



AGU 2017

EARTHSCOPE-RELATED
PRESENTATIONS AND POSTERS

*Explore the variety of research fueled by
EarthScope data*

Join us for the EarthScope Town Hall Meeting

Wednesday, 12:30 - 13:30

New Orleans Ernest N. Morial Convention Center - 225-227

[TH33D EarthScope Science and Synthesis](#)

MONDAY, 11 DECEMBER 2017

POSTERS

08:00 - 12:20 | Poster Hall D-F

[ED11C-0136 SeismoDome: Sonic and visual representation of earthquakes and seismic waves in the planetarium](#)

Benjamin K Holtzman, Lamont-Doherty Earth Observatory; **Jason Candler**, New York University; **Douglas Repetto**, Lamont Doherty Earth Observatory, Columbia Univ.; **Martin J Pratt**, Washington University in St Louis; **Arthur Paté**, Lamont Doherty Earth Observatory, Columbia Univ.; **Matthew Turk**, University of Illinois at Urbana Champaign; **Lucia Gualtieri**, Princeton University; **Daniel B Peter**, ETH Swiss Federal Institute of Technology Zurich; **Vivian Trakinski**, American Museum of Natural History; **Denton S. S. Ebel**, American Museum of Natural History; **Joachim Gossmann**, Staatliche Hochschule für Musik; **Nolan Lem**, Stanford University

[G11C-0717 Preparing the Plate Boundary Observatory GNSS Network for the Future](#)

Kenneth Emil Austin, UNAVCO, Inc. Boulder; **Christian P Walls**, UNAVCO, Inc. Forestville; **Timothy Dittman**, UNAVCO, Inc. Boulder; **Doerte Mann**, UNAVCO; **Eleanor S Boyce**, UNAVCO, Inc. Anchorage; **Andre Basset**, Unavco Inc.; **Adam C Woolace**, UNAVCO, Inc. Boulder; **Ryan Turner**, Unavco Inc.; **Shawn Lawrence**, Unavco Inc.; **Summer Rhoades**, UNAVCO, Inc. Boulder; **Chad Pyatt**, UNAVCO, Inc.; **Heidi Willoughby**, UNAVCO, Inc. Anchorage; **Karl Feaux**, UNAVCO, Inc.; **Glen S Mattioli**, UNAVCO

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[S11C-0597 Filling the monitoring gaps across the US Arctic by permanently adopting USArray stations](#)

Helena Buurman, University of Alaska Fairbanks, Alaska Earthquake Center; **Michael Edwin West**, University of Alaska Fairbanks

[S11C-0616 Monitoring Instrument Performance in Regional Broadband Seismic Network Using Ambient Seismic Noise](#)

Fang Ye, Jilin University; **Shixue Lyu**, Jilin University; **Jun Lin**, Jilin University

[T11A-0430 Crustal Structure and Seismic Anisotropy in the St-Lawrence/Charlevoix Region, Eastern Canada](#)

Fiona Ann Darbyshire, University of Quebec at Montreal UQAM; **Mélanie Mathieu**, GEOTOP-UQAM; **Vanessa Sanchez**, GEOTOP-UQAM; **Allison L. Bent**, Geological Survey of Canada; **Yajing Liu**, McGill University

[T11A-0431 Earthquake Source Parameter Estimates for the Charlevoix and Western Quebec Seismic Zones in Eastern Canada](#)

John Onwuemeka, McGill University; **Yajing Liu**, McGill University; **Rebecca M Harrington**, McGill University, Ruhr-Universität Bochum; **Andres Felipe Peña-Castro**, Ruhr-Universität Bochum, McGill University; **Alba Mar Rodriguez Padilla**, College of the Atlantic; **Fiona Ann Darbyshire**, University of Quebec at Montreal UQAM

[T11A-0432 Earthquake source parameter and focal mechanism estimates for the Western Quebec Seismic Zone in eastern Canada](#)

Alba Mar Rodriguez Padilla, College of the Atlantic and McGill University; **John Onwuemeka**, McGill University; **Yajing Liu**, McGill University; **Rebecca M Harrington**, McGill University, Ruhr University Bochum

[T11A-0434 Lithospheric Structure of the Eastern North American Margin Resolved by Teleseismic Receiver Function Analysis](#)

Cong Li and **Haiying Gao**, University of Massachusetts Amherst

[T11A-0435 Local Upper Mantle Upwelling beneath New England: Evidence from Seismic Anisotropy.](#)

Vadim L Levin, Rutgers University; **Maureen D Long**, Yale University; **Ivette Lopez**, Yale University; **Yiran Li**, Rutgers University; **Peter Alexander Skryzalin**, Rutgers University New Brunswick

SESSION POSTER:

[T11A-0437 Shear Wave Velocity Structure Beneath Eastern North America from Rayleigh Wave Tomography](#)

Zhongmin Tao, **Aibing Li**, and **Yao Yao**, University of Houston

[T11A-0442 Lithospheric structure and relationship to seismicity beneath the Southeastern US using receiver functions](#)

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Erin Cunningham, *University of Maryland College Park*; **Vedran Lekic**, *University of Maryland*

[T11C Something Borrowed, Something New: Integrating EarthScope and Geologic Results to Better Constrain the 4-D Evolution of North America Posters](#)

Primary Convener: *Heather A Ford, University of California Riverside*

[T11C-0471 Tomotectonic constraints on the assembly of Jura-cretaceous western North America, and a southwest Pacific analogue](#)

Mitchell G Mihalynuk, *British Columbia Geological Survey*; **Karin Sigloch**, *University of Oxford*

[T11C-0472 Petrologic Constraints on the Exhumation of the Sierra Blanca Metamorphic Core Complex \(AZ\)](#)

Kohl M Koppens and **Raphael Gottardi**, *University of Louisiana at Lafayette*

[T11C-0473 The significance of the Medicine Hat Block \(southern Alberta, northern Montana\) in the assembly of Laurentia: New interpretations from recent single grain zircon geochronological and geochemical data](#)

Blake Oswald LaDouceur, *University of Mississippi Main Campus*; **Jennifer Gifford**, *University of Mississippi*; **Shawn Malone**, *Ball State University*; **Bill Davis**, *Section Head, Ottawa, ON, Canada*

[T11C-0474 Crustal Structure and Subsidence of the Williston Basin: Evidence from Receiver Function Stacking and Gravity Modeling](#)

Jianguo Song, *China University of Petroleum*; **Kelly Hong Liu**, *Missouri University of Science and Technology*; **Youqiang Yu**, *Tongji University*; **Kevin Lee Mickus**, *Missouri State University*; **Stephen S Gao**, *Missouri University of Science and Technology*

[T11C-0475 Magnetotelluric imaging of the crustal structure of the Great Slave Lake shear zone in Northwest Alberta](#)

Enci WANG, **Martyn Jonathan Unsworth**, and **Tom Chacko**, *University of Alberta*

[T11C-0476 New Constraints on Upper Mantle Structure Underlying the Diamondiferous Central Slave Craton, Canada, from Teleseismic Body Wave Tomography](#)

Clément Esteve, **Andrew J Schaeffer**, and **Pascal Audet**, *University of Ottawa*

[T11C-0477 Looking for the Edge: Does Lateral Change in Azimuthal Anisotropy Mark the Limit of the North American Craton?](#)

Xiaoran Chen, *Rutgers University New Brunswick*; **Vadim L Levin**, *Rutgers University*; **Yiran Li**, *Rutgers University*; and **Huaiyu Yuan**, *ARC Centre of Excellence for Core to Crust Fluid Systems*

[T11C-0478 Improved Seismic Images of the Pacific Northwest Interior. With a Focus on the Region of the Columbia River Flood Basalts and Central Idaho](#)

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A. Christian Stanciu, Eugene Humphreys, University of Oregon; and Robert W Clayton, California Institute of Technology

[H11B-1178 A Comparison of Vertical Deformations Derived from Space-based Gravimetry, Ground-based Sensors, and Model-based Hydrologic Loading over the Western United States](#)

Gaohong Yin, University of Maryland College Park; Barton A Forman, University of Maryland College Park; Bryant D Loomis, SGT Inc. at NASA Goddard Space Flight Center; Scott B Luthcke, NASA Goddard Space Flight Center

Monday, 13:40 - 18:00 | Poster Hall D-F

[DI13A-0288 Seismic Migration Imaging of the Mantle Transition Zone Beneath Continental US with Receiver Functions](#)

Han Zhang, University of New Mexico Main Campus; Brandon Schmandt, University of New Mexico Main Campus

PRESENTATIONS

Monday, 10:50 - 11:05 | Location: 211-213

[T12B-03 Observing and modeling the spectrum of a slow slip event: Constraints on the scaling of slow slip and tremor](#)

Jessica C Hawthorne, University of Oxford; Noel M Bartlow, University of Missouri; Abhijit Ghosh, University of California Riverside

Monday, 12:06 - 12:20 | Location: 252-254

[SA12B-08 Calculating realistic voltages across the US power grid utilizing measured impedances and magnetic fields](#)

Greg Lucas, USGS Geologic Hazards Science Center; Jeffrey J Love, USGS Geologic Hazards Science Center; Anna Kelbert, Geologic Hazards Science Center Denver; Paul Bedrosian, USGS; Erin Joshua Rigler, USGS

Monday, SESSION 13:40 - 15:40 | Location: 215-216

[T13G Something Borrowed, Something New: Integrating EarthScope and Geologic Results to Better Constrain the 4-D Evolution of North America](#)

Monday, 13:40 T13G-01 [Should the "Grenville Front" in the Central U.S. be Erased from Geologic Maps?](#)

Carol A Stein, University of Illinois at Chicago; Seth Stein, Northwestern University; Reece Phillip Elling, Northwestern University; G. Randy Keller, University of Oklahoma Norman Campus; Jonas Kley, Georg-August-Universitaet Goettingen

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Monday, 13:55 [T13G-02 The changing face of the lithosphere-asthenosphere boundary: Imaging continental-scale patterns in upper mantle structure across the contiguous U.S. with Sp converted waves \(Invited\)](#)

Emily Hopper, Brown University, Lamont -Doherty Earth Observatory and Karen M. Fischer, Brown University

Monday, 14:10 [T13G-03 Magmatism and underplating, a broadband seismic perspective on the Proterozoic tectonics of the Great Falls and Snowbird Tectonic Zones](#)

Yu Jeffrey Gu, Yunfeng Chen, Ramin Dokht, and Ruijia Wang, University of Alberta

Monday, 14:25 [T13G-04 Possible origin of the Bighorn uplift, WY, by lithospheric buckling during the Laramide orogeny \(Invited\)](#)

Basil Tikoff, Univ Wisconsin; Christine S Siddoway, Colorado College; Lindsay Lowe Worthington, University of New Mexico; and Megan L Anderson, Colorado College

Monday, 14:40 [T13G-05 POST-METAMORPHIC THERMAL ANOMALY ACROSS THE NACIMIENTO BLOCK, CENTRAL CALIFORNIA: A HYDROTHERMAL OVERPRINT?](#)

Brice Lacroix, Jacob Hughes, Kansas State University; Abdeltif Lahfid and Sylvain Delchini, BRGM/ISTO/Université d'Orléans

Monday, 14:55 [T13G-06 Crustal layering and gravity highs in the Midcontinent of North America – implications for the formation of the Illinois Basin](#)

Hersh J Gilbert, University of Calgary; Joshua Boschelli, Purdue University; Gary L Pavlis, Indiana University Bloomington; Michael W Hamburger, Indiana University Bloomington; Stephen Marshak, University of Illinois; Chen Chen, Purdue University; Xiaotao Yang, University of Massachusetts Amherst; Michael Sanderson DeLucia, Illinois State Geological Survey; Timothy H Larson, Illinois State Geological Survey; and John Rupp, Indiana Geological Survey

Monday, 15:10 [T13G-07 Distributions of high-velocity lower crust and seismic anisotropy across the continental U.S.: Integration of seismic, xenolith, and surface geologic data to address lithospheric dynamics and history](#)

Kevin H Mahan, University of Colorado at Boulder; Vera Schulte-Pelkum, University of Colorado Boulder; Weisen Shen, Washington University; Josh Stachnik, Lehigh University; Jonathan Saul Caine, US Geological Survey, and Ray Russo, University of Florida

Monday, 15:25 [T13G-08 Integrating EarthScope Data to Constrain the Long-Term Effects of Tectonism on Continental Lithosphere](#)

Ryan C Porter, Northern Arizona University; Suzan van der Lee, Northwestern University

Monday, 13:55 - 13:58 | Location: 252-254

[U13B-06 Quantifying uncertainties of seismic Bayesian inversion of Northern Great Plains \(Invited\)](#)

Chao Gao, University of Maryland College Park; Vedran Lekic, University of Maryland

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Monday, 13:55 - 14:10 | Location: 217-219

[S13D-02 Unraveling earthquake stresses: Insights from dynamically triggered and induced earthquakes](#)

Aaron A Velasco and Richard Alexander Alfaro-Diaz, University of Texas at El Paso

Monday, 16:00 - 16:15 | Location: 215-216

[T14A-01 Inheritance vs ongoing evolution of the passive margin lithosphere in the southeastern United States: A comparison of <50Ma tectonism with tomographically imaged lithospheric structures.](#)

Lara S Wagner, Carnegie Institution for Science Washington; Karen M. Fischer, Brown University; Robert B Hawman, University of Georgia; Emily Hopper, Lamont-Doherty Earth Observatory; Dorrان Howell, ETH Zurich

Monday, 16:15 - 16:30 | Location: 222

[G14A-02 Stability of GNSS Monumentation: Analysis of Co-Located Monuments in the UNAVCO Plate Boundary Observatory](#)

Frederick Blume, UNAVCO; Thomas Herring, MIT; Glen S Mattioli, Karl Feaux, Christian P Walls, Kenneth Emil Austin and Stephen T Dittmann, UNAVCO

Monday, 16:30 - 16:45 | Location: 215-216

[T14A-03 Seismological Constraints on Lithospheric Evolution in the Appalachian Orogen](#)

Karen M. Fischer, Brown University; Emily Hopper, Lamont-Doherty Earth Observatory; Robert B Hawman, University of Georgia; and Lara S Wagner, Carnegie Institution for Science