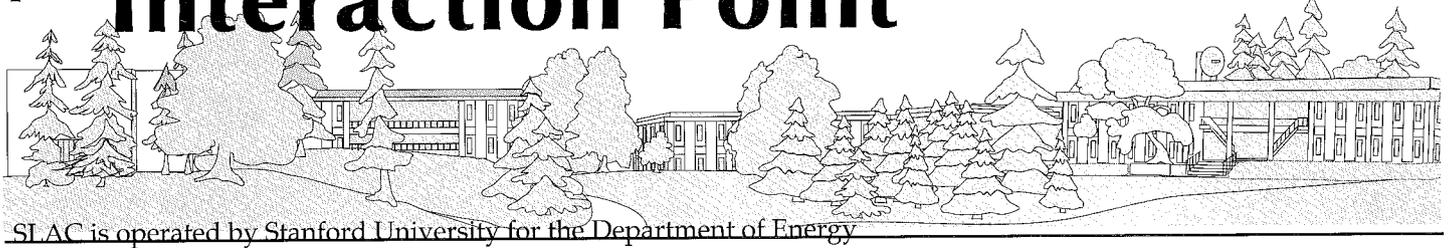


The Interaction Point

Events and Happenings
in the SLAC Community
August 2000, Vol. 11 No. 7



SLAC is operated by Stanford University for the Department of Energy

Long Term Planning Theme at Annual Users' Meeting

"WHAT ARE THE DRIVING questions in high-energy physics for the next 25 years? What are the tools that will answer those questions?" These and other questions were posed by Peter Rosen, Associate Director in the DOE's Office of Science, during the annual SLUO Meeting in July. Over 200 users came to SLAC from around the world for a discussion about the science and politics of high energy physics (HEP).

Speaking at the meeting, SLAC Director Jonathan Dorfan and Fermilab Director Michael Witherell expressed similar sentiments. Dorfan suggested that a different planning model is needed for the new challenges facing big science. "Previously we looked at a next generation machine and we endorsed that one facility. It would be much better for the field if we looked 20-30 years ahead and developed a roadmap for the future based on physics themes, not an emphasis on a machine," said Dorfan. He added that such a roadmap must be "world-based" since HEP is a global enterprise. "Scarce resources of money and people necessitate a more international collaboration. We cannot risk regionalism."

According to Witherell, "There are exciting new results ahead in CP violation, dark matter and neutrino mass, but I am concerned about the health of the field since our base funding is down." Witherell said that the HEP field needs to concentrate on the big physics questions of the future and what facilities are needed. A major problem continues to be that current facilities are not being used to their utmost because of budget constraints.



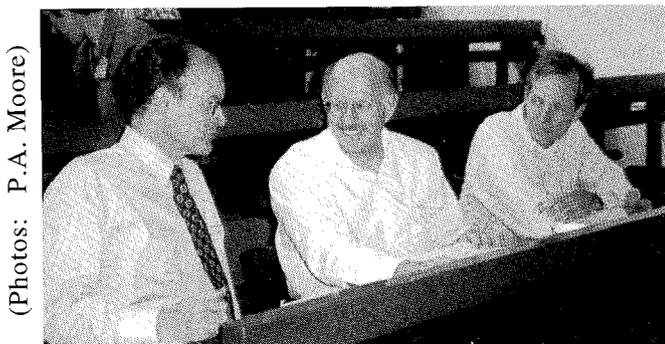
(l-r) Fred Gilman spoke about the White Paper process which is intended to provide an update to the HEPAP subpanel. SLUO Chairman Ray Frey showed transparencies from Fermilab's Chris Quigg, who was unable to attend the meeting.

According to Dorfan, the near future will see data from several machines that will test the veracity of the Standard Model, but he believes we have to be able to use those machines to a greater advantage. Among the machines are the B Factory at SLAC and the Tevatron at Fermilab.

Fred Gilman, chair of the High Energy Physics Advisory Panel (HEPAP), also spoke at the Users' Meeting on the "White Paper Process." He was charged by Peter Rosen with revising the 1998 HEPAP report to reflect the changes in the field. "The landscape has changed. PEP-II is in operation at SLAC and the Main Injector at Fermi is moving ahead. But we have had two very tight budget years below the constant level of funding, and that means we have to do a reassessment," said Gilman.

The White Paper will be a step along the way for the next HEPAP subpanel meeting in 2001 and will also provide input for the meeting at Snowmass in 2001. The report will cover the operations of facilities now in use, frontier facilities worldwide, and the next steps for each. While the paper will mention items from 1998, such as the next linear collider, a muon collider and storage ring, and a very large hadron collider, it will also expand to include new projects

(Continued on Page 3)



(Photos: P.A. Moore)

(l-r) Fermilab Director Michael Witherell, SLAC Director Jonathan Dorfan, and NLC project leader David Burke in conversation just before the meeting started.

Pilastro to Serve on State Committee

YOLANDA PILASTRO, WASTE MANAGEMENT Department, has been asked to serve on a state advisory committee as a representative from industry. The Department of Toxic Substance Control (DTSC) of California's Environmental Protection Agency is responsible for determining the feasibility of recycling certain hazardous waste. Currently a lot of waste is simply treated and buried in a landfill.

Recent legislation requires the DTSC to revise the list of recyclable hazardous waste. There is greater pressure to recycle wastes if it is economically and technologically feasible. Technical complexity and political interests will complicate any determination made by the DTSC.

Pilastro was selected as an industry representative due to her knowledge of the regulations governing the management of hazardous waste. She is well known to the DTSC members through her experience at SLAC.

Pilastro said that she is looking forward to her appointment. "It's an honor to me and to SLAC to be chosen. I'm pleased to be able to meet in person with many people whom I have only spoken to on the phone."



Due to the Director's heavy travel schedule, there is no Director's Corner this month.



Klaisner's FANTASY Ride

(Fabulous American Northern Tier Adventure in Summer of Year 2000)

AS PROMISED, HERE IS an update on Lowell Klaisner's progress on his cross country bike trek. The following are from postcards he has sent.

6/3/00 (Mt. Desert Island, Maine): We dipped our wheels in the Atlantic and started out on schedule. We have gone 15 miles, leaving less than 4000 to go. Weather is great.

6/8/00 (Fryeburg, Maine) We are on schedule (236 miles) and today is our first rest day. We haven't been rained on but our campsite was soaked night before last. This is beautiful country.....Major climb tomorrow!

6/13/00: We are on plan! We have gone 475 miles and are in the Adirondacks (NY). Other than a record black fly infestation we are OK.

6/15/00 (Great Lakes) 1000 miles! we're 1/4 of the way there.

6/30/00 (Ludington, Michigan) We have crossed Lake Michigan and are in the Central Time zone. We are 1/3 of the way there and still on our plan. I have lost about 10 lbs and 2 notches on my belt. I am feeling stronger every day.

7/7/00 (Mississippi River Barge) We are a week away from 1/2 way. We traveled mostly on bicycle trails in Wisconsin. Very scenic with rolling hills and then along the Mississippi. I am getting stronger and thinner. Both good!

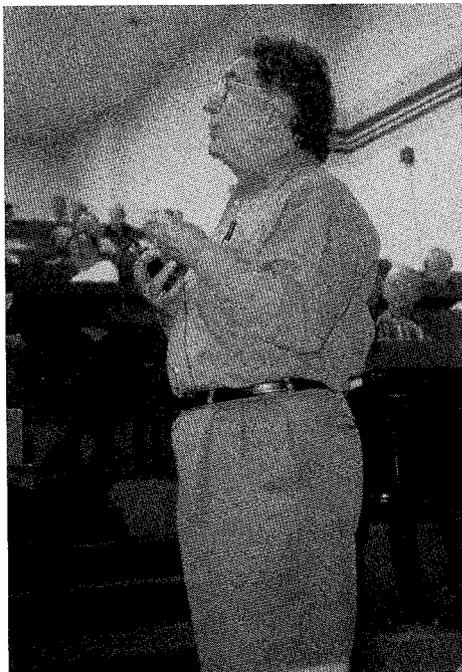
7/14/00 (Border of Fargo ND and Moorhead, MN) We are more than 1/2 way and about to enter North Dakota. My son Mark has taken over van driving duties. His two children are along. I feel great. All is well.

Ewing Retires from Petty Cash Office

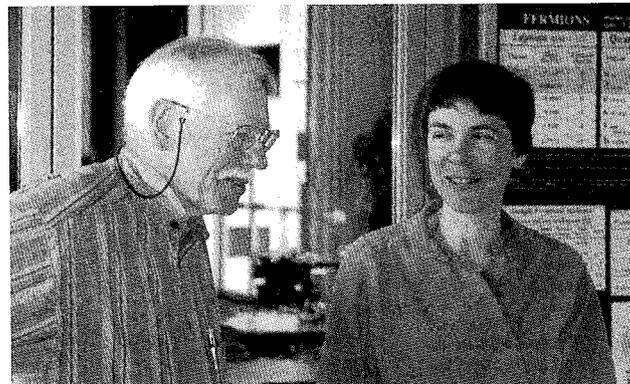


Pat Ewing (r) received a gift of a SLAC Beam Tree at her farewell party from Bob Strohecker (l). Ewing has been in the SLAC Budget Office for 20 years, most of that time as Petty Cash Custodian. "Pat is leaving a very big hole for us to fill, and it won't be easy," says Teri Peterson. "We will really miss her."

Annual Users' Meeting *(continued)*



Peter Rosen from the DOE Office of Science responded to questions from the audience.



Participants at the SLUO meeting included Perry Wilson and Kathleen Thompson.

that are being discussed and the international prospects for such projects.

Another major reason for updating the 1998 HEPAP subpanel report has to do with changes coming in the near future. With elections coming up this fall, the nation is facing a new administration in January. The fall is also an important time to have an impact on the 2002 budget cycle. "With competing fields like genomics and nanotechnology, we need a coherent argument for Congress for funding high-energy physics," said Rosen. He then expressed some of the arguments that should be delivered to Congress.

First, Rosen said that the study of matter focuses on the deepest level of understanding of the universe. In looking at the past 50 years, there have been major advances in science, technology and sociology that we can build on, and HEP is ready for other major advances in the near future. He concluded with the statement that physics has made major contributions to other fields of science, such as computers, cosmology and medical accelerators.

Physics talks at the Users' meeting covered a variety of subjects of interest for future projects. Eric Colby skimmed the surface of many exciting acceleration concepts: laser-driven, inverse radiative and negative resistivity, and took a little more time to

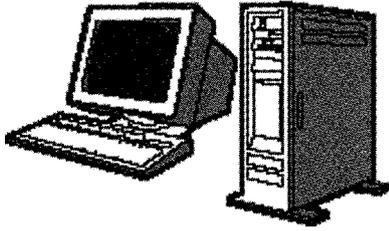
delve into plasma acceleration methods. "HEP has many ideas for accelerator-based projects, but there are certainly many challenges ahead in the next 10-20 years," said Colby. In comparing the relative merits of a linear collider with the large hadron collider, Colby came to this conclusion: "The LHC will slay the beast, and the linear collider will tell us what species it is."

The physics of a linear collider, a muon storage ring, and a very large hadron collider were subjects of talks by other scientists. At the end of the meeting, there were five-minute presentations from users, most of which supported the idea of an electron-based linear collider. Much more discussion is needed to reach consensus about the priorities for a long-term plan.

"Users are essential to the process and collaboration is crucial," said Dorfan. He added that the lessons learned from the past show that science has benefited from the combined strength of electron and proton machines. In the future, the Tevatron and the LHC are likely to benefit from a linear collider, and this synergy is an important reason for changing the paradigm from a short-term machine-based focus to a 20-30 year long term focus on the physics. "We're really looking forward to this planning process and the White Paper," said Dorfan. Addressing the younger scientists in the audience, Dorfan said, "We urge the young people here to contribute to this process. We need your input since it is your future that will be affected."

-P.A. Moore

Desktop Platform Support



IN ORDER TO OFFER a reasonable level of support to desktop users, it is necessary to clearly identify systems that are supported, systems where support is phasing down, and those practices to be avoided. This article includes a summary of the supported configurations for Windows and Unix systems, and the ways that users can get support and help.

Windows Systems

Windows NT 4 is fully supported. Windows 2000 is under evaluation. Other Windows operating systems are not supported.

Standard Hardware

Desktop System: Dell Optiplex, Dell Precision Workstation

Laptop System: Dell Latitude

DOE discounts are offered from Dell; purchase is streamlined through your local administrators and Teri Church at SCS. There is 3-year, on-site warranty repair. SCS will install your system for you on the above standard hardware. See the Windows NT web site <http://www2.slac.stanford.edu/comp/winnt/> for details.

Windows NT 4.0

SCS gives support to purchasing and maintaining the standard hardware and software, the installation, storage needs, backup, and the general infrastructure of Windows NT 4. There are over 1500 workstations at SLAC. See the Windows NT web site above for information on NT support at SLAC.

Standard Software

Many software packages are site-licensed, see the Windows NT web site for details. The following is the current list of software included with the standard SLAC installation.

NT4 - NT File System
Service Pack 5 - Netscape 4.73
TeraTerm Pro - Internet Explorer 4.01 SP2
WS_FTP95 - Office 2000 SR1, Outlook 2000
HyperSnap - InocuLAN anti-virus
GhostView - Aladdin Expander
Adobe Acrobat Reader

Windows 2000

This is under evaluation and testing in preparation for migration sometime next year. New laptops are currently being installed with Windows 2000, due to better hardware support. However, Windows 2000 is not recommended for wider use at SLAC since most software is not yet Windows 2000-compliant.

The Windows 2000 Working Group was mandated by the Computing Coordinating Committee and the Associate Directors Committee on Computing to coordinate the work on Windows 2000 at SLAC. See http://www-project.slac.stanford.edu/windows2000/windows2000_project.html.

Windows 2000 Workstation and Server have the potential for seriously disrupting the SLAC NT4 network. Therefore, those evaluating Windows 2000 must:

- ◆ Register all Windows 2000 operating systems on the SLAC network with the Windows 2000 Working Group. See http://www-project/windows2000/windows2000_request.htm.
- ◆ Follow the registration instructions to turn off disruptive services.
- ◆ Subscribe to the mailing list (windows2000-l@slac.stanford.edu).

Macintosh

Support for the Macintosh computer is phasing out, and we are in the process of migrating existing Macintosh users to Windows NT and UNIX desktop systems. Purchases of new Macintosh systems are strongly discouraged. Any such purchase needs signature approval from the Associate Director of the Division.

Requests to SCS for Macintosh services and troublecalls will be given lower priority than those for Windows NT and UNIX. Outsourcing is offered as an option for Macintosh support. Please fill out a troublecall request at <http://www2.slac.stanford.edu/comp/winnt/hw-repair.html>, or call the HelpDesk, x4357. Where it is necessary to use outsourcing for system administration of client Macintosh, SCS will continue to share this cost 50/50 with the departments until the end of fiscal year 2000. After this, the department will cover the full cost.

UNIX Systems

Unix systems running Solaris and Linux are fully supported. See <http://www.slac.stanford.edu/comp/unix> for information on Unix support at SLAC.

(Continued on Page 5)

Desktop Platform Support (continued)

Linux

Standard Hardware

Desktop System: Dell Optiplex, Dell Precision Workstation

Laptop System: Dell Latitude

DOE discounts are offered from Dell; purchase is streamlined through your local administrators and Teri Church at SCS. Dell will pre-install Linux on the standard hardware; please request this at the time of purchase. There is 3-year, on-site warranty repair. Installations are done by SCS for the standard hardware. See the web page at <http://www.slac.stanford.edu/comp/hardware/hw-recommend.htm> for details.

Standard Software

Operating system version RedHat 6.2 for all new installs, except for *BABAR* which requires RedHat 6.1. RedHat 6.1 is still supported on existing installs. See <http://www.slac.stanford.edu/comp/unix/linux/> for information.

Solaris

Standard Hardware

Desktop System: Sun Ultra 5

Educational pricing is available from Sun, with steep discounts. Contact Teri Church at x3176, teri@slac.stanford.edu, for assistance in purchasing a Sun system. See the web page <http://www.slac.stanford.edu/comp/unix/sol-inst-req.html> to request SCS to install your system for you.

Standard Software

Solaris 2.7 for all new installs. Solaris 2.6 is still supported on existing systems. Solaris 2.5.1 is unsupported and should be upgraded. SunOS is unsupported and is a security risk, so it must be replaced as rapidly as possible.

AIX

AIX will no longer be supported at SLAC after November 1, 2000. You should replace your AIX desktop system with a supported Solaris, Linux, or NT system before then.

General Help & Trouble Calls

For NT and Macintosh users:

First contact your local administrator. For the list of local administrators, see <http://www2.slac.stanford.edu/comp/winnt/local-administrators.html>.

Many local administrators are reachable by **submitting a web troublecall request** at <http://www2.slac.stanford.edu/winnt/troublecall/desktoproot.htm>. "Urgent" calls will send a page, "non-urgent" calls will send an e-mail.

If you cannot find your local administrator:

- ◆ You can **phone the SCS Help Desk at (650) 926-HELP**. (Help Desk is open 9:00am-5:00pm during business days; during non-business hours leave a request for critical page as appropriate.)
- ◆ You can **send e-mail to desktop-admin@slac.stanford.edu** (for non-urgent requests).

Additional Services are available at <http://www2.slac.stanford.edu/comp/winnt/help.htm>. Request Forms for requesting hardware repair, software purchase, system installations, disk space, backup restores, access control lists, etc., are available.

For UNIX and Linux users:

Online resources are available on the web at <http://www.slac.stanford.edu/comp/unix/>. Forms for requesting system installations, disk space, backup restores, etc., are available there. For assistance with UNIX problems and questions, send e-mail to unix-admin@slac.stanford.edu.

Hardware Repair Contracts are in place for the following:

Dell - Warranty and non-warranty;
Macintosh;
Printers;
Monitors;
NCD;
Sun;
DEC; and
IBM.

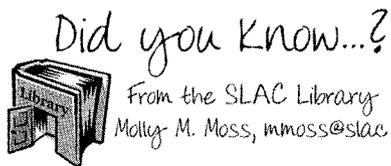
Please contact the Help Desk for information.

—SLAC Computing Services

Work Safe, Work Smart

**** New Record ****

SLAC has surpassed the previous record number of 150 days between claims involving days away from work according to Sharon Haynes, Workers' Compensation Coordinator. There have been no new incidences involving days away from work reported since 1/24/00. The number of calendar days between then and this update of 7/17/00 is 175 days.



New Print and Web Editions of the 2000 Review of Particle Physics Now Available!

THERE ARE 2000 NEW measurements from 610 new papers, and also many new and updated reviews. The web version is available at <http://pdg.lbl.gov/>. The print edition is D.E. Groom et al, *The European Physical Journal C*15, 1 (2000). Over 700 members of the particle physics community contributed to the *Review of Particle Physics*, including several from SLAC: Pat Burchat, Alberto Fasso, Pat Kreitz, Helen Quinn, and Stefan Spanier.

The *Review of Particle Physics* is a biennial comprehensive review summarizing much of the known data about the field of Particle Physics produced by the international Particle Data Group (PDG). It includes a compilation/evaluation of data on particle properties, summary tables with best values and limits for particle properties, extensive summaries of searches for hypothetical particles, and a long section of reviews,

tables, and plots on a wide variety of theoretical and experimental topics.

Pat Kreitz, Director of the Technical Information Services, has written the Online Particle Physics Information part of the *RPP*, which is also available at <http://www.slac.stanford.edu/library/pdg/>. The list organizes a broad set of online catalogs, databases, directories, World-Wide Web (WWW) pages, etc., that are of value to the particle physics community. This compilation is prescreened and highly selective. It attempts to describe the scope, size, and organization of the resources so that efficient choices can be made among many sites which may appear similar. A reference copy of the *RPP* is kept near the Information Desk in the SLAC Library. Information about getting your own copy is available at http://pdg.lbl.gov/receive_our_products.html.

James Bjorken Celebration

AN ALL DAY EVENT on Saturday, September 16th will honor the contributions to physics by SLAC's James Bjorken, more commonly known as bj, in lower case letters, according to his custom.

His contributions to the interpretation of the deep inelastic scattering experiments in the early days of SLAC were pivotal to the development of the understanding that protons and neutrons are made from quarks. The richness of his influence is shown not just in the quantities bearing his name (or its abbreviation), the Bjorken scaling variable $x_{[bj]}$, and the Bjorken sum rule, but in many further intuitive approaches to fundamental physical processes that he introduced. The text books on relativistic quantum mechanics and relativistic quantum fields he authored, together with SLAC's Sidney Drell (his thesis advisor), were the standards of the subject for many years. The day's events will start at the Panofsky Auditorium with an introduction by Sidney Drell, and talks by SLAC theorist Helen Quinn, Fermilab emeritus director Leon Lederman, and Cyrus Taylor of Case Western Reserve University.

After lunch, bj will have a chance to offer his own point of view, and then the entire group is invited for a stroll down memory lane—a chance to walk and chat with colleagues and friends.

Participants can register for the event and view the program at <http://www.slac.stanford.edu/conf/bjorken00>. Dinner in the evening is a no-host event and will take place outside at the SLAC cafeteria picnic area.

—Helen Quinn

Retirees' Organization Being Formed

"WE WANT TO REACH out to our retirees," said SLAC Director Jonathan Dorfan. "That means letting them know about events at the Lab, inviting them to various functions, and keeping them up to date on the science." To do this, a group called "Friends of SLAC" is being formed under the leadership of Public Information Officer P.A. Moore.

"We've had a few preliminary meetings to do some brainstorming about what the group might do and how it would be structured," said Moore. No definite plans have been made in either of those two areas, according to Moore, but there is considerable sentiment that social functions would be appreciated. Contact Moore at 650-926-2605, or e-mail her at xanadu@slac.stanford.edu.

"We're planning to incorporate some retiree activities into Family Day," says Brenda Warren in Human Resources. "Retiree input would really be welcome, so I encourage any of you to give me a call and make suggestions." Warren can be reached at 650-926-2355. Family Day is planned for Saturday, September 23rd this year.

E.D. Stephenson, who retired in 1991, said "After some 27 years at SLAC, I still am interested in what goes on at the Lab. When I went to work at the Lab, the housing for Sector 28 was being poured. The Gallery had only proceeded to about Sector 10. None of the End Station had been built so I had the opportunity to witness everything from Sector 30 to the research yard. Yes, every day I spent at SLAC was an exciting day."

Contact Wanda Elliott at 650-926-2723 (wda@slac.stanford.edu) to get on the mailing list for *The Interaction Point*.

Did you know that transactions on web servers are recorded? Analysis of this data allows us to determine who (in a general sense) is using our web, how frequently they visit, and which pages they are reaching. Because we are currently operating seven production web servers, correlating the data between the servers has been very difficult. We recently obtained a software product called Net Analysis to help with this problem. The data from all the production web servers are imported into an Oracle database and are then used to generate reports to help answer web use questions. Sets of standard reports are displayed on the ReportSite (at <http://apps-oracle:1965/>) or sent by e-mail to subscribers. These reports can be viewed, but are not interactive. The web-based HTML Reporter (at <http://wim.slac.stanford.edu/cgi-bin/nareport-html>) allows you to generate customized reports by applying filters to the standard reports. I am still learning how to use this system, but if you'd like more information about the product or about how to read log file data, go to <http://www-group.slac.stanford.edu/techpubs/logfiles/>. The following is an example of the type of information we can extract from the logs using this tool.

For May 2000	Total Page Views	Average Views per day
Welcome	70,034	2,259
Detailed	26,587	857
Highlighted	2,646	88

For those of you who use the Highlighted page, you can see by these numbers that its days are limited!

We're Listening!



REMEMBER THE OLD COMMERCIAL that says when E.F. Hutton speaks, everyone listens? Well, when SLAC employees speak about safety concerns, Operating Safety Committee members listen attentively. And though you might not make a financial killing in the market as a result of this dialogue,

we try to prevent real injury by raising safety awareness and recommending changes when needed.

A recent issue was one of "bots dots" (the whimsical term for those little white roadway bumps you cuss out each morning, remember?), in the entry and exitway of SLAC's Sand Hill Gate. A bicyclist from the Research Division alerted us to the fact that a slip hazard may be present for drivers of two-wheeled vehicles as a result of this speed-reduction tool. We proceeded to poll all site bicyclists through their OSC representatives and received numerous responses expressing various opinions. Though many felt there was no problem, some agreed a risk was present and so an OSC subcommittee was formed to review the input from the poll.

OSC's final action was to request through Rick Yeager that enough entryway dots be removed (on the left side, as requested by bicyclists) to allow a clearance of 38 to 48 inches. Taking out more would have defeated the original goal of reducing four-wheeled vehicle speed, since a car could have straddled the remaining rows. However, since speed out of SLAC is better

SLAC Milestones

RETIRED

Taylor, Thomas, TD, 7/1/00

DECEASED

Maddox, Michael, AD, 7/13/00

APPOINTMENTS

Pilastro, Yolanda, WM, as industry representative on State Advisory Committee (see story, page 2)

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

controlled by the signal light, all exit dots were lifted out.

One more step in this safety response is soon to appear: signs indicating that the roadways are shared will be posted as a reminder. There are many orbiting bodies at SLAC: cars, SUVs, forklifts, deer, joggers, bikers and bicyclists, to name a few. A little extra caution on the roadways is good practice and much more important than making it to that meeting on time.

Review the OSC past minutes, members, and charter on our Web site at <http://www.slac.stanford.edu/esh/committees/committee.html>. and contact me or your division representatives with any future concerns. We want you to keep on talking so we can keep on listening!

—Janice Dabney

Chair, Operating Safety Committee