23 Years of Summer Science

The SLAC Summer Science Program began in 1970. In the 23 years that have followed, the program has been re-evaluated, modified, and updated in many ways. But the basic goal of the program, to give hands-on research experience to under-represented college students, has never changed.

"The program is an overview of SLAC research," explains education coordinator P.A. Moore. "It's not committed to a particular discipline, but to giving the students a sense of what's available. It exposes them to the scientific community."

The nine-week program is open to all college students majoring in science who have completed at least one year of college physics. However, SLAC gives preference to applicants who are "traditionally under-represented in the sciences." For the most part, this means women and ethnic minorities, but it has also included students from rural areas, especially those who do not live near a large research facility.

Monday through Thursday mornings are devoted to lectures taught by SLAC experts. In the after-

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noon, the students work as part of a theoretical or experimental group, and on Fridays, the group takes a tour. This summer, they visited LLNL, Lick Observatory and Hewlett-Packard, among other places. At the end of the program, they each prepare a twenty-page report about their work at SLAC and present it to the group.

"Coming here, you learn a lot. But it’s not something you could learn in class at school," says Eun Jin Lee, a math and computer science major from Wellesley College.

The participants learn about physics and engineering, yes. But they also learn about living on their own (they stay in the Manzanita Trailers on Stanford campus), about California (they have made weekend trips to Los Angeles, Berkeley and San Francisco), and about research in general—what it means to be a scientist, and what it takes to work in a large laboratory like SLAC.

"These students are incredibly lucky to get a summer job in a field they might be going into," P.A. says. "It helps the students make a decision whether a science field is for them and whether a research position is for them."

"I'm not sure what I want to do after college. Every summer, I've done different things. I worked in a electronic publishing company and then as a computer consultant. But I've never done research—this was my last time to find out what it is like," Eun Jin says.

And does she like it? "Well, I might not discover anything spectacular this summer, but I certainly got the flavor of it," she says.

"SLAC is the perfect environment."

Paul Hong, a junior from Southwestern University, knew when he came to SLAC that he wanted to work in a research lab later in life. "What I wanted was research experience. I wanted to know what the real world for a mechanical engineer or a physicist is like." What he saw of that real world was better than he expected.

"I thought (I would have) boring work to do all day. But once I got involved, it's neat. The people here are really relaxed; they've helped me out a lot."

"Students come in with a stereotypical image of science—the white coat in a lab. This program supplants that with a more realistic image of what research is," P.A. says. "At worst, the student finds out that science is not for them."

Breanna Brown, Khan Nguyen, and Alan Acosta in a high-voltage-supply room in Radiation Physics. During the summer Breanna wrote a computer program to analyze data on radiation yields, Khan tested radiation monitors, and Alan built a muon detector gun.

Julie Lee, Elaine LaLanne, and Anatoly Spitkovsky (l. to r.) soldering an integrated circuit unit. This summer Julie worked at the test lab with Arnie Leeks on some of the components for the Next Linear Collider (NLC). Elaine designed and built a CCD camera to monitor synchrotron radiation from the storage ring for SSRL, and Anatoly worked with the Accelerator Theory group examining beam dynamic problems associated with the NLC.
required classes. "It was also my first real hands-on experience with electrical engineering work," she says. "I really treasure that."

Her experience in the Summer Science Program had an obvious influence on her education. She majored in electrical engineering as an undergraduate at Tuskegee University in Alabama, and then applied for the GEM scholarship to continue her studies in graduate school. Through the GEM program, which includes a full-tuition scholarship for graduate school in engineering, she is currently working toward her master's degree in electrical engineering with an emphasis on environmental issues.

During the summers when she wasn't at SLAC, Kelly worked with the Environmental Protection Agency (EPA) in Alabama. When she graduates from Tuskegee next spring, she plans to become a commissioned officer in the US Public Health Service with the EPA. But you never know—she may end up at SLAC just one more time.

—Sarah Morisseau

Staff ID Card Replacement Fee

A NEW STANFORD UNIVERSITY POLICY will require all students, faculty, and staff to pay a $10 replacement fee for identification cards, whether lost, stolen, or simply misplaced. The policy is effective immediately.

SLAC employees who need a replacement ID card should go to the Personnel Office (A&E Room 240) to make the request. A new card will be delivered to Personnel within three weeks, at which time the employee must pay the $10 fee. The Personnel Office will transfer the money to Stanford. New cards are delivered to all employees each December at no cost.

—Sarah Morisseau

Welcome Guests and New Employees

James Allan, ESH: Shenjian Chen, Experimental Group C; Lynn Cominsky, Time Projection Chamber; Anamaria Font, Theory; Brian C. Fuss, Mechanical Engineering; Simon George, SSRL; Ying Han, Experimental Group C; William Hurja, SSRL: Anthony Johnson, Research; Roger Jurgensen, Power Conversion; Valentin Khoze, Theory; Gerhard Materlik, SSRL; Gilbert Moulatta, Theory; Alex Pomarol, Theory; Michael Racine, Cryogenics; Kent Robinson, SSRL; Aldo Rossi, Mechanical Fabrication; Eric Sather, Theory; George Simon, SSRL; Makoto Tobiyama, Experimental Group C; Wuguang Yan, Experimental Group C.

SSRL Retiree

Bob Filippi of SSRL took advantage of the Staff Early Retirement Incentive to retire in August.

A.J. (Bob) Filippi

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@SLACVM.

October 6
SU Alumni Asn. Workshop Auditorium

October 7–9
Computer Advisory Committee Meeting

October 9
Science Teachers Workshop
H. Quinn, P.A. Moore TBA

October 11
Final Focus Test Beam Collaboration Meeting

October 11
SLD Week TBA

October 12, 8:30 AM
Linac94 Program Committee Meeting Belge Room

October 13
Linear Collider Conference E. Paterson, K. Asher Auditorium/Meeting Rooms

October 15–16
SPC Meeting

October 23
Science Teachers Workshop
H. Quinn, P.A. Moore

October 25–26
SSRL 20th Annual Users Meeting Auditorium

October 27–29
SU Alumni Asn. Course Auditorium
AUGUST 31, 1993, was a day of celebration for SLAC. Hundreds of employees gathered on the green to commemorate a successful year of research and to say goodbye to the nearly 150 people retiring that day.

"Science is what we do at SLAC; it's our business. And this year, we've done some very good science," said David Leith, Associate Director, Research Division.

In particular, Leith mentioned the recent SLC run which used a polarized electron beam to create 50,000 Z particles. "Despite many fewer Zs collected and detected at SLD than at CERN," he said, "the power of the polarization is such that this is the single best test of the Standard Model."

"The SLC met or exceeded every one of its goals," added Technical Division Associate Director Kaye Lathrop. "Congratulations to all who made that fact possible."

Arthur Bienenstock, Associate Director, SSRL, called it the "year of structural biology" for his division. It was not an easy year at first—a smaller-than-normal budget forced SSRL to lay off some employees and refrain from hiring replacements for retirees. "We had a really grim start this year, but it turned out to be absolutely glorious," he said, noting that SPEAR "ran beautifully" for the six-and-a-half months it was in operation.

"The year went well primarily because of the SSRL staff, but also because of the new strong links with SLAC," Bienenstock said. "Our research goes from AIDS to Z bosons," SLAC Director Burton Richter said. "We're a big piece of the University and the national science program, and we've done a great job this year."

—Sarah Morisseau

### The Way We Were

**1970**

On August 23, 1970, the accelerator attained an energy of 22.1 GeV—surpassing by three percent the April 27, 1969, record of 21.5 GeV.

**1971**

The newsletter previously called SLAC News was renamed The Beam Line. That name was later used for the world-wide scientific magazine we know today.

Hamburgers, hot dogs, potato salad and "a golden liquid, white and frothy on the top" attracted about 1200 people to work on a Saturday—but not to work, to play. September 18, 1971, was the first annual SLAC Family Day, and a successful one. Employees were allowed to drive their families around the site, and several areas were open for viewing. Art displays, films, softball games, and above all, good food and drink, made the event the first of many.