# FERMINEWS

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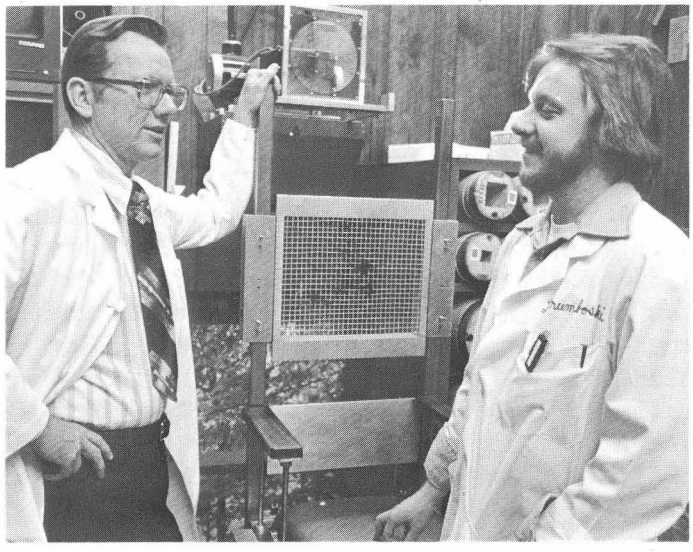
## CANCER THERAPY FACILITY AT FERMILAB FINDS ITS PLACE IN MODERN HEALTH CARE

Neutron therapy is becoming an important new technique for bringing certain types of cancer under control, Dr. Frank R. Hendrickson, associate director of the Cancer Therapy Facility (CTF) at Fermilab, told science writers attending a press conference at the joint annual meeting in Chicago of the American Physical Society and the American Association of Physics Teachers.

Also professor and chairman of the Department of Therapeutic Radiology at Rush-Presbyterian-St. Luke's Medical Center in Chicago, Dr. Hendrickson said that for certain types of cancer, treatment with neutrons appears to be promising. However, he cautioned the writers about becoming overzealous. The Fermilab facility has been running only since October 1976, not long enough for substantial data to have been accumulated on the long-term effects of neutron therapy on patients, he explained.

Yet, he was optimistic and enthusiastic about neutron therapy. Even though it appears to be effective with certain types of cancer, the results should be thought of as an improvement over standard modes of treatment, not regarded as a breakthrough, he said.

Since the Fermilab CTF opened, more than 600 patients have been exposed to neutrons. The types of cancers that have been treated include those of the salivary glands, advanced head and neck cancers and malignant tumors of the pancreas and brain. These cancers have a tendency to remain localized and less often spread to other parts of the body, thus making them good candidates for neutron therapy. Some of the patients had cancers that were too large to be removed by surgery, or just didn't respond to the standard treatment modes. These include radiation, chemotherapy and surgery.



*...Dr. Frank R. Hendrickson (left) and Brian Pientak, radiation therapy technologist, in the Cancer Therapy Facility at Fermilab. They are in the shielded room in which patients are exposed to neutrons. The patients sit in the chair between them. Just above Hendrickson's left hand is a laser device that technologists use to precisely align a patient with the neutron source...*

The average patient at Fermilab gets about six or seven neutron treatments, but range from 2-20 said Hendrickson at the press conference. Some of the treatments may be as infrequent as one each week, and as frequent as three a week. Each exposure lasts only a few minutes.

"In no situation has the treatment been worse for the patient than would have been the standard treatment," said Hendrickson. "Our result in every case has been at least as good."

The facility at Fermilab is capable of treating up to about 50 patients a week, he said. At the present time, about half that number are being seen.

He reminded the science writers that "cancer is the most curable dreaded

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disease we have. The cure rate is about 50 percent. If the cancer is caught in its early stages, that cure could be as high as 90 percent." It is the leading cause of death in people under 55, he added.

Indeed, therapy with neutrons appears to be an important missing link in the spectrum of treatments available, according to Dr. Hendrickson. Just before his press conference, he addressed the annual meeting on "The Physical and Biological Basis for Neutron Treatment."

He showed color slides of some patients with malignant tumor growths of the ear, side of the face and soft palate inside the mouth. After neutron treatment, their recovery was remarkable. From the color slides showing the patients following therapy, only their physician would have known an ugly tumor had once ever deformed their features. It was dramatic visual evidence of the powerful role neutron therapy is gaining in modern health care.

It wasn't always that way. In the 1940's, some work was done with neutron therapy, Dr. Hendrickson told his audience at the meeting. Unfortunately, the mechanism of action and biology of the treatment was not fully and correctly understood. Consequently, the results were less than desirable. So interest in using fast neutrons waned.

In the late 1960s and early 1970s, an attempt at using neutrons was started at Hammersmith Hospital in London. With improved understanding and more sophisticated equipment, some of the results were gratifying, he said. From this second cautious beginning, interest spurted and spread to this country and to others throughout the world. In the past 10 years, 4,000 patients have been treated at neutron therapy facilities, most of them in the past few years.

"To date, clinical research has not progressed sufficiently to reach firm conclusions, but the general direction of the observation has paralleled that of the initial work in England," said Dr. Hendrickson at the meeting. "Within the next several years, sufficient follow-up will have been achieved to reach firmer conclusions."

He also said, "The potential for improvement in the management of cancer patients with radiation therapy has come about from the intense cooperative interaction among the physical sciences, biological sciences and medical sciences. Without this high degree of precision and indepth understanding of the absorption of heavy particles in various physical materials, the whole program could not have begun."

He concluded his remarks at the annual meeting by saying, "The medical sciences have been able to combine physical and biological research data into clinical research programs that compare the best of the standard treatments with these new frontiers."

And at the press conference, Dr. Jacques Ovadia, chairman of the Medical Physics Department at Michael Reese Medical Center in Chicago and also a speaker at the annual meeting, gave his overview. He said, "Neutron therapy has come of age."

Commercial equipment is available now and hospitals are capable of running the units reliably, he continued. "We are not giving anything away in terms of good patient care by using neutrons," Dr. Ovadia also said.

Dr. Hendrickson added that it will probably be three or four years before patients will be treated with these units.

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## CREF UNIT VALUES FOR 1979

The College Retirement Equities Fund (CREF) unit values for 1979 are:

January - $40.90; February - $39.47; March - $41.60; April - $41.61; May - $40.58; June - $42.12; July - $42.57; August - $44.50; September - $44.60; October - $41.18; November - $42.56; and December - $43.19.

CREF is one of the two annuity funds Fermilab employees may invest in as part of their benefits package. It is a separate nonprofit corporation established in 1952 by a special act of the New York State Legislature to provide retirement benefits based on common stock investments.

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## TWO MESSAGES FROM DR. LEON LEDERMAN, FERMILAB DIRECTOR

I would like to remind FERMILAB employees of their responsibility to report possible fraud, abuse or other forms of wrong doing. Reports may be made to Fermilab Security, to me or to the Inspector General of the DOE. The Inspector General is responsible for activities to promote economy and efficiency and to prevent or detect fraud, theft and abuse in the Department's program and operations.

A Chicago Office of the I.G. has recently been established under the direction of Jon D. Bogott, Investigator. The address:

Office of the Inspector General
Chicago Operations and Regional Office
175 West Jackson Boulevard
Room A-309
Chicago, Illinois 60604

Telephone: (312) 353-2169

All employees and guests are reminded that Fermilab property belong to the U.S. Government. Theft or abuse is then a federal offense. Apprehension and conviction are federal as well as local responsibilities.

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*Engineers, scientists, consultants and government officials from Finland tour Fermilab as part of a two-week visit to this country to study energy sources, primarily solar energy. Briefing them are Dr. Karel Klima (left foreground), Engineering Support Division, Chicago Operations and Regional Office of the Department of Energy, George H. Biallas (right foreground) and Penny Horak (at the projector), both associate heads of the Technical Services Section at Fermilab.*

I am announcing a program whose goal is to restrict the yearly radiation exposure of laboratory workers to one-half the legal limit.

This project had its beginning last June when Fermilab Radiation Safety Officers, Kevin Cahill, Deb Grobe, Jack Grobe, and Bob Pollock, met to investigate the impacts and benefits of lowered radiation exposure goals. I joined division and department heads and the Radiation Physics Group in the discussions, and feel that such an effort is a valuable addition to this laboratory's radiation safety program.

The heart of the program is the Fermilab Alert System. This system produces a list of high-exposure workers. As the individual approaches one-half the legal limit, more stringent controls are applied to the worker and supervisor in an effort to reduce exposure. My approval is required before anyone may exceed a yearly exposure of 2500 millirem.

I strongly support this program. Lowered radiation exposure should be everyone's goal. Increased radiation safety awareness will realize benefits and make our lab a safer place to work.

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## URA SCHOLARSHIP APPLICATIONS AVAILABLE

Universities Research Association scholarship applications are now available.

They may be obtained from Ruth Christ, ext. 3793. Her office is on the east side of the 15th floor, Central Laboratory. The applications must be returned to her by March 1.

URA provides a minimum of 15 scholarships each year for children of Fermilab employees. Some scholarships pay up to $2,000 a year for tuition and fees. If a student remains in good standing at a college or university, the scholarship can be renewed each year for four years.

The scholarship awardees are chosen by their performance on the American College Test. Students who are seniors in high school now and who plan to pursue a four-year college course leading to a degree are eligible for the scholarships.

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## *CHEZ LEON* MENUS

Tuesday, Feb. 5 — 7:00 p.m.

Mushroom velonte
Beef Kebabs
Rice pilaf
Mixed green salad
Lemon souffle with raspberry sauce

Wednesday, Feb. 6 — 12:30 p.m.

Garlic soup
Chicken milanese
Sauteed zucchini and yellow squash
Baked apples

Thursday, Feb. 7 — 7:00 p.m.

Squash soup
Leg of lamb
Cream potatoes with peas
Salad
Cheesecake with fresh strawberries

For reservations call ext. 3524.

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## COOKING CLASSES NOW FORMING AT CHEZ LEON

"Foods of the Continent" - a series of cooking classes that teach individuals how to prepare foods of different nations are now being organized at Chez Leon.

Tita Jensen, the organizer and talented chef of Chez Leon, will teach the classes, which will be limited to the first 10 people who make arrangements. The classes will be taught at 7 p.m. each Tuesday at a fee of $12.50 per class. Call Tita Jensen at ext. 3524 for more information.

Certificates will be awarded for the successful completion of three classes.

## EMERGENCY SNOW INFORMATION

A number of radio stations on both the AM and FM dials will broadcast information about Fermilab closing if the weather is too inclement.

The AM stations are: WGSB, 1480 on the dial; WMRO, 1280; WMAQ, 670; and WFVR, 1580. On the FM dial are WBMX, 103; WAUR, 108; and WKKD, 96.

WMAQ has assigned Fermilab the number 218. The station will use this number only - instead of identifying Fermilab by name - during emergency bulletins.

## PLEASE HELP RETURN CAFETERIA ITEMS

Margaret McAuliff, assistant cafeteria manager, reports that the cafeteria supply of trays, dishes and other eating utensils is getting uncomfortably low. She requests that items be returned to avoid shortages during meal periods. Keeping these items in use avoids reordering which adds to cafeteria costs.

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## RACQUETBALL AND TENNIS MEMBERSHIPS AVAILABLE

Memberships in the Country Courts Tennis and Racquetball Club, Kirk Road, are now available to Fermilab employees and users at a discount.

The annual membership for racquetball is $20.00 an individual plus court fees. The tennis membership is $40.00 each year plus court fees.

Interested individuals should contact Helen McCulloch, ext. 3126.

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## AN EVENING OF SILENT FILMS

Presented by Fermilab International Film Society

Friday, Feb. 8 — 8 p.m. — Central Laboratory Auditorium

Here comes a change of pace with broad entertainment for many tastes. These are classic and entertaining films from the early days of the silver screen when the public was swept up by the awe of it all.

About 120 minutes — Rated G — Adults $1.50 — Children 50 Cents

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