

The Village Courier



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FOLLOWUP: SUMMER STUDY '77

"Extremely successful . . ." and "real progress was made." That's how James Walker summed up Summer Study V, a three-week seminar at Aspen, Colorado.

Walker, assistant head of Fermilab's colliding beam's department, headed the study. From June 27 to July 15, 45 scientists applied their collective mental muscle to one challenge: laying groundwork for colliding beam experiments set for late 1980 at Fermilab.

Why do scientists want to collide proton beams head-on? Because, Walker says, such a crash will release great energies . . . and create particles existing when the universe was born.

He compared the anticipated discoveries to viewing exotic animals in a zoo millions of years old.

To collide beams, a twin to Fermilab's existing accelerator will be built in the Energy Doubler program. Beams will be accelerated in opposite directions around the four-mile main ring until scientists determine they should collide. The energy created will be up to 50 times greater than today's 500 billion electron volt accelerator.

Besides creating new fundamental knowledge of the universe, the project will provide other benefits. One will be a 50 percent cut in the cost of electrical power for running the accelerator. The savings will result from superconducting magnets being built here--utilizing supercold (minus 450 degrees zero Fahrenheit) technology being developed on-site also.

"Summer Study '77 was felt to be particularly successful," Walker said, "because it focused exclusively on colliding beams and therefore significant progress was made in this area. We at the laboratory found it more productive because scientists' attention was geared to solving specific problems. Due to the concentrated effort, we know now much better how to assign our priorities.

"The study results will guide work to be done in the next six months to a year," Walker said. As the Energy Doubler is built, other construction will provide experimental areas and a detector facility.

1977 Summer Study marked the fifth time that scientists from Fermilab and invited scientists retired to the shadow of the Rockies to consider the world's next generation of high energy physics



...*(L-R) H. Frisch, D. Hitlin, A. Weitsch, S. Olsen and A. Brenner talk colliding beams...*



...*J. Cronin (L) speaks during general session...*



...*B. Schluchter (L) and M. Paul compare study notes with J. Walker, chairman...*

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FOLLOWUP: SUMMER STUDY '77 (Continued)

experiments. Previously -- in 1968, 1969, 1973, and 1976 -- summer studies were held in Aspen; the 1970 session met at Fermilab.

This year's study group was about evenly divided between staff persons and users/invited guests. Users represented 13 institutions and laboratories from across the United States. Other participants were from ERDA, National Science Foundation, CERN (Switzerland) and Center for Nuclear Studies, Saclay, France.

Before the study, participants were provided with latest publications on the topic. Also, study members will write an estimated 100 original papers (one to five each) on the seminar. Printed proceedings of the summer session are expected in about three months.

Summer Study '77 marked the first time that colliding beams was the featured topic. Last year, this topic shared the agenda with a general consideration of questions facing the high energy physics community.

The study was divided into two one-and-one-half week periods. About half the participants attended for a period; half for both periods.

Subtopics addressed at the conference were:

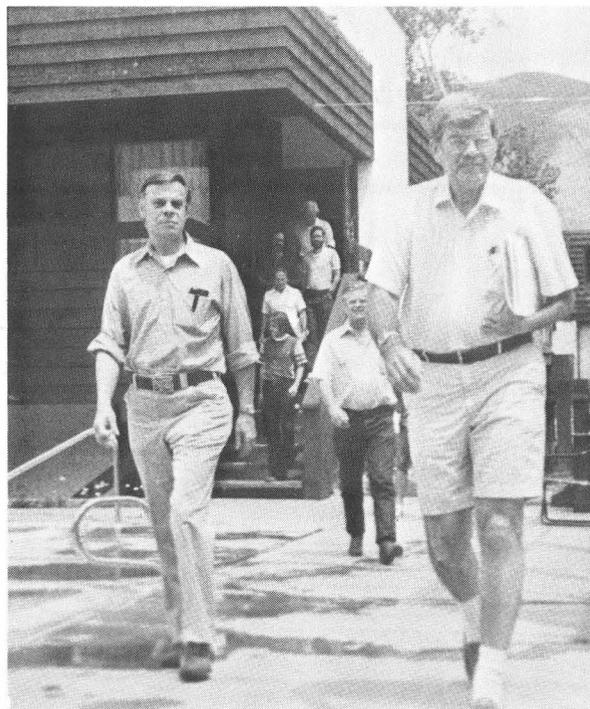
1. Use of the main ring accelerator beam for beam storage;
2. Methods to collide the main ring and Energy Doubler beams;
3. Detection schemes to study collisions;
4. Anti-proton production and cooling; and
5. General design concepts for experimental areas at interaction regions.

Discussion leaders, assigned to topics as listed above, were: Alvin Tollestrup, Fermilab; R. Diebold, Argonne National Laboratory; D. Hitlin, Stanford Linear Accelerator; P. McIntyre, Harvard University; and D. Ayres, ANL.

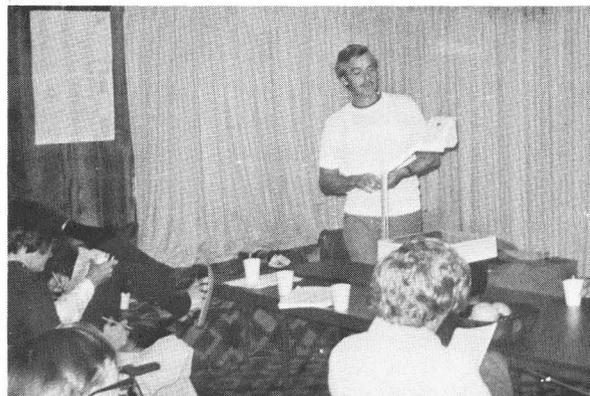
Leaders opened each period with 60-minute presentations introducing their assigned topics and identifying areas for further study. The five subgroups then held daily work sessions. Results of their deliberations were reported by group leaders at 4 p.m. coffee-and thought-sessions.

To conclude study periods, leaders presented hour-long summaries of work achieved. "These were at a particularly high level," Walker said. "They were quite outstanding reviews of the proceedings, remembered for their comprehensiveness, clarity and identification of major achievements and outlining of work remaining."

Highlighting the session was a roundtable discussion on colliding beam physics to be done at Fermilab. Joining three experimental physicists was a trio of theorists invited from the Aspen Center for Physics. The latter were John Rosner, University of Minnesota; Dick Slansky, Los Alamos Scientific Laboratory; and Lincoln Wolfenstein, Carnegie-Mellon University. The experimentalists were: James Cronin (Fermilab); Carlo Rubbia (Harvard); and Bob Diebold (ANL). A very lively discussion was held and helped to identify some of the physics potential of colliding beams at Fermilab.



...L. Jones (L), U. of Mich., and F. Mills, Fermilab, lead "students" leaving Aspen conference room...



...J. Walker, study chairman, conducts general session...

NALREC APPOINTMENTS ANNOUNCED

Helen Ecker, recreation director, has announced 10 appointments to the 26-member NALREC committee. A cross-section of the Laboratory community, the NALREC committee organizes a wide range of employee recreational activities throughout the calendar year. The committee holds monthly meetings. New members will serve two-year terms expiring June, 1979. They are: Doug Bamford, Site Services; Ray Carra, Research Services; Jesse Guerra, Proton; Scott Meyer, Physics; Brenda Moylan, Administrative Division; Jean Plese, Director's Office; Nancy Shanahan, Technical Services; George Villa, Neutrino; and Sharon Winfrey and Bob Corrigan, Accelerator.

Retiring committee members were honored at a dinner in the Village barn August 5. Retiring members are: Jack Johnson, Energy Doubler; Carolyn Longland, Purchasing; Mary Luba, Physics; Hal Scheppman, Maintenance and Operations; Barb Schluchter, Research Services; Bud Stanley, Facility Operations; John Stoffel, Meson; Jo Baaske, Payroll; and Don Sorenson, Proton.

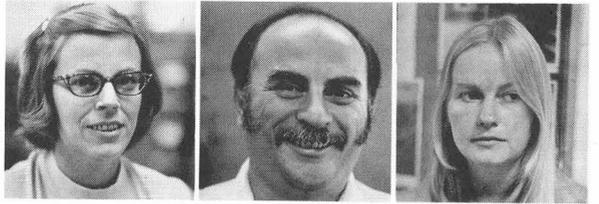
Resigning during the year were: Jim Edwards, and Larry Taylor, Accelerator; Bob Trendler, Neutrino; Vic Kuchler, Technical Services; and Helen Ecker, Administrative Division.



D. Bamford R. Corrigan J. Guerra



S. Meyer B. Moylan J. Plese



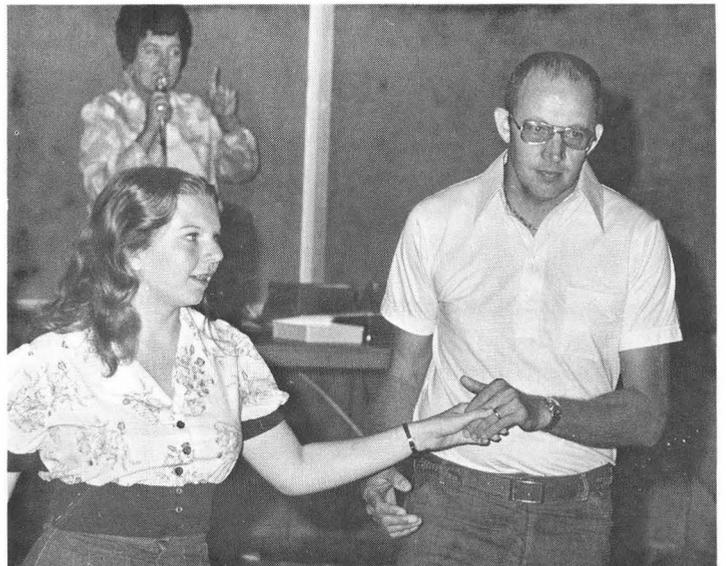
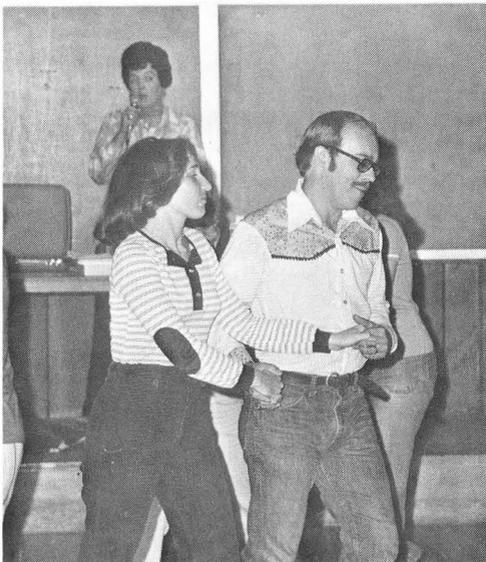
N. Shanahan G. Villa S. Winfrey

COLLEGE SCHOLARSHIPS AVAILABLE

Universities Research Association, Inc., operator of Fermilab for ERDA, announces its annual scholarship program for employees' children. Employee children -- who will begin a four-year college program in the fall of 1978 -- are eligible to apply for a URA scholarship of up to \$1,200 per year for four years. Students will be selected on the basis of American College Testing Assessment (ACT) scores. (Note: This is a change from previous years when S.A.T. scores were used.) Although applications are not due until March, 1978, students should make arrangements to take the A.C.T. test this fall. High school counselors have the necessary information regarding testing dates and application procedures. Since the tests are given only on specific dates, arrangements should be made as soon as possible. Information regarding the URA application procedure will be announced at a later date.

*...HIGH-ENERGY
HOEDOWN...*

Left photo, Pat (Guest Office) and Bert Yost (Exp. 395) display square dancing technique at NALREC's fall hoedown last Saturday. Nancy Peterson was the caller at the Village barn.





...Second from right, Tony Villa (Receiving) and "Los Tarhumaras"...

MEXICAN INDEPENDENCE DAY DANCE

The Laboratory community is invited to a dance in observance of Mexico's national independence day Saturday, September 24. Festivities from 8 p.m. to midnight in the Village barn will feature the "Los Tarhumaras" band and Kello el Bello, a comedian. Admission will be free. Cash bar and food including tacos, enchiladas and tostados will be available for a small charge. Jesse Guerra (Proton) is planning the celebration with help from S. Nila (Material Support), B. Schluchter (Research Services) and D. Carullo (Magnet Facility). For more information, contact Jesse Guerra at Ext. 4205.

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ALL-LABORATORY GOLF TOURNEY SEPT. 25

Friday, Sept. 16, is the deadline to sign up for a Laboratory-wide golf tournament sponsored by the Fermilab Golf League. The event is set for Sunday, Sept. 25, at Country Lakes Golf Course. The links are on Rt. 59, south of the East-West Tollway. Tee off time will be 10:30 a.m. Greens fees will be \$7 for non-league members. A buffet dinner will be served in the course clubhouse after the tournament. Tickets, \$6 per person.

For information or reservations, contact Ellery Cook (Accelerator Controls) at Ext. 4418.

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YOGA DEMONSTRATION/LECTURE

Bernice Bolly of Aurora will give a Hatha Yoga lecture and demonstration on Thursday, Sept. 22 at noon in the CL-Auditorium. Everyone is welcome and class participation is encouraged; bring comfortable clothing and a mat or rug. Mrs. Bolly, a Yoga practitioner for seven years, has taught mixed classes for the past 2 years. She teaches at the Aurora YMCA and the LeBeau Health Club in Aurora as well as private classes. If there is enough interest, Mrs. Bolly would like to form a class at Fermilab. It would meet one hour per week for 8 weeks; the cost would be \$16 per person. One class would be offered at noon with the possibility that a 5 p.m. class might also be offered. For information, contact Helen Ecker, at 3126.



...Bernice Bolly: Yoga teacher...

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10-PIN REPORT

Fermilab's mixed bowling league 1977-78 got underway Sept. 7 with four keglers shooting 200-plus games. Karl Varga (Neutrino) recorded 219 and 210 totals. Others were: John Rauch (Tech. Services Drafting) and Robert Mau (Accelerator Operations), 203; and Jesse Guerra (Proton), 201. Besides taking high men's game honors, Varga added a 171 for a 600-pin high series total. Clare Morton (Support Services) rolled a 192 for women's high game and also was the women's series leader with a 451. A 2,640 score was compiled by the Dominoes for high team series; D. Staley's team posted a 983 for high team game.

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ANYONE FOR BRIDGE?

Several people have requested a resumption of the duplicate bridge games which were discontinued last spring. If there is sufficient interest, the sessions will be resumed. For information, or to indicate interest, contact Marv Warner (Architectural Services) at Ext. 4430.