

## FFLA "Beauty and Charm" Workshop a Success

by Barbara Grannis

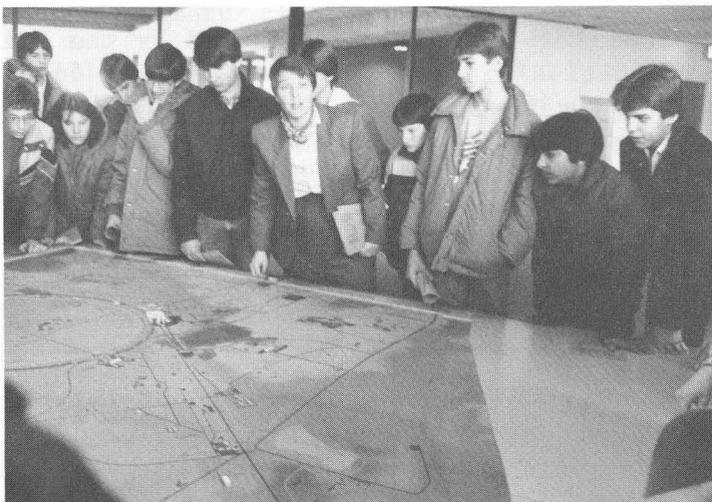
You can be sure that when a group of teachers meet at Fermilab to participate in a "Beauty and Charm Workshop," the topics covered will be light years away from cosmetics, cakewalks, and designer gowns. "Beauty and Charm" is a pilot program designed to develop and test hands-on educational materials for the junior-high/middle-school classroom. Its aim is to introduce students to some of the concepts underlying research into particle physics.

The program grew out of the realization among local educators that, while programs for high-school science teachers were reaching an ever widening audience (see "Summer Institute for Science Teachers," **FermiNews**, June 27, 1985), junior-high teachers had few resources to assist them in enhancing their curriculum. Always ready to respond to a call for action, the Friends of Fermilab Association (FFLA) sponsored a needs-assessment workshop in May 1984 to find out what could be done to help. The result was "Beauty and Charm at Fermilab: An Introduction to Particle Physics," a three-part program under the direction of Dr. David Boulanger, a science educator and administrator at Triton College, and curriculum committee chair Marguerite V. Cox, Director of Instruction at Glenbard Township High Schools, District #87.

The first phase of the project involved the development of a five-part science unit to be tested in area junior high schools. The kit was developed by Larry Small, science coordinator for Schaumburg School District #54 and Fred Tarnow, Mary Barrett, and Gene Halterman, junior-high science teachers in that district. It consists of a series of

hands-on activities for students to find out just how small is small, and how to find and observe what we cannot see.

The kit makes use of everyday articles to model, in a simple way, what physicists



Barbara Grannis (center) points out areas of import and interest to "Beauty and Charm" students.

do. One activity, for example, involves a number of ball bearings of different sizes, rolling down a ramp set at varying heights (a ruler wedged into a styro-foam cup) onto a "master sheet" of paper covered by carbon paper. The ball bearings create tracks characterizing their size and speed on the "master sheet." These tracks are used as a key to identify the size and

speed of unknown ball bearings that make a set of tracks in a collision. This simple experiment is analogous to the use of bubble-chamber photos to identify particles.

Included in the kit is an eight-page tabloid newspaper, *Fermi Flash*, written and produced by editors of the award-winning *ECHO*, the Glenbard East High School student newspaper. The student journalists visited Fermilab and interviewed a number of physicists, engineers, technicians, and support staff. The newspaper features articles on basic research, accelerator development, neutron therapy, buffalo, and art at Fermilab as well as word searches, acrostics, rebuses, and a want-ads column - all with a particle physics theme. *Fermi Flash* will be distributed to approximately 2000 junior high-school students in Kane and DuPage counties and in the Schaumburg area.

After all the materials for the kit were developed, the all-important testing

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...**"Beauty"** cont'd from pg. 1

phase began. Seventeen area junior-high science teachers were selected from a group recommended by school administrators to attend workshop sessions and become familiar with the kit materials. The participants received a stipend of \$225 for participating in the workshop. The sessions were held over three Saturdays in October and November 1985, and included a tour of Fermilab, a lecture by Director Leon Lederman, and discussion sessions with experimentalist Drasko Jovanovic, and theorist Chris Hill.

Over the winter the teachers introduced the kit materials in their classrooms. The culminating activities are the visits to Fermilab by the teachers and their students, which are in progress, with Fermilab physicists serving as volunteer hosts. For these visits, a 26-minute videotape "starring" three students from Glencrest Junior High School in Glen Ellyn is being produced. The scripted video

follows the students on a trip through various areas of the Lab which are not accessible to large tour groups, and records their discussions with Lab physicists.

Evaluation of the program will take place in the spring and the program will be revised where necessary based on the participating teachers' suggestions. If funding becomes available, the program will continue into the next school year.

The "Beauty and Charm Workshop" is sponsored by the Friends of Fermilab Association and funded by the U.S. Department of Energy. The Needs Assessment Workshop was supported by a grant from the Bersted Foundation. Friends of Fermilab staff contributing to the project's fundraising and administration include Stanka Jovanovic, Marge Bardeen, and Barbara Grannis, Diana Smailus.



*On January 16 & 17, 1986, Australian Senator David McGibbon visited Fermilab to study the feasibility of Australia funding high-energy physics experiments. While he was here, Senator McGibbon toured the Accelerator, the Magnet Facility, and the Experimental Areas.*

*Senator McGibbon (center) is shown in the photo above with his daughter, Jane McGibbon, who is a graduate student at the University of Cambridge in England, and is studying cosmology in the Fermilab Astrophysics Department. On the right is Phil Livdahl, Deputy Director of Fermilab.*

## Benefits Notes . . .

For the twelve months from March 1, 1986, through February 28, 1987, your TIAA annuity will be credited with the following total effective annual rates of interest:

- A) 10% on that portion of your accumulation resulting from premiums paid and Additional Amounts credited to your annuity on and after January 1, 1986;
- B) 11% on that portion of your accumulation resulting from premiums paid and Additional Amounts credited to your annuity from January 1, 1985, through December 31, 1985;
- C) 11.75% on that portion of your accumulation resulting from premiums paid and Additional Amounts credited to your annuity from January 1, 1982, through December 31, 1984;
- D) 10.50% on that portion of your accumulation resulting from premiums paid and Additional Amounts credited to your annuity from January 1, 1979, through December 31, 1981;
- E) 9.50% on that portion of your accumulation resulting from premiums paid and Additional Amounts credited to your annuity prior to 1979.

During the twelve months ending February 28, 1986, the rates for the four pre-1986 accumulation periods were 11.75%, 12%, 10.50%, and 9.50% respectively. The new rates reflect a reduction in the rate of return on all premiums paid after January 1, 1982.



# Fermilab Amateur Radio Club (WB91KJ) Back on the Air

Inactive for 12 years, Fermilab's Amateur Radio Club has come back on the air. The last official activity of the old radio club was to update its constitution and bylaws and renew its license in 1973. Then, house in order, it disappeared.

Dave Peterson, who came to Fermilab two years ago from IBM, got in touch with Rich Krull, who was president of the club at its demise in '73. Together, they found some interested individuals, had some informal meetings, and decided the time was right to resurrect Fermilab's radio club, call-letters WB9IKJ.

The club utilizes two types of transmission. A repeater (a combination receiver/transmitter) installed on top of Wilson Hall, extends the useful range of hand-held or mobile radios up to 30 miles surrounding the Lab. The club's base station in a room in the farmhouse at Site 56, extends club-members' radio reach virtually world-wide, operating in the lower frequencies. Duane A. Plant, the club's vice-president (KD9KO), recently carried on simultaneous conversations with a tanker off the coast of Venezuela and Harry D. (Hoot) Hooten (W6TYH), a California resident in his '80s who more or less wrote the book on antenna systems.

driving to the Geneva train station, came upon a man lying by the side of Rt. 31, north of Fabian Parkway. Dave used his mobile radio, relayed by the repeater on top of Wilson Hall, to contact Les Wahl (WA9WJB), who phoned the TRICOMM emergency dispatchers. Dave and Lab employee Herman White, who was passing by, stayed with the hit-and-run victim until the police and ambulance arrived, Dave all the while relaying information to TRICOMM through Les.

Membership in the Amateur Radio Club is open on two levels: Fermilab employees with a ham radio operator's license can become full members, while employees without a license and non-employees with a license are eligible for associate membership.

The club will be holding an open house at their HQ at Site 56 on Saturday, March 22, from 8 a.m. to 4 p.m. Everyone is invited for a demonstration of ham radio's life-saving, globe-spanning capabilities.

The Fermilab Amateur Radio Club wishes to thank the following people for their assistance: Bob Adams, Chuck Anderson, Rudy Dorner, Jim Finks, Jim Griffin, Phil Livdahl, James Miller of DOE, and Bob Vargo.

For more information on ham radio and the club's activities, contact Dave Peterson (ext. 3073), Duane A. Plant (ext. 4385), secretary/treasurer Ray Tomlin (ext. 3721), trustee Rich Krull (ext. 3709) or club mascot Les Wahl (ext. 4465).

GREETINGS FROM  
**BATAVIA, ILLINOIS**  
KANE COUNTY  
**W B 9 I K J**

**FERMILAB AMATEUR RADIO CLUB**  
**PO. BOX 500 BATAVIA IL. 60510**

CONFIRMING QSO WITH	FREQ.	TIME	DATE	RST
W6TYH	20M	11:21Z	11/16/85	5X9

OPERATOR DUANE / KD9KO  
RIG T3-130 ANT. LONG WIRE

PSE QSL  TNX QSL

*Cards, such as the one shown above, are sent to radio operators as confirmation of contact. This card verifies the conversation Duane Plant had with "Hoot" Hooten.*

There is a practical side to ham radio operation, as was amply demonstrated on Tuesday, December 3, of last year, when club president Dave Peterson (KD9IG), while

## McCulloch Wins NESRA Post

Helen McCulloch, who oversees the Recreation element of the Activities Office, has been named as Secretary for the National Employee Services and Recreation Association (NESRA). Helen, who has been a member of NESRA since 1976, is currently president of her local NESRA chapter, the Chicago Association for Recreation and Employee Services.

NESRA is a non-profit, professional organization dedicated to the principle that employee services, fitness, and recreation programs are essential to a sound work environment. It is the oldest association in the human resources field. NESRA serves as a communication and resource network for nearly 4000 members nationwide, who are responsible for implementing a diverse range of employee services.

### Housing Note

The deadline for receipt of reservations for summer on-site housing is Friday, March 21, 1986. Housing assignments will be made in April, and responses will be mailed April 11. The starting dates for summer occupancy will begin June 1. For further information, contact Pam Naber or Cheryl Bentham on ext. 3777.

### Congratulations To . . .

Christine and Eugene (*TS/Magnet Test Facility*) Schmidt on the birth of Jonathan Neil, on December 8, 1985, at Kaiser Hospital in Honolulu, Hawaii. Jonathan weighed 8 lbs., 13-1/2 oz., and was 20 in. long. Jonathan was welcomed home by his brother, Peter, and his sister, Katie.

Dorothy (*LS/Children's Center*) and Fred (*RD/CDF*) Lewis on the birth of their first child, Marcus Lamont, on January 2, 1986, at Mercy Center Hospital. Marcus weighed 7 lbs., and was 19 in. long.

Gema and Manuel (*TS/Machine Shop*) Santana on the birth of Crystal Lucia, on February 12, 1986, at Mercy Center Hospital. Crystal weighed 7 lbs., 13 oz., and was 20 in. long. Awaiting Crystal at home were Jaime, Gema, and Teresa.



### Film Society Presents

Good eevening. Two of Alfred Hitchcock's greatest films, re-released only after his death, come to the Ramsey Auditorium on Friday, March 14, 1986.

**Rope**, which stars James Stewart, is based on the Leopold-Loeb murders, and is noted in film annals for Hitchcock's attempt to shoot the story in what appears to be one long, uninterrupted shot. **Vertigo**, featuring Kim Novak and Stewart (again), is a true psychological thriller, a "haunting tale of death, murder, illicit love, and psychosis," and a text-book exploration of Hitchcock's personal neuroses.

The double feature begins at 8 p.m. Admission is \$2.00 for adults, 50¢ for children, at the door.

*Editor: R. Fenner; Assoc. editor: S. Winchester  
Photography: Fermilab Photo Unit*

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## Tornado Drill Set this Month

In the past, tornado drills have been conducted for a particular section of the Laboratory at a given time. This year, an Ad Hoc Committee, representing all divisions and sections, was appointed by Associate Director Bruce Chrisman to prepare a plan for a **site-wide** tornado drill. The upcoming tornado drill, scheduled for the week of March 17, will test the entire siren alarm system and the joint occupancy of certain shelters. Observers will be posted around the site to critique performance during the drill. If you are not familiar with the tornado evacuation plan for your area, contact your emergency warden or your division/section safety officer.



## Sign-up for Karate Classes

All students enrolling in karate classes for the first time before March 17, 1986, will receive a free uniform (a \$30.00 value). The cost for the class is \$36.00 for 10 weeks. Classes meet Monday, Wednesday, and Friday from 5 - 6 p.m. in the Recreation Complex. You must be a member of the Recreation Complex to join. Classes are open to employees, users, DOE and contract personnel. Contact Mark Leininger at ext. 4776, or (312) 695-3262.

## Chain Letters Slow Mail Service

*"Chain chain chain/  
Chain of fools."*

Aretha Franklin

Aretha knew what she was talking about. Another chain letter has made its appearance at Fermilab (and across the U.S., no doubt) offering the usual windfall profit on the cost of some postage stamps, and the same dire consequences if the chain is broken.

Facilities Management wishes to point out the fact that chain letters in the inter-Lab mail system create an additional and unnecessary burden on the mailroom staff, slowing down the mail-delivery process.

Security, in turn, would like to take this opportunity to once again remind everyone that the dissemination of chain letters, in addition to being silly, is a violation of federal postal laws and is contrary to Fermilab regulations.

