

FermiNews

July 29, 1988 Vol. XI, No. 14



Fermi National Accelerator Laboratory

John Peoples is Fermilab Deputy Director Designate

The Board of Trustees of the Universities Research Association, Inc., and Fermilab Director Leon M. Lederman have announced the appointment of John Peoples, Jr., to the position of Deputy Director Designate at Fermilab. Peoples will begin his tenure as Deputy Director on a full-time basis beginning in September 1988.

John Peoples received his Ph.D. in physics from Columbia University in 1966, and has served on the faculties of both Columbia and Cornell universities. He joined the staff of Fermilab (then the National Accelerator Laboratory) on March 1, 1972, as a physicist. From 1975 to 1980, Peoples was Head of the Fermilab Research Division. In 1981, Peoples was named Head of the Antiproton (Pbar) Source project at Fermilab.

In 1985, the efforts of Peoples and his colleagues were rewarded when the Antiproton Source accumulated its first batch of pbars in September of that year.

By 1987, the Pbar Source entered into extended operation for Collider physics, providing the Collider Detector at Fermilab (CDF) with the bunches of pbars that, on March 29 of that year, during CDF's engineering run, produced the first "New World" W and Z particles.

In April of 1987, 1.2×10^{10} antiprotons were collected and stored per 120-GeV proton on target, exceeding the previous world record held by the CERN AA by almost a factor of two.

"John Peoples has been a tower of strength in this Laboratory," Lederman stated, "and has also represented us well as a HEPAP member and, most recently, at the Central Design Group for the Superconducting Super Collider. As we sit on the threshold of an era in which we exploit and upgrade the TEVATRON, John will be a major force in helping to steer the Laboratory to ever greater success." ❄

Helen Edwards Chosen for 1988 MacArthur Fellowship

On Tuesday, July 19, 1988, Helen T. Edwards, Head of the Fermilab Accelerator Division, was awarded a MacArthur Fellowship by the Chicago-based John D. and Catherine T. MacArthur Foundation in recognition of her efforts as one of those instrumental in the successful construction and commissioning of Fermilab's TEVATRON. MacArthur Fellowships take the form of cash grants which the recipient may use to any end he or she chooses.

Upon notification of the award, Edwards said: "High-energy physics is a strong group activity. As such, it's important to recognize the many hundreds of people who contributed their intellects, expertise, and years of effort to the development, construction, and successful operation of the TEVATRON. This award is accepted on their behalf, and in recognition of the importance of all basic research and the basic research carried on at Fermilab."

Edwards plans to use the grant monies, \$315,000 over 5 years, in support of basic research education in general and accelerator research education in particular.

Continued on page 2

DOE Distinguished Associate Award to Leon Lederman

In Washington, D.C., on Monday, July 11, 1988, Fermilab Director Leon M. Lederman was presented with the U.S. Department of Energy's Distinguished Associate Award. Signed by Secretary of Energy John S. Herrington, the award cites Lederman "for his outstanding leadership and contributions to improving scientific education and public understanding of science." ❄

"Radiation Therapy" Next in Lecture Series

Promising new developments are taking place in the area of radiation therapy for the treatment of disease. Fermilab has long played a major role in the development of cancer control through particle-beam irradiation at its Neutron Therapy Facility (NTF), treating over 1600 patients in its 12 years of operation. Now Fermilab is in the process of designing and building a new radiation oncology center for the Loma Linda University Medical Center in California that will have the capacity to administer proton therapy, the newest form of radiation therapy. Dr. Frank R. Hendrickson, M.D., Professor and Chairman of the Department of Therapeutic Radiology at Rush Presbyterian St. Luke's Medical Center and Director of the Midwest Institute for Neutron Therapy at Fermilab, and Philip V. Livdahl, Deputy Project Director for the Loma Linda Proton Therapy Project, will discuss "Radiation Treatment of Cancer: Past, Present and Future," on Friday, August 5, 1988, at 8:00 p.m. in Ramsey Auditorium. This is the first lecture of Fermilab's 1988-1989 Lecture Series season.

Radiation therapy is the use of penetrating beams of particles for the treatment of disease, primarily cancer, by destroying the ability of cells to divide and grow, a process which takes place in both cancerous and normal cells. Radiation treatments are designed to destroy as many cancer cells as possible while doing the least harm to surrounding normal cells. Current forms of radiation therapy in use include X-rays, electrons, neutrons, helium and carbon ions. Proton therapy, conceived by Robert R. Wilson, Fermilab's founding Director, has only recently become feasible with the availability and widespread use of CAT scanners and Magnetic Resonance Imaging devices which allow physicians to define tumor volumes with greater accuracy to localize the radiation dose.

Dr. Hendrickson, the principal investigator for the NTF since its inception, is a founding member of the Radiation Therapy Oncology Group and widely recognized as a radiation oncology expert. Philip Livdahl recently retired as Deputy Director of Fermilab in order to concentrate on the Loma Linda Proton Therapy Project. Admission to their lecture on radiation therapy is \$2. Reserve your seat by calling ext. ARTS weekdays between 10:00 a.m. and 12:00 noon or 1:00 and 4:00 p.m. Phone reservations are held for five days awaiting payment. - **Tammey Kikta**

No Lead Problems Found

Following the public notification distributed with *FermiNews* in April, drinking water supplies on the site were analyzed for lead content. The concentrations found were all lower (safer) than the allowed limit of 0.050 parts per million. National Environmental Testing, Inc., of Bartlett, performed the analyses on 88 samples, 68 from Village housing. The Environmental Protection Group (Safety Section) collected samples in the Village, at the request of Accommodations (Laboratory Services), because housing there predates the establishment of Fermilab. Lead could have been used in the plumbing, but analyses showed no problems with the water. - **C. Anderson**

"Edwards" continued from page 1

Leon M. Lederman, Fermilab's Director, issued this statement on behalf of the Laboratory: "Helen Edwards has been an important member of the Fermilab accelerator team since the beginning of the Laboratory, circa 1970. In 1979, she became co-leader of the team charged with the construction of the world's first superconducting synchrotron - the 4-mile particle accelerator which was designed to raise the energy of the Fermilab machine from 400 GeV to close to 1000 GeV. This effort, supported by the U.S. Department of Energy, was successful in 1983, making Fermilab the highest energy laboratory in the world.

"Today she heads the Fermilab Accelerator Division and is responsible for the operation of the complex of accelerators that includes the TEVATRON Collider where 900-GeV protons collide with 900-GeV antiprotons. She is also leading the effort to improve the accelerator in order to assure the ability to continue incisive research in the structure of matter."

In 1985, Edwards was one of the first recipients of the Achievements in Accelerator Physics and Technology Prize awarded each year by the US Particle Accelerator School. In 1986, Edwards was awarded one of six Ernest O. Lawrence Awards for that year by U.S. Department of Energy Secretary John S. Herrington.

Fermilab Prairie Project Thrives Quietly

Fermilab's prairie restoration project is entering its fourteenth year, and is clearly a worthwhile and successful endeavor. According to Mitch Adamus (*AD/RF*), immediate past chairman of the Prairie Committee, "Our aim is to create large quantities of quality prairie ecosystem because we're really hurting for prairies in Illinois."

One of the goals in any ecosystem restoration is to provide large expanses of habitat that will support a greater diversity of species, and that's what Fermilab's prairie restoration committee, now chaired by Finley Markley, has set out to do. "If we have enough suitable habitat, we could support a number of endangered species on site, including Cormorants, Black-crowned Night Herons, and maybe even Henslow's Sparrow," said Adamus. "Already we've had Upland Sandpiper, a state endangered bird, nest on site in past years. It's just a matter of supplying huge quantities of suitable habitat, and we have the potential to do that at Fermilab."

"Although we haven't burned this particular plot this year," explained Adamus as we visited plot number one, "it has done very well - we have a lot of prairie forbs (non-grass herbaceous plants), white false indigo, prairie dock, compass plant, and a good representation of the prairie legumes out here."

As we trekked through the plot, he pointed out that "some of the plants are starting to spread on their own, such as this white wild quinine." This is a good sign; it indicates that the prairie is growing unaided.

The prairie seems to be rich in plant life. "Most of the plants you see in this prairie are native American grasses and forbs. They're very strong and aggressive, and they'll out compete most of the weeds. Only a couple of species give us trouble, such as white sweet clover, which is the bane of the project," he said. Abruptly, Adamus pulled up a stray white sweet clover to help reduce their numbers. He added, "We may do a fall burn here to help get rid of some of the clover, but it really isn't doing too well this year." Normally, in even years, which are bloom years, the white sweet clover bloom profusely throughout the prairie.

Looking at the prairie flora, you wouldn't think that we're suffering from lack of rainfall. However, Adamus observed that "Some of the plants are showing signs of stress; but overall, they're doing just fine." He said that many prairie plants have in-

credibly deep roots - the roots of some prairie grasses and forbs go down 10-12 feet, and there's still some moisture at that depth.

As a result of the drought, the plants will probably grow to only five or six feet tall this year, instead of seven or eight feet tall. Nevertheless, the prairie plants will get much taller than they are now. "Come August, you could get lost out here, literally. Everything will be over your head, and it's very tiring to walk through the high grass. Right now, it's pleasant, but in a couple months, it will be a real effort to get through."

The Fermilab prairie is not only full of prairie plants, but it is also full of bird choruses; it seems to be a veritable haven for a multitude of bird species. "A lot of the endangered bird species are prairie and forest dwellers, so it is important to maintain these habitats in Illinois," Adamus said.

A number of endangered bird species nest or use Fermilab's prairie at some point in the year. For example, in the winter, long-eared and short-eared owls, both state endangered species, spend some time on site. Another species, the northern harrier, is on site occasionally, and "We would like to encourage them to nest here," Mitch added. The Lab also has a heron rookery on site. "We have fairly extensive tracts of suitable habitat, and that's why this prairie attracts so many bird and mammal species."

Vicki Byre, an ornithologist at the Chicago Academy of Sciences, visually and aurally collects extensive qualitative data about the birds living in or using the prairie. For example, she recently learned that Virginia Rails have been breeding on site, which is an exciting discovery. Next year, she wants to do something more quantitative, such as counting the birds and mapping their territories. Adamus said that she's already mapped out the red-tail hawk and great horned owl territories - there are at least six hawk and three to four owl nests on site.

Fermilab's prairie is rich in other wildlife: "Looks like somebody's little bed," commented Adamus when we came across a depression in the

Continued on page 4

Percentage of students at Dunkin' Donuts University who do not pass the six-week training course: **5**

Percentage change, since 1977, in per capita consumption of white bread: - **30**

In the Library

The Library has received two videotapes from the Illinois Department of Energy and Natural Resources entitled, "Illinois. . . The Best Site" and "Building a New Frontier". The tapes are designed to inform the public on the impacts and possibilities of DOE's proposed Superconducting Super Collider project. You may view these in the Library on WH3W.

- Paula Garrett

Scuba Classes Offered

Visiting the underwater world is much different than many people think. Diving is enjoyable, relaxing, and done in complete comfort and safety. Now is your chance to try this adventurous and fun sport. The Recreation Department is offering scuba training classes beginning on August 11. There will be five classroom and pool sessions on Thursday evenings from 7:00 p.m. to 10:30 p.m. The cost for these sessions is \$100.00. After completion of the course you are then prepared to take the Open Water Training Dive for PADI certification. These training dives are at additional cost and will be arranged after completion of this course. There are limited openings. If you are seriously interested in taking the training, call Jean, ext. 3126, no later than September 5.

"Prairie" continued from page 3

ground with matted grass and broken stems. "We've seen a lot of prey animals around in the past few years; whenever we burn or do any field work out here, the meadow voles are everywhere, the groundhogs are everywhere, and rabbits by the thousands."

The mammal population at the Lab is really quite good - mink, beaver, coyote, muskrat, and fox have been observed on site. Elk, bobcat, and wolves are absent, "but these large animals are probably impractical anyway for a plot this size." In the past, there was some concern about the status of the fox population, but the number of fox seems to be increasing.

In spite of all the life in the prairie, it looked calm. As we listened to the sounds of the prairie, Mitch said, "I've been around for roughly half the life of the project. Sometimes, it's frustrating and a lot of work, but there are encouraging aspects, such as when you see the prairie take off and spread itself around. And it's peaceful. The most sound out here comes from the birds, and that's the way it ought to be."

- Kevin A. Brown

(Continued in the next issue of FermiNews)

FermiNews Cla\$\$ified Ad\$ FOR SALE Motorized Vehicles:

1987 FORD RANGER XLT, 2.3L FI/5 spd., ps/pb, hd. alt./batt., tinted wind., sliding rear window, AM/FM ster. tape, alum. cap, bed mat, bug shield, rustproof/undercoat, 15K miles, \$8000 o.b.o. Call Jim, ext. 4791.

1983 SUZUKI MOPED, FA50D. Call Dejan, 851-4208 after 6 p.m.

1979 FORD FAIRMONT, 2-dr., excellent condition, 63,000 mi., asking \$1200, negotiable. Call Hiroshi, ext. 3748 or 406-9302 after 6 p.m.

WINNEBAGO - "CHIEFTAIN 27," Class A. motorhome, great shape, 14,000 miles, \$35,000 or best offer. Call Gerry, ext. 3103 or 553-7644.

Miscellaneous:

TAN LEATHER SOFA, Olympia electric typewriter, and assorted infant items. Call Dejan, 851-4208 after 6 pm.

FRANKLIN WOOD BURNING STOVE; Simplicity Wonder Boy riding lawn mower with 5-h.p. Briggs engine and manuals, needs work; two Uniroyal FR 7814 steel-belted radial tires with rims, good shape; stainless steel double sink with faucet 33" x 22"; York window air conditioner, needs work; white bath tub. Best offer for everything. Call Jeff, ext. 3880 or 556-3721 after 6 p.m.

SEARS "TED WILLIAMS" OUTBOARD MOTOR, 7-1/2 h.p., forward/reverse, remote fuel tank, used 25 hours, \$300. Call Tom, ext. 3441.

MOVING SALE: dining table, bed, drawer, sofa, desk, bookcase, card table, crib & mattress, other furniture. Call Hiroshi, ext. 3748 or 406-9302 after 6 p.m.

FRIGIDAIRE ELECTRIC DRYER, white, heavy duty, 8-mnths old, excellent condition. \$250. Call May, ext. 3824 between 8 a.m. and 4:30 p.m.

IBM SOFTWARE, Data Edition & Reports+, list \$400, \$60. Writing Assistant, list \$148, \$35. Display Write 3, list \$496, \$125. SideSwipe, Memory House, & Solitaire, \$25. Trivia 101, \$15. Picture Draw and Lines Plus, \$10. Plan-a-Year, \$7. Any reasonable offer, call Bob Flora, ext. 3769 or 879-6355.

FOUND

LOOSE CHANGE on 6th floor, east side. Must identify. Come to 6th floor ACP Department to claim.

FermiNews is published by the Fermilab Publications Office, P.O. Box 500, Batavia, IL, 60510 (312) 840-3278
BITnet: TECHPUBS @ FNAL, DECnet: FNAL::TECHPUBS
Editor: R. Fenner Editorial Assist.: C. Kania
Fermilab is operated by Universities Research Association, Inc., under contract with the United States Department of Energy.