

**Fermilab Education Program E-Alert – September 2017 – Spring 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 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**

**Saturday, September 23, 2017; 10 AM–4 PM**

We are planning for and excited about the Community Open House for Fermilab's 50th anniversary! If you are registered, we look forward to seeing you. If you were not able to register, we look forward to seeing you at other events throughout the year.

**For Families**

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

Spring 2018 – [Wonders of Science](#)

**For High School Students**

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

**For Teachers**

October 27–28 – Illinois Science Teachers Association Conference. See us there!

November 13 – **Northern Illinois Science Educators Conference**. See us there!

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

March 2 – Three-Dimensional Learning in Physical Science (Next Generation Science Standards)  
Institute Day (open registration workshop)

March 5 (Deadline) – FFSE **Scholarship Application Site** will open November 20.

**Elementary Teachers**

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

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

July 16–20 – [Friendly Physics](#)

**Middle Level Teachers**

July 23–27 – [Beauty and Charm](#)

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

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

June 18–22 – Summer Secondary Physics Institute: Mechanics

June 18–22 – Summer Secondary Biology Institute

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

June 18–27 – Summer Secondary Chemistry Institute (tentative)

We continue to update 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**

**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. The online scholarship application form will open November 27. Deadline to apply is March 5 for workshops held during summer 2018 and field trips for school year 2018–2019. Applicants will be notified by April 9, 2018.

### **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 expected application deadline is February 18, 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 **October 4, 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**

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

Fermilab volunteers offer 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. Watch the website as we post new presentations for school year 2017-18.

***Due to a change in scheduling, availability for the Mr. Freeze of Fermilab shows will be limited until further notice.***

### ***Save the Date***

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

February 11, 2018 – 1:00 p.m.–5:00 p.m.

<http://ed.fnal.gov/ffse/openhouse/>

#### **Three-Dimensional Learning in Physical Science (Next Generation Science Standards) Institute Day**

March 2, 2018 – 8:30 a.m.–2:30 p.m. Open registration for teachers covering grades PreK–8.

Check the website calendar as details are made available.

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

April 18, 2018 – 5:30 p.m.–8:30 p.m.

<http://ed.fnal.gov/programs/careerfair/>

### **Wonders of Science**

Spring 2018 – 1:00 p.m.–5:00 p.m.

<http://ed.fnal.gov/events/wos/>

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

Are you looking for **STEM or engineering materials, science or math curriculum** for your classroom? The Teacher Resource Center has an ever-growing collection of materials at all grade levels. Schedule time to examine materials or discuss free NGSS or targeted professional development for your school or district.

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

### ***What We're Reading***

As we work with Fermilab technical staff to prepare new classroom presentations, we examine the research and standards of the new focus areas, especially computational thinking. Which standards best address this area and which content areas are most impacted by a coherent definition of “computational thinking”? Here is a sampling of the documents we found of interest.

BBC, *Introduction to Computational Thinking*, Accessed online on September 5, 2017 at: <http://www.bbc.co.uk/education/guides/zp92mp3/revision/1>

Computer Science Teachers Association, *CSTA K–12 Computer Science Standards*, Revised 2017. Accessed online on September 5, 2017 at: <http://www.csteachers.org/page/standards>

International Society for Technology in Education (ISTE) and the Computer Science Teachers Association (CSTA), *Computational Thinking Leadership Toolkit*. Accessed online on September 5, 2017 at: <http://www.iste.org/docs/ct-documents/ct-leadershipt-toolkit.pdf?sfvrsn=4>

Shelton, Eli, *Computational Thinking Across the Curriculum*, Edutopia. Accessed online on September 5, 2017 at: <https://www.edutopia.org/blog/computational-thinking-across-the-curriculum-eli-sheldon>

### **Visit our website – <http://ed.fnal.gov>**

For more details on programs, follow any of these links from the home page:

**"Quick Links to Programs"** links to **"Teacher Workshops."** Use the **"Calendar."**

**"Search Programs"** lets you set the parameters for programs of interest to you.

Use the **"Educators"** tab or **follow the links** listed below.

### **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. We may add groups in the future for other areas of interest.

**Contact Program Staff**

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