

## Medals, Prizes, and Awards. . .

### Nat'l Medal of Technology to Edwards, Lundy, Orr, Tollestrup

Fermilab's Tevatron continues to attract accolades as one of the premier technological accomplishments of its time. At a ceremony in the East Room of the White House on the afternoon of October 18, 1989, President George Bush presented the 1989 National Medal of Technology to Helen T. Edwards, Richard A. Lundy, J. Richie Orr, and Alvin V. Tollestrup for their work in the design, construction, and initial operation of Fermilab's Tevatron accelerator.

The National Medal of Technology (NMT) recognizes "those individuals or companies that have made exceptional contributions to the well-being of the nation through the development or application of technology." NMT winners are selected by the President based on the recommendation of the National Medal of Technology Evaluation Committee, appointed by Secretary of Commerce Robert A. Mosbacher and currently chaired by Robert White, President of the National Academy of Engineering.

J. Richie Orr, now Fermilab's Associate Director for Administration, was Project Manager for the Tevatron. From project start in 1979 until first acceleration of 512-GeV protons in 1983, and on through the improvement phase in 1986, Orr led the approximately 700 scientists, engineers, and technicians through the concurrent development and construction phases.

Helen Edwards, currently Head of the Accelerator Division at the Superconducting Super Collider Laboratory, served as Deputy Pro-

ject Manager on the Tevatron. She is credited with providing "the basic intellectual talent required to design" the Tevatron. She specified the magnet acceptance parameters, and supervised some 100 physicists and engineers in the design of the accelerator lattice, the high-power rf acceleration, the state-of-the-art computer controls, the beam diagnostics, and the technique for extracting and distributing accelerated protons.

Alvin Tollestrup, who is at present co-spokesman of the Collider Detector at Fermilab experiment, was Manager of Research and Development for the Tevatron's superconducting magnets. He is credited with providing "particularly in the early stages of the effort. . . the intellectual stimulation, vision, enthusiasm, and expertise so crucial to the instigation of this ambitious project."

Richard Lundy, formerly Fermilab's Associate Director for Technology and now residing in White Salmon, Washington, where he is self-employed, served as Manager of the Magnet Assembly Facility for the Tevatron. He "provided the necessary 'practical' point of view which was essential to converting the many accelerator concepts into functioning hardware. He supervised all the engineering, tooling, testing, quality assurance, and documentation of the superconducting magnet components."

These awards represent the first NMT winners associated with a national laboratory.

### Ramsey Shares 1989 Nobel Prize for Physics

Norman F. Ramsey of Harvard University, first President of Universities Research Association, Inc., (URA) has been awarded the 1989 Nobel Prize for Physics for his role in the invention of the atomic clock. Ramsey shares the prize with Hans Dehmelt of the University of Washington and Wolfgang Paul of the University of Bonn, West Germany, both of whom were also honored for their work on precise atomic measurements.

Ramsey was a member of the Scientific Advisory Committee that first recommended the construction of the national laboratory that became Fermilab. He was instrumental in the decision to build the then National Accelerator Laboratory in Illinois, and in the formation of URA, which manages Fermilab for the Department of Energy. In 1981, Fermilab's auditorium was named for Ramsey upon his retirement from the URA presidency.

### ACPMAPS Named One of Top 100 New Technologies of '89

Fermilab's Advanced Computer Program Multi-Array Processor System (ACPMAPS) has received an R&D 100 Award as one of the top 100 new technologies in 1989. The R&D 100 Awards are selected by the publisher of *Research and Development*. "ACMAPS" cont'd on page 4

# New York Woodwind Quintet to Perform at Lab

“One of the great chamber music experiences of the season” said the Chicago *Sun-Times* of the New York Woodwind Quintet’s last Chicago appearance. You will have the opportunity to hear the New York Woodwind Quintet, one of the world’s preeminent chamber ensembles, in Ramsey Auditorium on Saturday, November 4, 1989, at 8:00 p.m.

The New York Woodwind Quintet is comprised of Samuel Baron, flute; Ronald Roseman, oboe; Charles Neidich, clarinet; Donald MacCourt, bassoon; and William Purvis, horn. In addition to performing continuously for over 40 years now, this ensemble is well known for expanding the repertoire of this delicate combina-

tion of instruments and has played a major role in the development of American chamber music. Their Fermilab program will include Mozart’s *Quintet in G Major* as transcribed from the *String Quartet K. 387* by William Purvis; the flashy, showpiece *Quintette No. 2* by Jean Francaix; Donald Martino’s *Concerto for Wind Quintet*; and the *Quintet in E Major, Op. 103* by Beethoven.

The New York Woodwind Quintet has represented the United States overseas on five occasions at the invitation of the United States Department of State. In addition to their active international touring schedule, the ensemble and/or its individual members have been affiliated with the New York Philhar-

monic, the Y Chamber Orchestra, the Bach Aria Group, Orpheus, the New York City Ballet Orchestra, Yale University, Juilliard, the Mannes College of Music, Columbia University, and the Eastman School of Music. They have been featured on radio and television broadcasts, and their recordings enjoy worldwide acclaim.

Hear the New York Woodwind Quintet’s spirited music-making for a \$9 admission. Reserve your tickets by calling ext. ARTS weekdays between 10:00 a.m. and 12:00 noon, or 1:00 and 4:00 p.m. Phone reservations are held for five days, but due to ticket demand those not paid for within five working days will be released for sale.

- Tammey Kikta

# A Visit to Fermilab by the President of Brazil

On Wednesday, 27, 1989 September, Fermilab was honored by its first visit of a Head of State, President Jose Sarney of Brazil. The President had been in New York for the opening of the United Nations General Assembly and came to Fermilab for a special trip before



Brazil’s President Jose Sarney (left) and Fermilab Director John Peoples in the Main Accelerator Control Room.

flying back to Brazil. The President had previous knowledge of Fermilab because of his acquaintance with some of the Brazilian physicists working on experiments at the Laboratory.

The strong presence here by Brazilians is a result of the program of cooperation with Latin American institutions initiated a decade ago by then Director Leon Leder-

man. Starting with four Brazilian physicists in 1984, by 1990 this will have grown to about 30 physicists and engineers, from five institutions in Brazil, working on two fixed-target experiments (E-761 and E-791), and on several engineering projects including the Advanced Computer

Program.

Presidential visits are not undertaken lightly, by either the visitor or the visitees. This one was initiated in early August in conversations between Laboratory staff and the senior Brazilian physicist here, Professor Alberto Santoro of Centro Brasileiro de Pesquisas Fisicas (CBPF) of Rio de Janeiro, and his colleague, Dr. Isaias Costa,

both of whom work on E-791 in the Tagged Photon Laboratory. These discussions quickly escalated, and an invitation to the President was subsequently issued by the U.S. Secretary of Energy. There then began a myriad of meetings and phone conversations with people whose titles (unfamiliar to Fermilab!) included Ambassador, Minister of Protocol, etc., and including many security personnel from both the U.S. and Brazil. On the Fermilab side, coordination for the visit was by Jeff Appel (Computing and co-spokesperson for E-791) and Roy Rubinstein (Director’s Office).

A President does not travel alone! On September 27, after a greeting at O’Hare airport by Jeff Appel, Deputy Energy Secretary Henson W. Moore, and other Department of Energy officials, a motorcade of some 14 vehicles, containing close to 50 people together with about 20 Brazilian press

“President” cont’d on page 3

## US Particle Accelerator School Forges Ahead, Awards 1989 Prizes

Continuing its educational efforts, the US Particle Accelerator School (USPAS), which is headquartered at Fermilab, held two summer schools this year. The USPAS has two basic purposes - to educate people in accelerator physics and technology (in particular, to train apprentices and update experts), and to encourage U.S. universities and laboratories to offer programs in accelerator physics by developing textbooks, training faculty, and by organizing schools at these institutions.

The first of this year's two summer schools was a two-week university-style school held at the University of California, Berkeley, from June 19 to June 30. The university-style schools were created to allow courses to be presented in greater depth, to promote student-teacher interaction and feedback, and to encourage the attendance of younger students, as university credit is earned for courses that are successfully completed. Each of the five courses given this year included 45 hours of lectures, problem-solving, and recitation periods, as well as a final examination.

Emphasizing the importance of a university education in the study of particle accelerators, Mel Month, founder and Director of the USPAS, said, "As graduated students, physicists are taught at the university how to build detectors or portions of large detectors - but their only real opportunity to learn how to build an accelerator or any of its parts has been at accelerator laboratories after graduation. This situation just won't do. In the future, we must find new ways for students to study particle accelerators in the university."

The second 1989 School was held from July 24 through August 4, 1989. This symposium-style school, at Brookhaven National Laboratory (BNL), consisted of an

intense series of lectures. There were over 60 lecturers, covering a wide range of subjects on the physics and technology of particle accelerators. Topics covered included particle-beam fundamentals, intense beams, accelerator technology, instabilities, non-linear dynamics, high-luminosity colliders, and linear colliders, in addition to an afternoon symposium on the Superconducting Super Collider.

Also at BNL, on August 3, the 1989 Prizes for Achievement in Accelerator Physics and Technology, an annual award by the USPAS initiated in 1985, were presented. This year, prizes went to Daniel L. Bix of Science Research Laboratory of California, and Karl L. Brown of the Stanford Linear Accelerator Center (SLAC).

Daniel Bix was cited "for developments in high-power magnetic switching technology with applications such as high-repetition-rate induction linacs, free-electron lasers and laser isotope separation." His important work has impacted a number of nationally prominent projects, for example, high-power free-electron lasers (FEL), for Department of Defense applications, FEL's for heating fusion plasmas (MTX experiment at Lawrence Livermore National Laboratory [LLNL]), high-average-power gas lasers, and the development of high-power "relativistic klystrons" in a collaborative effort involving SLAC, LBL, and LLNL. These microwave-source developments may be an important technology in the future in high-gradient linear colliders for high-energy physics applications.

Karl Brown was honored "for insights into particle beam transport and for introducing formalisms in use throughout the world." He has been a pioneer in both the development and applications of concepts of charged particle optics,

making major contributions to linear and non-linear optics. His contributions have helped make possible the modern, sophisticated designs represented by the arcs of the SLAC Linear Collider (SLC), the final focus of the SLC, and the initial design of the arcs of the LEP collider at CERN.

Winners of the USPAS prizes are chosen on a competitive basis. The 1989 Prize Committee consisted of J. E. Leiss, W. K. H. Panofsky, R. H. Siemann, and S. VanderMeer. This year's awards were supported by Universities Research Association, Inc., the Continuous Electron Beam Accelerator Facility, SURA, Intermagnetics General Corporation, Varian Vacuum Products, and the Westinghouse Electric Company.

The US Particle Accelerator School is sponsored by the U.S. Department of Energy, the National Science Foundation, and major high-energy physics laboratories.

- S. Winchester

**"President" cont'd from page 2**  
set off for Fermilab, arriving at 11:20 a.m. to be met on the Wilson Hall steps by Fermilab Director John Peoples and other senior Laboratory and DOE staff. A sizeable number of U.S. and Brazilian press were present then and at other pre-arranged opportunities throughout the day.

After a welcome to the Laboratory by Deputy Secretary Moore, a briefing on Fermilab and its programs was given in the 1-West conference room by John Peoples, followed by a report on the Lab's Latin American activities by Leon Lederman. After a luncheon on the 15th floor, a tour of the Laboratory was arranged for the President, while the press and some members of his team stayed in 1-West to hear more reports about the Laboratory and its activities. The Presi-

**"President" cont'd on page 5**



## A Few Words From Emergency Services. . .

### Nuisance Telephone Calls

Fermilab employees may be subjected to nuisance calls during work hours. Examples may include harassing calls, illogical questions, protests against nuclear power or experiments. Here are some tips which may help in the event you are subjected to this type of call.

1. Transfer or refer the caller to the Public Information Office (ext. 3351).

2. Do not provide a nuisance caller with your last name or Lab extension. It's better if these calls come through the main switchboard so that the operator is aware of

them and can possibly refer them to the appropriate department.

3. In you can, answer valid questions. Most callers are reasonable, concerned people who deserve to be treated courteously. If callers are interfering with your duties, or become unreasonable, attempt to refer them to the Public Information Office and politely discontinue the conversation.

4. If the caller persists or becomes a problem, try to tactfully get their name and phone number. Don't tell them that you, or anyone else, will call back.

5. If the situation becomes unreasonable or if the caller seems irrational, notify Security (ext. 3414). If warranted by the circumstances, a Security report will be filed, documenting the calls, and the caller. - *Security Department*

### Fire-Prevention Tip

We at the Fire Department encourage you to check and change your smoke detector and flashlight batteries every fall when you turn your clocks back during the time-change weekend (October 27 - 29).

- *Ron Groszklaus*

### Argonne Credit Union Seeks Members for Board of Directors

The Nominating Committee of the Argonne Credit Union is seeking volunteers willing to serve on the Board of Directors for 1990. All members in good standing, including retirees and family members, are eligible for candidacy.

Interested? Have a few questions? Call Lou Kubala at ext. 3242. As a past board member, Lou will be happy to answer questions or clarify any concerns you may have.

Applications are being accepted until November 30, 1989. They are available for any interested members at the Credit Union office, WH1W.

### Area-Code Change Reminder

On November 11, 1989, Fermilab's area code changes from 312 to 708. Individual 7-digit telephone numbers will not change, nor will FTS numbers. Telephone users receiving non-FTS calls can still be accessed from outside the 708 area code by calling 1-708-840-extension. Please advise appropriate business contacts outside the Lab, and reflect the new number on business cards and other correspondence as necessary.

When placing calls to Chicago from Fermilab, you must dial: 9-1-312 + 7-digit number. A handy guide to area codes and exchanges is included with this issue of *FermiNews*. - *Carolyn Hines*

### 🎉 Congratulations to:

Deborah and Jeffrey Gordon (RD/RFD) on the birth of Marie Elizabeth, on October 12, 1989, at 4:04 a.m. Marie Elizabeth weighed 9 lbs., 6-1/2 ozs., and was 21 in. long. She has two brothers, Scott and Joshua.

Laurie (NTF) and Dave Hanabarger on the birth of Rebecca Lou Ellen, on August 16, 1989, at 8:46 a.m. Rebecca weighed 8 lbs., 1 oz., and was 19 in. long. She has two brothers, Jason and Brian.

Rank of Betsy, Betty, and Bessie, among names Iowans most often give their cars: 1

Estimated number of seconds that humans perceive "the present" to last: 3 - *Harper's Index*

"ACPMAPS" cont'd from page 1 *Development Magazine*. The ACPMAPS parallel-processing super-computer, which was developed by members of Fermilab's Advanced Computer Program (ACP) and Theoretical Physics groups, will allow scientists and engineers to perform calculations faster, more conveniently, and less expensively

than before. ACPMAPS is at present being utilized for lattice gauge theory calculations, but the system will have applications in stress analysis, fluid dynamics, weather forecasting, and the solving of differential equations.

Co-leaders of the ACPMAPS collaboration are Thomas Nash and Estia Eichten. Members of the ACP

contingent include Robert Atac, Joseph Biel, Arthur Cook, James Deppe, Mark Edel, Mark Fischler, Irwin Gaines, Ming Gao, Donald Husby, Michael Isely, Thinh Pham, and Ted Zmuda. Collaborators from the Theory Department are George Hockney, Andreas Kronfeld, Paul Mackenzie, and Hank Thacker.

## Golf Awards

The mashies were flashing at the 1989 Fermilab Golf League Final Tournament. First place teams from the four Fermilab leagues went head to head in a battle for the overall League Championship Title. Congratulations go to the St. Andrews League for a fine victory. The spirits of the "Old Course" were looking down on them, indeed.

This year the League was expanded to include a new group playing at the Prestbury Country Club in Sugar Grove. Tundra Terry Sager (RD/Surv/Align) and Debonair Don Rogus (BS/Purch) were instrumental in the organization of the new League.

Trophies were awarded to the following teams at the annual banquet:

St. Andrews (8 teams) - 1st place: Steve Baginski, Al Flowers, Ken Horsey, Dyrrell Lewis. 2nd place: Rick Vidal, Tom Pawlak, John Bell, Wayne Nestander. 3rd place: Mike Hislop, Steve Holmes, Fred Ullrich, Ralph Pasquinelli. Lowest season average, nine holes: Yasuo Fukui, 44. Most points: Al Flowers.

Fox Valley (Tues.) (10 teams) - 1st place: Glen Federwitz, Steve Baginski, Paul Allcorn, Wayne Johnson. 2nd place: Herb Hill, Bill Booth, Mary Hill, Willy Yang. 3rd place (tie): Bob Webber, Ron Currier, Larry Allen, Bill Moorhouse. 3rd place (tie): Paul Forester, Tom Barnes, Steve Bjerklie, Michelle Gleason. Lowest season average, nine holes: Herb Hill, 41. Most points: Steve Baginski.

Fox Valley (Wed.) (10 teams) - 1st place: Darrell Sigmon, Claudie King, Dave Hornback, Bill Noe, Jr. 2nd place (tie): Keith Dillow, Jim Schiltz, Ed Pietras, Dave DeWitt. 2nd place (tie): Bob Scherr, Al Guthke, Marty Solis, Bill Strickland. Lowest season average, nine holes: Keith Dillow, 39. Most points: Keith Dillow.



*St. Andrews, 1st place: (l. to r.) D. Lewis, K. Horsey, S. Baginski, A. Flowers.*



*Fox Valley (Tuesday night), 1st place: (l. to r.) P. Allcorn, S. Baginski, W. Johnson, G. Federwitz.*



*Fox Valley (Wednesday night), 1st place: (l. to r.) C. King, B. Noe, Jr., D. Sigmon, D. Hornback.*



*Prestbury, 1st place: (l. to r.) D. Arnold, J. O'Malley, G. Sorenson, R. Vidal.*

Prestbury (6 teams) - 1st place: Rick Vidal, Don Arnold, Joe O'Malley, Gerry Sorenson. 2nd place: Don Rogus, Joe Collins, Byron Clark, Joe Morgan. Lowest season average, nine holes: Rick Vidal, 43. Most points: Joe O'Malley (tie), Rick Vidal (tie).

Fermilab Golf League Board members for the 1990 season: St. Andrews: Paula Cashin, Pat Liston; Fox Valley (Tues.): Larry Allen, Michelle Gleason; Fox Valley (Wed.): Vic Kuchler, Danny Sneec; Prestbury: Don Rogus, Terry Sager.

A thousand thank you's to outgoing Board members Bill Booth, Gene Dentino, and Fred Ullrich.

- Michelle Gleason

**"President" cont'd from page 3**  
dent visited E-791 in the Tagged Photon Laboratory, the Collider Detector at Fermilab, the Antiproton Source, the Accelerator Control Room, and Neutron Therapy. There followed a 3/4-hour private meeting with the Brazilian scientists currently at the Lab, arranged by Alberto Santoro, and then a short closing meeting with John Peoples, together with senior Lab and DOE staff; at 5:15 p.m. the motorcade left for O'Hare and thence to Brazil.

The whole visit went very smoothly, due to the hard work of a large number of Fermilab people. One person always in the midst of the action was Gary Verseput, Chief of Fermilab Security. Afterwards he said, "This was a unique opportunity to coordinate security operations with three federal agencies and the security services of Brazil, using at least two languages. Everyone here at the Lab cooperated with our security requirements in every way, and made it easy to coordinate the visit."

**"President" cont'd on page 6**

## NALREC News

“Octoberfest - Fermilab Style” will be held tonight, October 27, from 5:15 p.m. to 10:15 p.m. in the Village barn. John Satti and Joanne Hall have arranged for live music by “Current Times” and a special appearance by “Those Funny Little People” at 8:30 p.m. I promise you will not want to miss this. There has been talk of brats, sauerkraut, German potato salad, and refreshments. Special mugs can also be purchased commemorating the occasion. Don’t miss this one.

In the future: Thanksgiving Social (November 17), and the two big Christmas parties.

We are still interested in a few more members to the NALREC committee. If you are interested, please talk to your supervisor and then give me a call (ext. 3228). Until next time. . .

- *Trudy Kramer*

### “President” cont’d from page 5

Among others who took a large role were Mary Cullen, Barbara Lach, Bob Kephart, Bob Mau, Arlene Lennox, Stan Orr, Peggy McAuliff, Pete Loomis, Joe Lach, and Peter Cooper. Of the efforts by these and others, John Peoples commented “a fantastic job was done by the Laboratory staff - their efforts made this a truly memorable occasion. This was our first visit by a Head of State, and we trust that it will only be the first of many.” - *Roy Rubinstein*

Total number of frequent-flier miles U.S. airlines owe their passengers: **600,000,000,000**

Chances that a college freshman has impaired hearing: **3 in 5**

## Cla\$\$ified Ad\$

### FOR SALE Motorized Vehicles:

1986 JEEP CHEROKEE, 4 cyl., automatic, PS/PB, AM/FM cassette, cruise control, AC. Call Lee at ext. 3401, or 815-895-6395 evenings and weekends.

1984 CHEVY (C-20) 3/4-T CONVERSION VAN, V-8, full powered options, very good condition, 50,500 orig. miles. \$8000. Call Mary at ext. 3120 or Ken at 554-2044 after 6:30 p.m.

### Miscellaneous:

TRAK 1000 CROSS-COUNTRY SKIS, 200-cm waxless with Salomon boots and bindings (size 40), barely used, \$150 or best offer. OAK DRESSER, new condition, six easy-sliding drawers, 60 in. long x 30 in. high. \$100. Call Amie at 406-9561.

APPLE II PLUS, 128k, monitor, printer, 2 disk drives, modem, programs, games, best offer. 834-5592.

STAR NX 1000 PRINTER, 9-pin dot matrix, 1 year old, runs like new, very reliable, \$120 or best offer. Call Tom at ext. 3721 or 406-1817.

3-D CAMERA, w/accessories, revolutionary new camera using standard 35 mm film, patented, not sold in stores. To see photos/details call Dave, ext. 3585 or 896-6178.

BEAUTIFUL WEDDING DRESSES, one ivory, Marily style, size 11, \$350. The other, white, size 10, \$300 or best offer. Call 820-1152.

MICROSOFT MACRO ASSEMBLER for IBM or clone version 5.1, includes all manuals and original disks, also includes codeview debugger, \$50. Call Matt, ext. 3005 or 665-1844.

NINTENDO GAMES. Original Donkey Kong, Salom, Pro Wrestling, World Runner (without glasses), Simon's Quest, Burger Time, Legend of Zelda (I), Spy Hunter. All in original boxes with instructions, \$25 each. Call Gerry at ext. 3930.

ITALIAN CRIB, almost new, natural color, \$150. Phone 971-8341.

RCA XL100 25 IN. CONSOLE TV, remote, cable ready, 5 years old (excl. cond.), \$325 or best offer. Call Greg ext. 4731 or 892-6210.

8000-BTU AIR CONDITIONER, needs repair, \$10. 20-GAL. AQUARIUM, \$15. CURL BAR with 2 - 25-lb steel weights, \$20. 2 - 14-IN. DODGE RIMS, \$12. Call Steve at ext. 4975.

SANYO STEREO CASSETTE DECK, 5 years old, good condition, \$20. Call Paula Garrett at ext. 3401.

FREE FIREWOOD, two dead Box-Elder trees. Call Owen, ext. 3535.

### FOR RENT:

SINGLE-FAMILY HOUSE, rent \$900/month, sale \$119,900. 3 bdrms, living, dining, family rms., 2-car garage, central air, water softener, solar panels, located in Summerlakes of Warrenville, close to Lab. Call Bill at ext. 4597 or 983-0279.

2-BEDROOM TRI-LEVEL CONDO in Warrenville, all appliances included. \$600/month plus utilities. Available about November 1. Contact Linda Even, 879-2309.

### WANTED TO RENT:

Storage space for 18 ft. travel trailer, from now until end of May. Ken, ext. 2083 or 985-3188.

### LOST:

REWARD, \$25 for the return of my jacket (missing 9/20 S.E. Annex), lavender, "Liz Wear," jeans type, quilted on shoulders, Size 11/12, sentimental value, no questions asked. Call Ann, ext. 3049 or 231-9518 after 4:30 and weekends.

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