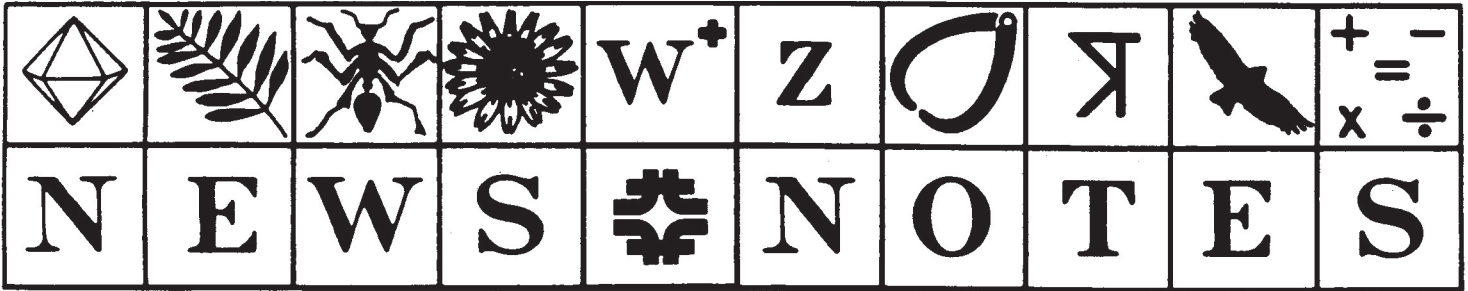


# Fermilab Friends for Science Education



P.O. Box 500, MS 226 Batavia, IL 60510-0500

Fall, 2006

## Goodbyes and Hellos

Summer's end signalled a time of change for personnel in the Education office.

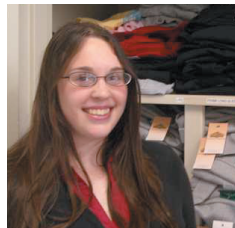
The first stirring came when long-time staff member Carol Bensen resigned her job as receptionist at the Lederman Center to pursue a degree in landscape design full-time.



For nine years Carol was the person who welcomed visitors to the building and oriented them to the lab. Hired as a docent, Carol took on full-time desk duties in 1997, assisting guests and also designing brochures for the Education office and marketing Fermilab

logo merchandise—a project she nurtured into a real moneymaker for FFSE. After completing her degree, Carol plans to free-lance and also to work with her husband, an architect.

Andrea Varry is Carol's replacement at the front desk. A new employee at the Lab, Andrea recently graduated from the University of Iowa with a degree in anthropology. She says she enjoys the museum-like feel of the LSC, "especially when kids are around and it's not super-quiet."



The next long-time employee to depart was Priscilla Meldrim, docent coordinator, field trip supervisor and coordinator of the prairie programs, who retired on September 1.

Like Carol, Priscilla started her career at Fermilab as a docent, in 1988. She was here for the earliest days of the field trip program, when only the middle-school Beauty and Charm field trip was offered, dates were recorded in a little Hallmark calendar, and just three part-time docents sufficed to handle the demand. In addition to Priscilla's responsibilities as docent and field trip coordinator, she served on the ELM committee and as a member of the Chicago Wilderness coalition.

Priscilla's pleasure in interacting with teachers, Lab personnel and docents was always evident.

In retirement, her plans include travelling with her husband, visiting children and grandchildren, and "doing all the jobs at home that were put off until retirement—like cleaning the basement."

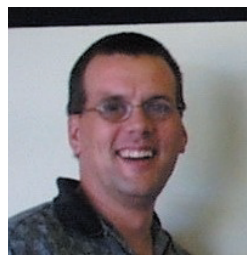


Sue Sheehan is taking over from Priscilla as an Education Program Leader, overseeing prairie programs and field trips and supervising the docent program. A docent for the past nine years, Sue has plenty of experience conducting field trips, classes, and

teacher workshops. With two co-workers she undertook a study of pollinating insects in the Fermilab prairie, resulting in the publication of their work last year in the Chicago Wilderness journal.

In 2005 Sue became a certified Interpretive Trainer for the National Association for Interpretation. In that capacity she has been involved with teaching workshops for docents and other guides who want to incorporate NAI's interpretive methods. Before coming to Fermilab, Sue taught mathematics at the junior high, high school and college levels.

Sue's job will keep her busy for the next few months as field trip season gets underway, but when not working, she enjoys walking in the prairie, biking, hiking and spending time with her husband and two sons.



Finally, the QuarkNet office is undergoing a change as Tom Jordan, the project director, relocates from an office at Fermilab to one at the University of Florida in Gainesville.

The University has been a participant in the QuarkNet program for years. It is also Tom's alma mater. When Tom needed to move to Florida for family reasons, it was a natural choice for his new home base. Although Tom will no longer be prowling the 15th floor of Wilson Hall, we are glad to know that e-communication will keep his jokes and helpful advice arriving regularly.

## **President's Message:**

### **WE'RE READY**

*With the start of the 2006-07 school year, we begin a new year in the Education office.*

*Docents are lined up to give young scientists a prairie experience they won't forget. All the rain and sunshine have produced wonderfully tall grasses so that we hear the voices but cannot see the students taking quadrat data. A lineup of scientists and engineers are ready to visit classrooms bringing the excitement of physics to the students. Districts have been contacting the Teacher Resource Center for assistance with inquiry-based learning and curriculum adoption.*

*New cosmic ray detectors are in high school classrooms waiting for students to take data. A workshop for high school physics teachers on superconductivity is scheduled for November. We have a few new exhibits on their way to the Lederman Science Center, and the Tech Lab is getting a new set of laptops. A new public tour program to introduce neighbors to Fermilab is set for most Wednesdays during the school year.*

*Last year we worked with over 200 volunteers and 50 instructors and touched the lives of almost 25,000 students and 5,000 teachers. We look forward to another fantastic year.*

*I would like to take this opportunity to add a special thank you to Anne Mary Teichert, the new editor of News Notes. She has done a great job this past year keeping you informed through two News Notes and the Annual Report.*

## **Symposium Podcast**

As a follow-up to the Symposium on the Nature of Science held in March of 2000, FFSE sponsored the production of a DVD with short talks by eight young scientists.

This past summer, David Mackenzie, a summer intern with Visual Media Services, worked with Jim Schultz of VMS to recast these talks in an interview format for a new podcast, available to the public on-line at [http://vms-streamer1.fnal.gov/VMS\\_Site\\_03/Lectures/NOSPodcasts/index.html](http://vms-streamer1.fnal.gov/VMS_Site_03/Lectures/NOSPodcasts/index.html).

Mackenzie, son of Fermilab theorist Paul Mackenzie, spent hours listening to the original material, identifying themes, then devising questions which could be answered with segments of the pre-recorded material. He recorded his own voice asking the questions and spliced in "answers" from the scientists, creating the feeling of a lively roundtable discussion. He also wrote a short introduction and provided music and narration.

The resulting podcast will make the original material attractive and available to those who look to new media for entertainment and information.

***Mark your calendars!***  
**FERMILAB OPEN HOUSE**  
***Sunday, February 11, 2007***

## **Have Detectors, Will Travel**

FFSE funds are paying for three cosmic ray detectors which are available to high school teachers in Kane and DuPage counties. Teachers who request help from Fermilab in teaching their students about particle physics may borrow the detectors for a day, a week, or for an extended period. Bob Peterson, Education Program Leader for QuarkNet, brings the detectors to the schools, orients the teachers and students to their use, and provides on-going support for the project.

"Cosmic rays are ubiquitous," says Peterson. "About 100 pass through your hand each minute, so they offer an excellent opportunity for classroom study. Learning about them expands students' thinking about how the very small relates to the very large and gives kids a sense of wonder. Cosmic rays come from far distances, they are very old and very energetic, and they connect kids to the universe."

The detectors are the latest model, a new design that has been in the works for the past eight months. Production began at the beginning of the summer and detectors are now being shipped around the country to schools participating in the QuarkNet program. The new detectors are more portable than the last version, more student-friendly and more easily repaired.

If teachers in Kane and DuPage counties choose to borrow the detectors for an extended period, data collected by their students can be added to that gathered by students in the world-wide QuarkNet collaboration. These data are available to anyone with a web-browser and afford students all over the world an opportunity to participate in doing real science.

For more information about the detector loan program, contact Bob Peterson at [rspete@fnal.gov](mailto:rspete@fnal.gov).

## **Ask-a-Scientist**

Once a month Fermilab offers an opportunity for the public to meet scientists and tour parts of the lab.

Visitors begin their three-hour program in Wilson Hall with a 45-minute talk by a scientist. Following the talk, they tour the Linear Accelerator and visit the 15th floor, where they may speak with scientists, or simply enjoy refreshments and a spectacular view of the lab. Occasionally visitors tour other sites, such as CDF, the Magnet Factory or the Feynman Computing Center, in conjunction with specific talks.

Ask-a-Scientist is held from 1-4 on the first Sunday of most months. Registration deadline is noon on the Friday before the event. Register on-line at [edreg@fnal.gov](mailto:edreg@fnal.gov) or call Nancy Lanning at 630-840-5588.

Upcoming talks include:

November 5: **A Look at D-Zero** by Don Lincoln, scientist on the D-Zero experiment.

December 3: **I've Got the World on a String** by Joe Lykken, theoretical physicist.

## School Year Kick-Off

On Sept 14, Susan Dahl, in her capacity as Region 1 Director for the Illinois Science Teachers Association (ISTA), hosted a school year kick-off celebration for association members at the Lederman Science Center. It was an opportunity for teachers to interact with each other, learn about useful resources, and discuss how the association could better support science teachers in their region.

Teachers serving as "Points of Contact" in the BaP (Building a Presence for Science) program were also invited, providing a forum for these two groups to meet and network. BaP is an award-winning national program dedicated to the improvement of science instruction and learning. Points of Contact are teacher-representatives within schools who receive and distribute information about science resources, grants, professional development opportunities and students programs to their colleagues.

As a special treat, the evening included a presentation of "Ben's Electrical Fire" featuring Dave Johnson and Todd Johnson. Dave and Todd, a Fermilab Tevatron technical specialist, have constructed equipment similar to that used by Ben Franklin when conducting his electrical experiments. Along with more modern equipment, they use these instruments to recreate the curious and playful spirit of Franklin's inquiries into electricity.



Dave and Todd perform a hair-raising demonstration on teacher Anna Zuccarini.



Dave floats bubbles above the heads of the audience.

### Scientists In the Classroom

On September 5, the Education Office hosted a recruiting lunch for Fermilab scientists who might be interested in presenting classroom demonstrations of physical science concepts at area schools.

The luncheon allowed potential volunteers to meet current presenters in the program and to learn about the need and importance of this free classroom-based program. New volunteers will be mentored by current presenters. The yearly recruiting drive enables the program to maintain a fresh and growing group of volunteers.

### FFSE Program Leaders Picnic

On August 17, FFSE hosted over 20 summer program lead instructors at a picnic celebrating a summer packed with professional development workshops and programs for students.

FFSE board members and Education Office program leaders met one another, renewed acquaintances and most importantly learned from one another about the wide range of programs offered with their leadership. It was an opportunity to give a well-deserved "thank you." We plan to make this an annual event.

### NEED COMPUTERS?

FFSE is offering several sets of Macintosh computers for use in science classrooms. The computers have the 10.3.9 OS installed, however, no system disks are included. Some have a CD and some have DVD drives. Some of the computers are G3s and some are iMacs. Computer carts are also available. FFSE would like to see them put to good use for science or mathematics instruction in a K-12 classroom.

If you are interested, write an informal "letter of intent" to FFSE stating how you plan to use the computer/s. Be sure you include full contact information and send it to [mbardeen@fnal.gov](mailto:mbardeen@fnal.gov) or mail it to:

FFSE, Marjorie Bardeen, President  
P.O. Box 500  
MS 226  
Batavia, IL 60510.

Also, send a copy to [wmeadors@fnal.gov](mailto:wmeadors@fnal.gov) or

Waylon Meadors  
LSC  
PO Box 500  
MS 777  
Batavia, IL 60510.

Recipients will be responsible for picking up the computer/s at the LSC. A "letter of acknowledgement" (i.e., a thank-you note) to FFSE should follow the pick up of the computers.

Requests will be fulfilled on a first request basis and will go to the best proposal of use. A FFSE committee will review the proposals and notification will be made by October 23, 2006. The request deadline is October 20, 2006.

## Membership Form

### Annual Dues:

Director.....\$1,000  
Patron.....\$500  
Sponsor.....\$250  
Benefactor.....\$100  
Regular.....\$50

*Please check the appropriate membership category and enclose your check made out to **Fermilab Friends for Science Education**.  
Include matching funds from your company, if applicable.*

Name \_\_\_\_\_

(Partner) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

Employer (self) \_\_\_\_\_

Employer (partner) \_\_\_\_\_

Matching Funds (yes) (no)

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