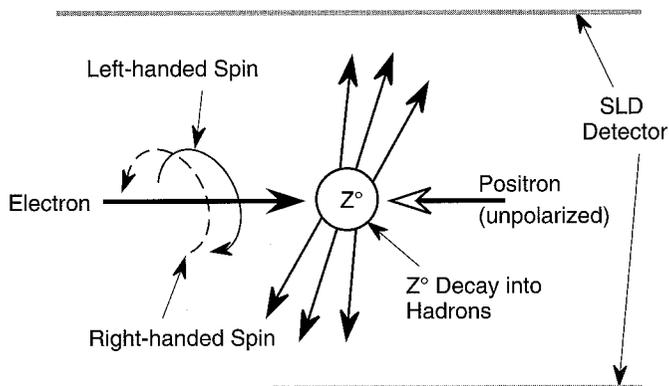


Exciting times ahead **SLD measures left-right asymmetry**



momentum—i.e., they behave like spinning tops (this is true even though they may not have any physical size). Of particular interest is the case in which the spin axis of the electron coincides

with its direction of motion. The electron (or top) can spin in two directions: clockwise, which would drive a right-handed screw along the beam direction (the right-handed electron); or counter-clockwise—the left-handed electron. The Standard Model treats right-handed and left-handed electrons as different particles. They have different weak charges, and they couple differently to the particles that carry the electroweak forces (including the Z bosons produced in the SLC).

by **Morris Swartz**

THE YEAR 1993 was certainly the best yet for the SLC/SLD program. The machine produced a record harvest of more than 50,000 Z events (see *Interaction Point*, August, '93) with a polarized electron beam (see *Interaction Point*, April, '92). Although it took the physicists of the SLD Collaboration several months to sort out some annoying discrepancies between two different measurements of the polarization, they have recently used the 1993 data to perform the single most precise measurement of its kind that also provides a test of the validity of the Standard Model of electroweak interactions.

To understand exactly what they have done, we should return to the polarized electron beam. It was discovered in the 1920s that electrons have intrinsic angular

momentum—i.e., they behave like spinning tops (this is true even though they may not have any physical size). Of particular interest is the case in which the spin axis of the electron coincides

with its direction of motion. The electron (or top) can spin in two directions: clockwise, which would drive a right-handed screw along the beam direction (the right-handed electron); or counter-clockwise—the left-handed electron. The Standard Model treats right-handed and left-handed electrons as different particles. They have different weak charges, and they couple differently to the particles that carry the electroweak forces (including the Z bosons produced in the SLC).

The electrons emitted by the SLC's Polarized Electron Source (PES) in 1993 were almost five times more likely to spin in one direction than the other. During 1993, 50% of the electron pulses were chosen to be dominantly right-handed, and 50% were chosen to be dominantly left-handed. This enabled the SLD experi-

menters to compare the rates of Z boson production using left-handed electrons and right-handed electrons. They found that left-handed electrons produce almost 40% more Z bosons than do right-handed electrons (when colliding with an unpolarized beam of positrons). This ratio is somewhat larger than the 33% expected from various measurements at the LEP storage ring at CERN and from the Standard Model with a top quark mass near the 174 GeV announced recently at Fermilab.

This discrepancy is exciting, but the data are not yet significant enough to prove that the Standard Model is diseased. Thanks to the efforts of the Accelerator Department staff, the SLC has been upgraded significantly during the 1993–1994 shutdown and should be capable of producing 100,000 to 150,000 Z events in 1994. In addition, the magicians of the SLAC Physical Electronics group, who developed the strained-lattice cathode used in the polarized electron source, have refined their art. This year the electrons emitted by the PES will be eight times more likely to spin in one direction than the other. These improvements should reduce the uncertainty on the SLD measurement by more than a factor of 2. If all goes well and the SLD Collaboration continues to measure the same ratio, very exciting times lie ahead.

Circularly polarized x-ray source on SPEAR

by Roger Carr

IN APRIL OF THIS YEAR, SSRL commissioned the world's first planar undulator source of circularly polarized soft x-rays.

This commissioning gives us a unique intense source of x-rays to study the next generation of ultra-dense magnetic recording media, like hard disks for computers. These new magnetic materials are based on new physics principles, and promise an increase in information storage density that may be orders of

magnitude greater than that of earlier materials. The new media are sensitive to circularly polarized x-rays; hence the need for the new intense source.

Circularly polarized light is widely used in the visible portion of the spectrum, but until quite recently has been little used in the x-ray region. Some magnetic and biological systems have a property called circular dichroism; they respond differently to light depending on whether it moves in a right- or left-handed spiral. Biological molecules possess a right- or left-handedness, so they might be expected to respond differently to right- or left-handed light. And magnetic solids contain electrons that spin clockwise or counter-clockwise, so they also show the effect. In particular, new magnetic multilayer materials, with layers

only a few atoms thick, show this effect.

The world of synchrotron radiation research is about 20 years old, and in that time, almost all the x-rays used have been plane polar-

trons pass through the fields of these magnets, they emit x-rays. By moving these arrays of magnets parallel to the beam, we can produce x-rays that are plane polarized in the vertical or hori-

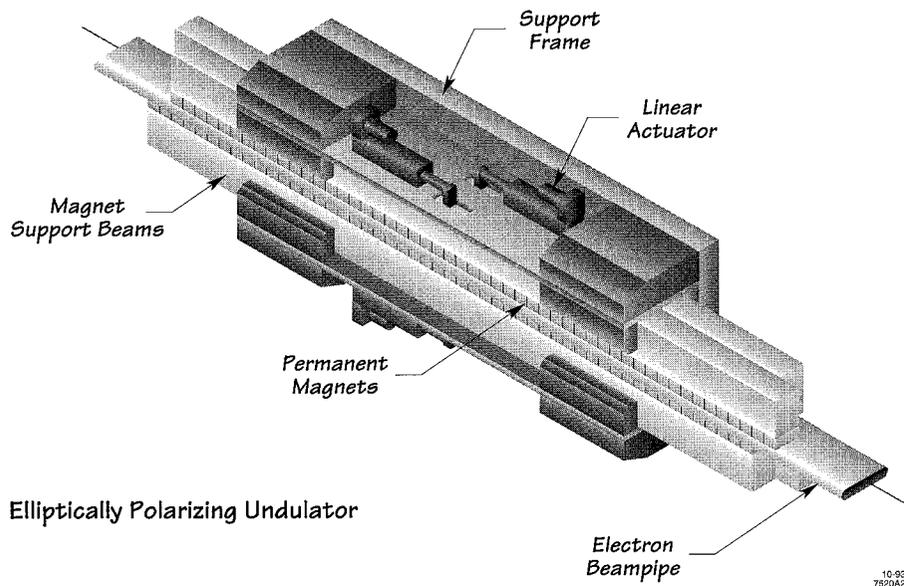
zontal plane, and we can also produce x-rays that are right or left circularly polarized. The energy of the x-rays is variable, but the range was chosen so that all of the first row transition elements of the periodic table can be excited, including magnetically important metals like iron,

nickel, and cobalt. The EPU offers nearly 100% polarized light, while existing sources have very low intensity above about 80% or 90%. The EPU was invented by Shigemi Sasaki in Japan and Roger Carr, leader of the project at SSRL.

Bids from commercial vendors for building the EPU were too costly, and would have required up to a year to complete, so we built the EPU here, and got it done in half that time. The excellent technical work of Ben Poling, Kane Zuo, Chuck Troxel, Jr., Joe Leonard, Julie Greer, Mike Swanson, and others of SSRL made this feat possible. Equally essential were the contributions of Bill Wagner, Ozzie Millican, Reuben Manlopig, and Sam Howry of SLAC.

ized. That is, they are high-energy electromagnetic waves that oscillate in a plane. This plane is usually the same horizontal plane in which the accelerator lies. For some experiments polarization is not relevant, and for others, plane polarization is desirable. However, it is also possible for x-rays to possess another state of polarization called circular polarization. In this state, the wave spirals as it moves; it doesn't stay in a plane, but corkscrews through space around an axis defined by its forward motion. The spiral can be right handed or left handed, like a screw thread.

The new SSRL undulator, called the elliptically polarizing undulator (EPU), has four arrays of permanent magnets arranged parallel to the electron beam in the SPEAR electron storage ring. When elec-



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Puzzling news

LEE SHERE of the Physical Electronics group recently won a puzzle competition sponsored by *Surface Science Inview*, the quarterly publication of Fisons Instruments. Lee correctly solved these six puzzles and sent his answers to England. *Inview* then selected two winners in a random drawing of all 54 correct entrants. Sicco Westra, a local Fisons representative, awarded Lee with a bottle of champagne. "It was all right," Lee says with a smile.

The *Interaction Point* isn't offering champagne to the winners, but try your hand at solving the problems anyway. The solutions will be printed in the June *Interaction Point*. Lee said it took him "maybe an hour" to finish all the contest puzzles. Good luck.

—Sarah Morisseau

1. How does this series continue?

6 24 20 5 9 36 ? ?

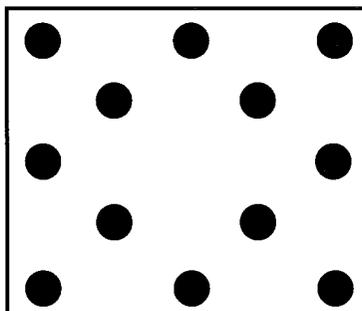
2. Compute the missing numbers.

74862	2688	
82687	5376	
79988		

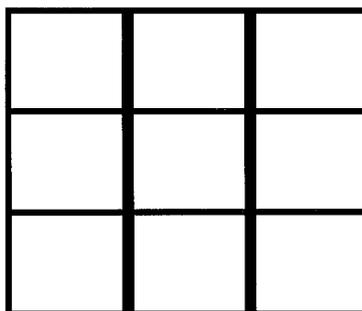
3. In the multiplication sum below, each asterisk represents a prime number (2, 3, 5, or 7). Can you reconstruct the problem and, using no other numbers, find the answer?

$$\begin{array}{r}
 * * * \\
 * * \\
 \hline
 * * * * *
 \end{array}$$

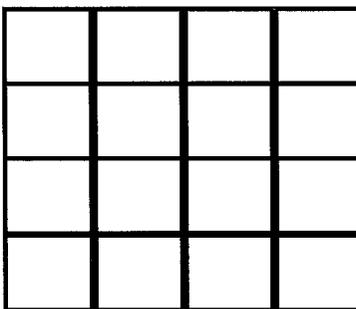
4. Divide this square into four parts, each identical in size and shape, so each part contains three dots.



5. Arrange the numbers 1 to 9 in this 3 x 3 grid so each row and each column, and the two main diagonals add up to 15.



6. Arrange the numbers 1 to 16 in this 4 x 4 grid so each row and each column, and the two main diagonals add up to 34.



Welcome Guests and New Employees

Stephanie Brown, SSRL; **Edward Daly**, B Factory; **Brendan Dix**, Magnetic Measurements; **Martin Donald**, Controls; **Odel Dorsey**, Klystron; **Dietmar Durek**, SLD; **Bruce Feerick**, B Factory; **James Fenske**, Klystron; **Craig Galloway**, Klystron; **Gilbert Grosdidier**, Experimental Group B; **Richard Henry**, Klystron; **Jeffrey Kamerer**, Experimental Group C; **Bernd Krietenstein**, Klystron; **Nadine Kurita**, B Factory; **Joong Kwon**, Facilities; **Chester Lauchner, Jr.**, Facilities; **Luis Lavoura**, Theory; **Roderick Loewen**, Klystron; **Donald Martin**, Controls; **Tracy McGee**, Technical Division; **Toshihiro Mimashi**, SLC; **Gerassimos Petratos**, Experimental Facility; **Julie Rogers**, Experimental Group A; **Hans Siegmann**, Physical Electronics; **Nobukazu Toge**, Accelerator; **Kurt Vaillancourt**, Mechanical Design; **Robert Vanderzyl**, Klystron; **Zane Wilson**, Klystron.

Family Day '94

FAMILY DAY, a day-long event where family and friends of SLAC employees are invited to enjoy food, entertainment, games, and tours of the site, is in the planning stages for this coming fall. Anyone who came to the 1992 Family Day remembers the variety of entertainment, food, and fun that made the day a success.

Events like this don't just happen; they are the result of much planning and the efforts of lots of volunteers. If you can be on the planning committee for the next Family Day, contact Barbara Johnson in Personnel at ext. 2354. Anyone with new ideas and suggestions for an entertaining day is most welcome to apply.

—Bernie Lighthouse

Reprinted from *Surface Science Inview*

109 girls visit

First annual Take Our Daughters to Work Day



ON THURSDAY, APRIL 28, SLAC's work force grew by 109 people. The next day, however, they were back in school. Who were these temporary employees?

April 28 was SLAC's first annual Take Our Daughters to Work Day. Ninety SLAC parents brought their daughters to the site for a full day of organized activities geared to show girls the many career opportunities available at a large scientific research lab.

The event, which was sponsored by the Women's Interchange at SLAC, included panel presentations, a tour of the site, and time for the girls to spend with their parents in their workplace. Although this time together was clearly most girls' favorite, the entire day ran very smoothly.

"It went beautifully," said SLAC education coordinator P.A. Moore, one of the organizing committee. "For a first effort, it was remarkable."

The girls listened to two panels of a total of 13 SLAC women speaking about their lives and

careers. The focus of the panels was to "introduce the girls to a variety of career options that they normally don't have exposure to," P.A. said.

"Many girls don't know women who are in 'non-traditional' jobs, who aren't secretaries, nurses, or teachers. If they don't know any, then they assume no women do that job," Cherrill Spencer, another organizer, said.

In the afternoon parents and daughters worked together throughout the lab.

"What makes this particular strategy a good one for expanding girls' career horizons, is that the girls get to see where a relation works. They can talk about it before they go, and after they come home the ideas can be reinforced," Cherrill added. "It's not like a class field trip to a factory."

Most parents and some departments had planned an activity to show the girls what happens in that department and how their equipment or system works. In the

Mechanical Design group, for example, several girls used sophisticated computer-aided design workstations to draw houses, animals, and cars.

Ray Arnold and Nick Nichols did some simple liquid nitrogen experiments for Ray's 10-year-old daughter Carolyn and the other girls visiting the cryoshop. Ray also took Carolyn to End Station A. "I introduced her to the people I deal with and basically did some business," he said. "I had fun—I'd do it again next year."

In the Central Lab machine shop, Jim Hammer helped girls to make a SLAC key chain. The girls cut out the pattern, filed it smooth, and stamped their name on the back.

"They loved it," Jim said. "I wish I could have made 109 of them!"

The enthusiasm of both parents and daughters proved that the day was a success. Nonetheless, questionnaires will soon be sent to all

Continued on p. 5.

Continued from p. 4.

participants and their parents asking them about the event and for suggestions on ways to improve the program.

The all-volunteer organizing committee was especially pleased

with the number of girls who attended the event, which exceeded everyone's expectations.

But success is not measured simply in numbers. "I saw the pride of parenthood," P.A. said. "There was this sense of 'this is my

daughter and this is where I work.' That's what made it a success for me." —Sarah Morisseau



Joan Winters



Cherrill Spencer



Cherrill Spencer



Cherrill Spencer



Joan Winters

Opposite: The group photo taken at the end of the day includes SLAC hosts and girls. **This page,** clockwise from top left: Walt Von Flue with his granddaughter Heidi Betancourt on his left, and Toshia Foth on his right; Jennifer Arnett looks on as Marc Ross explains blueprints at a Final Focus meeting for the SLC; panelist Denise Larsen shows examples of what she makes in the machine shop; Carolyn Arnold and friend on the bus tour; Don Arnett and Jennifer Arnett standing next to some brand new sextupole magnets in the Final Focus region of the SLC, very close to the interaction point.

¡Cinco de Mayo Celebration!

ON MAY 5 the first annual Cinco de Mayo celebration, sponsored by the SLAC Hispanic Employee Community (SHEC), drew over 300 employees. The sounds of fiesta filled the air as attendees ate authentic Mexican food, mariachis strolled across the lawn serenading the audience, and Al Pacheco's Band (in the photo below), with

Nick Arias at the keyboard, set feet tapping.

Sam Aranda played a major role in organizing the event, and served as Master of Ceremonies. Frank Martinez, president of SHEC, emphasized the desire of SHEC to share with all SLAC employees the importance of preserving Hispanic cultural traditions.

This production

was the result of a lot of hard work by SHEC committee members Sandra Cajal, Ree Campaña-Dufresne, Frank Martinez, Hector Prado, Sammy Aranda, and Eugenio Alvarado.

Peter Segura said in a memo to SHEC: "The program, with its mix of traditional and contemporary music and dancing, was by far the most lively and entertaining SLAC party I have been to in the 16 years I have been here."

The SHEC committee is grateful for the terrific support and response from the SLAC community and the people who provided door prizes. Thank you all!

—Ree Campaña-Dufresne



Sam Aranda



John Ashton

The Ballet Folklorico de Stanford (above), dances, create a feeling of celebration and



Sam Aranda



In the program finale the young people's form Mexican regional dances wearing to preserve their cultural heritage.



Sam Aranda



Dancers from the Ballet Folklórico de Stanford recruited members of the audience as dance partners. In the photo above Kaye Lathrop, Associate Director, throws himself into the proper fiesta spirit for his dance lesson. ¡Ajua!

With their colorful costumes and energetic fiestas for Cinco de Mayo.



Sam Aranda



John Ashton

Sandra Cajal in traditional Mexican dress, holds a fan from an exhibit of artifacts from Mexico and Spain. The exhibit was set up by Sandra with items she provided along with Ree Campaña-Dufresne, Anna Pacheco, and Maria Lombardo.

group, Raices de Mexico, above and left, performed traditional dances that help

TRP Notice

Last fiscal year, the Technology Reinvestment Project (TRP) made \$472 million available to industry, which matched those funds, for various dual-use (defense and commercial civilian) projects. The TRP is now a six-agency effort (DOD, DOE, DOC, DOT, NSF, and NASA), working through DOD's Advanced Research Projects Agency (ARPA). The TRP has approximately \$500 million which it plans to award in Fiscal Year 1994. Federal laboratories and universities may form partnerships with industry to seek certain categories of this money. Two solicitations are planned this year. Only the first solicitation is scheduled, and covers specific technology focus areas. (The second solicitation will have a broader set of technology focus areas.)

Competition 1

A. Technology Development Focus Areas

1. High density data storage systems
2. Object technology for rapid software development and delivery
3. Interoperability testbeds for the National Information Infrastructure (NII)
4. High definition systems manufacturing
5. Low cost electronic packaging
6. Uncooled infrared sensors
7. Environmental sensors

B. Technology Deployment Activity

Proposals will be solicited only for Manufacturing Extension Centers.

Tentative schedule

April 8: Announcement of ATP
 April 8–May 19: Outreach activities

Program Information Package

May 20: Solicitation
 June 30: Submissions due
 FY Q 4: Awards

For further information, contact Jim Simpson, Office of Technology Transfer, ext. 2213.

"State of SLAC" address recounted

SLAC DIRECTOR Burton Richter's All-Hands Meeting on Friday, May 6 offered a mixed review of the laboratory's situation.

Richter stressed that "scientifically, SLAC's present is fine" but acknowledged that the "budget situation is very tight." This problem comes from a lack of federal funding for science, not from within SLAC itself. The Director emphasized that despite these "terrible budgetary uncertainties," SLAC remains at the forefront of scientific research.

"There are some very important new results coming out of both the high-energy physics program and the synchrotron radiation program; all of our accelerators are working fine; and the number of users is growing," he said.

Richter specifically mentioned the recent achievements of SSRL, the SLC, which is the world's first linear collider, and SLD. He spoke of the many "remarkable things" that are done with synchrotron research and called SLC the "centerpiece" of SLAC's research.

"When I take dignitaries on a tour of the site, I tell them that our

research program goes from AIDS to Z bosons," Richter said, referring to experiments at SSRL and the SLC, respectively.

He added that SLAC will soon take its "first little tiptoe into space." Elliott Bloom and his group are helping to build the equipment for an x-ray satellite that is scheduled to fly in 1995.

Richter also spoke of the B Factory, which is both a scientific and a financial boon to SLAC. Physicists hope to use the results from B factory experiments to study CP violation, a theory that explains the creation of the universe. Although the B Factory budget and the general SLAC budget are in many ways separate, Richter explained how funding for the new facility will be used to keep employees at SLAC.

"Since our budget for ongoing operations is going down, we have to have a shift of people from our standing experimental program into the B Factory," he said. "That's the way we're going to keep people at SLAC."

Nevertheless, a lack of funding means that "we are going to have to

reduce the staff in ongoing operations by 80-100 people," Richter said. This will be done by moving staff from ongoing operations to the B Factory and through attrition.

"But this is not an easy problem," he said. "We are going to have to work efficiently and do more with less."

The lack of federal funding also means changes in the way salaries and raises are decided. "Exempt employees will get no raise. The bargaining unit will get whatever is negotiated in the next contract, and the non-exempt employees (who are almost entirely the clericals, the secretaries, the people on the lower rungs of the Administration Assistant ladder, and the working supervisors) will get the University program," Richter explained. He added that this new salary program is not ideal, but it "is the best of a bad situation."

The Director concluded his talk on a similar note. "For the long term, things look very good," he said. "But for the short term, they're not so nice. The only way we'll get through this is jointly." —Sarah Morisseau

Sound of FAX calling

HAVE YOU EVER answered your phone and instead of hearing a human voice in response to your "Hello?" you simply hear a beep? If you ever do, it may well be someone with the wrong fax number trying to send a fax to your phone number.

Recently I asked our secretary to pretend to send a fax to my office number. When I answered the phone, I heard the sequence of a beep and several seconds of silence repeated 14 times and then followed by silence until I hung up the phone. If this happens to you, you can assume that you're the recipient of a call from a fax machine calling the wrong number.

—Ilse Vinson

HIGHER-SPEED ARA MODEM TESTED

TESTS OF a Global Village TelePort/Mercury modem for use as the answer modem for our Apple Remote Access server at SLAC are completed. Tests included using a GV PowerPort/Gold modem in a PowerBook 145 connected at 14.4Kbps. The tests showed about a 50% improvement in speed (which you would expect). The Microcom modem was connected at 9.6Kbps (that's the maximum speed the Microcom can reach without compression). Both modems connected without any problems. Another GV Mercury was tested at 19.2Kbps.

Other users successfully connected to the GV Mercury with different brands of modems (LineLink, MultiTech, US Robotics); all users reported an improvement in speed.

Computing Services plan to have eight ARA server ports, all with Global Village Teleport/Mercury modems, available the week of June 13, 1994. —Ken Martell

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Environmentally conscious engineering “in”

RIDING YOUR BICYCLE is politically correct (PC); riding your All Terrain Vehicle is not. Keeping up with what is and what is not PC is tough and just when you think that you’ve mastered it, another topic enters the arena. Now it’s politically correct engineering. This type of engineering, technically known as environmentally conscious engineering (ECE), focuses on the importance of considering environmental issues early on in the planning and designing process.

Waiting until the end of project planning to think about the environment, and trying to retrofit things to comply with government regulations concerning hazardous waste, pollution prevention, and other environmental matters is no longer acceptable. Instead, projects need to address environmental issues from the beginning. Modifying a project later to meet complex government regulations is no longer practical. It costs too much—in terms of both money and time. Thus, it is essential to consider a project’s impact on the environment, as well as any related government regulations, early

on in the planning process.

A side benefit of ECE has turned out to be that it encourages various departments at SLAC to work together to anticipate the future needs of a project and to coordinate their respective responsibilities in advance.

Environmentally-conscious engineering is successfully incorporated into several projects at SLAC. For example, the Plant Engineering Department (PED) reduced the threat of hazardous oil leaking from electrical equipment by removing the source of the potential leakage. In many pieces of electrical equipment, PED replaced oil-cooled transformers with air-cooled transformers. PED is also acting environmentally responsible by recycling the scrap metal from the old transformers.

The Facilities Department recycles the refrigerants used in large air conditioning equipment. The Mechanical Fabrication Department prevents uncontrollable chemical spills in their metal cleaning and plating operations by increasing the efficiency of the equipment used in these processes to allow secondary containment of

chemicals. The Klystron Department incorporated pollution prevention measures into their test lab by designing the 600-kV modulators with secondary containment capabilities.

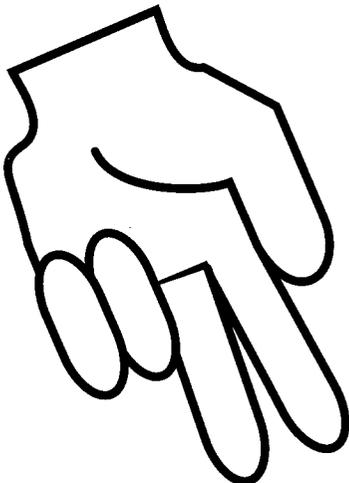
Environmentally conscious engineering saves money, protects the environment, and promotes cooperation among all of SLAC’s divisions and departments. Over the past few years, it was applied in the following ways to waste management and pollution prevention at SLAC:

- Eliminating the source of waste or pollution.
- Recycling.
- Increasing the efficiency of industrial equipment.
- Incorporating pollution prevention into the design of projects.

For additional information about ECE, please contact Richard Cellamare, SLAC’s waste minimization and pollution prevention specialist, at ext. 3401.

—Richard Cellamare
and Melinda Saltzberg

Let your fingers do the walking . . .



WHEN YOU DON’T KNOW who to contact for help on a specific environment, safety, or health issue, refer to the ES&H Resource List. The list identifies the correct number to call for assistance with a broad spectrum of ES&H-related issues; everything from air pollution and fire safety to hazardous spills and training. The list is updated quarterly and is sent to directors, managers, supervisors, safety representatives, building managers, and group secretaries.

Keep the Resource List in a handy location for quick reference. If, after scanning it, you still are not sure of the correct number to phone, please call the ES&H Hot Line at ext. 4641 for assistance.

If you do not presently receive a copy of this list and would like to be included in the distribution, please contact Judy Nowag at ext. 2341.

—Melinda Saltzberg

Second Earthquake Faire successful

OVER 800 people enjoyed and benefited from SLAC's second Earthquake Faire, held in the Breezeway and Auditorium on Tuesday, May 3 from 10:00 AM to 3:00 PM. Central Stores from Stanford Campus was happily surprised by the large turn-out of people who were upgrading or just starting to gather their home, office, and/or car earthquake safety resources; they sold out of earthquake safety kits twice and had to go back for more, answering the needs of attendees until at least 15 minutes after the event closed.

PG&E's Exploding Gas House, a favorite display that shows the impact of leaking gas on flammable materials in your house or garage, was again a favorite attraction of the show. Kriss Costa from Santa Clara County's Department of Environmental Vector Control commented that she works "a lot of these fairs and has never been made to feel so welcomed or had people show so much interest and ask so many questions."

The film "Surviving the Big One" (which you can check out from the SLAC Library) was shown a few days prior to the Faire and again three times throughout the Faire's duration. Carol Bechtel of

SLAC Personnel was one person who saw the film and heard the narrator state at the end that "if you don't do something within 24 hours, it will get easier and easier to keep procrastinating." So even though Carol already had a Red Cross earthquake safety pack in both her and her husband's cars, she purchased more supplies at the Faire and equipped both cars more fully by the end of the day, following many of the suggestions she heard in the film (including identifying an out-of-state contact for family messages). And she said she wasn't done yet: she wanted to learn how to turn the gas off at home with the special wrench she planned to purchase.

Carol is a good example of why the Earthquake Faire was held and must continue to be held on a periodic basis. If just a small percentage of those many attendees take a few more steps toward creating a safer and more ready environment for themselves in the event of a major earthquake, all of the SLAC volunteers should feel proud: Dona Jones (Coordinator), Janice Dabney (Co-Coordinator), Rich Huggins, Captain Mick McDonald, Al Kientzler, Helen Nuckolls, Rich Jones, Sally Zapata, David Price, Sylvia Ong, Rick Yeager, Karen

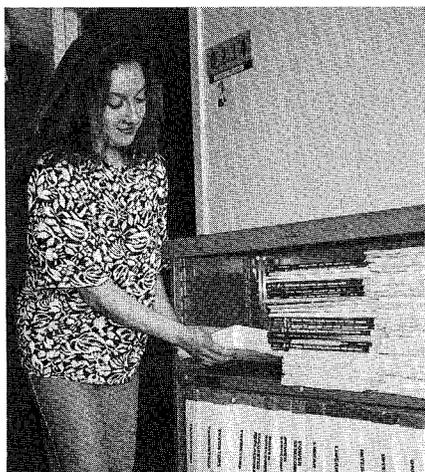


Janice Dabney

PG&E's demonstration of the many ways people can be harmed from improper safety near electrical wires.

McClenahan, Nina Adelman Stolar, Brad Youngman, and others who helped to make arrangements or staff the tables. Thanks also goes to Herb McIntye and staff for audio-visual support, to Robbie Robinson and his crew for set-up, and to Sylvia MacBride for all of her eye-catching artwork before and at the Faire.

—Janice Dabney



Free: Everything must go

Are you the kind of person who saves everything? Do you drive by a garage sale and can't resist the bargains? Is your house full of stuff you know you'll use someday? If you fit this description then read on. The free journal shelves have moved to a new location. Formerly in the Central Lab lobby, the free journal shelves are now located in the hallway outside the SLAC Library in the Central Lab. The journals found there are withdrawn second copies from the Library periodical collections. They are recycled regularly so don't miss this opportunity. In the photo (left) Araceli Zapata restocks the shelves, but those copies of *Mac User* and *Electronic News* go fast. Be the first one in your group to visit the new location! Call the SLAC Library staff if you have questions at ext. 2411.

—Robin Chandler

In Memoriam

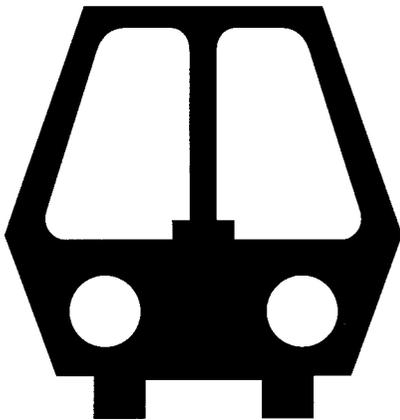
Bernie Romero, Timroff Johnson, and George Tunis met when they began work at SLAC 25 years ago, and remained good friends ever since. Timroff, who worked in Mechanical Fabrication, died on March 3 of a stroke. He was 48. George, 46, died on April 10 after he was hit by a car while riding his bicycle. He worked in Operational Health Physics. Bernie wrote the following piece in their memory.

I lost two of my best friends from SLAC this past month. They died within a month of each other. One black, one white. One fiercely proud and solitary, the other unconventional and easy-going. They both taught me about different cultures that I knew very little about. I learned not to take everything said as gospel as well as to analyze what has been said. They taught me about family, kids, and the right thing to do. We

had many discussions on politics, religion, music, work, and people. We came from three different backgrounds, but we shared many of the same views. I'll miss your counsel, our laugh sessions, and your own culinary delights. To "Big T," keep fighting. To "Geo T," keep riding. I'm proud to have counted you as true friends.

—Bernie Romero

SF—Stanford vanpool has space



A COUPLE OF SEATS are open in our commuter vanpool that runs daily from San Francisco to the Stanford campus and back. This vanpool is well-established: we were organized in 1987 and have operated continuously since. We are a friendly and diverse group of Stanford employees who are interested in saving gas, wear and tear on our cars, and our sanity (not necessarily in that order), while helping reduce air pollution in our own small way.

We lease a 1994 12-seat air-conditioned luxury van from VPSI, the biggest lease company in this business. The seats recline fully and

come equipped with individual reading lamps. Needless to say, we get a lot of sleeping and reading done during our commute. The van departs from the Glen Park/Noe Valley neighborhood (parking is not a problem) promptly at 7:10 AM and makes a stop at the Glen Park BART station at 7:15 AM. Our arrival time at SLAC is approximately 7:50 AM and pickup from SLAC in the evening is at 5:20 PM. We arrive back at the Glen Park BART station at approximately 6:00 PM.

The cost is \$115/month for full-time riders and \$60/month for half-time riders. One additional benefit to consider (particularly at this time of year) is that ridership entitles you to a state tax credit (i.e., a dollar-for-dollar reduction of your tax due) of up to \$480 each year.

If you are interested and would like to check us out, we would be happy to have you join us for a complimentary ride before making any commitment. For information please contact Chris Yates on the campus at 725-4223.

—Chris Yates

Fifth Annual Juneteenth

THE BLACK ASSOCIATION of SLAC Employees (BASE), celebrates its Fifth Annual Juneteenth on Friday, June 17. This celebration recognizes the talent and contributions of African-Americans within the SLAC Community.

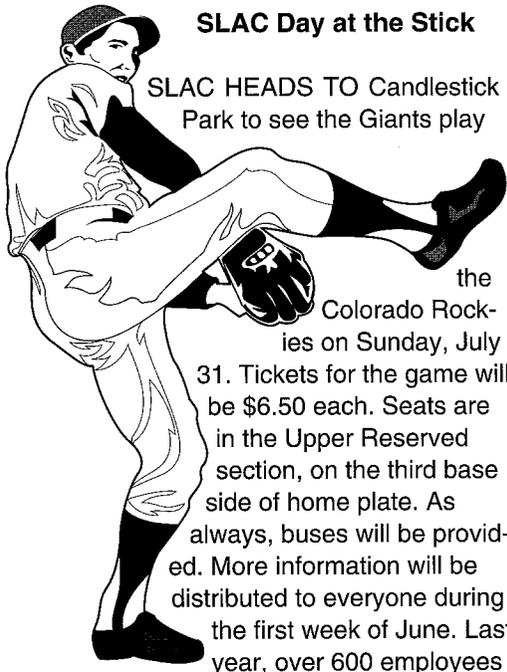
Juneteenth is a five-day period in June when news of the Emancipation Proclamation (signed in January 1863) reached the slaves in Texas and a few southern states.

This year's theme for Juneteenth is "Unity—Back To The Basics." The scheduled guest speaker is the Honorable James Ware of the United States District Court for the Northern District of California. Throughout the celebration there will be entertainment, African-American displays, door prizes, and a good old-fashioned Texas barbecue.

The cost is \$8 for advance tickets, \$10 if purchased after June 10, and \$5 for children under twelve. BASE members invite all SLAC employees and their families to help us celebrate Juneteenth on Friday, June 17 from 3:30 PM to 6:00 PM in the cafeteria picnic area.

Come join us in "UNITY!"

—Al Ashley



SLAC Day at the Stick

SLAC HEADS TO Candlestick Park to see the Giants play

the Colorado Rockies on Sunday, July 31. Tickets for the game will be \$6.50 each. Seats are in the Upper Reserved section, on the third base side of home plate. As always, buses will be provided. More information will be distributed to everyone during the first week of June. Last year, over 600 employees enjoyed the annual "SLAC Day at the 'Stick"—let's try to break that record!

—Al Ashley

Beam Line Distribution to Change

SO FAR the distribution of the *Beam Line* at SLAC has been achieved by sending a certain fixed number of copies in bulk to each mail stop, where they could be picked up by whoever wanted one. This policy will end with the distribution of the current Spring 1994 issue. After that, individual copies will be sent to those people who ask to be included on the *Beam Line* mailing list—just as is done for everyone outside SLAC. We anticipate we will achieve substantial savings by doing so.

If you would like to continue receiving the *Beam Line*, be sure to send a note to Rene Donaldson including your name and mail stop number (preferably by e-mail to rened@slacvm). Thank you very much for your continued support of this periodical of particle physics.

—Rene Donaldson and Michael Riordan

Jue sets new bench press record

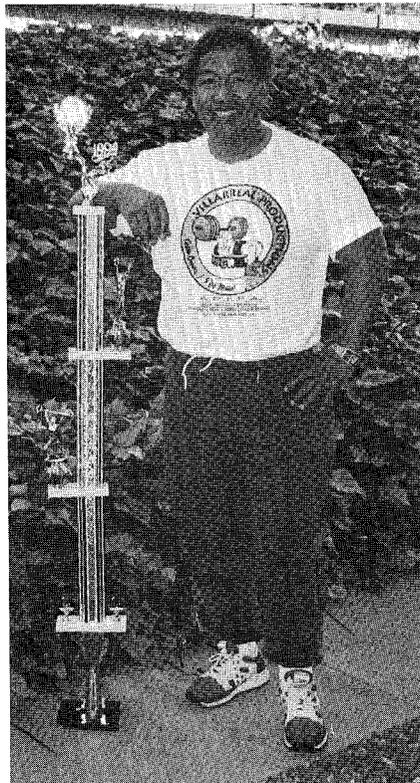
JIMMY JUE, who works in the Control Department, set a new state bench press record for his age and weight class at a recent American Drug-Free Powerlifting Association meet in San Jose. Jimmy lifted 341 pounds to break the previous 314-pound record, which he set a year ago.

Jimmy beat Armon Tiano, who is running for Santa Clara County Sheriff, to take first place in the competition. Jimmy first lifted 308 pounds, which Armon challenged with 314 pounds. The two continued to one-up each other until Jimmy won with 341 pounds.

"I beat him this time, but I'm going to vote for him for sheriff," Jimmy says with a smile.

Jimmy won a 5'4" trophy for his efforts. He will compete again in Napa at the beginning of June.

—Sarah Morrisseau



All meetings are held in the Orange Room, unless another location is listed. Larger meetings and conferences have a contact listed. Please notify the Public Affairs Office of any additions or changes by calling ext. 2204 or sending e-mail to nina@slac.

June 1-3

SU Alumni Association Workshop
Auditorium

June 5, 1 PM

Theory vs. Experiment
Softball Game
The Green

June 6-10

SLD Week (TBA)

June 7-9

DOE B Factory Review
J. Dorfman, R. Nixon

June 11

SU Commencement Tours
Mem Aud, Campus/
Bus Route

June 12

Stanford Commencement
Stanford Campus

June 17, 3:30 PM

5th Annual Juneteenth
Cafe Picnic Area

June 20-July 1

Science Teachers Workshop
H. Quinn, PA Moore,
A. Erzberger
Training/Conference Center

June 20-July 10

World Cup Soccer
Stanford Stadium

June 20-August 19

Summer Science Program
Training/Conference Center
C. Figueroa (UCSC),
K. McClenahan

June 22, 8:30 AM-3 PM

SUBB Mobile Blood Drive
Auditorium/Lobby

June 27, 7 PM

OS/2 Users Meeting
Auditorium

June 27-July 1

European Particle
Accelerator Conference
London
C. Petit-Jean-Genaz, CERN

June 29-July 14

DPF Summer Study on HEP
Snowmass

EVENT CALENDAR: June 1994