



SLAC BEAM LINE

Stanford Linear Accelerator Center

Operated by Stanford University under Contract
with the U.S. Atomic Energy Commission

Special Issue

Summer 1974

From The Editor

So much people news popped up all of a sudden that we decided to put out a special, non-monthly issue of the *Beam Line* to try to cover some of it. There are retirements, people quitting SLAC to go elsewhere, people getting ready to traipse off to Switzerland for a year--there's even someone *coming* to SLAC instead of leaving it (the new SLAC M.D.). To avoid confusion, we just dated this issue *Summer 1974*. The next regular issue, September, should be out around the 10th of that month, as advertised.

There are ten or so stories about SLAC people in this issue. The input information and pictures for these stories came from several sources, but the biggest and best source was Herb Weidner, who probably did half of the total work. To write about any subject is hard enough, but for people it's impossible unless you have at least the bare biographical facts and some idea about their activities and interests. Herb did a fine job of gathering up occupation histories and special skills and outstanding achievements at SLAC, and so on. It's hard to beat a man who is resourceful and interested, and Herb is both in spades.

There has been a little feedback on our first try at a new *Beam Line*. There were two general comments, the first being that people liked it pretty well, which helps. The second comment was that the print is too small (which my old eyes agreed with). We probably won't change it for at least another month or two, however. We want to wait for some more feedback and also try a couple of typewriter variations first.

Please keep in mind that the *Beam Line* is still trying to get into the Want Ad and Letters to the Editor businesses (as well as news, announcements, physics, management hassling and whatever). As a reminder, here are the people you can deal with on *Beam Line* matters:

- Harry Hogg (x2441): accelerator and related
- Herb Weidner (x2521): experimental area, facilities, etc., but also general stuff
- Dorothy Ellison (x2723): want ads, clubs, people, sports, retirements, general news
- George Owens (x2411): production and distribution
- Bill Kirk (x2605): comments, letters, anything

--Bill Kirk

"*Foundations of Physics* is to provide an outlet for disciplined articles in a field now somewhat indiscriminately covered by physics and philosophy journals. . . . Acceptable articles must adhere to the standards established in professional journals of mathematics, physics, and philosophy of science."

Well, it's not our style, but . . .

STANFORD STUDENTS NEED HOUSING!

This year, more than ever, Stanford students face a severe housing shortage, both on and off campus. University housing waiting lists are very long, and we need to find as much rental housing as possible.

The Clearing House is set up from September 7 through September 24, 1974, to help these students. New transfer students and graduate students, and returning students who are unassigned in the draw, will all need to find housing.

Many students will need housing for an entire year, while others will need it for a shorter period. Students who are on waiting lists need temporary housing for periods ranging from a week to one or two quarters.

You can be a tremendous help to these new and returning students if you have a room in your home or know of a room, apartment or house for rent or to share on either a permanent or temporary basis. You can also offer room and/or board in exchange for work.

If you can help, please call:

Lise Pfeiffer	Rental Housing Office
Student Coordinator of	Stanford University
the Clearing House	497-3908, 497-1400
	Monday through Friday, 9-5
	August 1 - September 24

CREDIT UNION REPRESENTATIVE AT SLAC EVERY THURSDAY

The Stanford Federal Credit Union has announced that, starting September 19, a member of their staff will be available every Thursday, from 11:30 A.M. to 1:30 P.M., in the SLAC Cafeteria to assist any employees who may wish to conduct Credit Union business. This includes opening new accounts, arranging for payroll deductions, submitting loan applications, or simply answering questions.

The Credit Union offers many services that may be of interest to SLAC employees, including loans at favorable interest rates. Last quarter holders of Credit Union savings accounts were paid a dividend equal to an interest rate of 6.25% per annum.

Rich Seeba
497-1111

"The variation of an elementary particle's time is the variation of its radius; time is size and size is time; old is big and young is small, or vice-versa . . ."

--Homer G. Ellis, *Foundations of Physics*, June 1974

Go get 'em, baby!

BLOOD BANK CAR POOL

Many SLAC employees are regular blood donors at either the Peninsula Blood Bank or the Red Cross Blood Bank. Both of these banks are constantly in need of blood. In either bank, the donor may retain withdrawal rights, or he may assign them to another person or group.

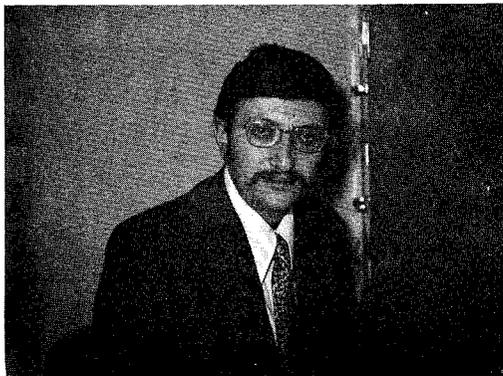
To make it easy for SLAC people to make regular donations, Ken Johnson fills up his ten-passenger van every 10 weeks and takes the group to the Peninsula Blood Bank, where donations are efficiently and gratefully collected. Anyone wishing to join this group should contact Ken:

Ken Johnson - ext. 2392

If enough people volunteer, Ken will help in setting up a second car^{pool}.

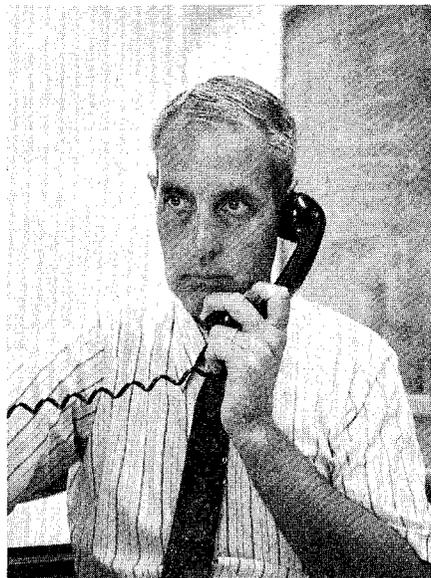
SAM STEPPEL OFF TO CERN FOR A YEAR

Sam Steppel of SLAC's Computation Group will be spending a year, starting in mid-September, at CERN in Geneva, Switzerland. As a visiting scientist at CERN, Sam will be a part of the informal exchange program that has recently grown up between the Computation Groups at SLAC and CERN which is designed to stimulate a cross-fertilization of computation ideas that may find useful application in high-energy physics research. He will be working with members of either the Data Handling or Proton Synchrotron Divisions at CERN, a decision he will make after he has had a chance to get acquainted with the range of computation activities in the two groups.



Sam came to SLAC in July 1972 from a post-doctoral position at the University of Maryland in which he was responsible for the design of the computation methods used by one of the physics groups there. His advanced degrees, an M.S. in Physics and a Ph.D. in Statistical Physics, are also from Maryland.

At SLAC, Sam has worked with Jerry Friedman, the head of SLAC's Comp Group, on many aspects of the broad subject of multidimensional data analysis. One of the more interesting results of this work was the recent production of a 25-minute motion picture entitled *PRIM-9, An Interactive Display Program for Multidimensional Exploration of Data Analysis*, which Sam produced and edited. This film has been shown at more than a dozen scientific installations in the U. S. and also at CERN. Another of Sam's contributions to SLAC computation was to write and implement the PDP-11 Cross Assembler and Linker for the new Triplex computer system.



HERB TIEDEMANN LEAVING SLAC

Herbert V. Tiedemann will be leaving his job as SLAC's Payroll Supervisor sometime in September. He is a native of the San Francisco Bay Area and presently makes his home in San Carlos with his wife and four children. Herb prepared for his work in the accounting profession by attending the College of San Mateo and later the University of California. He first came to Stanford in 1963 from a position in the Accounting Dept. of Ampex Corporation. At Stanford Herb held the titles of Assistant Supervisor and then Supervisor of the Payroll Office on campus. He transferred out to SLAC in early 1968 as Payroll Supervisor and has held that position ever since.

In his off-duty hours, Herb's main interest is in swimming. He is very active in arranging and officiating at swimming meets, and this work spans the whole range from beginning youngsters to swimmers of world championship caliber. Herb is the President of the Ladera Swim Club, and he is also an official of the Amateur Athletic Union. As an extension of his keen interest in physical fitness, Herb is also a dedicated jogger--including those early morning jogs that the more sedentary among us watch with wonder as we try not to let the car heater put us back to sleep again.

Herb Tiedemann is probably known to more people at SLAC than most of the rest of us because of his frequent contacts with secretaries and group leaders concerning payroll matters. He will be remembered with appreciation for his many contributions to a difficult job. Herb played a particularly important role in the systems design work that was required to process the SLAC payroll on the IBM 360/91 computer. In his future work, Herb plans to concentrate on systems design as it relates to all aspects of business management rather than exclusively on payroll. We wish him all the best as he seeks to expand his horizons.

Compensation (mechanism). The use of a compensating trajectory of opposite parity to cancel a pole occurring in a nonsense-nonsense amplitude at a right-signature nonsense point for a Regge pole that chooses nonsense.

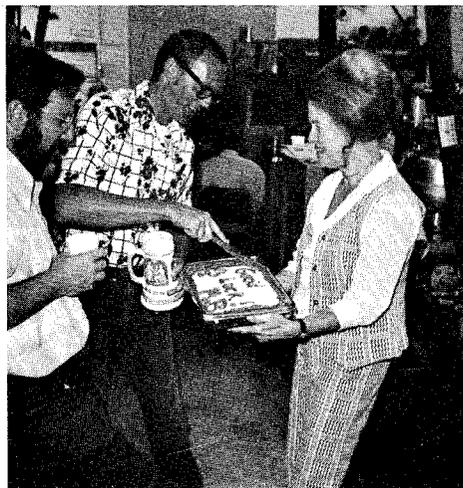
Don't we all, though.

MARK BALDWIN TAKES OFF FOR THE WIDE OPEN SPACES

After twelve years at SLAC, Mark Baldwin has decided to pull up stakes and head north with his family to the wide open spaces of Bozeman, Montana. Mark first came to SLAC back in 1962 from an earlier position at Lockheed. He arrived at the time when construction of the two-mile accelerator had just begun in earnest, and his training in mechanical engineering from the University of Arizona and his Lockheed experience were first put to use at SLAC in the design, fabrication and testing of the components for the accelerator vacuum system. On completion of this work, Mark transferred to the Experimental Facilities Department, where he was an important contributor to the design of the high-power laser system that was used to produce a beam of back-scattered photons of high energy for experiments in the 82-inch bubble chamber. During his EFD days, Mark was also a main stay in keeping the Beam Switchyard vacuum system operating, often putting in more hours than he cares to remember in handling emergency vacuum problems.

In 1970 Mark became a member of the Mechanical Engineering Department, and for a period of about three years he worked with Dieter Walz in the Beam Switchyard Engineering Group as Senior Engineering Coordinator. During this time he was responsible for several large installation jobs, most notably the planning and installation of the beam-transport system that now feeds low-energy electron and positron beams to the SPEAR colliding-beam storage ring. In this work Mark had to analyze the vacuum requirements; calculate the pump-down time, pressure distribution and outgassing rate; and specify and select the vacuum components needed to meet the requirements. He then supervised the installation of the beam lines, which are an integrated system consisting of magnets, instruments, power absorbers, safety devices and vacuum components.

Mark has also been a member of SLAC's Safety Committee, an assignment that was a natural outcome of the excellent safety record he achieved in the Beam Switchyard despite the presence of high-voltage equipment, high radiation areas, and other potential occupational hazards. The combination of technical knowledge, leadership, and ability to communicate that Mark has displayed also made him a very effective instructor in his work.



Mark Baldwin (center), with Ruth Taano of SLAC and Herm Winick of the Hansen Labs and SSRP, at the farewell party held for Mark at SPEAR.

During the past year at SLAC, Mark has been working mainly with the staff of the new Stanford Synchrotron Radiation Project (SSRP), a facility which makes use of the intense output of synchrotron radiation from SPEAR for a variety of research in both the physical and biological sciences. SPEAR's synchrotron "light" reaches the SSRP experiments by passing through special windows which also serve the critically important purpose of isolating the ultrahigh vacuum within the SPEAR ring from the relatively gassy world beyond. One of Mark's chief responsibilities has been to maintain the integrity of this vacuum isolation by acting as liaison between the SPEAR and SSRP groups and by coordinating the changing operations of the two facilities.

As Mark and his family head toward a new life in Montana, we send them off with gratitude for Mark's many contributions to the construction and operation of SLAC, and with all good wishes for happiness in their pioneering new venture.

BACK TO THE BOOKS FOR CARLA GONG

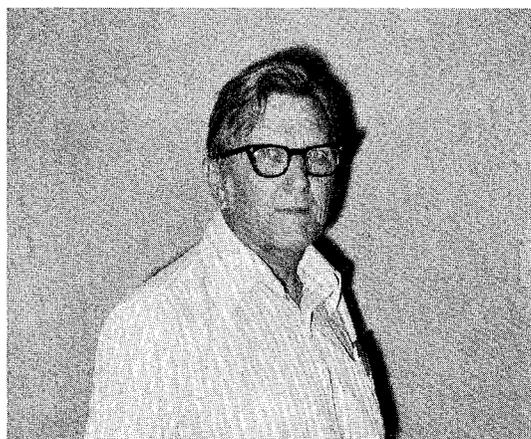
With many regrets, her friends in EFD and elsewhere at SLAC are planning to say goodbye to Carla Gong. For the past two years, starting as a summer employee, and working full or part time as her academic work at Foothill College permitted, Carla has been an energetic and cheerful addition to our clerical staff. She has the rare knack of being able to "fill in" and do many different jobs well--from using a terminal to submit computer jobs via Wylbur to typing memos and those inescapable wirelists.

In EFD we take pleasure in the fact that Carla has enjoyed working here. As her first job, it was "a good introduction to working," and she has "really enjoyed the people."

We'll truly miss her, and we wish her the best of luck as she continues her studies full-time at Foothill. Carla eventually expects to enter San Jose State, where she plans to study Business Administration. If her work at SLAC has been any indication, we'd say she can't miss in whatever she chooses to do.



--Ken Johnson



DICK MESSIMER RETIRES

Retiring after twenty years of service, Richard C. Messimer's career at Stanford University parallels the development of modern microwave science. From 1947 to 1956, Dick worked at the Microwave Laboratory on the Stanford campus. He was the head of the Tube Shop at the ML, working with the pioneer developers of high-power klystrons and linear electron accelerators. He played an active role in developing the klystron amplifiers and accelerating structures for the first four linear electron accelerators at Stanford, the Mark I through Mark IV machines. Those were important days in developing the knowledge and devising the techniques that were to have such significance for high-energy physics research. However, the projects which gave Dick the most personal satisfaction during that early period were the construction of the small medical accelerators that were used for cancer therapy at the Michael Reese Hospital in Chicago and at the Stanford Hospital, which was then in San Francisco.

In 1957, Dick went to work for the High Power Tube Division of General Electric's Microwave Laboratory, and in 1960 he moved on to the Product Engineering Group of Varian Associates' Tube Division. While at Varian he became the project manager for the traveling-wave tubes that used on the USN missile frigate *Bainbridge* and the aircraft carrier *Enterprise*. Dick has some interesting recollections of the cruise to Cuba he took aboard the *Enterprise* while his tubes were being tested.

Dick Messimer returned to Stanford in 1963 as Mechanical Technician Supervisor at SLAC, where his strong background in furnace-brazing techniques, as well as in tube and machine skills, were invaluable in the fabrication of the accelerating structure and other microwave components for the two-mile accelerator. After the transition from construction to research operations at SLAC, Dick became the superintendent of the hydrogen-target-assembly and precision-assembly functions in the Mechanical Fabrication Shops. Since then he has had a key role in the fabrication, assembly and maintenance of the great variety of hardware and instruments that make up the complex mechanical maze of the SLAC accelerator.

Dick's knowledge and experience will be sorely missed at SLAC. His fellow workers will have an opportunity to see Dick off in style at a retirement lunch that is being planned for August 30 at the Velvet Turtle restaurant. His retirement is well-earned, and we wish him all the best in the years ahead.



DR. BEAL COMES TO SLAC

Dr. Charles B. Beal, Associate Director, Department of Environmental Medicine at the Palo Alto Medical Clinic, has recently assumed responsibility as Medical Director at SLAC. A native of Tucson, Arizona, Dr. Beal obtained his B.A. from the University of Arizona, his M.D. from Harvard Medical School, and a Diploma in Tropical Medicine and Malariology from the University of Paris. Additional post-graduate studies include a Diploma in French Language from the Alliance Francaise in Paris.

Dr. Beal has served as a Captain in the Air Force, acting as a squadron surgeon, as an Instructor at the Rescue and Survival School, and as a leader of the Parachute Rescue Team. After his stint in the armed forces, he became a Medical Missionary and Director of the Protestant Mission Hospital in the Ivory Coast, French West Africa.

Dr. Beal returned to the U.S. in 1958 to enter private practice at Flagstaff, Arizona, and in 1960 he came to the Stanford Medical School to teach parasitology, tropical health, and community health. He remains an Assistant Clinical Professor in the Department of Community and Preventive Medicine at Stanford.

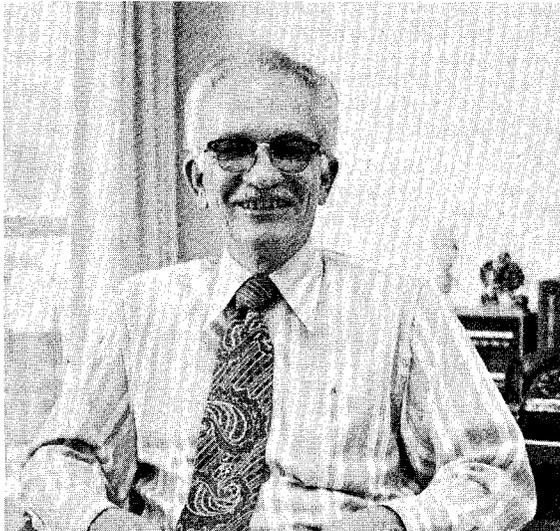
During 1966-1969 he was with Kaiser Foundation International, working on Peace Corps health programs in the Ivory Coast, Upper Volta and Niger, as well as developing industrial health programs for Kaiser Industries in the Bay Area.

Dr. Beal has become actively involved in the East Palo Alto Neighborhood Health Center, where he has been responsible for adult medicine and for coordination of family health care teams. Presently he is a consultant to the New Products Division of Health Development Corporation, a black-owned medical devices manufacturer. This activity is closely aligned with his main hobby of "gadgeteering" medical devices, such as a capsule designed to carry a length of string to the stomach to withdraw sample material, and a system for conducting surgery in the tropics and other world areas where proper medical facilities do not exist.

With his wife, Lucerne, and his children, Timothy and Marcia, Dr. Beal lives in Menlo Park. In addition to his fluency in French, he also speaks Spanish and Bambara (West Africa).

STAFF COUNSEL WIN FIELD
TO RETIRE IN OCTOBER

It would probably be difficult to find anyone at SLAC who embodies more of the qualities of an "old pro" than SLAC's lawyer, Win Field. For the past fourteen years Win has brought his extensive knowledge and experience with the law to bear on the huge variety of legal and administrative problems that a large government-sponsored, University-operated research laboratory such as SLAC encounters. With an easy yet remarkably perceptive grasp of the possible pitfalls, and with unflinching good humor, Win has managed to steer us into contractual and administrative relationships with the AEC, with Stanford, and with our suppliers and subcontractors that are not only legal but also *workable*. In short, Win Field has been a Winner for SLAC, and his forthcoming retirement would seem a bit of a disaster if it weren't for the fact that he has agreed to continue to help out here, on a part-time consultant basis, even after he retires.



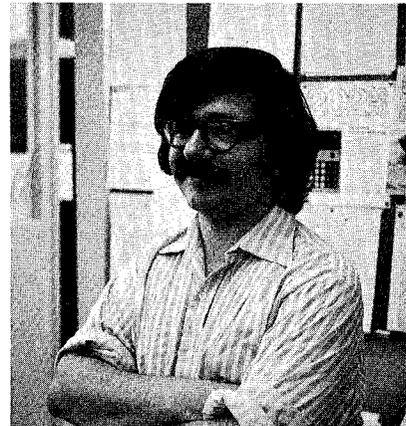
Win obtained his A.B. degree from UCLA in 1930 and his LL.B. from UC-Berkeley in 1934. After three years in private law practice he joined the U.S. Army Infantry as a First Lieutenant, and by the end of the Second World War he had risen to the rank of Lt. Colonel. From 1946 until his retirement from the Army in 1959 he was on the staff of the Judge Advocate General's Office, serving major tours of duty in Germany and Japan, and ending his Army service with the rank of Colonel.

After resuming private law practice for about a year, Win joined the staff of the W. W. Hansen Laboratories of Physics at Stanford University in September 1960. (The *Proposal for a Two-Mile Linear Electron Accelerator*, then called "Project M," was the work of people from the Microwave Laboratory and the High Energy Physics Laboratory, which together then formed the W. W. Hansen Laboratories of Physics. This proposal was submitted to the government in April 1957, and was finally authorized in September 1961.) From September 1962, when SLAC formally began, until the present time Win has been our Staff Counsel, and as such he has participated in the negotiation of all Stanford-AEC contracts for Project M and for SLAC, and in all major subcontracts that have required negotiation.

Win's responsibilities as Staff Counsel have included the following work: (1) Preparation of all legal forms used by SLAC, such as subcontracts and purchase orders, to ensure consistency with AEC directives and Stanford policies; (2) Preparation of special legal documents such as those required for non-standard purchases; (3) Provision of legal advice and assistance to SLAC management and staff upon request; (4) Review and approval of all consulting agreements; and (5) Liaison with the legal representatives of Stanford and of the AEC.

A good number of Win's friends at SLAC (there are many) got together with him on August 23 at a luncheon to mark the occasion of his forthcoming retirement. As noted above, we expect to see Win back at SLAC on a part-time basis, probably about the middle of October. In the meantime, Win and his wife are planning to treat themselves to a well-deserved vacation, including a long trip to Ireland. So instead of the usual goodbyes we can take pleasure in the fact that a *Farewell!* now can soon be followed by the *Hail!* with which we'll welcome Win back in October.

ANDY SABERSKY TO WORK
AT CERN FOR A YEAR



Andy Sabersky of SPEAR will be leaving SLAC in October to begin a one-year stay as a visiting scientist at the European Center for Nuclear Research (CERN). Andy first came to SLAC in January 1965 as a member of Experimental Group E in the Research Division. About a year later he transferred to Research Area Operations (RAO's functions later got split up between Accelerator Operations and the Experimental Facilities Department). During the year of 1968 Andy was self-employed, but he returned to SLAC early in 1969 as a member of the Technical Staff of EFD.

At SPEAR, Andy has worked as an engineering physicist on many aspects of storage ring theory and design. One of his particularly important contributions was the optical beam monitoring system. His experience at SPEAR will stand him in good stead for the work he expects to do during the coming year at CERN, where he will join one of the experimental groups working with the Intersecting Storage Rings (colliding beams of 28 GeV protons).

Andy has an unusual ability to write about accelerators and physics in a way that is readily understandable to laymen, and we're hoping that while at CERN he will send back to us interesting descriptions of some of the work there for use in future issues of the *Beam Line*.

BOB VETTERLEIN LEAVING SLAC FOR JOB AT LIVERMORE

Ten-year SLAC employee Bob Vetterlein has recently decided to move on to a new job at the Lawrence Livermore Laboratory, the large AEC-sponsored research lab operated by the University of California. Bob is a mechanical engineer, and a good one, who obtained his B.S. degree from Portland (Oregon) College in 1950 and his Master's from Stanford in 1970. He first came to SLAC in 1964 at a time when the design and con-



struction of the research area and its initial complement of experimental facilities was just getting into full swing. Since October of 1965 Bob has been a member of the Experimental Facilities Department (the part that was then called Research Area Operations) at SLAC, and his assignment has been the singularly demanding one of Beam Engineer.

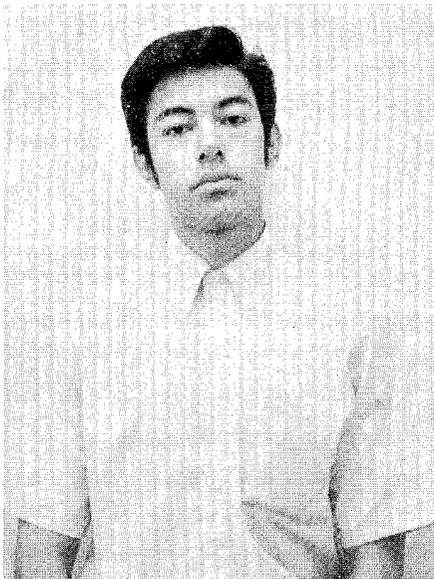
At a large accelerator laboratory the layout and arrangement of the particle beams and experimental apparatus is constantly being added to and changed in response to the continuing flow of new experiments. At SLAC the main burden of this work falls on EFD, which must work closely with the physics groups, from SLAC and from outside institutions, in improvising the most effective experimental setups, in designing

and building any new beam-line or research apparatus that may be required, and in running down and correcting any of the 101 kinds of safety or monitoring or operational problems that can crop up to interfere with efficient use of assigned accelerator running time.

The Beam Engineers in EFD play a central role in this work, and Bob Vetterlein's knowledge, inventiveness and ability to communicate have resulted in an outstanding record of getting things done effectively and on time. Bob had a chance to cut his teeth on the very first experiment that was done at SLAC: *E-1, Inelastic muon-proton scattering*, which was carried out by the physicists in Martin Perl's Experimental Group E. In collaboration with Joe Murray, Roger Gearhart and others from EFD, Bob has also worked on the development of the elaborate system of particle beams that feeds the Central Beam area in the research yard, including the unique backscattered laser beam that was used successfully with the 82-inch bubble chamber. In addition, his special interest in heat-transfer problems has made him a valuable contributor to the analysis and design of high-power beam dumps, collimators and targets. He has also played an important role in devising radiation-safety methods for a number of experiments.

In his new position at the Lawrence Livermore Lab, Bob expects to be working on the important energy-related topic of coal gasification. He will be missed by his co-workers at SLAC, and especially by his colleagues in EFD and by the many physicists from throughout the United States who have to come to value his comprehensive knowledge of beam-line design and experimental configurations. A few hours spent talking with Bob Vetterlein has often saved a visiting physicist a few days, or even weeks, of tracking down the pros and cons of various experimental alternatives. So Bob leaves SLAC with our full appreciation for a job well done and with our best wishes for success in his new work at Livermore.

JOSE SANCHEZ HEADS FOR NEW JOB AT IBM IN SANTA CRUZ



Jose Sanchez left his position as a SPEAR Operator about two weeks ago to accept employment at the IBM electronics facility in Santa Cruz. Jose began his work at SLAC in September 1969 as a member of the Experimental Facilities Department, and he served EFD very efficiently for about four years as an electronics technician working in the Power Supply Operations Group. While in EFD, he put his aptitude for electronics to good use by enrolling in the Honors Cooperative program of graduate study in the School of Electrical Engineering at Stanford University. For the past year at SLAC, Jose has been working as an Operator of the SPEAR storage ring, and he has also had the pleasure of seeing his graduate work at Stanford culminate in the award of the Master's Degree in Electronics Engineering.

Jose's new engineering position with IBM will be concerned with the design of micro-processor chips for integrated computer circuitry, and it represents an excellent opportunity for him to get into a field that holds great interest for him and also seems to have a bright future. He and his family plan to move to the town of Los Gatos in the near future in order to cut down on the commuting time to Santa Cruz and back. Jose's friends at SLAC are pleased with his promising new job, and they send along to him their admiration for carrying the double load of work and study with such skill and determination while he was here.

iBANANAS!

OR, HOW THE PRESIDENT OF A SMALL CENTRAL AMERICAN COUNTRY GOT A SLAC BEAM TREE

(Authors note: Although the following story is true, the names of the persons and the country have been omitted, just in case.)

In 1971 I drove my family to Panama, and I happened to have with me a beam tree (or current tree) from SLAC. On passing through one of the countries on our way, I visited an engineer who showed great interest in the plastic block with the "frozen lightning" inside. So I decided to give it to him as a present, along with a description of how it had been made.

A few weeks ago, while passing through the same country, I dropped by to visit my friend, and in the course of our conversation he asked if I could get him another of the "frozen lightning" blocks because he no longer had the one I had given him. I told him that I had none but would try to send him one. I asked what had happened to the first one.

"Well," he said, "one of the government ministers, a friend of mine, had dropped by my office, and the frozen lightning block caught his eye. I told him that it had been made with a two-mile atomic machine. He looked it over, then returned it to my desk. I forgot about the incident until the next day, when a big black limousine with two full Colonels in it pulled up in front of my office. They came in to tell me that the President wanted to see me right away, and that I was supposed to bring some sort of plastic block from my desk."

"When we got to the Presidential Palace, I was immediately ushered into his office. And there he was!

BERKELEY BEVALAC TURNS ON

Initial operation of the BEVALAC is welcome news. My congratulations to you and your staff. The Heavy Ion Research Program is one of the most interesting and fascinating areas of research today. It spans the spectrum of our concerns from the biomedical research applications in the fight against cancer to the search for clues to future energy sources from research on super-dense nuclei.

The BEVALAC promises to be an important tool in these studies.

--Telegram to A. M. Sessler from Dixy Lee Ray
Tuesday, August 6, 1974, 4:45 P.M.

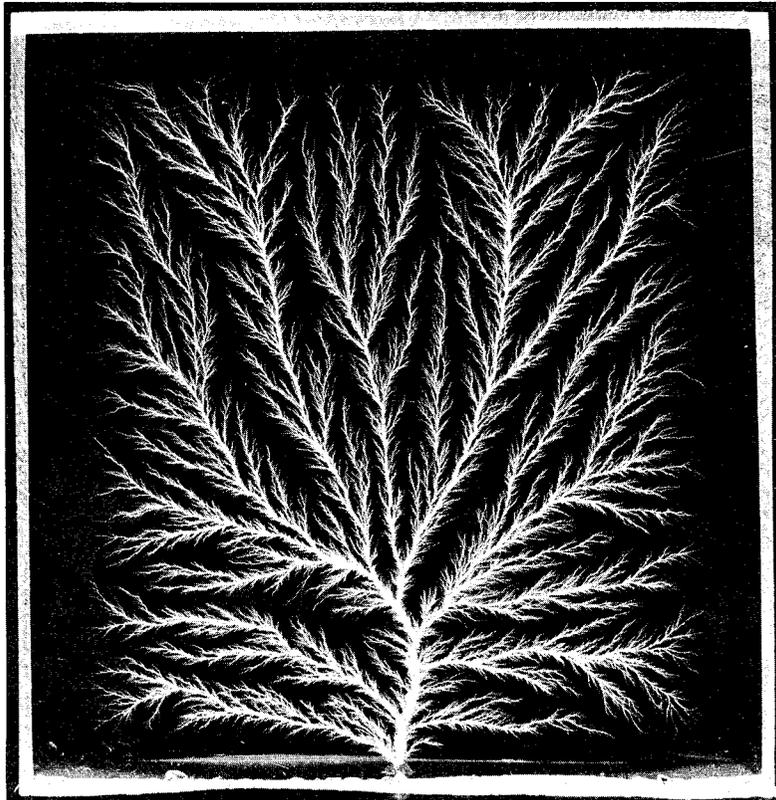
The President himself! He greeted me very cordially, then said, 'Dick, I understand that you have some sort of frozen lightning in a piece of plastic. Is that true?'

"I handed him the block and described how the 'lightning' was put inside. He examined it for a couple of minutes, then finally asked if he could keep

it. I guess I must have said something like 'Well, you're holding it in your hand, and you're the President of the whole country, so I really wouldn't want to try to take it away from you. I guess it's yours.' He thanked me and we shook hands, and that's what happened to the current tree. Do you suppose you could get me another one?" I told him I'd try.

Postscript. Although it would give me great satisfaction to visualize this particular President in his Presidential Palace with a SLAC current tree displayed prominently on his desk, I'm afraid that such is not the case. As has sometimes happened in the past and--human nature being what it is--will doubtless happen again in the future, El Presidente was recently caught with his hand in the public till. When last seen, I am told, he was headed for Switzerland, where a significant percentage of his country's money is apparently deposited in a numbered bank account. The fate of the current tree is unknown.

--Alan Wilmunder



Now the smallest Particles of Matter may cohere by the strongest Attractions, and compose bigger Particles of weaker Virtue; and many of these may cohere and compose bigger Particles whose Virtue is still weaker; and so on for divers Successions, until the Progression ends in the biggest Particles on which the Operations of Chymistry, and the Colours of natural Bodies depend, and which by cohering compose Bodies of a sensible Magnitude.

There are therefore Agents in Nature able to make the Particles of Bodies stick together by very strong Attractions. And it is the Business of experimental Philosophy to find them out.

--Isaac Newton, *Opticks* (1704)

Sports & Hobbies

BOWLING LEAGUE TO START IN EARLY OCTOBER

As in past years, SLAC will again sponsor a mixed bowling league this season. This handicap league is scheduled for Wednesday evenings at 6:00 P.M. at Tresidder Union on the Stanford campus. The starting date has been tentatively set for October 2nd.

There will be a kick-off meeting for all bowlers at noon, Wednesday, September 11, at the SLAC Cafeteria patio. At this meeting we will make an effort to establish teams and to review the league's By-laws for desired changes. Those who can't come to the meeting may want to find someone to represent them.

Sign-up forms have been posted on local SLAC Bulletin Boards since August 19 (a green memo). These forms should be returned to either

Frank Karas Harvey Hukari
Bin 23 or Bin 23
Ext 2420 Ext 2511

Please call either of us if you have questions.

OTHER SPORTS ACTIVITIES

Golf. SLAC's annual golf tournament was held at the Hill Country Golf Course in Morgan Hill on June 23. Among the winners were Gordon Ratliff, Jim Pardoe, and Bill Brunk. The awards were presented at a dinner buffet. There was some interest expressed in starting a golf league for SLAC players. If the idea appeals to you, and you'd be willing to share the "bookkeeping," call Vic Itani, Ext 2511.

Fencing. A rigorous physical exam is required for participation in this active sport. If that doesn't scare you away, contact Stan Billitzer, Ext 2394.

Ski Club. The SLAC Ski Club is not active at the present time. It appears to need someone to organize things. The contact point for some of the earlier activity was Gloria Strelchuk, Ext 2745, who would probably be willing to acquaint people with the problems.

Miscellaneous. There are people at SLAC who participate in, and can give you further information about, any of the following activities: *softball, soccer, tennis, fishing, flying, running, hiking and climbing, horseshoes, volleyball and ping-pong.* If you don't know who to ask about these sports, try Dorothy Ellison first, Ext 2723.

SLAC Beam Line
Stanford Linear Accelerator Center
Stanford University
P.O.Box 4349
Stanford, California 94305

(Mailing Label)

MINORITY AND WOMEN'S COMMITTEE

The Minority and Women's Committee, appointed by the Director of SLAC, gives minority and women employees an opportunity to bring up any job-related problems which they feel result, directly or indirectly, from their minority or women status. The MWC also assists the Director by carrying out assignments that provide information about the relationships between minorities and non-minorities, and by suggesting ways to improve these relationships. Any employee who feels hesitant about approaching the Committee as a whole may contact members on an individual basis. The Committee members and their telephone numbers are listed below:

Viola Belton	2223	Paul Regalado	2472
John Brown	2284	Mario Smalls	2784
Tiana Hunter	2328	Joe Sodja	2163
Dick Jeong	2451	Ken Stewart	2739
Marie LaBelle	2748	Anthony Tilghman	2488
Frankie McLaughlin	2864	John Valverde	2371
		Lucy Wilson	2681

... Mothers were very powerful in those days, as they are now, and they convinced the other fathers that they had to take their own sons out for walks in the woods. So all fathers took all sons out for walks in the woods on Sunday afternoon. The next day, Monday, we were playing in the fields and this boy said to me, "See that bird standing on the wheat there? What's the name of it?" I said, "I haven't got the slightest idea." He said, "It's a brown-throated Thrush. Your father doesn't teach you much about science."

I smiled to myself, because my father had already taught me that that doesn't tell me anything about the bird. He taught me "See that bird? It's a brown-throated Thrush, but in Germany it's called a *Halzenflugel*, and in Chinese they call it a *Chung ling*, and even if you know all these names for it, you still know nothing about the bird. You only know something about people: what they call that bird."

"Now that Thrush sings, and teaches its young to fly, and flies so many miles away during the summer across the country, and nobody knows how it finds its way," and so forth. There is a difference between the name of the thing and what goes on.

--Richard Feynman
The Physics Teacher
July 1969

FRIDAY NOON DISCUSSIONS

The schedule for the next four Friday Noon Informal Discussions is this:

August 30: Sid Drell - What theoretical physicists do

Sept. 6: Pief - General question and answer

Sept. 13: Dick Fuendeling - The budget process at SLAC

Sept. 20: Pief - General question and answer

These discussions are scheduled for the Auditorium. Suggestions for new topics and/or people would be welcome (since we're beginning to run out of gas). Suggestions should go to Bill Kirk (2605) or Dick Taylor (2696).