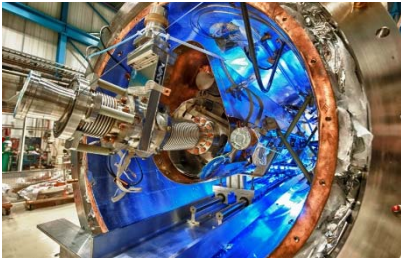


# 2016 EFCOG ESW Tours Friday - July 22, 2016

## Tour Site Descriptions

Tours will be scheduled based on level of interest and docent availability. Attendees will indicate in which tours they are interested during the registration process.

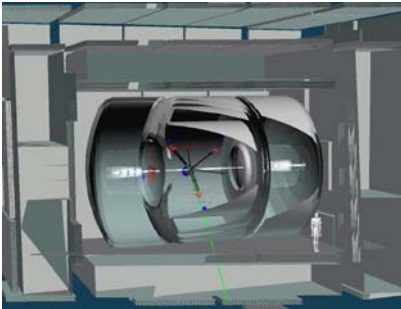
For certain tours, the number of people in each tour group and the number tours we can offer is limited. Fermilab will do the best it can to match tours with interests, but its unlikely an attendee will be able to go on all the tours. Tour slots will be allocated according to the priorities you indicate in your registration and the order in which we receive registrations.



### **Accelerator Tour (walking):**

Get a birds-eye view of the accelerators and see displays of accelerator and detector equipment on the 15th floor of Wilson Hall, followed by visits to the Linear Accelerator, Main Control Room and G-2 ring. The Fermilab Linac is a 400MeV H- particle accelerator. It includes a 35KeV H- ion source, 750KeV RFQ Injection Line, 116MeV Drift-Tube Linac operating at 201.25MHz, and 401MeV Side-Coupled Cavity Linac operating at 805MHz. The recently-arrived G-2 ring was specially delivered from Brookhaven to use Fermilab's high intensity beam to search for muon behavior that may differ from what the Standard Model of physics predicts.

<http://www.fnal.gov/pub/science/particle-accelerators/accelerator-complex.html> &  
<http://muon-g-2.fnal.gov/>



### **The DØ Collider Detector:**

See the D Zero assembly building and control room with detector models and components, then walk inside the actual 5000-ton detector that confirmed the existence of the top quark during the Tevatron run 1 and narrowed the search for the Higgs Boson during the Tevatron run 2.

<http://ed.fnal.gov/programs/tours/dzero.shtml>



### **Fermilab Accelerator Science & Technology Facility (FAST):**

FAST is being constructed to host a broad range of experiments studying the fundamental limitations to particle beam intensity and developing transformative approaches to particle-beam generation, acceleration and manipulation. FAST incorporates a superconducting radiofrequency (SRF) linac coupled to a photoinjector and small-circumference storage ring. FAST will be a test-bed for SRF accelerators and high-brightness beam applications. <http://asta.fnal.gov/>



### **Fermilab Site:**

R. W. Wilson, Manhattan Project physicist and Fermilab's first director, recognized and preserved the site's unique natural heritage and potential. See restored prairies, farmhouses and barns, the Pioneer Cemetery, and the bison herd. See also several sculptures and iconic buildings that reflect Wilson's artistic vision.

<http://www.fermilabnaturalareas.org/> & <http://history.fnal.gov/sculpture.html>



### **Grid Computing Center (GCC):**

Visit Fermilab's parallel-processing Tier 1 data center that handles and stores much of the data from the CMS experiment at CERN's Large Hadron Collider. Fermilab's Grid Computing Center is part of the Open Science Grid (OSG) that optimizes computing resource use across the many institutions that participate in the OSG consortium. The tour will include the server rooms, central mass storage tape robots, and electrical power distribution.

<http://www.fnal.gov/pub/science/computing/grid.html>



### **MINOS & NOvA near detector caverns:**

Go 350 feet below the Illinois prairie to see the near detectors for the Main Injector Neutrino Oscillation Search (MINOS) and NuMI Off-Axis Ne Appearance (NOvA) experiments. These detectors characterize the Neutrinos at the Main Injector (NuMI) beam at the start of its journey toward the complementary far detectors in Minnesota's boundary waters region.

<http://www-numi.fnal.gov/MinosAreas/layout.html>



### **Technical Division:**

Tour the technical division facilities dedicated to research and development, design, and precision fabrication of conventional and superconducting magnets and radio-frequency cavities for particle accelerators. The Technical Division facilities produced many of the magnets and radio frequency cavities used to guide and accelerate particle beams at Fermilab, CERN, and other U. S. and international laboratories.

<https://www-td.fnal.gov/>