

EDIT-2012 Detector School at Fermilab

“Excellence in Detector and Instrumentation Technology”

First school at CERN was a response to a strong need, as shown in ICFA survey

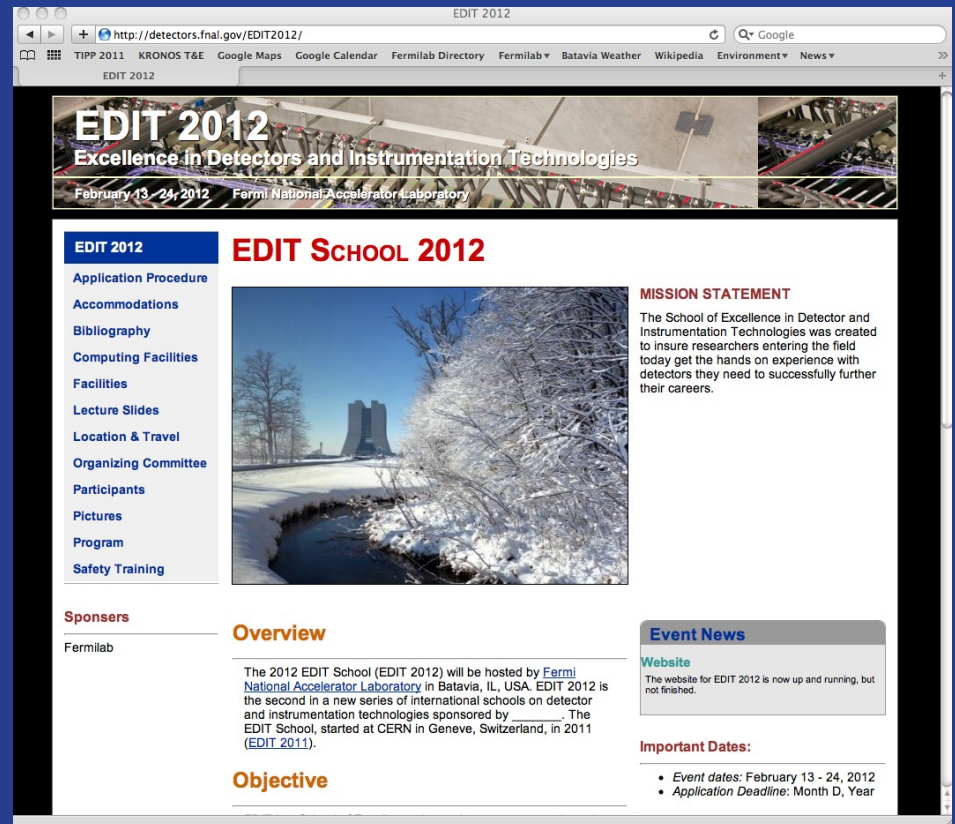
Big success, with 88 students participating.

Fermilab is hosting next school in February 13-24, 2012

For graduate students/early Ph.D.'s

10 days of hands-on detector experience, including two days in the test beam!

Applications accepted starting late Summer.



The screenshot shows a web browser window displaying the EDIT 2012 website. The browser's address bar shows the URL <http://detectors.fnal.gov/EDIT2012/>. The website features a header with the text "EDIT 2012 Excellence in Detectors and Instrumentation Technologies" and the dates "February 13 - 24, 2012" and "Fermi National Accelerator Laboratory". A navigation menu on the left lists various sections: Application Procedure, Accommodations, Bibliography, Computing Facilities, Facilities, Lecture Slides, Location & Travel, Organizing Committee, Participants, Pictures, Program, and Safety Training. The main content area is titled "EDIT SCHOOL 2012" and includes a "MISSION STATEMENT" section, a "Sponsors" section (listing Fermilab), an "Overview" section, and an "Objective" section. A "Event News" section is also present, with a "Website" link and "Important Dates" listed as "Event dates: February 13 - 24, 2012" and "Application Deadline: Month D, Year". A large photograph of a snowy landscape with a building in the background is featured in the center of the page.

Logistics

- 64 students, split into 8 groups of 8
- 4 comprehensive ‘tracks’, of 2 days each:
 - Fundamentals of radiation detection
 - Silicon tracking detectors and DAQ
 - Photodetection, Particle ID, Calorimetry
 - Test Beam delivery, triggering, and detection
- In-depth tours of FNAL Facilities and Detector Halls on staggered ‘off’ day
- Students receive certified training in
 - Radiation worker
 - Controlled access
 - Radiation source
 - Cryogenics

Group	1	2	3	4	5	6	7	8
Tuesday	1	1	1	1	something else			
Wednesday	2	2	2	2	1	1	1	1
Thursday	1	1	1	1	2	2	2	2
Friday	2	2	2	2	1	1	1	1
Monday	1	1	1	1	2	2	2	2
Tuesday	2	2	2	2	1	1	1	1
Wednesday	1	1	1	1	2	2	2	2
Thursday	2	2	2	2	1	1	1	1
Friday	something else				2	2	2	2

(Each color is a different track)

- Stagger groups - only 1 group of 8 is present at each station on any given day.
- Day starts with single plenary lecture, followed by transportation to field locations

4 Tracks, 2 days each

- Fundamentals of Radiation Detection
 - Interaction of particles in matter, description of radiation environments, shielding, charged particle detection, neutrons, solid state spectroscopy, radio-activation followed by detection
- Silicon vertex and tracking detectors
 - Semiconductors, strip detectors, pixel detectors, CCD's, data acquisition, depletion tests, source tests, cosmic tests
- Test beam
 - Delivery of beam, changing dipole and quadrupoles and matching with simulation. Wire chambers. Triggered DAQ, buffered DAQ, combining signals from multiple detectors
- Photodetection
 - Scintillation, Cerenkov, hodoscopes, wavelength shifting, calorimeters, PMT's, SiPM's, Q.E., time-of-flight

Plenary Lecture Topics

- Astrophysics detectors
- Hadron collider detectors
- Electron collider detectors
- Neutrino detectors
- High intensity fixed target detectors
- Light sources
- Connection to industrial applications
- Medical Imaging
- High speed data acquisition and its limits
- ... others?

Interested? Questions? Volunteers?

- For more information contact Erik Ramberg at ramberg@fnal.gov
- Local Organizing Committee:
 - Dave Christian
 - Dmitri Denisov
 - Patty McBride
 - Elaine Phillips
 - Erik Ramberg (chair)
 - Luciano Ristori
 - Aria Soha
 - Andrew Sonnenschein