

# FERMINES

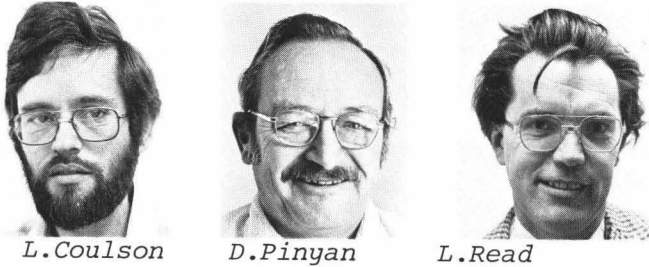
 Fermi National Accelerator Laboratory

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## SAFETY PROGRAM GETS A NEW LOOK



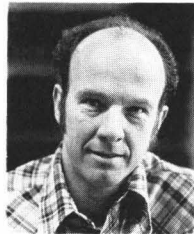
L. Coulson

D. Pinyan

L. Read



W. Riches



J. Stoffel

Fermilab acting director Philip Livdahl has made appointments in the Safety Section and in the Laboratory Safety Committee.

Lincoln Read will continue to head the Safety Section. Larry Coulson has been appointed assistant head of the section and also will continue into his second term as the Fermilab's senior radiation safety officer.

Dug Pinyan will serve a second term as the laboratory's senior safety officer and Bill Riches, head of the Plant Management Department, will serve in the Safety Section as the fire protection engineer. John Stoffel, an engineer in the Meson Department, will become a special consultant for bubble chamber safety. Riches and Stoffel will retain their present responsibilities in the Plant Management Department and Meson Department, respectively.

Livdahl announced that he will serve as the chairman of the Laboratory Safety Committee. A number of new members will be appointed to this committee as well as to its subcommittees on cryogenic, electrical, fire, mechanical and radiation safety. The acting director also announced that he has

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## TRANSFORMER INCREASES NEUTRINO VERSATILITY

A sophisticated transformer--the creative product of years of planning--has given scientists the link they needed to tie a versatile array of experiments into the Fermilab neutrino line.

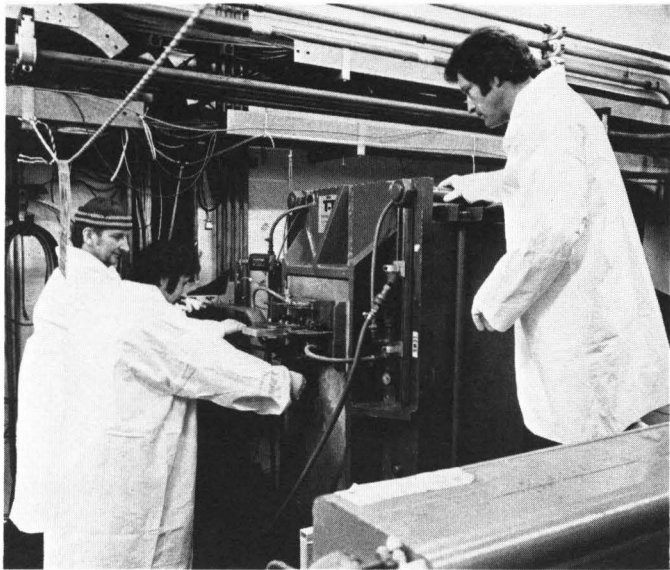
An integral part of the focusing horn power supply system, the transformer now allows a horn focusing period of one millisecond. The horn takes the shower of particles, which includes pions and kaons, produced by the proton beam smashing into the target, and focuses them into a 400-meter long decay tube. The rapidly decaying pions and kaons produce further particles that include muons and neutrinos.

In order for the horn to focus effectively, a surge of current must pass through the horn mechanism at the same time the target debris reaches the horn. In the previous system, the peak width of the current matched the length of the beam pulse (beam spill)--20 microseconds. While a pulse length of 20 microseconds was sufficient for



...Examining the backup transformer, (L-R), Vivian Jacobsen, Technical Services, Ray Roth and John Grimson, Neutrino Department...

Continued on Page 2



...Inspecting the transformer (L-R), Bill Williams, Karl Varga and Bob Trendler...

the 15-foot bubble chamber to handle, it was too short for other neutrino experimental equipment to respond to efficiently.

But when the pulse was lengthened to one millisecond--now adequate for the other sensitive experimental equipment--the peak width of the current in the focusing horn was too short to focus most of the debris from the pulse. Consequently, many of the products were not channeled into the decay tube. But with the new transformer and modified power supply system, the current peak width was extended to match the pulse length and most of the pulse could then be focused.

The Neutrino Department team successfully overcame a major technological problem, with the result that the neutrino line is running more efficiently than ever before. But this point was reached after years of careful planning and the team effort of many persons.

"Discussions showing the need for a longer spill time began as early as 1974, but it wasn't until 1976 that a concerted effort was made to design the power supply system necessary to provide the required one millisecond focusing period," said Robert C. Trendler, co-group leader for the Electrical Support Group in the Neutrino Department. "Engineering studies showed that an impedance transformer was the most economical and effective device with which to modify the existing power supply system and thereby provide the longer horn current pulse width." After

determining the specifications of the transformer, the researchers designed one that also could be installed in Enclosure 99, the building that houses the horn. Unfortunately, no American vendors were available to build the complex transformer. But CERN was using a transformer with similar characteristics for its neutrino beam line.

With the help of Lawrence O. Vonasch, contract administrator with Fermilab, two custom-made transformers were purchased from Thrige-Tital in Odense, Denmark. Raymond Lewandowski, Fermilab material distribution supervisor, monitored the delivery arrangements.

The 200 kiloampere secondary connections were procured by John Grimson, Vivian Jacobsen and Ray Roth and installed by Jerry Sasek and Ralph Carlson. The transformer cart was designed and procured by John Simon. The men are with the Mechanical Support Group of the Neutrino Department. Jacobsen is with Technical Services.

Bill Williams and Karl Varga of the Electrical Support Group modified the existing pulsed capacitor discharge power supply to accommodate the circuit parameter changes that were introduced by the installation of the transformer. Leon Beverly and his electricians installed the necessary high voltage cables and interlocks.

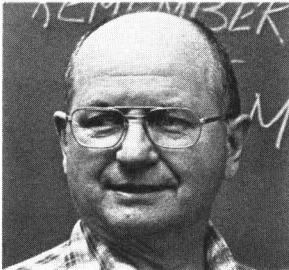
Supervising the initial testing of the system in the neutrino target service building during the long nights of September 1978 as well as its final installation were Trendler, Ray Stefanski, who along with Trendler is co-group leader, and Shigeki Mori, group leader of the Mechanical Support Group. Others who assisted in the test were Willy Stitts, Bob Oudt, Scott Salak, Williams and Varga.

Trendler also expressed his appreciation to the many other members of the Neutrino Department for their assistance in helping to considerably improve the flexibility and reliability of the neutrino beam line. He also had kind words for B. Langeseth and for others at CERN who helped Fermilab neutrino scientists find a vendor for their transformer and helped them resolve some of the design problems.

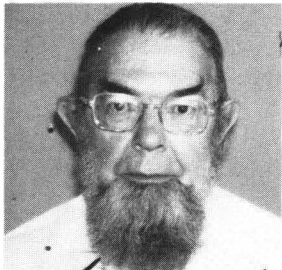
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TWO FERMI LAB EMPLOYEES RETIRE

SIGMA XI SPEAKER TO OFFER FRESH INSIGHT TO SOLVING PROBLEMS



E. Brezina



R. Condon

Ed Brezina, widely known as "Mr. Safety" around Fermilab, will retire Feb. 28, having joined the laboratory in 1970 during its construction years.

Robert J. Condon, who was foreman of quality control in the Magnet Facility, retired Feb. 2. He had joined Fermilab in July 1970.

"I retired from Fermilab," said Condon, "but I didn't retire permanently." He has another job now and will continue to live in the Norwood Park area of Chicago. He describes himself as a "long hair" who enjoys classical music, literature and working around his house.

Brezina said, "My wife, Win, and I will continue to live in Clarendon Hills and try to help our relatives, friends and neighbors who might need a helping hand occasionally."

Many Fermilab employees will recall Brezina, a safety inspector, for the many courses he taught in defensive driving, first aid and cardiopulmonary resuscitation. He had taught, for example, nearly 650 students in 48 classes of defensive driving during his years here.

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MARCH 30 IS SUMMER HOUSING DEADLINE

The deadline for the Housing Office to receive applications for summer on-site housing is March 30. Housing assignments for summer experimenters are based on the anticipated running schedule. Responses to applications will be mailed April 17.

Experimenters and their families can begin to occupy their housing the week of May 28. Additional questions about summer housing should be directed to the Housing Office, Ext. 3777.

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Dr. Simon Ostrach of Case Western Reserve University has a way of getting answers out of complex problems.

The Wilbert J. Austin distinguished professor of engineering at Case, he will tell about his way of attacking problems at a Sigma Xi lecture March 8. Free and open to the public, his presentation will begin at 8 p.m. in the Fermilab Auditorium.

In his talk, "How to Solve Complex Problems Without Being Smart," he plans to show that difficult problems become more manageable by developing models that are realistic and tractable. A great deal of research is attacked by scientists in an ad hoc manner, he said in a telephone interview. Complex situations may not be handled correctly because investigators have not properly formulated their approach, he also said.

Dr. Ostrach believes his approach offers a powerful technique for breaching the secrets of complex problems. He plans to give a number of examples.

Since 1960, Dr. Ostrach has been with Case. For 10 years prior to that, he worked for the National Aeronautics and Space Administration, where he was chief of the Fluid Physics Branch.

He was awarded his doctor of philosophy degree in applied mathematics in 1950 by Brown University. He is a fellow of the American Society of Mechanical Engineers, American Institute of Aeronautics and Astronautics and American Academy of Mechanics.

The author of more than 85 articles and papers that have appeared in scientific and engineering journals and volumes, he holds a number of positions on editorial boards and as editor. He has been honored for his contributions to his profession, and he is a consultant to a number of companies.

Fermilab is one of three science and education oriented institutions that form the nucleus of this area's Sigma Xi Club. The others are the Amoco Research Center and Wheaton College. Dr. Marvin Johnson of Fermilab Research Services is President of the chapter.

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FERMILAB COOPERATIVE PLAYGROUP  
TO HOLD ORGANIZATION MEETING

The Fermilab Cooperative Playgroup will hold an organization meeting today.

It will begin at 7:30 p.m. in the Comitium, CL-2E.

The group announced that children of Fermilab employees and users can join either the younger group (18 months to 3 years) or the older group (3 years to 5 years) for a variety of activities. The younger group meets on Monday, Wednesday and Friday mornings, and the older group meets on Tuesday and Thursday mornings, and Friday afternoons.

Cso Woodworth, 232-0653, and Barbara Jonckheere, 879-1283, have additional information.

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REMINDER ABOUT THE TOKYO STRING QUARTET

The talented musicians in the acclaimed Tokyo String Quartet will perform March 3 at 8:30 p.m. in Fermilab Auditorium. The admission price is \$4 for each person. Reservations may be made by calling the Guest Office at Ext. 3124.

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NBC PRODUCTION NEXT IN FILM SERIES

"Continuing Creation," a videotape of an NBC production, will be the next presentation in the noon film series. It will be shown Feb. 28 in the Curia II conference room, CL-2W.

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SCIENTISTS AT TOP

Scientists came out on top during a poll that asked the public to rate occupations according to "very great prestige."

Conducted by Louis Harris and Associates, the poll revealed that 67 percent of those questioned put scientists in the number 1 position. Coming in second were physicians at 62 percent. Then came ministers, 41; lawyers, 37; engineers, 34; and teachers, 30. At the bottom of the list were politicians, 17; and salesmen, 6.

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SAFETY PROGRAM, continued

discontinued the Traffic Safety Subcommittee.

In announcing the new appointments, Livdahl said, "In the past few months I have become increasingly aware of the need for a simple, straightforward organization of the safety responsibilities within the laboratory. These new appointments, together with the modified committee structure, I believe will accomplish this.

"I am confident that these organizational modifications will evolve into safety programs that will develop a stronger safety awareness on the part of all employees and users. These changes are, however, only a means to an end, and will give us all a safer and more productive laboratory."

Livdahl and Read both expressed their desire for comments from members of the Fermilab community.

"We want to hear from you," said Read.

In reminding Fermilab employees and users about the importance of safety, Livdahl said, "The responsibility for deciding upon and taking disciplinary action in cases of violations of our traffic regulations or of any other safety regulations rests with the division heads. The responsibility for review of all traffic safety warnings and violations as well as the responsibility for coordination and communication between the various organizational units of the laboratory--to help ensure fair and uniform disciplinary practices--rests with the head of the Safety Section.

"And the final responsibility for all of these matters rests with me," Livdahl concluded.

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FERMILAB SAFETY EXPERT TO SPEAK ABOUT RADIATION

Larry Coulson, assistant head of the safety section at Fermilab, will speak on radiation safety March 1.

Free and open to the public, his talk will begin at 7:30 p.m. at the DuPage County Health Department office, board room B, 111 N. County Farm Road, Wheaton. It is presented by the Cancer Support Group. Additional information may be obtained by contacting Lynn Krell, a registered nurse, at 682-7560.

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