

SLAC BEAM LINE

There is no excellent beauty that hath not some strangeness in the proportion.—Francis Bacon

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This month's cover photo by Joe Faust shows, clockwise from the top, John Beach, Dorothy Ellison, Wyleacy Morgan and Rosario Roberts modeling the new SLAC T-shirts that are now available for purchase. See page 8 of this issue for a description of the T-shirt display and ordering information.

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MAC McCARTHY RETIRES



This coming March, Francis James "Mac" McCarthy will take early retirement from Stanford University and move to Cloverdale, a small town about 120 miles north of here. Mac first joined SLAC back in 1966, at a time when we were struggling to turn on the accelerator for the first time. His broad background and competence were a great help during this start-up phase, and he has proved to be a dedicated and dependable accelerator operator throughout the succeeding years.

Mac grew up in Rochester, New York. He became an amateur radio operator in 1927, and soon afterward he also obtained his pilot's license. Eventually licensed as a commercial pilot, with a multi-engine rating, he has continued his interest in flying to the present day. Mac is presently building an amphibian plane in his back yard and will presumably find this plane useful for landings on Clear Lake and in trips back to the Bay Area.

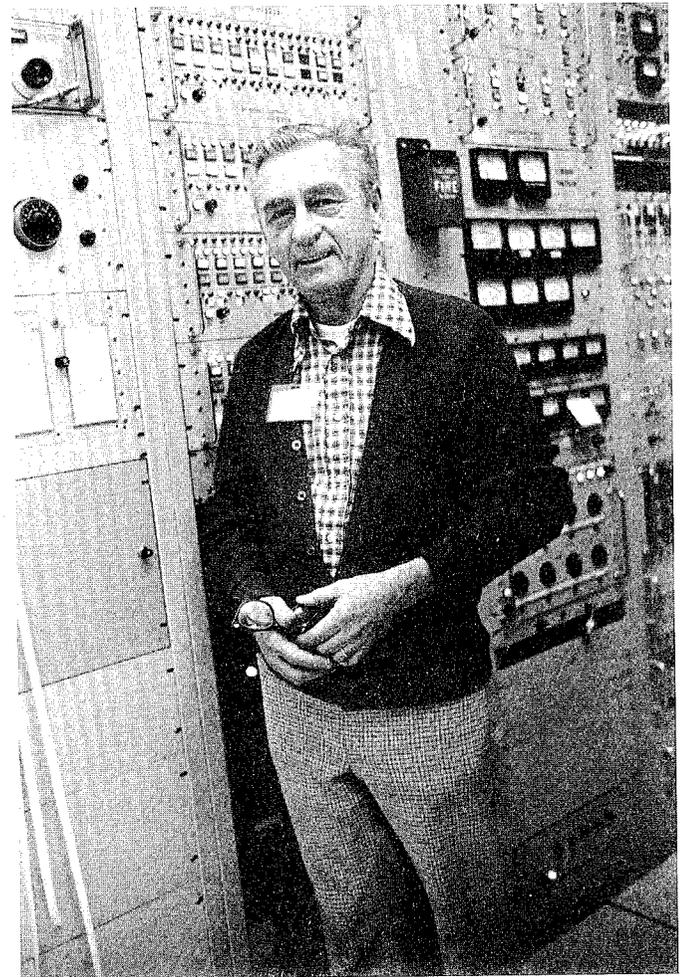
Mac joined the Coast Guard shortly before the start of World War II, using his radio experience as a Chief Radioman operating part of the time in the Great Lakes area and later in the Caribbean. He helped to set up a number of radio beacons during his military service, and at the end of the war he was in charge of the Cleveland Coast Guard station.

After the war, Mac worked for a time in Rochester as an inventory specialist. However, his desire to get back into electronics led him into

the new area of TV. The McCarthy family moved from upstate New York to Puerto Rico, where Mac had spent some time while in the service. As the McCarthy children neared college age, the family moved again, this time to Redwood City, where for 11 years Mac operated a TV repair shop. It was from this work that we persuaded him to come to SLAC and join the Accelerator Operations Department in 1966.

Mac is presently an Assistant Operator-in-charge. He has very broad experience in all of the many idiosyncrocies of beam operation, and his retirement will leave a large gap that will be hard to fill. We will surely miss him and may often have to contact him for advice. Good luck from all of us, Mac. Come back often to see us.

--Vern Price



(Photos by Joe Faust)

MARTHA ZIPF LEAVES SLAC



Photo by Joe Faust

Organizing an annual two-week physics conference, editing its Proceedings, keeping tabs on all of the physics and engineering graduate students at SLAC, handing the business of one of SLAC's large research groups, designing a solar room, helping found the SLAC Women's Association, raising two boys, studying economics and business at night school—sounds like too much for one person, doesn't it? But not for Martha Zipf, who has been doing all this and much more during her 14 years at SLAC.

Martha will be keeping in touch from her new job as Business Manager for Digital Pathways, Inc., a Palo Alto-based firm that specializes in computer peripherals such as a best-seller calendar clock that is used with the PDP-11. To her many friends and acquaintances, and the uncounted numbers of people for whom she has done a good turn or spoken or written a timely word of appreciation, or just cheered up with a joke, SLAC just won't be the same without her. Many of these friends at SLAC turned out last month for a farewell party at the Velvet Turtle to wish her good luck.

Martha began work at SLAC in July 1965 as group secretary for George Chadwick's Group B and Bubble Chamber Group and for Habib Brechna's Magnet Development Group. Her duties were expanded in 1966 to include Group G. When Group B split off in 1968 under David Leith, Martha was asked to go along in an administrative position. She handled the business of this group and soon also took over the administrative matters concerning the 25-30 graduate students do-

ing Ph.D. work at SLAC, acting as liaison with the students' home departments.

With the first of the annual SLAC Summer Physics Institutes in 1973, Martha discovered the challenges of conference organizing and the art of editing and producing a proceedings in record time. Six such Summer Institutes have been held to date, and under Martha's guiding hand they have become a model of hospitality and efficiency to the groups of some 300 physicists who have spent two weeks each summer to catch up on the latest topics in particle physics. According to Martha, when she wears her editor's hat, the greatest challenge has been to try to extract the manuscripts from tired, vacationing, reluctant speakers.

During her busy years at SLAC, Martha has also found time to serve on a number of important committees. In particular, she recalls the Minorities and Women's Committee, which was an attempt by dedicated SLACers to deal with some of the conflicts of the 1960's, and which played a role in the eventual enlargement of the SLAC Affirmative Action Office to its present staff size. She also remembers with pleasure an assignment to the Ad Hoc Training Committee, where she served with Bill Pierce, John Grant and several others. The work of this Committee led, directly and indirectly, to several useful activities at SLAC, first in the form of a Micro-processor course under the leadership of Bill and John that eventually trained more than 150 people in this new technology, then in the establishment of an Audio-visual Learning Center in the SLAC Library that has already helped several hundred SLACers increase their skills and knowledge.

Martha reserves most pride, however, for her role in helping to establish the SLAC Women's Association, of which she was one of the founders and its first President. Although the concerns that led SLAC women to organize are still very much alive (i.e., the relatively low wages for clerical occupations, and the lack of advancement opportunities in the high-technology environment of SLAC), Martha points out that SLAC women are at least now talking together about these matters and have overcome their initial sense of isolation.

Over the years, Martha has been a constant student during her off-work hours, completing courses in economics, political science, history, real estate and various aspects of business. Despite all this activity, Martha has also found the time to raise two sons (in letters they address her jokingly as "Ms. Mom"), and her

(Continued on next page)

oldest son is just now finishing up a trip to China and Taiwan in connection with his degree in Asian History. At home, there is a newly completed solar room which Martha and her husband, Ted, designed as part of a remodeling project. Martha reports that it is a great success, heats itself, and is liked by all, even the dog.

When asked how she has been able to juggle all her lives at once, Martha joked that it came naturally to her because her grandfather was a Texas ranger, her father a gambler, and her grandmother and mother kept ahead of both of them. Good bye, Martha. We'll miss you!

--Louise Addis

HELEN PERIGO RETIRES--TO PART TIME



Photo by Joe Faust

As the time for retirement grew closer, a change in University policy has permitted Helen Perigo to continue working on a part-time basis in the SLAC Personnel Office. Working three days a week provides a good transition after 25 years in the business world. Helen is presently doing overflow clerical work and special research projects in Personnel.

Helen was born in Oregon, but eventually she and her husband moved to Santa Monica, where they owned a retail gift shop. After their daughter had completed the fourth grade, they relocated to the Bay Area, where for many years Helen managed a toy shop. Her first job at Stanford University involved programming for Computer Assisted Education. The grant for this program finally ran out and, liking people better than programming, Helen decided to get back to more people-oriented work.

Her first interview at SLAC, in 1967, was for a position in Accounting. "We were mutually not suitable," Helen remembers tactfully. Then an opening for a records clerk matched up with her interests, and she began work at a salary of \$425/month, full-time. As a prospective employee, Helen did not ask about career potential, or salary adjustments, or other details. It all seemed quite secretive compared with present employment procedures. Having been at Stanford for two years, Helen found the transition to the new job not difficult.

When the PEP project started up, the staff of the Personnel Office was increased by two persons, and Helen served the combined functions of Employee Representative and Secretary—a "mixed bag." There was a feeling of dedication involved in interviewing people for both technical and clerical positions. Technical jobs seemed a bit more mysterious, but Helen found a knack for matching people up in the clerical areas that were more similar to her own job. She had an ability to feel for what people were after on both ends of the decision.

Asked about her family, Helen remarked that her daughter is now living in the Tucson area in a house that her husband is proud to have built himself. Although she visits them about twice a year, Helen does not plan to leave the Peninsula because she loves San Francisco, the theater, and this area.

Now that she has more time for personal things, Helen plans to take some of the courses offered by Canada and Foothill Colleges in quilting and art history. She has traveled in Africa, Mexico and Guatemala and maintains a particular interest in archeology in Central America and the Yucatan Peninsula. She plans to do more traveling as expenses permit, with London as a promising next possibility.

Although Helen formally "retired" last December 1, she kept it quiet by choice. There was a small send-off party held by the small group with which she works closely. "It was great being with those who care," Helen remarked. "It was very personal, and I enjoyed the evening very much."

--Nina Adelman
Public Information

SSRL REPORT

WIGGLER MAGNET SUCCESS

The first synchrotron radiation beam from the SSRL wiggler magnet (installed in the SPEAR storage ring) was successfully steered down an 18-meter-long vacuum-transport system into the recently completed south arc experimental hall in the early hours of February 28, 1979. The "wiggler" is a 7-pole, 18-kilogauss magnet that forces the circulating electron beam in SPEAR to undergo three full oscillations in a short distance, thus subjecting the electrons to severe sideways accelerations which produce intense synchrotron radiation even when the SPEAR beam energy is low. For example, at 2 GeV the SPEAR bending magnets, which are the source of synchrotron radiation for the other SSRL beam lines, operate at a magnetic field of only 5.3 kilogauss. The much stronger magnetic field in the wiggler produces synchrotron radiation that is both more intense and that extends farther into the X-ray region of the electromagnetic spectrum. In fact, the critical energy of the synchrotron radiation at 2 GeV from the wiggler is just the same (4.7 KeV) as that obtained from the bending magnets at 3 GeV! Furthermore, the wiggler produces an overall enhancement in intensity of a factor of 6 compared with that from the bending magnets.

Thus the wiggler magnet will now provide an excellent flux of X-rays for SSRL experiments at all times. In the past, the X-ray flux has been good only when SPEAR has been operated at beam energies above 2.5 GeV, which during the past two years has occurred only during about 20% of the total SPEAR running time.

With the successful checkout of the new beam line, the next step was to install an X-ray monochromator and other experimental equipment. This was done during the first week of March. The experiments that have since been started in this beam line are the first to make routine use of synchrotron radiation produced by a wiggler magnet.

The people who participated in the early-morning tests of the wiggler-induced beam on February 28 included John Cerino, Bob Cronin, Ben Salsburg, Herman Winick and John Yang, all of SSRL; and also Gary Johnston, Joe Jurow, Jim Spencer, Ken Underwood and Gary Warren, all of SLAC. The champagne was uncorked at about 5:30 AM, and the participants put their signatures on a hastily prepared manila folder with a Polaroid photograph of the TV screen showing a nicely centered beam striking a scintillation device.

The 1.25-meter-long wiggler magnet was designed in early 1978 by Jim Spencer and Bill Brunk and was built by Industrial Coil, Inc. of Middleton, Massachusetts. It was delivered to

SLAC in June, 1978, then tested and installed in SPEAR during the 1978 summer shutdown period. The vacuum transport and control systems were completed and installed in the weeks preceding the February 28 test.

Two power supplies are used to operate the wiggler magnet. They are computer-controlled and must be carefully matched so that the net deflection of the circulating beams in SPEAR is very close to zero. With the supplies properly matched, it has been found possible to inject into SPEAR with the wiggler magnet on and to turn the wiggler off and back on again without loss of stored beam.

During the past month the wiggler has been routinely powered to 17.5 kilogauss during colliding beam runs because it improves the luminosity of SPEAR. This side benefit is attributable to the fact that the wiggler increases the emittance of the stored beams, which in turn permits higher currents to be stored in the ring before the onset of the beam-beam instability limit. For example, the beam-beam limit at 1.85 GeV was found to be 12 milliamps with the wiggler on, as compared to 9 milliamps with the wiggler off. This resulted in an increase in luminosity of about 25-30%.

Consideration is now being given to the installation of additional wiggler magnets in SPEAR for both synchrotron radiation and high energy physics purposes.

--Herman Winick

A NOTE TO GREENTHUMBERS

Frank Martinez of PEP would like to start a horticultural group at SLAC, meeting weekly at lunchtime, to discuss various kinds of gardening activities and problems. Frank's interest in horticulture is a long-standing one, and he has also taken a special course in this subject at UC-Berkeley. If there is enough interest in forming such a group, Frank proposes to discuss such topics as landscaping, greenhouses, houseplants, plant propagation and hydroponics.

If all this appeals to you as an interesting way to spend a lunchtime, please contact Frank at SLAC ext. 2064.

--Dorothy Ellison

Reminder: The open meetings sponsored by Alcoholics Anonymous are held every Thursday, from noon to 12:30 PM, in the Conference Room (Room 126) of the Electronics Building. Anyone interested in the recognition and treatment of alcoholism is cordially invited to attend.

SLAC WOMEN'S ASSOCIATION

The SLAC Women's Association presented a KRON-TV video tape, "Battleground—Breast Cancer," at its January 15 meeting. The tape described the latest techniques in breast self-examination, surgery and treatment. Counseling, rehabilitation and reconstructive surgery were discussed in interviews with women who have been treated for breast cancer. We would like to thank Dr. Charles Beal and RN Joan Gardner of the SLAC Medical Department who viewed the tape with us and participated in the subsequent discussion.

The January 29 meeting was a combined business meeting and pot-luck luncheon held to honor Martha Zipf and Margaret Ledford, both of whom are leaving SLAC. Martha has twice served as President of the Women's Association. During this meeting, candidates for Association Offices were nominated for the current six-month term.

The new Association Officers were elected during the meeting of February 12, at which time it was also decided to change the meeting day from Monday to Wednesday. The Officers elected for the term ending July 1, 1979, were the following:

President: Gail Hanson (Bin 61, x2510)

Vice-Presidents: Mary Beth Jenson
(Bin 80, x2601)
Georgia Row
(Bin 82, x2411)

Joint Secretary/Treasurer:

Betty Bowker (Bin 72, x2318)
Anna Laura Berg (c/o Bin 95)

The agenda items for the February 28 business meeting included a membership drive, discussion of the Association's current status, and suggestions for future programs. We continue to live with the problem of duplicating meeting notices and are looking into the possibility of buying a copying machine.

We welcome new members (both men and women) and new ideas, and we hope to continue in the tradition of the last very successful two years.

--Gail Hanson

Ms. Cindy Ellwood of the Mid-Peninsula Support Network for Battered Women spoke to the SLAC Women's Association on March 14. The Support Network is a project of the Mid-Peninsula Urban Coalition and serves an area from Sunnyvale north to East Palo Alto and Menlo Park. This is a community-based organization, heavily dependent upon the community for its support. There is a staff of five, plus 35 volunteers. A number of staff members have had personal exper-

iences with regard to physical abuse and are well qualified to offer counsel. As yet, there is no shelter home for battered women and their children. A shelter is needed for women to come together to gain strength through shared experiences. They need a place where they can learn how to deal with practicalities, consider their options, and get their feelings out. Some women may need and want to be "rescued" a number of times before they are ready to assume control over their own lives; it is essential that they feel ready to undertake the experience. The organization maintains peer support by phone on a 24-hour basis for counseling and crises.

In her talk, Ms. Ellwood stated that there are a number of myths related to abuse which are just that—myths:

1. Incidents of battering are not widespread. This is completely untrue. It happens in some 10-50% of all American families at some time or another and is a part of our culture. In a poll taken of husbands and wives, 37% of those responding said that there had been at least one battering incident in their marriage, and 12% said that it was a regular occurrence. A recent Harris poll indicated that 30% of the men interviewed believed that it was "OK" to beat their wives. Many such incidents, of course, go unreported, and most men who abuse their wives also abuse their children. Another chilling statistic is this: approximately one-third of all female homicide victims in the state of California are killed by their husbands.

2. Most abuses occur in families that are low on the socio-economic scale. All studies to date indicate that the problem occurs with equal frequency across all socio-economic lines.

3. Battering is a one-time, tension-relieving occurrence. This is again untrue. Generally, there seems to be a cyclical pattern: buildup of tension, the explosion, and then a reconciliation. (This last stage can be a time of closeness for a couple. The man promises

(over)

I would like to join the SLAC Women's Association.

Name _____ Bin # _____
Ext. _____

The following topic would make an interesting subject for a program: _____

\$3 dues enclosed
for 1979

Return to:
Betty Bowker (Bin 72)

that there will be no more incidents, and the woman desperately wants to believe it.)

4. Battering is not very severe. Although the first incident may begin with a mild blow, it becomes progressively worse. Battering seems to be even more violent if the woman is pregnant.

5. It's easy to leave. In an interview with some local hospital workers, the Network group heard such comments as "Why doesn't she leave? As an adult she should be able to control her own life." But members of the Network had the following views: Leaving is often more of a threat than staying because of the fear of unknown problems—for example, 80% of local landlords will not rent to people with children; low self-esteem (if a woman leaves a marriage she will be blamed for its failure—she must have done something terrible); fear of retaliation toward self, children and other relatives; and, finally, fear of what may happen if she leaves and is forced to return.

Helpers are not always "helpers." Some members of local police forces were cited by Ms. Ellwood as being less than cooperative to victims of battering and have been heard to voice the opinion that "they bring it on themselves." Women have had difficulty in getting reports placed on file, even though such reports are necessary if one is to obtain a court order to stop harassment. (It is possible to have a report placed in the files without the perpetrator's knowledge, in order to avoid retaliation.)

In conclusion, Ms. Ellwood stated that only one incident of violence in a relationship is enough to change its course because of fear of repetition, and that "violence begets violence." Children who observe fathers abusing mothers can and do accept each sex's behavior as a role model.

Lastly, if you suspect that a relative or friend is being abused, don't ignore it. At least give the person a chance to talk—people who hurt others frequently present two views of themselves.

—Dorothy Ellison and Mary Beth Jensen

Mid-Peninsula Support Network,
c/o Urban Coalition
860 Escondido Road
Stanford, CA 94305
Business phone: 964-6503
Crisis phone: 964-2266

Need volunteers
and donations

Copies of the Design Study Report of the planned 50 GeV proton accelerator to be built in the People's Republic of China are available on request from the SLAC Public Information Office, Room 238, A&E Building.

ADVANCES IN RADIATION DOSIMETRY AND MEDICINE

September 16-26, 1979

Ettore Majorana Centre for Scientific Culture
Erice, Sicily

The third course organized under the auspices of the International School of Radiation Damage and Protection will be devoted to "Advances in Radiation Protection and Dosimetry and Medicine."

The course will be of interest to those who are involved with the use of ionizing radiations for the diagnosis or treatment of disease—or to students who intend to work in this rapidly growing field.

Some thirteen lecturers from Western Europe and North America will describe the advances which have taken place during the past decade in the radiological physics and health physics aspects of radiotherapy. Advances in diagnostic techniques (CT scanners) and treatment planning using "conventional" radiations (photons) will be discussed and the application of "new" radiations (neutrons, protons, pions, heavy-ions) described. Special emphasis will be placed on dosimetry and the protection of both patient and staff.

Panel discussions involving lecturers and participants will summarize the topics discussed and identify common lines of research and define areas where future research is indicated.

For further information contact:

Professor V. Perez-Mendez
Building 50
Lawrence Berkeley Laboratory
University of California
Berkeley, CA 94720

or

Dr. R. H. Thomas
Directors Office
Building 50A
Lawrence Berkeley Laboratory
University of California
Berkeley, CA 94720

To register for the course, write to:

Professor A. Rindi
Fisica Sanitaria
Istituto Nazionale di
Fisica Nucleare
Laboratori Nazionali di Frascati
Casella Postal 13
00044 Frascati (Rome)
ITALY

US, UNGODLY?

Some think that cleanliness is next to godliness. I once lived and worked among a group of people who were extremely clean. In fact, they bathed their infants so well that they routinely gave them enemas! The climate was quite warm, so the people wore the minimum and rarely allowed odorous perspiration to permeate their clothing. I often wondered what they thought of us, the smelly Americans and Europeans.

A recent note in the *Journal of the American Medical Association* discussed the causes of body odor. Very rarely is it due to some metabolic disorder in which the perspiration itself contains a chemical to which our noses are sensitive. Nearly always, perspiration is completely odorless as it emerges from the sweat glands. Bacteria residing on the skin multiply phenomenally in the warm, moist culture medium of the armpits, and it is these bacteria that produce odors which resemble a very badly ventilated bacteriology laboratory. Clothing, of course, rapidly absorbs the moisture and thus transmits the vapors.

Summer is coming. Our bilateral built-in axillary incubators will be going full blast—and in fact some of us are already doing it. Anything that inhibits bacterial growth diminishes body odors. This is how antiperspirants seem to work. Antibacterial soap and alcohol (externally) also are helpful. Most commercial antiperspirants have an organic aluminum base. The aluminum does inhibit bacterial growth and it is quite non-toxic, although allergies to it do occasionally occur.

Remember, if you are not bathing regularly, changing your clothes regularly or using appropriate deodorants, you may be smelling like a bacteriology laboratory—and some people might even think you are ungodly!

--Charles Beal, M.D.

SLAC T-SHIRTS

The SLAC T-shirts shown on the cover of this issue of the Beam Line are now available for purchase. There are several different styles and sizes to choose from. Prices range from \$3.00 to \$4.50.

Samples of these T-shirts are on display in the Lobby display case on the wall outside Room 240 in the A&E Building. Orders can be placed in the Employment Office in A&E.

Here is a selection of some of the choice malaprops that John Ehrman has collected over the years:

We're caught on the horns of our own petard.

If we keep going on this way, somebody is going to be left standing at the church with his pants down.

John, you always aghast me.

We must try to emerge our viewpoints.

It works more or less natural-wise.

That's OK, we'll ramrod it through.

Let me ask a point-blunt question.

The universality of science is, of course, a lynch pin of the conventional wisdom.

It's chucked full.

You can't never not impact.

I'm listening attentatively.

It seems to be an insurmountable opportunity.

The group was in violent agreement.

He works for that import-outport bank.

We've got to get our ass on the ball.

I flew it by ear.

He condenses a 5-minute speech into 20 minutes.

There's another flaw in the ointment.

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