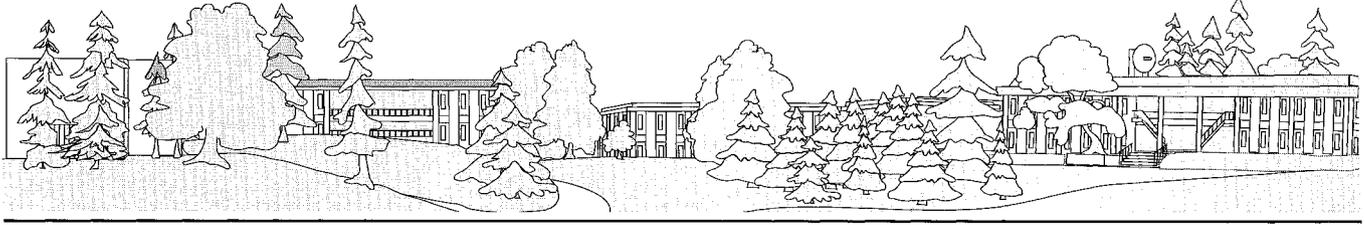


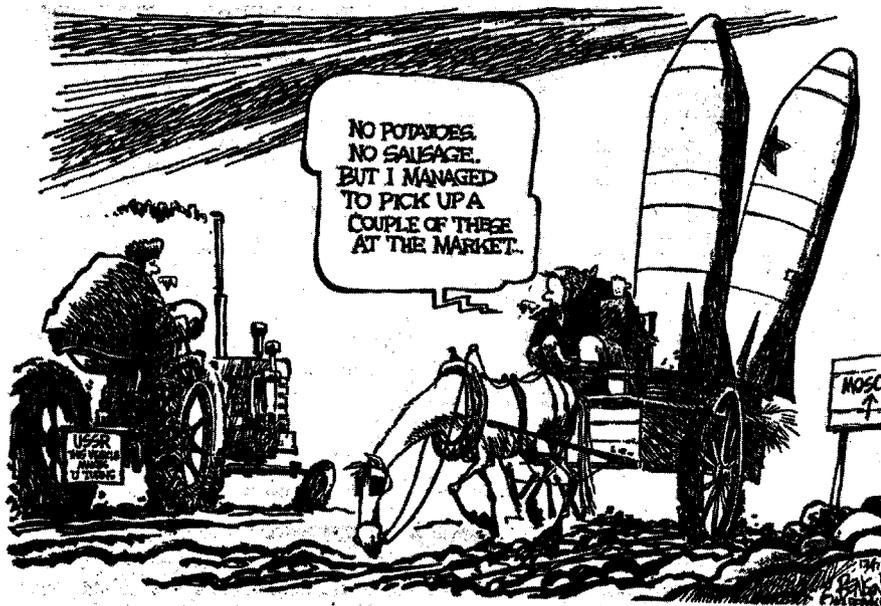
The Interaction Point

Events and Happenings
in the SLAC Community
January, 1992, Vol. 3, No. 1



50,000 Nuclear Weapons World-Wide

NUCLEAR COEXISTENCE FUTURE DISCUSSED



Courtesy of Stanford Daily

The Women's Interchange at SLAC sponsored a well-attended talk by W.K.H. (Pief) Panofsky on November 18 on the findings of the Committee on International Security and Arms Control published in *The Future of the U.S.-Soviet Nuclear Relationship*. The book and a video of the presentation are available in the library. Following is a summary of Pief's talk.

TRUSTING THE THEORISTS that that was a safe place to be, Pief Panofsky watched the first nuclear explosion (called "Trinity") in 1945, from a plane about 10,000 feet above Alamogordo, NM.

Panofsky has been involved in the issues of nuclear arms control, including the question of cessation of nuclear tests, ever since. He is currently Chair of the Committee

on International Security and Arms Control (CISAC), which is a standing committee of the National Academy of Sciences. CISAC decided that the great changes in the security environment of the US warranted an independent reassessment of the US-Soviet nuclear relationship. The committee published their findings in September of 1991 in *The Future of the U.S.-Soviet Nuclear Relationship*, by National Academy Press. Although written before the coup attempt and the subsequent dissolution of the Soviet Union, the conclusions are designed to remain pertinent.

One of the great tragedies of the world, in Pief's words, is the magnitude of the buildup of nuclear weapons and the threat they hold

for the world. The US led the buildup in strategic nuclear weapons (strategic means having the ability to reach the homeland of the other). Today as many tactical (short-range) nuclear weapons exist as strategic.

The pattern that has been established over the years is that when the US innovated a weapon, the Soviets followed within four to five years. 50,000 nuclear weapons now exist world-wide, which exceeds any reasonable, rational need, considering that only two weapons of far smaller magnitude killed a quarter of a million people in Hiroshima and Nagasaki.

The Strategic Arms Reduction Treaty (START) articulates the global need to reduce the number of nuclear weapons in existence. START has established the framework for a reduction of approximately 20% for the US and 30% for the Soviets. It took seven years to negotiate the START treaty; future reductions are hoped to be swifter.

Since the dissolution of the Warsaw Pact there has been a dramatic change from a bipolar NATO vs. Warsaw Pact world to a multipolar world. The disintegration of the Warsaw Pact and its military alliances is irreversible, but at the same time the large inventory of nuclear weapons in Russia is a technical fact, making it necessary to deter their use or dramatically decrease their numbers.

(cont'd on pg. 2)



W.K.H. Panofsky

(cont'd from p. 1)

The pre-Gorbachev US policy was conditioned by worry about a surprise superior conventional attack by the Warsaw Pact, but the danger of such an attack is virtually gone forever. What is critically needed now is a change from confrontation to collaboration in Europe and in Asia. We all have an overriding interest not to have nuclear weapons exploding under any condition.

But what about the non-nuclear states? It is important to persuade them *not* to have nuclear weapons by convincing them that their national security will *decrease* if they have nuclear weapons.

The existence of conventional weapons has not deterred world wars, nor have nuclear weapons or conventional weapons prevented regional conflicts, but the existence of nuclear weapons *may* have contributed to preventing all-out war for the longest time in history. CISAC has concluded that the sole purpose of nuclear weapons today is to deter the use of nuclear weapons.

With some 160 independent nations in the world, the question is, how can one minimize the risk of nuclear weapons? There is no clear solution, but guidelines do exist. It is extremely important that transparency between nations be increased, with a clear understanding of deployment, safety, and control of nuclear weapons. If and when there are plans dealing with nuclear weapons, these plans should be shared and discussed internationally, including the non-nuclear nations in the discussions.

The Committee on International Security and Arms Control concluded that "Nuclear weapons constitute both assets to national security and liabilities. The latter stem from the enormity of the damage if deterrence fails, the impact of the size of nuclear arsenals on nuclear proliferation, the need to provide for safety and security of nuclear weapons, and the environmental and economic impact of the nuclear weapons infrastructure. Thus, more nuclear weapons do not necessarily imply an increase in national security, just as fewer nuclear weapons do not necessarily imply an increase in strategic stability. Requirements for nuclear forces and their control should therefore result from balancing the relevant factors...."

"Europe, both West and East, is now engaged in the search for a new comprehensive European security system that will both build on existing institutions and ties and evolve new mechanisms and processes."

On September 27, 1991, President Bush proposed unilateral steps to President Gorbachev which coincided with some of CISAC's recommendations, but also requested a response from the USSR. President Bush said nothing about reduction of nuclear weapons after START.

Gorbachev responded on October 5 to many points, including that the two powers should come out with a joint no-first-use statement, and proposed further reductions.

In the words of the CISAC report, "The major powers, including the United States, are expected to move further toward cooperative measures for resolving differences."

—Janet Dixon and Evelyn Eldridge-Diaz

BUDGET UPDATE

OUR FY93 BUDGET PROSPECTS look considerably better now than they did when I gave my "All Hands" talks late fall on the prospect of a budget for next year 10% below the funding for this year. The Department of Energy budget for the laboratory did indeed start at quite a low level in October but, thanks to various appeals and reconsiderations, it now seems to be within a few percent of the funding we have for the present year. If this budget is passed in its present form we will have to absorb a reduction in purchasing power of 5% to 7%, but this is certainly a lot better than the 15% that was a strong possibility only a few months ago.

I do want to remind everyone, however, that the President's budget is not final until it is actually delivered to Congress in a few weeks' time, and that the final determinant of our funding for next year is the amount appropriated by Congress and agreed to by the President. We will not know our budget until late spring or early summer, and so we will all have to live with uncertainty for a while longer.

In the long run, the success of the laboratory will be determined by our ability to do first-rate science and to develop first-rate technology. The accelerator performed well last year; we have survived the Tiger Team; the down-time activities have gone well; and the turn-on of the accelerator is proceeding well. This is all to the good. Thank you for your support and keep up the good work.

Burton Richter
Director of SLAC

Diverse Needs Addressed by Computing Report

IN THE FALL OF 1989, then Director of Research, Charles Prescott, recognized that major changes were occurring in the field of computing; at the same time major new experiments were on the horizon for SLAC. Prescott organized an ad hoc committee whose mission was to create a vision document for management on Future Computing at SLAC (FCS). The committee consists of seven people from SLAC representing all divisions of the laboratory and two from outside (five physicists, three computer experts and one administrator).

The committee's charge was

- To establish hardware independence for a general model of a distributed environment at SLAC.

[*Note:* A distributed environment is one in which each user has an autonomous work station as opposed to a centralized, main-frame computer accessed by multiple users.]

- To identify technical issues, such as workstation capabilities, networking needs, data access and management including distributed database technology, graphics, operating systems, libraries and compilers, and communications, that affect or constrain the distributed environment.

- To study hardware and software implementation scenarios that could be implemented in the near future.

During the period from September 15, 1989, to March 5, 1991, the committee prepared a draft report by reviewing the computing requirements of the next generation of HEP experiments, computing industry trends, and plans of other major laboratories. It then studied how the needs of the rest of the laboratory could be accommodated within a complete model. The draft was addressed to management and focused on recom-

mendations rather than detailed justifications. Exhaustive discussions and much compromise went into the draft's development.

The draft report was submitted on April 4. Several outside factors, such as the Tiger Team impact and the handing over of the Research Director post from Charles Prescott to David Leith, delayed release to the public until November.

On November 4, 1800 people were notified by memo of the report's availability; 450 copies of the report were also mailed. The report was made available on VM, VMS, UNIX and Macintosh computer platforms. The memo encouraged public review and written comments: these comments were then posted for all to see.

A town meeting was held in the SLAC Auditorium on December 4, attended by 160 people. The first half of the meeting presented the genesis of the report, major recommendations, unresolved issues, and the general model. The latter half of the meeting was open to comments from the audience.

Comments from the town meeting and the many written comments have helped to focus attention on the diverse needs and various issues of concern in our environment. The committee is carefully reviewing these concerns and issues before a final report is submitted.

Drafting a single report that attempts to satisfy all points of view on very complex issues is indeed a challenge. Given that goal, and recognizing that some time has passed since the current draft was completed, meetings with specific divisions, departments, or groups like SSRL and ES&H, are being arranged. The committee is reviewing and studying updated reports on Tau Charm, B Factory, database and production application needs.

The final FCS report will include changes based on the community's

input. The committee expects that the SLAC directorate will initiate the following actions:

- obtain management consensus for action;
- commission work on implementation plans;
- create an external committee with representatives from industry and other HEP laboratories to review SLAC's computing plans;
- ask the Laboratory Computing Policy Committee to establish consistent policies at SLAC.

—Chuck Dickens

Acie Newton 1925–1991



ACIE NEWTON, who worked for many years in Experimental Group E, passed away on November 28. Acie, who came to SLAC on April 1, 1965, played a big role in the progress of many experiments run here. In the days of optical chambers, Acie designed and built a 70 mm camera to take pictures of experiments at End Station B. In 1982 Acie retired to his 37-acre home in the foothills of the Sierra, where he lived with his wife, Lois, and a daughter, until his death. Acie is remembered fondly, particularly by those of us from the early days at SLAC.

The family prefers that donations be given to the Sempervirens Fund. For information contact Lydia Beers, ext. 2651, or Ron Stickley, ext. 2770.

—Ron Stickley

CAPTURED BY MIDGETS, HENNING RETIRES!!!

by Steve St. Lorant

THE DRAMATIC WORDS ONLY confirmed what we, the members of the inner circle, had long been led to believe: Henning Petersen elected to change from the environment of benevolent matrix management in the laboratory to the dictatorship of retired domestic bliss.

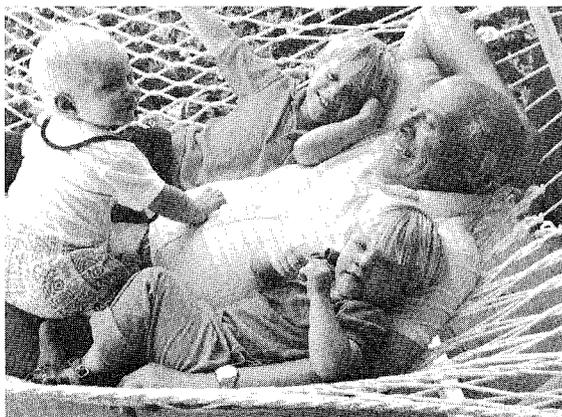
And who is this Henning? Let me tell you. He is the Greatest Dane we have had at SLAC, born and raised in Copenhagen, Denmark. He claimed that he learned English there, but we firmly believe this to be a deliberate attempt to confuse us: he really learned the funny accent first, the English came later.

Henning decided to become an engineer and enrolled in Den Kongelige Polytekniske Laereanstalt in Koebenhavn. He left in 1951 with an MSc in Mechanical Engineering and, like all good Scandinavian citizens, went to build ships. By the end of the decade he had become involved with shipborne transport of liquefied natural gas, which naturally led to cryogenics and a place to learn more about the subject.

CERN was one of the few places in Europe where this embryonic science was supposedly being used. Henning promptly bade a "temporary" farewell to shipbuilding and to his homeland, and landed a job with the nascent 2-meter hydrogen bubble chamber group. And there, under the impressive emergency vent sphere into which the contents of the bubble chamber were to be dumped in the event of a "catastrophic failure," and which Henning spent many hours designing, I had the pleasure of meeting him for the first time. We quickly became friends.

In the sumptuous office complex assigned to the 2m HBC group,

also known as the "Barracks," the nucleus of a new enterprise was in the process of autocreation: Henning, Dick Blumberg, Joe Ballam, George Chadwick, David Leith, and I were the English-speaking arm of that international enterprise. This being after all a



Henning and his grandchildren, the "midgets" who will capture his future attention.

high energy physics particle research establishment, some strange interactions originated in that group, publication of which is necessarily delayed to protect the guilty. More importantly we maintained contact after some of us fled Europe and thereby left the door ajar for further "temporary" abandonment of the homelands.

Rumor has it that Joe Ballam, during an official visit to CERN, and while enjoying a Campari, sweet-talked Henning into persuading his family to venture beyond the confines of the Continent "for a couple of years, or so."

The Petersen clan arrived in Palo Alto in 1965, and SLAC gained a person with cold skills and a warm heart to its staff. For the next twenty six years (so much for "temporary" farewells!) Henning had his fingers on virtually every cryogenic pulse that beat at the laboratory. Here is the catalog: the 40-inch bubble chamber, the 82-inch bubble chamber, LASS, HEEC inspector for liquid hydrogen tar-

gets, the 15-inch rapid-cycling bubble chamber, the TPC detector, HRS and its balky refrigeration systems, the Final Focus Superconducting Magnets, the Polarization Project Spin Rotation Solenoids, and of course the cryogenic portions of the SLD. That translates into one new project every two or three years, in addition to juggling those that were being completed, were being commissioned or were operational and needed those euphemistic "minor modifications." Henning was in on them all. Of course as he had so much spare time on his hands, he took on a multiplicity of other duties and projects. Not too shabby a record for a shipbuilder!

As we all know, SLAC's retirees occasionally return to help us duffers out with our problems, and we call them "consultants." Naturally the door is left open for such activities when someone of Henning's accomplishments leaves, and naturally I asked him what his routine would be now that he is "retired." He looked at me: "Routine?" he asked "Routine? I haven't had one for the last thirty odd years, and I certainly don't want to start one now!" At least that's what I think he said.

There is a little more to add to the Campari tale. When my son was about to be born, the appropriate splendid baby carriage was unavailable in the United States. So we hatched a plot. If Henning could be prevailed upon to come to SLAC, he could certainly bring the deluxe model fit for our offspring. Henning did indeed make the right decision: several weeks after his arrival, the city of Palo Alto was electrified by the appearance on its sidewalks of a princely "pram." And that is the real reason why Henning came to SLAC.

CAMP FREMONT: TRENCH WARFARE IN MENLO PARK

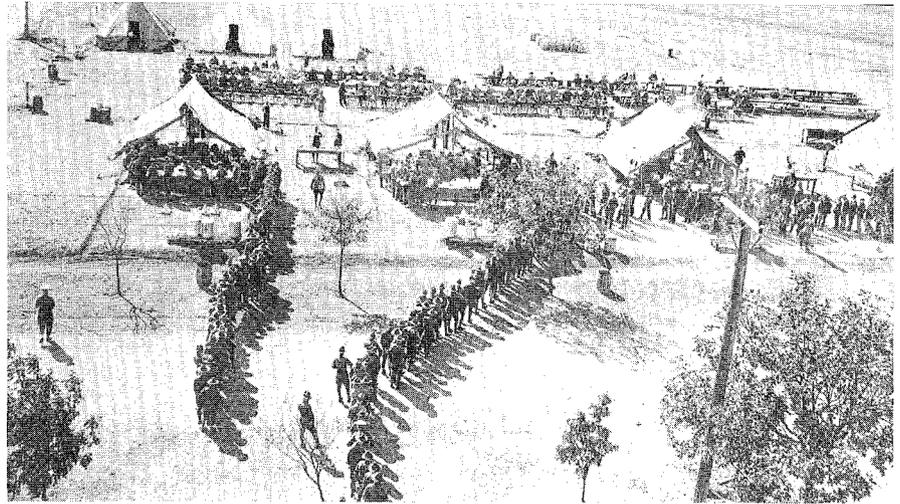
Following is the last in a series written by summer intern Annette Cords about the history of the land at SLAC.

WHEN THE US ENTERED WWI in the spring of 1917, Menlo Park was a quiet community of 2300 people, known for the palatial estates and summer residences of San Francisco's wealthiest businessmen, and for its particularly beautiful open landscape, marked by rolling hills and gnarled oaks. Menlo Park was chosen as the site for a military training ground because of its similarity to the French countryside. Camp Fremont, as it was called, was one of the largest training sites west of the Mississippi, and within the brief span of two years, from 1917 to 1919, 43,000 soldiers were trained on its grounds.

Construction on Camp Fremont began on July 1917 with a work force of 2500 men and was rapidly completed by September of the same year. The laborers erected over 1000 temporary buildings that were used as warehouses, mess and recreational facilities. The soldiers lived in a vast tent city of about 6000 canvas tents that filled the expansive area of Camp Fremont. There were also facilities for 10,000 horses and mules. The main part of Camp Fremont covered approximately 1300 acres, bounded roughly by El Camino Real, Alameda de las Pulgas, Valparaiso Avenue and San Francisquito Creek. The entire military reservation covered 7203 acres, including all of the property now known as SLAC and stretching as far as Foot-hill Park.

With the soldiers also came merchants who opened many shops to accommodate the new population, as well as a 1000-seat theater, featuring vaudeville acts and first-run movies. Within a few short months Menlo Park was converted from a sleepy rural village into a lively town.

Photo courtesy of Stanford Archives.

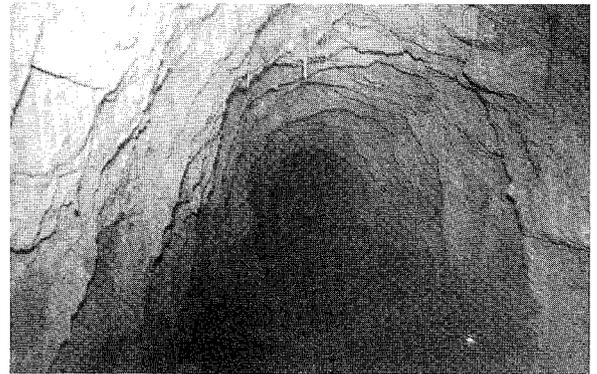


Soldiers lined up for a meal at the mess tents of Camp Fremont.

In the open fields and rolling hills of the camp the soldiers practiced trench warfare to prepare for action on the Western Front. To simulate battlefield conditions, miles of trenches were dug from which the men tossed live hand grenades. The soldiers were trained on Springfield rifles mounted with bayonets, in addition to more "modern" equipment such as Browning machine guns and gas-masks. SLAC land was probably a site for artillery practice, and according to references on military maps six tunnels were dug here. The entrances were covered in the 20s to protect children and wandering cattle. Evidence of these tunnels is still uncovered from time to time.

Preparing for war in the pleasant setting of Menlo Park's foothills, many soldiers were eager to fight in France. Very few Camp Fremont men ever made it to combat in France, however, as the Armistice was signed before most of the troops even reached New York. But the 8th Division, trained here, made history as the forgot-

Jim Rutherford



A picnicking family found and photographed one of Camp Fremont's tunnels in the 1940s. Tunnels such as this were uncovered during construction at SLAC.

ten Army. They were shipped to Vladivostok, Siberia, in 1918, to guard tons of supplies from the Germans. The troops stayed in Siberia long after the war ended, and it was not until congressional representatives began to intervene on their behalf that the soldiers returned in October of 1919.

Today almost no traces are left of Camp Fremont. Once the war ended the camp was dismantled, the buildings were sold, and Menlo Park again became a quiet hamlet. The most prominent land mark remaining of Camp Fremont, Hostess House, was once the meeting place for soldiers, their families and friends; it is now known as MacArthur Park Restaurant.

—Annette Cords

Winter 1992 Help Center Workshop Series

THE FOLLOWING workshops are being offered this winter by the Stanford Help Center:

Friday, 1/31

Children and Trauma,
by Richard Toft, Ph.D.
Child Psychologist

Wednesday, 2/26

**The Psychological Meaning
of Money,**
by Sharon Levin, LCSW
Help Center Counselor

Friday, 3/13

Procrastination,
by David A. Rasch, Ph.D.
Help Center Counselor

Friday, 3/27

**Understanding AIDS:
Current Research
and Treatments,**
by David Katzenstein, M.D.
Asst. Professor,
Stanford Medical School
Dept. of Infectious Diseases

Wednesday, 4/8

**A Return to the Self:
Balancing Inner Feelings
with Outer Realities,**
by John Preston, LCSW
Help Center Counselor

All talks will be held at Tresidder Union, from 12:10 to 1:30 PM. For more information, or to make reservations to attend, call 723-4577 or e-mail to ML.HLP@Forsythe, beginning 30 days before the date of the workshop.

The Interaction Point is published by Information Services of Stanford Linear Accelerator Center. Editors: Evelyn Eldridge-Diaz and Bill Kirk. Photographer: Tom Nakashima. Deadline for articles is the first of every month. Submissions may be sent electronically to TIP@SLACVM or by SLAC mail to TIP, MS 68. Phone 926-4128.

Health Promotion Program Explained

THERE HAVE BEEN A NUMBER OF INQUIRIES and suggestions concerning the health promotion program at SLAC. In response to the requests and suggestions from employees at SLAC a panel was created with representatives from each of the divisions. These representatives work with the health promotion coordinator to plan the program for the upcoming year. If you have a health concern or suggestion please contact one of these representatives.

Health Promotion Advocacy Panel Member List

Division	Member	Phone	M/S	VM ID
ES&H	M. Allen	2829	84	matallen
	Dr. M. Deanesly	2281	25	
Research	J. Dorfan	2705	72	jonathan
Technical	L. Klaisner	2726	30	klaisner
BSD	B. Strohecker	2515	03	stro
Dir. of Personnel	L. Lyon	2283	11	lyon
Health Promotion/ Wellness Coordinator	E. Derr	4365	25	ederr

The panel is made up of representatives from many different spheres of interest at SLAC who take an active interest in health issues and promoting wellness. The committee members bring the needs, wants, and problems of their constituencies regarding these issues to this panel, and disseminates information about the panel and wellness program to their own division.

Functions of the panel:

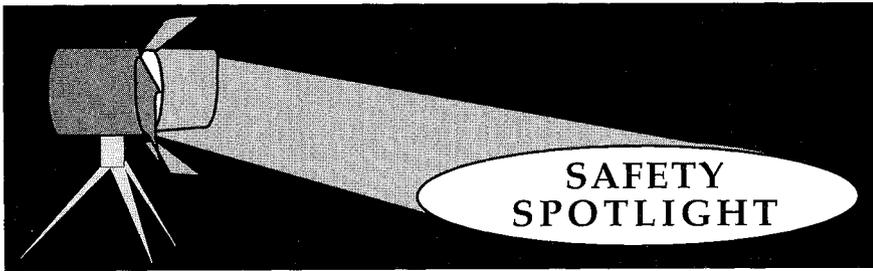
1. Advise the Wellness Coordinator
2. Identify needs of SLAC employees in the area of wellness.
3. Promote the wellness program to assure that adequate resources are available.
4. Measure results.
5. Act as ambassadors to communicate the goals of the wellness program to the staff.
6. Communicate the responses, observations, suggestions, and concerns of both staff and managers to the Wellness Coordinator.
7. Make suggestions and recommendations to the ES&H Coordinating council regarding health-related policies.

—Eileen Derr

1992 UNIVERSITY HOLIDAYS

DATES FOR THE OBSERVANCE of designated University holidays remaining in 1992 are as follows:

Martin Luther King Day	Monday	January 20
President's Day	Monday	February 17
Memorial Day	Monday	May 25
Independence Day	Friday	July 3
Labor Day	Monday	September 7
Thanksgiving	Thursday/Friday	November 26/27
Christmas	Thursday/Friday	December 24/25
New Year's 1993	Friday	January 1



VM Access to ES&H Training Information

INFORMATION ABOUT the current ES&H training courses is available on VM. It will remain there as an interim source of information until the training database passes the current pilot test and is installed on the main-frame. To see files containing course descriptions, class schedules, registration procedures, and attendance records, log on to VM and enter the command GIME TRAINING. Read the file AINDEX README to learn about current filenames and filetype conventions. If you are unfamiliar with the GIME command, call Ruth McDunn at ext. 3054 or send e-mail to ISIS at SLACVM; Ruth will either send you an information sheet or talk you through finding the files on VM.

—Ruth McDunn and Ginger Brower

For Emergencies *Don't* Call the Fire Station

DIAL 9-911 FOR FIRE, POLICE, MEDICAL EMERGENCY assistance, and major hazardous material spills at SLAC, but *do not* call the SLAC Fire Station business extension. SLAC Battalion Chief Keith Ramsey says, "Calling the business extension in an emergency is a dangerous practice because that phone is answered only when someone is in the station. In contrast, the dispatchers at 9-911 emergency communications are in constant radio contact with SLAC fire fighters wherever they are: at the station, out with the engine, doing inspections, etc." Feel free to use the Fire Station extension to schedule such things as a fire extinguisher demonstration.

—Rich Huggins and Ginger Brower

Firestorm: Would Your Home Survive?

GIVEN THE RIGHT WEATHER CONDITIONS, many residential areas in the Bay Area, as well as cabins in the woods, could be threatened by a firestorm. Jim McGee, training officer for the Palo Alto Fire Department, will speak on Wednesday, January 22, from 12:00—1:00 in the SLAC Orange Room. He will describe how fire fighters size up a home in fires similar to the recent one in the Oakland/Berkeley hills and tell you how fire department members choose which homes to try to defend. He will present ways you can prepare your home to be fire resistant and be the sort fire departments have a chance of saving during a big fire.

—Rich Huggins and Ginger Brower

WELCOME NEW EMPLOYEES AND GUESTS

Simon Baird, Synchrotron Radiation Lab; **Fred Dusel**, MFD Quality Assur.; **Kay Fox**, Mechanical Design; **Yuanning Gao**, Experimental Group C; **Manmohan Gupta**, Theory; **James Hamilton**, MFD T/L Mach. Shop; **Hongbo Hu**, Experimental Group C; **Bobby McKee**, Mechanical Engineering; **Judy Meo**, Research Division; **Jaume Roca**, Theory; **Yuan Ning Gao**, Experimental Group C; **Dahua Zhang**, Experimental Group C.

All meetings are held in the Orange Room, unless another location is listed. Please notify the Public Affairs Office of any additions or changes by calling ext. 2204 or sending e-mail to NINA@SLACVM.

January 21, 8–9:15

GET Radiation Training
Auditorium

January 21, 9:15

RWT Radiation Training
Auditorium

January 23, 8–9:15

GET Radiation Training
Auditorium

February 5–7

DOE FFTB Review
TBA

February 5–8

ESA Physics Workshop
Auditorium
(R. Arnold, L. Hanlon)

February 14

Nat'l Conference of
Black Physics Students
Auditorium (A. Green)

February 20–21

Survey & Alignment on
GEONET Workshop
[Part I]
SSRL 2nd Floor
(R. Ruland, H. Friedsam)

February 21

B Factory Meeting
Auditorium

February 22–23

HEPAP Witherell Subpanel
at SLAC
Auditorium

February 24–28

4th Generation Light Source
Workshop
(H. Winick, SSRL)

February 24

Survey & Alignment on
GEONET Workshop
[Part II]
MFD Conf. Room
(R. Ruland, H. Friedsam)

February 27–28

Mekometer Calibration
Workshop
(TBA) [Part I]
(R. Ruland, B. Bell)

CALENDAR EVENTS: JANUARY–FEBRUARY 1992

BRITISH DELIVER THE GOODS TO SLD

IN OCTOBER the *Abingdon Herald* (Abingdon, England), reported the following:

A piece of advanced scientific equipment just flown out to America represents another world triumph for local knowhow.

For with all the resources of Silicon Valley to draw on, when scientists at the Stanford Linear Accelerator Centre in California wanted a device to detect some of the most elusive particles in the universe, they found only the Rutherford Appleton laboratory at Chilton could supply their needs.

When it is installed in the SLD, it will detect and measure particles containing quarks with the distinctive features known to scientists as charm and beauty.

In order to detect them and record their very short flight paths, some very special equipment was needed, and it was here that RAL's expertise in the field of charge-coupled devices or CCDs came to the fore.

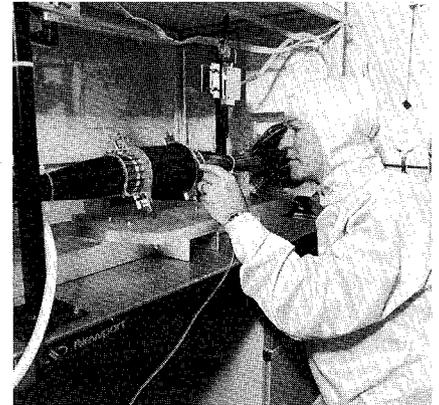
The £2.5 million, six-year Vertex detector project also involved scientists and engineers from Brunel University and the University of Santa Barbara, California, as well as about 20 British industrial firms, but it

was at RAL that the detector was designed, developed and built. It contains a mosaic of 480 CCDs in a close-packed network capable of giving precise tracking over distances as short as five-thousandths of a millimetre.

The head of the project at RAL, physicist Prof. Chris Damerell, flew out with the core of the detector on a British Airways flight to deliver it personally to Stanford Linear Accelerator Centre, where it will be installed.

A colleague, Dr. Fred Wickens, said the all-important core of the detector was so fragile, and represented so many years' research and development, that they booked three economy-class seats for the package so that it could be delivered by hand.

This hard-working, resourceful group of physicists, engineers, and technicians have performed a small miracle over nearly 7,000 miles. In 1984, when SLD was first commissioned, SLAC granted a 100% contingency budget for the vertex detector which would eventually be contained at the heart of the SLD, the last piece to be put



Chris Damerell examines vertex detector.

into place. As nothing like it had ever been built before, the Vertex group had a lot of R&D, as well as trial and error, to endure before the finished product emerged in 1991. Six years were devoted to R&D alone. The two-year production period went smoothly, in spite of having to ship components and finished products internationally, and communication difficulties under short deadlines due to failed faxes and time differences. In spite of these obstacles, the VXD groups were able to install a prototype detector for the engineering run in May-August.

—Margaret Helton

1991 TEN YEAR AWARDS

ON DECEMBER 19 THE FOLLOWING PEOPLE received awards for ten years of employment at SLAC:

Charles W. Allen	E. Jean Hubbard	Robert L. Messner
Donald B. Andersen	Terry Y. Hung	Thomas A. Nakashima
Steven G. Berry	Walter K. Inman	Dennis. G. Norris
Sharon L. Burns	Leslie I. Johnson	Mark M. Petree
Renata M. Byl	James G. Judkins	Nanette Phinney
Fueno Dean	Jack A. Kay	Vaughan G. Proctor
Martin H. Donald	John W. Krzaszczak	David W. Reynolds
Teresa L. Downey	Arla L. LeCount	John C. Sheppard
Kris B. Dudley	Milo J. Lewis	Clair R. Stevens
Elizabeth J. Ferandin	Lorenzo Lowery	Michael L. Sullenberger
Tony Grieco	Ronald P. Lynch	Robert L. Traller
Elsa A. Gulko	Gholamali Mazaheri	James L. Turner
Adolfo Gutierrez	Terry G. McCaffrey	J. Brian Waugh
Ute C. Hayes	Douglas J. McCormick	Clarice White
Christopher F. Hollosi	John A. McRae	Mark D. Woodley.

YOGA CLASS MOVES



Lilly Ann Hillis teaches the SLAC yoga class.

THE SLAC YOGA CLASS has moved to the Computing Center third floor conference room. The class meets Mondays and Thursdays at 5 PM.