The Village Crier

fermi national accelerator laboratory

Operated by Universities Research Association Inc.
Under Contract with the Energy Research & Development Administration

Vol. 8 No. 25 24

July 1, 1976

FROM FRANKLIN TO FERMILAB: TWO CENTURIES IN PURSUIT OF UNITY

The Latin motto on the Great Seal of the United States reads *E Pluribus Unum:* "from many, one." What the founding fathers had in mind when they chose these words was, of course, political unity -- the hope that somehow they could form a united republic from thirteen diverse colonies. But the motto also reflects a faith about nature, almost as close to their hearts as their love for freedom and liberty.

Ben Franklin surely had some such vision in the back of his mind on the day that he flew his kite in a Philadelphia thunderstorm. He and his contemporaries took as lively an interest in science as in politics. Franklin was one of the founding members of the "Junto," a club of young Philadelphia merchants and craftsmen. They met regularly at their favorite tavern, not only for fellowship and good cheer. Their pet civic project was to assemble a library containing nearly every useful scientific work published in the English language.

In their way of looking at the world, faith in liberty and faith in science went hand-in-hand. The same intelligence that could unlock nature's secrets could be turned to the task of forming a "more perfect union." Wise laws, they believed, must reflect the universal truths of nature; successful laws must be in accord with cosmic principles. And only through a practical understanding of nature could there be any hope of taming the wilderness.

Though we live today in less optimistic times, faith in science as a high adventure of the human spirit still survives two centuries later at laboratories like the Fermi National Accelerator Laboratory, where research continues on a subject in which Franklin had a pioneering role -- understanding the basic forces of nature.

The results emerging from such laboratories would have delighted Ben Franklin. It seems that his beloved electricity is even more important in the cosmic scheme than he imagined. It is linked, by a tight web of "family relationships" that is only beginning to be understood, to the most basic forces in the universe, those that hold the nucleus together or disrupt it through radioactive decay. The long-cherished goal of explaining nature through one kind of matter created and maintained by a single force may still be a remote dream, but we are far closer to it today than we were even a decade ago.

...Professor Robert March

SERIOUS BUFFALO WATCHER HERE

...Fermilab buffalo...

...T. K. George...

Timothy K. George of Park Ridge, Illinois, spends six hours each day, six days a week, observing the Fermilab buffalo herd -- the bison herd, to be correct. George is a graduate student at the University of Illinois and his observations are part of his studies in ethology (animal behavior).

Specifically, George is observing the mother-child relationship in the bison herd. With eleven new calves born in the herd since early May, George has plenty of subjects for study. His first observation days were spent establishing characteristics for identity -- color, size of horns, etc. Now he refers to them by numbers on ear tags and has named the calves by letters of the alphabet -- Alan, Betty Lou, Carl, Kim, Zeke, etc.

Tim is analyzing two hypotheses: That a calf leaves its mother's side, (1) because the mother rejects it during maturation; (2) because the calves find each other's company more enjoyable than the parent-child relationship. His preliminary observations indicate that the calves form their own youth group. They begin to nap and to play together like the neighborhood gang in just a few weeks.

Bison are known to be gregarious animals with definite social structure. Tim George notes, for example, that the bison introduced into the herd this spring (five were brought from South Dakota) frequently remain outside of the shelter while the "natives" barge inside. There is a dominant cow who reigns as herd matriarch. The male role is less dominant except in the rutting season when the two males vie for mates. But Tim notes that a nearly 50-50 male-female ratio in the Fermilab calves may indicate that in the original roaming herds, one male and one female may have been the mating pattern. The Fermilab herd now consists of 16 adults (14 female, 2 male) and 11 calves born in 1976.

* * * * *

HOLIDAY SCHEDULE

Fermilab offices will be closed on Monday, July 5, in observance of the July 4 Independence Day holiday. The accelerator and experimental areas will be on a standby basis.

Visitors may come to Fermilab between 8:00 a.m. and 8:00 p.m. on Saturdays, Sundays, and holidays. A receptionist will be on duty in the Central Laboratory from 1-5 p.m. this Saturday, and from 10:00 a.m. to 5:00 p.m., Sunday and Monday. A self-guided tour brochure and other literature is available from the receptionist.

Visitors on weekends and holidays are permitted to visit the Atrium floor and the 15th floor of the Central Laboratory. Children 12 and under must be accompanied by an adult.

Fermilab will not hold an Open House in 1976. A Family Day tour will be conducted by Cheryl Stadtfeld of the Public Information Office on Tuesday, July 27, at 1 p.m. Reservations are necessary, limited to 20 persons. Call the Public Information Office, Ext. 3351.

* * * * *

...Robert L. Hirsch, center, was greeted by Alvin Tolstrup, Superconductor Group, on Hirsch's recent visit to the Energy Doubler facility at Fermilab. Also on hand were (L-R) Brad Bennett, Vice President of Universities Research Association Inc.; William Fowler, Assistant Head, Superconductor Group; and, at right, Norman Ramsey, president, URA.

Dr. Hirsch is the Assistant Administrator for Solar, Geothermal and Advanced Energy Systems in the Energy Research and Development Administration (ERDA). A native of Evanston, Illinois, he studied at the University of Illinois and has been associated with ERDA and its predecessor agency since 1968.

Funding of the Fermilab Doubler research, as well as the operation of the Laboratory, is under the supervision of Dr. Hirsch's division of ERDA...

* * * * *

CERN SPS REACHES 400 GeV, PRESS RELEASE NOTES

"Geneva 17 June 1976: The design energy of 400 GeV has been reached today at 15 h.35 in the huge 2200-metre-diameter ring of the CERN Super Proton Synchrotron, now in the course of commissioning. The Council of the Organization was given this news today by Dr. John B. Adams, Executive Director-General, responsible for the SPS Project.

"On 5 April, a 10 GeV proton beam extracted from the injector was taken right up to the SPS. One month later, on 3 May, the beam was successfully injected on to the orbit of the SPS and the protons went round the machine about 12000 times, without being accelerated. Then, on 26 May, the SPS became the highest energy accelerator in Europe when it accelerated protons up to 80 GeV; on 4 June the energy went up to 200 GeV.

"Today, with 400 GeV, the SPS reached full energy less than 3 months after testing began and only a few weeks after the first acceleration. These periods are remarkably short if one considers the complexity of the machine.

"The first of the eleven experiments prepared by 'collaborations' of European physicists are schedule to start in November."

* * * * *

WORKSHOP PLANNED ON COLLIDING BEAM FACILITIES AT FERMILAB

A two-day workshop is being planned for July 13 and 14 to discuss the possibilities of having e^+-e^- and e-p colliding beam devices at Fermilab.

Several schemes have already been outlined. Some of them exploit the present Fermilab facilities (Main Ring, for instance); others may require an additional ring and/or new tunnel. Some of the projects could have an immediate start, while others require more time for elaboration. All these schemes involve very high energy in the frame of the center of mass and high luminosity.

The workshop will deal with machine as well as physics aspects.

The workshop will be in the Black Hole on July 13 and the Snake Pit July 14. The meeting will start Tuesday, July 13, at 9:30 a.m.

For more information call A. Ruggiero, Ext. 3802.

FERMILAB SOCIAL EVENTS...

...Wednesday, July 14 - Happy Hour, Village Barn, 5-7 p.m.

...Wednesday, July 21 - NALREC Ravinia trip. Pete Seeger, Arlo Guthrie program. Tickets and information from Don Sorenson, Ext. 3087, or Barb Schluchter, Ext. 3199.

...Friday, July 23 - Bus trip to the ALL-STAR FOOTBALL GAME, Chicago. All-Stars vs. Pittsburgh Steelers. Call George Doyle, Ext. 3421, immediately for tickets. $11.00 each, includes sandwiches, beer, bus fare from the Village.

...Saturday, July 24 - Teen Swim Party - for summer employees and children of employees. At the pool, 7:30-10:30 p.m. Food, pop, swimming, band.

...Sunday, August 15 - NALREC Family picnic - Village recreation area. Food, teen band, fun for all. Details after August 1.

... LAST CHANCE...to sign up for NALREC's Munich trip, September 24-29. Call Liz Foster, Ext. 3396 for more information.

* * * * *

DON'T FORGET...Blood donors are needed for the July 8 visit of the Bloodmobile. Call the Medical Office, Ext. 3232, to sign up.

* * * * *

SUNDAY EDITION of the New York Times is on sale in the Public Information Office, CL-1W, on Mondays. $1.25 per copy.

* * * * *

MANY THANKS to all who contributed to the fund for employee Ken Barthold, mechanic in Operations/Support, from Jack Morphey, Ken's supervisor.

* * * * *

CONGRATULATIONS...to Donna and Bill (Proton Department) Noe, Jr. on the May 27 birth of their son, Christopher Michael, at the Delnor Hospital.

* * * * *

CLASSIFIED ADS

FOR SALE - Household, includes car (1969 Chevelle Stat.) $150; couch & chair $75; twin bed $35; full size bed $50; desk & chair $25; picnic table & benches $35; sewing machine $20; TV (B&W) $20; record player $20; 2 bikes $20 ea.; 20" boys bike $25; many 110V electrical appliances, plus much more. Call Hans Paar, 393-1062.

FOR SALE OR RENT - A fine old upright Piano. Call B. C. Brown, Ext. 4423 or 355-5756.

FOR SALE - Smith Corona portable manual typewriter, exc. cond., exc. graduation present, $50. Call Ext. 3940.

FOR SALE - Oldsmobile Cutlass Supreme 1975, vinyl top, AC, AM/FM stereo tape deck, mag wheels, low mileage, steel belt. radials, $4600. Ext. 3883/3886 or 287-7385.

FOR RENT - 3 bedroom ranch, carpeted, attached garage, fenced yard, $270/month, security deposit, Boulder Hill, Aurora. Call Greg Lawrence, Ext. 3677 or 232-6514.

FOR SALE - '74 Malibu Classic 4 dr., 6 cyl., 250 engine, courtesy lights head & trunk, P/S/B, AM/FM 8 track stereo. Call 377-9059.

FOR SALE - 2 10-speed bicycles: Gitane "Tour de France," 23½" Reynolds 531 double-butted frame. Sew-ups, extra parts, $225. Austrian-made Sears. 22" frame, alloy wheels & bars, exc. cond. $100. Curtis, Ext. 4411 or 879-2974.

FOR SALE - Sharp 3 bedroom cedar ranch, 1½ baths, living rm. & family rm., 2½ car garage. Best North Aurora location. $45,000. Call 896-1959.

FOR SALE - Extra long double bed mattress & box springs, $10; 2 high back chairs $5 ea. P. Davis, Ext. 3822 or 420-2686.

WANTED - Baby items in good condition: crib and dresser set, diapers, blankets, clothing. Phone: 879-6783 from 1-6 p.m.

FOR SALE - 1969 Camaro 327 cu. in., auto., P/S/B, 42,000 mi., vinyl roof, new battery - tire - exhaust system - shocks. $1200. R. Pucci, Ext. 3330.