



Education Office

(Engaging Students in Our Science)

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Education Office Programs

- . . . strengthen primary and secondary school education by using Lab resources to improve teaching and learning.
- . . . support summer intern programs for undergraduate students.



FY11 Stats



Over 36,000 kids
& 2,600 teachers
in 34 programs



K-12 Education Office Programs

Research Experiences

- Academic Year High School Interns
- QuarkNet Summer Research (Student/Teacher Teams)
- TARGET
- TRAC

Field Trips/High School Tours

- Lederman Science Center
- Physics Science Experiences
 - Beauty and Charm
 - Phriendly Physics
- Prairie Science Experiences
 - Insects at Work in Our World
 - Prairie - Our Heartland
 - Particles and Prairies
- Tours

Teacher Resource Center

- Resource Collections
- Workshops
- Chem West

Classroom Resources

- Classroom Presentations
- Data for Students
 - I2U2 e-Labs & Science Investigations
- Online Resources
 - What is scientific research?

Classes for Kids

- Prairie Rangers
- Saturday Morning Physics
- Science Adventures
- Scout Programs

Special Events for Kids and Families

- DUSEL Education Collaboration
- QuarkNet Masterclass
- STEM Career Fair
- Wonders of Science
- Family Open House
- Family Outdoor Fair

Awards (Supported by Fermilab Friends)

- Fermilab Science Award
- Fermilab Science Scholarship
- Program Scholarships

Professional Development for Teachers

- Fermilab/U Chicago QuarkNet Center
- I2U2 Teacher Workshops
- Physics Experiences Teacher Workshops
- Prairie Experiences Teacher Workshops
- Prairie Workshops
- QuarkNet Boot Camp
- QuarkNet Outreach
- Summer Secondary Science Institutes

Welcome

Educators

Physicists

Students

Visitors



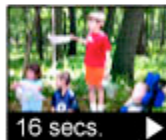
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14 secs.



16 secs.



19 secs.

Welcome to the website of the Fermilab Science Education Office. Click on the different audience tabs to find science education resources and information about our activities suitable for you. Click the videos to see the audiences in action.

Use the navigation bar at the top and bottom to learn more about us and our programs.

Quick Links to Programs

[Tours](#)
[QuarkNet](#)
[Fermilab - UChicago Center](#)
[LInC Online](#)
[Science Adventures](#)
[Teacher Workshops](#)
[Saturday Morning Physics](#)
[Scout Programs](#)
[Registration](#)
[Internships](#)

**Volunteer Opportunities
for Employees and Users**

Quick Links to Resources

[Lederman Science Center](#)
[Teacher Resource Center](#)
[Data-based Investigations](#)
[Fermilabyrinth](#)
[Prairie Resources](#)
[Web-based Materials](#)

ed.fnal.gov

Fermilab Ed Site

Search

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More ways to follow ...



**Check out the
Teacher Workshops**



**Attend the Family
Outdoor Fair
June 10th, 1 - 4 PM**

**Get FermiGear!
Click Here**



Calendar for

All

June, 2012

6 Get to Know Fermilab Guided Tour
9 Dinosaur Hunt
10 Junior Prairie Rangers -
Prairie Pin Session 4

[More...](#)

Education Office News

· Bison, birds and bugs at Fermilab
Family Outdoor Fair

Undergraduate Intern Programs

IPM
Lee Teng
SIST
CCI
SULI
VFP

Summer Internships



[Home](#) | [Programs](#) | [Key Dates](#) | [Contacts](#) | [Mentors](#) | [Faculty](#) | [Lectures](#) | [Tours](#) | [Former Interns](#) | [About Fermilab](#)

Internships for Students and Teachers



Accelerator Research

Michelle Alvarado worked on diagnostic software to monitor a laser beam at the AZero photoinjector laboratory.



Each summer Fermilab offers a variety of [intern programs](#) for secondary school teachers, high school students, undergraduates and graduate students. Interns have an opportunity to work on projects that support particle physics experiments in areas such as applied physics, engineering and computing. Working with Fermilab scientists or engineers, interns have an opportunity to experience current research methods and study problems of particle physics research. Also, Fermilab offers a few internships in environmental studies, particularly working in hundreds of acres of restored tallgrass prairie. Interns are selected for their outstanding scholarship and their interest in science, technology, engineering or mathematics. To get an idea of the type of projects available, read about the [work of some of our former interns](#).

Fermi National Accelerator Laboratory | [Office of Science/U.S. Department of Energy](#) | [Managed by Fermi Research Alliance, LLC](#)

[SECURITY, PRIVACY, LEGAL](#)

ed.fnal.gov/interns

M. Bardeen, Users Meeting, June 2012

Volunteering



Make classroom presentations.

Help us get the science right.

Advise/mentor teachers and students.

Speak with students and teachers.

Interact with the public.

Speak, do demos and help out at special events.



Before



After

Teacher Resource Center

Susan Dahl
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Bringing Physics Presentations to Students for Presenters

Remember why you became a scientist! Visit a classroom, Inspire young students. Fermilab scientific and technical staff can share demos ready to take to a local classrooms.

To volunteer, contact [Andrea Varry](#).

[Tips for Presenters](#) - [Classroom Talks](#)
[Teachers' Page](#) - [General Resource Links](#)

Charge! Electricity and Magnetism

Grades 2-8

Fermilab scientists know how magnets big and small work and how they apply to our world. Students explore the relationship of magnetism and electricity and have questions answered about the power of these forces.

Forces and Motion

Grades 2-8

Speed, motion, momentum, gravity, forces. These realities control our world, but sometimes we don't understand the differences. Fermilab scientists share activities and demonstrations to help students develop a deeper understanding of the concepts of force and motion.

Physics of Sports

Grades 4-12

Fermilab scientists guide a discussion and exploration of the impact physics has in a variety of sports. Explore the why's and how's of better equipment and techniques or learn how to analyze swings, strokes and more. Inspired by the *Active Physics* series and other materials.

Light and Color

Grades 2-8

Light helps us learn and explore our world! Students explore the phenomenon of light and how the waves and particles produce our colorful world.

Physics in the Real World

Grades 6-12

Scientific and technical staff share the real world of physics. What are their days like on the job at Fermilab? What do they do? How do physicists learn to be problem solvers? What research are they doing? What kind of tools do they use?

Space, Time and Einstein

Grades 7-12

Can you catch up with a ray of light? What happens when things go very fast? Einstein realized that space and time (what are they?) get mixed up. How many dimensions are there? Does gravity have anything to do with electricity and magnetism?

Cryogenics Show

Grades 2-8

This assembly-style show demonstrates and involves students in the fascinating field of supercooling. Fermilab engineers use liquid nitrogen to supercool magnets for least resistance; other industries use supercooling too. Learn about this cool field.

Three Things to Remember



- ★ Tell your students about Fermilab internships.
- ★ Volunteer.
- ★ Get ideas from the Teacher Resource Center.