC and its purpose. But supervisors and co-workers can play a role in emphasizing this committee and reminding new people they are fully represented (see members listed at <http://www.slac.stanford.edu/esh/slaonly/oscmem.html>). Contact your division reps, get acquainted, and “talk shop.” The secret to safety is awareness, communication, and the desire to improve a situation. Let’s work together not only to recognize, but also to minimize risks.

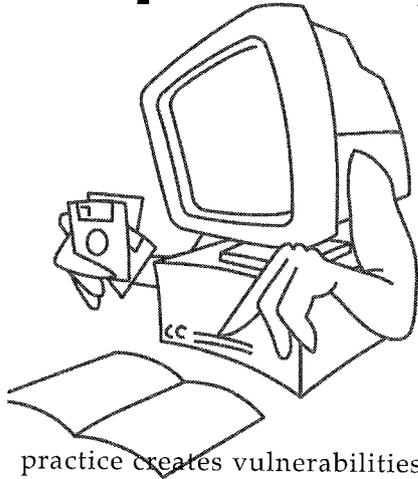
*—Janice Dabney
Chair, Operating Safety Committee*

SLAC Exhibit at Oakland Airport



If you are traveling to or from the Oakland Airport, stroll past Gate 3 in Terminal One. That's the location of a SLAC exhibit featuring the B Factory, GLAST, and SSRL. Shown above is the exhibit being installed by Edward Moore.

Computer Security Guidelines



WITH INCREASED CONCERNS ABOUT the security of computing systems, we must not forget the security of desktop machines. All too often, desktop machines never receive software upgrades after the operating system is initially installed. Unfortunately, this

practice creates vulnerabilities. Unscrupulous people quickly devise methods to exploit holes in the computer software.

Microsoft releases several security related software patches (hotfixes) each month and periodically combines these fixes with non-security related fixes into a Service Pack (SP). We are currently requiring Windows NT 4.0 servers at SLAC to have Service Pack 4 installed, and are asking the domain administrators to complete the installation of SP4 on all Windows NT 4.0 workstations by the end of June. All Service Packs prior to SP4 have serious, well-known security problems. The Service Pack installed on your machine is displayed at the top of the blue startup screen soon after you boot your computer. For more information about upgrading, contact your departmental desktop support (see <http://www2.slac.stanford.edu/comp/winnt/local-administrators.html>) or the SCS Help Desk (926-HELP).

Another common problem relating to workstation security is scanning and detection of malicious software distributed on floppy disk or email attachments. SLAC has a site license (covering both Windows and Macintosh platforms) for the InocuLAN virus scanning product. Workstations running InocuLAN automatically receive the files containing the latest virus signatures so new occurrences can be detected and neutralized—this has been extremely important during several recent widely-publicized virus outbreaks. Once again, departmental support personnel are on a schedule of getting InocuLAN installed on desktop workstations by the end of June. For the safety of your work, and the good of the Lab, please cooperate with your departmental computing support staff so we can significantly reduce the chance of workstations at SLAC being damaged by malicious software.

—Bob Cowles

Take Our Daughters To Work



Parents and their children go from the orientation to the various sessions arranged for the day.



Boys also attended the SLAC day. Here Rose Santana (MFD) and her son Mickey observe an operation in the vacuum assembly area.



Several of the girls are quite intrigued by the computer that controls the milling machine in the Light Fab Shop.



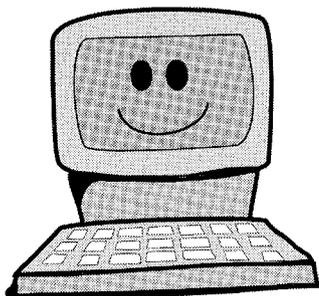
News from the
Web Information Manager
Ruth McDunn, mcdunn@slac

8th International World Wide Web Conference

During the week of May 10th, I attended the 8th International WWW Conference and Workshop, held in Toronto. SLAC and Stanford sponsored the 6th annual event, held in Santa Clara, in 1997. In addition to meeting and sharing experiences with web professionals from around the world, the workshops and presentations proved to be very instructive. The "Online Learning" workshop focused on the why, when, and how to provide online learning, either in addition to or as a replacement for traditional teaching methods. I also attended most of the W3C track, that is, presentations by members of the World Wide Web Consortium (www.w3.org). This group recommends standards that relate to a wide variety of web activities. Many of their activities will take some time to filter down to the browsers and tools we use. However, one recent recommendation we can use all is the Web Content Accessibility Guidelines (www.w3.org/WAI). These guidelines explain how to make your web content accessible to people with disabilities. These guidelines will also make your web pages more accessible to everybody, regardless of browser, platform, or screen size (consider the increasing use of personal digital assistants, such as PalmPilots, cell phones, and WebTV for internet access). I'll be making sure all the top level SLAC pages I manage conform to these guidelines.

-Ruth McDunn

Macintosh at SLAC



THERE ARE APPROXIMATELY 350 Macintoshes at SLAC. SCS has a small Macintosh support group that provides central Macintosh services, such as file services and email, and coordinates the support activities of the Apple Support Coordinators in

various departments at SLAC.

We will continue to support Macintoshes for the lifetime of existing machines. We expect the main focus of desktop support at SLAC will have to move to platforms with growing market success.

Users who are purchasing new systems are encouraged to discuss with the SCS Desktop Group whether they might wish to consider getting a Windows NT computer. Although users might require certain programs and functions where they continue to need Macintosh computers, often the functions are served well by either a Windows NT or a Macintosh system. In this case, the SCS Desktop Group would discuss with users, and with their department NT-Administrators or Apple Support Coordinators, whether they might want Windows NT computers and, in particular, would explain the computer support issues involved. (System administration for Windows NT computers is different than for a Macintosh, and this needs to be considered.)

Other relevant information can be found at Desktop Computing Support on the SCS web page.

SLAC Milestones

RETIRED

Miranda, Juan, PED, 5/10/99
Stiles, Don, Purchasing, 5/14/99
Bell, Robert, BaBar, 5/31/99
Byers, Bobbie, BaBar, 5/31/99
Coombes, Roger, BaBar, 5/31/99
Harris, Jack, Exp. Group C, 5/31/99

AWARDS

Spencer, Cherrill, The Judith Poole Award from the Association for Women in Science, 4/29/99
Burke, David, Distinguished Science Alumnus from Purdue University, 5/4/99

Do you have a milestone you would like published in TIP? Email tip@slac.stanford.edu to have it included.

Work Safe, Work Smart

Since the last update, two injuries involving days away from work have been reported. One incident occurred on 4/16/99 and the other incident on 5/3/99. There were 30 and 17 calendar days, respectively, since the previous date of injury on 3/17/99. SLAC's record number of days between claims involving days away from work remains at 150 days.