

# FERMINews

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## CHICAGO CYCLOTRON COILS BECOME SUPERCONDUCTING

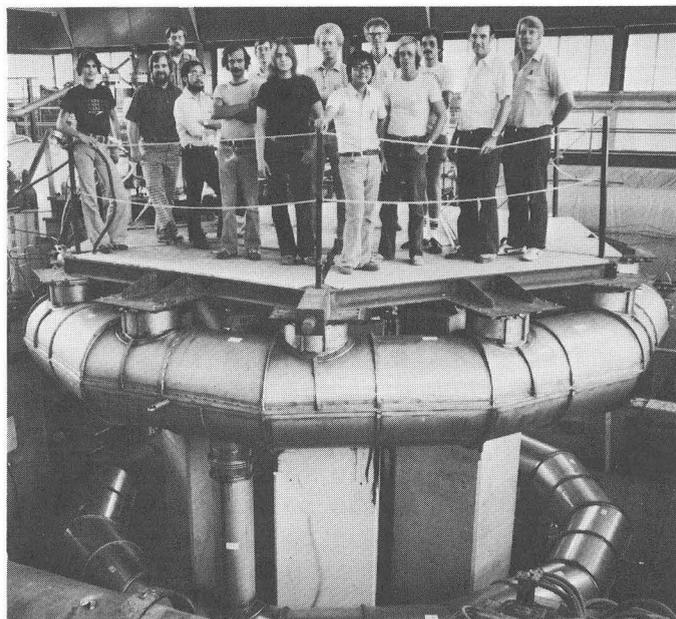
The Chicago cyclotron has already played a respectable role in the history of particle physics (see "Brief History" on page 2 of this issue). Now it has been given a new life as the world's second largest superconducting magnet with a 6.25-meter (20 feet, 6 inches) outside diameter, a mere 10 centimeters less than that of the bubble chamber at CERN's BEBC.

"For Fermilab, the conversion means savings--real savings in energy and consequently in dollars, and that is what the 2½-year Chicago cyclotron conversion project is all about," said Eddie Leung, project engineer. "Its aim is to replace two power hungry copper coils with energy efficient superconducting equivalents."

A recent milestone on the road to this replacement occurred when the new coil package was successfully tested and then laboriously moved from its construction site in the Meson Detector Building to its new residence in the Muon Laboratory. A few of the impressive statistics pointed out by Leung give some feeling for the magnitude of the job. "The new pair of superconducting coils weighs in at 17.5 tons--as opposed to the 150 tons of copper they replaced. Nearly 21 miles of superconducting cable were used in its manufacture, and more than 35,000 square feet of superinsulation.

"Each coil has 1,000 turns, and the magnet will operate at 1000 amperes. When the magnet is running, each coil will have a force of 1.2 million pounds attracting it to the 1,700 tons of steel surrounding it. This called for super-strong support columns to hold the coils in place against this kind of pressure." That was just one of the difficulties encountered in the building of this magnet, Leung also said.

Cooldown and charge to full power is expected to come in January, 1981, after which physicists can begin to use the new improved Chicago cyclotron magnet



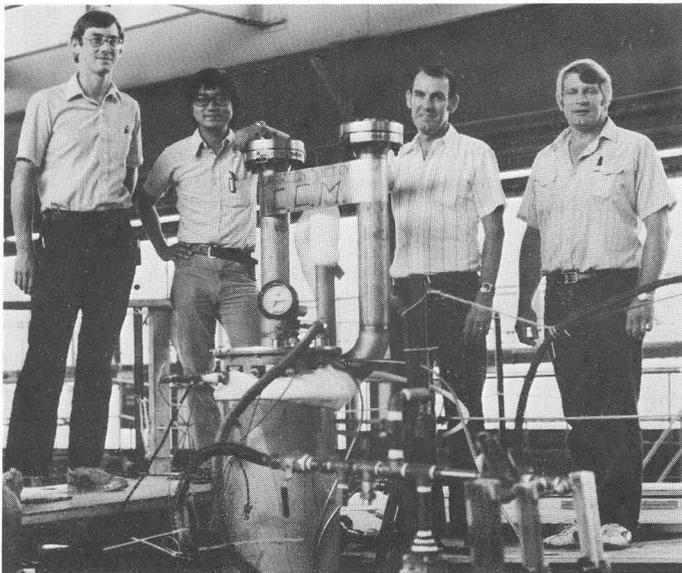
*From left, Kevin Havemann, Phil Calahan, Bob Bennett, Albert Ito, Jim Monaco, Bob Kephart, Barry Skinner, Jim Pace, Eddie Leung, Morris Binkley, Steve Gordon, Steve Dochwat, Howard Hart and Gene Smith. They were standing on a temporary platform built over the superconducting CCM coils. Other people not shown include: Peter Cross, Diane Garcia, Clarence Rodgers, Peter Lentini, Don Connor, Joseph Davids, Michael McKenna, Bryan Johnson, Edward Norton, Delbert Venters, Wayne Waldon, Byron Rode-walt, Rolando Flores, Richard Applegate and Chet Shaw.*

(CCM) as an analyzing magnet. One of the first experiments expected to use it in the Muon Laboratory is E-610. Later it will be used for Tevatron experiments in the new Muon Laboratory.

To get the CCM project this far along by this date has required the combined efforts of many people, said Leung. Begun as a project in Technical Services under Hank Hinterberger's direction with Joseph Heim and James Michelassi as engineers, the project was later transferred to Research Services with Robert Kephart as the project manager and Eddie Leung as the project engineer.

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*From left, Bob Kephart, Eddie Leung, Howard Hart and Gene Smith. In front of them is the power chimney of the superconducting Chicago Cyclotron. The photograph was taken in the Meson Detector Building where the work was done.*

Other people who made key contributions to the project include: Gene Smith, Howard Hart, Charles Grozis, John Rauch, Ronald Fast, Albert Ito, John Grimson, Morris Binkley, Edward Tilles, James Peifer, Ray Carra, Emery Lukitsh, Ray Yarema, John Green, Robert Bennett, Wayne Nestander and Robert Trendler.

Technicians from the Research Services Department, Cryogenics Group (Magnet Fabrication Subgroup, Target Subgroup and Liquefier Subgroup) also were involved. Kephart and Leung said special thanks also should be given to James Forester, Tom Butler, Jerry Peterson, Bill Jones and all the welders and machinists in the Village machine and weld shop; Randy Lenz and Dick Mau of the Fabrication Procurement Department; Tom Topolski, Tom Nurczyk, members of the Alignment Group; Shirley Jones, secretary; Bob Maleto of T & M Contracts; and Ole Hagen, Roger Harris and Tom Raymond and their crews from O. J. Rodseth Company.

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#### MICROPROCESSOR APPLICATIONS COURSE

A microprocessor applications course, accredited through Waubonsee Community College, is being offered at Fermilab Jan. 13 through May 19. To apply, contact the Training Office, WH15E, Ext. 4367, by Dec. 10.

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#### TIME TO REGISTER FOR SCHOOL

It's time to register for the winter quarter and spring semester, Ruth Christ assistant personnel manager, reminded all students and scholars.

She urged employees "to take advantage of the Laboratory's tuition reimbursement program for courses related to your current job or a job here at the Laboratory toward which you are working." Employees who are taking courses are reimbursed 100 percent for tuition, required fees and textbooks if the course work is completed satisfactorily.

Tuition reimbursement forms may be obtained in the Training Office, WH15SE, Ext. 4367. After the form has been completed by an employee and approved by his supervisor, it should be forwarded to the Training Office, mail station 124. "An advance may be obtained for any employee who has completed the probationary period," said Christ. Four working days should be allowed to obtain an advance.

Current class schedules and college catalogues for schools in the area are maintained in the Training Office. Some of the area schools, the days classes begin and when registration begins--in that order-- are: College of DuPage, Jan. 5, Dec. 3; Elgin Community College, Jan. 19, Nov. 17; Joliet Junior College, Jan. 19, now through January; and Waubonsee Community College, Jan. 12, Nov. 24 through Jan. 12.

Also, Northern Illinois University, Jan. 12, Jan. 9; Illinois Institute of Technology, Jan. 15, Jan. 12-14; Midwest College of Engineering, Jan. 5, Dec. 12-13; Aurora College, Dec. 1, now through December; North Central College, Jan. 5, Jan. 5; and Illinois Benedictine College, Jan. 14, Jan. 8-10.

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#### NEXT COLLOQUIUM SPEAKER

Prof. Matthew Meselson of Harvard University will speak at the next Physics Colloquium Dec. 10. His talk on "U.S. Policy for Chemical Weapons" will begin at 4 p.m. in Wilson Hall auditorium. He is the guest of the Physics Colloquium Committee. The series of talks presented by this committee covers relevant subjects that have an international impact in the scientific and social arenas.

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## FERMILAB ADOPTS EMPLOYEE ASSISTANCE PLAN

Currently being disseminated is a new article in the Personnel Policy Guide entitled "Employee Assistance." Fermilab is one of the first employers, headquartered in the Fox Valley, to incorporate such a commitment to its employees in a written policy.

The Laboratory has long recognized that employees have personal problems which may impair work attendance and cause declining job efficiency. Management is also aware that alcohol and drug abuse and other behavioral medical disorders seriously jeopardize continued employment, promotional opportunities, and overall health of employees. In the past many of these problems have been handled informally. Employee Assistance will provide a means of acquiring evaluative, diagnostic, and counseling services by qualified professionals in the field.

The Laboratory hopes that this policy will encourage an employee to seek help for a developing problem at an early stage and will motivate employees to comply with referrals for assistance. Referrals may be initiated by the employee or by supervisory personnel, who are required to adhere strictly to evidence of declining job performance and who should make no attempt to diagnose the problem.

Referrals may be directed to Dr. Lang - the Laboratory Physician, Charles Marofske - Personnel Manager, or Dianne Engram - Affirmative Action Counselor. Each case will be handled on an individual basis and in strict confidence.

## ERNWEIN-ABOLINS WIN TENNIS TOURNAMENT

Mary Ann Ernwein and Maris Abolins won the 1980 fall mixed doubles tennis tournament.

They beat Jim and Isobel Walker in the finals Nov. 22, 6-1 and 6-2. Other teams were L. Even and L. Klein, L. Egorov and O. Egorov, C. Rihel and R. Rihel, P. Bosch and G. Snow, P. McDonald and F. Kleber, L. Quigg and C. Quigg, N. Yamada and J. Ernwein, B. Kristen and M. Wilkes, S. Willis and J. Elliott, M. Appel and J. Appel, S. Simon and M. Tartaglia, A. Green and D. Green and L. Rotolo and C. Rotolo.

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*Dinner Dance Committee members from left Pat Yost, Jean Plese, chairman Jesse Guerra, Jo Baaske and Ginny Ritchie. Not shown, Chuck Grozis.*

## MORE ON CHRISTMAS DINNER DANCE

One of the most popular holiday events on the Fermilab social calendar is the annual Christmas dinner and dance.

This year it will be held Dec. 19 at St. Andrews Country club, West Chicago. The admission price of \$12 for each participant includes two free beverages and dinner. A social hour from 6:30 to 7:30 p.m. will open the evening's activities. This will be followed by dinner from 7:30 to 9 p.m., then dancing from 9:30 p.m. to 12:30 a.m. Door prizes will be awarded between 9 and 9:30 p.m.

The dinner menu includes soup, roast sirloin, baked potato, green beans almondine and rainbow sherbet. The Lindy Kao Orchestra of Wilmette, Il. will perform.

The dinner and dance are open to all Fermilab employees and users, Department of Energy employees and employees of the security force, as well as their spouses. Tickets may be purchased from any NALREC member. They and their phone numbers are Jo Baaske-3046; Betty Brown-3554; Edie Brown-3275; Sherry Hickey-3555; Kim Chans-4524; Linda Even-4847; Jim Fitzgerald-3629; Jim Fourmont-3467; Mary Fray-3711; Mike Frett-3041; Chuck Grozis-4576; Jesse Guerra-3533; Ed Justice-4553; Sharon Koteles-3427; Ed LaVallie-3138; Glenn Lee-4448; Helen McCulloch-3126; Lucy Reuter-4623; Ginny Ritchie-4201; Roy Martins-3740; Rose Muth-4445; Jane Pesetski-3646; Jean Plese-3211; Nelson Sample-3719; Keith Schuh-4048; Nancy Shanahan-3467; Bob Shovan-4347; Pat Yost-4365, and Bob Lootens-3303.

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## CHARITY SIGN-UP DEADLINE IS DEC. 5

Dec. 5--that's tomorrow--is the deadline for employees to turn in to the Payroll Office their charity pledge cards.

The cards authorize Fermilab to make payroll deductions and to send them to charities the employees chose. Each employee may select up to three charities, including a community fund. The pledge cards also authorize the Laboratory to continue into 1981 any pledges made this year. Pledges are not automatically renewed. They must be authorized by the employee, or they will be halted at the end of the year.

Employees may choose any charity the Internal Revenue Service recognizes as a not-for-profit organization. One limitation though, annual contributions must be \$12 or more. Deductions for next year will begin in January and end in December, similar to this year's plan.

For additional information, contact the Benefits Office, Ext. 4361 and 4362.

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## NEXT BLOOD DRIVE DEC. 19

The next blood drive at Fermilab by the Aurora Blood Bank will be held Dec. 19 from 9 a.m. to 2 p.m. in the conference room, WH1SW. For reservations and additional information, call the Medical Office, Ext. 3232.

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## CHILDREN'S CHRISTMAS PARTY

The Christmas party for children of Fermilab employees and users will be held in Wilson Hall Dec. 14.

Activities will begin at 1:30 p.m. in the auditorium with cartoon movies. Then Santa will make his only annual appearance, bearing goodies for the children. Afterwards, refreshments will be served in the cafeteria. The party essentially is for children up to the age of 8.

Party committee members are Linda Even, chairperson, Rose Muth, Mary Fray, Edith Brown and Ginny Ritchie.

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## EMPLOYEES CHRISTMAS PARTY

Fermilab's employees Christmas party will be held Dec. 23. It will begin at 5:15 p.m. and end at 9 p.m. in the Village Barn. The party, of course, is free to all employees. Disc jockey Homer Cunningham will play music, beverages will be available and food will be served. Sharon Koteles and Ed Justice are the party's co-chairman.

## SUMI-E INK PAINTINGS ON EXHIBIT

Thirty-seven sumi-e ink paintings by Prof. Motoharu Kimura, a Japanese physicist, and four dolls made by his wife are now on exhibit in the west annex of the Fermilab art gallery, WH2S.

The new exhibit will remain up through December. Two of the dolls are playing with a kite and jump rope and the others are playing cat's cradle. Twenty-eight of the sumi-e paintings are matted and nine are framed. Some of the subjects treated by Kimura include Japanese iris, plum blossoms, mum, magnolia, hydrangia, cedar, oriental orchid, jade tree, persimmon, wild grass, clover and sweet peas as well as many other forms of plant life. All of the art is for sale, and a list of prices will be available in the exhibit area.

The proceeds from the sale of the art will be used by the Sendai International Brotherhood Society, a non-profit organization designed to promote greater mutual understanding among people and to work for world peace. Kimura is its president.

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## CANDIES FOR CHRISTMAS

Employees and users can purchase Fanny Farmer Christmas candies at discount prices by calling Helen McCulloch at Ext. 3126. The candy comes in a variety of sizes, including the popular one and two-pound boxes. McCulloch has the full list of the different types of candy that can be purchased. These "festive favorites" also come in three and five-pound boxes and include many of the most popular candies.

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