

FermineWS

FERMI NATIONAL ACCELERATOR LABORATORY

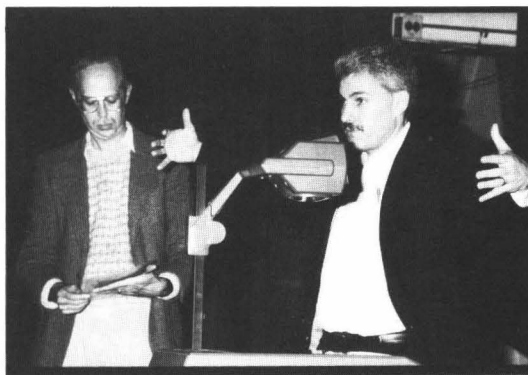
HEPAP subpanel holds meeting at Lab

The High Energy Physics Advisory Panel Subpanel on the U.S. Program of High Energy Physics Research met at Fermilab on February 27-28, 1992. The subpanel was formed to study long-range high energy physics priorities. William Happer, the director of the Office of Energy Research, charged the subpanel with addressing two key issues: what emphasis should be placed on university-based research compared to the operation of accelerator facilities at the DOE national laboratories; and whether construction of new or upgraded facilities should be initiated or pursued. The subpanel was asked to concentrate its efforts on the structure of the program for the next five years.

The subpanel is to make recommendations on the priorities of the national high energy physics program under three budget scenarios: level funding in constant dollars; level funding with no adjustment for inflation; and modest growth in funding above inflation. Their report will be presented April 15 to the Department of Energy after a series of presentation meetings held at laboratories across the country to solicit input from the physics community. Fermilab was the last stop on their cross-country trek.

Director John Peoples opened the meeting by presenting an overview of physics at Fermilab through the 90s. He discussed the Laboratory's current status; expectations for Collider Run I scheduled to start May 1992; and plans for the decade which include a completed Main Injector, upgraded collider detectors and the capability of simultaneous fixed target and collider runs.

John Rutherford, representing the Users' community, began his presentation by emphasizing that the health of the university program requires forefront physics opportunities. Rutherford stated that "we need strong laboratories." Specifically, he cited the Fermilab planned upgrades which, according to Rutherford, allow the flexibility to attack what is interesting in the field. He also stressed the need to keep the field vital during the next ten years to attract the best and the brightest. Rutherford noted that in



Among the many presenters at the HEPAP subpanel meeting held at Fermilab were John Rutherford (l), chairperson of the Fermilab Users Executive Committee and Bruce Winstein (r), University of Chicago.

1991, forty-seven Ph.D.s were awarded on the basis of Fermilab experiments.

Rutherford's talk was followed by a series of presentations which took place during the two-day meeting. Throughout these presentations, members of the Fermilab community detailed future physics programs and facility upgrades.

Presentations were made by both employees and users, including John Cumalat, Michael Shaevitz, Bruce Winstein, Neville Reay, Jonathan Rosner, Peter Garbincius, Steve Holmes, Paul Grannis, Mel Shochet, John Huth, Paul Tipton, Barry Barish, Dave Caldwell, William Robertson and Aaron Schindler. Tom Kirk, representing Argonne National Laboratory, also made a presentation.

John Peoples concluded the session on Fermilab by outlining various funding and scheduling scenarios. He stated that Fermilab's program is "goal driven, not schedule driven."

Directing his remarks to the subpanel, Peoples said that it is important for high energy physics to be diversified... "We should not put all of our hadron physics in the SSC basket."

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The deadline for the Friday, March 20 issue of *FermineWS* is Wednesday, March 11. Please send your article submissions or ideas to the Publications Office.

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Timeline: A date to remember

Perspective

Jean Lemke: Before transferring to the staff of the National Accelerator Laboratory in June of 1967, Jean worked as an administrative assistant for the Atomic Energy Commission (AEC) at Argonne National Laboratory. She began her Fermilab career as a secretary, was promoted to an administrative assistant one year later and is currently the office manager for the Directorate.

"I went from an organization that was really structured to one that didn't have any structure at all. We moved (our offices) into individual houses when we came. It was a common sight to look out the window and see a house being dragged to a new location."



Jean Lemke, then (above) and now (below).



March 7, 1967

Robert R. Wilson remembers the early days

The Atomic Energy Commission (AEC) appointed Robert Rathbun Wilson director of the National Accelerator Laboratory on March 7, 1967. Charged with the enormous task of building the first national high energy physics laboratory, he started with little more than a vast expanse of Illinois cornfield and, over the course of his term as director, built much of what is today Fermilab. At the recent American Association for the Advancement of Science meeting in Chicago on February 7, Wilson recounted his role in founding Fermilab. The following edited excerpts from his presentation describe passages from that exciting early period in Lab history. —Brian Dick

Leon Lederman was the first to define the kind of a Laboratory I was expected to build, and it was to be what he called a 'truly national laboratory.' It was for the use of particle physicists from all over the country, not just for the few people who managed it. They would have a strong voice in the building and operation of this Laboratory, and moreover they would feel 'at home and beloved.' It was quite an order.

On June 15, 1967, the small band of us moved out to the Oak Brook office building which was equidistant from the new site in Batavia, O'Hare airport and Chicago. I learned that we had four months in which to design the accelerator if we were to have a possibility of getting funds in fiscal year '68. That meant we were to take a perfectly well-designed study made by Berkley Laboratory engineers and physicists, who were noted for their competence, and redesign that for an energy which I decided ought to be at least 400 GeV and dreamt of 500 GeV.

Everybody went to work. People came in to visit and we'd put them to work. I en-



Robert Rathbun Wilson

in any design. I also felt that we should make crisp decisions. We would get together on an almost daily basis and decide something—anything—because I felt that even a bad decision was better than no decision. With a bad decision, there's a mark that everybody shoots at, and of course you change the bad decision — to a worse decision. [Laughter].

We built models all over the place. I thought that was a way of communicating between people. Of course, there's a lot more than that to designing a machine. The AEC said, 'Go ahead, but don't spend a cent more than \$250 M, or you'll roast in hell for the rest of your life.' I think they even meant it. The next step was to get some money from Congress.

We asked for \$30 M, they gave us the standard \$20 M, and I thought we could at least get things started with that. Not so with the AEC. I began to understand how money goes from an authorization to an appropriation to an allotment, and we got stuck on the allotment because of the Vietnam War. President Johnson announced the policy of 'no new starts.' We were a new start with no money, so they suggested that we sit around and redesign for another year.

In despair I wrote a letter of resignation, saying that I had come to build a laboratory, not sit around and not build one. I went to the AEC commissioner's office, and it was quite a dramatic moment in my life. Herb Kinney, a wonderful AEC employee, sidled up and sat in the chair next to me while I was shuffling through my papers, and he said, 'Bob, we've got a terrible problem today, but I have some good advice. You know and I know that you're not going to get a cent today. The commissioners can't find it anywhere. Even if they could find it they couldn't spend it, so it's a question of style now. We have great expectations. Don't do what Admiral Rickover did last week. When Admiral Rickover came in for more money and didn't get it, he did just what you're going to do. He threw his pencils down on the table, he threw his papers down on

couraged my colleagues to work rapidly, almost recklessly. I wanted them to work right up to the edge of failure. I also emphasized to them simplicity and beauty, which I thought were important ingredients

the floor, he got out of his chair so fast it fell over and he went out through **that** door, mad. You could only improve your performance if you do as I suggest and hold your breath until you get red in the face.'

Kinney continued, 'Remember Bob, you came in that door, and Rickover went out **that** door,' pointing to another door across the room. 'What happened after he went through that door, well the next thing we saw was him looking through a little window— it was the projection booth. He was running up and down in there, looking for a way out. Eventually, he could find no other way out of there and had to walk all the way across the room and out the other door. For God's sake, Bob, don't make the same mistake, or we'll all suffer with you.' [Laughter].

I didn't have my tantrum, and the commissioners really knew all sorts of tricks for getting money from projects that hadn't spent theirs. For example, if they called everything a prototype instead of calling it construction, they didn't need any authorization and they had funds they could spend for prototypes. They had a half dozen ways, and it was clear that we could keep things going.

The Linac was going to be the first accelerator, and we started that in the village. We called it a prototype, naturally. The secretaries got caught up, and they were out twisting wire, using soldering irons and lifting things. Within 6 months after the time it was started, we finished. It made everyone feel that they could build a beautiful machine.

The tunnelers kept busy because we had an arrangement with them that we could put the magnets in as soon as they were finished digging and laying the concrete. We were putting in magnets practically right at their heels, and we would assure them every day that there was absolutely no possibility of any radiation damage. This of course made them nervous, and when we would reassure them every day that made them even more nervous. Anyway, they kept digging very rapidly, and finished ahead of schedule. [Laughter]. By April of 1971, the tunnel had been finished, all the magnets had been made in one year's time and there was a vacuum all the way around the ring.

We had everything in place, and we decided to give it the old school try. Everything was looking good and suddenly disaster struck. Everything just went to pieces. The magnets shorted out, there were obstacles in the accelerator beam pipe that would stop the beam, the computers were inadequate; they would crash and

they wouldn't tell us what we wanted them to tell us. I had wanted us to be working at the edge of failure, but we had gone over into the abyss. [Laughter].

By taking the magnets out, fixing them and putting them back, the beam made more turns. Eventually, the intensity of the beam at low energy got to be large enough so that when it would strike an obstacle it would melt it. We had tried other solutions, as well. We had trained Felicia the ferret to go into the beam tube to clean out the debris. We would open the accelerator up sometimes and find a worker's lunch.

By February of 1972, things were sort of back to reasonable. We decided to give the accelerator a particularly hard push, and the damn machine gulped a few times, but on March 1 it worked and gave a beam of 200 GeV protons. By the end of the year, our energy had risen to 400 GeV and eventually it was to go up past 500 GeV. The experimental areas came into operation, and our program was soon underway.

When we got our first beam at 200 GeV, a group of physicists from Russia came in to work with us on the first experiment. Every year we would get a renewed group, and our members stayed on. There were some interesting things going on at the Laboratory, and we felt that they were worthwhile.

I hope that Leon Lederman could say that he took the Lab over from me, and yes, Fermilab is what he had in mind— that yes, it is a truly national laboratory. I hope that he could also say that he and his colleagues have been 'at home and beloved' at Fermilab.

This is the fourth in a series of articles celebrating the 25th anniversary of Fermilab (1967-1992). Throughout 1992, Ferminews will feature Timeline: A date to remember as a regular column dedicated to milestones that occurred during the first twenty-five years of physics at the Laboratory.

Ferminews welcomes employee and user submissions, either in the form of written articles or story ideas, to the column.

Perspective

Barb Kristen: Barb joined the NAL in December of 1967 as a secretary in the Oak Brook office library shortly before the small staff relocated to the Weston village. Since then she has watched the Laboratory grow as she worked for the Main Ring Group, the Energy Saver Group and from its inception the Research Division. Barb now serves as the RD office manager and the head of the Administrative Support Group. One of the most compelling aspects of her job since day one has been her fellow employees.

"We all knew each other; we were all real gung-ho at that point. All of the physicists were very excited about what they were doing then, and it carried over to the rest of the staff."



Barb Kristen, then (above) and now (below).



Environmental protection and waste management at Fermilab

All Fermilab employees and users can promote protection of the environment by minimizing the amount of materials and chemicals they purchase which will require eventual disposal. As materials are purchased, people should be asking if a less hazardous material will do the job and also minimizing the amounts of materials purchased.

—Don Cossairt

The 1990s are bringing a new sense of awareness that institutions alone can never solve the problems that accumulate from the seemingly inconsequential actions of millions of individuals. My trash, your use of inefficient cars, someone else's water use—all make the planet less livable for the children of today and tomorrow. But as much as we are the root of the problem, we are also the genesis of its solution. —Chris Calwell, Natural Resources Defense council

Hazardous waste acts

In the final part of this series, Don Cossairt, head of the ES&H Section, will summarize the hazardous waste acts and their impact on Fermilab.

The **Resource Recovery and Conservation Act (RCRA)** is an important federal law which controls hazardous waste disposal and encourages recycling and the use of alternative energy sources. Compliance with RCRA is an important part of the nation's program to control the release of pollutants into the environment. Our hazardous waste handling facilities (managed by the ES&H Section) operate under a RCRA permit. As a part of our program of compliance with this law, we are now initiating a systematic investigation of various places on the Fermilab site where hazardous and toxic materials have been used in the past. This is called a RCRA Facility Investigation (RFI) and has already involved most of the divisions and sections.

The **Toxic Substances Control Act (TSCA)** regulates the manufacture, use and disposal of chemi-

cals which are not regulated by RCRA. TSCA requirements pertinent to Fermilab include asbestos and polychlorinated biphenyls (PCBs). In addition to wastes covered by RCRA and TSCA, there are certain other wastes (e.g., oils, coolants, and unused chemical products) which have to be disposed of in accordance with Illinois requirements. Compliance with these waste regulations requires proper management of these materials from the time of purchase to the time of disposal. This is necessary both to minimize the amounts of waste disposed and to meet the requirements for its proper disposal. Similar considerations apply to the low level radioactive wastes that are generated routinely as a part of accelerator operations. People who need to dispose of wastes are now required to characterize them. All of our wastes go to facilities which possess permits to receive them. It is especially important not to mix hazardous materials with radioactive waste as that practice renders the waste very difficult to dispose. Chemical, nonradioactive wastes are sent to special commercial disposal facilities (mostly outside of Illinois) and all of the radioactive wastes are currently shipped to the DOE Hanford Reservation in Washington state.

The role of Fermilab employees

Fermilab will soon be instituting a comprehensive waste minimization program and all employees and users can help participate in its success. Environmental protection can also be promoted if people are aware of all their actions that affect the environment. For example, materials poured "down the drain" go to the sewage systems of our neighboring communities. ES&H personnel should be consulted before materials are disposed of in this manner. Chemicals should not be dumped on the ground. If this happens by accident, call x3131 promptly to report the spill. The Fermilab Fire Department will respond to contain the spill and their actions will be more effective if they are called promptly.

All employees and users are urged to consider protection of the environment as a very high priority. Fermilab has a good record in environmental protection, which we intend to improve through the efforts of all employees and users. The Laboratory has also greatly expanded its professional staff in this area during the past year.

If you have specific questions, you are encouraged to contact your ES&H Group or the ES&H Section at x4646. —Don Cossairt

tiger team REPORT

March 6, 1992 Vol. 1, No. 2

Laboratory organizes Tiger Team Task Force

The Laboratory has formed a Tiger Team Task Force to help prepare for the May 11 Department of Energy Tiger Team visit; assist the Tigers during the assessment; and provide follow-up response and documentation.

The Task Force, which held its first organizational meeting on February 21, is chaired by Director John Peoples. The vice chairperson is Deputy Director Ken Stanfield. Associate Director Dennis Theriot serves as secretary. The Task Force consists of seven teams: the Escort Service headed by Greg Bock (RD/Site Oper. Dept.) and Stephen Pordes (Physics Section Deputy Head); the Rapid Response Team led by Gina Rameika (RD/Deputy Head); the Logistics Team coordinated by Jeff Appel (Physics Section Head); the Communications Team directed by Bruce Chrisman (Associate Director); the Self-Assessment Task Force chaired by Ken Stanfield and Romesh Sood (RD/Site Oper.

Dept.); the Action Plan Team headed by Hugh Montgomery (RD/DØ) and the Documentation Task Force led by Don Cossairt (ES&H Section Head) and Lincoln Read (Office of Self-Assessment Manager). Administrative support for the Fermilab employees serving on the Task Force will be provided by a group coordinated by Jean Lemke

The organization and responsibilities of the teams are as follows:

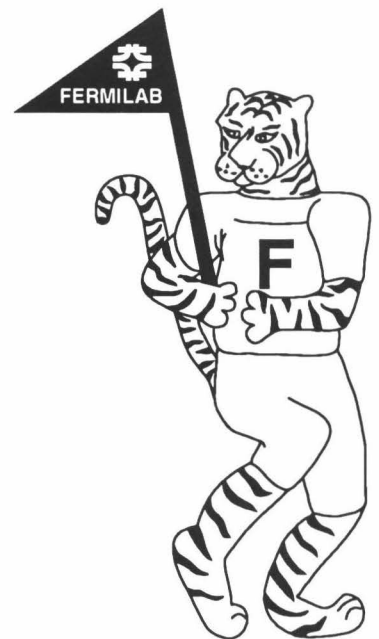
The **Escort Service** and the **Rapid Response Team** are responsible for confirming Tiger Team findings and initiating corrective actions. Approximately 50 OSHA-trained technical employees will be selected to serve as escorts for the Tigers during the assessment. The members of the Rapid Response Team
Continued on page 6

chalk talk

Many times we are asked: "Why does the Laboratory spend so much time, money and effort on safety?" You have to remember that we are custodians of a large amount of very expensive equipment that is owned by the American people. We must make sure it is always used wisely and safely.

The Department of Energy, the source of funds for the Laboratory, reviews whether we are doing this. If we are to continue to perform high energy physics research here...it is essential for us to do our work safely and to the satisfaction of the Department of Energy. This means establishing safety programs and monitoring systems.

The Secretary of Energy believes that safety considerations must be as important as our research efforts...I believe that an excellent safety program is compatible with an excellent research program. I want Fermilab to have a reputation for excellence in both research and ES&H.—John Peoples, Director



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team schedule

- May 11:
Tiger Team Assessment Begins
- June 8:
Tiger Team Assessment Final Closeout

Watch for the next issue of the Tiger Team Report, for the latest Tiger news as it happens.

ES&H resource to be released

As part of the work being done by the Communications Team to provide information, Judy Jackson (Directorate) is preparing a publication for distribution to the entire Fermilab community titled *Tiger Teams at Fermilab*.

The booklet, which should be available in about four weeks, will explain the purpose and scope of the Tiger Team Assessment; define key concepts, terms and processes; provide preparatory checklists and directories of responsibility for ES&H and management related issues.

"This publications is not intended to be a Tiger Team cram book. Hopefully it will serve as a valuable resource for employees, users and contractors as the Laboratory moves into a new era of heightened ES&H awareness and responsibility," said Jackson.

Watch the *Tiger Team Report* for announcements regarding availability of this publication and method of distribution. ■

Task Force continued

will be chosen from the various divisions and sections by the Directorate. Along with providing escort service for the Tigers, the escorts will attend the daily closeout meetings. Following the closeout meetings, the escorts and members of the Rapid Response Team will attend daily Fermilab follow-up meetings for coordination of factual determination and abatement. The Senior Safety Officers will serve as advisors to the Rapid Response Team and will also be present at the daily Fermilab meetings. After input from this group, Gina Rameika, leader of the Response Team will make the determination whether rapid response is appropriate or whether a problem should be handed off to the Action Plan Team for inclusion in the Tiger Team Action Plan.

The **Logistics Team** will make arrangements for offices and housing; prepare briefing books for the Tigers; and provide administrative support to the Tigers during the visit. This group will also supervise a library of Fermilab ES&H and management documents required by the Tigers. Cynthia Sazama and Rich Orr will assist Jeff Appel with the administration of these duties.

The **Communications Team** will provide information to the Fermilab community to increase awareness regarding ES&H policies and procedures and readiness for the assessment. The Directorate, the Publications Office, Public Information and all Division and Section heads will assist leader Bruce Chrisman in obtaining these goals.

In 1990-91 Fermilab underwent an extensive internal self-assessment, so much of the initial work of the **Self-Assessment Task Force** has been completed. The group, however, must still coordinate a comprehensive OSHA inspection. Each division and section will be asked to assign an OSHA Inspection Team representative to work with team leaders Ken Stanfield and Romesh Sood to accomplish this inspection.

The **Action Plan Team** will coordinate the writing of the action plan after the initial Tiger Team Assessment. Each division and section will assign a Tiger Team Action Plan representative who will work with the Action Plan Team leader, Hugh Montgomery, to write the document. During the Tiger Team visit, this group will begin to formulate the action plan for long-term correction items assigned by the Rapid Response Team. The work of this group is expected to continue for 2-3 months after the Tiger Team completes its initial assessment.

The **Documentation Task Force** led by Don Cossairt and Lincoln Read will coordinate the preparation of ES&H documentation prior to the scheduled Tiger Team visit. This team, assisted by ESH PAC members and subcommittee members began addressing the documentation preparation in December, 1991.

Significant ES&H and management training is a prerequisite to serving on the Tiger Team Task Force. Training for the various team members is dependent upon responsibilities and may include: OSHA training, OSHA inspection training, radiation safety training, oxygen deficiency hazard training and root cause analysis training. ■

Noteworthy practice cited

The Department of Energy, Energy Research, ES&H Management review of Fermilab took place February 19-20. This review is part of the Office of Energy Research's self-assessment program and was done in preparation for the May-June, 1992 Fermilab Tiger Team Assessment. The thirteen member review committee included: technical advisors from the other HEP and nuclear physics labs

which have already had Tiger Teams (BNL, LBL and SLAC), six ER Germantown staff members including 2 OSHA experts, DOE Chicago Operations and Batavia Area Office representatives.

The summary conclusion of this visit stated that "no major deficiencies were identified and the consensus of the committee was that Fermilab is developing a proactive ES&H program with support of management and staff." The OSHA experts, however, stressed that "particular attention must be given to the OSHA self-assessment and corrective actions."

In the review report, the committee cited Fermilab for a noteworthy practice. "The Tiger Team will find that Fermilab a) performed a self-assessment very early, b) is the first DOE facility to have a Tiger Team where the self-assessment corrective actions have been substantially completed and c) is the first DOE facility to have a Tiger Team where the self-assessment program has been institutionalized." *Note: a noteworthy practice is an activity, policy or program that can serve as a model or example.* ■

URA grants technology licensing agreement

Universities Research Association, Inc. granted nonexclusive commercial rights to a Fermilab-developed technology to Superconductivity, Inc. of Middleton, Wisconsin.

The URA/Superconductivity, Inc. licensing agreement which became effective January 28, 1992 involves a piece of technology called a Cryogenic Support Member developed by Tom Nichols (TS/Engineering), and Ralph Niemann and John Goczy (both alumni of TS, now working in the Advanced Photon Source at Argonne National Laboratory). The technology, which was patented in September, 1987 evolved from superconducting magnet research and development done at Fermilab in connection with the SSC.

The license gives Superconductivity, Inc. the right to incorporate the Fermilab-developed support member design into cryostats for the Superconducting Storage Device (SSD™) they manufacture and market. These devices improve the reliability of power supplies by providing a short-term energy source during voltage

sags and power failures. Such sags can cause interruptions in the operation of electric motors and electronic devices leading to costly shutdowns of manufacturing processes of control systems. SSD™ are capable of providing as much as two megawatts of power to support critical equipment during short-term power system disturbances.

Superconductivity, Inc. was founded in 1988 to develop practical uses of superconductivity for solving power quality problems, and manufactured its first SSD™ in 1989. The founder of the company brought together a team of experts to develop this new product line which includes Dick Lundy, former Associate Director of Technology at Fermilab.

According to John Venard, Fermilab Licensing Officer, this license is an important step in the overall program to license URA technology because it involves a relatively young but very aggressive and technically sophisticated company. "They have not hesitated to go after and license the best technology they can find to insure that their products are not only competitive but superior," said Venard.

This license agreement is royalty-bearing and any royalty revenues generated will be shared between URA and the inventors.



One significant development of the Superconducting Super Collider's ongoing evolution was the development of the cryogenic support system used in the superconducting magnets to support the cold mass assembly to the vacuum system, said Tom Nichols. Tom is one of the developers of this patented technology which was recently licensed to a Wisconsin-based company.

Mike Urso named to Who's Who

Mike Urso (RD/Cryogenics Department) was notified in January by the Who's Who Worldwide Registry, Inc. that he was admitted as a listee in the Platinum Edition of the official registry of Who's Who in Business Leaders International. He was anonymously nominated for this recognition for his active role as a volunteer working to promote excellence in science and mathematics education.

Urso performs about 100 "cryogenics shows" at area schools and science fairs throughout the year. He recently made his fourth annual appearance at the DuPage Engineering Program held February 21-22 at the Illinois Institute of Technology, Wheaton Campus. His traveling presentation, which is a favorite among students, is designed to create awareness and excitement for science and technology.

Open houses draw crowds

Fixed target experiments held Open House days in February and March for interested Lab employees. The tours, led by Drasko Jovanovic and a host of fixed target experimenters, were held to acquaint Laboratory personnel with the purpose and design of fixed target experiments. Radiation safety training was a prerequisite for those attending the tours to the fixed target areas and film badges were required.

On Tuesday, February 18, a group of about 40 people ventured out to the Meson area. There they visited E-706, E-773 and E-799, E-789 and the CDF test beam. Approximately 30 people braved the elements on Tuesday, February 25 to meet the Proton area experimenters. The group visited E-687, E-791, E-800 and E-771. A similar group toured E-655, E-690 and the DØ test beam on Tuesday, March 3.

The fixed target Open House tours follow the January 8 end of the fixed target program. The next run will begin in 1994. Ten fixed target experiments completed their data acquisition during the run. Eleven test beam experiments took data, and twenty-one experiments are currently in the process of analyzing data.

Stockrooms to close for inventory

The Fermilab stockrooms will be closed for annual inventory on the following schedule:

Wilson Hall Stockroom:

Closed Friday, April 17, at 12:00 noon.

Will re-open Monday, April 20, at 12:30 p.m.

Site 38 Stockroom:

Closed Monday, April 20, and Tuesday, April 21, all day both days.

Please plan accordingly. For questions call the Supply Office at x3808.

On the job injuries

The number one cause of on the job injuries is physical overload—lifting too much (or improperly), straining, overreaching, bending, twisting, and otherwise making our bodies go in ways that they're not designed to go! To avoid physical overload, learn and use proper lifting techniques, never bend or twist while lifting or carrying, and whenever possible, use mechanical help.

—Parlay International

Classified ads

Miscellaneous

For sale, Tryco Masonry Drilling Diamond Bits: 1 - RWS -100012 — 1", 1 - 112512 — 1 1/8", 4 - 1125012 — 1 1/4", 3 - RE - 125012 — 1 1/4", 1 - RWS - 150012 — 1 1/2", 2 - RE - 150012 — 1 1/2", 1 - RE - 137512 — 1 3/8", 4 - RE - 250012 — 2 1/2", 2 - RE - 275012 — 2 3/4", 2 - RWS - 300012 — 3". Call Mary at 708 382-1917.

Duncan Phyfe Mahogany drop leaf table with two leaves, seats ten people, \$100. Call Sue Hardy at x3762 between 8:00 a.m. and 4:30 p.m.

0.45 Carat Marquis cut diamond ring with accompanying gold ring. Appraised at \$1,600. Will sell for \$850 or reasonable offer. Call Mike at x4860.

Real estate

For sale, three bedroom ranch, move in condition! Beautiful backyard, located in Shorewood, asking \$104,900. Call Shawn at x3762 or 815 725-2533.

Shorewood Ranch for sale, three bedroom, 1 1/2 bath, full basement, room to roam, maintenance free. \$114,900. Call 815 725-7432.

Vehicles

1950 Chevy 1/2 ton pick-up. Restored to original condition, 56,000 miles. \$7,800 or best offer. Call 708 584-6698 after 5:00 p.m.

1982 Honda Prelude, 5-speed, air, power sunroof. Best offer. Call John Panek at 708 717-7432 evenings and weekends.

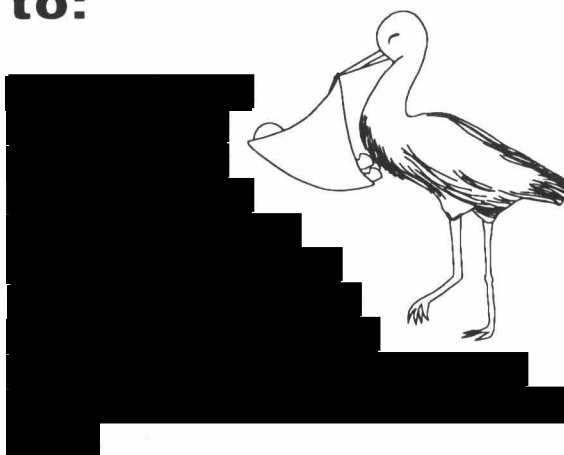
1986 Mercury Grand Marquis LS, 2-door, loaded, clean, good condition. \$4,900.00. Call 708 365-6663 evenings and weekends.

Wanted

IBM XT or PC system, call Joe at x3343.

Roy Jeffries (CD) and his dog Cody are seeking transportation to work at Fermilab and home again on Thursdays beginning April 16. Home address is 370 Spruce St., Aurora. If you can be of assistance, contact Roy at x3146 or 708 896-7393.

Congratulations to:



NALREC News

Thanks to all for making the Sadie Hawkins' Day Party a great success. Great Fun!

NALREC presents its "You Don't Have to Be Irish" St. Patrick's Day party. The festivities begin at 5:15 p.m. on Friday, March 13, 1992. There will be an Irish raffle and a DJ to help us celebrate. Irish fare of corn beef or fish sandwiches will await all those who wish to celebrate the wearin'-of-the-green day.

Invite your neighbors and head out to the Warrenville Bowl for Candlelight Bowling on March 7 from 9 p.m. until 12:30 a.m. Great fun, good food and super door prizes all for only \$13.

June 13-14 are the dates set for the two-day rafting trip at Wolf River, Wisconsin. Just \$75 for one night motel/lounge, bus ride, plus snacks to and from, total of 10/12 hours rafting, and \$20 for Indian Reservation Gambling. See Dominick x3187 with a \$25 deposit to secure a seat. More information later.

In the works: a horseback riding trip.

Attention all baseball fans: We will be going to see the Kane County Cougars in 1992. Fermilab Day will be Saturday, June 13 at 7 p.m. It's a Saturday night; keep it in mind.—Charlotte Smith