

## Fermilab hosts industry, media reps at DOE Corporate Visit

Northern Illinois business executives and members of the Chicago-area media spent a day touring the Lab and learning about its education programs at the DOE Corporate Visit June 27.

The Fermilab visit kicked off the first in a series of such meetings to be held this year at the national laboratories. The DOE Corporate Visits are intended to encourage partnerships between DOE laboratories and industry in support of education.

Peggy Dufour, Director of the Office of Special Projects and Special Assistant to the Secretary, led a DOE group of education program administrators to the Laboratory to showcase the Fermilab programs. Peggy

told the group of about ten industry and media representatives that "there is no place where science and education meet as happily as they do here."

Several Laboratory postdoctoral researchers took the crowd on a walking tour through the Linac and Main Control Room before previewing a sample of the Education Office's forty-plus programs.

Representatives from Illinois Tool Works (ITW), NALCO Chemical Company, Eaton Corporation, and the Copley News Service listened as **Marge Bardeen** and **Stanka Jovanovic** of the Education Office reviewed the Target: Science and Engineering, Fermilab-EAL Summer Science Experience and



*Peggy Dufour visits with educators and student.*

DOE High School Honors Research in Particle Physics programs.

After experimenting with hands-on science exhibits and watching a demonstration of the prototype interactive video scheduled for use in the Education Center, the delegation conferred with DOE High School Honors students anxious to provide feedback on the program's effectiveness.

The group attended a lunchtime meeting with Laboratory officials and scientists, then traveled to the Village for an informative walk through the Materials Development Lab and the Wonders of Science summer camp at the Kuhn barn. A roundtable discussion between the corporate representatives and Special Assistant Dufour wrapped up the visit. —*Brian Dick*

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## Pine Street parking lot opens

The new Pine Street Overflow lot west of Wilson Hall and south of Pine Street, opened Monday, July 15. The lot accommodates 125 cars and four buses.

A portion of the lot is reserved for construction vehicles, but the vehicles do not present any danger or inconvenience.

A bark path through the woods and around the kid-

ney-shaped cooling pond on the west side of the hi-rise provides easy access to Wilson Hall and the Linac. In addition, the Pine Street Crossover Road connects east- and west-bound Pine Street, making the new lot especially accessible.

The lot is currently crushed stone, but it will be paved this fall. The finished lot will also have islands and lights.

# Lab sponsors program for disadvantaged students

Thanks to Fermilab and Educational Assistance Ltd (EAL), twenty-two economically disadvantaged high school students have glimpsed the world of particle physics. The Fermilab-EAL Science Experience, begun in 1990 and funded by the Equal Employment Office, is designed to foster the students' interest in math and science and to encourage them to attend college.

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**"Our mission is to assist these young kids," said EAL's Anderson, and EAL and Fermilab seem to be fulfilling that mission.**

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The Fermilab program is just one of the opportunity programs administrated by EAL. The Glen Ellyn-based organization began in 1982 when "DuPage-area executives wanted to make an effort to put something back into society," said Eric Anderson, EAL's Manager of Corporate Affairs. The company initiated its college opportunity programs four years ago.

EAL uses a nationwide ad campaign to solicit donations of excess inventory and assets from a wide variety of companies. "We receive donations of paint, office furniture, computer systems, you name it," Anderson says, noting that

firms receive a "favorable tax deduction" when they donate. Anderson and his colleagues then approach their 170 affiliate colleges and universities, and find one that needs the paint, furniture or any other goods that have been donated. "We then give the excess inventory to the college or university, and they agree to match the value of the donation with a college scholarship for an EAL participant," Anderson said. In addition, some of the donations are used to barter with research and development-related firms to create college opportunity programs. The Fermilab-EAL Science Experience is one of those programs, and the only one that is DOE Laboratory-based.

The 1991 student participants came from Greene County, Pennsylvania, Midland, Michigan and the North Lawndale neighborhood in Chicago. They spent the first week of their two-week session (July 8-12) in a classroom environment at Aurora University, where they were housed. The students studied microbiology, plant chromatography and Appleworks computer software during their classroom sessions.

The next week, the students visited Fermilab for an introduction to high energy physics. EAL's Anderson said he believes that hands-on science experiences, such as those avail-



*EAL students studied the principles of measurement while at Fermilab.*

able at Fermilab, give the financially underprivileged students the "skills they need to succeed in college, and they supplement and enrich what the kids have already learned."

Wheaton North High School teacher JoAnn Johnson, an eight-year veteran of Fermilab education programs, coordinates the EAL activities at the Lab. It is her task to construct a curriculum suited for freshmen through seniors of varying scientific ability. "The students are not necessarily trained in science, so we concentrate on exposure," she said. "It's not intensified in any particular area." Students explore the answers to such questions as "how do you probe the unseen?" and "what's the universe really made of?"

JoAnn and fellow instructor Ward Haselhorst of Proviso East High School con-

ducted lessons and supervised demonstrations on superconductivity and low temperature, waves, electromagnetic effects and indirect measurement. The young participants toured the Neutron Therapy Facility, and Rudy Dorner (BS/FM/Emergency Services) led them on a tour of the prairie.

The students also attended a panel discussion, arranged by Dianne Engram (LS/EEO) on the wide variety of job opportunities available at the Lab. Dianne and the other panelists explained that not all Lab jobs include "heavy-duty science," said JoAnn Johnson. "The Lab employs people with a whole range of abilities," she said, and science and science jobs don't necessarily include "just very difficult, scary stuff." On July 19, the last day of the program, the students and their

**Continued on page 6**



## Give it your energy

Preparing meals doesn't have to be an energy-guzzling process. Follow these tips to help conserve while you cook.

- **Use cold water rather than hot to operate your food disposer.** This saves the energy needed to heat the water, is recommended for the appliance and aids in getting rid of grease. Grease solidifies in cold water and can be ground up and washed away.

- **Install an aerator in your kitchen sink faucet.** By reducing the amount of water in the flow, you use less hot water and save the energy that would have been required to heat it. The lower flow pressure is hardly noticeable.

- **If you need to purchase a gas oven or range, look for one with an automatic (electronic) ignition system instead of pilot lights.** You'll save an average of up to a third of your gas use—41 percent in the oven and 53 percent on the top burners.

- **If you have a gas stove, make sure the pilot light is burning efficiently—with a blue flame.** A yellowish flame indicates an adjustment is needed.

- **Never boil water in an open pan.** Water will come to a boil faster and use less energy in a kettle or covered pan.

- **Keep range-top burners and reflectors clean.** They will reflect the heat better, and you will save energy.

- **Match the size of the pan to the heating element.** More heat will get to the pan; less will be lost to surrounding air.



- **If you cook with electricity, get in the habit of turning off the burners several minutes before the allotted cooking time.** The heating element will stay hot long enough to finish the cooking for you without using more electricity. The same principle applies to oven cooking.

- **Watch the clock or use a timer; don't continually open the oven door to check food.** Every time you open the door heat escapes and your cooking takes more energy. **Use small electric pans or ovens for small meals** rather than the kitchen range or oven. They use less energy.

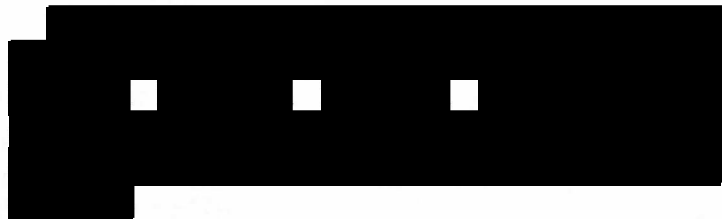
- **Use pressure cookers and microwave ovens** if you have them. They can save energy by reducing cooking time.

- **When cooking with a gas range-top burner, use moderate flame settings to conserve gas.**

- **When you have a choice, use the range top rather than the oven.**

Source: *Tips for Energy Savers*, DOE

## Congratulations to



## Fermilab marathoners sought

The Fermilab Accelerators Running club is organizing a team to run in the Chicago Marathon (26.2 miles) on October 27. Are there any Fermilab athletes who are considering this ultimate physical challenge? Interested runners should contact Steve Conlon, X4607.

## Annual Report available

Copies of the 1990 *Fermilab Annual Report* are available in the Publications Office, WH6NW. Stop by and pick up yours. No phone or mail orders, please.

# Summer employees bring diversity, productivity to Lab

The parking lot may be more crowded and the cafeteria lines a little longer, but the 200-plus students who are hired to work at Fermilab during their summer breaks bring much more than congestion to the Laboratory's operation.

"They have a great impact on the work being done here," said **Jim Lasenby** (LS/Employment). "A lot of tasks that can't be done other times because of lack of staff are completed in the summer."

According to Jim, the Lab receives between 700-800 applications for summer jobs. "We receive some as early as September, but applying early doesn't guarantee a position."

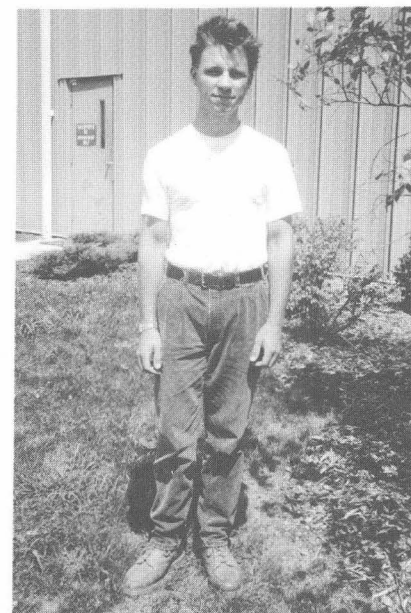
What does help secure a job is educational experience and skills that relate to a job opportunity within the Lab. The proper qualifications may vary, depending on which positions are open. Jim and his colleagues then try to match

students to jobs, based on job requirements and students' academic backgrounds and experiences. The Employment Office gives special consideration to employees' children.

Summer employees hired range from sixteen-year-old high school students to graduate students in their thirties and forties. Their duties are equally as varied, but one thing is true in every case. "They do real work," said Jim, and they help boost the Lab's productivity in their many capacities.

Following are brief profiles of five of Fermilab's summer student employees. While the five do not represent all the departments which employ summer students, they do demonstrate that summer employees come from diverse educational backgrounds, have different interests and do a myriad of jobs.

Twenty-year-old **Peter Russell** of Geneva is spending his second summer with Roads and Grounds. This fall, he will journey to Simon Frazier University in British Columbia, Canada. "They have a really good contemporary music program," Peter said. The program seems to match Peter's interests closely—it combines the study of electronics with that of modern music.



*Peter Russell*

At the Lab, Peter does "general maintenance—mowing lawns, weeding, moving picnic tables and grills for parties. It's a good job," he said. "There's a lot of variety. It's not the same thing over and over. Being outside is nice, too, if it's not too hot."

When he's not working, Peter enjoys the outdoors and is an avid cyclist. His main interest, however, is music. He has played flute and guitar, has his own home recording equipment and composes modern and post-modern music.

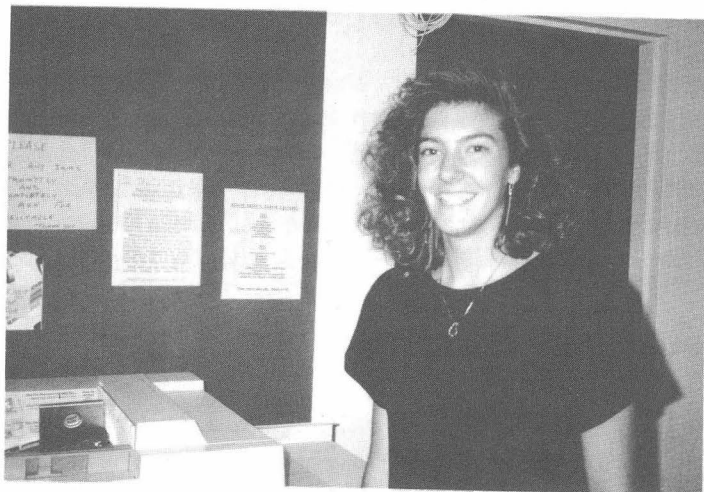
**Kirstin Fisk** could be considered a Laboratory veteran. After spending four summers as a lifeguard at the Lab pool, Kirstin has come inside to work as a secretary/receptionist in the Education Office. "I Xerox, type letters and memos, work on different projects that need to be done around the office," she said.

The University of Illinois European history major and Delta Zeta sorority officer is preparing this summer for her junior year, which she will spend studying in Milan, Italy. "I'm a little ner-

vous, but mostly excited," she said. While in Europe, she will sightsee, visit friends and study Italian and other subjects.

Kirstin enjoys working at the Lab because "people are friendly and outgoing," and because she's met people from many countries. She says she misses working with children at the pool, and that fact has made her consider a teaching career.

During her off hours, Kirstin enjoys reading, swimming, biking and other sports.



*Kirstin Fisk*



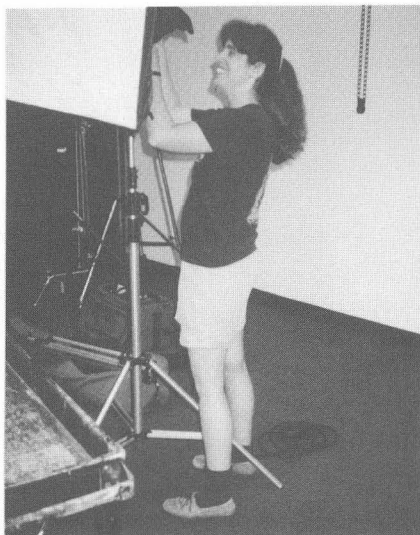
Northern Illinois University student **John Dusatko** is gaining practical experience in engineering at Fermilab for the second summer. The electrical engineering major with math and physics minors is helping to design the Arcnet Controller, which aids communication over a network. "It's a lot of fun," John said. "I really don't mind waking up in the morning."

John said that electrical engineering is a hobby as well as a career path. "I like building little toys, neat little gadgets. Kind of a nerdy

thing," he said, laughing. He also enjoys cycling and fishing.

One of the benefits of working at Fermilab, said the Berwyn native, is that "it makes you appreciate your class work. Here, you apply it, you understand. You learn about real world problems—they don't teach you about things going wrong in school." John believes his Lab experience will help him when he enters the job market next year. He plans to work first, then attend graduate school in engineering.

**Denise Poncher** a Visual Media Services intern and recent Elmhurst College graduate, will attend graduate school this fall in social documentary. Denise plans to pursue her photo-journalism/social documentary career in Israel, but this summer she is documenting happenings at Fermilab.

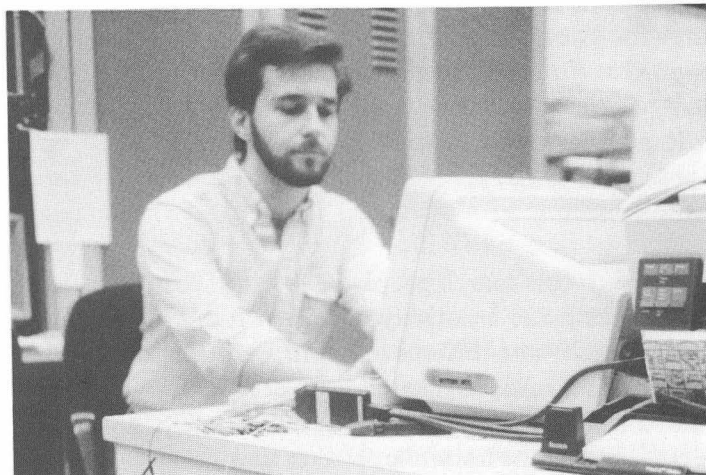


**Denise Poncher**

Denise processes and prints photos of experiments and Lab events. "I'm being exposed to other formats, like studio shooting," said the mother of two. "I'm learning about lighting, also. Everything I've done before has been with natural lighting."

Denise was exposed to an entirely different culture

last summer, when she traveled to the occupied territories of Israel to photograph Palestinian and Israeli families in their homes. Her photos were exhibited at Elmhurst College, and in September will be on display at North Shore Congregation Israel in Wilmette.



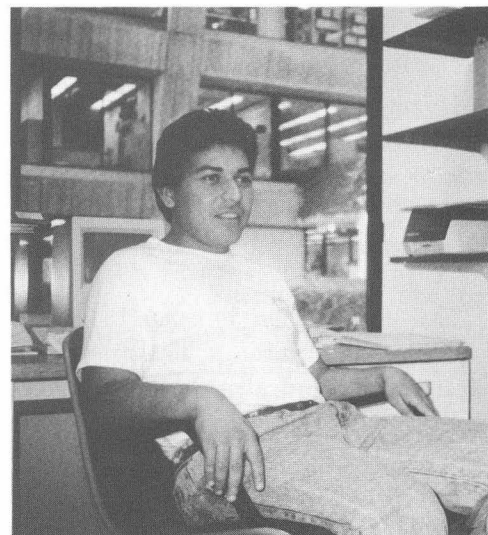
**John Dusatko**

Peruvian business student **Carlos Matta** speaks fondly of his country's history, business sector, friendly people and food.

That isn't to say Carlos, a Northern Illinois University student, doesn't enjoy the United States and the Laboratory. "I was lucky to get this internship," he said. "Working here is very nice."

This summer, Carlos, who is studying for his Master of Business Administration and Master of Management Information Systems degrees, is reviewing software developed here and determining if programs have commercial poten-

tial. His industrial engineering degree from the Universidad de Lima and his three years of experience working for a steel company in Peru are helping him with this task. In addition, he said he believes that what he's learning now will prove useful when he returns to Peru to open a business consulting firm. "My ideas before were narrow, but I'm learning a lot about the market," he said.



**Carlos Matta**

## Computer contest yields \$10,000 prize

The Johns Hopkins University is conducting a national search for ideas, systems, devices and computer programs designed to eliminate needless obstacles for the more than twenty-five million Americans with disabilities. More than one hundred awards, including a \$10,000 grand prize, will be presented to the inventors of the most innovative and useful devices.

"Through this search people have a unique opportunity to apply computer creativity to urgent human needs and make a significant difference," said Paul Hazan, Project Director of the national search for "Personal Computing to Assist Persons with Disabilities." "We want to challenge the creativity of the nation to produce useful and affordable devices, systems and software programs that will make the lives of persons with disabilities easier, more productive and more fulfilling."

Johns Hopkins University conducted a similar search ten years ago. It received more than 8,000 entries and resulted in hundreds of inventions, many of which have become standard equipment for thousands of persons with disabilities. One important entry was an eye-tracking system that allows a person to communicate using only eye movement. Entrants also invented a Braille word processor and an ultrasonic head control for wheelchairs.

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**"Through this search people have a unique opportunity to apply computer creativity to urgent human needs and make a significant difference."**

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Hazan expects the 1991 search, which is funded by the National Science Foundation, to have an even greater impact on the lives of people with disabilities, because "the level of knowledge is considerably higher and the equipment is much more capable."

The competition is open to computer professionals, students and amateurs. The program will culminate in a national fair and awards ceremony at the Smithsonian Institution in Washington, D.C., February 1-2, 1992.

For information on submitting an entry, write to C.A.P.D., P.O. Box 1200, Laurel, MD 20723. Entry deadline: August 23, 1991.

## EAL experience cont.

three Wheaton College counselors ventured to the Museum of Science and Industry in Chicago.

"Our mission is to assist these young kids," said EAL's Anderson, and EAL and Fermilab seem to be fulfilling that mission. According to **Kris Ciesemier** (LS/Education Ofc.), one student from last year's EAL group has chosen particle physics as a career.

In addition, the first twenty-one young people to benefit from EAL's programs, a group composed primarily of students from displaced coal-mining families in Greene County, Pennsylvania, have now reached college age. All twenty-one students, said Anderson, have started college.

### New items in the stockroom

1110-3200 terminals, right angle, female disconnects, non-insulated, 100 ea. per box, Panduit p/n dr14-250-c, wire range 16-14, tab size .250 X .032. \$8.20/box.

1330-0154 binder, view, looseleaf, slant 3-ring, vinyl covers, clear overlay on front/back/spine, 1 in. cap., 8 1/2 x 11 in., white. \$4.10/each.

1455-3830 integrated circuit, ttl compatible, 8 bit up/down counter, synchronous, tri-state I/O, 145 Mhz, 16-dip, Signetics N74F779N. \$3.72/each.

1980-1130 carbon dioxide gas, minimum purity 99.99 pct., Coleman instrument grade, CGA 320 Fitting, W/O diptube. 830 psig at 70 deg, 60 lb. cylinder size. \$39.50/cy.

2250-0895 gloves, cotton, disposable, medium weight, hemmed edge,

magic glove p/n 66oh or equal, ladies' size. \$.30/pr.

1105-0100 battery, alkaline, eveready E90 or equal, N size, 1.5 volt. 96/each)

1110-3205 terminals, right angle, female disconnects, non-insulated, 50 per box, Panduit p/n dr10-250-L wire range 12-10, tab size .250 X .032. \$7.07/box.

1110-4400 terminals, female disconnects, vinyl insulated, 100 per box. Panduit p/n dv18-250-c, wire range 22-18, tab size .250 x .032. \$11.81/box.

1110-4405 terminals, female disconnects, vinyl insulated, 100 per box. Panduit p/n dv14-250-c, wire range 16-14, tab size .250 x .032. \$11.81/box.

1110-4410 terminals, female disconnects, vinyl insulated, 50 per box, Panduit p/n dv10-250-L, wire range 12-10, tab size .250 x .032. \$7.66/box.



## Fermilab Day Camp features non-stop fun

Recent visitors to the Laboratory may have noticed an active brood of children, happily engrossed in artistic projects, rousing games of kickball or walks through the prairie. These children—the offspring of Lab employees and users—are participants in Fermilab's fifth annual Day Camp for kids.

"It's fun!" said eleven-year-old **Jamie Roberts**, a five-year Day Camp veteran. "I like the sports and the swimming best." **Stephanie Holmes**, seven, likes reading stories. Nine-year-old **Matt McDonough** looks forward to group games. "We play kickball, softball, volleyball and squirrel tag," he said. Squirrel tag? It's an elaborate twist on the classic game of tag.

These activities are just a few of the many that occupy the time of the thirty children registered for each of the Fermilab Day Camp's three sessions. The seven- through twelve-year-olds play, learn and explore. "It's never the same thing twice," said **Missy Franck**, a University of Illinois student and Day Camp counselor.

**Jean Guyer** (LS/Activities Ofc.), who organizes and supervises the program, said the children "do arts and crafts, play games, sports, go swimming and go on nature walks." Each



*Day campers enjoy a swim on a hot July day*

group of children takes two field trips, perhaps to a baseball game, roller skating or to Brookfield Zoo. Swimming lessons are optional. Science demonstrations round out the children's activities.

According to **Marilyn Paul** (LS/Activities Ofc.), the Lab's Day Camp holds some advantages over traditional park district day camps. The first advantage is the price—a bargain at \$200 per child for each of two four-week sessions, and \$150 per child for the final three-week session. Children can attend half-days for half the cost. The Day Camp's hours are longer than other programs'. Parents can drop their children off at the Village Barn any time after 7:30 a.m. and pick them up any time before 5:30 p.m. Day Camp meets Monday through Friday.

"Another advantage for parents is that they don't have to make a special trip,"

said Jean. In addition, the Camp has an open-door policy, so "parents can come and swim, take their child out to lunch, just spend time with the child," she added. Jean is confident that children feel safer knowing that their parents are close by on the Fermilab grounds.

The international flavor of the Day Camp also adds interest. "Kids who don't know English at the start of the camp end up communicating with the other kids by the end," Jean said. Many of the children have attended Camp together before, and have become fast friends. This fact adds to the Day Camp's community environment.

Counselor **Missy Franck** identified some of the best aspects of Day Camp. "It's exciting, and it keeps you on your toes," she said. Most importantly, "they're all good kids!"

## "Taste of Fermi" nears

Nalrec is getting everything lined up for the Taste of Fermi to be held Friday, August 16 at 4:30 p.m. in the Users Center Grove. It should be a great time for all. There will be plenty of food—including Tevatron Tacos, P-bar Hot Dogs, Top Quark Gyros and Main Injector Chili. The Dixie Highway Band will provide the music for Closed Particle Dancing, and a variety of games for children and adults will feature exciting prizes. Try your luck in a raffle, and test your pitching arm at the Fermilab dunk tank! !

If you would like to help with this event, call Alma at X3528.

Nalrec is looking into sponsoring another Cougars game. If you are interested, please contact George Davidson.

Mark your calendar. The September Social is on Friday the 13th. Be there or BEWARE.

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## Harper's index

Percentage of the electricity consumed in the United States that is used for air conditioning: 13

Maximum amount of perspiration a sunbather can produce in one hour, in quarts: 1

## Clas\$ified ad\$

### Miscellaneous

**Macintosh computer**, 512 Kbyte memory, 800K internal floppy disk drive, external 400K floppy disk drive, keyboard, cables. Asking \$350. Joe Lach, X4103, MS219, WH 11W.

**Rocker**, very large, all wood. Bigger than those sold today. Cannon ball style, \$100. Call Steve, X4607 or (708) 879-1452.

**Sega video game**, 2 play pads, light phasor, rapid fire joy stick, 3-D glasses, 13 games. New \$650. Will sell for \$325. **77 Kawasaki KZ650**. Very clean, low miles, new tires. Must sell. Asking \$700. Call Frank, X4389 or (815) 695-5059.

**Nintendo games**. Orig. manuals including: *Metal Gear*, *Batman*, *Ducktails*, *Ninja Gaiden*, *Bayou Billy*, *Rampage*, *Gradius*, asking \$25 each. **1983 Plymouth Reliant wagon**, 2.2L, AM/FM, very good cond., \$1850. **Ethan Allen solid maple bedroom set**, bed frame includes head/foot boards, dresser and hutch, \$300. Call Greg, X4467 or (708) 879-5337.

**Women's 10-speed bike** with generator and lights. Excellent condition, \$40. Two **water softeners**, a Culligan Mark 5 and a Parks stand-alone unit.

\$50 each. Jeff Utterback, X3880, (708) 556-3721.

**Sofa**, good condition. \$25 or best offer. Will provide transportation near Fermilab. Daniel, X3604, (708) 416-0195.

**30-gal fish aquarium** with wooden stand, under gravel filter, whisper filter and pump, new heater and light. \$100. Call (708) 377-8256 after 6 p.m.

**Men's Raleigh Record 10-speed bicycle**. 21" frame, new Shimano 105 shifters, \$75. Call Al, X4829, evenings, (708) 232-4825.

### Motorized vehicles

**1983 Ford Escort L**, 73k miles. \$1,000 obo. **Buick Electra Estate Wagon**, 1983, 113k miles, new transmission, brakes, tires, starter, Pioneer radio. \$1,600 obo. Must sell—moving on Aug. 22. Isaias, X4477, (708) 840-3744.

**Ford E200 van**, 46k miles. Body mint, \$2,500 obo. **Air comp.** 1 h.p. 20-gal. tank, \$50. Also **3-bedroom ranch house** in Boulder Hill. Details—Dennis, X4227.

**1968 Camaro SS**. Black metallic, red int., no rust. \$7,000 obo. Gary, X3075.

**1987 Ford Ranger XLT**, 7' bed w/liner, 2.3 liter 4 cyl., 5-speed OD trans., AM/FM

cassette stereo. \$5,450. Bill, X4553 or (708) 892-9763.

**1986 Yugo**, 36K, AM/FM cassette. \$1,000 obo. Call Ali, X4477.

**1985 Nissan Pulsar NX**, reliable, red, 5 spd, sunroof, AC, one owner, new tires, excellent cond., great gas mileage. Best buy for college, 2nd car. \$3,499 obo. (312) 431-3224.

**1978 Chevy Malibu wagon**. Runs well, good work car. Must sell, \$500. Call Bruce, X3541 or (708) 355-7209.

### Wanted

**Roommate wanted**. Eastern Illinois University coed to share an apt. in Royal Heights. (new building, furnished). Must be a non-smoker and responsible. Rent is \$170/mo. plus 1/4 utilities. Call (708) 851-4663 after 5 p.m.

## August movie schedule

The Fermilab International Film Society presents movies with worldly flair. All films are shown in Ramsey Auditorium at 8 p.m. and foreign-language movies have English subtitles. Admission costs \$2. The August lineup is:

Friday, August 9:  
**La Lectrice** (*The Reader*)

Actress Miou-Miou plays a professional reader who takes the viewer on a sophisticated/seductive voyage between fiction and life. Michael Deville, director. France, 1988.

Friday, August 23:  
**Yaaba** (*The Grandmother*)

In Director Idrissa Ouedraogo's village in West Africa, two young cousins befriend an old woman branded as a witch. Winner, International Critics Prize, 1989 Cannes Film Festival. Africa, Switzerland, France, 1989.

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The deadline for the Friday, August 16 *FermiNews* is Wednesday, August 2. Please send your article submissions or ideas to the Publications Office.