

Pre- and Post-Meeting Workshops

EarthScope National Meeting, May 17-20, 2011, Austin, Texas

http://www.earthscope.org/meetings/national_meeting_11

(Updated 5-4-2011)

1. **Opportunities for EarthScope Science in Alaska in Anticipation of USArray**
2. **SAFOD - What have we learned and where do we go from here?**
3. **Data Products and Cyberinfrastructure**
4. **Real-time GPS for Seismology and other Applications**
5. **Gale Code Tutorial, Computational Infrastructure for Geodynamics (CIG)**
6. **PyLith Code Tutorial, Computational Infrastructure for Geodynamics (CIG)**
7. **Development of a 21st Century Undergraduate Geodesy Curriculum**
8. **EarthScope for Teachers: Exploring Geology and Geophysics through EarthScope**
9. **EarthScope-GeoPRISMS Opportunities in Eastern North America**

For workshop details, see descriptions below. Some of the workshops have on-line registration form with links specified in the workshop description. If no link is given, please contact the workshop conveners directly. Workshops 1-6 are pre-meeting, 7-9 are post-meeting.

Pre-Meeting Workshops

1. Opportunities for EarthScope Science in Alaska in Anticipation of USArray

For information and to register: www.iris.edu/hq/Alaska_Workshop_2011

Conveners: Jeff Freymueller jeff.freymueller@gi.alaska.edu, Sean Gulick sean@ig.utexas.edu

Mon, May 16 and Tue, May 17 (All day Monday and Tuesday morning)

AT&T Executive and Education Center, UT Austin, Room 105

Max Number Participants: 75

Workshop will discuss science goals using EarthScope data from Alaska (building on 2010-2020 EarthScope Science Plan) and provide recommendations for deployment of USArray in Alaska. This will be an opportunity to develop cross-disciplinary personal contacts and stimulate scientific collaborations. Breakfast and lunch on Monday and breakfast on Tuesday will be adjacent to room 105; dinner on Monday will be in the main dining area. For info and to register:

2. SAFOD - What have we learned and where do we go from here?

For information and to register contact Judith Chester chesterj@tamu.edu

Preliminary agenda: www.earthscope.org/es_doc/meetings/2011_national/SAFOD_PrelimAgenda.pdf

Conveners: Judith Chester chesterj@tamu.edu, Chris Marone marone@psu.edu

Mon, May 16 and Tue, May 17

(**Mon** 8am - 4pm (including travel time): Optional visit to IODP Gulf Coast Repository in College Station; **Mon** 7pm - 9pm: Evening session in Austin at the AT&T Executive and Education Center, UT Austin, Room 103. **Tue** 8:30am - 5pm: Austin AT&T Executive and Education Center, UT Austin, Room 103)

Max Number Participants: 75

Mon: Visit IODP Gulf Coast Repository in College Station, TX. View SAFOD core and discuss issues related to core

sampling, data handling, and work completed. **Mon eve & Tue:** Workshop to discuss SAFOD science: past, present and future. What have we learned and how can we use the existing core and borehole observatory to advance understanding of deformation mechanisms, fault mechanics, fault zone rheology, earthquake source physics, and the spectrum of fault slip behaviors? Should we move forward with a 4th phase of SAFOD drilling, and if so, what are the goals and key targets, and how should we structure the effort? The workshop will involve overview talks, group discussions, and break out sessions to review our current state of understanding and to outline future activities.

3. Data Products and Cyberinfrastructure

For information and to register: www.earthscope.org/meetings/data_products_workshop

Conveners: Michael Gurnis gurnis@gps.caltech.edu, Tim Ahern tim@iris.washington.edu, Suzan van der Lee suzan@earth.northwestern.edu, Adrian Borsa borsa@unavco.org

Tue, May 17 (8:30 am - 5pm)

AT&T Executive and Education Center, UT Austin, Room 101

Max Number Participants: 40

Brings together data, cyberinfrastructure, and data product users and developers to: evaluate short- and long-term EarthScope cyberinfrastructure needs; identify currently-available resources; and plan for advancement of a robust infrastructure. As one potential road forward, new web services developed by the IRIS DMC for data access and data processing will be presented. We invite contributions from those who have participated in the development of the broader cyberinfrastructure for the Earth sciences (geophysics, geology, geochemistry, computational science and the NSF TeraGrid). Includes discussion of issues associated with building enhanced EarthScope cyberinfrastructure.

4. Real-time GPS for Seismology and other Applications

Conveners: Brendan Crowell bwcrowell@ucsd.edu, Ingrid Johanson ingrid@seismo.berkeley.edu

Tue, May 17 (Morning: technical issues; Afternoon: applications)

AT&T Executive and Education Center, UT Austin, Room 102

Max Number Participants: 50

Addresses practical issues of real-time GPS networks and their scientific and hazard applications. We will discuss data formats and metadata requirements for GPS time series and other real-time products, with the long-term goal of identifying a community standard. Time will be set aside for group discussion that will help guide the future development of cohesive, next-generation, real-time GPS networks.

5. Gale Code Tutorial, Computational Infrastructure for Geodynamics (CIG)

For information and to register: www.geodynamics.org/cig/community/workshops/earthscope2011

Tue, May 17 (8:30am - 5:00pm)

AT&T Executive and Education Center, UT Austin, Room 104

Max Number Participants: 25

An important component of interpreting the wealth of data available to geologists is the use of computational methodologies to simulate tectonic processes. In this training session, the NSF-sponsored Computational Infrastructure for Geodynamics (CIG) will focus on training of new users in the use of the tectonics modeling software Gale.

6. PyLith Code Tutorial, Computational Infrastructure for Geodynamics (CIG)

For information and to register: www.geodynamics.org/cig/community/workshops/earthscope2011

Tue, May 17 (8:30am - 5:00pm)

AT&T Executive and Education Center, UT Austin, Room 106

Max Number Participants: 40

Will focus on the PyLith crustal deformation modeling software (<http://www.geodynamics.org/cig/software/pylith>) and provide an introduction to the use of the CUBIT meshing package (<http://cubit.sandia.gov>). Includes background theory; an overview of the codes (including their strengths and weaknesses) for solving geodynamic problems; and instruction on constructing a finite-element mesh, running a simulation, and post-processing (visualizing) the results.

Post-Meeting Workshops

7. Development of a 21st Century Undergraduate Geodesy Curriculum

Conveners: Andrew Newman anewman@gatech.edu, Dave Carlson carlson@unavco.org

Fri, May 20 (1:00pm - 5:00pm)

AT&T Executive and Education Center, UT Austin, Room 101

Max Number Participants: 40

Textbooks for college introductory Earth science and geophysics courses offer little information about modern methods in geodesy and Earth surface deformation. We seek community input to: 1) define target audiences; 2) define topics; 3) define implementation methods; 4) identify community leaders; and 5) identify implementation funding opportunities. The long term goal is to create and sustain a community-reviewed geodesy curriculum.

8. EarthScope for Teachers: Exploring Geology and Geophysics through EarthScope

Conveners: Shelley Olds olds@unavco.org, John Taber taber@iris.edu, Kathy Ellins kellins@ig.utexas.edu, Bob Lillie lillier@geo.oregonstate.edu

Fri, May 20 and Sat, May 21 (Friday mid-afternoon through Saturday)

University of Texas Institute for Geophysics, Jackson School of Geosciences, Room 102

Max Number Participants: 40

EarthScope is a national, decade-long geoscience program of the National Science Foundation to explore the North American continent by recording seismic, GPS, and other geological data. This fun and interactive workshop for middle and high school teachers provides science content, activities, and materials to teach Earth and physical science by using real EarthScope data. To enhance student's basic science skills, activities integrate explorations of seismic and GPS data to investigate multiple lines of evidence, visualize abstract concepts, and examine and critically assess data gathered through EarthScope. By exploring EarthScope learning activities as they relate to the geology and geophysics of Texas and surrounding regions, participants will: 1) improve their foundation in geophysics; 2) be able to describe why EarthScope is investigating the geophysics of North America, how those investigations help us understand the past, and how understanding the past can help us understand the present and future; and 3) be able to implement EarthScope activities in their classrooms.

9. EarthScope-GeoPRISMS Opportunities in Eastern North America

For information and to register: <http://www.geoprisms.org/meetings/enam-may2011.html>

Conveners: Frank Pazzaglia fip3@Lehigh.edu, Peter Flemings pflerings@jsg.utexas.edu, Donna Shillington djs@ldeo.columbia.edu, Basil Tikoff basil@geology.wisc.edu

Fri, May 20 and Sat, May 21 (Friday mid-afternoon through Saturday)

Max Number Participants: 30

The purpose of this meeting is to bring researchers from the EarthScope and GeoPRISMS communities together, along with other interested parties, to discuss science opportunities along Eastern North America in anticipation of the USArray deployment in 2012-2013. This workshop will address several objectives: 1) Identify key scientific questions and targets both onshore and offshore; 2) Review planned onshore and offshore deployments and experiments (e.g., USArray, FlexArray, OBS, MCS surveys, etc.); 3) Discuss future experiments and opportunities; 4) Explore the integration of EarthScope and GeoPRISMS science; 5) Plan for a larger Eastern North America Science Workshop to be held Fall 2011.