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Ferminews

FERMI NATIONAL ACCELERATOR LABORATORY

'93 Budget to mean smaller work force

"We have every reason for high expectations for the future," wrote Fermilab Director **John Peoples** in an October 15 memorandum to Laboratory division and section heads. "Nevertheless, starting now, we must make changes in our use of resources to achieve our goals." The memo directed division and section heads to submit plans by November 14 for reducing staff by five percent by June 30, 1993, in each organization except the ES&H Section, which will keep staffing constant. The director's memo called for planning an additional two percent reduction by the end of the 1994 fiscal year and directed the Main Injector project to keep staffing consistent with its annual funding.

The challenge comes in sustaining the excellence of Fermilab's high-energy physics program as we respond to slowly declining budgets.

The director stated his goal to achieve the staff reduction, as far as possible, by normal attrition, retirements and expiration of term appointments. He has called on divisions and sections to make every effort to fill vacant positions by staff transfers within the Laboratory.

Budget shortfall

Fermilab must reduce staff in response to a shortfall in the Laboratory's funding as appropriated by Congress and allocated by the Department of Energy for the current fiscal year 1993. At current staffing levels, Fermilab needed an increase over last year's budget to cover the rise in costs due to inflation and salary increases, and to make up for revenue lost from the termination of the program for SSC magnet industrialization. Instead, the Laboratory's actual income this year will fall by six percent from last year's, leaving a shortfall of approximately $12 million.

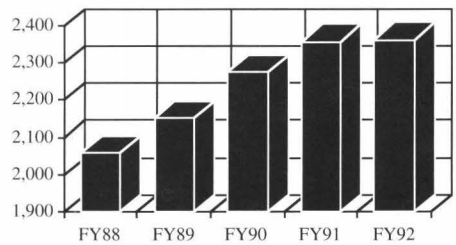
In addition, the Main Injector needed $30 million in fiscal 1993 to keep construction on schedule for completion in 1996. Instead, Congress appropriated $15 million—half as much.

No quick turnaround

The weak national economy means that prospects are not strong for a quick return to higher budgets for national laboratories such as Fermilab. Moreover, by the year 2000, the Department of Energy plans to provide half the operating costs for the SSC by reducing the funding for the rest of high-energy physics research by 25 percent. "I do not expect our budget will fall as rapidly as the overall high-energy program," John says, "but we must prepare to carry out our mission with a decreasing budget."

The graph below shows the changes in staffing levels at Fermilab over the past five years. Scientific staff increased to meet programmatic commitments, and ES&H staff increased to meet Department of Energy standards, but operating budgets

Fermilab Employment



did not even keep up with inflation. As a result, the ratio of materials and services costs to personnel costs, an important measure of productivity, declined. "Gradually reducing the size of the staff will bring these operating costs back into balance while the Laboratory continues to carry out an outstanding research program," John explains. "We cannot achieve cost reductions at the expense of excellence in ES&H, nor by allowing support services to deteriorate."

Sustaining excellence

John emphasizes that the excellence and future promise of Fermilab's high-energy physics pro-

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Budget continued

gram are not in question. Both the collider and fixed-target experiment programs have received endorsement at the highest levels of the physics community. Similarly, both the physics community and the Department of Energy (Fermilab's funding agency) support the Laboratory's plan to increase the luminosity of the Tevatron with the Main Injector and detector upgrades.

"We've come to the basic conclusion," Bob Simon, Principal Deputy Director for DOE's Office of Energy Research, said in remarks at Fermilab last June, "that continued investments in keeping Fermilab at the state and at the edge of the art are going to be excellent investments in high-priority, high-productivity physics—particularly with regard to the Main Injector. Thus we're looking forward to finding ways to help you achieve your full potential in terms of physics productivity over the next two decades."

For the coming decade, Fermilab will remain the undisputed leader of the most exciting research in high-energy physics. Looking ahead to the physics of the future, Fermilab has already begun leading-edge projects such as the Sloan Digital Sky Survey, the Solenoidal Detector Collaboration, and the TESLA project to develop technology for the particle colliders of the next century. After the SSC begins operating, experiments at Fermilab with the Tevatron and the Main Injector will address physics questions in a program that complements the SSC.

"The challenge comes," says John, "in sustaining the excellence of Fermilab's high-energy physics program at the same time we respond to the reality of slowly declining budgets. For nearly 25 years we have given our greatest emphasis to building accelerators and detectors, and we have had remarkable success. Now we need to place greater emphasis on making the best use of what we have built, as we continue to build for the future at a more deliberate pace.

"We have excellent goals. We must find ways to achieve our goals in ways that take into account the resources that we have. I am sure that we can reach them if we work together."

How the Buck Gets Here

Each dollar that arrives at Fermilab—to cover your paycheck, for example, or to buy equipment or pay the electric bill—makes a 21-month journey before it reaches the Laboratory. How does money from the U.S. government get to your paycheck? For some answers, we follow the path of the dollars Fermilab just paid you in the month of October, the first month of the new fiscal year known as FY93.

On January 17, 1991, Fermilab began developing the Laboratory's budget request for FY93.

On April 22, 1991 Fermilab submitted the Laboratory's FY93 budget request to the Department of Energy. Fermilab requested $180.9 million in operating funds, $37.6 million in capital equipment funds and $63.2 million in construction funds, including $50 million for the Main Injector.

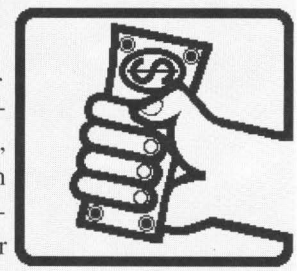
In summer and fall of 1991, DOE prepared its overall budget request for FY93 and submitted it to the President's Office of Management and Budget. (The contents of this request are not made public.)

In December 1991, OMB and President Bush decided on their budget request to Congress.

In late January 1992, President Bush submitted his budget request to Congress. It contained a request for $630.9 million dollars for the base program in U.S. high-energy physics, which included $214.9 miliion for Fermilab, and $30 million for construction of the Main Injector.

From February to September 1992, both houses of Congress held hearings, debates and votes on the budget. On June 17, the House of Representatives voted on the Energy and Water Development Appropriations bill, one of 13 appropriations bills. Among its many provisions, the House bill provided $613.4 million dollars for the base program, and $15 million for construction of Fermilab's Main Injector. The Senate voted on Energy and Water on August 3. The Senate bill provided $623.4 million for the base program and $25 million for the Main Injector.

On September 15, the two differing bills went to conference, where conferees from both houses of Congress worked out a compromise Energy and Water Appropriation. The compromise bill provided $613.4 million for the base program and $15 million for the Main Injector. But because the bill also called for a $30 million cut in science funding to reflect underspending by DOE in the previous year. Thus, when the House and Senate approved the compromise bill on September 24, 1992, the base program received an actual allocation of $594.9 million.



On October 2, 1992, President Bush signed the Energy and Water Appropriations bill into law.

As soon as the president signed the bill, the Department of the Treasury gave "warrants" to the Department of Energy for the amounts specified.

In early October, 1992, DOE transferred the first half of the total of $164.5 million in operating funds, $30.6 million in capital equipment funds, and $26.9 million in construction funds (including $15 million for the Main Injector) to Fermilab in the form of a Fermilab Financial Plan for FY93. The Laboratory expects the remaining funds soon.

From the money it received from DOE, Fermilab paid employees' wages and salaries for the month of October, the first month of FY93.

Now it's time to begin the cycle again. In December, Fermilab will begin preparing the FY95 budget request—for the money that will cover your paycheck in October 1994.

–Judy Jackson and Bruce Chrisman

Upgraded Tevatron Continues a Record-Setting Run

On October 25, 1992, the Fermilab Tevatron collider achieved a new luminosity record for the Laboratory of 3.32 x 10^{30} cm^{-2} sec^{-1}. In addition, the largest integrated luminosity of 167 nb^{-1} for a single collider store, as well as the largest integrated luminosity for any single week of this run, was recorded. These improvements in performance were realized as part of a major upgrade of the accelerator complex, now in progress.

During phase I of this upgrade, there have been major modifications to the Tevatron. The modifications were commissioned at the start of this collider run and include the installation of electrostatic separators to separate the orbits and new low-beta insertions at both experiment interaction regions.

During the 1989 collider run, the record peak luminosity was 2.07 x 10^{30}. The Tevatron was operated with six bunches colliding head-on in all locations (12 collision points). One of the factors limiting the luminosity was due to the beam-beam interaction which occurred as the beams collided in 12 interaction regions around the ring. An orbit separation scheme was developed to eliminate the unnecessary collision points and to create total separation during injection, acceleration and low-beta squeeze. The beams are now brought into collision at only two points when low beta is reached.

In contrast with LEP and Cornell, the Tevatron uses separators in both the horizontal and vertical planes to produce a helical orbit. Helical orbits were chosen to keep the beams separated everywhere in the ring so that during the entire period when the position of the bunches is translated from the injection location to the collision location, the beams remain separated. The design goals were to achieve a minimum separation of 5σ and a maximum separation of 15mm (beam-beam center to center). This goal has been met. During operation we have run with separations as small as 3σ with no adverse effects. The separators have been very reliable. There have been no separator sparks during operations to date.

Since the protons and antiprotons are traveling on different orbits, they experience different nonlinear fields and therefore will have different tunes, coupling and chromaticity. These differential effects were measured and it was found that differential tune and coupling that were produced could be explained by persistent currents in the main bending dipoles and the chromaticity sextupoles. A correction scheme was designed to correct these differential effects using existing sextupoles in the secondary correction spool packages in the Tevatron. The idea is to create three circuits, two for adjusting the tunes and one to correct coupling. The system (46 sextupoles) has more than enough strength to correct any differential effect. This system is currently being used to control the antiproton tunes at energies up to 500 GeV.

The construction of a colliding beam facility at the DØ long straight section of the Tevatron, coupled with the presence of the CDF detector at the BØ straight section, has produced the need for a low-beta insertion that, unlike the old system, permits the simultaneous and essentially independent operation of more than one interaction region.

The new low-beta insertion enables simultaneous operation of a multiple of such systems by matching each insertion to the arcs of the machine in betatron and momentum space. Matched insertions in collider mode are independent except for the need to maintain a constant tune with distributed tune correction quadrupoles in the rest of the accelerator.

The addition of each low-beta insertion to the accelerator lattice raises the tune of the accelerator approximately a half unit unless compensated. Both the separators and the low-beta insertions were commissioned at the beginning of the current collider run which started last May. Both systems have performed reliably.

It is expected that further improvements in operations will occur over the next weeks which will bring the peak luminosity to 5 x 10^{30}, the goal for this phase of the collider run. *–Pat Colestock*

Environmental Projects Lead the Way to Reduce CFC Emissions

Two projects in the Facilities Engineering Services Operations & Maintenance group have been completed to reduce potential CFC (chlorofluorocarbon) emissions.

One of these projects was at the New Muon Lab, that involved the conversion of two 150 ton centrifugal compressors (McQuay) from a R-500 system to the environmental friendly refrigerant R-134a. These compressors that are used for both equipment cooling and comfort cooling eliminated a total of 1,742 pounds of the undesirable R-500 refrigerant. This conversion reduced the cooling capacity by 9.5 percent, which in this case, will not affect the cooling requirements for this system. The cost of this conversion totaled $51,000.

This one project eliminated 80 percent of this particular type of undesirable refrigerant at Fermilab for which the O&M group is responsible.

The other project was at the Central Utility Building in which a R-11 reclaim system was installed. Also, a R-11 purge vapor reclaim system was installed for each of three 1500 ton (Carrier) units. What this does is reduce any vapor emissions to the atmosphere during operation and maintenance of each of these units to the lowest practical limit. The cost for these modifications was $14,000 and $29,000 respectively.

The O&M HVAC shop is also equipped with portable freon recovery units for servicing air conditioners or similar cooling equipment in the field. These units are capable of recovering a variety of refrigerants.

The regulation that prohibits deliberate venting of CFC and HCFC (hydrochlorofluorocardon) refrigerants to the atmosphere is part of the clean air act amendments of 1990. The amendment took effect July 1, 1992. **Denis Bowron**, Operations Specialist in FESS/O&M, pur-

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Main Injector Project Progresses

The Fermilab Main Injector project is the centerpiece of Fermilab's program for the 1990s, Fermilab III. It is designed to support a luminosity of at least 5×10^{31} $cm^{-2}sec^{-1}$ in the Tevatron collider while providing the potential for development of new capabilities at Fermilab in the realm of rare neutral K decays and neutrino oscillations. The FMI project has passed several significant milestones over the past several months and is now proceeding rapidly towards the initiation of physical construction.

The project received a $11.65M appropriation in FY92 and has been given $15M for the current fiscal year. Before Fermilab can spend MI funds, the project must successfully pass more DOE reviews.Through the Energy Systems Acquisition Advisory Board process the Department of Energy has authorized the application of funds to construction of the underground enclosure and service building at the point of tangency between the Main Injector and the Tevatron (MI-60), and to the preparation of bid packages for all remaining project construction. It is expected that construction of the MI-60 underground enclosure will start in early January, 1993.

Earlier this summer, on July 24, wetland mitigation work was initiated. The construction of the FMI requires the filling of approximately six acres of wetlands. Permission to do this has been granted by the U.S. Army Corps of Engineers contingent upon the creation of nine acres of new wetlands in close proximity to those destroyed. The wetland mitigation project includes the immediate filling of approximately four acres of wetland and creation of the full nine acre mitigation area. Earth moving is now completed, with only spring plantings and five years of monitoring remaining to complete the mitigation.

R&D work in support of the project is also well advanced. Two pre-production prototype dipole magnets have been constructed and tested. Both magnets exhibit field quality well described by computer models and within the performance specification. Twelve production prototype dipoles are to built in 1993 with magnet production starting late in the year. R&D on the 1000V/10,000A power supply required to power the dipoles has also been initiated. Twelve such supplies are required in the accelerator. The first prototype will be assembled next spring in the ER area which was most recently home to the SSC string test. Finally, significant progress has been made on the 200 kW rf power amplifier required for the project. Eighteen units will be required ultimately. Work will continue through 1993 on this critical component.

Earth moving is now complete for the wetland mitigation work.

Construction of the Main Injector is being coordinated by the Fermilab Accelerator Division with significant contributions expected from all divisions of the laboratory. The FMI is scheduled to become operational in early 1997 at an estimated cost of $217M. – *Steve Holmes*

CDF is Taking Data and Planning Future

The last several months have been exciting for CDF: Following a long period of preparation and building upgrades to the detector, the experiment is again taking data.

Since data collection began in earnest on August 26 (following about 3.5 months of commissioning with beams), the CDF shift crews have been able to watch the steadily improving collider performance, and to turn the new luminosity records set by the Accelerator Division into new CDF records.

Last week, for instance, the evening shift of Friday, Oct. 16 set a new CDF shift record of 47 inverse nanobarn of data on tape. For comparison, the corresponding record during the 1988-1989 collider run was 26 inverse nanobarn (1 inverse nanobarn = 10^{33} per square cm is a measure of integrated luminosity).

The job of keeping the detector running falls on the shoulders of the CDF physicists (including students), the CDF Department technical support staff and operators from the Research Division Operations Group. Supplementing the knowledge of the shift personnel from these groups are systems experts for the many detector subsystems, who can be reached by long range pager. This highly complex detector only works if essentially all parts are working, so it is important to be able to fix broken parts quickly. The good news here is that thanks to the dedication and hard work of everybody involved, the down time statistics for this run is already better than it was during the 1988-1989 run.

So with the detector working well and data coming in at a good rate, the attention of many CDF physicists is now shifting from the task of checking that detector and triggers are working well to the subject at the heart of the matter: What is the physics contained in the new data? Are there signs yet of the elusive top quark? For an answer to this question, stay tuned.

Looking into the future beyond the present collider run, CDF has embarked on an ambitious upgrade for the Main Injector era. We must rebuild all the front-end electronics to cope with an increased number of proton and pbar bunches in the Tevatron. We plan to upgrade our data acquisition system for higher throughput to cope with the higher luminosity expected from the Tevatron. We plan to construct a new Silicon Vertex Detector, building on our experience with the device just installed. We will replace our gas calorimeters with a new "plug" calorimeter using scintillator tile and fiber technology.

The CDF Collaboration and the world high-energy physics community are excited by the future physics possiblities at the Tevatron collider. Over the past three years the CDF Collaboration has grown from 17 to 33 Universities and National Laboratories (from 187 physicists to 394 physicists) as we prepare for this upgrade. We are also counting on plenty of support from every division and section within Fermilab to complete these ambitious projects. –*John Cooper and Hans Jensen*

Fermilab to Host 7th DPF Conference

Fermilab will host the 7th meeting of the Division of Particles and Fields of the American Physical Society from Tuesday, November 10 through Saturday, November 14, 1992. The meeting is sponsored by the American Physical Society and Fermilab, and is supported in part by the U.S. Department of Energy and the U.S. National Science Foundation.

Six hundred fifty people are registered to attend the meeting, but according to co-chairperson **Rajendran Raja**, attendance may well exceed 800.

The meeting will begin with a day of plenary sessions at Fermilab with talks on the latest results from CDF, DØ, HERA, LEP and SLD, as well as discussions on astrophysics, accelerator and detector developments. This will be followed by three days of parallel sessions at the Pheasant Run Resort in St. Charles. To date, the organizing committee has received 610 abstracts, some of which have been combined to reduce the number of parallel session talks. To satisfy abstract demands, there will be eight parallel sessions on all three days and one additional session on the first day.

Saturday's plenary sessions will include speeches on the status of QCD and the status of electroweak measurements, as well as talks on charm and b physics. Tau decays, lattice gauge theory, other theoretical developments and a visionary talk will also be part of Saturday's events. Director Emeritus Leon Lederman will then close the conference with a speech.

A town meeting will be held on the evening of November 10, chaired by Gary Feldman, the Chairman of the Division of Particles and Fields. The meeting will address the question "Where is High Energy Physics Headed?" Expected to take part in a panel discussion are William Happer, Director of DOE OER, Burton Richter, Director of SLAC, Roy Schwitters, Director of the SSC, Bjorn Wiik, Director Designate of DESY, Mel Shochet, Co-spokesperson for CDF, Mike Witherell, Professor of Physics at University of California Santa Barbara and HEPAP Subpanel Chairperson, and Fermilab Director **John Peoples**.

The conference attendees will be entertained Wednesday night by a concert by "Pro Musica" at Ramsey Auditorium. Thursday will be devoted to a visit to the Leon Lederman Science Education Center. A banquet will be held at the Chicago Art Institute on Friday evening.

l to r John Yoh and Rajendran Raja are co-chairs of this years DPF meeting.

The Division of Particles and Fields meetings began in Santa Fe, New Mexico. The last two meetings were held at Rice University in Texas and at Vancouver, Canada. The meetings are intended to give a forum for up-and-coming physicists to present their results. According to Raja, the Fermilab conference is expected to be much larger than in previous years, confounding the expectations of the organizers.

The meeting was organized by a committee of physicists from Fermilab and local universities. **John Yoh** from CDF is co-chair of the organizing committee along with Raja. **Jeff Appel**, **Peter Kasper**, **Stephen Parke**, **Carl Albright** and **Cynthia Sazama** have also contributed greatly to the organizational effort leading to the conference.

It's Only the Beginning for the DØ Detector

DØ's first collider run is fulfilling a long anticipated opportunity to turn on a major new detector and approximately double the data used in searching for the top quark and other possible heavy mass states.

Nearly ten years ago the Department of Energy and Fermilab began to seriously consider a second major collider detector and in the last seven years the Lab has joined with approximately 25 other institutions to build a second-generation experiment that incorporates features indicated by earlier work at the CERN SppbarS and CDF here at Fermilab.

Following two successful cosmic ray commissioning runs to shake down the hardware, the 5500 ton detector was rolled into the DØ collision hall on Valentine's Day of this year and the first proton antiproton collisions were observed on May 12.

Early running has concentrated on commissioning the hardware and software triggers that are used to select the interesting physics. With the triggers understood at a reasonable level, DØ is now taking data for physics analysis and has logged to tape over a million proton-antiproton interactions. These data represent about 1/4 of the total logged in the 1988 collider run.

DØ is a highly complex device in which over 100,000 electronic channels are read out each time an event is put on tape. So it has been a pleasant surprise to the DØ experimenters that the collider run startup has proceeded smoothly. The detector is performing well with no major hardware problems. The experiment's emphasis now is maximizing the amount of data from each store that is recorded on tape. Once events are on tape they are processed through the software reconstruction and within a few days the DØ physicists are eagerly analyzing the data.

The physics goals for this first run, although dominated by the search for the top quark, also include many other topics such as a precise measurement of the W mass, jet cross sections, and b quark production to cite only a few. The experiment's first significant results will be presented in 17 papers at the Division of Particles and Fields Meeting to be held here at Fermilab in November. The experimenters say this is just the beginning of many years of interesting physics results from the DØ detector.—*Gene Fisk and John Butler*

Golf League Completes Season

The Fermilab Golf League has completed another season. Its 44 members drove, chipped, putted and otherwise hacked their way through another summer. The season culminated with the annual league tounament and banquet. This years festivities were held at the Villa Olivia Country Club in Bartlett. The title "Fermilab Champs" was bestowed on the team from the Wednesday night Fox Valley League.

The golf league committee, consisting of **Don Arnold**, **Al Baumbaugh**, **Vic Kuchler**, **Mike Mascione** (Treasurer), **Mike Matulik** (Chairman), **Ralph Pasquinelli**, **Gary Verseput** and **Mike Ziomek**, organized the tournament and dinner.

This year, trophies were presented to the following teams:

Fox Valley Tuesday Leauge

First place: **Ron Williams**, **Kevin McDonough**, **Dave Seifert** and **Gary Smith**. Second place: **Darrell Sigmon**, **Mike Mascione**, **Dave Smiley** and **Monte Emmons**. Third place: **Glenn Federwitz**, **Steve Baginski**, **Wayne Johnson** and **Paul Allcorn**. Tie for most points with 35: **Michelle Gleason** and **Kevin McDonough**. Lowest average at 39.33: **Ron Williams**.

Fox Valley Wednesday League

First place: **Phil Lutz**, **Ed West**, **Ed Wilmsen** and **Gene Dentino**.Second place: **Darrell Sigmon**, **Ron Haynes**, **Claudie King** and **Dave Hornback**. Third place: **Mike May**, **Tim Geirhart**, **Bale Flores** and **Kevin O'Brien**. Most points with 37: **Ed Wilmsen**. Lowest average at 39.53: **Darrell Sigmon**.

Prestbury League

First place: **Mike O'Boyle**, **Garry Coppola**, **Terry Sager** and **Tom Nurczyk**. Second place: **Gene Dentino**, **Rod Klein**, **Gene Fisk** and **Arnie Knauf**. Third place: **Al Baumbaugh**, **Rich Mahlum**, **Ken Treptow** and **Dyrrell Lewis**. Most points with 30: **Jeff Andresen**. Lowest average at 42.07: **Al Baumbaugh.**

St. Andrews League

First place: **Yasuo Fukui**, **Bob Johnson**, **Mike Matulik** and **Pat Liston**. Second place: **Rich Vidal**, **Steve Baginski**, **Al Flowers** and **John Najdzion**. Third place: **Jim Harder**, **Eric Larsen**, **Dan Murphy** and **Dave Haynie**. Most points with 31: **Yasuo Fukui**. Lowest average at 40.40: **Yasuo Fukui**.

—Mike Matulik

Fox Valley Tuesday League: G. Smith, K. McDonough, R. Williams and D. Seifert.

Fox Valley Wednesday League: G. Dentino, E. West, P. Lutz and E. Wilmsen.

Prestbury League: M. O'Boyle, T. Nurczyk, T. Sager and G. Coppola.

St. Andrews League: P. Liston, Y. Fukui, M. Matulik and B. Johnson.

FESS Personnel Appointed to NFPA Committees

Three members of the FESS/Fire Protection Engineering group, **Bob Barnes**, **Mark Dumais** and **Marty Farraher**, have been appointed as principal members of the National Fire Protection Association technical committees.

Bob was appointed to the technical committee on Protection of Cultural Resources. This committee is responsible for maintaining several NFPA standards including the *Protection of Libraries and Library Collections* and *Protection of Museums and Museum Collections.* Bob also represents the Protection of Cultural Resources committee as an alternate to the NFPA's committee on Safety to Life. The Safety to Life committee is responsible for the NFPA standard, *Life Safety Code*.

Mark was selected to serve on the Fundamentals of Signaling Systems technical committee. The Signaling Systems committee is responsible for the NFPA standard, *Standard for the Installation, Maintenance and Use of Protective Signaling Systems.*

Marty was appointed to the technical committee on Protected Premises Signaling Systems. This committee is also responsible for the standard, *Standard for the Installation, Maintenance and Use of Protective Signaling Systems.*

The NFPA is a non-profit membership organization dedicated since 1896 to promoting safety from fire, electricity and related hazards through research, codes and standards, technical advisory services and public education.

Various DOE orders require that Fermilab's facilities and operations conform to the requirements of the applicable NFPA standards. Participation on these committees gives Fermilab a voice in the development and interpretation of those requirements.

Bob Barnes, Marty Farraher and Mark Dumais

New EAP Coordinator Joins Lab

Bernadette (Bernie) Dugan has joined the Lab as the new Employee Assistance Program Coordinator. Bernie took over her new position in the Employee Assistance Office October 8.

As the new coordinator, Bernie will be providing confidential assistance to employees with personal difficulties and helping them assess and find additional professional help for their problems.

Prior to joining Fermilab, Bernie was a clinical social worker with ComPsych Employee Assistance Program counseling centers from August 1991. She also served as manager of Edward Hospital Counseling Center in Naperville and held a position as a social worker in adult psychiatry at Rush-Presbyterian St. Luke's Medical Center. Bernie has a B.A. from Duquesne University, an M.S. from Simmons College School of Social Work and a C.A.C. from the College of DuPage. She is also a member of the National Association of Social Workers and a licensed clinical social worker.

Bernie said one of the first projects she will be undertaking will be providing employees with a series of seminars on budgeting and money management. (See announcement on the first budget seminar on page 8.)

Bernie Dugan joins Fermilab staff as head of the EAP Office.

The Employee Assistance Program is a guidance and referral service for troubled employees to provide confidential assistance with personal problems that may be affecting job performance. The problems may include stress, financial or legal difficulties, family or marital problems or alcohol/drug abuse. The Employee Assistance Office will help employees clarify the situation and work out a solution that provides the specialized help an employee might need. Confidentiality is assured. All contact with Employee Assistance is private and no record of contact, referral or treatment will be entered in your personnel file. For further information regarding the Employee Assistance Program, contact Bernie at x3591.

Rich Knowles Receives U.S. Air Force Medal

Richard Knowles (BS/Financial Management Systems) was awarded the U.S. Air Force Achievement Medal from the 928th Communications Flight Air Force Reserve unit at O'Hare Air Reserve facility October 17. Rich received the medal for work he did earlier this year in support of a humanitarian bridge building project in Trinidad in which he installed a radio line between the American Embassy in Port of Spain Trinidad and a small village on the island of Tobago. The radio line was to provide emergency medical evacuation should someone be injured during the ten-week building project. For this work, he was also promoted to Master Sergeant.

Richard Knowles

Rich has been in the reserves for nearly 15 years. He started working at the laboratory in the former Computer Department in 1977. He is now an internal consultant with the financial management systems project in Business Services.

Benefits Notes

Fermilab is adding a new benefit program on January 1, 1993, that will help you save a little money on your health and dependent care expenses. Details and how to enroll in the new program were mailed to your mail stops. Two meetings are scheduled at Wilson Hall, Ramsey Auditorium on Wednesday, November 18, 1992, at 9 a.m. and 10:30 a.m. and Thursday, November 19, 1992, at 1:30 p.m. and 3 p.m. to answer any questions that you may have. To attend the meeting, permission from your supervisor is required. If you are unable to attend and have questions, please feel free to call the Benefits Office at x4361, x4362 or x3395. Enrollment forms for the flexible spending accounts and premium conversion waiver forms must be in the Benefits Office no later than 5 p.m., November 30, 1992.

For the health of it

The Medical Office will be giving free blood pressure checks in the Wilson Hall atrium on November 17 from 11:30 a.m. to 1 p.m. Come for your free check – just for the health of it.

Money Management Seminar to be held

Having problems juggling finances? A noon-time lecture on November 19 might be the key to helping you straighten out that pesky problem. The seminar, sponsored by Fermilab's Employee Assistance Office, will concentrate on personal budgeting and money management. Diane Bedenbaugh from the Consumer Credit Counciling Service of Aurora will speak. The lecture will be held from noon to 1 p.m. in Curia II. This seminar is the first in a series of such talks sponsored by the Employee Assistance Office. Look for details on the next finance seminar to be held in December.

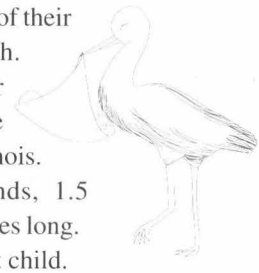
Movie Schedule

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

November 20: *Drowning by Numbers*, a metaphorical game-playing of sex and death set in an idyllic English summer landscape with a tribute to the numbers 1-100. Peter Greenaway, director, Great Britain, 1988, 114 minutes.

Congratulations to

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



Editors note: We apologize to the Jaffery family for stating that their new daughter was a son in the last issue of Ferminews!

NALWO Events

Tonight is the NALWO potluck dinner. The dinner will be held at 5:30 p.m. in the Village Barn. Please bring a main dish, salad or vegetable to serve 12 people. Desserts and beverages will be provided. There will also be a babysitter available. If you are unable to bring a dish to share, please donate $3 for the dinner.

Come and enjoy the sights and sounds of Chicago at Christmas time with NALWO as they take their annual Christmas shopping trip down Michigan Avenue on December 4. For more information, call Selitha Raja at 665-5539 or Brenda Kirk at x3440.

All women associated with Fermilab are invited to the Annual NALWO Christmas Tea with Nancy Peoples. Please bring your favorite dessert or appetizer to share. Babysitting will be provided at the playgroup, but call in advance to make reservations. For more information call Selitha or Brenda.

Sue Mendelson has a stretching exercise class which meets twice a week at the Users' Center. For more information, please call Sue at x2660.

The Guest Office has a coffee morning every Tuesday and Thursday morning from 10 a.m. until noon which meets by the Village Barn when the weather is nice and in the Users' Center when the weather is not as nice. We will not have the coffee when special events are planned for a specific day. Everyone is welcome to come. We look forwared to seeing you.

Angela Jostlein is teaching advanced beginning German from 4 p.m. to 5:15 p.m., and beginning German from 5:30 p.m. to 6:30 p.m. All classes will meet in the conference room at 20 Neuqua in the Village. For more information, please call Angela at 355-8279 or Brenda Kirk. – *Selitha Raja*

Fermilab Arts Series Presents

Ensemble Ouabache

Ensemble Ouabache has been introducing audiences to the intimacy, lively virtuosity and exuberance of early music performed on period instruments since 1986, and will share this expertise with enthusiastic skill as they perform at Fermilab's Ramsey Auditorium on Saturday, November 14, 1992.

The impetus behind the whole early music movement was, and is, to avoid the 19th century romantic interpretation of earlier works and present a performance of the music as it was originally intended–to achieve its reality. To do this, performers also become historians and research what was written about performance practices of the time. Many treatises were written by prominent musicians and composers of the Baroque and Classical eras that offer that type of insight. The members of Ensemble Ouabache received their training at the Early Music Institute at Indiana University, and have carried that specialization into an ensemble dedicated to the exclusive performance of music from the 17th and 18th centuries. They perform on instruments or authentic replicas from the Baroque and Classical eras: a one-keyed flute; Baroque violin, cello and viola da gamba strung in gut; and a handmade harpsichord patterned after the French instruments of the 17th century. The program will highlight music of the German Baroque with music of Telemann, Buxtehude, Handel and the Trio Sonata from Bach's Musical Offering.

Admission to Ensemble Ouabache is $8. For further information or telephone reservations, call 708-840-ARTS weekdays between 9 a.m. and 4 p.m. At other times, an answering machine will give you information and a means of placing ticket orders.

Three Directors and the Tevatron

A Lecture by the Past and Present Directors of Fermilab Monday, November 9 at 8 p.m.

The Fermi National Accelerator Laboratory was dedicated in 1974 and named in honor of Enrico Fermi, a pioneering scientist who died in 1954. Research at Fermilab, driven by sheer human curiousity about what we and the universe are made of, concentrates on finding the ultimate building blocks of nature and understanding the forces acting between them. Through the past 25 years, Fermilab has come to be recognized not only for its scientific advances but also for its contributions to the community through educational programs, prairie restoration, cultural activities, architecture, neutron therapy for cancer patients, and its vast and beautiful grounds. In creating such a well-rounded facility much credit must be given to the foresight of the founders and directors.

On Monday, November 9 all three directors of Fermilab, past and present, will be speaking as part of the Fermilab Lecture Series. Dr. Robert R. Wilson was the Director of Fermilab from 1967-1978, and has been Director Emeritus since 1979. He received his Ph.D. in 1940 from the University of California at Berkeley. He aided in the formation of the Los Alamos Laboratory in 1943 where he served first as the leader of the cyclotron group and was then named as head of the Experimental Nuclear Physics Division until the end of WWII. He taught at both Harvard and Cornell, where he was the Director of the Laboratory of Nuclear Studies. After his tenure at Fermilab he taught at the University of Chicago, and was then named Michael Pupin Professor at Columbia University. Dr. Wilson is not only a scientist but also an admired sculptor. His works can be seen in various sites on the Fermilab grounds as well as at other universities around the country.

Dr. Leon Lederman received his Ph.D. in Physics in 1951 from Columbia Univeristy where he stayed on as Director of the Nevis

l to r Robert Wilson, Leon Lederman and John Peoples.

Laboratory from 1961-1978. During this time he also conducted research at such laboratories as Brookhaven, CERN, Berkeley and Fermilab. In 1978 he became the Director Designate of Fermilab, and in 1979 was appointed Director. During his tenure, the Tevatron was constructed and the SSC proposed. He left Fermilab in 1989 to become Professor of Physics at the University of Chicago. This fall he also assumed a Pritzker Professor of Science at the Illinois Institute of Technology. His interest in education also led him to become a founding trustee of the Illinois Math and Science Academy. He also serves as Science Advisor to the Governor of Illinois. Leon Lederman was awarded the Nobel Prize in Physics in 1988.

Dr. John Peoples received his Ph.D. in Physics from Columbia University in 1966. After spending an additional three years as faculty at Columbia, he took a position at Cornell University as Assistant Professor. He then came to Fermilab in 1972 where he held such positions as Head of the Proton Laboratory, Head of the Research Division, Project Manager for the Antiproton Source, and then Deputy Head of the Accelerator Division. In 1987 he spent a year at the SSC Central Design Group. He returned to Fermilab as Deputy Director of the Laboratory and a year later was appointed as Fermilab's third director.

Admission to the Director's Lecture is $3. For further information or telephone reservations, call 708-840-ARTS weekdays between 9 a.m. and 4 p.m. At other times an answering machine will give you information and a means of placing ticket orders.

Classified ads

Miscellaneous

Sofa with floral pattern in citrus colors green and yellow, $125. **Lined drapes** in three shades of green for picture window, $50. Call Bill at x3980 or Pat at x3521. Home phone is 708-466-4232.

Needed: a **set of instruction books or manuals** for the following versions (now superseded) of pc software: MSDOS Vers. 3.3, Lotus 1-2-3 Vers. 2.3, PC Tools Vers. 6. Call Tom at x3962.

Drum kit for sale. 12 pc. Slingerland double-base kit with all hardware, Zildjian cymbals and cases, $1,600. Call Janet at x4681 or 708-892-4932 and leave a message.

For sale: **microwave oven**, $50; **Whirlpool washer & dryer**, $100; **Zenith TV** with black & white stand, $50; **kitchen table & 4 chairs**, $35 o.b.o.; 3 piece set **bedroom furniture**, $35; 3 piece set **living room furniture**, $35; **porch swing**, $50; **single bed**, $30; **inflated boat, oar and life jacket**, $100; **gas stove**, green, $50; **baby grandfather clock**, $40. Call Euhel Campbell at 708-820-0694.

Wanted: to **rent 1-car garage** or equivalent. Batavia Boy Scout Troop 43 needs a place to store camping equipment and utility trailer between campouts. Call Owen at x3535 or 708-879-9268.

Microsoft Works with Microsoft mouse for DOS systems and OS/2 systems. Version Work 2.00. New, unopened package, $95. Call John at x3088 or 708-369-3210 after 6 p.m.

For sale: **Commodore 64SX computer**, $275. **Apple ImageWriter printer**, $150. Singer Feather Weight **electric sewing machine** (1930s) complete w/manual & case in excellent con., $375. Call Graciela x4645.

1980 Toyota **steel wheel**, $10; 1980 Toyota **master cylinder**, $10; 1980 Toyota **grill**, $25; 1981 Toyota **aluminum wheels and tires**, $75; Chevy truck **chrome rims** 5 lug (wide), $50; 1975 **Kawaski 650cc 4 in 1 header plus complete stock exhaust and many new parts**, $500. All prices best offer. Call Wayne Smith at x3133 or page 123.

Vehicles

1979 Olds 98 Regency. Full power, A/C, AM/FM CB radio. $1,000. Call Mike at 557-2234.

1981 Honda Accord from California. No rust, excellent running condition, $1,500 obo. Call x8196 or 708-840-3115 evenings.

1981 Chevrolet Caprice Classic, blue, 4-door, auto., A/C, all power, 108K, runs excellent. Call x2840 or 708-406-9351 evenings.

1982 Chevy conversion van, light blue, very good condition. 350 V8, auto. trans. with overdrive, recent complete overhaul, fully insulated and carpeted interior, A/C, cruise, PS, PB, full size spare. $2,950 obo. Call Jim at x4076.

1983 Toyota Camry, LE 4D, 96,000 miles, excellent condition, A/C, AM/FM, cruise control, asking $2,400 obo. Call Daniel at 708-416-0195.

1984 Olds 98 Regency Brougham, A/C, power steering, brakes and windows. Cassette player, new shocks and exhaust. Roomy car, smooth ride, $1,500 obo. Call Jean at x3278 or 708-820-2058 evenings.

Real Estate

Condo for rent at Autumncrest in West Chicago. 2nd floor, 2 BR, 2 full BA, pool, balcony, heat included, $625/month. Security deposit. Call 708-231-3597 or 708-876-1536 evenings.

For sale: 2-story, 1-year-old **townhouse** (3S125 Timber Dr., 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, cen. AC, all appliances stay, 5 min. to Lab. Timber Creek Subdivision, great view. Call Cyndee at x2713, home 708-393-2705 or mail WARNER::CHOPP.

House for rent: 3 BR, living and dining room, kitchen, full basement and attic, 2 car garage. $600/mo plus utilities. Call T.J. at x4777.

Catch the Spirit of Giving

Tax-free payroll deductions

The time of year has arrived when employees are asked to contribute to charities through payroll deductions or one-time contributions. Using the payroll deduction plan, an employee may choose up to three charitable organizations including a community fund.

No pledge below $12 per year for 1993 can be accepted through the payroll deduction plan. The selected charities must be among those approved by the Internal Revenue Service.

The payroll deductions an employee designates will be made every pay period, beginning January 1, 1993, and will continue throughout the year. At the end of 1993, employees taking advantage of this plan will receive a statement of their contributions for income tax purposes. Pledges for the 1992 year will end December 31 unless they are renewed.

Thanks to all who have given in the past or plan to give. You are making a difference in your community by improving the lives of thousands of needy individuals.

For additional information contact Ruby Coiley at x8365.

Environment

continued from page 3

sued these projects from inception to completion over the past year and a half.

It is essential that the O&M group be involved with the disposal of any air conditioners, dehumidifiers, water coolers, etc. throughout Fermilab so the freon can be safely recovered. This can be done through the building managers by calling in a work order through the O&M Work Central group at x3434. Additional projects will continue to eliminate the undesirable refrigerants at Fermilab. *–A.J. Kanyok*

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