

June 23, 1983

FERMI NATIONAL ACCELERATOR LABORATORY

FermiNews

SUPPORT CELEBRATES SAVER SUCCESSES



Magnet Production Group

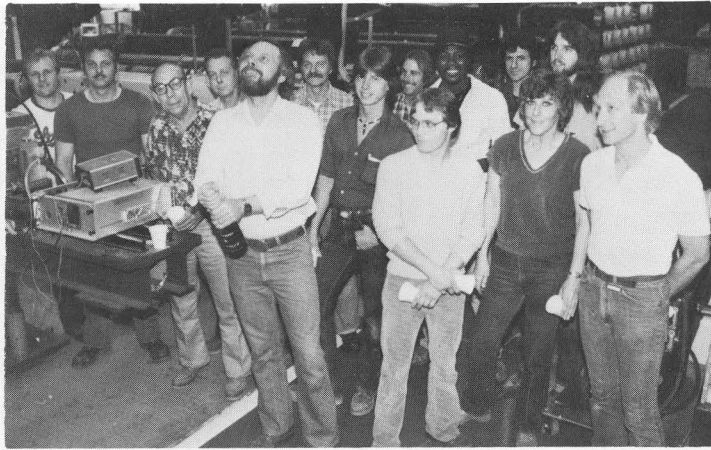
On the eve of accelerating beam in the Energy Saver/Doubler, one of the most impressive facts that stands out is that one out of every two people at Fermilab have contributed to this monumental task, from fabricating magnets, to generating drawings, and procurement activities. With the installation of more than 1000 superconducting magnets in the accelerator tunnel, Fermilab will more than double its energy and cut its power consumption by 20 megawatts.

The key to the Saver is the superconducting ring of magnets; 774 dipole magnets were required for installation in the Main Ring, although in the March 3, 1983, issue of **Ferminews** we reported that the 906th dipole collared coil assembly was completed at Industrial Building #3, winding up the commitment for the Energy Saver. The first coil assembly was finished on April 9, 1979, and since that time 21-ft

long dipoles were fabricated at a rate of ten per week, involving three shifts. This issue of **Ferminews** celebrates with individuals in Technical Support groups who have worked long and hard on the Energy Saver project. →



Material Control Group



*Technical Support Groups (upper left)
Magnet Development and Test Facility in
Lab 2; (upper right) part of the Magnet
Production Group; (left) a mixture of the
Machine Shop and Engineering Groups;
(below) part of the Machine Shop in the
Fermilab Village.*





Material Development and Research Services Groups



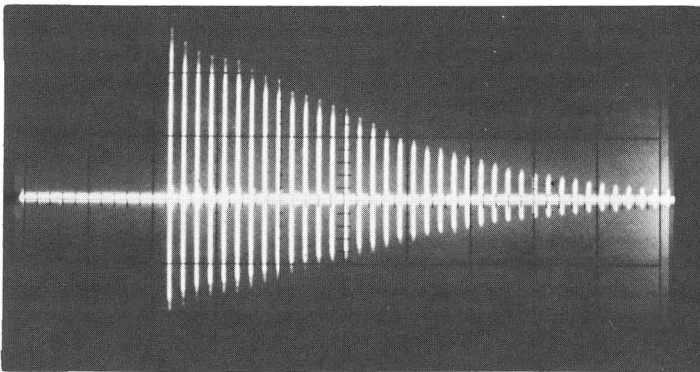
Magnet Production Group



DOUBLER DEVELOPMENTS

On June 16, two more milestones were passed: the entire Doubler ring was ramped to 500 GeV for the first time, and multiple turns at the injection energy of 150 GeV were achieved. By the following day, the orbit had been well enough closed to achieve about 40 turns, but with the beam gradually disappearing as it was scraped off turn by turn on obstacles or apertures which have yet to be identified. Attempts over the weekend to find simple cures for these losses made only slight progress. The commissioning crews have now dug in their heels for a meticulous and systematic exploration of these losses.

In the intervening two weeks since the last beam studies, sectors A and B were warmed for repairs, beginning on June 4. Two bad splices of the superconducting cable between magnets were properly soldered and the whole ring was cold again on June 15. The ten-day down period was of course used to make numerous other checks, improvements, and minor repairs.



Oscilloscope trace of the Doubler beam intensity after each turn. The beam is injected on the left and gradually falls away toward the right.

STUMPS REMOVED FROM LAKES

"Please bear with us a few more days and the water level in the lakes will be back to normal." This was the response from Site Services to questions about the water level in the two lakes on either side of Batavia Road near the east gate.

The water has been lowered in order to muck-out some shallow areas and remove several old tree stumps.

CHRISMAN LEAVES FERMILAB

by Leon Lederman

As most of you have probably heard by this time, Bruce Chrisman has decided to leave Fermilab to accept an appointment as the Vice President for Administration at Yale University, New Haven, Connecticut.



Jim Finks (left) and Leon Lederman (background) wish Bruce Chrisman well in his new position at Yale.

I have designated Ken Stanfield to be the next Business Manager and Head of the Business Services Section. Since Ken is so deeply involved in the TeV II revisions of experimental areas beam lines due to his present role as Head of the Experimental Areas Department, I have asked him to continue in that capacity until the first phase of beam-line commissioning is completed. I expect that this will be about October, 1983.

I have asked Jim Finks to be Acting Head of the Section in the July-to-October interval and to continue as the Deputy Head of the Section.

Roger Dixon has been designated to succeed Ken as Head of the Experimental Areas Department.

Bruce Chrisman has done a superb job following a long line of charismatic Business Managers. We will miss his competent, cheerful leadership. His act will be a tough one to follow! I'm sure that all of you who have come to know him will want to join me in wishing him great success in his new career.

Copies of Fermilab 1982 are now available in the Publications Office, WH3E.

FOLK SHOWCASE TO FEATURE SWEDISH, CELTIC TUNES



Na Cabarfeidh from Canada, one of the groups performing Saturday, July 23, in the Fermilab Arts Series Folk Showcase.

by Jane Green

Traditional folk music is experiencing an exciting revival, and the Arts Series Folk Showcase is featuring two of the foremost groups of this renaissance! At 8 p.m. on Saturday, July 23, in Ramsey Auditorium, listeners will be treated to the vibrant music of Swedish Lapland by the J. P. Nystroms and the energetic Celtic tunes by Na Cabarfeidh.

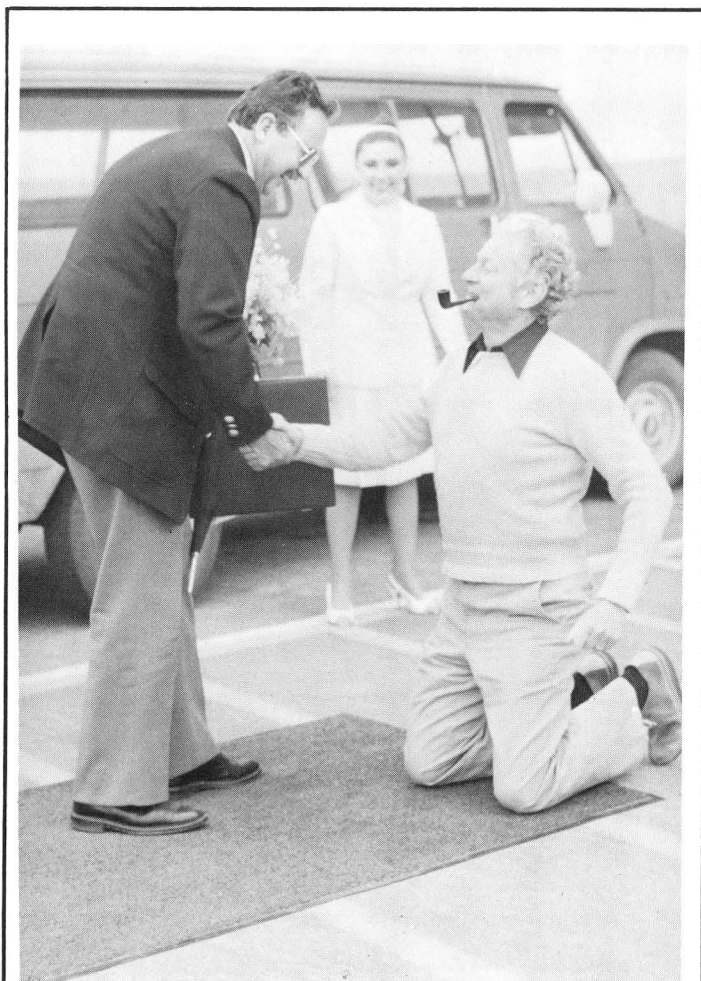
The music of Sweden's J. P. Nystroms features five-fiddle harmonies, songs sung in English and Swedish, and rhythmic dance tunes using the button accordion. The five-member band has recorded three albums of traditional Lappish, Finnish, and Swedish music. Most of these wonderful tunes would have been lost without the effort put forth by band leader Svante Lindqvist, who has dedicated himself to preserving this traditional music which was

so close to extinction. The J. P. Nystroms' appearance at Fermilab is part of their second American tour which includes performances at several of the major North American Folk Festivals.

The members of Na Cabarfeidh hail from Ontario, Canada. Their music is founded in the Celtic tradition of Ireland, Scotland, and Brittany. The members of the band have brought years of Highland piping and drumming expertise to the creation of their present sound. In addition, guitar, the Breton "bombarde" and "biniou-koz" contribute to their spectacular music. The band members spent a year performing and studying in Brittany, and as one critic noted, Na Cabarfeidh's excellence has been achieved in a classic way: originality blossoming from the deep loam of tradition." →

(cont'd. from pg. 7)

Don't miss this rare opportunity to experience the very finest contributors to the traditional folk music revival. Admission to the Showcase is \$5, and tickets are now available at the Information Desk in the atrium of Wilson Hall. For phone reservations, call ext. 3353. Phone reservations are held for five days, but due to ticket demand, those reservations not paid for within five working days will be released for sale.



Our Director shakes the hand that shook the Pope's hand.

CONTACT HOUSING TO SUBLEASE

If you are leaving the area for the summer, you may want to consider subleasing your home to a visiting scientist at Fermilab. If you are interested, please contact Cheryl Bentham or Pam Naber in the Housing Office, Aspen East, ext. 3777.

Fermilab is operated by Universities Research Association, Inc. under contract with the U. S. Department of Energy. Fermilab is published by the Publications Office, P. O. Box 500, Batavia, IL 60510, phone (312) 840-3278.

AFFILIATES DISCUSS COMPUTERS

by Dick Carrigan

The third annual meeting of the Fermilab Industrial Affiliates took place May 19 and 20. The annual meeting provides an opportunity for research directors and senior technical personnel from the Affiliates and other companies to visit Fermilab. This year's meeting focused on supercomputers, the large control systems at the Laboratory, and the other technologies of the Energy Saver/Doubler.

The Industrial Affiliates was established by Leon Lederman in 1980 in order to improve university-industry research communications and to foster technology transfer from Fermilab. By now the Affiliates number more than 30 institutions including many research-oriented companies in the Fortune 500 list as well as several companies formed by Fermilab staff members and users. Roughly half of them are in Illinois.

This year's participation numbered 85 from outside Fermilab. There were 41 representatives from 16 Affiliate companies as well as 16 representatives from other companies. The highlight of the meeting was a Round Table on super-computer developments in the universities. The Round Table grew out of the establishment of an advanced computer program at Fermilab headed by Tom Nash. That program has studied the possible approaches to supercomputers over the last year. An active seminar series brought in many university and industrial speakers. At the same time, there has been a growing national recognition that the U. S. must continue to play a role in the development of very powerful computers in the face of determined foreign competition.

The Round Table was spearheaded by Dr. Ken Wilson of Cornell. He emphasized that universities were good prospective buyers for the first model of a computer. They can do prototype software development and undergraduates do not mind the problems associated with getting the bugs out. Other participants besides Wilson and Nash included Dr. Burton Smith of Denelcor, the moderator and token industrialist, Dr. Arvind of MIT, Dr. Norman Christ of Columbia, Dr. Jack Schwartz of NYU, and Dr. David Wallace of Edinburgh.