

Agenda

Tuesday, May 12th, 2009

Pre-meeting, self-supported workshops and field trips.

Agendas for several pre-meeting workshops are included on pages 6 & 7. **NEW!**

6:30 – 9:00 Reception and registration at the Stueckle Sky Center at Boise State University highlighting recent research by the Center for Geophysical Investigation of the Shallow Subsurface at BSU.

A map to the Stueckle Sky Center is included on page 4. We anticipate that most people will want to walk. If you need a ride, please contact earthscope@coas.oregonstate.edu and meet at the entrance to the conference center at 5:30 pm. **NEW!**

Wednesday, May 13th, 2009

7:00 – 8:15 Breakfast (coffee, tea, juice and pastries only)

7:00 – 8:15 Student/post-doc recruiting breakfast (sponsored by ExxonMobil) **NEW!**

8:15 – 8:30 Introduction to the EarthScope National Meeting

8:25 – 8:30 Welcome to Session 1: Lithospheric Deformation of the Western U.S.

Session 1 co-chairs: Thorsten Becker, Elizabeth Miller

8:30 – 9:00 Session 1: Invited keynote presentation

George Zandt (Arizona) – The Role of Toroidal Mantle Flow in the Tectonic Evolution of the Western US: Emerging Evidence from EarthScope

9:00 – 11:00 Session 1: Posters and break (coffee available from 10:00-10:30)

11:00 – 12:20 Session 1: Four 20-minute contributed talks

Maureen Long (Yale) – Upper Mantle Structure and Dynamics Beneath the High Lava Plains of Oregon: Results from the HLP Project.

Hersh Gilbert (Purdue) – Lithospheric Foundering: Observations from the Sierra Nevada EarthScope Project (SNEP)

Brad Hacker (UCSB) – Velocity Anisotropy of the Basin and Range Crust from EBSD

Corne Kreemer (UNR) – A High-Resolution Strain Rate Tensor Model for the Western U.S. (including applications for education and outreach)

12:20 – 12:30 Session 1: Brief discussion led by session chairs

12:30 – 1:30 Lunch

1:30 – 1:40 NSF comments

1:40 – 1:45 Welcome to Session 2: Fault Zone Processes

Session 2 co-chairs: Judith Chester, Chris Marone

1:45 – 2:15 Session 2: Invited keynote presentation

Paul Segall (Stanford) – Frictional, Thermal, and Pore-Fluid Processes in Fault Zones and the Physics of Slow and Fast Slip

2:15 – 4:15 Session 2: Posters (coffee available from 3:00-3:30)

4:15 – 5:35 Session 2: Four 20-minute contributed talks

Steve Hickman (USGS) – Structure and Composition of the San Andreas Fault: Recent Results from SAFOD Sample Analyses

Matt Knuth (U Wisconsin) – Ultrasonic Velocity Measurements in Deforming Fault Gouge: Results for Samples from the SAFOD Volume

Bridget Smith-Konter (UTEP) – Popularize or Perish: Communicating, Visualizing, and Publicizing EarthScope Data and Model Products for Non-Specialized Audiences

Evelyn Roeloffs (USGS) – Aseismic Action in the Cascadia Subduction Zone: Detecting the Details with PBO Borehole Strainmeters

- 5:35 – 5:45 Session 2: Brief discussion led by session chairs
- 6:30 – 8:00 Buffet dinner
- 6:30 – 8:00 Informal meeting of the Controlled Source Seismology group **NEW!**
- 8:00 – 9:00 EarthScope celebration of facilities completion

Thursday, May 14th, 2009

- 7:00 – 8:15 Breakfast (coffee, tea, juice and pastries only)
- 8:15 – 8:25 Discussion of role of TWGs by ESSC chair (5 min)/introduction to session (5 min)
- 8:25 – 8:30 Welcome to Session 3: Deep Earth Structure and Processes
Session 3 co-chairs: Justin Revenaugh, Steven Jacobson
- 8:30 – 9:00 Session 3: Invited plenary presentation
Jesse Lawrence (Stanford) –
- 9:00 – 11:00 Session 3: Posters and break (coffee available from 10:00-10:30)
- 11:00 – 12:20 Session 3: Four 20-minute contributed talks
Karen Fischer (Brown) – Imaging the Lithosphere-Asthenosphere Boundary Beneath North America
Matt Fouch (ASU) – Plate Tectonics and the Mantle Flow Field Beneath Western North America
Ed Garnero (ASU) – USArray Data Support Whole Mantle Convection
Nancee Hunter (Hatfield Marine Science Center) – Geovisualizations Using USArray Data
- 12:20 – 12:30 Session 3: Brief discussion led by session chairs
- 12:30 – 1:30 Lunch
- 1:30 – 3:00 TWG session 1
- 3:00 – 3:30 Break
- 3:30 – 5:00 TWG session 2
- 6:30 – 8:00 Basque BBQ

Friday, May 15th, 2009

- 7:00 – 8:15 Breakfast (coffee, tea, juice and pastries only)
- 8:15 – 9:15 Plenary Session: Summaries of TWGs with discussion
- 9:15 – 10:15 Session 4: Strain Transients and Seismic Tremor
Session 4 chair: Bill Holt
Invited keynote presentations:
Mike Brudzinski (Miami U) – New Insights into Episodic Tremor and Slip from EarthScope and Beyond
Jessica Murray (USGS) – Automated Detection and Characterization of Transient Signals in Geodetic Data, a Blind Test
- 10:15 – 10:45 Coffee break
- 10:45 – 12:15 Session 5: Geophysics, Volcanism and Geothermal Resources of the Snake River Plain and Yellowstone National Park
Session 5 chair: Basil Tikoff
Invited keynote presentations:
Spencer Wood (Boise State) – Tectonic, Volcanic, and Depositional History of the Western Snake River Plain and its Hot and Cold Water Resources
John Shervais (Utah State) – Plume Tales: How Mantle Plumes Modify Continental Lithosphere (and Vice-versa)
Bob Smith (Utah) – Geodynamics of the Yellowstone Hotspot and Mantle Plume: Seismic and GPS Imaging, Kinematics, and Mantle Flow
- 12:30 Pick up box lunches and leave for the field trips

Session descriptions

1) Lithospheric Deformation of the Western US

This session will explore the dynamics of lithosphere deformation in western North America. Questions to be addressed include the extent to which current deformation results from the tectonic history of the region. Studies that integrate seismological, geological, geochemical, and geodetic data sets to probe dynamics through time will be highlighted.

co-chairs: Thorsten Becker (USC) and Elizabeth Miller (Stanford)

keynote speaker: George Zandt (Arizona)

contributed oral presentations: Maureen Long (Yale), Hersh Gilbert (Purdue), Brad Hacker (UCSB), Corne Kreemer (UNR).

2) Fault Zone Processes

This session will focus on the processes active in fault zones, including results from SAFOD. The session will include direct observation (architecture, fabrics, mineralogy, fluid reactions), timing, modeling (analytical, experimental, and numerical), and in-situ monitoring.

co-chairs: Chris Marone (Penn State) and Judith Chester (Texas A&M)

keynote speaker: Paul Segall (Stanford)

contributed oral presentations: Evelyn Roeloffs (USGS), Steve Hickman (USGS), Matt Knuth (Wisconsin), Bridget Smith-Konter (UTEP).

3) Deep Earth Structure and Processes

This session will examine new discoveries on deep Earth structure made possible by USArray data (seismic and/or MT components), laboratory experiments, and petrologic and geochemical studies. Topics will range from the core-mantle boundary to the upper mantle and its role in the evolution of the continent.

co-chairs: Justin Revenaugh (Minnesota) and Steven Jacobsen (Northwestern)

keynote speaker: Jesse Lawrence (Stanford)

contributed oral presentations: Karen Fischer (Brown), Matt Fouch (ASU), Ed Garnero (ASU), Nancee Hunter (Hatfield Marine Science Center).

4) Strain Transients and Seismic Tremor

This session will highlight new discoveries on time scales of lithospheric deformation enabled by integrating data from the three EarthScope observatories.

chair: Bill Holt (Stony Brook)

keynote speakers: Mike Brudzinski (Miami U) and Jessica Murray (USGS).

5) Geophysics, Volcanism and Geothermal Resources of the Snake River Plain

This session will include an introduction to the field trip and historical context related to the influence of geology on the development of Boise.

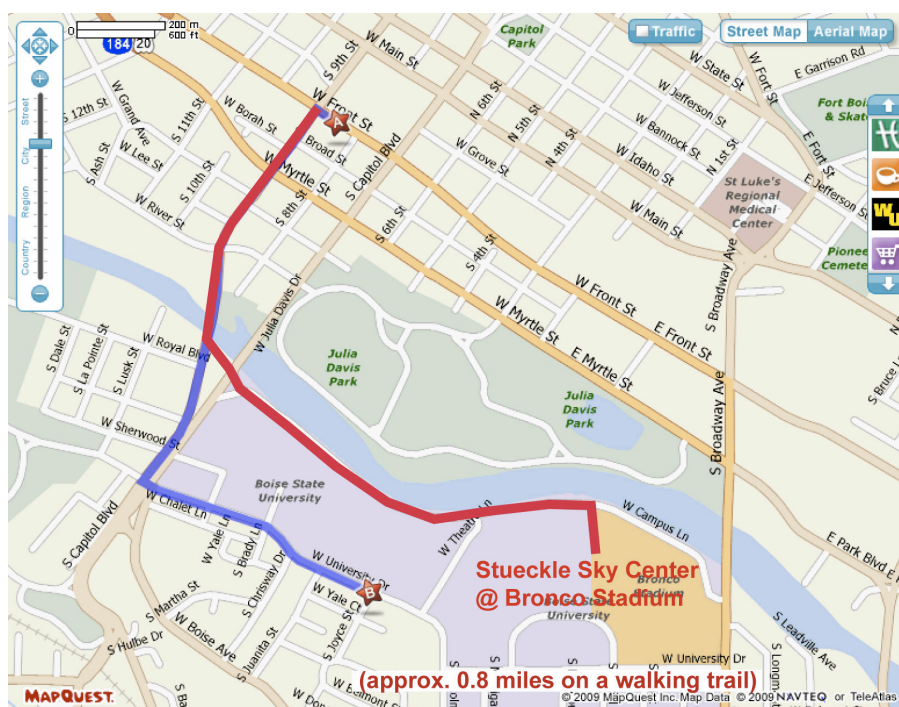
chair: Basil Tikoff (Wisconsin)

keynote speakers: Spencer Wood (Boise State), John Shervais (Utah State), and Bob Smith (Utah).

EarthScope National Meeting

Registration and Reception at the Stueckle Sky Center at Boise State University

May 12th, 2009, 6:30 – 9:00 pm
(refreshments sponsored by ExxonMobil)



Additional information

Registration times in the main lobby of the Centre on the Grove:

Tuesday, May 12th: 7:30 am – 3 pm
Wednesday, May 13th: 7:00 am – 9 am

Special meetings:

Tuesday:

Meeting planning committee and session co-chairs – informal	At the reception
HLP steering committee	TBD

Wednesday:

ESSC and TWG co-chairs breakfast	7:00-8:00 am
– Pines room	
Student/postdoc breakfast with Exxon Mobil representatives	7:00-8:00 am
– Firs/Cottonwoods room	
Controlled source seismology discussion	6:30-8:00 pm
– TBD	

Thursday:

Judges Lunch for Student Poster Competition	12:30-1:30 pm
– Salmon room	

High Lava Plains Workshop Program
Payette River Room
May 12th, 2009

8:30 – 8:45 Welcome and overview – Rick Carlson

Session 1: Crustal Structure/Volcanic Record (Discussion Leaders – Bill Hart, Randy Keller)

8:45 – 9:05 Overview of volcanic record – Bill Hart
9:05 – 9:25 Petrology of HLP basalts – Tim Grove
9:25 – 9:45 Crustal structure from Active Experiment – Randy Keller
9:45 – 10:05 Crustal structure from Active Experiment – Catherine Cox
10:05 – 10:25 Crustal structure from receiver functions – Kevin Eagar

Session 2: Mantle Structure (Discussion Leaders – Matt Fouch, Rick Carlson)

10:30 – 10:50 Tomographic results, HLP oriented – David James
10:50 – 11:10 Tomographic results, broader/deeper PNW – Matt Fouch
11:10 – 12:00 General discussion

12:00 – 1:30 Lunch

Session 3: Mantle Flow (Discussion Leaders – Chris Kincaid, Maureen Long)

1:30 – 1:50 HLP shear wave splitting – Maureen Long
1:50 – 2:10 Dynamic modeling of flow beneath the HLP – Chris Kincaid
2:10 – 2:30 Western US shear wave splitting – Matt Fouch
2:30 – 2:50 Western US mantle dynamics – Gene Humphreys
2:50 – 3:10 General discussion

Session 4: Why so Volcanically Active? Plume/No Plume? (Discussion Leaders – David James, Tim Grove)

3:10 – 3:30 Constraints from volcanism – Rick Carlson
3:30 – 3:50 Plume – wedge-flow interaction – Chris Kincaid
3:50 – 4:10 Where is the Juan de Fuca plate at depth? – Matt Fouch
4:10 – 4:30 Can the plume be detected seismically? – David James/Matt Fouch
4:30 – 5:30 General discussion

Leveraging USArray: Opportunities for Onshore/Offshore Experiments

Organizers: Dayanthie Weeraratne, Anne Trehu

May 12th, 2009

9:00 – 10:30 Presentations

Introduction	Dayanthie Weeraratne
NSF	Greg Anderson

Overview of existing programs

USArray	Bob Woodward
USArrayMT	Adam Schultz
PBO	Mike Jackson
OBSIP	Doug Toomey, J. Collins, J. Gaherty
MARGINS	Geoff Abers

Science objectives

Great Lakes	David Dolenc, Yevgenie Kontar
Gulf Coast	Maria Beatrice Magnani
East Coast	Karen Fischer
Alaska	Jeff Freymueller or Doug Christensen

10:30 – 10:45 Break

10:45 – 11:30 Continue science objectives & participants
(1-2 slides) S. Webb, A. Trehu, D. Wiens, D. Weeraratne, others

11:30 – 12:00 Discussion and Planning

12:00 – 1:00 Lunch – Joint with workshop on Planning for USArray in Alaska

Planning for USArray in Alaska

Organizers: Jeff Freymueller and Doug Christensen

1:00 – 2:30 Presentations

Introduction, Goals, Tectonics & Science Targets	Jeff Freymueller
PBO in Alaska	Max Enders and Karl Feaux
Seismic network & PASSCAL deployments	Doug Christensen
Subduction Zone imaging	Geoff Abers
Crustal imaging, Alaska Range	Patrick Brennan
Imaging the Yakutat collision	Roger Hansen and Gary Pavlis
Trans-Alaska Crustal Transect	Gary Fuis

2:30 – 4:00 Discussion of Science Targets

Focus topics: crustal imaging, mantle imaging, seismicity, deformation regimes, scientific synergy between USArray and PBO (includes a break).

4:00 – 5:00 USArray TA logistics and deployment discussion

AEIC and STEEP network ops	Roger Hansen
Insight from PASSCAL deployments	Doug Christensen
Focus topics: Town/village logistics vs. remote sites, helicopter and aircraft installs	