

April 4, 1985

FERMI NATIONAL ACCELERATOR LABORATORY

FermiNews

CDF TAKES FIRST BIG STEP ON FIRST TRY

The Collider Detector at Fermilab (CDF) achieved a major milestone at 2:35 a.m. on Sunday, March 24, when the CDF solenoid magnet coil in the center of the detector at B0 reached its design field of 15 kG on the first try.

Coil cooldown from room temperature to operating temperature (4°K) occurred in 8 days as planned. The refrigeration system performed extremely well, with no interruptions.

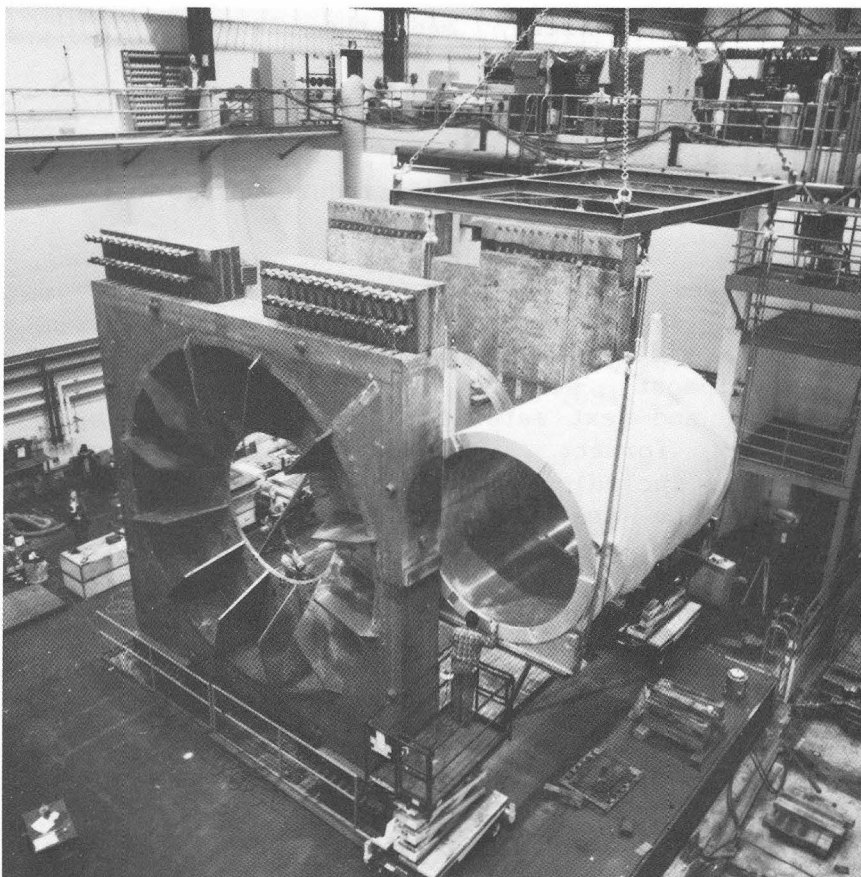
The CDF solenoid coil is the largest "thin" coil currently in operation in the world. "Thin" coils are "thin" in terms of physical thickness, radiation length, and absorption length. These coil characteristics make it easier for particles to pass through the coil on their way to detection.

The solenoid coil will provide the electromagnetic field used in conjunction with tracking chambers to measure the momentum of secondary particles from 2 TeV $p\bar{p}$ collisions.

Present plans are to operate the solenoid coil at full field for several weeks for preliminary field mapping.

The Japanese government provided about 3 million dollars to Tsukuba University to finance the construction of the 3 meter diameter by 5 meter long superconducting solenoid coil. The coil was designed by a collaboration of physicists and engineers from CDF and the Research Division Cryogenic Department, along with physicists and engineers from the University of Tsukuba, Japan, and Hitachi Heavy Industries, Japan. The power supply, refrigerator, and controls were constructed at Fermilab. The coil itself was assembled at Hitachi Heavy Industries in Japan, and flown to Chicago by way of Alaska on a special airplane designed for oversized, heavy cargo.

Over 70 people, all told, were involved in the CDF solenoid coil success. An upcoming article in **FermiNews** will give recognition to all those involved, and update overall CDF progress.



This photograph, taken on October 31 last year, shows the CDF solenoid coil being hoisted into position between the two endwalls of the detector. Clearances between the ends of the coil and the endwalls were as close as 300 mil.

"FRIENDS OF FERMILAB" SET TO AID SCIENCE EDUCATION

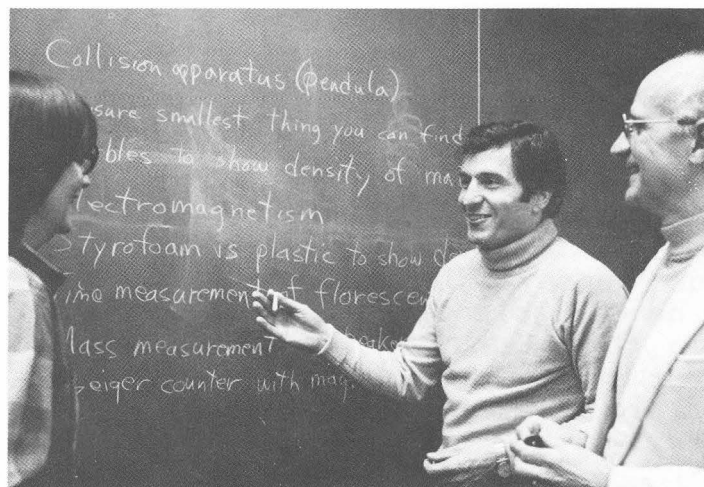
by F. David Boulanger, Triton College

Junior high school students may soon be enjoying the beauty and charm of Fermilab. With grant assistance from the Department of Energy and the Bersted Foundation, Friends of Fermilab has launched a new curriculum development effort to produce a junior high school physical science unit entitled, "Beauty and Charm at Fermilab: An Introduction to Particle Physics."

The new unit will be packaged as a kit of simple lab materials for student activities: a videotape of short vignettes on the equipment, science, and people at Fermilab, and text material in, perhaps, a newspaper format. Teacher guidance materials, including background information and ways to teach and extend the kit contents, will also be provided.

A group of 20 physical science teachers will meet for three Saturdays in October to learn about Fermilab and how to use the kit-unit in their classrooms. Later in the school year, after classroom completion of the unit, the teachers and their students will visit Fermilab for a tour of the real thing. Based on teacher and student critiques, the kit-unit will be revised for possible dissemination on a larger scale.

The project began under the leadership of Stanka Jovanovic, Marge Bardeen, and Marguerite Cox, of Friends of Fermilab. Since junior high school is the last point in the educational system where all students are required to study physical science, a group of junior high school administrators and science teachers gathered last spring to discuss the needs of junior high school science and to explore ways Friends of Fermilab might address some of these needs. The group decided that Friends of Fermilab might be helpful in making that experience richer by providing teacher education and curriculum materials. A program committee concluded that a kit-based unit on Fermilab, with appropriate teacher education, might give budding scientists an idea of how scientific research is conducted, a view of the scientist's present understanding of the micronature of matter, and how these issues relate to the realities at Fermilab.



L. to r. are Marge Bardeen, Program Coordinator: FFLA, David Boulanger, Project Director, and Bill Cooper, Program Committee member, discussing "Beauty and Charm at Fermilab" activity ideas.

On March 2, 1985, the curriculum development group held its first intensive Saturday meeting at Fermilab, attempting to give substance to praiseworthy goals and develop a preliminary outline. Like a group of physicists whose project idea has just received Lab approval, they were dealing with how to make the proposed rhetoric live in real "hands-on" materials: How do you present, through concrete activities, ideas about mass-energy equivalence and antimatter creation? What analogies will work for particle collisions and the quark composition of matter?

The curriculum development group is headed by Larry Small, Science Coordinator for the Schaumburg Schools, an experienced developer of kit-based school science materials. Science teacher participants included Gene Halterman, Mary Barrett, and Fred Tarnow from Schaumburg schools; Bill Cooper from Geneva High School; and Mary Hoag from the Countryside School District. Physicists representing Fermilab at the Saturday meeting were Drasko Jovanovic, David Anderson, and Stan Majewski.

Fred Ullrich, Fermilab's videotape specialist, will work with the group to identify useable tapes from the present collection and arrange shooting of new tapes as needed. David Boulanger, an administrator at Triton College and experienced physics educator, is overall director of the project.

APPRENTICE PROGRAM PRODUCES TWO NEW MACHINISTS

Richard "Rick" Rivera and Bruce Smith received their Certificates of Completion of their Machinist Apprenticeship at a graduation luncheon held in their honor on March 8. Both men had completed the four-year machinist apprenticeship which the Laboratory has registered and certified by the Bureau of Apprenticeship and Training of the U.S. Department of Labor.

Before entering the program, both Bruce and Rick were technicians at the Laboratory. Their 8,000 hours of training consisted of classroom work in math, machine shop theory, and drafting as well as on-the-job training working with journeymen in both the Village and Wilson Hall machine shops. Their rotation through assignments provided a specified amount of training on particular machines, with the work becoming increasingly complex. The apprentices (five altogether) also took field trips to local tool-and-die shops or local industries to observe advanced methods in the trade.



Rick Rivera (left) and Bruce Smith both received Certificates of Completion for their Machinist Apprenticeship training.

Bruce noted that, "My studies have prepared me to be able to work on all types of machines--starting from nothing and following through to the end of a job, no matter how many separate operations are involved." Both men feel that the program is great--and met their expectations. In commenting on their future goals, Rick says, "I enjoy what I'm currently doing--manufacturing the actual parts." Bruce is interested in CAD/CAM (Computer Aided Design/Computer Aided Manufacturing), and would, perhaps, like to get involved with robotics.

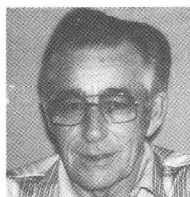
Fermilab has had a machinist apprenticeship program for sixteen years and has graduated 18 apprentices. Roger Hiller, currently working in the Lab 6 Machine Shop, was the first graduate. Earl Bowker, superintendent of the Lab's machine shops, stated that machining at Fermilab is very demanding and calls for innovation. "The machinists are asked for, and expected to give, their input on jobs done for engineers and physicists. Most machinists like it because they're helping someone else with the design and also learning a little physics or engineering from that person."

The Laboratory expects to continue this program and anticipates replacing the two graduates with new apprentices. We hope these spots will be posted in the near future. Employees, both men and women, who have a desire to pursue machining as a career are encouraged to apply.

—Ruth Christ

In Memoriam Russell A. Lauer 1922-1985

Russell Lauer joined the Fermilab Machine Shop on August 7, 1969. For the past 13 years, Russ worked in the Procurement Department as a buyer of tooling, fixtures, and fabricated items in support of the Laboratory technical programs.



"Russ was a loyal and conscientious employee," said Ed West, Russ' supervisor. "He will be missed by all of us."

Russ is survived by his wife, Mrs. Margaret Lauer, four children, two sisters, one brother and 10 grandchildren.

On behalf of herself and her family, Mrs. Lauer expressed the following to Russ' fellow employees: "My sons, daughters, and myself would like to thank all of Russ' co-workers who expressed their concern and lent support in our time of sorrow.

"The many floral tributes, masses, and cards meaningfully displayed the loss all of us, I know, feel."

SUK TRIO TO FILL THE AUDITORIUM WITH BEAUTIFUL MUSIC

The great-grandson of Anton Dvorak, Josef Suk, is founder of the celebrated Suk Trio from Czechoslovakia. On Saturday, April 13, 1985, at 8 p.m., the Suk Trio--violinist Suk, pianist Josef Hala, and cellist Josef Chuchro--will perform Dvorak's grand "Dumky" Trio at Ramsey Auditorium. Also on the program is the one movement Elegie, Opus 23, composed by the violinist's grandfather and namesake, Josef Suk, and the Trio in B major, Opus 8, by Johannes Brahms, who was, by the way, a close friend of Dvorak.

The Suk Trio has been heralded as "royalty among chamber ensembles," whose playing is "gracious and elegant." While each member of the trio is a ranking soloist in his own right, the group has been performing together for thirty-three years. As a result, the players "actually sound like three virtuosi playing with one head and heart. Especially when they apply themselves to Dvorak."

On tour, the Suk Trio has performed widely throughout the United States, the Soviet Union, Australia, Africa, and nearly every country in Europe. The ensemble has recordings on the Crossroad, Supraphon, and Vox labels. In addition to performing with the trio, each of the musicians performs in recital and as guest soloist with orchestras at home and abroad.



The Suk Trio

To share in an evening of sparkling chamber music with one of Europe's finest trios, purchase tickets at the Information Desk in the Atrium of Wilson Hall, ext. 3353. Phone reservations are held for five days. Due to ticket demand, reservations not paid for within five working days are released for sale.

—Jane Green

ROAD CLOSING UPDATE: STOPLIGHTS, TIMELY ADVICE

The rebuilding of Batavia Road between Fermilab's east entrance and Route 59 is progressing. The contractor working for the City of Warrenville is allowing 10 to 12 weeks for completion. If not hindered by adverse weather, that schedule may be shortened.

The state-approved detour reroutes traffic to and from the Laboratory via Butterfield and Eola. To make this a safer intersection, and lessen traffic build-ups, a signal light has been installed. Plans also call for widening the intersection to provide left turn lanes. That work will start as soon as the weather permits.

Even with the signal lights (which will remain in operation permanently), the Eola-Butterfield intersection is considered to have safety problems for large volumes of traffic. Emergency Services recommends the use of Pine Street or Wilson Street entrances.

—John Paulk

For a somewhat skewed look at Fermilab, the staff of **FermiNews** invites our readers to spend a belated April Fool's Day on page six with a couple of carefree Astrophysicists.

NEW HOURS FOR USERS CENTER

In response to a recommendation from the Quality of Life Committee, the Accommodations Office is making the Users Center (**excluding bar**) available to Users, visiting scientists, and their guests during weekdays and on weekends at specified hours.

Persons using the facility will be responsible for any damage that occurs to the facility, and for returning the facility to its original state. Children under the age of 18 must be accompanied by a parent or responsible adult.

Access Authorization Forms are available in the Accommodations office, WH-1E, and must be filled out and authorized at least 72 hours prior to the date of requested entry. The person desiring access should contact Security Dispatch (ext. 3414) approximately 30 minutes before access is desired, and arrange to be let into the Users Center.

The person who applies for the Access Authorization will be sure that the premises are completely vacated (whether people there belong to his/her function or not) and clear the area with a Security representative before leaving.

NO ALCOHOL IS PERMITTED ON THE PREMISES.

Hours are:

9:00 a.m. - 4:00 p.m. weekdays

9:00 a.m. - 5:00 p.m. Saturdays

9:00 a.m. - 11:00 p.m. Sundays.

Further questions may be referred to the Accommodations Office at ext. 3082,

—John Barry

R. Fenner, editor; S. Winchester, ass't. editor

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Housing Note

If you are leaving the area for the summer, you may wish to sub-lease your home to a visiting scientist coming to the Laboratory. If you are interested, please contact Cheryl Bentham or Pam Naber in the Housing Office, ext. 3777.

ART CLASSES TO BE HELD AT LAB

The School of the Art Institute of Chicago (S.A.I.C.) is offering a series of classes at Fermilab. The classes are offered on Saturdays and are open to the public.

Spring 1 (term lasts from April 6 - May 4). Choice of courses include: Image and Meaning in 5 American Painters, Color Workshop, and Chinese Painting.

Spring 2 (term lasts from June 1 - June 29). Choice of courses include: The Age of Michelangelo, and Anatomical Drawing.

The instructors of these courses are from the teaching staff of the S.A.I.C. Courses may or may not be taken for academic credit.

For registration forms and brochures, contact Marilyn Smith at the Information Desk in the Atrium of Wilson Hall, ext. 3353.

GET READY FOR SPRING CLEAN-UP

Bob Hall, Acting Head of Roads and Grounds, asks everyone to get ready for a site-wide Spring Clean-Up April 15-19. Any trash or excess materials that are set outside will be picked up and hauled away. It's the chance to clean up the Laboratory from the ravages of winter.

The following guidelines apply: separate recoverable copper, aluminum, and steel from the trash; place refuse in piles outside of buildings; materials from Accelerator and Experimental Areas should be monitored by a local Radiation Safety Officer. Other areas concerned about radiation should call Chuck Zonick, ext. 3458. For disposal of liquids, chemicals, and toxic substances, call Bob Allen, ext. 4498; to place materials in storage, call Fred Assell, ext. 3577; for questions or haul-away of trash or metals, call Bob Hall, ext. 3303.

F*ermiN*ews

April 1, 2010

Editors: Rocky Kolb and Michael Turner.

KOLB'S COLUMN

Fermilabbers in the News, is designed to keep the Laboratory up to date and informed of radio, TV, and magazine appearances by world-famous Fermilab employees.

- Laboratory director and TV personality **Leon Lederman** will guest host the Tonight Show next week filling in for Joan Rivers...can we talk? Lederman has, however, turned down an offer to replace Phil Donahue as Chicago's sex symbol for the over-40 housewife.

- Fermilab's magnet magnate, **Dick Lundy**, will shortly be given a starring role replacing John Forsythe as Blake Carrington in the TV series "Dynasty."

- **FermiNews** sports editor, **Marilyn Paul**, is presently in Mesa, Arizona for spring training with the Cubs. Marilyn has not been heard from since she reported she was going "under cover" for a story.

- We hear that **Ellen Lederman**, host of Fermilab's Wild Kingdom, will replace Oren Samuelson on the 5 a.m. Grain and Livestock program on WGN radio.

- Attention K-Mart shoppers...this year's blue light special is Fermilab ex gratis **Peter Limon** modelling men's styled briefs in the spring K-Mart catalogue.

- **David Schramm**, regular visitor to the Astrophysics Group, has been named to a list of 497 people under the age of 41 most likely to be named to any list. Schramm's list of lists include Esquire, Next, and Santa's.

- Cosmologist **Michael Turner** has been named to the editorial board of Zap Comics. Mike plans to do most of his publishing there.

- Theory Group head **Chris Quigg** will have the March cover story in Gentleman's Quarterly, with an article on the fashion world of high-energy physics.

- Don't miss **Roy Rubinstein** appearing in the hit TV show Solid Gold as one of the Solid Gold Dancers.

- Finally, **Rocky Kolb**, of the Astrophysics Group, will soon be looking for work elsewhere.

NALWO will hold a bake sale Saturday in the Atrium of Wilson Hall in an effort to raise part of the \$3 billion needed for the Superconducting Super Collider (SSC). NALWO president Laura Hill has outlined a series of car washes, raffles, garage sales, and cake walks to raise money for the SSC program.



The Department of Energy announced today that Fermilab would lead a research effort using old superconducting magnets for monorail trains. The conversion of the Hi-Rise into the Batavia train station will necessitate removing the top six floors of the building.

CLASSIFIED ADS TO BE DISTRIBUTED WITH **FERMINES** APRIL 4, 1985

FOR SALE:

AUTOS: 1984 4-DR. BUICK REGAL. Silver, P/S, P/B, cruise contr., stereo, cloth interior, 21,000 mi.; \$9,600. Call Art Streccius, ext. 4791 or 896-8298.

1978 4-DR. OLDS CUTLASS. Green, P/S, P/B, cruise contr., stereo; \$1200. Call Art Streccius, ext. 4791 or 896-8298.

1978 PONTIAC GRAND LE MANS SAFARI 4-DR. WAGON. V6, A/T, P/S, P/B, A/C, cruise, AM/FM stereo w/cassette, lug. rack, very good mechanical cond.; \$2170. Call Rich, ext. 3868 or 690-1691.

1973 FORD F350 PICKUP WITH PLOW. Excellent condition. Call Don, ext. 3363.

MISC: 12-FT ALUMACRAFT HEAVY DUTY FISHING BOAT WITH TRAILER. Includes 5-hp outboard motor, excellent condition. \$750 firm. Call Fred, ext. 3428 or 985-3366.

HITACHI AM/FM STEREO CASSETTE RECORDER. Includes automatic changer, full frequency 18-in. speakers, built-in loudness control, good condition, 2 yrs. old; asking \$250. Call Steve, ext. 4773 or 968-4961.

PDP-11/23 CPU AND HARD DISK. Digital Equipment Corp.; call Walter, ext. 4076.

ENGLISH SPRINGER SPANIEL. Champion show and field, trial pedigree; \$225 or best offer. Call John Anderson, ext. 4450 or (815) 246-7133.

For the following items call Dan, 858-0977: Cello made by Zoltan Toth in 1978, suitable for serious amateur or advanced student, asking \$7000; (2) snow tires for 1970's Nova, Omega, etc., good condition, \$20 each.

For the following items call Art Streccius, ext. 4791: Maroon velour upholstered contour lounge for two, good condition, \$200; 19-in. portable color TV, \$100; 5-ft bar, \$20; rec. room decorations, best offer; 30 30 tables, \$10; 5-ft wide 3-compartment stainless steel sink, best offer; (2) gyros machines, best offer; Star gas charcoal commercial grill, best offer; 40-gal. Rheem electric hot water heater, best offer.

continued on reverse

For the following items call Fred Krueger, ext. 3459 or 897-2941 after 6 p.m.: 1978 400 cc Honda Hawk with rack and vetter fairing, \$750; 3 wheels for VW Rabbit or Dasher, \$10; roof rack, fits VW Beetle or Rabbit, \$10; wood-burning stove with cast iron liner and top, \$50; long-range UHF antenna, \$10.

For the following items call Hope Thies, ext. 3244: 15-ft fiber glass canoe, \$200; exercise bike with adjustable tension, \$50; 4-drawer student desk with chair, \$75; wood TV stand on wheels, \$20.

WANTED: Mature non-smoker for weekday mornings infant care in our home. References required, call Treva, 393-2558, evenings.