

**Fermilab: Bringing Science Education to You**  
**Education Program E-Alert — January 2017 – August 2017**  
**Calendar • What we're planning • From the TRC**  
<http://ed.fnal.gov>

**Spread the word to your colleagues.**

Find interesting opportunities and resources in the Fermilab Education Office E-Alert newsletter. E-mail [sdahl@fnal.gov](mailto:sdahl@fnal.gov) to be added to or deleted from our mailing list.

***Calendar***

2017 is Fermilab's 50th anniversary, and we're planning to celebrate all year long. An anniversary kickoff party with Chicago band Mucca Pazza was held on January 21. Other public events will include a special Family Open House on February 12, anniversary-themed Arts and Lecture Series events, and a huge open house in the fall. Sign up for our monthly newsletter, [Fermilab Frontiers](#), to stay informed of our upcoming events, and watch [Fermilab's website](#) for more information as the anniversary approaches.

**For Families**

February 12 – [Fermilab Family Open House](#)

March 19 – [Wonders of Science](#)

**For High School Students**

April 19 – [Science, Technology, Engineering and Mathematics High School Career Expo](#)

**For Teachers**

February 19 (Deadline) – Teacher Research Associates Program at Fermilab

March 3 – NGSS Science and Engineering Practices Institute Day (open registration workshop)

March 6 (Deadline) – FFSE [Scholarship Application Site](#)

**Elementary Teachers**

June 19–21 – [The Prairie – Our Heartland](#)

June 22–23 – [Insects at Work in Our World](#)

July 31–August 4 – [Phriendly Physics](#)

**Middle Level Teachers**

July 17–21 – [Beauty and Charm](#)

July 24–28 – [Energy and Ecosystems: Prairie, Water and Woods](#) (formerly Particles and Prairies)

**High School Teachers – Summer Secondary Science Institutes**

June 19–23 – Summer Secondary Biology Institute

June 19–23 – Summer Secondary Physics Institute: Modern Physics, Fermilab and NGSS

June 26–30 – Summer Secondary Physics Institute: Waves, Sound, and Optics

We are in the process of updating our high school institutes to incorporate the Next Generation Science Standards and provide a related Fermilab field trip experience. See website for updates.

### ***What we're planning***

#### **Fermilab Family Open House**

February 12 – 1:00 p.m.–5:00 p.m.

The FREE open house will be most appropriate for families with children in grades 3 and up. Tours restricted to those ages 10 and up. Go to the website to register for the tours. Watch the website for updates.

#### **Science, Technology, Engineering and Mathematics High School Career Expo**

April 19 – 5:30 p.m.–8:30 p.m.

High school students from Kane and DuPage Counties are invited to meet scientists, engineers and technicians from many STEM careers. Ask career questions of the experts. Attend panels to learn more. The program at Fermilab's Wilson Hall (high rise) is FREE with no registration required. Access posters from this site to let your students know about this event at <http://ed.fnal.gov/programs/careerfair/posterpage.html>.

#### **Teacher Research Associates Program at Fermilab**

<http://trac.fnal.gov>

Appointments through the Teacher Research Associates (TRAC) program are expected to be available for Summer 2017. TRAC program goals are to provide outstanding science, mathematics, computer science and technology teachers with professional scientific, engineering or technical experiences through summer research opportunities. Participants can transfer their increased awareness and understanding of cutting-edge science and technology back to the classroom. The eight-week appointments have a stipend of \$700 per week. See details on the website. The application deadline is February 17, 2017.

#### **NGSS Science and Engineering Practices Institute**

<http://ed.fnal.gov/ngss-institute>

March 3 – 8:30 a.m.–2:00 p.m.

This full-day institute provides an opportunity for teachers to engage in a challenge activity which is a blended physics and life science issue, and discuss their own utilization of NGSS science and engineering practices through the challenge activity. Also included are the opportunities to compare the grade level continuum of the SEP throughout the activity, communicate process, data and strategies utilized through their experience in the challenge activity, and interact with a panel of scientists and engineers to discuss the authenticity of these practices in their work and relevance to the classroom. Breakouts may include comparison of templates and resources to translate the challenge activity to your own designs, development of school or district STEM/ NGSS vision for teaching and learning, and/or review of STEM instructional materials.

#### **Scholarships for Teacher Workshops, Science Adventures and Transportation**

[http://ed.fnal.gov/ffse/ed\\_ffse\\_scholarships.html](http://ed.fnal.gov/ffse/ed_ffse_scholarships.html)

Funding for professional development for teachers and enrichment for students such as doing science in the field is becoming increasingly difficult for schools. We also know that not all families have the opportunity to enroll students in science and math enrichment classes. Fermilab Friends for Science Education offers scholarships for teachers to attend summer workshops and to assist with field trip transportation expenses, and provides scholarships to families for student classes held at Fermilab. Deadline to apply is March 6 for workshops held during Summer 2017 and field trips for

school year 2017–2018. Applicants will be notified by April 3, 2017.

### **Science Adventures**

<http://ed.fnal.gov/sciadv>

Science Adventures, informal classes for students in grades PreK–10, continue on Saturday throughout the school year. See the home page link for Science Adventures for a listing of current classes. Interested in being a Science Adventures instructor? Contact [Susan Dahl](#).

Teachers, are you planning a STEM Family Night at your school? Attend the **STEM Family Night Planning Workshop** on **March 2, 7:00–9:00 p.m.** This session includes facilitator training for the Hands-on Science exhibit collection. After attending the HoS facilitator training (part of the STEM Family Night Planning Workshop), you qualify to borrow a set of five physical science hands-on activity exhibits that demonstrate the concepts of momentum and acceleration. Exhibits include a 4' x 6' gravity accelerator, two tabletop exhibits, the Linac Accelerator to explore waves and the "shape shooter" to explore the geometry of a hidden shape, a variety of ramps and curves, and the 2.5' x 5' gravity collider. Send a minimum of two representatives from your public library, PTA organization or school for facilitator training. Fermilab provides free delivery, pickup and loan of the Hands-on Science collection. Details and registration through Science Adventures.

### **Classroom Presentations – New presentations coming soon!**

[http://ed.fnal.gov/trc\\_new/demos/](http://ed.fnal.gov/trc_new/demos/)

Fermilab volunteers offer interactive presentations to enhance your classroom curriculum. If your school is within reasonable driving distance of the Lab, Fermilab scientists, engineers and technicians bring presentations to your students. Presentations are geared toward students in grades 2 through 12 and are free of charge to classrooms. Select a topic related to your curriculum, a few optional days, and read the "Additional Information" link regarding how many presentations and students can be accommodated. New presentations under development during the Fermilab's 50th anniversary include computing, engineering, and neutrinos.

### ***From the Teacher Resource Center***

#### ***What we're reading***

Need some help staying on top of the professional literature? We can help. Here are some key resources we are reading:

*Early STEM Matters, Providing High-Quality STEM Experiences for All Young Learners*, University of Chicago and Erikson Institute, January 2017. <http://ecstem.uchicago.edu>

*Science Teachers' Learning: Enhancing Opportunities, Creating Supportive Contexts*, National Academies Press, 2015. <http://tinyurl.com/hm2dwmb>

### **Like the Fermilab Education Office Facebook Page.**

If you are a Facebook member, you'll receive updates from us if you "Like" our page. Join a group. When logged into Facebook, go to the top search box and search for "Fermilab Teacher Resource Center" and click "Ask to Join Group" on the top right. As a member, you can read and post questions and comments to the other members of this group. You can also have online chats with other members of the group.

**Contact Program Staff**

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