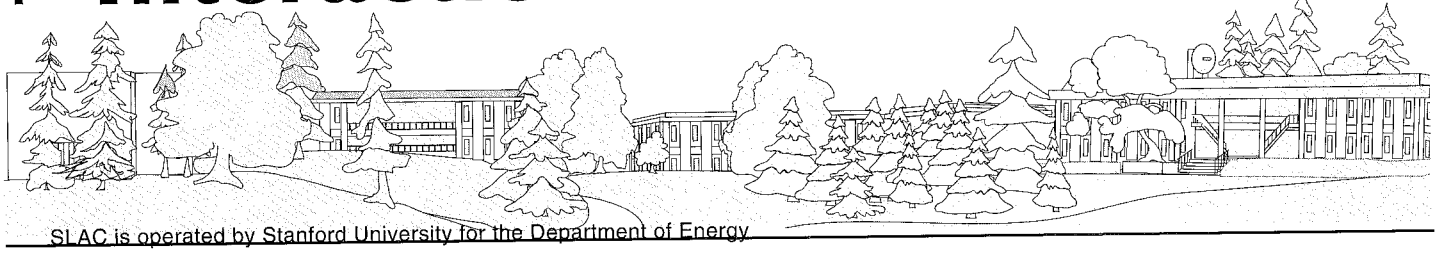
The Interaction Point

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



SLAC is operated by Stanford University for the Department of Energy

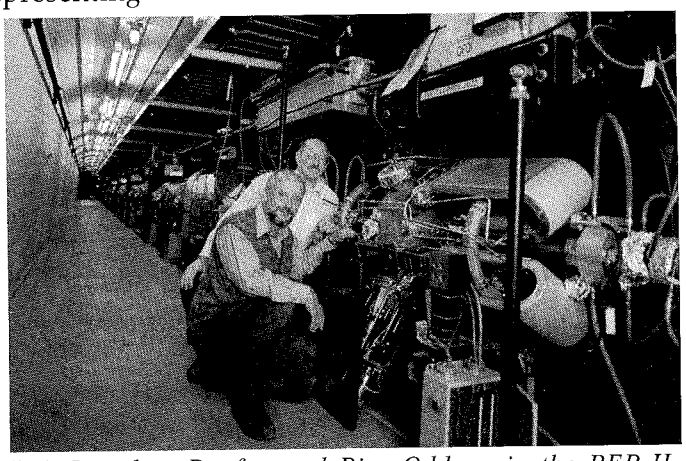
B Factory Wins DOE Deputy Secretary

THE DEPARTMENT OF ENERGY recently announced its Program and Project Management awards for the year 2000. In the highest category of major system awards, DOE acknowledged the on-time, on-budget completion of the $293M *B* Factory Project with its Deputy Secretary Award. The *B* Factory Project comprised two major construction efforts, a two-ring accelerator complex built by a collaboration of SLAC, Lawrence Berkeley National Laboratory (LBNL) and Lawrence Livermore National Laboratory (LLNL) and a 1200 ton, particle detector built by a consortium of nine nations.

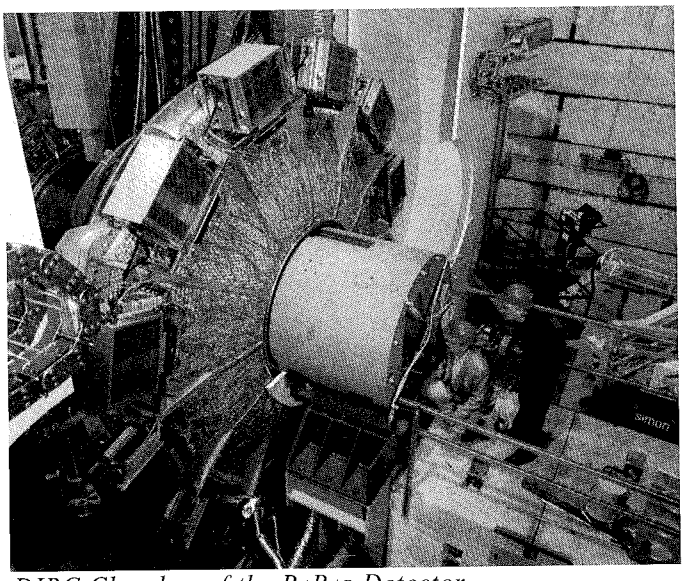
"The process for selecting award winners was a difficult one, with many excellent DOE sites and projects in competition," said T.J. Glauthier, Deputy Secretary of Energy. "I'm delighted that the *B* Factory was chosen out of a field of such strong contenders," said SLAC Director Jonathan Dorfan. "I cannot emphasize strongly enough the wonderful cooperation that existed among the three Bay Area labs during construction. Our colleagues at Livermore and Berkeley were outstanding. Likewise, we could not have achieved the success we did without the supportive partnership of the DOE," Dorfan added.

Accepting the award at a ceremony in Rosslyn, Virginia on October 17 were Jonathan Dorfan and John Seeman, representing SLAC, Caltech professor David Hitlin representing the detector collaboration, Tom Elioff, representing LBNL, and Karl Van Bibber, representing LLNL.

(Photos: D. Rogers)



(l-r) Jonathan Dorfan and Pier Oddone in the PEP-II tunnel.



DIRC Chamber of the BaBar Detector.

The Asymmetric *B* Factory accelerator complex began construction in January 1994 and ended in July 1998 at a cost of $177 million. The facility collides a beam of electrons with a counter-rotating beam of anti-electrons to produce sub-atomic particles called *B* mesons. By studying the disintegration patterns of the *B* mesons, scientists hope to understand why the Universe, which was created with equal amounts of matter and anti-matter, is now dominated by matter. In short, what happened to all the primordial anti-matter?

Concurrent with the construction of the accelerator complex, collaborators were working on the construction of the particle detector, known as BaBar, costing about $110 million and involving nine nations, 73 institutions and over 600 people.

A major milestone was reached on May 26 of last year when the B Factory successfully recorded the first events in the BaBar detector. It will take millions of B mesons before scientists can reach any definitive conclusions. First published results will be out in early 2001.

"With the *B* Factory, SLAC has another major scientific project that will take us well into the next decade," said Dorfan. "SLAC is poised to make major new contributions to basic science."

–PA Moore

Director's Corner

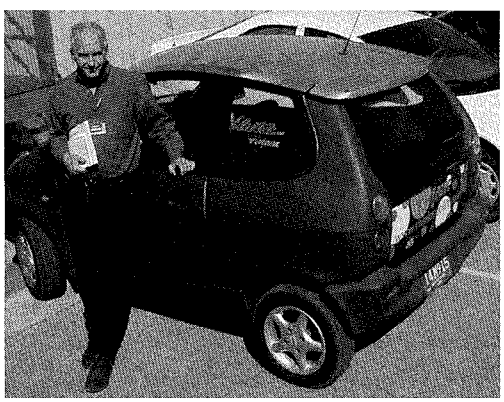
by Jonathan Dorfan

Instead of a Director's Corner this month, there will be an All Hands Meeting. Watch for announcements.

Electric Car Visits SLAC

FORD'S TH!NK ELECTRIC CAR (that's the name of the car and not a typo) gained some friends at SLAC during recent test drives. People from Accelerator Maintenance West (AMW) were reluctant to part with the Th!nk after using it. Most of the Operators and Section Managers on duty at the Main Control Center had an opportunity to drive the car. "We've been looking at ways to get more efficient replacements for old trucks," said Burl Skaggs, head of Site Engineering and Maintenance. Doug Kreitz from Business Services said "I see a use for the electric car for mail and short local trips."

Another advantage of the so-called "City Electric Vehicles" is that they are "closed" cars, much more convenient in rain or at night. "These cars would nicely meet the requirements of 70 to 90% of the on-site usage," according to Bob Fuller. They are significantly less expensive to operate, result in 50 times less pollution than a well-tuned truck or car, and circumvent the problems associated with extra pollution from cold engines.



This vehicle has a range of about 50 miles, gets up to about 50 mph (but not at SLAC!), and takes about 5 hours to fully charge. It is a small two-seater with enough room in back for a standard crate for electronics modules or a toolbox. It is "street legal," although not "freeway legal," which is understandable since Th!nk would not have the ability for rapid acceleration which is sometimes necessary for entry and exit on freeways.

Facilities Design Services

WHAT DO I DO with all these old drawings? How do I get my As-Built drawings into the SLAC Documentation system? These are questions that have remained unanswered for most SLAC users, until now. Staff are encouraged to send drawings to Facilities Design Services. FDS is a part of the Mechanical Design Department headed by Rick Tankersley.

"A lack of consistent As-Built Documentation has been an on-going concern throughout the SLAC site," says FDS Supervisor Derrick Britt. FDS is requesting your help with site wide As-Built Documentation in order to document the history of buildings at the Lab.

FDS is available to handle all SLAC site project documentation requests. When starting any new project, the first step is to research the SLAC released drawings database for existing drawings. Engineers need to know about current issues before completing a preliminary design. This can be difficult when current conditions are not reflected by As-Built drawings.

Various projects either under construction or in the design phase are being documented by FDS. Projects include the Master Substation Drainage (Phase I and Phase II) and the Sanitary Sewer/Storm Drain Remediation projects along the Klystron Gallery and in the PEP Ring for Site Engineering and Maintenance.

FDS also issues site excavation permits, which are required before any excavation can begin. FDS is also providing support to the Cryogenics and Electronic Support Group on project E-158, Spectrometer Cable Tray supports at ESA.

FDS provides mechanical engineering services, electrical, civil and structural design services, CAD drafting services and site as-built documentation.

If you have any site documentation needs such as researching old drawings to creating new CAD as-built drawings or designing new systems for the SLAC site, contact FDS supervisor Derrick Britt at x 2430 or britt@slac.stanford.edu.

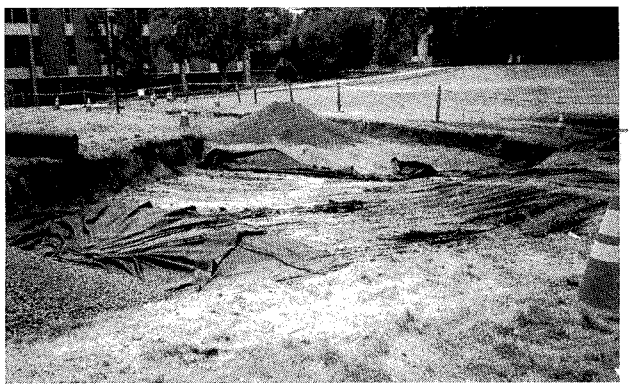
With some luck we might be able to get some Chevy S-10 electric trucks (no longer in production) from LBNL. Since the California Air Resources Board recently reconfirmed the Zero Emission Mandate for 2003, whereby 10% of large manufacturers' sales in California must be electric, we can hope for more choice soon. The GSA has been encouraging DOE sites to use Alternate Fuel Vehicles where possible. SLAC currently does not fit any of the parameters for having electric cars, however regulations are in a state of flux. If the rules change, and the use of electric cars becomes financially attractive, SLAC should be ready to make the change.

–Ron Chestnut

What an Adventure: Main Quad Paths Completed

THE SITE ENGINEERING AND Maintenance Department won a race against time when the Quad pathways were paved just two days before the SLAC Family Day Celebration, September 23. What was supposed to be an easy and fast construction job became a complex geotechnical project due to unexpected soil conditions.

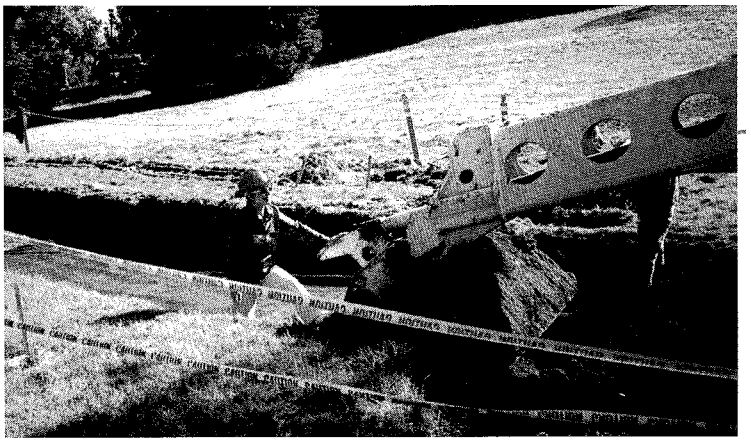
Soon after excavation began on August 2, it was discovered that the soil beneath the old paths



was muddy, unstable and would not support construction equipment. What ensued was a high level of consultation between SE&M, the Purchasing Department and the contractor, J&L Paving and Coating. SLAC was successful in the project only because of the cooperation of many people during moments of crisis.

To Burl Skaggs, head of the SE&M Department, and his staff Hieu Dao, Engineering Manager, and Frank Brenkus, head of the Utility Maintenance and Construction group, we owe a major debt of gratitude for their attention to the problems encountered in this project. Another notable player was Bill Myers who vigilantly supervised the construction activities for safety and assisted with other construction as necessary.

Each time a broken irrigation or storm drainage pipe was discovered, SE&M pipe fitters quickly came to the rescue. Bernie Romero mobilized his team of James Alexander, Felipe Felix and Anthony Acosta who performed the necessary repairs. Ben Goodman, SLAC's Contract Administrator, and Ginger Byam, Associate Contract Administrator, were essential in solving a difficult accounting conundrum and at the same time allowing construction to proceed. J&L Paving and Coating project manager Tom Ban did a good job keeping the project moving in spite of unexpected problems.



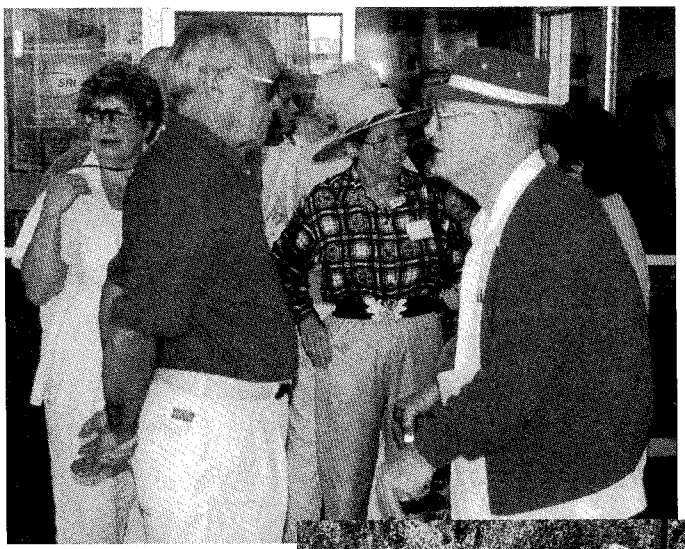
At times, the project needed immediate help with excavation and earth moving activities. It was at times like these that Frank Brenkus and his crew came to the rescue. In fact, it was Brenkus, Forrest Brown, Hector Gonzales, Rodney Jusino and Charles McFadden, as well as Mike Jimenez of EFD, who came to work on their day off Saturday, August 12 to smooth out the bumpy pathways for the visitors to the SLAC Summer Institute.

Others who deserve thanks are Chip Dalby and Terry Anderson in TechPubs for their informative signs. Thanks also to SE&M staff Kingston Chan, Liam Robinson, Phil Brunner, Richard Altieri, Francisco Castillo, Michael Hughes, and Pat Grygutis. I also want to acknowledge our Public Affairs Manager, Nina Adelman Stolar, for her ongoing support.

Finally we must thank all of you SLACers who endured with good spirit the unpleasantness of the mess, the dust and the disruption on the "Green." Now the new pathways in the Quad are starting to look like they have always been there and the nightmarish construction never took place.

–Luda Fieguth, SE&M Project Manager

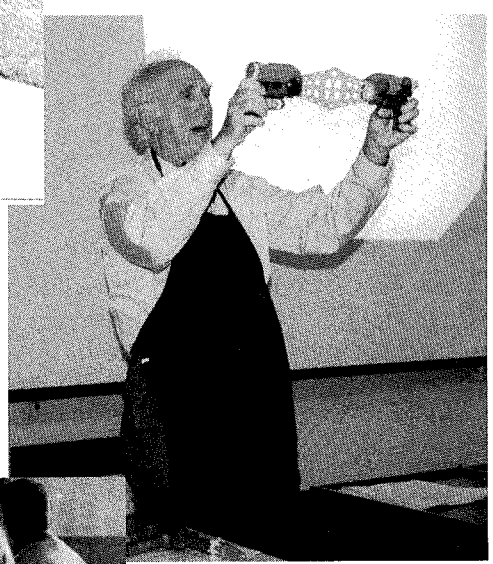
SLAC Family Day



Retirees were invited back to SLAC for the day and many of them just enjoyed chatting with each other and catching up on news.

Master Chef Jeff Machado and his fantastic catering team fed over 1,000 friends and family.

Retiree John Grant brought his miniature train to share with staff.



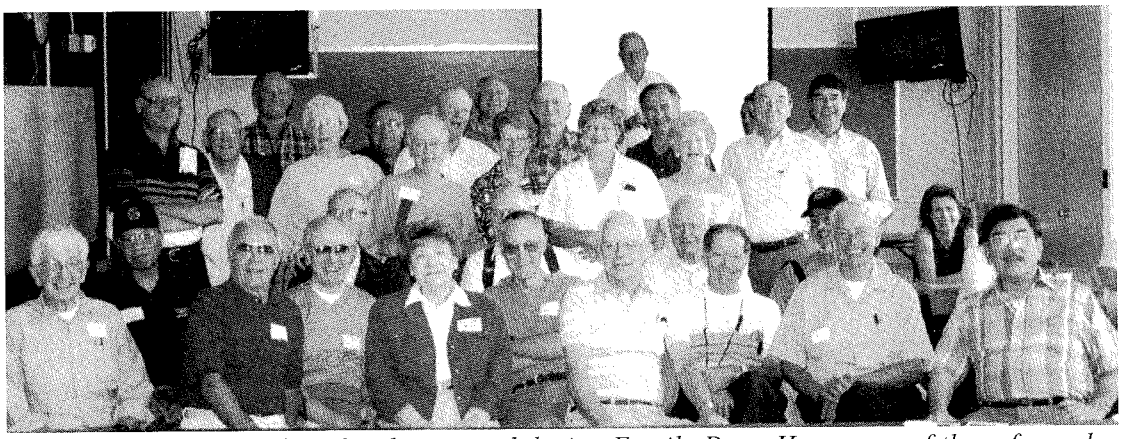
Nobel Prize winner Martin Perl gave what can only be called a smashing presentation as part of Family Day. Here he is demonstrating the principle of beam-beam collisions, sort of.

Bebo White took charge of the dunk tank, and found victims young and old. Wanda Elliott and her family took part.

Brenda Warren, head of the organizing committee for Family Day, shares a moment with Luda Cantor Fieguth, whose heroic efforts made sure that the paths in the Main Quad were completed in time for the event.

(Photos: P.A. Moore)

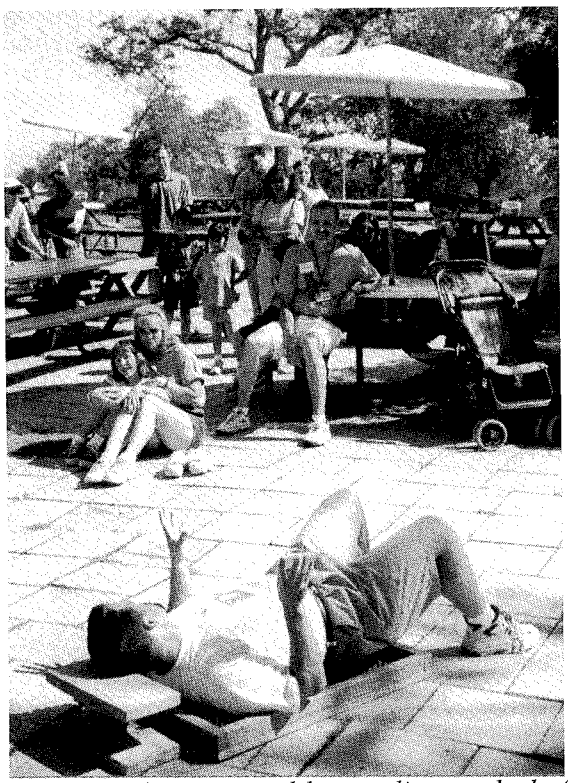
A Big Hit!!



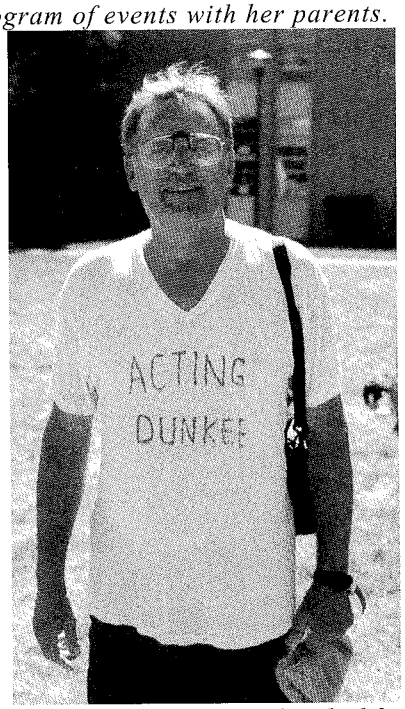
About 30 retirees and their families visited during Family Day. How many of these faces do you remember?

Mealtime poses some challenges for Helen Nuckolls and her son.

Lesley Wolf from the Public Affairs Office (right) goes over the program of events with her parents.



Mo Olson demonstrated how to lie on a bed of nails. You can even try this at home!



Steve Williams, acting head of the Research Division, actually volunteered to go into the dunk tank, hence his new title, "Acting Dunkee."

SE&M Almost One Year Old

SITE ENGINEERING & MAINTENANCE (SE&M) is going to be one year old in January 2001. We will be publishing a series of articles discussing our successes and challenges for the first year. If you would like additional information or have an idea for a topic on a subject applicable to SE&M, please let me know.

A lot of what SE&M is about is being more effective at accomplishing the challenge of facilities support and maintenance at SLAC. Many discussions and debates have taken place over the years evaluating the benefits and problems of a unified facilities organization. It took a bold management step to initiate this reorganization, and to support our efforts at change. The people involved in SE&M have risen to the challenge and overhauled the site facilities maintenance and customer service systems from the ground up. Predictions of cost overruns have not materialized as the quantity and quality of work has increased while staying within the same budget targets. Past invoices have been paid and kept current, putting us in good standing with several long term vendors. In-house maintenance has replaced reliance on subcontractors resulting in significantly better response and reduced return calls with improved morale, and all applicable regulations have been followed.

A new cooperative effort is underway with ES&H. Many of their projects are now moving forward rapidly in a new era of mutual understanding that is beginning to reap its rewards.

We have established a high level of cooperation with DOE Oakland facilities people with the development of mutual understanding and cooperative problem solving. New relations have started with GSA, opening up the potential of improving the quality of vehicles site wide. New relationships have started with Sand Hill Road property managers and the City of Menlo Park working together on areas of mutual interest. The sanitary district has embraced our new metering plan that avoids the legal complications associated with easements and shared flows with our neighbors.

In short, things are getting done.

I will highlight particular projects in more detail in future articles, but here are a few examples. The Quad area pathway which has been in the works for three years was finally pushed through to completion; roofs are being maintained with a new approach and at a faster rate with the expectation of greatly reduced leaks this fall; improving the cafeteria kitchen has started, and 50% of the buildings on site have been measured inside and out to baseline the building data.

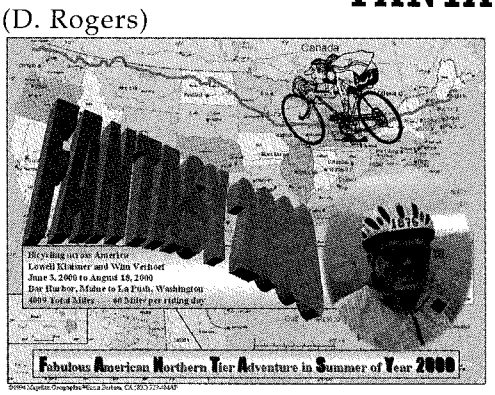
The service desk has processed in excess of 6000 requests that are now documented, resulting in changes in our priorities to match the areas of greatest need. We have a real time online customer feedback system with 93% indicating satisfaction with our efforts to date. We are expanding the influence of this service system to transportation maintenance with the expectation of improved understanding and more effective application of effort in this area.

This amount of change has not come without a cost; and many SE&M people have made extraordinary efforts. Particular credit must also be given to computer staff who have provided us with a computer-based tracking system in very short order. I hope that all of you continue to support our efforts at change and I encourage other SLAC service organizations to review their ability to improve effectiveness for their customers. Thinking outside the box works.

–Burl Skaggs

FANTASY 2000 for Lowell Klaisner

(D. Rogers)



WE REPORTED IN PREVIOUS issues of *TIP* that Lowell Klaisner was taking a bicycle FAN-TASY trip and making it a reality. Klaisner and his riding partner, Wim Berhoef, traveled for two and a half months across the USA, beginning in Bar Harbor, Maine with a dip in the Atlantic Ocean. This trip was five years in the planning and turned out to be a family affair. Various family members joined them for up to three weeks at a time, driving the van from campsite to campsite and sometimes even bicycling along with them.

Since this involved so many people, Klaisner and Berhoef had to have a very specific plan on where to meet up with their helpers. The detailed schedule involved the name of each campsite, as well as leaving some days off to hike and enjoy the scenery.

Part of the fun involved a ceremonial handing over of the van keys to the next driver along the way. Klaisner is pleased to report that designated drivers showed up when it was their turn to take over. The bicyclists finished their trek in LaPush, Washington on an Indian reservation on the Olympic Peninsula with another dip in the ocean, this time the Pacific.

Klaisner reports that this was indeed a fantasy come true, and a great accomplishment at that. He didn't stop there—he recently took a weekend bicycle trip to the Marin Headlands.

Did you Know...?

From the SLAC Library
Molly M. Moss, mmoss@slac

How to Find Journal Articles

MANY OF YOU MIGHT be familiar with the SPIRES-HEP database (<http://www.slac.stanford.edu/spires), which contains more than 415,000 high-energy physics related articles, including journal papers, preprints, e-prints, technical reports, conference papers and theses, received by the SLAC and/or DESY libraries since 1974. Some of the records include links to the full-text paper; other papers are available in hard copy in the library or from other sources.

However, not all of the information needs of the SLAC community fall neatly into the subject area of high-energy physics. We are lucky to have access to several databases through our connection to Stanford, and from ABI/Inform; from ProQuest—many full text articles in business, finance, management; *The Wall Street Journal*, and *World News Connection* (English language translations of foreign television and radio broadcasts, newspaper and journal articles, plus press releases).

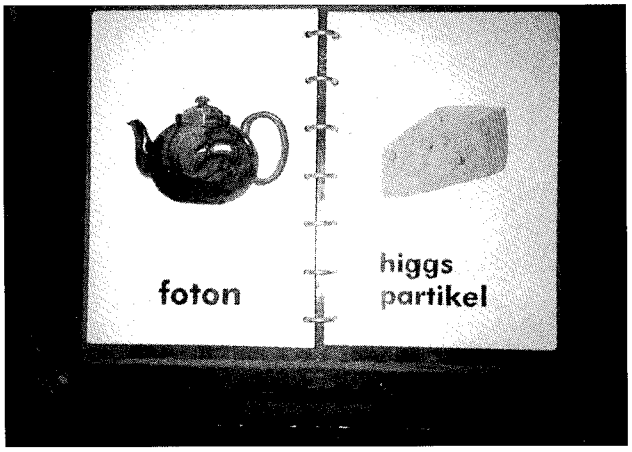
These databases are among those available on the SLAC Library home page (<http://www.slac.stanford.edu/library/). Click on "Stanford Library Databases" at the top of the page. This will take you to an alphabetical list of databases; there are also lists of databases arranged by subject, for example, Science and Engineering.

Some of the more useful databases for SLAC include:

- Academic Universe - web access to selected Lexis-Nexis files, a wide range of news, business, legal, and reference information. Some sources include: *The New York Times* (1980 - present), *The Wall Street Journal* (May 1, 1973 - present), *The Washington Post* (1977 - present), and hundreds more.
- INSPEC - (1968+) physics, electrical engineering and electronics, control theory and technology, and computers and computing.
- ISI's Web of Science - (1974+) - Web version of Science Citation Index.

If you get stuck while searching any of these databases, please call the Library Information Desk at x2411. More detailed instruction in the use of these databases, and other library resources, is available for small groups or individuals. Please call Molly Moss at x4388 to arrange a tutorial.

How Students View Subatomic Particles



(Photo: F. Halbo)

Student art depicts the photon as a teapot and the Higgs as Swiss cheese in an exhibit at a Swedish museum. If you wish to see artistic interpretations of other particles, contact Finn Halbo (x2491, finn@slac.stanford.edu).

THIS ALL STARTED WHEN the peripatetic Finn Halbo, once and future retiree, took a four-week sojourn to Europe last month. He started with a family reunion in Germany, then ambled through Sweden, Norway and Denmark, "and I only used my umbrella once, getting from the train station in Copenhagen," said Halbo.

What caught his eye was a small museum, the Gustavianum, at Uppsala University. At the entrance hall and on the first floor, was an exhibit of work of school children. They were asked "How does one paint a quark on a sheet of paper in a picture book on particle physics? If no picture is fully correct, then maybe no picture is entirely wrong.... And artistic freedom can be allowed to bloom." The results were an interesting mix of fun and fancy.

Missing a Service Pin?

If you have been a Stanford and/or SLAC employee for 5, 15, 25, 35 or 45 years and have not received a service pin, contact Susan Hoerger in Human Resources at x2358. "It's recently come to my attention that our service pin program has not reached some individuals in a timely manner," said Hoerger, "and we want to remedy this situation." Note that pins for 10, 20 and 30 years of service are given at special events designed to honor staff.

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

Web Content Accessibility

The following are 10 quick tips provided by the W3C (www.w3.org) to help make web site content accessible to all users, as outlined in their Web Content Accessibility Initiative. For more information about web accessibility, see `www.slac.stanford.edu/slac/www/support.html#Accessibility`.

1. **Images & Animations**. Use the ***alt*** attribute to describe the function of all visuals.
2. **Image maps**. Use client-side ***MAP*** and text for hotspots.
3. **Multimedia**. Provide captioning and transcripts of audio, and descriptions of video.
4. **Hypertext links**. Use text that makes sense when read out of context. For instance, avoid "click here."
5. **Page organization**. Use headings, lists, and consistent structure. Use CSS for layout and style where possible.
6. **Graphs & charts**. Summarize or use the ***longdesc*** attribute.
7. **Scripts, applets, & plug-ins**. Provide alternative content in case active features are inaccessible or unsupported.
8. **Frames**. Use ***NOFRAMES*** and meaningful titles
9. **Tables**. Make line by line reading sensible. Summarize.
10. **Check your work**. Validate. Use tools, checklists, and guidelines at `www.w3.org/TR/WAI-WEBCONTENT`.

Yes, You

WHEN SOMEONE INVENTED THE yellow tape with statements printed on it, I bet they never thought people would lift it up and walk under it. After all, it's a bright color and it states in simple terms "Please Do Not Cross Yellow Caution Tape." And the red tape that reads "Danger?" People surely understand they shouldn't walk into dangerous situations.

Some of the hazards in these situations may not be immediately evident: electrical shock, risk of impalement, uneven surfaces or falling objects. Nevertheless, Rick Yeager, SLAC's Manager of Safeguards and Security, tells of numerous incidents where people ignore the tape.

I observed two situations of people crossing the yellow tape that surrounded the campus pathway project. One was glad someone else was concerned for her safety. The other said he was trying to catch the evening shuttle and the workers were gone for the day anyhow. To borrow an observation and acronym from Yeager, "many of SLAC's personnel seem to operate under the DATM (Doesn't Apply To Me) concept."

A few hints: leave a little extra time to get to that meeting or catch that shuttle. Take caution tapes or signs seriously. And remind your co-workers that you care about their safety, too. Then go home in one piece to your favorite book and a cup of hot chocolate.

Now doesn't that sound better than shouting for help from a deep pit?

–Janice Dabney
Chair
Operating Safety Committee

Power Conversion and Controls Merge

EWAN PATERSON ANNOUNCED the immediate merger of the Power Conversion Department (PCD) and Controls on October 10, 2000. The name of the newly created unit is "Electronics and Software Engineering Department." Rusty Humphrey heads the new department and Tony Donaldson is his deputy. The combined departments will report to Ray Larsen, Assistant Director of the Technical Division.

In a memo to staff, Paterson said "the restructuring aims to develop a more flexible organization that can be quickly mobilized into teams to meet the Laboratory's short term needs, encourages a broader level of participation in future planning by program coordination teams, stresses the identification of a stable core R&D program, and strives to create more visible and attractive career paths for both new and current employees."

Work Safe, Work Smart

No new injuries involving days away from work have been reported since 9/11/00 according to Sharon Haynes, Workers' Compensation Coordinator. The number of calendar days between then and this update of 10/13/00 is 32 days. SLAC's record number of days between claims involving days away from work remains at 184 days.