

# FermiNews

FERMI NATIONAL ACCELERATOR LABORATORY

## Directorate announces appointments

Deputy Director **Ken Stanfield** announced the appointments of **Carlos Hojvat** and **Tom Groves** to administrative positions within the Directorate. Both appointments became effective October 1, 1992.

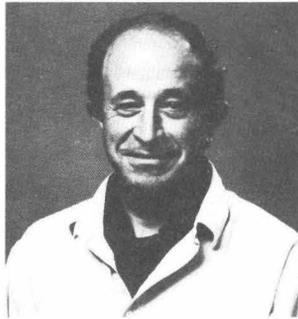
Carlos Hojvat was appointed to the position of program planning assistant. The appointment is for an initial period of two years. In his new position, Carlos will be a member of the Program Planning Group with the responsibility for assisting in the preparation of experiment-planning documents including Memoranda of Understanding. To accomplish this, Carlos will work closely with experiment spokespersons to make sure they clearly understand the Laboratory's requirements for each document and he will track progress and provide logistical support. He will also facilitate negotiations and discussions between the Directorate and the divisions, sections and spokespersons to assist reaching final approval of experiment-planning documents by the director.

Carlos will continue to assist **Taiji Yamanouchi**, head of Program Planning, in coordinating and scheduling test-beam activities as he has done previously as a member of the Research Division. "Planning for the use of Fermilab test beams will continue to play a very important role, in view of upcoming demands from SSC detectors as well as CDF and DØ," said Ken Stanfield.

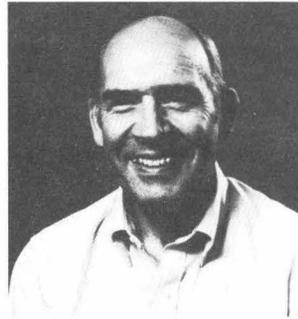
Tom Groves was asked to serve as the Fermilab Conduct of Operations Officer. The appointment is for a period of two years. Tom will remain a member of the Accelerator Division and carry out his new duties as a half-time assignment.

In this role, he will assist the Directorate in organizing and implementing the Laboratory's Conduct of Operations Program. The program is mandated by the Department of Energy under DOE Order 5480.19.

To accomplish this goal, Tom will work with Ken Stanfield to develop Laboratory policy that will establish an appropriate level of formality in Conduct of Operations. When complete, the policy will clearly state guidelines for applicability and implementation of formal conduct of operations at Fermilab and will



Carlos Hojvat



Tom Groves

become Appendix 6 of the Fermilab Quality Assurance Program.

Working with the deputy director, Tom will initiate, organize and conduct as an ongoing activity a thorough review of operational hazards, working environment, functional activities and ES&H performance goals to determine their adherence to the DOE COO order.

As COO officer, Tom will assist in managing tasks related to conduct of operations in the Corrective Action Plan for the DOE Tiger Team Assessment, other external assessments and self-assessment. He will also draft for the Directorate responses to DOE on matters related to conduct of operations. To facilitate implementation of the program, he will identify COO training requirements, establish training programs, develop a trend and goal analysis program and a performance indicator program.

### New mailing system for *FermiNews*

Beginning with the November 6 issue, all copies of *FermiNews* will be delivered to mail stations in bundles. They will not be individually addressed. This will be done to expedite the mailing process. Hopefully, the new system will provide better service for our readers. If you experience a problem under this new mailing system, please contact the Publications Office at x3278.

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The deadline for the Friday, November 6 issue of *FermiNews* is Wednesday, October 28.

Please send your article submissions or ideas to the Publications Office.

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## Fermilab's contribution to the development of MRI technology

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*Prior to the development of the modern MR industry only one place in the world harbored the technology of industrial-scale production of large, precision, superconducting magnets. This was Fermilab!*

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Over the last century one of the great advances in the human condition has been the ability to see inside the body, first with x-rays and then the more sophisticated computerized x-ray tomography or CAT. The last decade has seen the development of the most magical technique of all, magnetic resonance imaging or MRI. In the 1980s MRI went from the position of a curiosity developed for specialized use to operation of five thousand units around the world. The current number of installed MR devices is several times greater than optimistic projections indicated in 1980.

Medical imaging rests on several technical foundations. In the words of Nicolaas Bloembergen, 1991 President of the American Physical Society and one of the early contributors to nuclear magnetic resonance, "...MRI is one of the finest examples of the unplanned contributions of broad-based individual research programs to society." And the roots of the sophisticated, large, highly-controlled superconducting magnets used for much of the MR work are entwined with the advances made by these smaller research teams.

The dominant builders and users of this type of magnet have been associated with large national research programs such as high-energy physics and fusion in the U.S. Department of Energy. In addition, there is yet another element that was required for the spectacular growth of MR: magnet manufacturing on a large scale. Prior to the development of the modern MR industry only one place in the world harbored the technology of industrial-scale production of large, precision, superconducting magnets. This was Fermilab!

Fermilab is proud of its contributions to applied and industrial-scale superconductivity. As we saw MRI develop, we advanced the argument that research developing the Tevatron had shaped much of

industrial-scale development of superconductivity applications. We asserted that this had proven to be important in modern MRI. Last year we were challenged by a charge that we had oversold the importance of those superconducting developments springing from the Tevatron.

Partly in view of those arguments, a collaborative effort between the Office of Research and Technology Applications and the History of Accelerators Project has, since last fall, tracked the history of Magnetic Resonance Imaging. **Dick Carrigan, Bill Fowler** and **Adrienne Kolb** conducted historical interviews with some MRI pioneers: Paul Lauterbur, a chemist now at the University of Illinois, Urbana, considered the father of MRI; and Waldo Hinshaw, an American NMR researcher who began in the key Nottingham, England area where MRI first flourished, then went on to become an industrial scientist working on MRI and now is vice-president of Engineering of Toshiba-America MRI, Inc. Carl Rosner, president of Intermagnetics General Corporation, one of the leading companies to be spawned by modern superconductivity applications, presented the history of superconducting cable and its subsequent applications to medical diagnostics. Red Redington, a leader in medical imaging developments at General Electric, shared his experiences with GE's successful venture in this enterprise. Phil Sanger, who received his Ph.D. in connection with work done during the construction of the Tevatron, then worked on MRI in industry and now is chief engineer of the Magnet Division at the SSC, recalled his early encounters with this new field.

From these interviews, Dick, Bill and Adrienne concluded that this was the story of a multi-faceted breakthrough where first, Lauterbur's influence was overwhelming and second, industry played a key role. Companies like Carl Rosner's IGC, Johnson & Johnson's Technicare, Oxford, and General Electric bet the farm and put their research dollars where their hearts lay. Third, the dedicated work on the wires, cryostats and quench protection for reliable superconducting components of the systems involved people working with the Tevatron. Production of Tevatron wire resulted in a ten-fold increase in the size of IGC and the construction of their great Waterbury draw bench with its capability for producing large quantities of wire.

The single most-telling statistic was given to us  
Continued on page 3

## URA executes license agreement with Loma Linda Medical Center

On September 23, Universities Research Association executed a nonexclusive patent site license agreement with the Loma Linda University Medical Center. The agreement will allow LLUMC to use the technology from a high-voltage DC power supply, a patented invention created by Fermilab employee **Tom Droege**.

LLUMC will have the right to have made and use at their place of business power supplies that are similar to those created by Tom and currently supplied to DØ by Benchmark Electronics, a Texas-based firm.

The power supply is used to provide a selectable, precise current and voltage to drift chambers. Drift chambers are used for detecting and tracking particles during colliding-beam or fixed-target interactions. Several hundred power supplies are needed for the drift chambers in the collider detectors at CDF and DØ. Because drift chambers are usually located in inaccessible areas, a great improvement over an earlier design allows the power supplies to be remotely monitored and controlled by a computer. Each power supply is very compact, about the size of a 35mm camera, so it can be closely mounted, eight across, onto a common-size printed circuit board. The board with eight units attached is packaged as a module that plugs into a standard electronics crate of the type extensively used at Fermilab.

**John Venard** of the Office of Research and Technology Applications said this is a significant technology transfer. "We feel it may prove to be the key to getting this technology into the marketplace," John said. "The license also represents the most recent chapter in the ongoing relationship between Fermilab and LLUMC during which the first proton accelerator built specifically for medical applications was designed and commissioned."

Fermilab's contribution to the Loma Linda accelerator began in 1986 when a small group of physicists, led by Phil Livdahl and Frank Cole, began designing and developing the proton accelerator that would be used at LLUMC for radiation therapy in the treatment of cancer. The accelerator was completed in 1989 and after much testing and operational checkout late in that year, the accelerator was shipped to LLUMC.

The accelerator, a synchrotron, is approximately 20 feet in diameter and provides proton beams with energies up to 250 MeV. It is housed



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*The most visible plateau on the horizon is the cooperation between the national labs and industry.— Tom Droege*

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at the Loma Linda University Medical Center in a new facility designed and built specially to house the accelerator and the clinical facilities required for the treatment of patients. In the treatment rooms, gantries bring the proton beam to the disease site from any desired angle.

The original proposal for a proton accelerator for medical applications was made by Fermilab's first director Robert R. Wilson. He pointed out in 1946 that protons have significant advantages in localizing the radiation dose to the disease site, sparing healthy tissue and reducing side effects. Since this original proposal, proton therapy has been carried out in Sweden, Switzerland, Japan and Russia with good results.

Although synchrotrons have been used to accelerate particles and provide protons for cancer therapy, there had never been an accelerator built specifically for this application. The effort to design and build this proton therapy accelerator marked the first time that any group had worked to provide feasible, economical solutions to the many problems of this new application. The design, construction, commissioning and now the routine use of the Loma Linda proton-therapy accelerator has provided humanity with a significant new weapon in the battle against cancer. John Venard said "this is an example of very successful collaboration involving a government-funded laboratory, a hospital and private industry in which a large amount of technology transfer has been achieved."

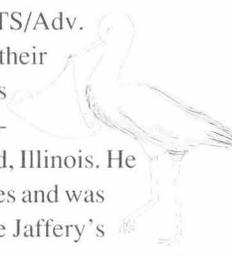
## MRI continued

by Bruce Strauss, formerly a Fermilab engineer who worked on the Doubler and now is a consultant in Boston. He said the fact that superconducting wire production jumped by a factor of twenty when work on the Tevatron started and continued to rise tells us when the modern superconductivity industry was born! It is signaled by this twenty-fold increase from 1979-81.

The history is colorful, exciting, passionate and involves a cast of hundreds. It will be available at an ORTA desk near you later this fall through the gracious contributions of **Sue Grommes, Angela Gonzales and Pat Oleck**. We believe this is a splendid example of small teams contributing with big science to the national economy creatively demonstrating that, as Aesop said, "in unity there is strength." Nicolaas Bloembergen warned in January, "Divided we [the APS] are not as strong. A lack of unity limits our effectiveness at a time when it is greatly needed." We hope our effort illustrates some beneficial unity and progress.—*Dick Carrigan, Bill Fowler and Adrienne Kolb*

## Congratulations to

Qudsia and Tariq Jaffery (TS/Adv. Magnet R&D) on the birth of their son Manall Fateman. Manall was born September 16, 1992 at Central DuPage Hospital in Winfield, Illinois. He weighed eight pounds, 1.5 ounces and was 20 1/4 inches long. Manall is the Jaffery's first child.



## Harvesters needed

Volunteers are needed to hand gather seeds on Saturday, October 31 at the Markham, Illinois unprotected prairies and Sunday, November 1 at the Fermilab Prairie.

Harvesters for the Markham prairies should meet at the MacDonald's restaurant on 159th Street, two blocks east of Kedzie Avenue at 10 a.m. and then travel to the prairies. Harvesting will continue until 3 p.m.

The Fermilab prairie harvest will begin at 9 a.m. and end at 3 p.m. Volunteers should follow the signs starting from the Eola and Batavia Roads intersection.

Groups are welcome, but notice would be appreciated. All harvesters should wear field clothing and gloves and bring pruning shears. Coffee and donuts will be provided. For information call the Public Information Office at x3351. In case of bad weather on the scheduled harvest dates, call x3000 to verify harvest plans.

## CU seeks directors

The Argonne Credit Union is seeking directors for the 1993 Board positions. No experience is necessary—just a sincere desire to become involved. This is a great opportunity to help the entire membership of your credit union. All ACU members in good standing are eligible. To be considered as a candidate, just stop by the credit union office located in Wilson Hall I West and request an application packet.

The deadline for application returns is Monday, November 30, 1992. For further information contact Rudy Gebner at 708-252-4752 or Karl Whitten at x2198.

## New from the stockroom

1045-3010 Gasket Material, permatex, blue, RTV silicone gasket maker, 3 ounce tube.

## Wellness works

### Family Life Education Lectures to be held at Lab

Fermilab's Wellness Committee and Fox Hill Counseling Services will present a series of lectures beginning in October. The series is designed to assist today's families with the challenges they face by helping to strengthen family bonds and encouraging individual growth.

The title of the first lecture is *Discovering the Child's World of Development: Ages 0-10*. The lecture will take place Monday, October 26 from 7-8:30 p.m. in Ramsey Auditorium. The presenter for the evening will be James Holbrook, program coordinator at Fox Hill. He will address such issues as: exploring how to anticipate your child's development; finding out how much you can expect from your child; and exploring new ways to deal with your child based on his/her developmental stage.

To assist parents who require child-care in order to attend the lecture, Fox Hill will offer a concurrent children's event at the agency for children ages six-10. Fox Hill is located at 113 North Batavia Avenue in Batavia (next to the Burger King). A staff member will supervise the children, who should be dropped off between 6:30 and 6:45 p.m. A donation of \$5 is requested to help defray the cost of the children's events. Pre-registration is required for your child to attend the children's event. You may do so by calling 708-879-7266.

Fox Hill Counseling Services is sponsored by Lutheran Social Services of Illinois. The Family Life Education Series is a service provided by the agency in addition to individual, family and marital therapy and specialized children's groups.

## Nalrec news

Tonight is Oktoberfest! Don't miss this annual fall event. It starts at 5:15 at the Village barn. Bring your dancing shoes and your appetite. Live music will be provided by the Conrad Frelly Trio. John Satti will cook up brats, German potato salad and sauerkraut. There will be door prizes and a few "unannounced" surprises.

## Harper's index

Portion of the world's landmass occupied by livestock: 1/4.

Price of *Video Catnip*, a 25-minute video of birds, squirrels and chipmunks, from Pet Avison: \$19.95.

## Benefit notes

### Extra! Extra! New Benefit Program

Fermilab is adding a new benefit program January 1, 1993, that will help you save a little money on your health and dependent care expenses. The new program has three parts: 1. Premium Conversion Plan, 2. Health Care Flexible Spending Account, and 3. Dependent Care Flexible Spending Account. The new program will allow you to pay your medical and dental premium deductions, your health care expenses not paid in full under the Connecticut General or HMO plan, and your dependent care expenses on a before tax basis. Paying for these on a before tax basis will give you a net gain in spendable income.

Information and details on how to enroll in the new program will be mailed to your mail stops in early November. Watch for this important notice!

### Connecticut General Medical Plan

ID cards, claim kits and Connecticut General insurance certificates were mailed home to employees who enrolled in the CG medical plan during the recent open enrollment. If you did not receive these items, please call the Benefits Office at x3395, 4362 or 4361.

The ID card includes the procedures to follow for precertifying in-patient hospital stays, billing instructions and mailing instructions. If you do not follow the precertification requirements, you will have to pay 50% of the hospital expenses. A description of the requirements is on pages 8 and 9 of the Connecticut General Group Insurance certificate. Failure to follow the billing and mailing instructions will detail your claim payments.

If you have any questions, please feel free to call the Benefits Office at the above extensions.

## Movie schedule announced

The Fermilab International Film Society presents movies from all over the world. Movies are shown at 8 p.m. Fridays in Ramsey Auditorium.

### November 6: Sci-Fi/Monster Double Feature

At 8 p.m., *I Married a Monster from Outer Space*, a sci-fi from the normal and alien points of view. Gene Fowler, director, U.S., 1958, 78 minutes.

At 10 p.m., *Them*, best of the 1950s giant monster movies. Gordon Douglas, director, U.S., 1954, 94 minutes.

## Fire extinguisher inspection process improved

Fermilab employees will no longer see the familiar inspection tags attached to their area's fire extinguishers.

On November 1, inspection tags on all Fermilab fire extinguishers will be removed and a new barcode system of inspection will be in place.

"We wanted to notify all employees about this change, so when they noticed that the tags are missing they won't be alarmed," said Fire Chief **Fred Cloud**. According to Fred, the Fermilab community has always been very conscientious about reporting fire extinguishers with missing tags. The new system, although not clearly apparent like the tag system, offers a much improved record-keeping system said Fred. Under the barcode system, the fire department will be able to provide building managers and safety officers with comprehensive inspection and maintenance records of the fire extinguishers in their areas.

## Blood drive

The Heartland Blood Center will hold a blood drive Monday, November 30, from 9 a.m. until 2 p.m., at the User's Center in the Village. Your contribution is an invaluable gift. Please come when your schedule allows. Donations are needed in all blood groups and types. Donors should be in good health and between the ages of 17 and 75. If you need further information, call Sharon Koteles at x3598.

## NALWO now offers two German classes

Due to popular demand, NALWO is now sponsoring two-levels of German classes: beginning and advanced beginning. Both classes, taught by Angela Jostlein, are held every Tuesday in the conference room at 20 Neuqua. The classes are free of charge.

Advanced beginning students meet from 4-4:15 p.m. Beginning students meet from 5:30-6:30 p.m. All Fermilab employees, users and visitors are invited to attend. For further information, you may contact Angela at 708-355-8279 or Brenda Kirk at x3440.

## The art series presents



*An evening of  
jazz piano  
improvisation  
with jazz  
masters  
Marcus  
Roberts and  
Ellis Marsalis.  
Saturday,  
October 24 at  
8 p.m. in  
Ramsey  
Auditorium.  
Call xARTS for  
ticket  
information.*

## Timeline: a date to remember

*Norman Ramsey served as Universities Research Association's founding president between 1966 and 1981. In appreciation for Ramsey's work during this early epoch in Laboratory history, the auditorium was dedicated in his name on October 1, 1981. Throughout the existence of Fermilab, Ramsey Auditorium has played an important role in attracting performers, lecturers and scientists to the Laboratory. The following historical perspective by Arts Coordinator Janet MacKay looks at the successes of Fermilab's cultural offerings over the years.*

In the early days of Fermilab's existence, there was an initial concern by Director Robert Wilson about getting qualified professionals to leave large cities and university towns to come to Batavia to build a particle physics research facility. While the project was extremely exciting professionally, the scientists and engineers had the lesser cultural offerings of the Fox Valley to consider before moving themselves and their families to Batavia. Chicago is a marvelous cultural center, but its museums, theaters and concert halls are an hour away from the Lab site. Wilson considered an auditorium an essential part of dispersing the new experimental and theoretical information to the international science community. In addition, he wished Fermilab's auditorium to serve the purpose of offering cultural events for the benefit of the Laboratory people and the surrounding communities.

The first performing arts program took place at the XVI International High-Energy Physics Conference held at Fermilab in 1972. The Fine Arts Quartet filled the auditorium. After this initial performance, programs like Darlene Blackburn's Dance Company and the Fine Arts Quartet cost \$3 per ticket and drew approximately 300 - 400 patrons from the Laboratory and the surrounding areas. In these early years, tickets were offered at a discount, given away to nuns at the local convent, anything to fill seats. Gradually the community became aware of these opportunities and attendance increased. A variety of dance, chamber music, theater, folk and jazz events began to draw many different people from the community. One of the efforts to fill the auditorium was to have a gourmet buffet dinner before a performance. The dinners were very successful but exhausted the volunteers who organized them, so they were discontinued. Today, a reception follows each performance, allowing audience members to meet the evening's artists.

In 1974 the Auditorium Committee members were appointed. Their instructions were to offer once-a-month high-quality programs in the performing arts and lectures to the public in Ramsey Auditorium. Experimental but successful acoustics, a good stage and a pleasant atmosphere would ultimately make it possible to appreciate music productions, dance, mime and theater as well as physics seminars. It was agreed that the auditorium events should eventually pay for themselves, with much volunteer labor from the Auditorium Committee.

At the same time, exhibits in the second-floor

crossover gallery were initiated with a photography show. The plans for exhibits in the second floor crossover gallery fall into the same philosophy as the projects of the Auditorium Committee. Beauty, variety and information are concerns of each exhibit. One of the most remarkable shows was the Art Institute's loan of 12 fifth century B.C. vases. A classics expert from the Art Institute wrote a brochure that informed viewers how the vases were made and their functions. Since then, private collectors, commercial galleries and institutions have loaned artwork from their collections for one- to two-month shows. Auditorium audiences are some of the most appreciative viewers of these art exhibits, in addition to the Fermilab community. The second floor exhibits, which were long under the supervision of the Auditorium Committee, are now managed by an Exhibits Committee.

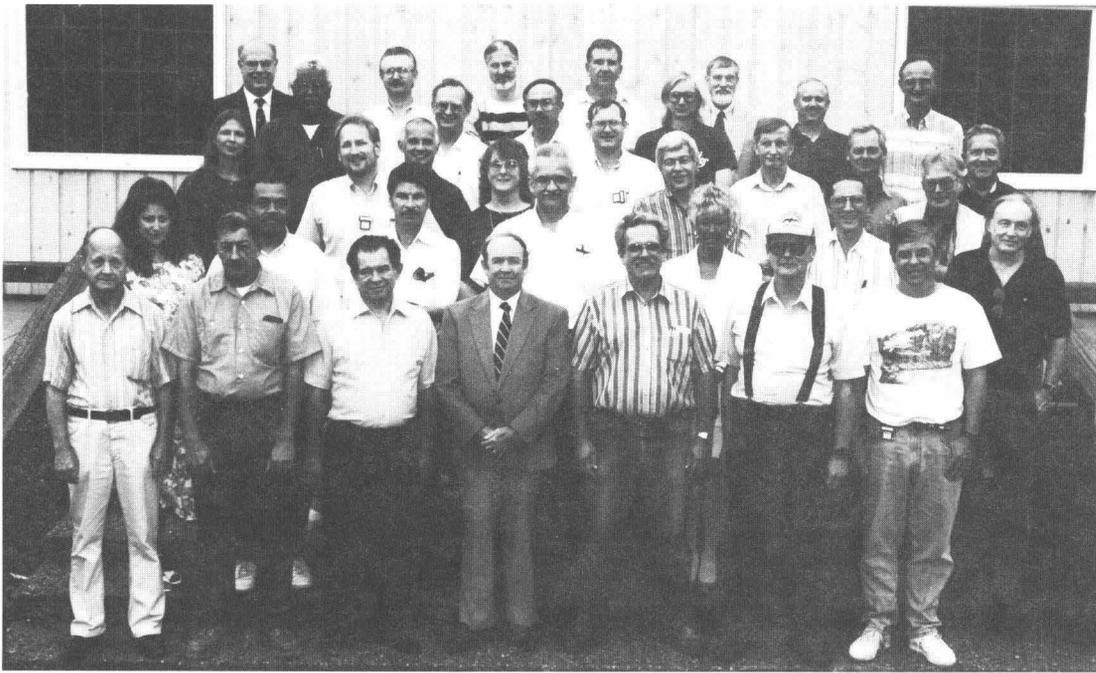
These days Ramsey Auditorium is often filled for Arts Series performances. Such productions as the Joffrey II Dancers, the Hubbard Street Dance Company, Beausoleil, the Canadian Brass, the Guarneri String Quartet, Uta Hagen, the Guthrie Theatre and many other performers light up the Ramsey Auditorium stage. The Auditorium Committee offers a variety of unique programming to attract a wide range of patrons who now pay from \$3 to \$15 for tickets.

The Lecture Series had a similar beginning. The first full house in 1974 featured *Bob Woodward and Washington, D.C. Journalism*. The Illinois Humanities council co-sponsored the series, allowing the lectures to be offered at no admission charge. The speakers were carefully chosen, focusing on science and human values topics. A full-house reputation for this Lecture Series convinced the IHC to renew the grant through 1981. During this time lecturers included Jane Goodal speaking on her Tanzanian studies with chimpanzees, Alan Lomax talking and showing slides on folk dance around the world, Carl Sagan speaking on extraterrestrial life, Stephen Weinberg on symmetry and Gerald O'Neill on living in space. Due to budget cuts and a trend by the Fermilab Lecture Committee to present more science-oriented lectures, the IHC support was withdrawn and a ticket price of \$2 per lecture was instated. Rising costs recently necessitated another increase in lecture tickets, which now cost \$3.

The present success of all projects of the Auditorium Committee is remarkable. Other cultural activities have grown up in the surrounding communities, and these organizations work together with Fermilab to present the wide variety of programming now available in the Fox Valley. Fermilab's cultural impact on the Fox Valley is recognized and anticipated by its many devoted patrons.

# Milestones

## Employees honored for 20 years of service



Associate Director Bruce Chrisman presented 20-year service awards to 34 Fermilab employees at a lucheon held September 2 at Chez Leon. The recipients were: (row 1, l to r) Larry Allen, Jim Hoover, Gary Hodge, Jim Schiltz, Jay Luna, Walt Medernach and Claudie King. (Row 2, l to r) Ron Walker, Joe Davids, Jenny Rapovich, Harlan Dick, Ross Doyle, Chip Kee and Erene Noyola. (Row 3, l to r) Del Venters, Jim Peifer, Linda Finks and Thom Schuhow. (Row 4, l to r) Bob Pucci, Jim Harder, Bill Williams, Jim Kilmer, Tom Golaszewski and Jackie Coleman. (Row 5, l to r) Jack Rossetto, Tom Nurczyk, John Foglesong, Fred Krueger, Paul Czarapata and James E. Douglas. (Row 6, l to r) Gene Fisk, Fred Walters, John Urish, John Larson and Bruce Chrisman.

# In memoriam

Ralph "Bud" Carlson passed away Saturday, September 26, 1992 at his home. He was 67 years old.

A lifelong resident of Joliet, Bud joined the Fermilab staff on June 24, 1974. As a member of the Research Division/Mechanical Department, Bud worked in the Lab 7 Fabrication Shop and the Target Service Building, until his retirement in 1985. His group, led by Don Carpenter, provided mechanical support to the fixed-target areas.

Bud is survived by his sister, Kaye F. (William) Middleston and several nieces and nephews.

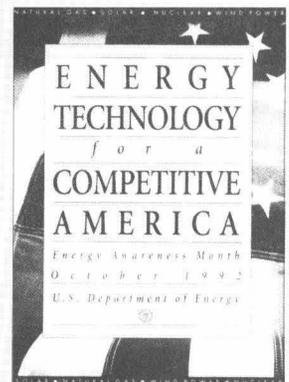
Memorial donations can be made in his name to the Cancer Society or Joliet Area Community Hospice.

## Energy Technology for a Competitive America

The Department of Energy is the federal Government's largest research and development agency conducting research programs in basic sciences that bear on energy, such as physics, chemistry, geosciences, material sciences, life sciences and medical sciences. Recognizing that it plays a crucial role in "stimulating creative inquiry, fostering inventions and commercializing," DOE supports extensive R&D activities covering almost every aspect of energy production and use.

DOE's technology-transfer programs contribute to successful commercialization of new products, helping solve industrial and manufacturing problems and helping State and local governments influence the rate at which new technologies and practices are accepted by industry and the public.

Fermilab has always been a very active player in the arena of technology transfer. The proper application of a technology is always the key factor in determining its success. One forum for evaluating new energy-efficient technologies is the Energy Conservation Suggestion Awards Program. Suggestions received through this program undergo a theoretical and possible implementation evaluation. Sometimes, subsequent to successful implementation, the need arises for "definition of proper application" for an energy-efficient technology. Currently, such efforts are being made through Fermilab's In-House Energy Management Program to validate and elaborate upon the appropriateness of certain energy-efficient technologies. —Venkat Kumar



October is  
Energy  
Awareness  
month

## Classified ads

### Miscellaneous

For sale: sofa, rust red color, \$60. Arm chair, \$30. Vinyl love seat, \$50. Call Roger at x4092 or 708-665-5539.

For sale: Double bed, mattress, box springs and frame on roller, \$35. Student desk, dark stain, 4 drawers, \$60. Entertainment center, press board, \$35. Call Matt at x3005 or Ruth at 708-393-0330.

Gravelly tractor Model L with 30" rotary-knife mower and 48" snow plow blade and tire chains, \$350. Bloto shotgun, 12 Gauge, 2 3/4 over & under, 28" full & mod, \$200. Avon inflatable rescue boat, 3 air compartments, 12 foot, fold-up floor. Can use up to 35 HP, \$400. Call Mike at x4948.

Baldwin Studio II organ. Good condition. Many extras. See brochure describing on bulletin board near Credit Union. \$1,000 obo. Call Hazel at x3193 or 708-969-4680 after 6 p.m.

TopCon UniRex Camera, needs repair. 35mm lens, 50mm lens and case, 135mm lens and case, wide-angle attachment, polarizing filter, Vivitar flash, carrying case for all, \$100 obo. Call Jackie at x3027.

For sale: Gerry baby stroller, \$25. Century infant car seat, \$25. Infant gate, \$10. All in excellent condition. Call Robin at x2982.

Apple IIe computer system, including enhanced IIe 128k, 2 5 1/4" drives, Panasonic KXP-1091 printer, green monitor, all manuals and many accessories. Best offer. Call Jim at x2207 or e-mail FNAL::PANGBURN.

### Real Estate

Townhouse for sale. 1-year-old, 2-story, located at 3S125 Timber Drive, Warrenville. 2 BR, 2.5 BA, whirlpool tub, loft w/wet bar, 2-car garage w/EDO, 3 skylights, vaulted ceiling, 2 ceiling fans, oak cabinets and trim, neutral colors, central AC, all appliances stay, 5 minutes to Lab. Timber Creek Subdi-

vision. Great view. Call Cyndee at x2713, 708-393-2705 or e-mail WARNER::CHOPP.

House for sale. More for your money in DeKalb, 45 minutes from Lab, University town. Upper level has 3 BR, 2 BA, fireplace, built-in Jennaire grill in kitchen. Large pantry, deck with sunken spa (seats 8) with new ozonator feature to reduce chemical use. Lower level has separate entrance, 2 more BR, full bath, second kitchen, living room and family room. Attached 2 1/2 car garage with separate furnace. New roof, central air, furnace within 2 years. \$144,900. Call JoAnne at x3865 or 815-758-2903.

House for sale. Batavia, 2 miles from Wilson Hall, 4-BR raised ranch. Move-in condition, 2.5 BA, living room, dining room, kitchen, workshop, family room overlook beautiful backyard. Near park, bike path & I88, \$163,000. Call Steve at x3428 or 708-879-7208.

House for sale. Custom-built (1954) ranch house at 246 Miller Ave., DeKalb. Lot approximately 3/4 acre with fenced backyard. 4 BR plus study, 2.5 BA, family room, two wood-burning fireplaces, 2-car garage. Short walk from NIU. Asking \$152,500. Call Dan at x3916 or e-mail FNAL::KAPLAN.

### Vehicles

1980 Toyota Celica, runs well, must sell, \$900 obo. Call x4998.

1982 Toyota Tercel, light blue, auto, 73k miles, AM/FM, new muffler, good condition, \$1,800 obo. Call Zhao 708-406-1127 evenings or e-mail ALMOND::JIJIU

1984 Volkswagen Rabbit, 4-spd, 2-dr, AM/FM stereo cassette. Good condition, no rust, original owner, 112k miles, \$1,000 obo. Call Bill at x4173 or 708-879-6841 evenings.

1984 Olds 98 Regency Brougham, A/C, power steering, brakes and windows. Cassette player, new shocks and exhaust. Roomy car, smooth ride. \$2,000. Call Jean at x3278 or 708-820-2058 after 5 p.m.

## Sparky and Pluggie teach safety savvy



During National Fire Prevention Week, the Fermilab Fire Department made an all-out effort to remind the children of the Fermilab community about the importance of "fire prevention savvy."

With help from the Batavia Fire Department and Fermilab Firefighter **Chuck Kuhn**, the youngsters at the Children's Center were treated, on October 8, to a return visit by Sparky the Fire Dog and Pluggie the Hydrant. The fire-fighting duo teamed up to talk to the children about how they could prevent home fires.

One of the important aspects of fire prevention and safety that the children discussed was that families should annually replace the batteries in their home smoke detector. According to the International Association of Fire Chiefs, about 80% of all U.S. homes have at least one smoke detector, but as many as 50% are useless because of old or missing batteries.

The walking, talking, blinking hydrant and the famous spotted dog also reminded the children not to play with matches or other combustible substances, how to "stop-drop-and-roll," and how to conduct home safety checks.

Fascinated by the animated pair, the children listened attentively to their safety-smart advice. Sparkie and Pluggie also visited during the week with the Fermilab Play Group at the Fire Station.