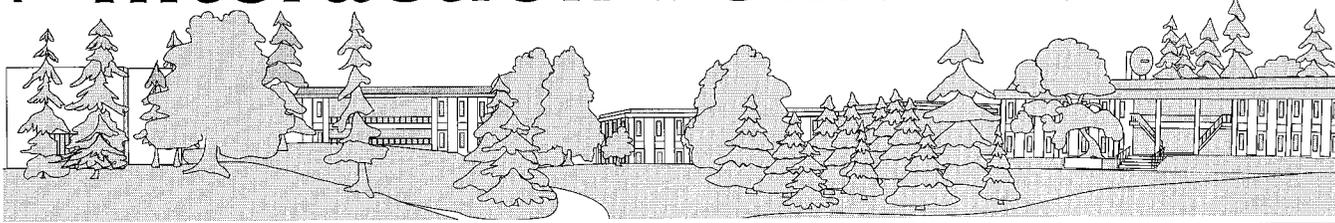


# The Interaction Point

Events and Happenings  
in the SLAC Community  
July 1994, Vol. 5, No. 7



## Imperial visit highlights cooperation



Emperor Akihito greets Peter Tenenbaum, Kiyoshi Kubo, Yuki-yoshi Ohnishi, Hiro Masuda, and Shuji Matsumoto.



Empress Michiko greets Ryochi Kajikawa while Emperor Akihito shakes the hand of Blair Ratcliff.

by Jill Mhyre

JAPANESE EMPEROR AKIHITO and Empress Michiko represented their nation's commitment to international collaborations in high-energy physics when they visited SLAC and toured the Klystron Gallery and the SLAC Large Detector (SLD) on Thursday, June 23. In the spirit of cooperation, Directors Hiroataka Sugawara of KEK, Japan's National Laboratory for High-Energy Physics, and Burton Richter of SLAC co-hosted the Imperial Couple's tour.

The visit celebrated fifteen years of collaboration between American and Japanese physicists at SLAC and KEK. (See "Cooperation in High-Energy Physics Research Between the United States and Japan" in the *Beam Line*, Vol. 22, No. 1, page 1.) An agreement signed in June 1990 by Directors Sugawara and Richter intensified

the efforts of these collaborations towards the eventual goal of creating a more energetic linear collider than those existing today.

This agreement led to joint R&D on high-power klystrons and accelerator structures, the shared creation of focusing and diagnostic equipment for the final focus test beam (FFTb), and a growing convergence in "the specifications and schematic layouts of SLAC's Next Linear Collider (NLC) and KEK's Japan Linear Collider (JLC)," according to Greg Loew, Deputy Director of the SLAC Technical Division. As the plans for the NLC and the JLC become increasingly similar, the R&D done for one machine design becomes more useful for the other, which enhances the value of this collaboration. Although both KEK and SLAC are still designing separate machines, Director Burton Richter mentioned the probability of fus-

ing the two designs into a single Pacific Rim Project, according to the June 24 *San Jose Mercury News*.

With notice from the Japanese Consulate in April, SLAC entered a two-month whirlwind of preparations. Loew and his committee of planners created charts of the anticipated route, planned the time schedule down to the minute, and ran several simulations of the visit. As they worked through the myriad details of the visit, other staff members began to prepare the site.

Rick Yeager, head of security, "walked a lot of ground," and coordinated with the Secret Service, Japan's Secret Service, and the Menlo Park Sheriff's Department to establish the safety of the laboratory visit. Michael Riordan coordinated both Japanese and American news agencies to organize press coverage of the event.

See **Visit**, page 6

# Procurement answers DOE challenge

FLASH! SUDDEN INTEREST in procurement at SLAC. But why? Could it be the Contractor Purchasing System Review conducted by a team from DOE Headquarters in early March? Probably. It seems that that review has also spawned a number of rumors—and here's hoping that I can now clarify exactly what did happen.

The team consisted of six members who spent almost two weeks at SLAC reviewing approximately 250 procurement transactions that took place between 1989 and early 1994. The team did an extremely thorough, professional job and was very rigid in its interpretation and application of DOE's rules and regulations—much like the Tiger Teams of a few years ago. The outcome of their review was a report that listed 32 "observations" about SLAC's procurement operation.

It should be noted that while the review team did identify areas of SLAC's purchasing system that needed improvement, they also pointed out several areas of strength. First among these was the observation that SLAC purchasing personnel continue to demonstrate a clear sense of dedication and a strong commitment to supporting program requirements. In addition, the team noted that SLAC had set and surpassed high goals for socio-economic programs—a current high-priority area for the DOE.

On the other hand, the weaknesses identified by the team appear to have four root causes: first, a lack of advanced procure-

ment planning; second, a lack of training; third, inadequate written procedures; and fourth, the lack of a modern management information system. The Procurement Office has already initiated a number of actions to correct these weaknesses. Those which have already been implemented include:

- Contracting with a consulting firm to help SLAC rewrite its procedures and to develop a formal training program for both the initiators of requisitions and the purchasing staff.
  - Hiring a data entry employee to collect management data not currently captured by the purchasing system.
  - Acquiring temporary space to bring together some of the procurement staff.
  - Hiring an Associate Purchasing Officer to strengthen purchasing office expertise.
  - Training both purchasing staff and selected groups at SLAC.
- And plans for the future include:
- Formal training for users and procurement staff.
  - Development of a procurement handbook.
  - Increased emphasis on advanced procurement planning and technical assistance to purchasing.
  - Improved communications with the SLAC community through the use of newsletters, *Interaction Point* articles, etc.
  - Acquisition of a modern comput-

er-based procurement system.

In addition to these actions taken by SLAC, the Oakland Operations Office of the DOE is assisting us in our response to the review. Currently either Drayton Swartz, SLAC's Contracting Officer, or Georgia McClelland (and sometimes both) spend their Thursdays and Fridays at SLAC, reviewing

**"SLAC purchasing personnel continue to demonstrate a clear sense of dedication..."**

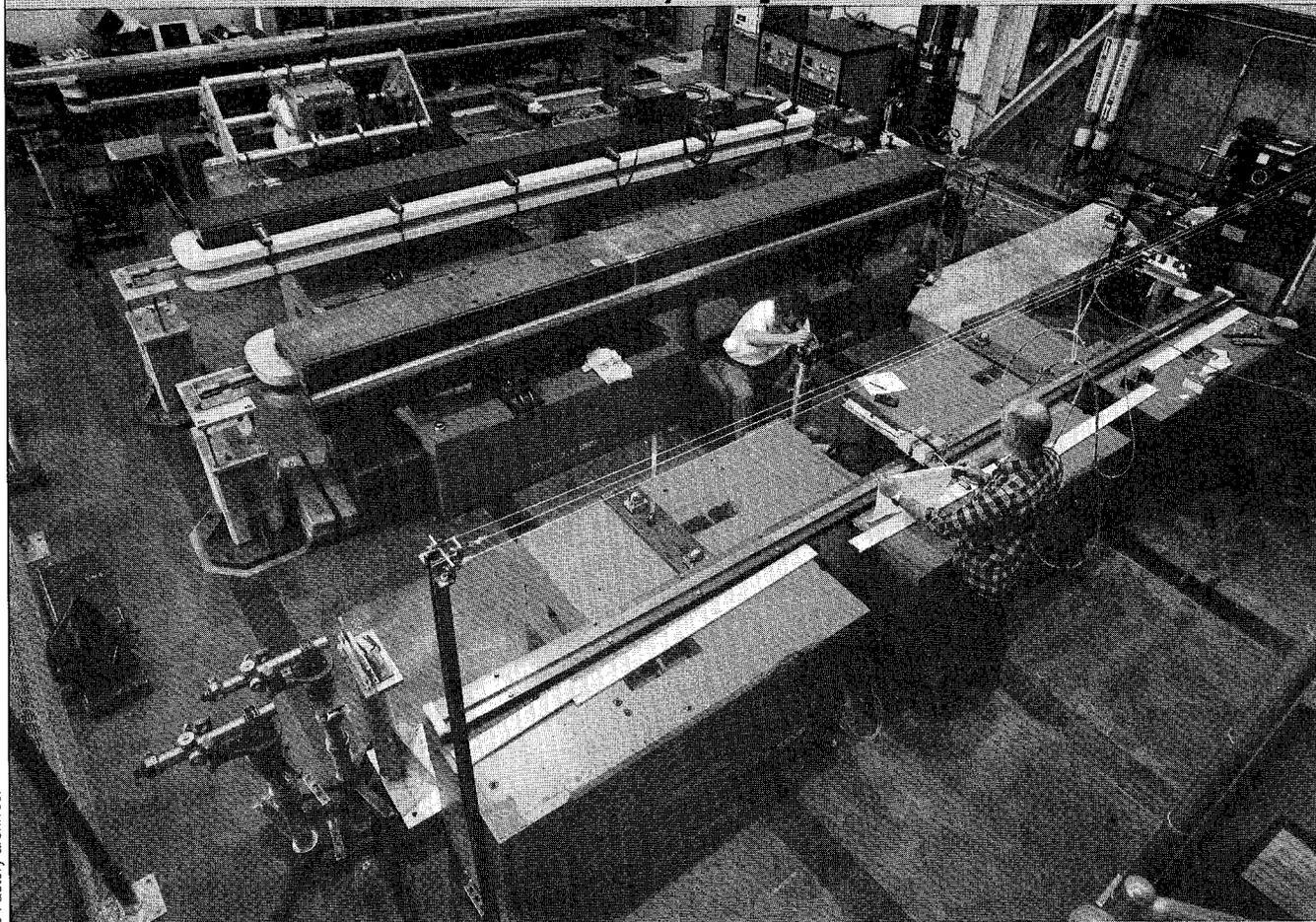
our procurement actions and answering questions, as well as providing

suggestions regarding our procurement system.

A question I often run into these days is, "Why is a DOE-approved procurement system important to SLAC?" Of course, the immediate answer is simple—per our contract with the DOE, SLAC must have an approved procurement system that meets applicable statutes, DOE and Federal regulations, and good business practices. Without an approved system, most procurement actions would have to go to DOE for approval before an order could be placed. But a more important reason is that in the process of meeting the DOE's expectations, we should be able to improve substantially the level of understanding of the procurement process within the laboratory itself. This understanding will in turn improve communications between purchasing and the requesters, and ultimately enhance the quality of the entire procurement process, thus resulting in lower costs for supplies and services used by the SLAC community.

—Jerry Jobe

## B-Factory Update



B-Factory archives.

PEP-II IS ON ITS WAY! Having successfully passed two Department of Energy (DOE) reviews, teams from the three Bay Area laboratories are hard at work transforming the *B* Factory from concept to reality. According to project director Jonathan Dorfan, the project has received "very positive evaluations" from both a business strategy group and the Lehman technical and management review, both conducted in May.

Work is now under way to clear out the PEP tunnel to make way for new components. Led by Tom Taylor and Al Mixon, the removal team is "well ahead of schedule." Although approximately \$70 million dollars will be spent procuring parts and equipment for the *B* Factory, many components of the existing PEP facility will be recycled and refurbished for PEP-II. In particular, the large dipole magnets from PEP-I, used for steering and focusing electrons and positrons, are being refurbished on site in the Heavy Fabrication building under the direction of John Gracia and the refurbishing team (see photo). Currently, one-fourth of the dipoles have been refurbished, with re-installation of the magnets to begin in February.

According to David Leith, Director of Research, the

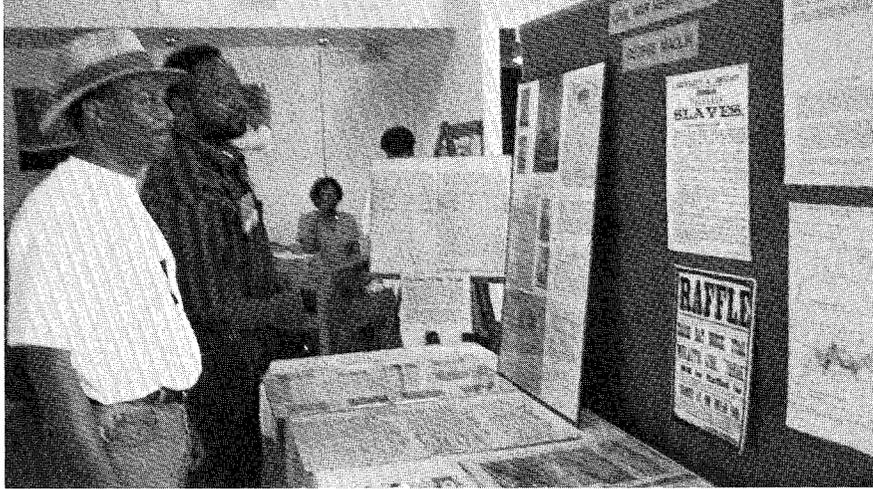
detector collaboration has also made considerable progress within the last six months. At the Collaboration meeting on July 9 and 10, David Hitlin from Caltech was named spokesman for the experiment, while Vera Luth from SLAC was one of five US and five foreign physicists named to the executive council. One week later, the council met to approve the letter of intent, a document that describes the detector and the role of various subgroups.

While design and construction of the PEP-II accelerator has proceeded rapidly since the project was formally approved six months ago, coordination among the approximately four hundred individuals in the BHABA detector has caused that project to proceed at a somewhat slower pace. According to Professor Leith, however, that situation may be about to change: "We hope to see an instantaneous ramp-up of organization and implementation now that the spokesman and executive council have been named."

By the end of the year, Leith expects the detailed technical proposal to be completed, as well as agreements on which institutions will build the subsystems, and a detailed budget for the detector.

Fourth annual Juneteenth celebration

# Unity—Back to Basics



THE BLACK ASSOCIATION of SLAC Employees (BASE) celebrated its fifth annual Juneteenth on Friday June 17. In addition to remembering slavery and the Emancipation Proclamation, the holiday also serves to celebrate the complexity of African-American culture, to educate people about the culture, and to highlight community goals for the future. The official theme of this year's Juneteenth celebration was "Unity—Back to Basics." This theme reflects the desire "to strive for and maintain unity with members of a family, community, nation, and race." Along with the official theme, the celebration also focused on the successes and contributions of African Americans to modern American culture.

With unity as a theme and success as a motto, the members of BASE and other interested members of the community gathered at the Juneteenth celebration to listen to the sounds of gospel and blues music. Irma Frank opened the ceremonies with the Negro National Anthem, "Lift Every Voice and Sing." Later, people relaxed to the rhythm and blues music of "Blue Dog."

Jym Marks, Bay Area poet, read a piece in honor of black men and

father's day. His poem focused on the successes and the responsibility of African-American men, proclaiming in the refrain that "We are the black men—anointed with success."

Marks' poem was followed by the words of the keynote speaker, Judge James Ware of the US District Court for the Northern District of California. Ware expressed his concern that time has become the currency of exchange, and predicted that as technology increasingly buys its users more efficiency, the personal interactions that are so important for developing healthy race relations may be compromised. "Biases and prejudices entrench themselves when encounters grow less frequent." He warned people never to stop discriminating, and never to allow assumptions to fill the gaps of honest questions. Discrimination, according to Ware, means inquiry. "The more you discriminate, the less biased you are."

Inside the breezeway, several cultural displays of black dolls, pottery, African-style garments, books and posters about Africans and African-Americans played the dual role of highlighting Black



This page, from top left: *George Maclin and Lorenzo Lowery examine Maclin's display of Civil War memorabilia; Hon. James Ware delivers the keynote speech; Jym Marks recites his poem; Joyce Tippcoats and friend model African-inspired clothing designs; members of "Blue Dog" entertain the crowd. Facing page: Carleton Washington and Lorenzo Lowery examine clothing displayed by Joyce Tippcoats.*

See **Unity**, page 5



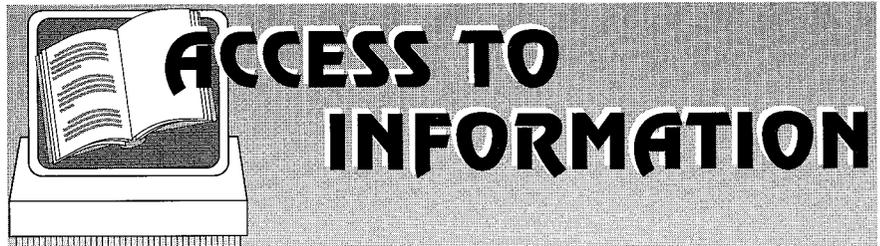
contributions to American culture, and featuring contemporary artists and their work. Al Ashley displayed an African-American Coin and Stamp Collection depicting the faces and accomplishments of African-American heroes.

George Maclin created a display of Civil War memorabilia to place Juneteenth in its historical context. On June 19, 1865, General George Granger and his federal troops arrived in Galveston Texas with the mission to liberate the local slaves, and to force the area's slave owners to recognize the Emancipation Proclamation of 1863. The Juneteenth celebration is held annually to commemorate this event.

BASE members presented Al Ashley with its first "Ashley Humanitarian Award," created in his honor to recognize his dedication to improving working conditions at SLAC. The award will be presented annually at future Juneteenth celebrations.

With the live entertainment outside, and the exhibitions indoors, members of BASE drew their family and friends to SLAC in order to focus on both the successes and the unity generated by the African-American heritage.

—Jill Mhyre



## Making conference calls

THE INCREASED NUMBER of collaborations has inundated SLAC's telephone attendants with requests to establish conference calls. You may not know that it is not always necessary to place conference calls with assistance from the attendants; you can usually establish conference calls yourself.

## Placing a conference call yourself

SLAC's telephone switch manufacturer recommends that we limit the number of participants in a conference call to no more than six to ensure good quality of the voice transmission. However, if you wish, you can try to conference with more people.

To establish a conference call from your phone you need the appropriate class of service: 3 for long distance (that is, continental US), or 4 for international. Ask your Area TelCom Office Motivator (ATOM) for assistance if you wish to change your phone's class of service.

To connect more than three participants, your phone also needs to be enabled for six-party conferences. Telecommunications will change the default from three-party to six-party over time. But, if you wish to have your phone enabled for six-party conferences in the very near future, please ask your ATOM to make that request for you.

The procedures for establishing a conference call are described in the reference section of the SLAC telephone directory (viewable online from the World Wide Web

SLAC home page under the section "Other SLAC Information Resources" or on the VM by entering the command **help phone feat\_mul** (secretarial phones) or **help phone feat\_sin** (single-line phones). Or, you can ask your ATOM to show you how to establish a conference call.

## When to request SLAC telecommunications assistance

Call "0" to reach the SLAC attendant to establish a conference call:

1. When you make an international conference call and you are a user from another institution or a collaborator in groups SLD, TPC, or NPS (now called EK) so that Telecommunications can get the appropriate charge account number.
2. When you need to establish a conference call from a phone that does not have the appropriate class of service (3 or 4). Should you need to establish a conference outside of the hours 7:30 AM to after 5 PM Monday–Friday, the SLAC attendant will arrange for it to be placed by an AT&T operator and will call you to give you the AT&T request number for the call. The AT&T operator will call you at the requested conference time and establish the call for you.

—Fran Balkovich, Janet Dixon  
and Ilse Vinson



**Visit** Continued from page 1

Graphic Artist Terry Anderson produced posters and a colorful brochure highlighting SLAC's collaboration with KEK. Rick Challman headed the team that manicured the grass and even used straw to conceal a patch of scorched earth created by a recent grass fire. Many others moved old equipment out of sight, polished current equipment, installed a new tile floor in an elevator, and did everything they could to make the site look its best.

Everyone involved in preparing for the visit was impressed with the group effort and the amount of work they were able to accomplish together. Greg Loew praised the "terrific team spirit." Roslind Pennacchi and Kathy Burrows, who headed the clean-up efforts in the Klystron Gallery, were pleased "that we all worked so well together...and no one complained."

Along with Sheryl Klaisner, Pennacchi, Burrows and a team of maintenance workers remade the styrofoam box that covers the main drive line, removed radiation ropes, and moved out cables and boxes. When they were finished, the place looked like a museum, according to Loew. Public Affairs can now reap the benefits of an upgraded Visitors' Alcove in the Klystron Gallery, a key stop on SLAC's Tour Program.

Their efforts were rewarded on June 23—the presentation in the Klystron Gallery flowed smoothly. Joined by former Prime Minister Kiichi Miyazawa, Ambassador Takakazu Kuriyama, and the Consul-General of San Francisco, Ryozo Kato, the Emperor and Empress entered the Gallery, and impressed everyone with their royal grace.

After a brief 10 minutes, the group was whisked away to the SLD. Built with the help of Japanese physicists and engineers, the

\$65 million particle detector is a perfect example of the benefits created by international cooperation. With the direction of Martin Breidenbach, Phil Seward organized the preparations of the detector hall. The team moved the old detector out of the way, cleaned up the new detector, and carefully taped down a mat for the Empress to walk across. Seward praised the invaluable effort put out by the numerous people "who weren't standing up front when the Emperor came."

When the Imperial Couple arrived at the collider hall, an unplanned surprise prevented the possibility of descending the six stories into the pit. The elevator was locked below. Physicists had placed the elevator in manual operation mode "because we didn't want [the door] to close on [the Emperor] as he entered." When Michael Huffer, SLAC physicist and temporary elevator operator, rode down to the pit to give the press a five minute warning, he dashed out of the elevator and the elevator closed with the keys inside!

According to Rick Yeager, it was a blessing in disguise. The secret service, SLAC security, and the Sheriff's department did not want the Imperial Couple going down to the pit. Yeager explained that any time you put a head of state in such a restricted area, there is a potential for problems. Yeager is thankful the elevator did not close with the Imperial Couple in the pit. The Emperor and Empress may not have been prepared physically to climb six flights of stairs, let alone the symbolic problems this may have caused. John Beach, who scrambled up the stairs to obtain photographs of the Imperial Couple for SLAC, can attest to the length of those stairs. He joked that after climbing the stairs, he might have had "a cardiac [arrest] right in front of the Emperor."



Ray Cowan

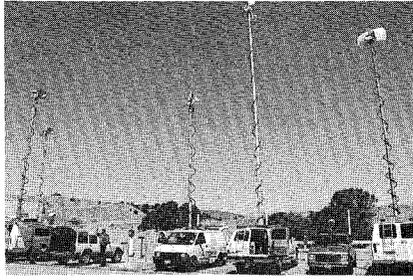
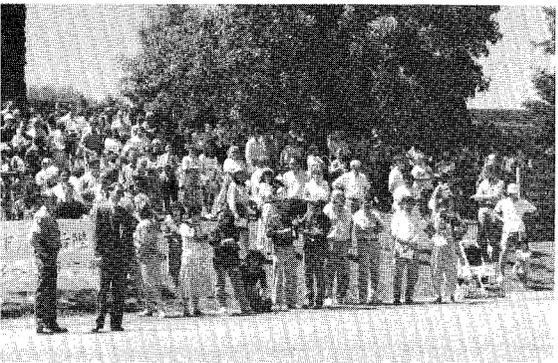


Clockwise from top left: Empress Michiko speaks with Mas of Harvey Lynch; disgruntled photographers wait in the SLAC Empress Michiko waves good-bye; the furnished Data Ass Michiko; a crowd of SLAC employees and interested comm

Three gifts were prepared by SLAC for the Imperial linac and the linac of the NLC mounted full beam tree for the Emperor and Empress. Accent the cooperation between Japan and the U.S. of Michael Riordan's *The Hunting of the Quark*.

Greg Loew credits the quick thinking of Eleanor to the Data Acquisition Room, which is on ground level. She talked about the SLD and delivered the gifts to the Emperor.

The tour ended with a greeting line of about 200 physicists from Nagoya University, also met the Emperor and Empress. The honor that SLAC received when the Emperor and Empress visited there as Crown Prince. "In Japan,



All photos this page (except SLAC crowd) courtesy John Beach.

o Kuriki, Takahito Rizawa, and Hideaki Kawahara; Empress Michiko greets Michiko Minty in the presence pit with no photo opportunities; television trucks deliver their footage of the visit via 100-foot antennae; mby Room; Directors Hiroataka Sugawara and Burton Richter escort Emperor Akihito and Empress unity members gathers by SLAC's front gate to welcome the Imperial Couple.

perial Couple. The first gift was a plaque decorated with gold-plated sections of the side by side, and was designed by Harry Hoag. SLAC also created a large and beauti- cording to Carl Rago who helped produce it, "The different sections [of the beam tree] S to develop the next large electron machine." The final gift was the Japanese edition

onor Mitchell for having the gifts for the Imperial Couple brought up from the SLD pit nd level. Here, Director Emeritus Pief Panofsky met the Imperial Couple and Richter ne Emperor and Empress.

30 SLAC and KEK physicists in the collider hall. Physicist Michiko Minty, named after e she was teaching, to meet her. Hiroaki Masuda and Ryiochi Kajikawa, visiting e royal couple. Both physicists are working on the SLD project. They emphasized the sited here. Even KEK has never received a Japanese Emperor on its campus, although a it is next to impossible to meet the Emperor," according to Masuda.

Kajikawa was very pleased that SLAC rose to the honor of the royal visit and welcomed the Imperial Couple as it did, given that the Emperor is a symbolic leader of Japan, without international political power.

When he met the Imperial Cou- ple, Masuda expected the visit to be more formal than it was. Pre- pared to remain quiet unless asked a question, he was sur- prised that Emperor Akihito and Empress Michiko were so friend- ly. When he explained the SLD project and discussed life at SLAC with the royal couple, "We didn't have to use super-poetic expres- sions."

In retrospect, Yeager said the visit drew "favorable comments from everyone.... It was nice to see it come together as smoothly and as flawlessly as it did." Most importantly, from everyone's per- spective, Emperor Akihito and Empress Michiko seemed to enjoy the excursion. So after two months of planning and preparations, the tour ended after only 45 minutes, but the goodwill shared between SLAC and its peers in Japan will stretch long into the future.

**TO ORDER PHOTOS**

Copies of color photographs taken during the Imperial visit to SLAC can be ordered in the Publications Department, Central Lab, Room 110. Payment should be by check only, made payable to Imperial Color Labs., Inc. If you have any questions concerning photo orders call André Cooksey, ext. 4134.

Print	Price	Extra Copies
4 × 5	\$ 5.50	\$2.75
5 × 7	6.50	3.57
8 × 10	9.00	4.50
8.5 × 11	10.00	5.00

# Breast Cancer: it's in your hands

DR. MARGARET DEANESLY, SLAC's medical doctor, presented a lively and amusing talk last month called "Breast Cancer: It's in Your Hands" sponsored by the Women's Interchange at SLAC (WIS). As a 27-year survivor of breast cancer, and an expert on the topic, Dr. Deanesly has spoken publicly for many years to encourage women to perform their own breast self-examinations.

Breast cancer strikes one in eight women in this country "if you live long enough," as Dr. Deanesly said. Apparently the rates rise substantially as women grow older, and eventually breast cancer becomes the leading cause of death for women. But as Dr. Deanesly explained, "There are an awful lot of people who are going to die before they get their breast cancer." After pointing out that "no one ever gets out of this world alive," she lamented the prevalence of nasty diseases like vascular disease and cancer. "Medical science has fixed it so no one dies of anything acceptable like a broken heart, or any of those wonderful Jane Austen conditions that took characters away from the 18th-century soap operas."

In spite of her efforts and continued work on the part of the American Cancer Society, informal polls continue to document few women who actually perform breast self-examination, the most important tool to prevent breast cancer. "We need to get beyond the overarching sex connotation" to talk about the disease and to practice its prevention.

Deanesly explained that medical professionals are opting out of diagnosis and are focusing on teaching diagnosis to the public, and on treating the identified cases. "We simply do not see enough of you often enough" to make a

dent in diagnosing the number of cases of breast cancer. Aside from being the most practical method, she pointed out that self-exams are accurate. A woman is in a much better position to determine if her tissue has changed at all, rather than a physician who has never seen her before. It only takes active awareness. "You need to have a very clear picture about what you look and feel like normally."

The good news is that breast cancer has a great "cure" rate, if it is caught early. No one is ever cured of cancer, since remission is always a possibility. But many people live normal life-spans, if their cancer is treated soon enough. "Insurance companies don't even bother to rate you when you've had stage I breast cancer."

So the point of self-diagnosis is to find the lump as soon as possible. She defined a lump as a change in the tissue that wasn't there before. "A lot of breast cancers don't look or feel like a piece of gravel." For people who have a tendency to forget their monthly self-exams, she recommends doing an examination on all national holidays. "They seem to come around at just the right rate."

Aside from the monthly self-exam, she stressed the importance



Dr. Margaret Deanesly

Photo courtesy of Dr. Margaret Deanesly

of mammography. Mammography is able to detect approximately 95% of the cancerous growths in the breast. One can feel a lump the size of a button, but a mammogram can sense something only a few millimeters in size. Dr. Deanesly and the American Cancer Society recommend that women get a baseline mammogram in their forties, and annually after fifty years of age. At any time, an inexplicable change in breast tissue calls for a mammogram, regardless of the individual's age. Dr. Deanesly took the initiative to "finally order [her] own mammogram, because [she] was dealing with a community of physicians that said 'Oh dear, you're far too young [to get breast cancer.]'" The mammogram has given her an additional 27 years of life.

According to Deanesly, even if the cancer is serious, refinements in "diagnostic ability using ultrasound, in surgery using lasers, in chemotherapy, and in radiation" have created more options, and less disfiguring results. "You will

See **Deanesly**, page 9

not have mutilating surgery anymore."

At this point, there is no clear cause of breast cancer. The best correlation is with genetics. In spite of this correlation, over 70% of the cases occur in families with no other case of breast cancer. Even though the cause is not well understood, the cellular mechanism of cancer is clear. "Cancer is a failure to throw away the duds." In healthy people, the immune system continuously kills the cells that no longer behave normally. But when people have cancer they have lost normal control over one faulty cell, and that cell goes on to multiply and produce a cancerous growth.

In terms of diet, Dr. Deanesly quoted recent cancer research that recommends "rotating your toxins ... in order to be moderate in your intake of everything identified as a potential toxin." She reminded her audience that the real causal agents of cancer probably haven't even been identified yet. However, she did make an exception for alcohol, which seems to increase a person's risk of a long list of diseases including breast cancer when it is consumed in high volumes.

Aside from moderating consumption of alcohol, there is really no guaranteed way to reduce the threat of cancer through diet. The only reliable method of fighting breast cancer is to diagnose it early by performing monthly breast self-examinations and by getting mammograms when they are ordered by a physician. Dr. Deanesly is living proof that breast self-examinations can save lives, and she advises all women to follow her example and to take their lives in their own hands.

—Jill Mhyre

## Garden Club needs you

THE SLAC GARDEN CLUB is looking for motivated leaders to help it build a new garden. After 15 years of gardening at a joint location on Addison-Wesley property with employees of that company, the 47 members of the Garden Club vacated their garden last January to make room for an Addison-Wesley parking lot. Since that time, they have acquired half an acre of SLAC property and \$4000 to build a new garden, according to Garden Club member Ruth McDunn.

The site is good, but not ideal, and requires extensive effort to prepare for gardening. Located behind the new Training Center, the hilly terrain needs to be cleared, terraced, rototilled, covered with 1500 cubic yards of topsoil, and irrigated with a new water line. In addition, members of the Garden Club plan to erect a four foot fence to discourage pilferage by people passing the site on a popular trail that leads to Sharon Heights shopping mall, according to a memo written by members of the Garden Club Committee to Bernie Lighthouse of Personnel on February 25.

As for money, Addison-Wesley gave the group \$2500 for repiping, and SLAC added another \$500. Including the group's savings, they have \$4000 to relocate. Estimates to put together the new site, prepared by Glen Tenney, Assistant to the Director of SLAC, run around \$17,000, but some of those costs are for labor, so expenses may be less if the group invests its own time in the project. Nevertheless, the necessity of extensive

fundraising cannot be denied.

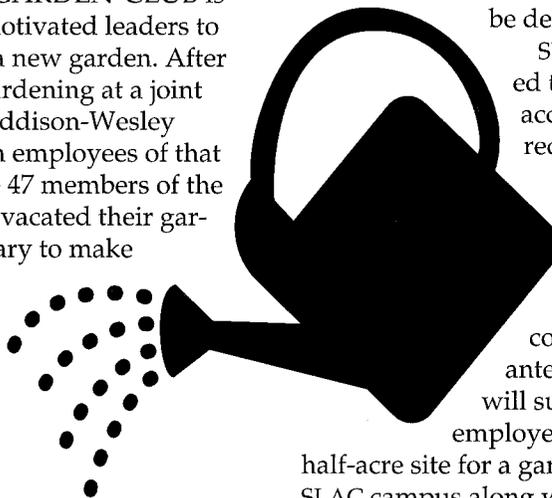
SLAC provided the new land according to the requirements of the Stanford United Workers union contract. The contract guarantees that SLAC will supply its employees with a

half-acre site for a garden on the SLAC campus along with free water to the site. According to Ruth McDunn, the contract is currently under negotiation, so this privilege may change after August. Given the contract as it stands, SLAC has fulfilled its obligation to provide the land, and it is now up to the employees to create a garden.

Unfortunately, the current Garden Club leadership lacks the time and motivation to complete the project, according to McDunn. Both McDunn and Walt Inman, another long-time Garden Club member, have created gardening space at home, and no longer need the SLAC garden to grow produce for their families. Other members have yet to take charge and lead the group to construct the new garden.

In spite of the difficulties anticipated in its construction, the new site will be a valuable asset for SLAC employees. With its moderate climate, the Bay Area offers the possibility of year-round crops. So if union negotiations support the garden, and if motivated leaders come forward to build it, employees may be able to plant a winter crop next fall.

—Jill Mhyre



# Welcome Guests and New Employees

George Brown, SSRL Research; Peter Buenrostro, Environment, Safety & Health; Timotio Caban, Mechanical Fabrication; Bruce Campbell, Theory; Rene Candelario, Facilities; Anita Carrillo, Experimental Group C; Aaron Chou, SLD; Paulo Correia, Publications; Rose Marie Darrough, Mechanical Fabrication; Armando Deanda, Facilities; Dennis Dijak, Theory; John Ellis, Theory; Christoffer Gefwert, Theory; John Gillespie, Theory; Phyllis Grossberg, Controls; Rupert Gutierrez, Mechanical Fabrication; Eric Harpell, Theory; Eric Harpell, Theory; Jack Harris, Experimental Group C; Michael Hays, Environment, Safety & Health; David Horn, Theory; Shoichi Ichinose, Theory; Walter Isle, Publications; Sandeep Jain, Accelerator; Marek Karliner, Theory; H. James Krebs, Research; Steve Lidia, Theory & Special Projects; Gerald Loomer, Theory; Oscar Madrigal, Mechanical Engineering; William Mao, Operational Health Physics; Eduardo Masso, Theory; Herbert Maxson, Mechanical Fabrication; Nobuhiro Maekawa, Theory; Sharon Oden, Business Services; Alden Owens, Klystron; Usha Patel, Purchasing; Yolanda Pilastro, Environment, Safety & Health; Tamara Richardson, Accelerator; Mallory Roberts, Experimental Group K; Joseph Saba, B Factory; Vincent Sanchez, Mechanical Fabrication; Eleanor Scott, Business Services; Anna Shapiro, Experimental Group A; Christine Stanfel, SSRL BES Research; Alexander Tchoumakov, SSRL; Genedina Villaruel, Purchasing; Frank Wang, Klystron; Li Wang, Computing Services; Edgar Whipple, Computing Services; Hans-Ulrich Wienands, B Factory; Andrew Young, Klystron; Leonid Zarkhin, Illustrations.

## Purchasing lead-times notice

THE RECENT Contractor Purchasing Systems Review conducted by DOE-HQ at SLAC determined that "there was inadequate lead-time for a buyer to execute the most effective procurements."

As a result of the review, the SLAC Purchasing Office has taken steps to establish a formal advance procurement plan for major purchases—those in excess of \$1,000,000—as well as formal lead-times for the over 16,000 requisitions processed by the Purchasing Office each year.

The lead-times shown below approximate the time it takes to place an order after the Purchasing Office receives a properly authorized purchase requisition. Every effort will be made to place orders as quickly as possible. Of course, in order to meet these goals, the requestor must provide complete, accurate item descriptions, specifications, and sole-source justifications, as needed.

—Jerry Jobe

VALUE	TYPE OF ORDER REQUIRED	LEAD-TIME TO PLACE ORDER
\$0-\$2K	Telephone order (no confirming hardcopy)	3 days
\$0-\$2K	Typed order (confirmation of phoned PO)	4 days
\$2-\$10K	Competition or Sole Source Justification	5 days
\$10K-\$25K	Request for Quotation	30 days
\$25K and Over	Request for Proposal	45 days

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.

### August 2-6

DPF Annual Meeting  
Albuquerque, NM

### August 9-19

SLAC Summer Institute  
Auditorium/Lobby/  
Breezeway  
D. Leith, L. Dixon, D. Burke,  
L. DePorcel

### August 8-12

DOE B-Factory/BSR  
Review  
Gold Room

### August 15-16

Tau Charm Factory Meeting  
Training/Conference Ctr.  
W.K.H. Panofsky, M. Perl

### August 21-26

International Linear  
Accelerator Conference  
Tsukuba, Japan  
I. Sato, KEK

### August 21-26

International Free Electron  
Laser Conference  
Stanford Campus

### August 22-24

GLAST Symposium  
Training/Conference Ctr.  
E. Bloom, L. L. Evans

### August 24-26

SLD Collaboration Meeting  
Auditorium

### August 29, 7 PM

OS/2 Users Meeting  
Auditorium

### ORDERS REQUIRING DOE APPROVAL

Value	Description
\$5K and Over	Buy American
Waiver	
\$100K and Over	Sole Source
\$1M and Over	Competitive

DOE approval will add 10 to 20 working days to the normal lead-times.

EVENT CALENDAR: August 1994

# WORKSHOP SCORES WELL WITH TEACHERS

IN JUNE, SLAC HOSTED its fourth annual two-week day camp, but instead of occupying kids during the long hot days of summer, this camp entertained the teachers. The 1994 Particles and Interaction Workshop invited physics teachers from high schools, junior colleges, and one elementary school to learn about research at SLAC and to develop innovative ways to incorporate current experimental design into their classrooms.

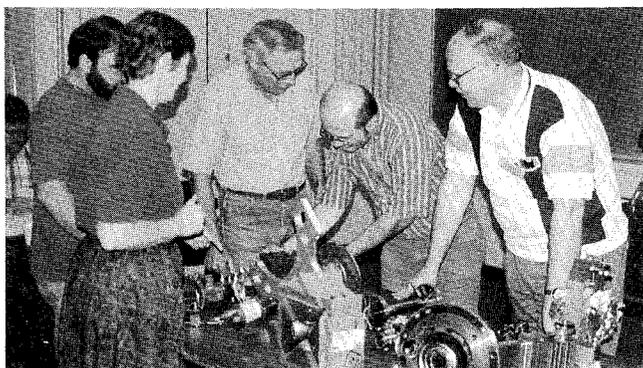
Organized by P. A. Moore and Helen Quinn, the workshop featured morning lectures and tours which introduced the standard model, accelerator technology, particle detectors, Feynman diagrams, cosmology, symmetries, and a host of other topics.

John Venuti, a SLAC physicist, talked to the group about particle detectors and the process of physics as practiced currently. He demonstrated a small inexpensive cosmic ray detector which "reflects almost all aspects of the process that goes into building a much larger project." He hopes the teachers will take the demonstration back to their students.

In the afternoons, the teachers practiced lab projects in small groups. The two weeks culminated in a marathon session where each teacher demonstrated his own project idea to the group. Dennis Dijak and Linda Kenyon agreed that the most valuable part of the conference were these activities, designed to "express the things [the teachers] learned [at SLAC] so that the high-school student would be able to understand."

The teachers' conference has developed since its conception in 1991 in response to one of the most common suggestions for improvement: more time to conquer the "information overload." The course is now two weeks instead of one.

Another change this year was the inclusion of Steve Luntz, a 6th grade teacher. Quinn originally designed the workshop for high-school teachers, but invited Luntz as part of a cooperative working



Marc Afifi, Helen Quinn, John Beaulieu, Dennis Dijak, and Steve Kliever examine accelerator hardware.



Sue Wang, Mark Bonnard, and David Lau, left to right, try to guess the shape of the object hidden under the cardboard by using marbles to simulate a particle collider.

arrangement with the Oakland Unified School District. According to Moore, Luntz found the Workshop to be a positive experience in terms of personal learning and class room activities. George Stassinopoulos hopes that more elementary school teachers will be invited in the future, because "the earlier you expose kids to physics, the more interested they become."

Stassinopoulos attended the workshop because he values the potential excitement that modern physics can provide his students. David Lau agreed: "This is the physics for today. The average person should at least know what's going on—what we are trying to show, and where the money is going."

Nevertheless, Lau is concerned about the time constraints placed on high-school physics courses. "I can either cover a lot superficially, or a little in depth." Jana Gray, who faces similar restrictions, said she will need to think about what is important for high-school students. "Because the students have all heard about quarks and are curious about them," she definitely plans to include an introduction to the Standard Model. Stassinopoulos plans to restructure his teaching style to focus on modern physics, and to use the classical and electricity and magnetism material to explain its background.

In devising their lesson plans, conference participants gained inspiration from the top-notch teaching at SLAC. Lau said the SLAC physicists "definitely know what they are talking about." Others appreciated the "helpful comments of Helen Quinn." Mark Bonnard was pleased to find people "with such a wealth of knowledge," and hopes to e-mail his questions to SLAC physicists in the future.

The participants agreed that the workshop was an excellent learning and enriching experience: "intense, informative, motivating, unrelenting." They would certainly return, and encourage SLAC to continue offering the course in the future.

—Jill Mhyre

# Most excellent thesis, dude!

TOR RAUBENHEIMER's Ph.D. thesis is so excellent that the American Physical Society presented him with the Outstanding Doctoral Thesis for Research in Beam Physics award at an April APS meeting in Crystal City, Virginia. Along with the award, he received \$1500, and the honor of shaking the hand of SLAC Director and APS President Burton Richter.

In his thesis, titled "The Generation and Acceleration of Low-Emittance Flat Beams for Future Linear Colliders," Raubenheimer tried to determine all the sources of emittance dilution that would limit the design of a future linear collider. The emittance in a linear collider is proportional to the spot size at the interaction point, which needs to be very small for future designs. Tor summarized the goal

of his research by pointing out that "there are a whole new set of problems that we need to deal with before we turn the machine on, or the whole thing might go kaput."

The award recognized Raubenheimer's "original contributions to beam dynamics in linear colliders." These contributions included a more detailed method of analyzing the effects of alignment errors. He also developed what has been called "dispersion-free and wake-free steering," a more accurate way to align the magnets, the beam, and the position monitors—strips of detectors that run along the sides of the linac to check the lateral position of the beam within the linac. In his new method, Raubenheimer varies the magnets in the linac and observes the



Tor Raubenheimer

resulting beam with the position monitors, in order to find the center of the beam position monitors relative to the magnets.

Raubenheimer calls his new technique a "simple modification," but the APS found merit in his project, and recognized him with this award. He is currently continuing his research at SLAC with the support of a Panofsky fellowship.

—Jill Myhre

## No INDY 500 try-outs held here

DRIVING AROUND SLAC can be a bit like driving through an obstacle course—you encounter mopeds, bicyclists, joggers, pedestrians, motor scooters, rollerbladers, rollerbladers playing hockey, electric carts, trucks, cars, deer, and more.

"SLAC has been very lucky with regards to traffic safety," reports Rick Yeager, Laboratory Protection Coordinator. "So far this year, we've lost four deer due to vehicular accidents. Fortunately we haven't had any serious injuries to people. But I'm worried about the potential for disaster."

Although the maximum speed limit on site is 25 mph, quite a few people routinely exceed that limit. Especially dangerous areas include: all along the gallery where people have been seen traveling at 50 to 55 mph; along the PEP Ring Road where people have been seen traveling 40 to 45 mph; near the Main Control Center where a large deer population adds an element of surprise; and along the Alpine Access Road area.

Although SLAC's maximum speed limit is 25 mph, some areas have even lower maximums. For example, the Research Yard has a maximum speed limit of 15 mph. The maximum for most parking lots is 10 mph.

To increase awareness of our accelerating problem, SLAC plans to borrow a large mobile radar unit from Lawrence Livermore National Laboratory. The mobile unit

detects an approaching vehicle's speed and then flashes the car's speed as well as the published speed limit. That way the driver gets instantaneous feedback. In addition, SLAC has ordered a radar gun. Radar is actually a misnomer. The devices are actually microwave units and do not pose any radiation hazards. Both of these instruments are accurate to within 1 to 1-1/2 mph and can detect speeds from 0 to 160 mph. They will be positioned at various locations around the site and will be used to conduct a two-month study of speeding at SLAC.

To remind drivers of traffic safety, new signs are being added. A new speed limit sign is near the main gate and a new stop sign recently appeared on Loop Road near Bldg. 213, with more signs on the way.

All accidents involving injuries to people as well as all motor vehicle accidents involving government vehicles should be handled according to the procedures described in Chapter 28 of the ES&H Manual. If you hit a deer in your personal vehicle and you are not hurt, please immediately tell the location of the incident to the guards at the main gate (ext. 2551).

If you notice traffic safety hazards around the site or if you have suggestions for how to improve traffic safety at SLAC, please call Rick Yeager at ext. 3317.

—Melinda Saltzberg