

FermiNews

The Newsletter of the Fermi National Accelerator Laboratory

TECH TRANSFER MEETING DRAWS NATIONAL LABS, INDUSTRY TOGETHER

Department of Energy officials, members of national dedicated program laboratories and industry leaders gathered at Fermilab October 6 to explore the benefits and the barriers of transferring technology between national labs and outside industry.

The *Technology Transfer at DOE Dedicated Program Laboratories* workshop grew out of the activities of the Ad Hoc Committee on Technology Transfer of Fermilab's Board of Overseers, a com-

mittee set up at the suggestion of JOHN PEOPLES. The chairman of the committee is Alexander MacLachlan, retired as DuPont's Executive Vice President for Technology. MacLachlan is now in the office of the Under Secretary of Energy. From this office, it is planned that he will oversee all of DOE tech transfer. The other DOE dedicated laboratories (SLAC, CEBAF and the Princeton Plasma Physics Laboratory) were invited to join Fermilab to describe their broad technical capabilities and to work to make technology relations with industry a win-win for both their scientific programs and the nation's competitiveness.

The workshop drew over 50 participants to the day-long meeting. John Peoples opened the conference, commenting, "We are in the midst of big science. We need technology to drive it and we need tighter relationships with big industry. This is a two-way street."

Much discussion throughout

the meeting centered on Cooperative Research and Development Agreements or CRADAs, one of the important mechanisms by which the labs and industry together develop and implement technology. In September, the Department of Energy passed its goal of 1,000 approved CRADAs—13 months ahead of schedule. DOE credits this success to the streamlining of the approval process and the broadening of technical support. Anne Marie Zerega of the DOE Office of Laboratory Management explained that the new streamlining cut average CRADA processing time from 32 weeks to 16 weeks.

Business leaders at the conference agreed that the process has improved, but suggested areas for continued development. "Cooperation with DOE labs is good for industry," said Charles Shanley of Motorola. "But there are problems. There is a lack of allocated funding and the inability to cut favorable deals because of exclusive rights and the worldwide use of technology (issue). What industry wants are realistic legal terms and the right to practice derived knowledge anywhere."

Steve Wallach of Convex suggested that to improve the process "both institutions have to want to collaborate and shorten the 'pipeline' to approve the agreement."

In outlining several DOE Office of Energy Research objectives, Zerega said the office intends to meet industry's

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Lew Meixler of PPPL makes a point during the Technology Transfer conference held at Fermilab Oct. 6. The conference drew over 50 participants from DOE, national labs and industry.

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PRAIRIE COMMITTEE BRINGS DIVERSITY TO LAB

Some are experts. Some, amateurs. And some, just enthusiasts. But they all have a common goal: to see that Fermilab's ecological diversity is maintained.

They are the Fermilab Prairie Committee. The Prairie Committee was established in the mid 1970s by prairie consultant, expert and committee member Dr. Robert Betz, and since then volunteers with varying backgrounds have joined to help improve and maintain the Lab's prairie, savanna and woodlands.

The 15-member committee, chaired by BOB LOOTENS (FESS) recently

completed the annual fall prairie harvest, collecting over 10,000 pounds of prairie seed. The Roads and Ground Department helped the committee by collecting 9,680 pounds by combine. Nearly 200 volunteers at two prairie harvests held in October hand-picked nearly 500 pounds of 30 different species of prairie seed. The seeds collected are primarily used to increase the diversity of Fermilab's prairie. They are used to oversee areas that are lacking specific plants.

The committee also donates collected seed to local schools so that the schools can start their own prairie plots. Over the last year, the committee donated seed to dozens of schools and also exchanged seed with local park and forest preserve districts.

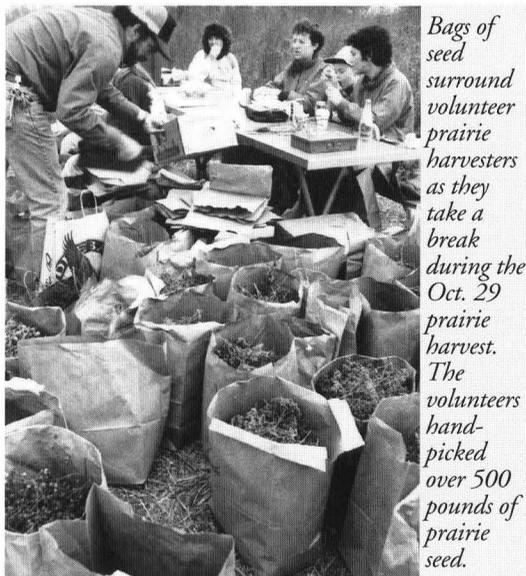
To further increase the diversity of the prairie, the committee, again, with the help of Roads and Grounds, hand-harvests seed once a year from the Markham, Illinois prairie. The Markham prairie is one of the last native, untouched prairies in Illinois. By taking seed that is in abundance at Markham, the committee hopes to fill gaps in the Lab's prairie and come closer to reaching Markham's biodiversity.

The Prairie Committee was established in the mid 1970s, and since then volunteers with varying backgrounds have joined to help improve and maintain the Lab's prairie, savanna and woodlands.

RESOURCES

MIKE BECKER of Roads & Grounds said the committee has many resources that allows them to do their job as well as they do. Membership alone is one reason. Members of the Prairie Committee include Marlin Bowles from the Morton Arboretum, Dan Ludwig from Willowbrook Wildlife, Jeff Mengler of the U.S. Fish & Wildlife Service and Kevin Brown and Julie Jastrow from Argonne. Other members include Fermilab employees RAY STEFANSKI (Directorate), BOB HALL (FESS), ROD WALTON (ES&H), PETER KASPER (RD), PAUL KESICH (ES&H), JUDY SABO (AD), BARBARA LACH (LS) and FINLEY MARKLEY (retired).

One of the most important aspects of the committee, said Bob Lootens is the attitude of the group. "Everybody works together. It's not one person. We are always looking to improve. Anything we can learn that helps the Lab, we try to do it." ■



Bags of seed surround volunteer prairie harvesters as they take a break during the Oct. 29 prairie harvest. The volunteers hand-picked over 500 pounds of prairie seed.

TECHNOLOGY TRANSFER

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needs by providing labs more flexibility in business arrangements, leveraging program funding with other Office of Energy Research programs and establishing an industry collaboration office at each lab to provide technical focus.

David Cheney, a consultant with the DOE Office of the Under Secretary, said he recognizes the needs of industry. "In-

dustry tends to be concerned about government cycle time, (but) this is a key transition period for technology transfer and reflects the high priority technology transfer has in this administration."

Fred Dylla of CEBAF added there are many wants in technology transfer. "What we really need is a home for technology transfer and a specific funding mechanism. We need to remove funding constraints." More importantly,

said Dylla, "We need to offer incentives to scientists to become involved and get interesting projects started."

To further explore the issue of technology transfer, workshop participants held afternoon breakout sessions to examine the role of the dedicated labs in major DOE partnerships, industry cultural barriers to dealing with federal labs, and structural and motivational barriers to technology transfer at dedicated laboratories. ■

EDUCATION OFFICE FIELD TRIP PROGRAMS CONTINUE TO GROW

The waning days of Autumn saw the Lederman Science Education Center set a new record for multiple-program use in one day. Approximately 270 students from several local schools turned out on October 26 to participate in a medley of activities from the *Beauty and Charm*, *Particles and Prairies* and *From Beneath the Ashes* programs.

A chain of school buses circling the Center's parking lot punctuated the real bustle going on inside the Center as well as in Wilson Hall and at various outside locations around site. Elementary and junior high school students joined their teachers, chaperones and parents for a barrage of learning activities that lasted from 9:30 a.m. until just after 2:00 p.m.

The day's activities required the full resources of all 20 of the Lederman Center's docents. While 136 seventh graders from Jefferson Junior High School in Naperville rotated through an outdoor prairie tract, pond, nature areas and indoor laboratory as part of the *Particles and Prairies* program, students from two other schools kept busy elsewhere on site. One hundred and twenty eighth grade students from Carl Sandburg School in Rolling Meadows split into two groups to complete the *Beauty and Charm* field trip and the *Quarks to Quasars* research experience. While one group explored the 15th floor of Wilson Hall, pre accelerator, Linac and Main Control Room, the other group experimented with more than one dozen interactive teaching

stations at the Center. The culminating experience for both groups was a chance to meet with TOM CARTER of the Physics Section to ask questions about Fermilab and the varied activities of a physicist.

On the Margaret Pearson Prairie Interpretive Trail, 16 fourth graders from O'Donnell Elementary School in Aurora waded through golden tallgrass prairie that towered over their heads and then hiked through the Big Woods to experience firsthand two contrasting ecosystems. After, the students learned more about the mammals of the prairie by visiting the bison herd. The students' Fermilab experiences, says Program Leader DAVID ABLER,

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NEWS FROM THE WASTE MINIMIZATION SUBCOMMITTEE

We need a new name for this column. We would like to offer an incentive to solicit suggestions or a prize to the person who suggests our new column name, but we are unable. However, we are an appreciative bunch and we will do our best to help those who help us. Remember, this is a waste minimization column, not just recycling, and we will be talking about more waste minimization in the future. Please put your name on your suggestion and send it to Kevin, MS119 or Kay, MS306 by November 21.

What's happening in recycling? In a word, success! We have overwhelmed our recycle vendor and we plan to double our pick ups. With very limited exceptions, people are learning to separate their wastes and are recycling more items. Junk mail, Styrofoam and cardboard volumes are

up tremendously, but the packing peanut volume is still rather low. Don't forget that packing peanuts are sent to Shipping and Receiving for reuse. There are packing peanut collection boxes in Wilson Hall basement, AD High Bay, CHL and DØ.

GOOD NEWS

The blue recycle bins are in stock in the Site 38 warehouse. You'll need a budget code. Look for white paper bins soon.

Volunteers have helped promote and coordinate recycling efforts in their areas. We have not yet been able to talk to each volunteer, so please be patient. We can always use more help; you can still volunteer. We would like to know that there is recycling in every area of the Lab, but unfortunately we may not

be aware of recycling at several areas.

ATTABOYS

If we had a prize to give for recycling assistance we would give it to BOB HALL and the Roads and Grounds crew for the great signs they made for us! RAY FONSECA has been a great help for several things, but mostly for help and cooperation with the Wilson Hall and Cafeteria recycling effort.

OUTLOOK

The recycling contract is up January 1, 1995. We will be looking for ways to improve the service. If you have any ideas, please forward them to Kay or Kevin. In future articles we also plan to highlight waste minimization success stories. Let us know your story.

—*Kay Weber and Kevin Moss*

DOE PRESENTS LAB WITH IHEM AWARD

The Department of Energy and the Office of the Federal Energy Management Program recently announced the 15th Annual In-House Energy Management (IHEM) Awards. In a ceremony October 5 in Washington, D.C., Fermilab was given an IHEM award as the best laboratory for its energy management program. DOE Deputy Secretary William White presented Fermilab with the award that recognizes the Lab for:

- Demonstrated reduction in energy consumption and energy costs for FY 1993 that met and exceeded mandated reduction targets in the categories of buildings, metered processes and vehicles and equipment.
- Improved energy performance through the implementation of proven energy efficiency techniques, equipment and procedures.
- Implementation of a successful employee awareness program.

- Implementation of a very effective “no cost/low cost” energy conservation retrofit program.

During an exciting period of high-energy physics at Fermilab, the IHEM Program activities have expanded steadily, gaining the momentum required to keep pace with a very dynamic work environment.

We transformed our facilities and equipment to improve reliability and keep pace with the marketplace, transformed our usage patterns to become more energy efficient and transformed our energy awareness by becoming even more proactive.

The increased energy efficiency with respect to FY 1985 levels shows that we stepped up to and met the challenges in our metered-process facilities and buildings. Metered-process energy consumption has declined compared to FY 1985 levels. The M.P.-energy-efficiency in-

dicator shows a significant increase as our system of accelerators produce higher intensities per pulse (in the fixed-target mode) and record luminosities (in the colliding beam mode), yielding even more output for each watt used. This is promising for the future as the Main Injector and the KTeV Experimental Facility reach completion.

Kudos are due to all Fermilab employees and users who contributed to and are responsible for the above performance. Kudos for the “doers” out in the field and a very proactive and supportive management. Kudos to the “150 plus” suggestors to the FEELCAP program who have pointed out areas for improvement, individual groups such as the DDC Controls Group in FESS for their initiatives and Operations and Maintenance personnel who keep Fermilab working efficiently.—*Venkat Kumar*



TORNADO SHELTER OPENS

The Chicago Precast Products Company and Fermi National Laboratory invite all Fermilab employees and friends to the opening of their jointly-developed FermiShelter at 4 p.m. on Friday, Nov. 11, 1994. This modular tornado shelter is located between 29 and 31 Blackhawk Road in the Village, in front of Lab 8. Ben Cocogliato of CPPC and HANS JOSTLEIN of Fermilab are hosting the event.



Fermilab firefighter NEIL DAL CERRO and fire chief JACK STEINHOFF and Pluggie, the talking fire hydrant, speak to children at Fermilab's Day Care Center October 3. As part of Fire Prevention Week October 3-7, the fire fighting professionals, along with Fermilab firefighter CHUCK KUHN, presented programs to the children on "Stop, Drop and Roll" and "Fire Safety."

People Events

FERMILAB ARTS SERIES PRESENTS

YOUNG ARTISTS SHOWCASE
Jennifer Koh, violin; DeMarre McGill, flute; Eric Gargrave, saxophone

Some of the finest young soloists have come through our own backyard. Each of these exceptional musicians won the Illinois Young Performer's competition resulting in performances with the Chicago Symphony Orchestra. Fermilab is proud to present these rising young stars in the Young Artist's Showcase on Saturday, November 19 in Ramsey Auditorium at 8 p.m.

Jennifer Koh, at age 17, has already distinguished herself as a violin soloist. Koh shared the top prize at this year's International Tchaikovsky Competition in Moscow and gained recogni-

tion this summer when she filled in for Midori at Ravinia. She was the youngest First Prize winner of the Concert Artists Guild Competition. She also won first prize at the 1993 Irving Klein Competition, grand prize at the 1992 Tchaikovsky International Competition for Youth and silver medal at the 1992 Carl Nielsen Competition. Koh performs on the "ex-Garcin" Stradivarius of 1731, on loan through the Stradavari Society. She will perform music by Bach, Kreisler, Tchaikovsky and Waxman.

At age 19, DeMarre McGill has already received top honors at the Flute Talk Competition 1993, Seventeen Magazine/GM Concerto Competition 1992 and the National Flute Association



Jennifer Koh

High School Competition 1992. He is in his third year of study with Julius Baker and Jeffrey Khaner at Curtis Institute, and will perform the music of Schubert.

Eric Gargrave, saxophonist, is finishing his studies at Indiana University with Eugene Rousseau. He won the 1991 Illinois Young Performers Competition, performing the Concerto by Glazounov. He will be performing music by Gershwin, Bonneau and Paul Creston.

See these exceptional young musicians performing in the Young Artists Showcase in Ramsey Auditorium November 19, 1994. Tickets are \$12. For reservations, call xARTS.

WELLNESS WORKS NEWS

TAKE NOTE

Recreation activities, league information and programs, along with Wellness Works seminars and activities will be advertised on Public Quick Mail, Vax-Info/events folder, Fermilab's channel 9 and *FermiNews*.

BLOOD PRESSURE CHECKS

A blood pressure screening will be held Tuesday, November 15 from 11:30 a.m. to 1 p.m. in Wilson Hall Atrium.

Congratulations

To Kerry and SHELLY MALINSKI (CD) on the birth of their son James Kerry Malinski. James was born on September 8, 1994 at 5:29 p.m. at Good Samaritan Hospital in Downers Grove. James weighed eight pounds and was 20.5 inches long. This is the Malinski's first child. • To Jennifer and MATTHEW WICKS (CD) on the adoption of their son Alonzo Craig Wicks. Alonzo was born February 12, 1991. His adoption was finalized on October 3, 1994. Alonzo is welcomed by his two-year-old sister Marcy Claire. • To Leslie and JOEL KOFRON (AD) on the birth of their son Stuart John Kofron. Stuart was born on October 10, 1994 at 1:01 p.m. at Mercy Center Hospital in Aurora. He weighed seven pounds, 12 ounces and was 20 inches long. Stuart is welcomed by sisters Taylor Lauren and Erin Rose. • To Virgene and LLOYD KLEIN (RD) on the birth of their daughter Amanda Nicole Klein. Amanda was born on October 17, 1994 at 11:30 p.m. at Mercy Center Hospital in Aurora. She weighed seven pounds, 13 ounces and was 19.75 inches long. Amanda is welcomed home by brother Jared.

AT YOUR (COMMUNITY) SERVICE

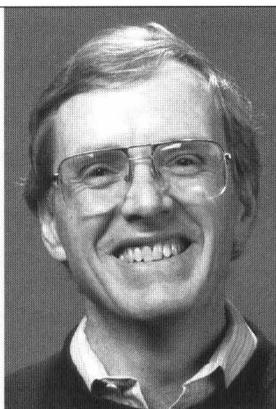
ALAN WEHMANN DONATES TIME TO LOCAL LEAGUE

ALAN WEHMANN of ES&H has been having his kicks for the last 17 years.

For nearly two decades Alan has devoted his free-time to the Tri-Cities Soccer Association. Through the years, he served not only as a supporter to his daughter's soccer team, but as a coach to his son's team, referee for the league and U10 boys commissioner. Alan is now serving as director of operational services in his sixth year on the board of directors. His duties include maintain-

ing and improving registration records and mass mailings and also scheduling games and referees.

The Tri-Cities Soccer Association includes players from St. Charles, Geneva and Batavia and currently has 242 teams and four traveling teams.



BENEFITS NOTES

CUT YOUR MEDICAL AND DEPENDENT CARE COSTS WITH REIMBURSEMENT ACCOUNTS

Although the Lab offers comprehensive health coverage, certain health expenses such as deductibles, co-payments, eyeglasses and hearing aides are not covered. And, although the Lab offers on-site day care, the costs of child care as well as care for an elderly or a disabled dependent can quickly add up.

Employees who incur these kinds of costs can get some relief by signing up for one or both of the reimbursement accounts: Health Care Reimbursement Account and Dependent Care Reimbursement Account offered through Fermilab's Flexible Benefits Plan.

Reimbursement accounts allow employees to withdraw tax-free dollars that they set aside through salary reduction to pay for eligible health care and dependent care expenses. Using before-tax dollars to pay these expenses

effectively lowers their actual cost.

Open enrollment for these accounts is held during the month of November. All employees, except dayworkers and summer employees, may set aside up to \$2,000 in the Health Care Reimbursement Account and up to \$5,000 in the Dependent Care Reimbursement Account.

Those who want to sign up for calendar year 1995 must complete new forms. Employees currently enrolled were sent new forms; all other employees should contact the Benefits Office, WH15SW, MS 126, x3395, for enrollment forms or information. Detailed information of the plan can be found in the plan's summary plan description, *URA/Fermilab Flexible Benefits Plan*, which was distributed to all employees shortly after establishment of the plan.

Completed forms must be returned to the Benefits Office by the close of business on November 30 for coverage effective January 1, 1995. See the Benefits Office if you have questions.

THEORISTS HOLD WORKSHOP

The Fermilab Theory Department hosted a workshop on the Origin of Fermion Masses and Mixings October 14 - October 16. About 75 experimental and theoretical physicists attended the meeting dedicated to one of the outstanding problems of particle physics. "The standard model contains about 17 unpredicted parameters," said JOE LYKKEN, the chairman of workshop organizing committee. "Nine of these are the masses of the six quarks and three charged leptons. The quarks and leptons are normally grouped into generations, which categorizes but does not explain the widely different masses of the fermions. Most of the other parameters are mixing angles which control the rate at which weak decays skip between generations."

"A problem as difficult as this really stimulates the theorists' imagination," said KEITH ELLIS of the Theory Department, "so we tried to obtain an up-to-date report on the experimental situation to keep the theorists' feet planted on the ground."

Attendees heard detailed reports from CDF and DØ on the status of the top quark search, as well as results from CLEO. In addition, they heard talks on the future plans for Fermilab experiments on B physics from Sheldon Stone (Syracuse) and on neutrino physics from Bill Reay (Kansas State).—*Joe Lykken*

JUST THE FAX!

You can now fax your stock withdrawals from the Site 38 stockroom. The stockroom fax number is 5433. See the stockroom for fax order sheets.

MOVIES

The Fermilab International Film Society presents movies at 8 p.m. Fridays in Ramsey Auditorium. Admission is \$3 for adults, \$.50 for children 12 and under.

■ November 11: *Divertimento*, the director's cut of "La Belle Noiseuse." A central theme of art and subject and the multiple levels of interplay in the transformation of image into art. Jacques Rivette, director, French, 1991, 150 min.

■ November 18: *A Brief History of Time*, documentary on the subject of the best-selling book by Stephen Hawking of the same title. A view of the origin of the universe by the world's leading cosmologist. Errol Morris, director, Great Britain, 1992, 90 min.

UNDER PRESSURE?

Are you stressed out? Near the edge? Learn how to manage your stress December 7 at a noon-time seminar sponsored by the Employee Assistance Program.

Yonah Klem, Ph.D., will speak on the biological and psychological components of stress from noon until 1 p.m. in Curia II. He will provide attendees with information, exercises and practical guidelines on stress reduction.

Harper's Index

Number of stories a New York City cat fell last June without sustaining serious injury: **46**

Average number of stories a cat must fall before reaching its maximum falling velocity of 60 miles per hour: **5**

MACKAY APPOINTED GALLERY MANAGER

The Directorate appointed JANET MACKAY the new Art Gallery manager last month. Janet replaces SAUNDRA POCES, who left the Laboratory in October.

As manager, Janet will work with the Fermilab Art Gallery Committee to select and arrange exhibits for the 2nd Floor Art Gallery. Her duties include making contractual arrangements with the artists and overseeing the physical transportation, set up and return of each exhibit. Janet also is responsible for organizing gallery openings and all advertising of gallery showings.

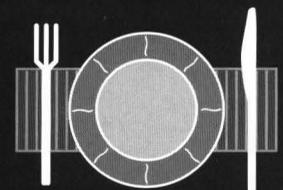
As well as her responsibilities as gallery manager, Janet continues her work as Arts Coordinator for the Lab. Janet has been coordinator since 1990. She works with the Auditorium Committee on the Fermilab Arts Series. In the past, Janet brought many excellent performers and lecturers to Fermilab, including



Ahmad Jamal, Paula Robinson, Koko Taylor, Beausoleil and Jean Redpath. She has also worked closely with Northern Illinois University's School of Music to establish Fermilab's first ensemble-in-residence, the award-winning Arianna String Quartet. Upcoming arts and lecture events include Chris Quigg's lecture, "Postcards from the Particle Frontier" on November 4; the Young Artists Showcase, featuring Tchaikovsky Award winning violinist Jennifer Koh on November 19 and the Throat Singers of Tuva on January 28, 1995.

Chez Léon Menu

Lunch (Wed) \$8.00 • Dinner (Thurs) \$20.00
Reservations: x4512



Wednesday, November 9 • *Roasted onion & garlic soup, spicy lamb & peanut stew, rice pilaf, cucumber w/spiced yogurt, baklava turnovers*

Thursday, November 10 • *Autumn salad, whitefish w/spiced pecans & roasted pepper sauce, potato & onion cakes, vegetable of the season, profiteroles*

Wednesday, November 16 • *Plantain soup, island pork, black beans & rice, avocado/tomato/cilantro salsa, banana rum cake*

Thursday, November 17 • *Basque soup, paella, watercress & red onion salad, orange custard w/caramel sauce*

CLASSIFIEDS

■ VEHICLES

1984 Mitsubishi Cordia-L, 3 dr. hatch, new tires, muffler & exhaust pipes, strong AC, AM/FM/cass., runs well, \$800. Call x2125 from 11 a.m. to 4:30 p.m.

■ MISCELLANEOUS

Entertainment shelves, oak veneer, 64"x43"x15"; curtain rods, \$5 ea.; air travel bike bags, free. Call Greg at x3011 or 708-557-2523.

Diamond, free from setting, will sell to sacrifice. All appraisal papers avail. on request. Call 708-852-8704 leave message.

Glass table & chairs. High quality chairs, black laquer w/white cushions, approx. 40"x60". Table: smoked, 3/8" thick glass w/beveled edge. Excell. cond., \$400 firm. Call Dan at 708-852-8704.

Tool box, fits S-10 models, black, \$50; Leer camper top fits Chevy full-size (8 ft. beds) cab height, gray, \$400. Call

Chuck at x3428.

Faux "Raccoon" fur coat, worn twice, size med., dark brown, frosted w/white guard hairs, \$150 o.b.o.; cross country ski boots, all leather, good cond., fit 75mm nordic bindings, \$25 o.b.o. Call x2309 or 708-985-1419.

Rossignol Slalom Equipe skis, 195cm, w/Salomon S737 bindings, \$150; Rossignol Roc 500 skis, 205cm, w/Salomon S555 bindings, \$170. Call Stan at x2680 or 708-961-7250 eve.

Olympus OM-1 35mm camera, blackbody w/soft case, 50mm F1-8 w/uv filter (Olympus), 75-150mm F4.0 w/case (Olympus), Cortland C-18 electronic flash. In very good cond. & works perfectly, \$250 o.b.o. Call Ed at 708-690-1145.

286 IBM AT computer, 60M hard disk, 10MHz, super VGA monitor, 3.5 & 5.25 floppy drives, 640K RAM, serial & parallel

ports, modem, mouse, many shareware programs, \$300 o.b.o. Call x8029.

RCA 25" color TV, wood cabinet, floor console model XL100 w/remote & cable capability, \$125 o.b.o. Call Steve at x3428.

Emco "Forever" fiberglass, half lite, vertical panel, combo storm/screen door, 36" x 80". Self-storing storm & screen, double closing cylinders, 1 yr. old, \$180 new, sell for \$90. Call Gerry at x3930 or 708-232-4061.

■ WANTED

Transportation needed for visually impaired person w/excell. mobility, no dog, between Naperville (Washington St. @ 75th) and ICB 1 day/week. Call George at x2899 or 708-416-3875.

Wanted: Full-time (40 hrs/wk.) child care for 4 month-old in West Chicago home. Contact Wei Chen at x8591 or Justin Bendich at x8715 or 708-876-9475.

EDUCATION OFFICE

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substantially contribute to the predominantly classroom-based instruction that they receive in school. As 20 seventh grade students poured into the laboratory and feverishly began scrutinizing flora samples under reflecting micro-

scopes, he observed, "It's not important that they are sketching prairie seeds or completing an assignment, but that they emulate real scientists by learning from nature—not from a textbook." For these students, their outing to Fermilab cre-

ated more than just an opportunity for a field trip. It was an excursion to a place where they were allowed to participate in personal investigations and to see the scientific process at work.

—*Brian Charles*

FermiNews

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

