

Fermilab: Bringing Science Education to You
Education Program E-Alert — January 2018 – August 2018
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 Office of Education and Public Outreach E-Alert newsletter. E-mail sdahl@fnal.gov to be added to or deleted from our mailing list.

Calendar

For Families

February 11 – [Fermilab Family Open House](#)

April 29 – [Wonders of Science](#)

For High School Students

April 18 – [Science, Technology, Engineering and Mathematics High School Career Expo](#)

For Teachers

February 18 (Deadline) – Teacher Research Associates Program at Fermilab

March 2 – Kane County Regional Office of Education Institute Day

March 5 (Deadline) – FFSE [Scholarship Application Site](#)

Elementary Teachers

June 18–20 – [The Prairie – Our Heartland](#)

June 21–22 – [Insects at Work in Our World](#)

July 16–20 – [Phriendly Physics](#)

Middle Level Teachers

July 23–27 – [Beauty and Charm](#)

July 16–20 – [Energy and Ecosystems: Prairie, Water and Woods](#) (formerly Particles and Prairies)

High School Teachers – Summer Secondary Science Institutes

June 18–22 – Summer Secondary Biology Institute

June 18–22 – Summer Secondary Chemistry Institute

June 18–22 – Summer Secondary Physics Institute: Mechanics

June 25–29 – Summer Secondary Physics Institute: Electricity and Magnetism

We are offering a new chemistry workshop this summer! The Summer Secondary Chemistry Institute will provide participants with the opportunity to align their chemistry instruction with the three dimensions of the Next Generation Science Standards. Master teachers will lead discussion and activities designed to engage students in the crosscutting concepts and science & engineering practices of the NGSS in order to teach high school chemistry content.

What we're planning

Fermilab Family Open House

February 11 – 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 18 – 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 2018. 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 18, 2018.

Kane County Regional Office of Education Institute Day

<http://www.kaneroe.org/institute-day/>

March 2 – 8:30 a.m.–2:00 p.m.

The Fermilab Office of Education and Public Outreach is offering the following sessions through the Kane County ROE.

Physical Science in Three Dimensions, Early Childhood and Elementary

Amanda Early and Susan Dahl

Explore and analyze activity stations reflecting the disciplinary core ideas of waves, energy, matter and forces. What science and engineering practices would you and your students be engaged in as you do the activities represented by the stations? Can the activities be improved? Consider crosscutting concepts linking the DCIs of the stations to tell a story of physical science. Learn how to access additional support from the Fermilab Office of Education and Public Outreach.

What Makes an Ecosystem Work?

Maureen Hix and Mary Jo Murphy

Utilize Illinois prairie and woodland models to design and develop a healthy, functioning natural ecosystem in your school or community. Apply real-world scientific methods, NGSS engineering practices and crosscutting concepts to engage your students as they explore the interdependent relationships in these secret worlds. Discover the ecosystem services and benefits that these systems provide mankind. Learn about hands-on, field-based trips and support opportunities through the Fermilab Office of Education and Public Outreach and the Illinois Department of Natural Resources.

Scholarships for Teacher Workshops, Science Adventures and Transportation

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 5 for workshops held during Summer 2018 and field trips for the 2018–2019 school year. Applicants will be notified by April 9, 2018.

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 21, 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/

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 Fermilab's 50th anniversary, including computing, engineering and neutrinos, will be available soon.

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>

[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.

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