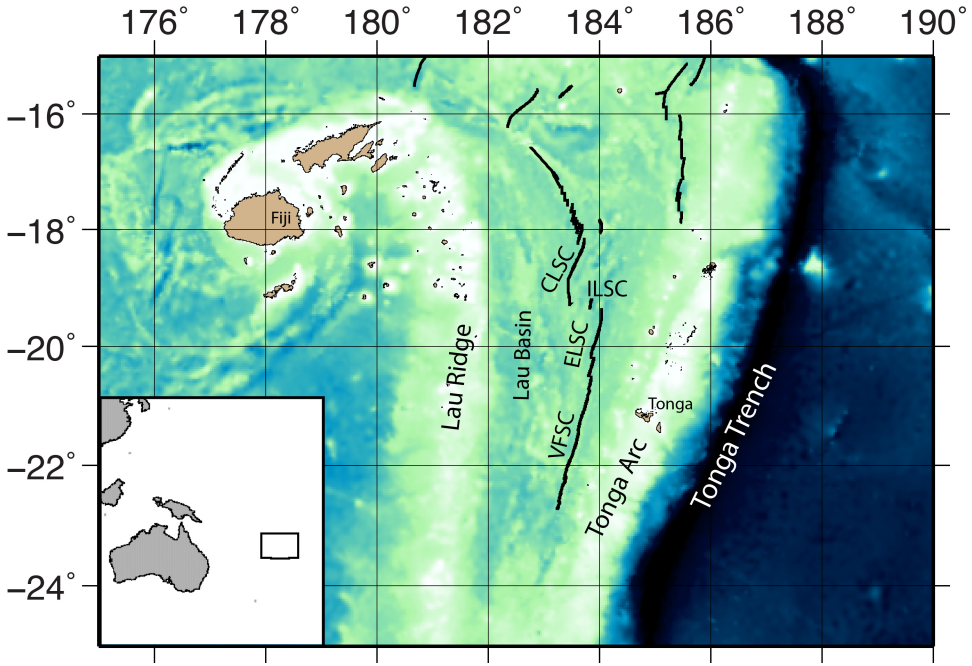
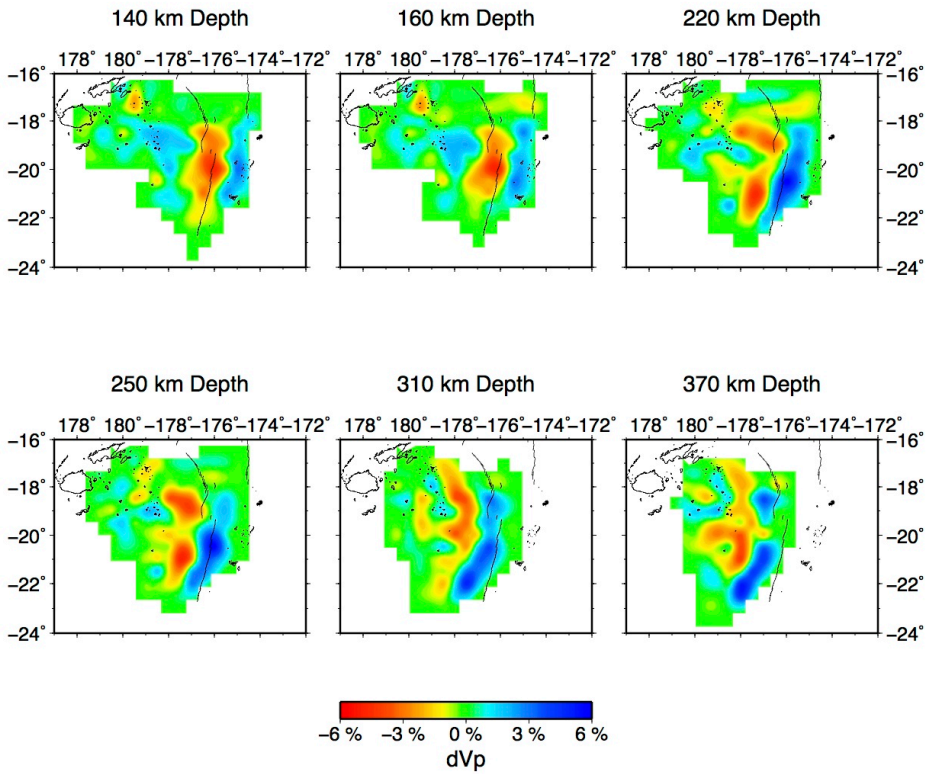


Aubreya Adams

Research Scientist: Washington University in St. Louis (2014)
Postdoc: Washington University in St. Louis (2012-2014)
Development Geophysicist: Chevron (2010-2012)
Ph.D.: Penn State (2004-2010)

Current Work: Body Wave Tomography of the Lau Basin





Other Interests:

African crust and upper mantle structure & processes

Antarctica structure and seismicity

Subduction zone processes – especially Cascadia and Alaska

BOSTON UNIVERSITY

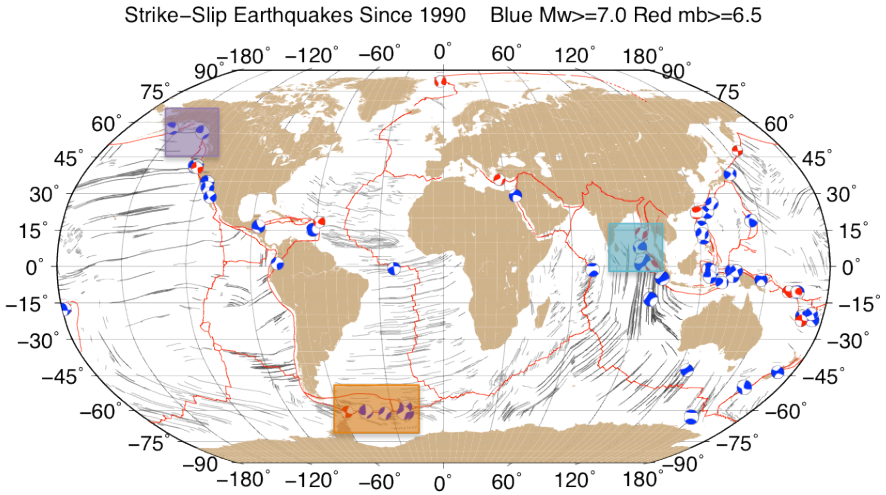
KASEY ADERHOLD

www.kaseyaderhold.com

Source properties of oceanic strike-slip earthquakes

ALASKA

SUMATRA



SOUTH SANDWICH ISLANDS/SCOTIA

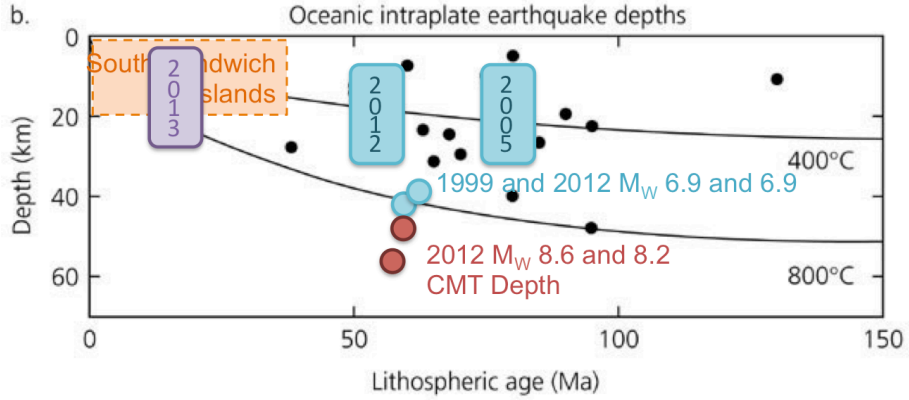
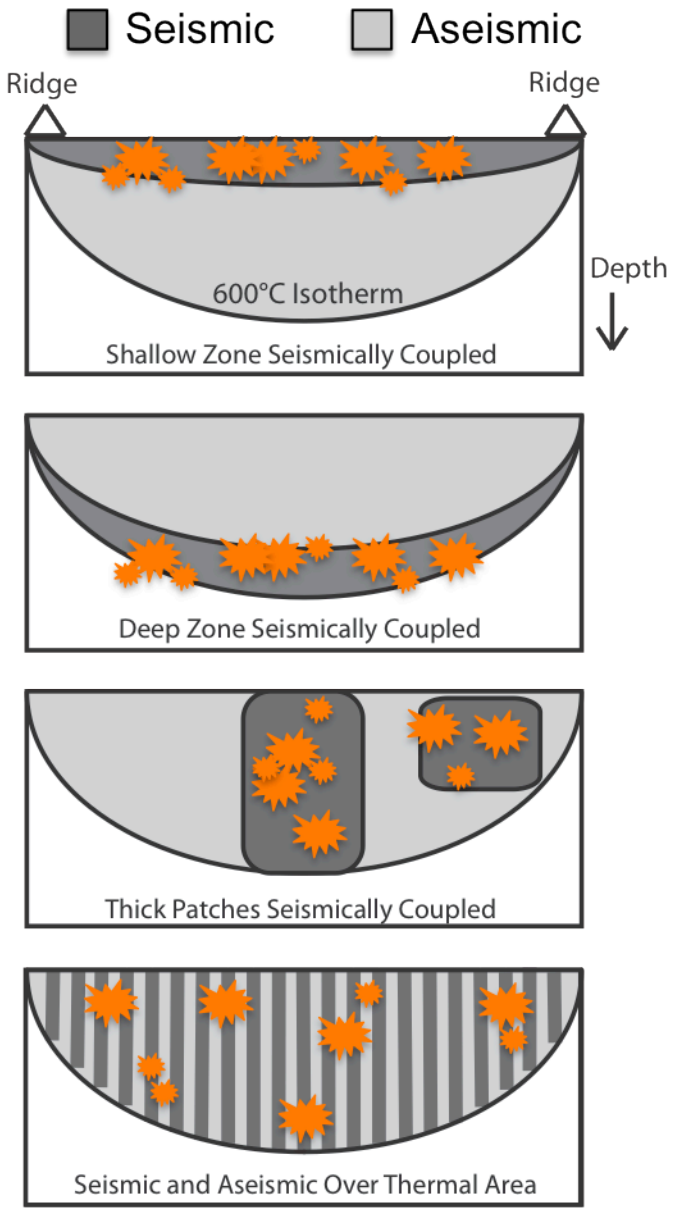


Figure from Stein and Wysession, 2003

Is seismic rupture limited by thermal or compositional structure?



After Boettcher and Jordan, 2004

KASEY ADERHOLD

www.kaseyaderhold.com

Coming Soon 2015

Stony Brook University

SUNY

Yu Chen

Ph.D. Candidate

Expected to graduate in Spring/Summer 2015

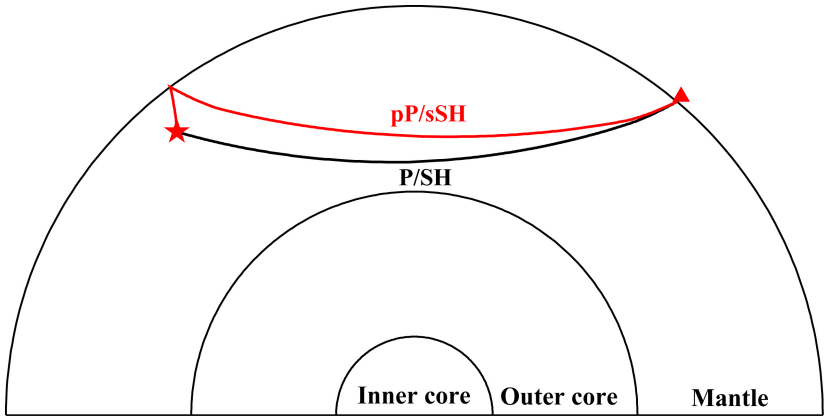
PhD	2015	Stony Brook University
MS	2009	Chinese Academy of Sciences
BS	2006	University of Science and Technology of China (USTC)

IRIS/UNAVCO Early Career Investigators Luncheon

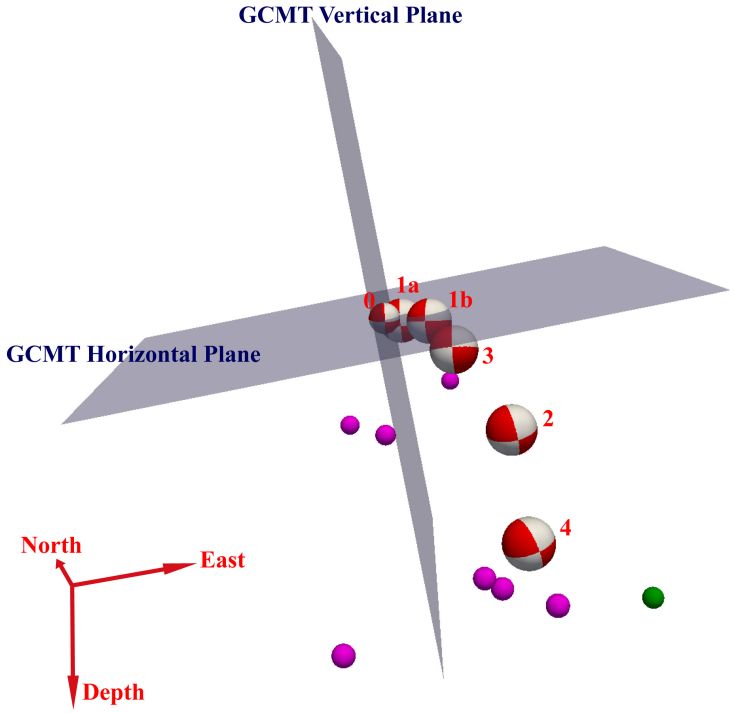
Stony Brook University

SUNY

Research: Source Process of Deep Earthquake and Seismic Velocity Structure



Multiple Source Inversion with P, pP, SH and sSH



Cascading Failure

Future studies (looking for postdoc):

- Seismic energy and efficiency of large deep earthquakes
- Spatial distribution and focal mechanisms of different earthquakes
- Dynamic simulation of deep earthquake
- Seismic attenuation inversion

Ksenia Dmitrieva

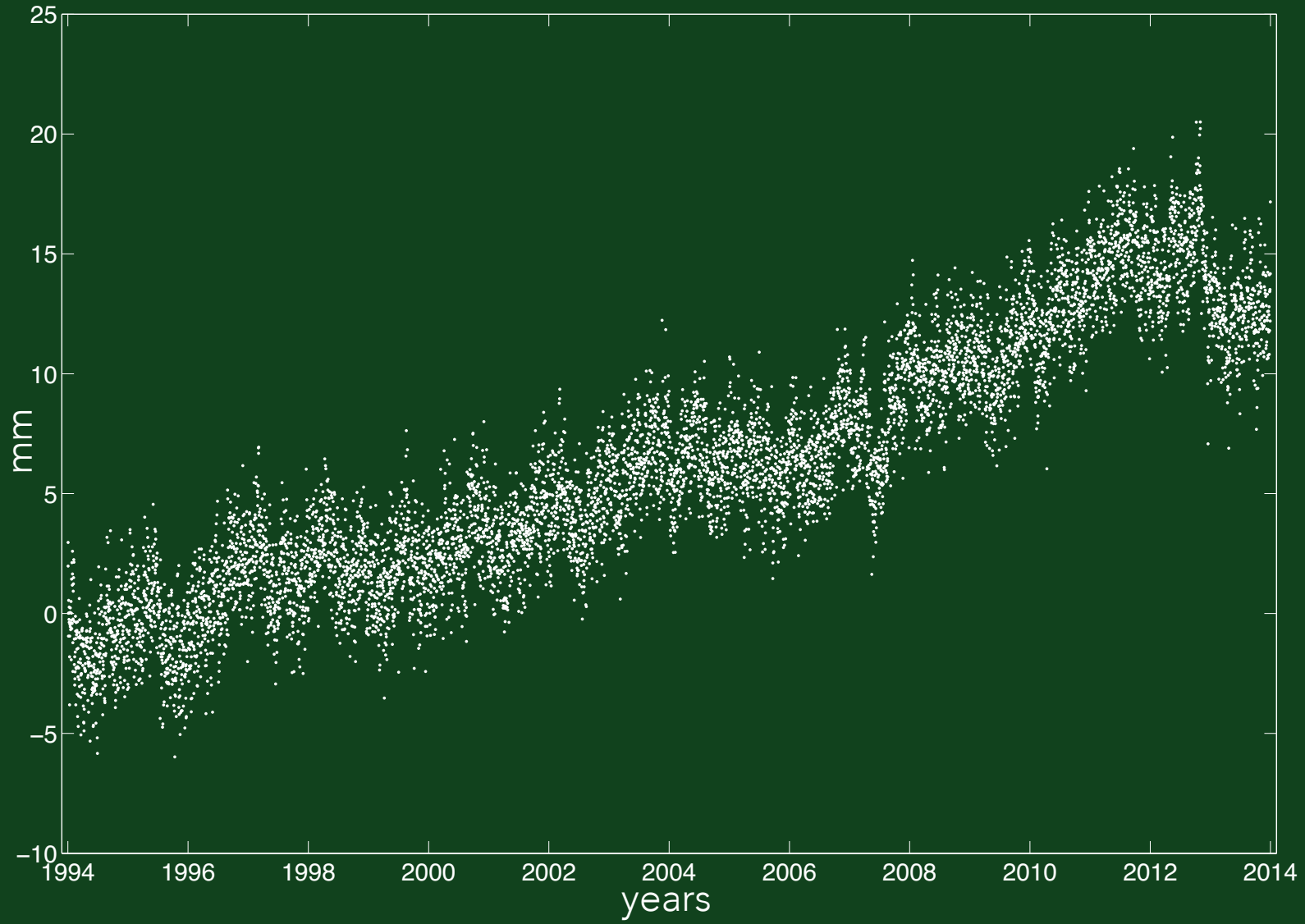
Ph.D. candidate

Stanford University

- Ph.D. 2016 (Stanford)
- M.S. 2013 (Stanford)
- Engineering Diploma 2010 (Moscow State University of Geodesy and Cartography)

Looking for a job to start in 2016!

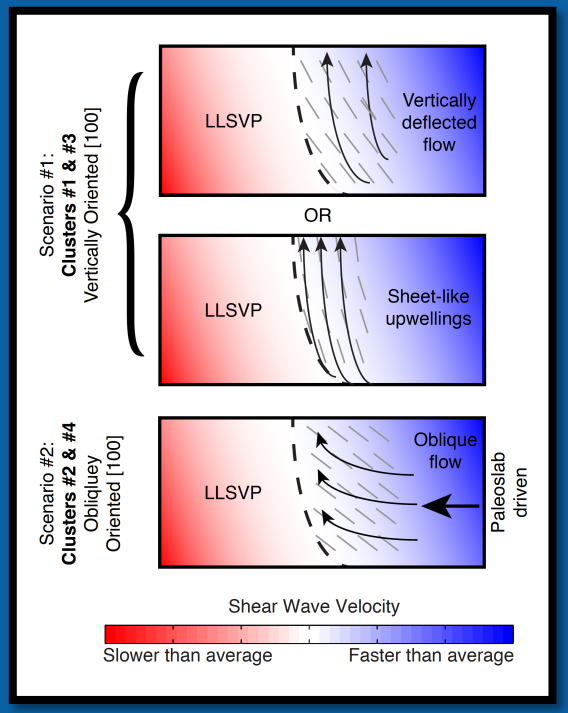
Noise in GPS time series and GPS velocity uncertainties



Heather A. Ford, Postdoctoral Associate

Now Yale University, Postdoc
2013 PhD, Brown University
2005 B.Sc. University of Michigan

Research



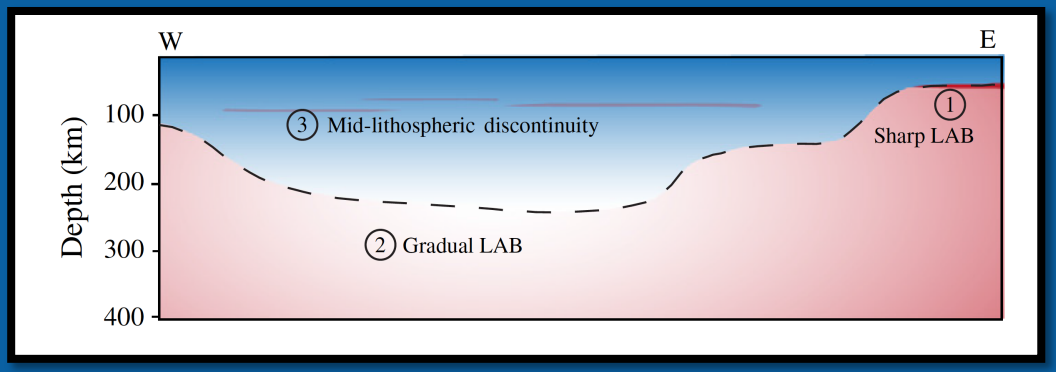
Lower Mantle

LLSVP

Lower Mantle Flow

Approach/Methods

Anisotropy – Receiver Functions, Shear wave splitting



Upper Mantle

LAB

MLDs

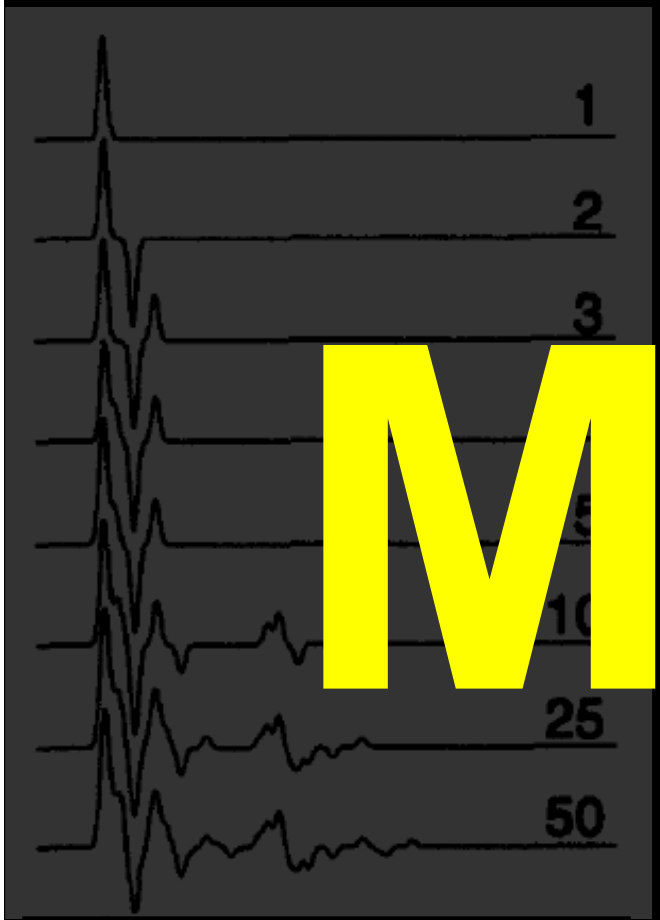
Continental Lithosphere

Craton Formation/Evolution

"Swiss Army Knife" at IRIS HQ for 3+ years

B.S. 2004 USC + (Ph.D 2009 Arizona x 3 years IRIS intern mentor) + (2011 Post-doc Copenhagen) / 2 = Employable!

Iterdecon Method



Ligorría & Ammon, 1999

Progressively finds time lag for largest difference between two signals.

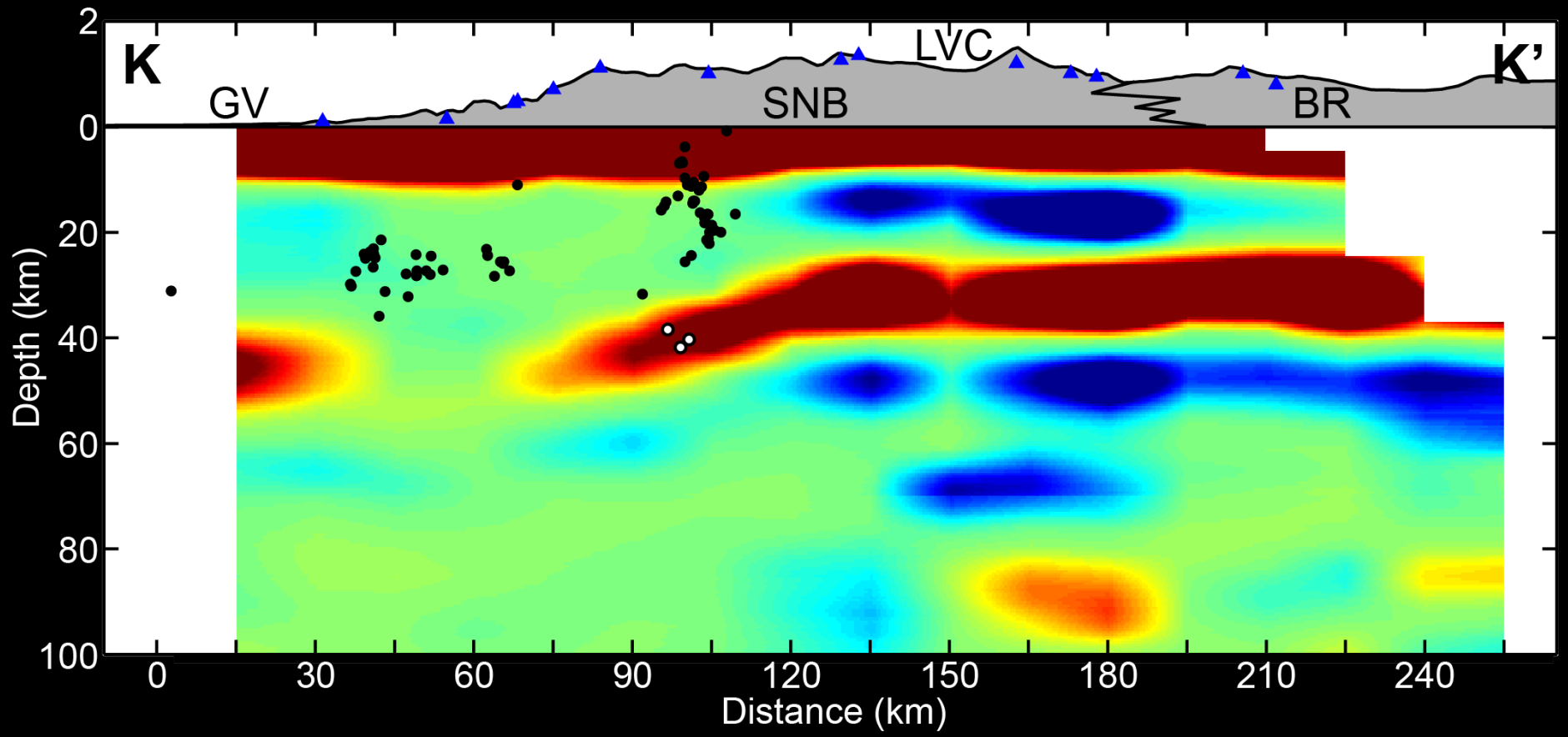
1: u(t)z ★ u(t) → (t)r

2: u(t) – g(t) * u(t)z) → u(t)r

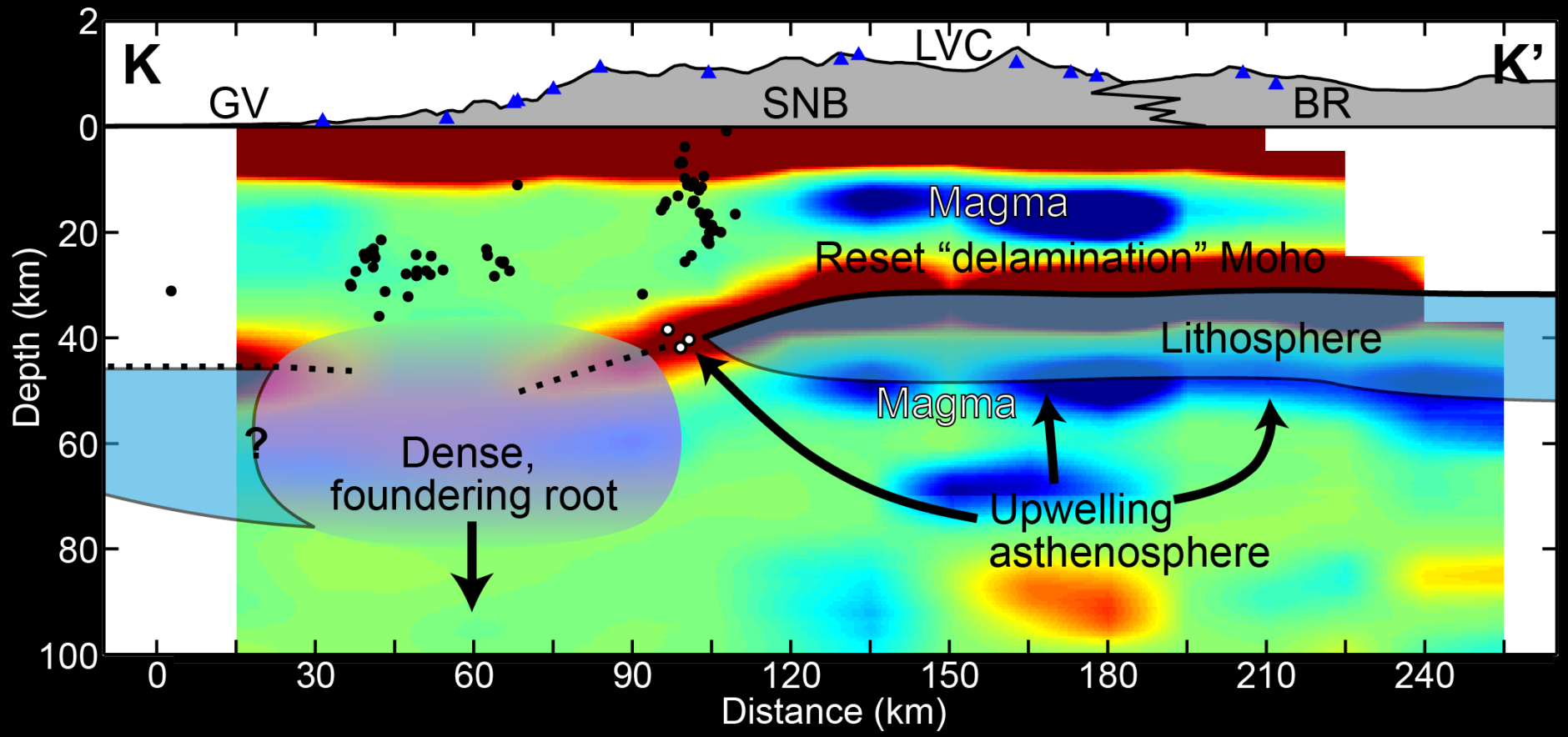
Repeat 1 until the misfit of 2 is very small.

MATH

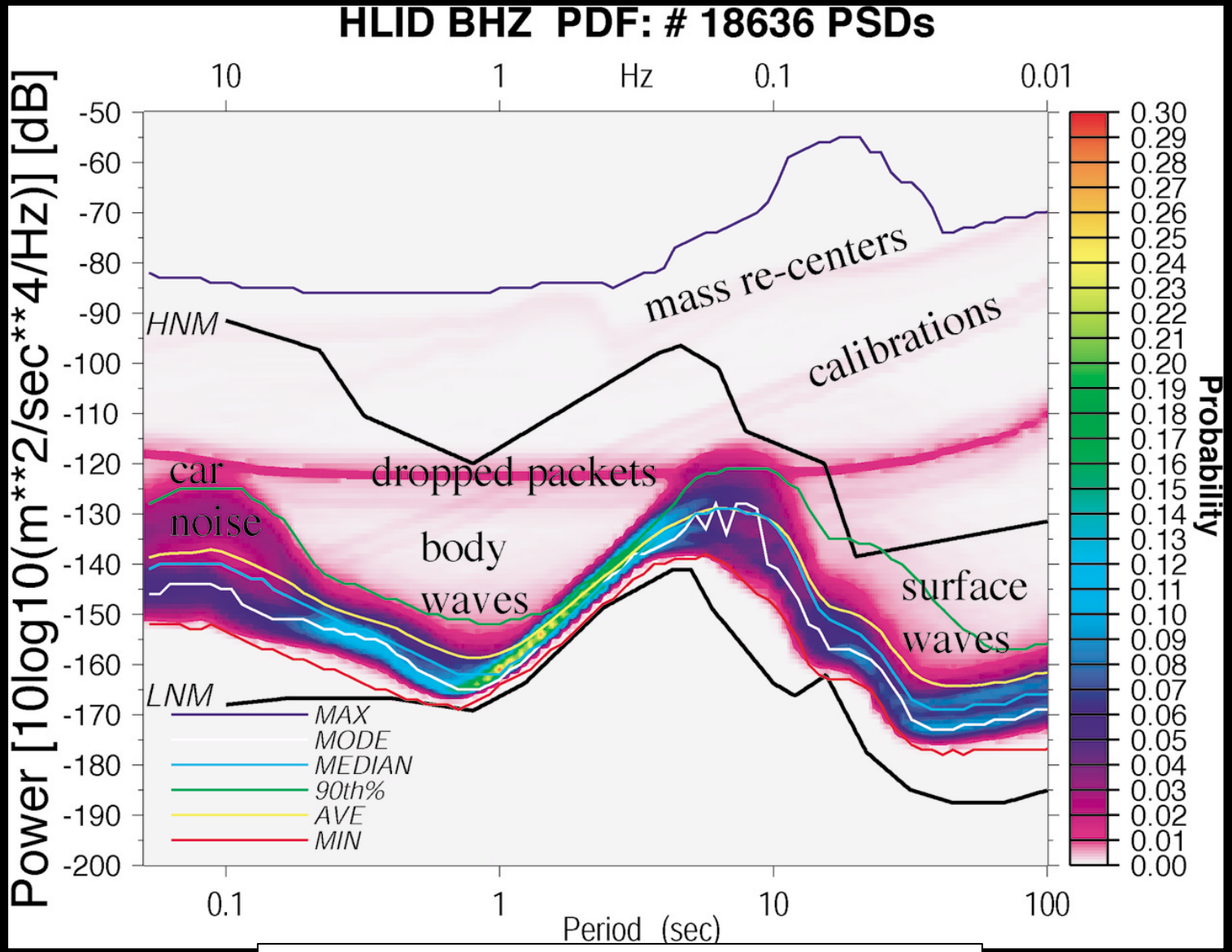
Central Sierra Delamination



Central Sierra Delamination

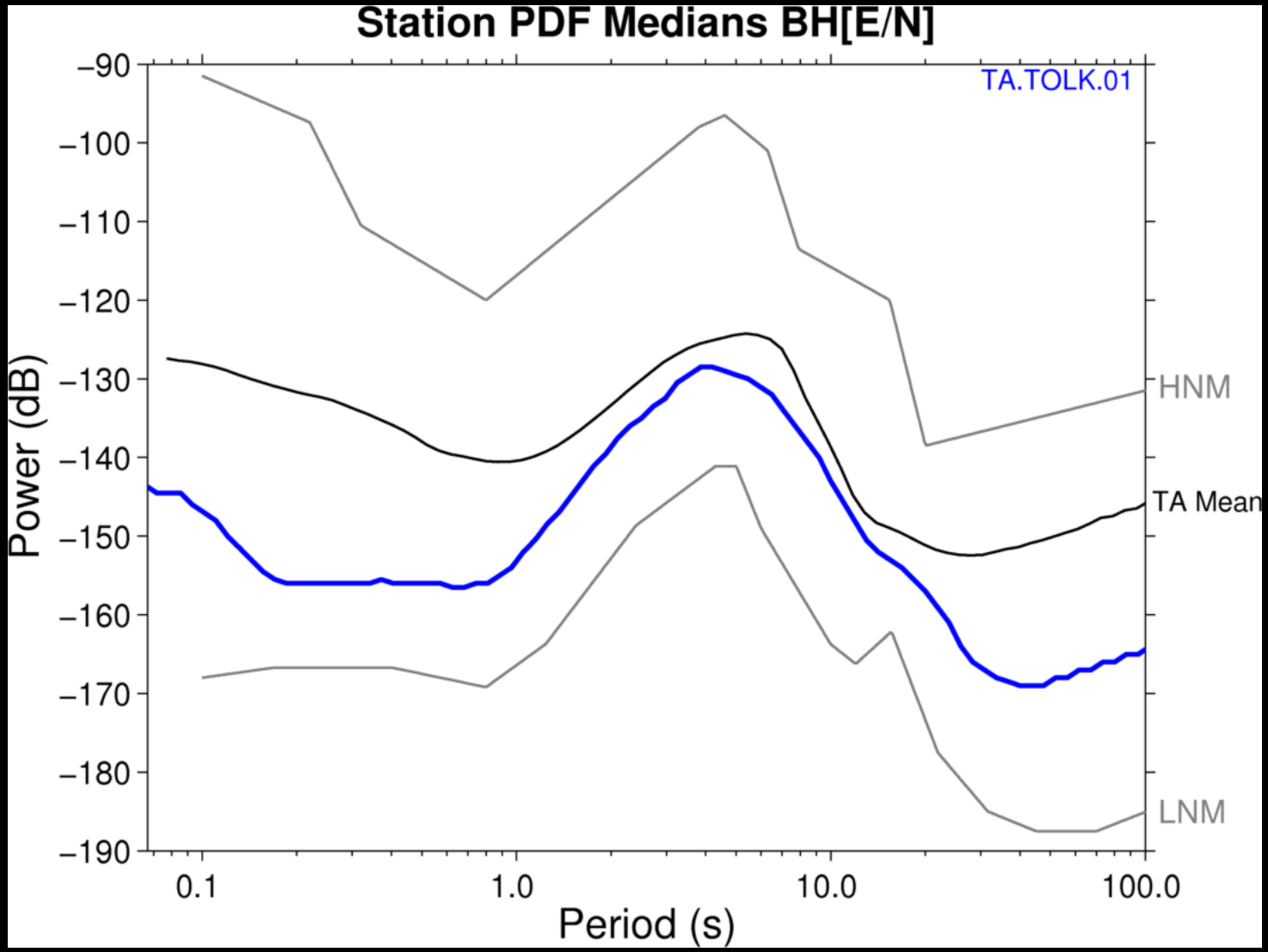


PSD-PDF Analysis



McNamara and Buland, 2004

Example - TOLK



Hamed Gamal El Dien, M.Sc

2013 – Present Assistant lecturer, Geology Department, Faculty of Science, Tanta University, Egypt.

2008 – 2013 Demonstrator, Geology Department, Faculty of Science, Tanta University, Egypt.

Research: Ultramafic rocks and Mantle Geochemistry

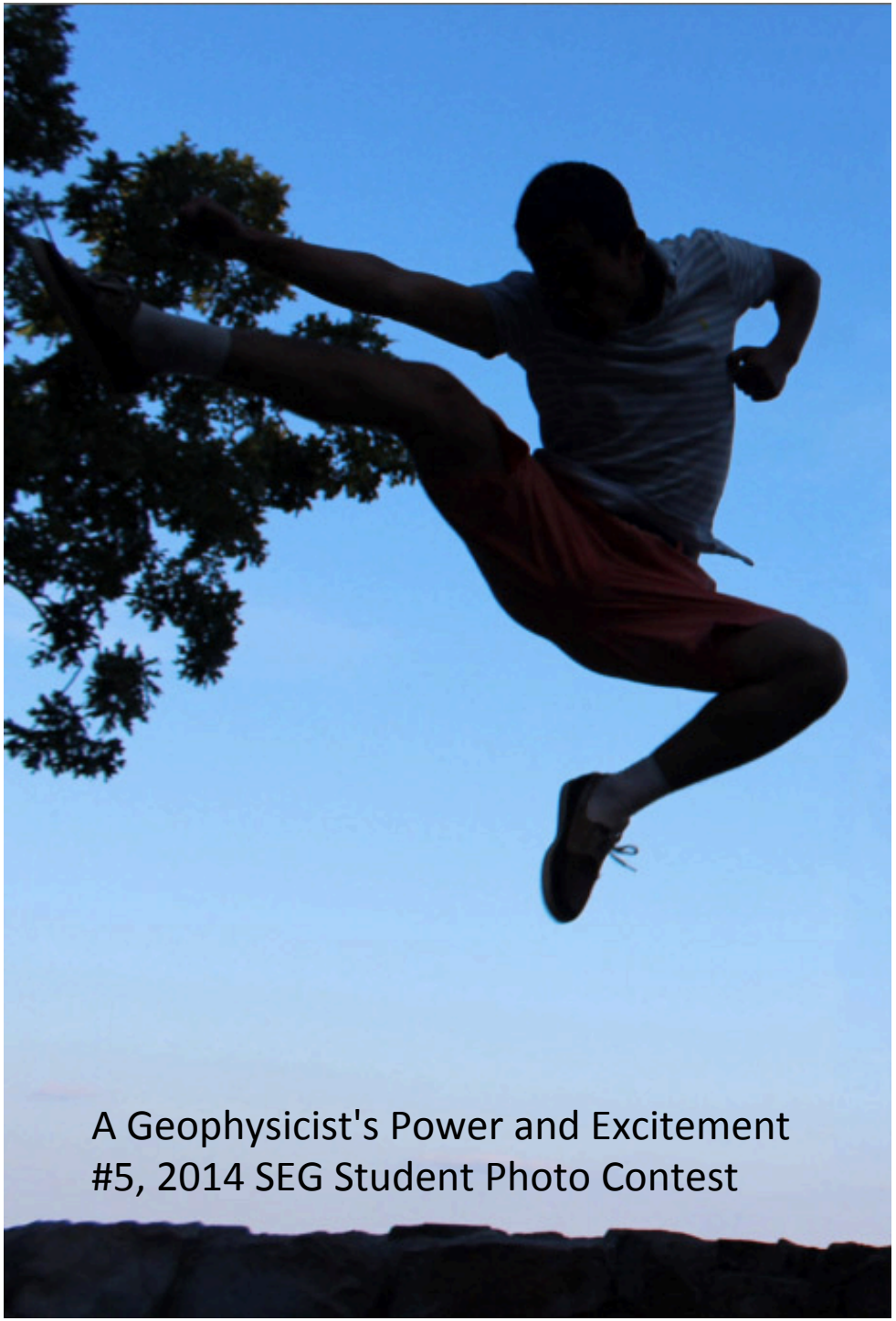
- I used petrology, geochemistry and structural geology to study the geodynamic evolution of serpentinized ultramafic rocks and associated deposits (e.g. carbonates, Talc, Chromite). Also, I studied the characteristic of the Neoproterozoic upper mantle reservoir beneath the Arabian-Nubian Shield (ANS) of the Eastern Desert of Egypt in terms of: composition, mantle processes of melting and metasomatism, crustal processes of serpentinization and metamorphism and the paleogeodynamics by using different techniques as EMPA, LA-ICP-MS and Stable isotopes.

Future step: **study the Subduction Initiation through the time**

By answering the following questions:

1. How did the subduction of oceanic plate initiate in the Neoproterozoic age?
2. How is the wedge mantle above the subducting plate modified by infiltration of slab-derived fluids/melts?
3. How differences in these subduction systems between the modern and ancient?

Now I am LOOKING FOR PhD POSITION



A Geophysicist's Power and Excitement
#5, 2014 SEG Student Photo Contest

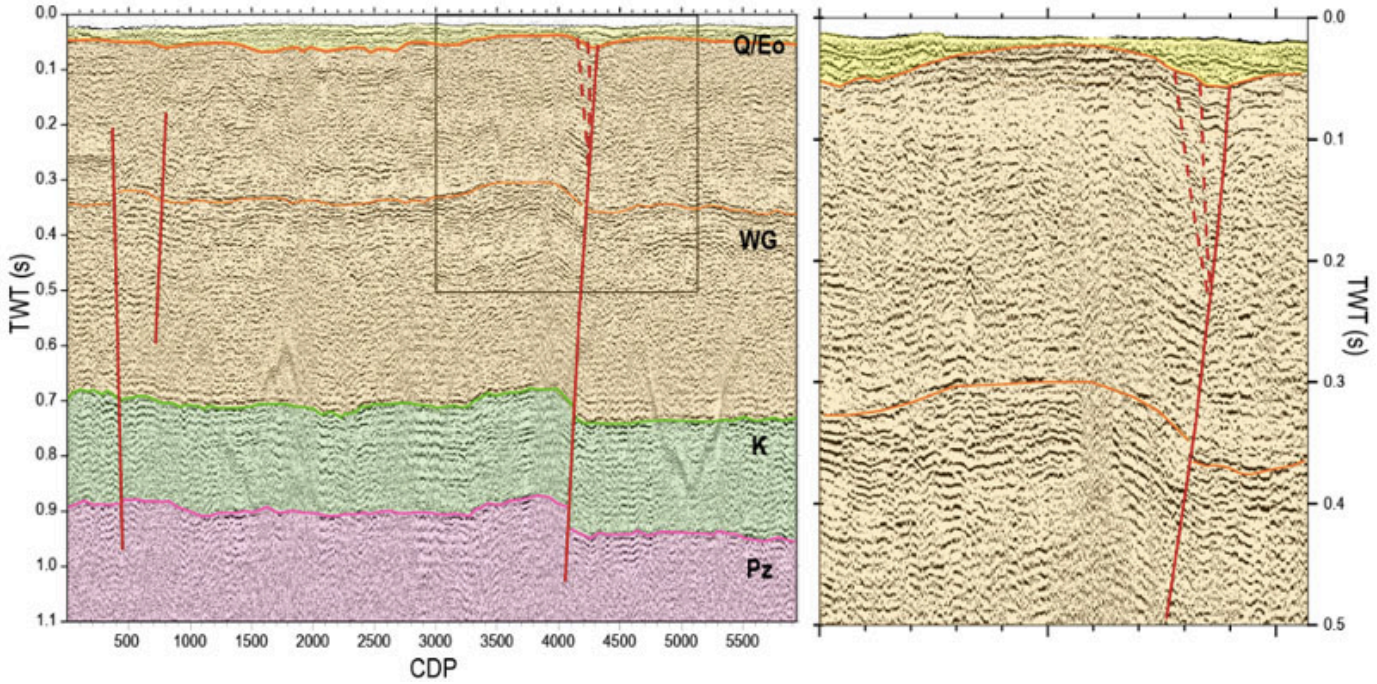
Yanjun Hao
PhD, Geophysics

PhD, 2015, Southern Methodist University
Advisor: Dr. M. Beatrice Magnani

MS, 2010, Institute of Crustal Dynamics, China Earthquake Administration

BS, 2007, Guilin University of Technology, China

Active-source Exploration Seismology



I'm seeking for a Post-Doc (yhao@smu.edu)

Chris Havlin, PhD

Postdoc	2015-?	Lamont-Doherty Earth Observatory, Columbia
PhD	2015	Brown University
MSc	2011	Brown University
BA	2009	Boston University

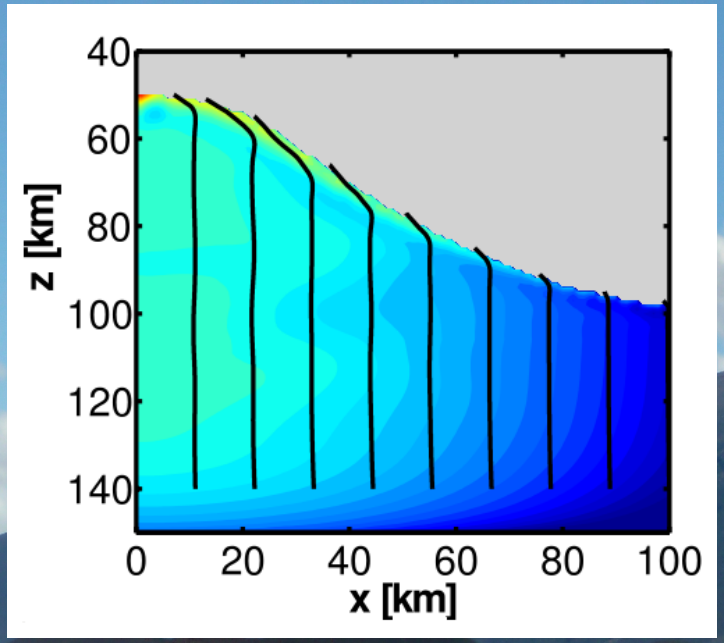
christopher_havlin@brown.edu

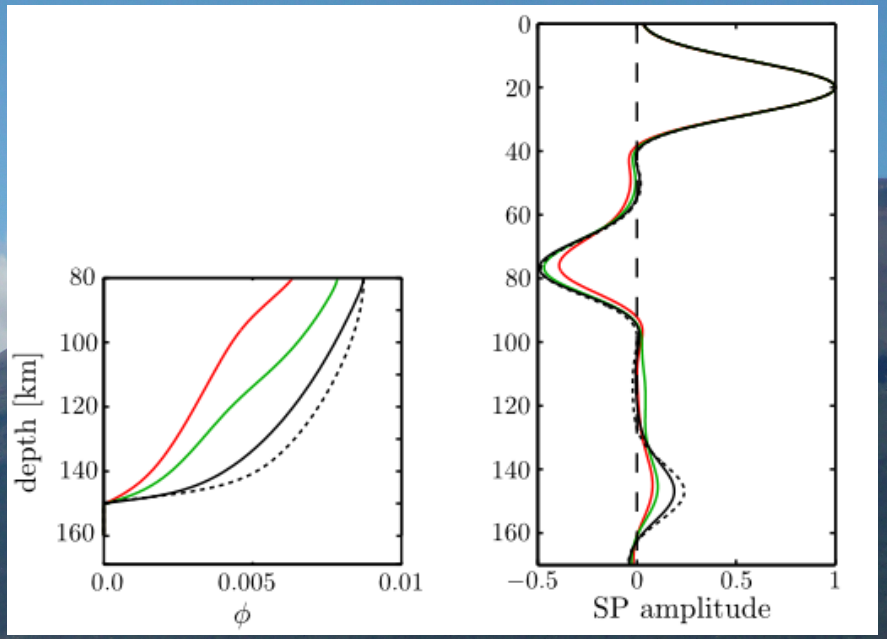
(photo: Mauna Kea and cinder cones)

Modeling Mantle Dynamics (multiphase flow, melt migration)

Geodynamics
Melt-lithosphere interaction
Tectonics (Continental Rifting)

Seismic Synthetics
Melt distribution
Receiver functions





The Future: Seismic attenuation (geodynamic to seismic), shallow multiphase systems (magma chambers, glaciers)

christopher_havlin@brown.edu

Esther K. James

2010 – present: PhD Candidate, Boston University

2005 – 2010: BS Mathematics & Physics, Florida A&M University

Expected to defend in May: Currently on the job hunt!

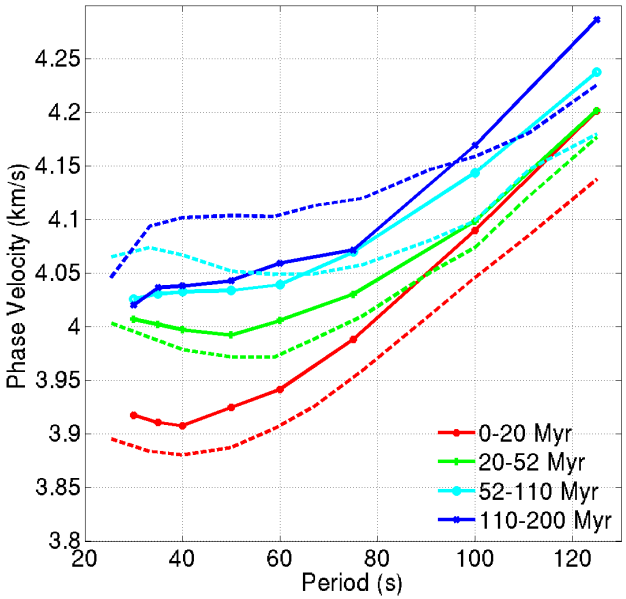
Mantle Tomography

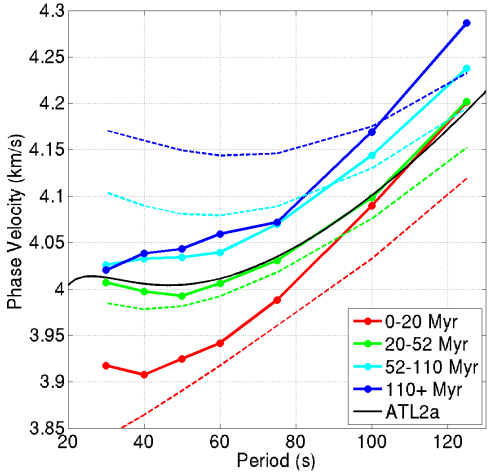
Focus: Investigating shear velocity structure of the upper mantle beneath the Atlantic basin

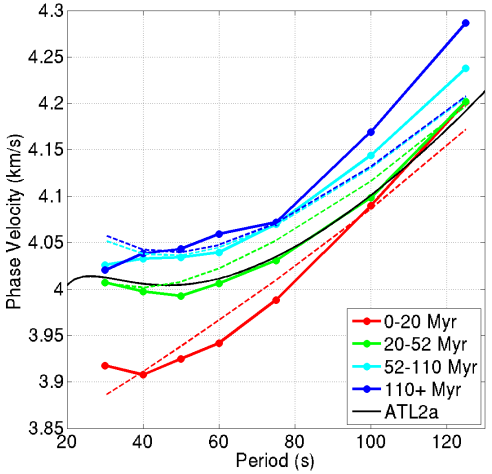
Constraining Thermal Models

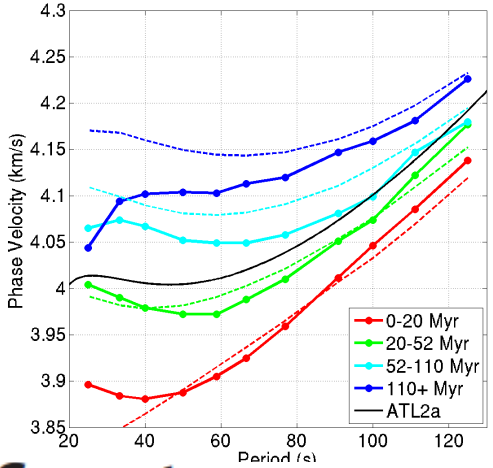
ATL vs. PAC

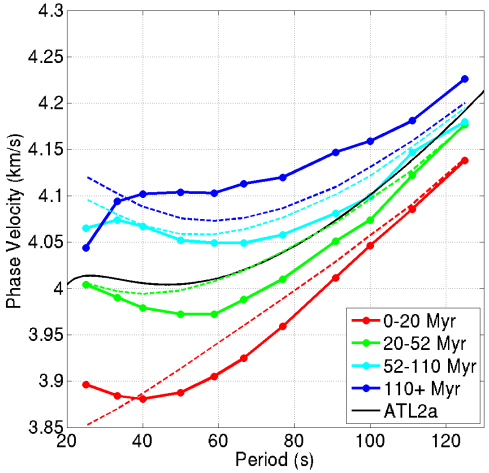
"Phase-Velocity Models"











Geochemistry, Geophysics, Geosystems

RESEARCH ARTICLE

10.1002/2014GC005518

Rayleigh wave phase velocities in the Atlantic upper mantle

Esther K. James[1], Colleen A. Dalton[2], and James B. Gaherty[3]

[1]Department of Earth and Environment, Boston University, Boston, Massachusetts, USA, [2]Department of Earth, Environmental and Planetary Sciences, Brown University, Providence, Rhode Island, USA, [3]Lamont-Doherty Earth Observatory of Columbia University, Palisades, New York, USA

Key Points:

- Rayleigh wave phase-velocity models for the Atlantic upper mantle
- Areas of low velocity associated with hotspot volcanism at all periods
- Age-dependent phase velocities require thin lithosphere in Atlantic

Abstract Phase velocity in the period range 30–130 s is measured for approximately 10,000 fundamental-

Large-Scale Earthquake Simulations of Injection Induced Seismicity

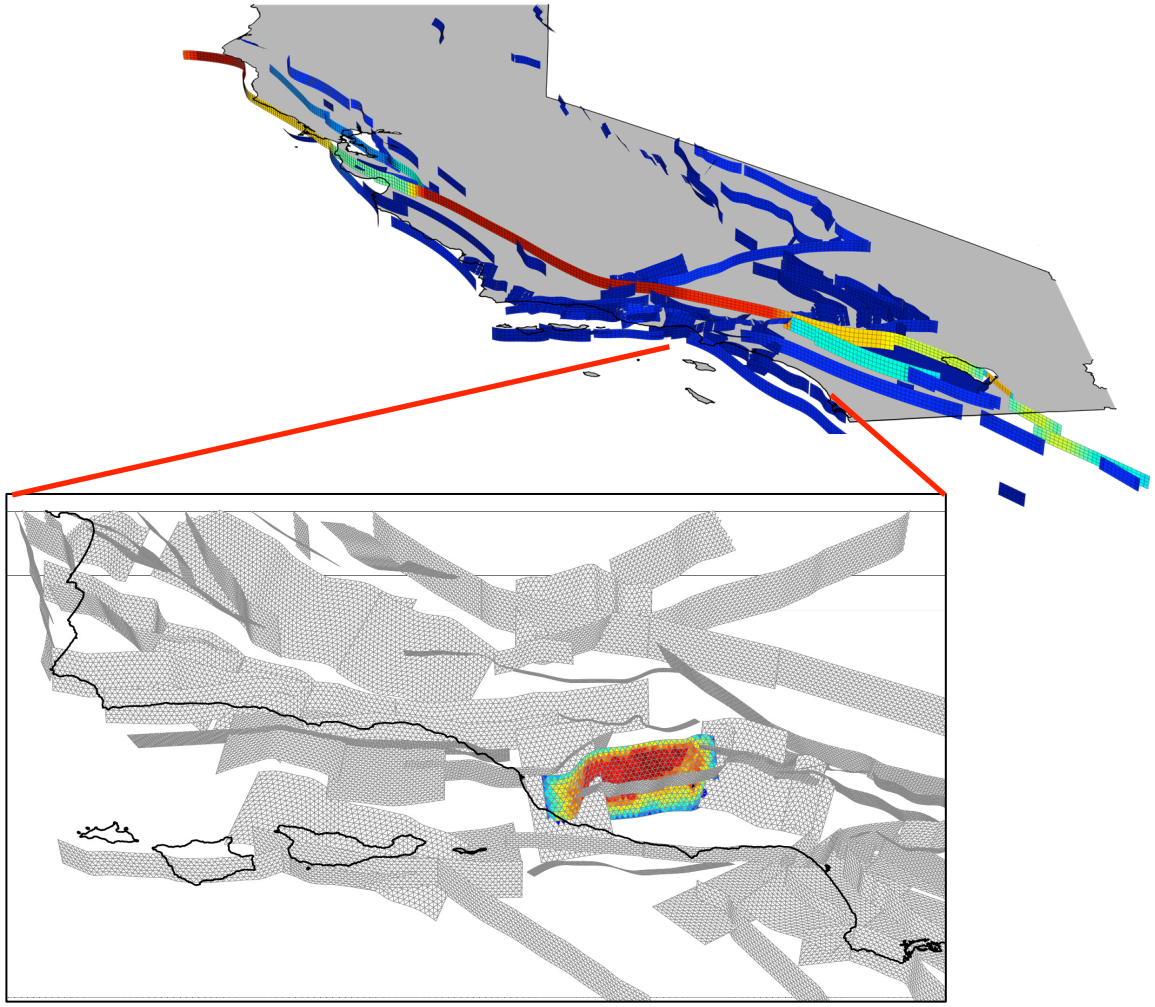
Kayla A. Kroll, James H. Dieterich, and
Keith B. Richards-Dinger

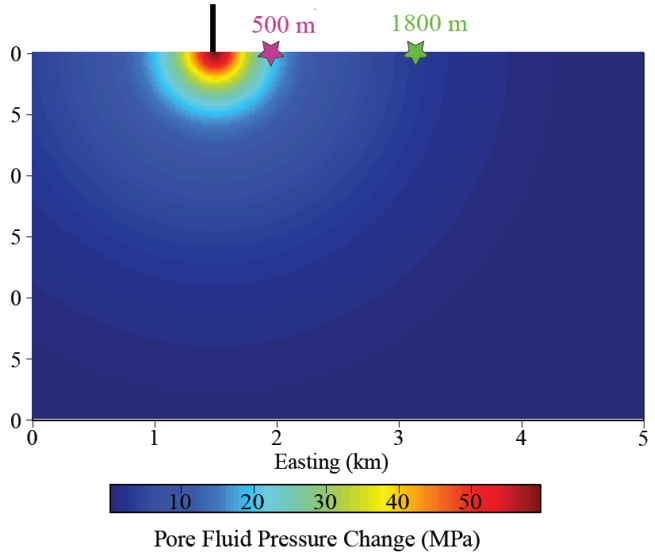
UNIVERSITY OF CALIFORNIA
UC RIVERSIDE

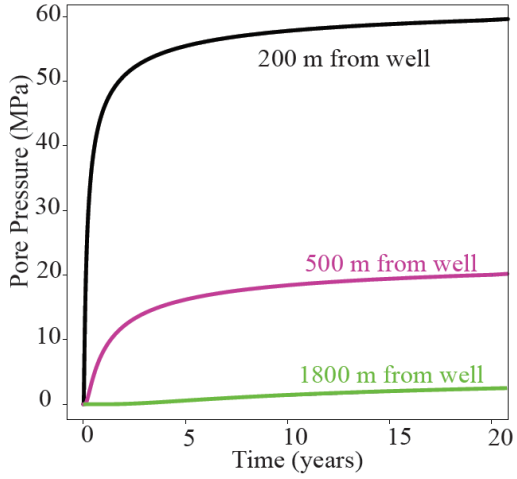
USGS
science for a changing world

SCEC
an NSF+USGS center

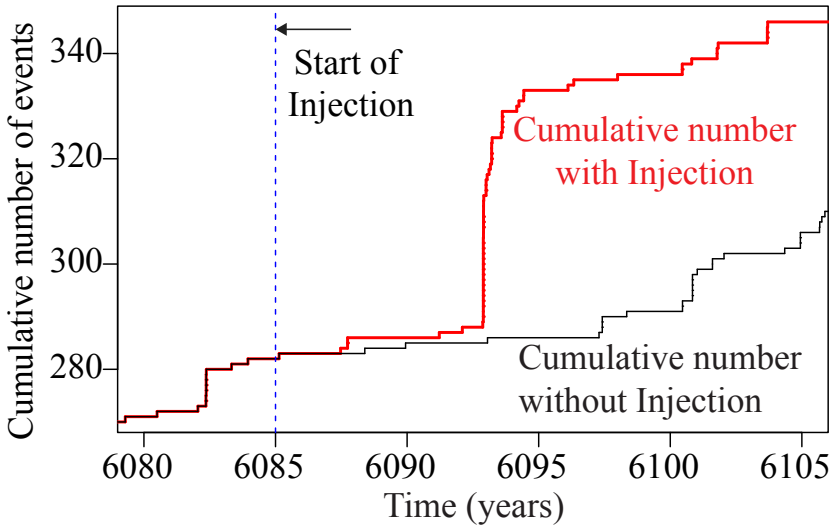
Coupled Earthquake Simulations with a Reservoir Model

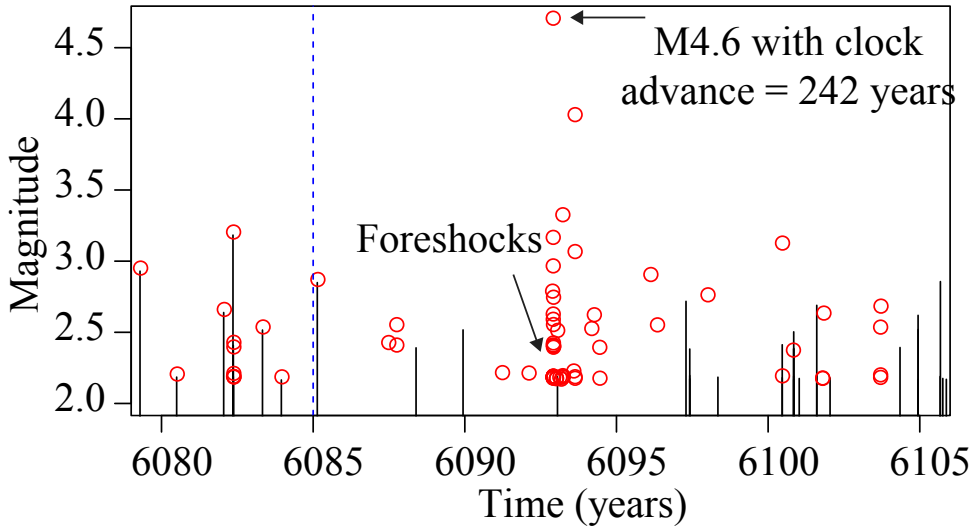


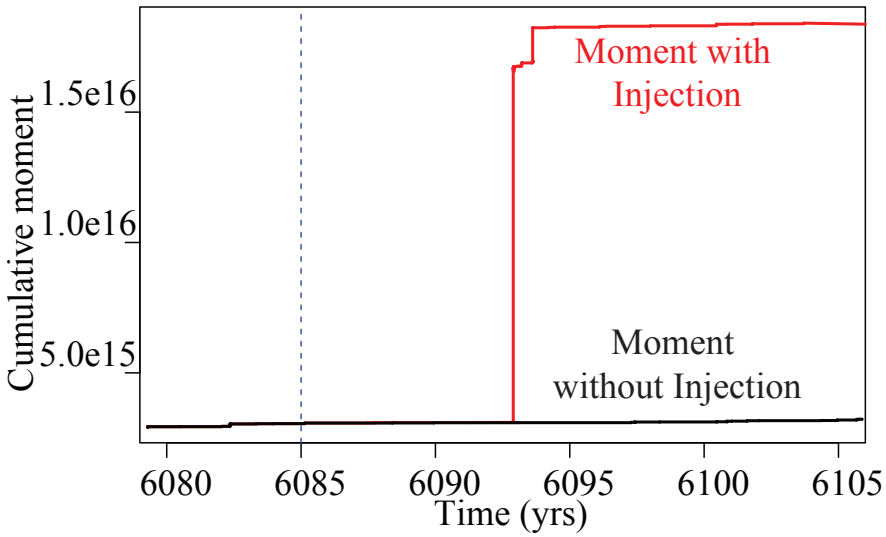


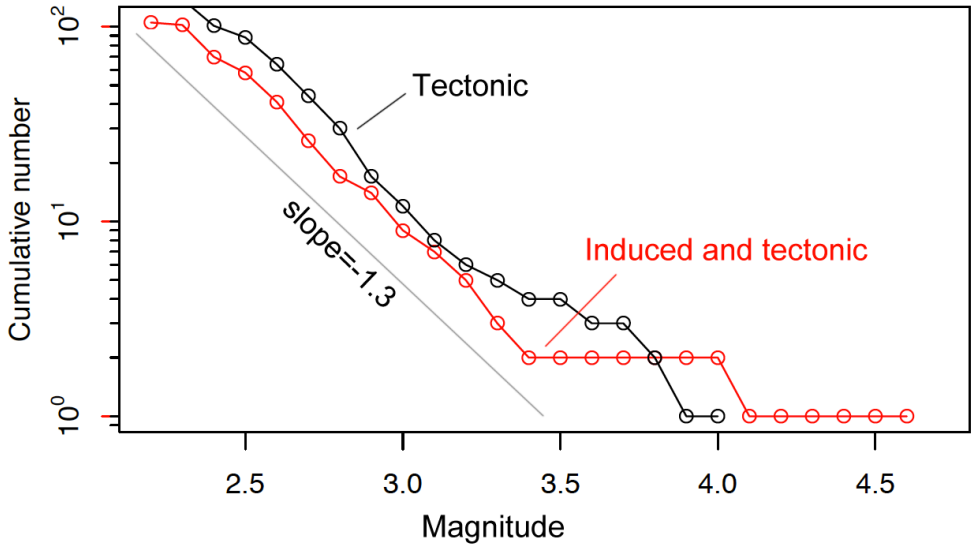


Simulation comparison with purely tectonic stressing and (tectonic stressing + injection pressures)







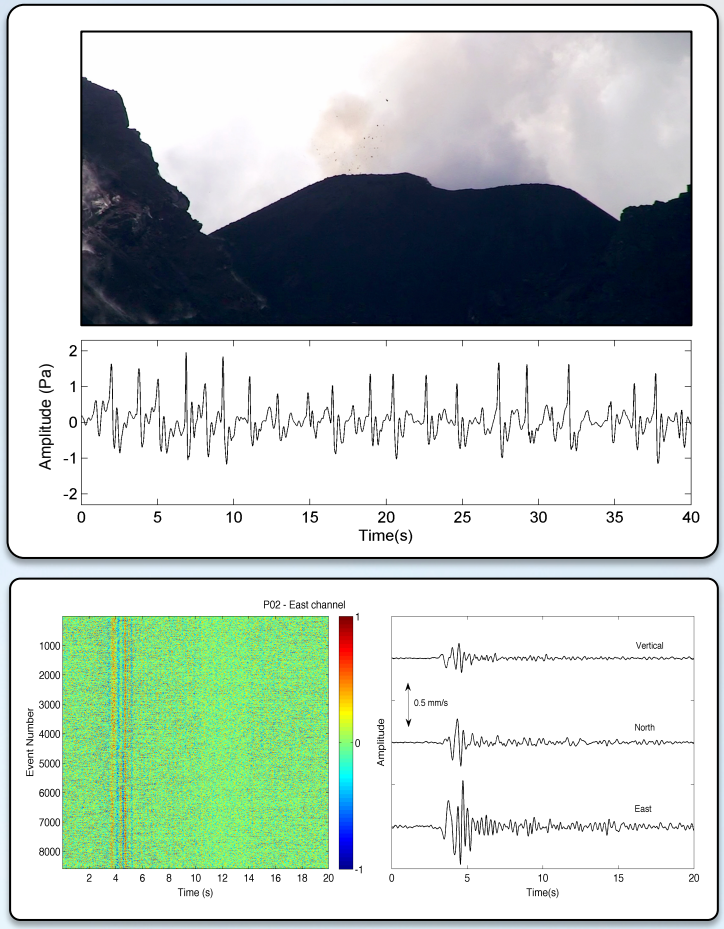


Federica Lanza, MS

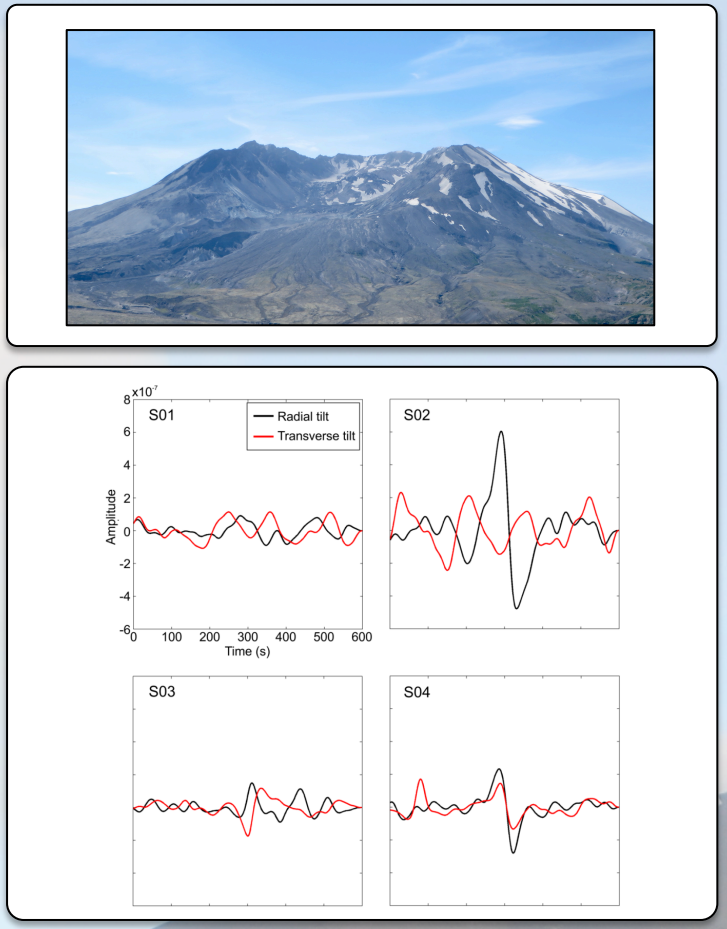
PhD Candidate at Michigan Technological University

PhD	2016*	Geophysics, Michigan Technological University (*expected)
MS	2012	Geology, University of Milan-Bicocca & Michigan Technological University (dual degree)
BS	2009	Geology, University of Milan-Bicocca (Italy)

Research: Determining source mechanisms and locations of long-period seismicity at active volcanoes



LP events at Pacaya, Guatemala



VLP events and tilt at Mount St. Helens

Next steps: Tilt waveform inversion, coda wave seismic interferometry

Hans N. Lechner
PhD Candidate
Michigan Technological University
Houghton, MI

- MS 2010 - Michigan Technological University
- Peace Corps El Salvador 2007-2009
- Peace Corps Jamaica 1999-2001
- BS 1998 - Humboldt State University, Arcata, CA

Research: Volcano Deformation

Pacaya volcano, Guatemala

Data acquisition

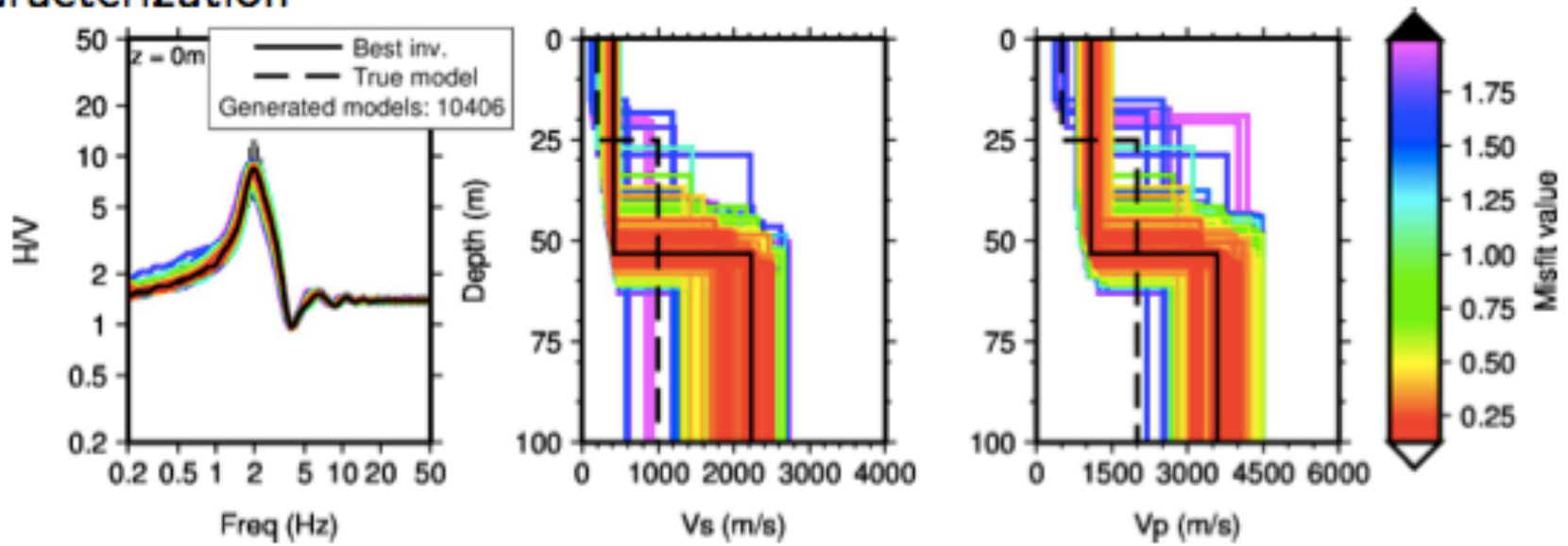
Future work: High rate GPS analysis of transient motion.

Agostiny M. Lontsi, PhD candidate
Institut of Earth and Environmental Science, University of Potsdam, Germany

2011 – *now* PhD Candidate, Institut of earth and environmental science, University of Potsdam, Germany
2008 – 2010 Diploma, Earth System Physics, International centre for theoretical Physics, Italy
2003 – 2008 Msc in Physics, University of Yaounde 1, Cameroon

Research: Site characterisation using active and passive seismic methods

Full microtremor H/V(f, z) inversion for shallow subsurface characterization



AGU Fall Meeting, Talk id: NS43B-03

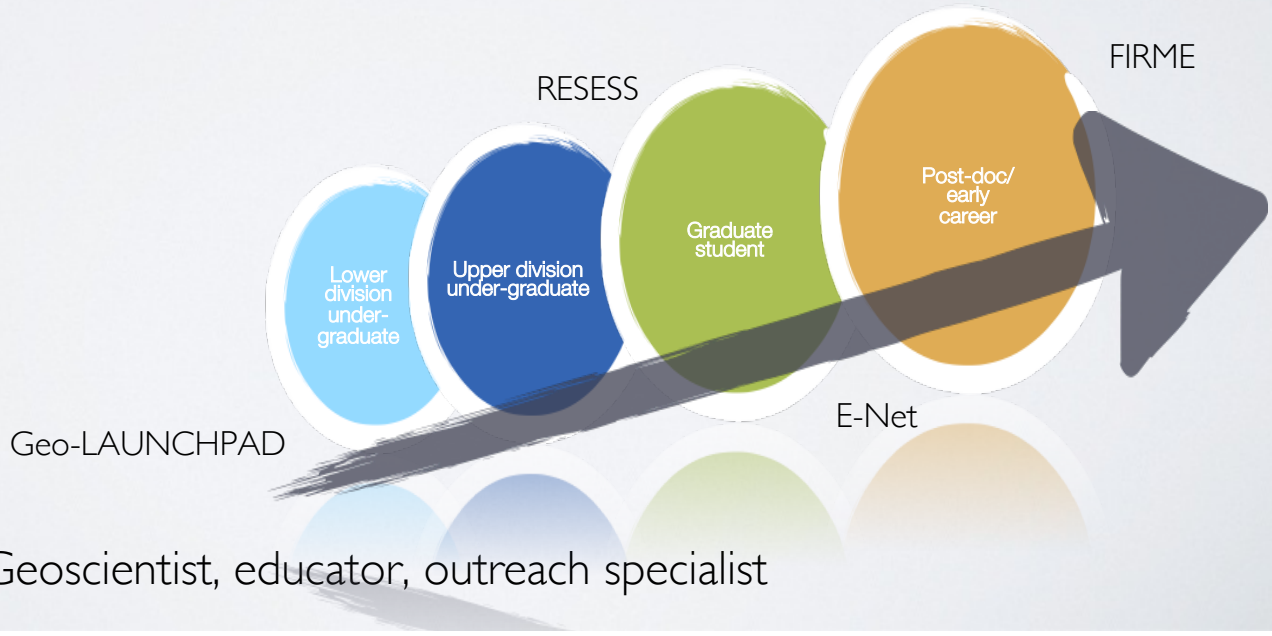
Dec. 18, 2014, San Francisco, USA

Next steps: Application to additional (rocky) sites

Seeking: Collaborations & Jobs

Aisha R. Morris, PhD
Education Specialist, Geo-Workforce Development Lead

Congressional Science Fellowship	AGI	Science policy
Post-doc	Syracuse University	Volcano-ice interaction and Education/Outreach
PhD	University of Hawaii	Planetary geology/geophysics
MS	University of Hawaii	Marine geology
BS	Duke University	Geology



Geoscientist, educator, outreach specialist

CAROLYN PARCHETA, PHD

- Volcanologist
- Field Geologist
- Engineer*
- Programmer*
- Explorer
- Pioneer

Postdoc 2014-Present: JPL

Postdoc 2013-2014: USGS

PhD 2013: U Hawaii @ Manoa

B.S. 2008: U Hawaii @ Manoa

RESEARCH: VOLCANIC FISSURES

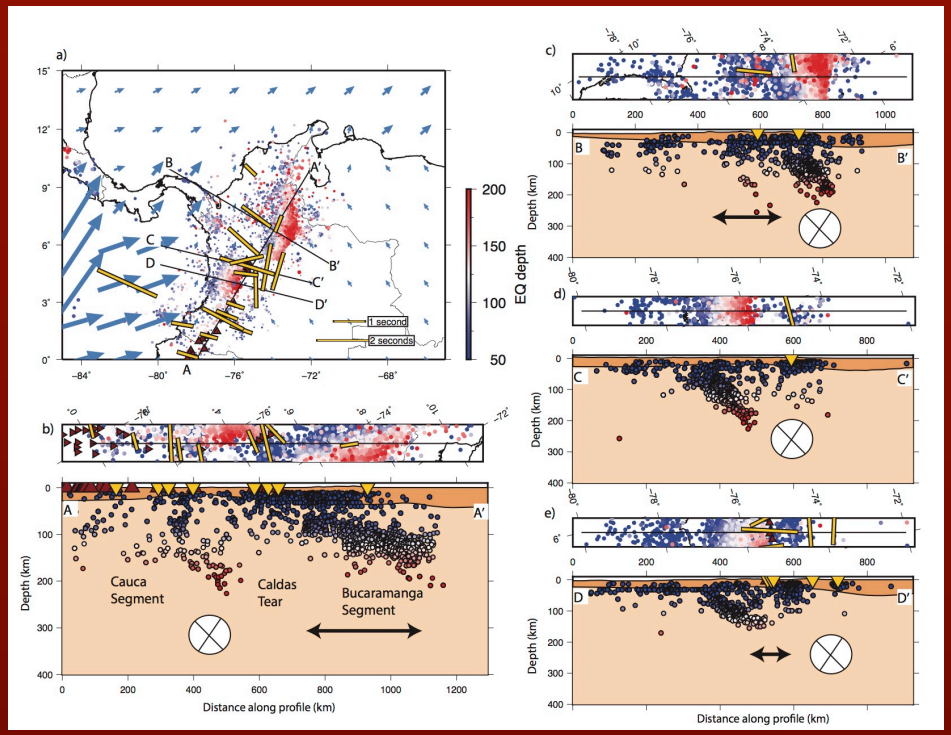
Next steps: Fluid dynamical modeling of fissure eruptions; improved robotics

Rob Porritt, G.G., BSe, PhD

Postdoc	2013-2015	University of Southern California
PhD	2013	University of California, Berkeley
BS	2007	Michigan Technological University

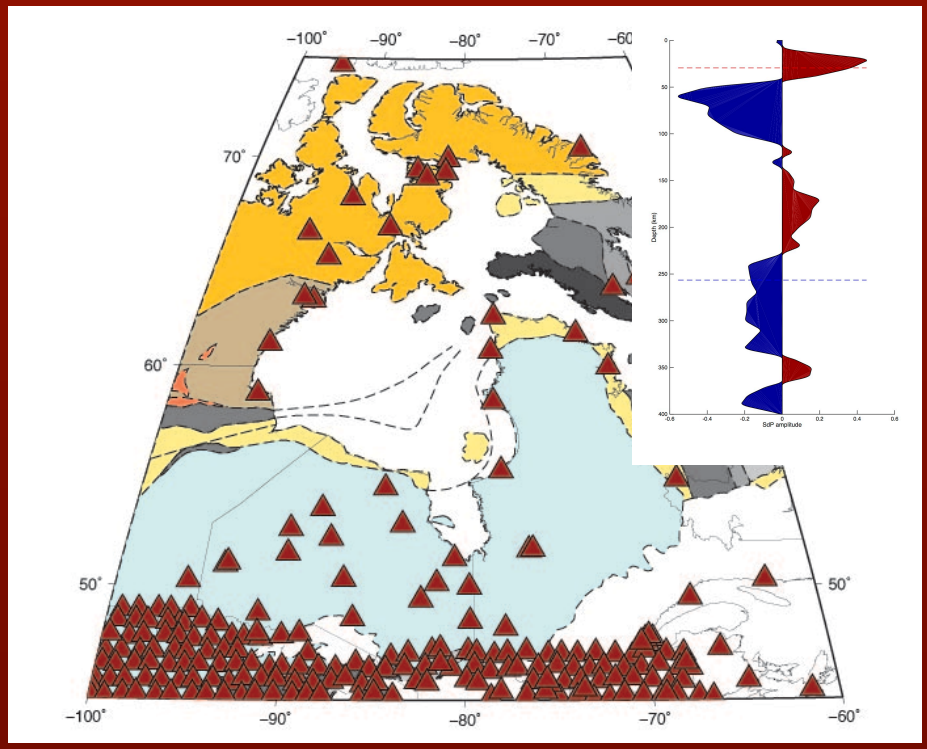
Current research:

Colombia Anisotropy



Porritt et al., 2014, GRL

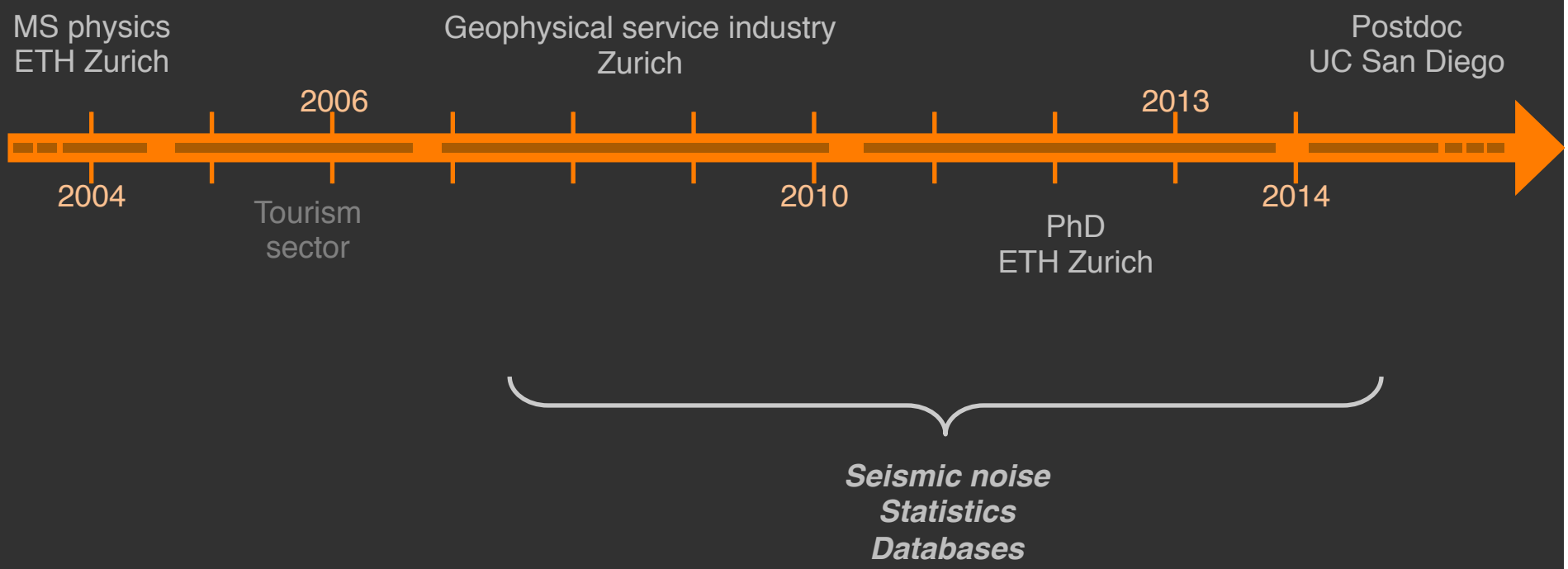
North American Craton



Stations used in Ambient noise and 1D SRF profile from CCP volume

Next step: Visiting Researcher at Kobe University
April 2015 – July 2015

Nima Riahi
Postdoc at Scripps Institution of Oceanography, UC San Diego




Who's listening to our vibrations?
Bringing seismics
to
urban sensing
• Traffic monitoring
• Building use
• Structural health
• Weather – city interaction

Danielle Sumy, PhD

IRIS HQ Project Associate (EPO and IS programs)

Postdoc 2013-2014		University of Southern California, Petroleum Engineering
Postdoc 2011-2014		United States Geological Survey, Pasadena, CA
PhD	2011	Lamont-Doherty Earth Observatory, Columbia University
BS	2005	Florida State University

Research: Earthquake Triggering

9º50’N East Pacific Rise
Gulf of California

2011 Oklahoma earthquakes

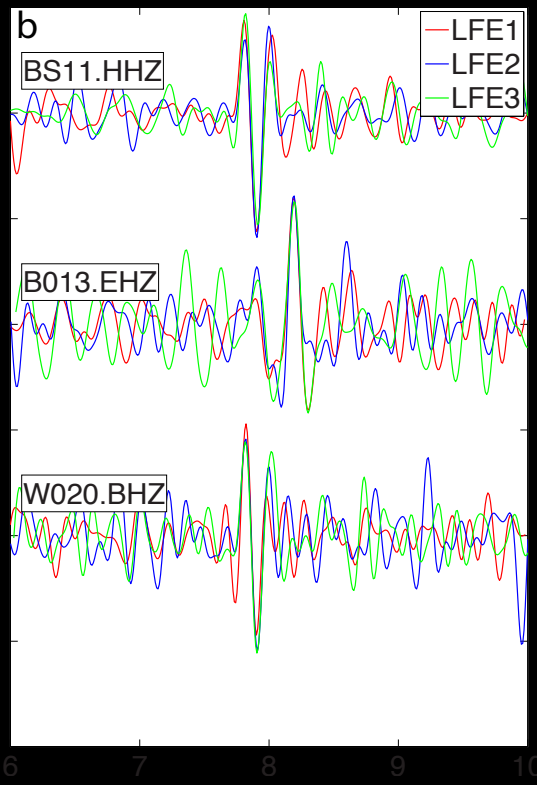
Next steps: Ground motion attenuation and shear-wave splitting

Justin Sweet, PhD

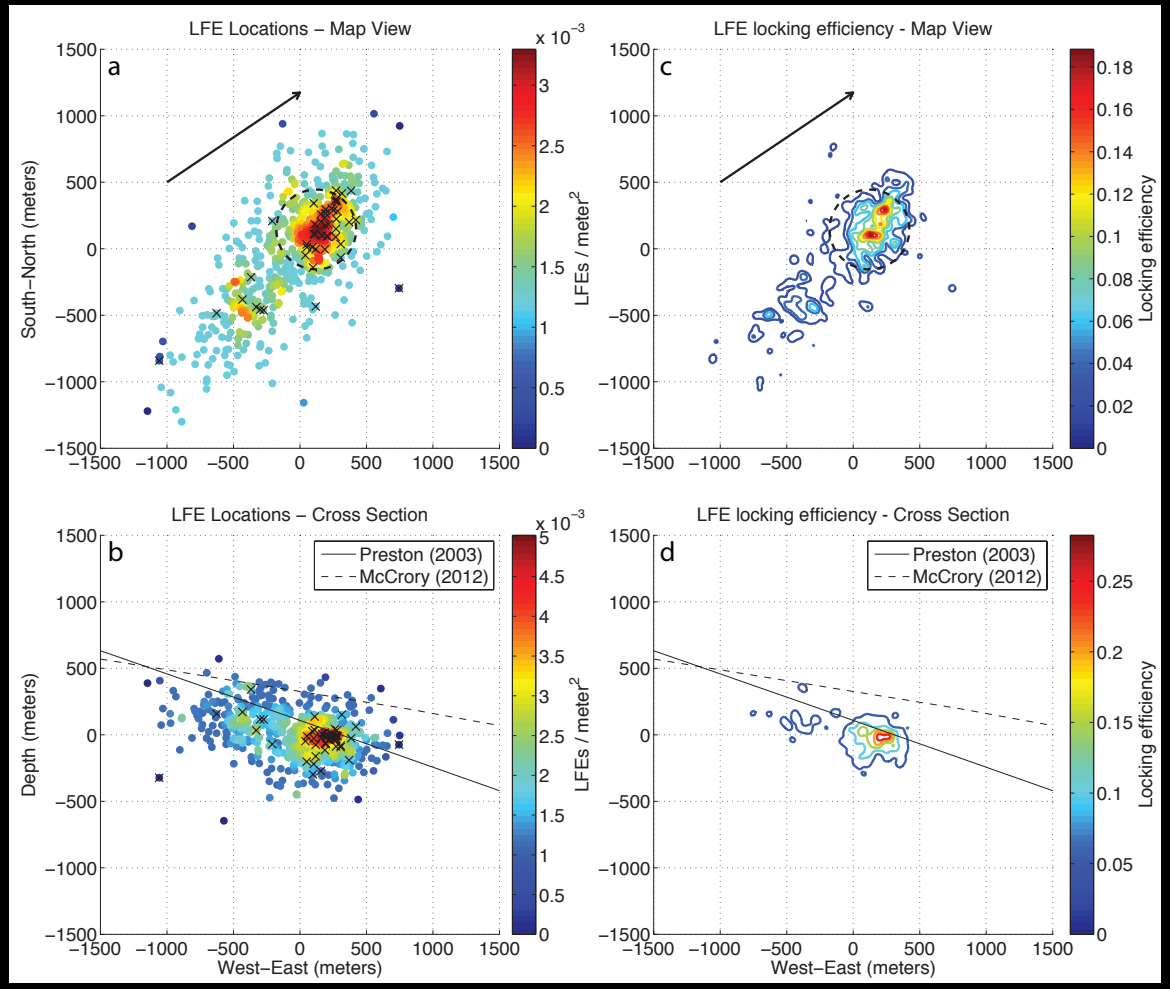
IRIS Portable Project Associate (based at PASSCAL)

PhD	2014	University of Washington, Seattle, WA
BA	2004	Northwestern University

Research: Low-Frequency Earthquakes



LFE waveform alignment
at 3 nearby stations



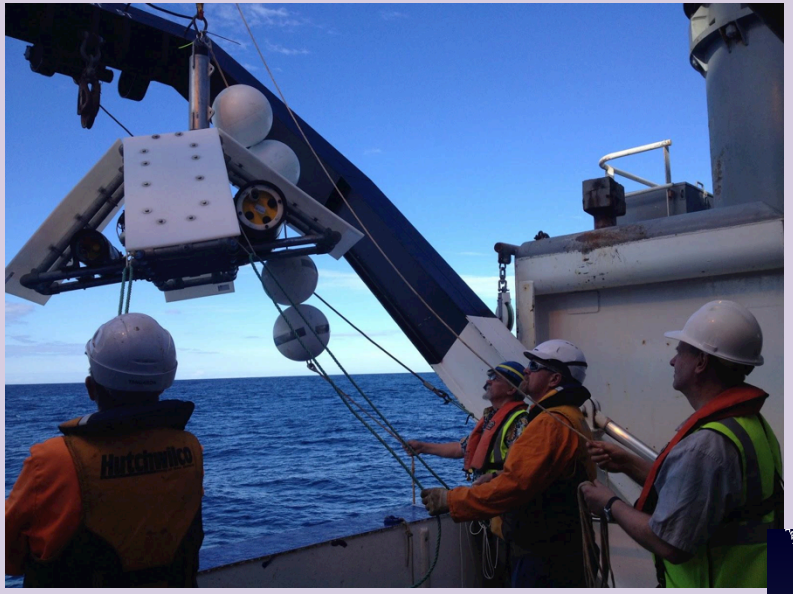
HypoDD LFE locations
LFE locking efficiency

Next steps: PASSCAL data quality metrics for experiment PI feedback

Erin K. Todd

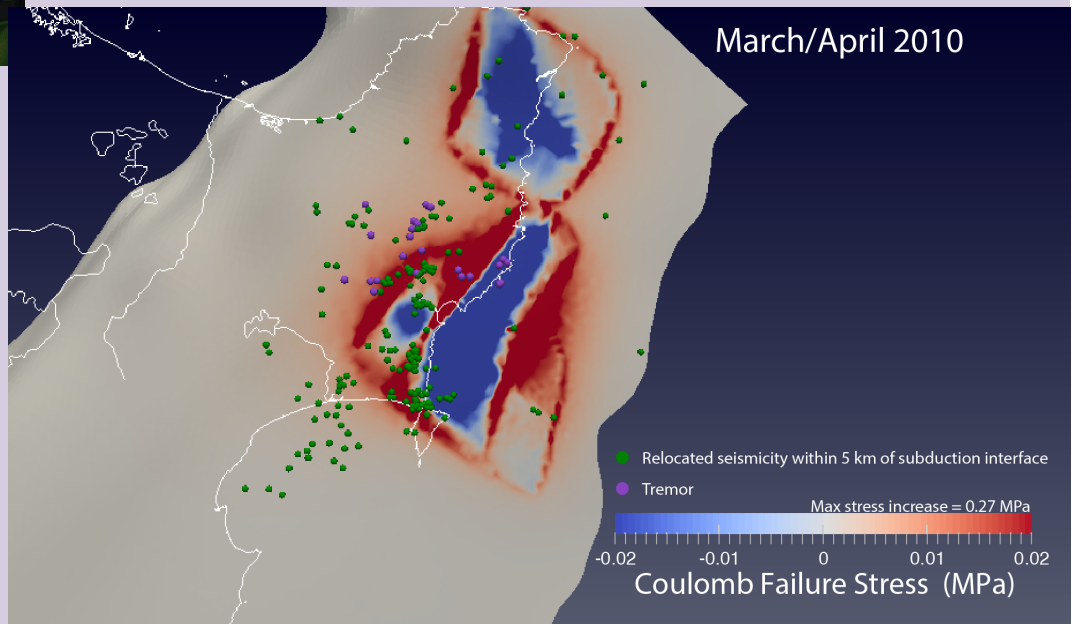
- University of California Santa Cruz
- 4th year PhD student
- BS 2008 – Penn State

Research: Slow Slip & Tremor



- Tremor and slow slip along Northern Hikurangi Margin, New Zealand
- Off-shore seismic and geodetic network collecting data through June 2015
  - Future: working with off-shore data to look at tremor and seismicity related to shallow slow slip

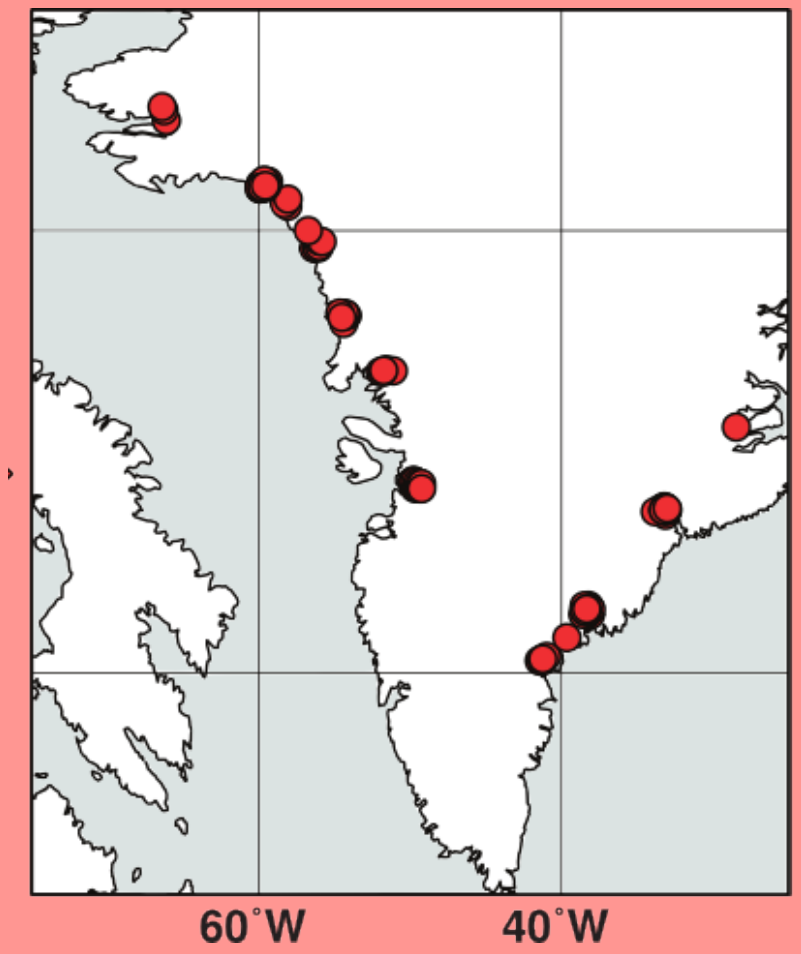
- Finite element modeling of slow slip – calculate Coulomb stress changes
- Tremor detection and earthquake relocation



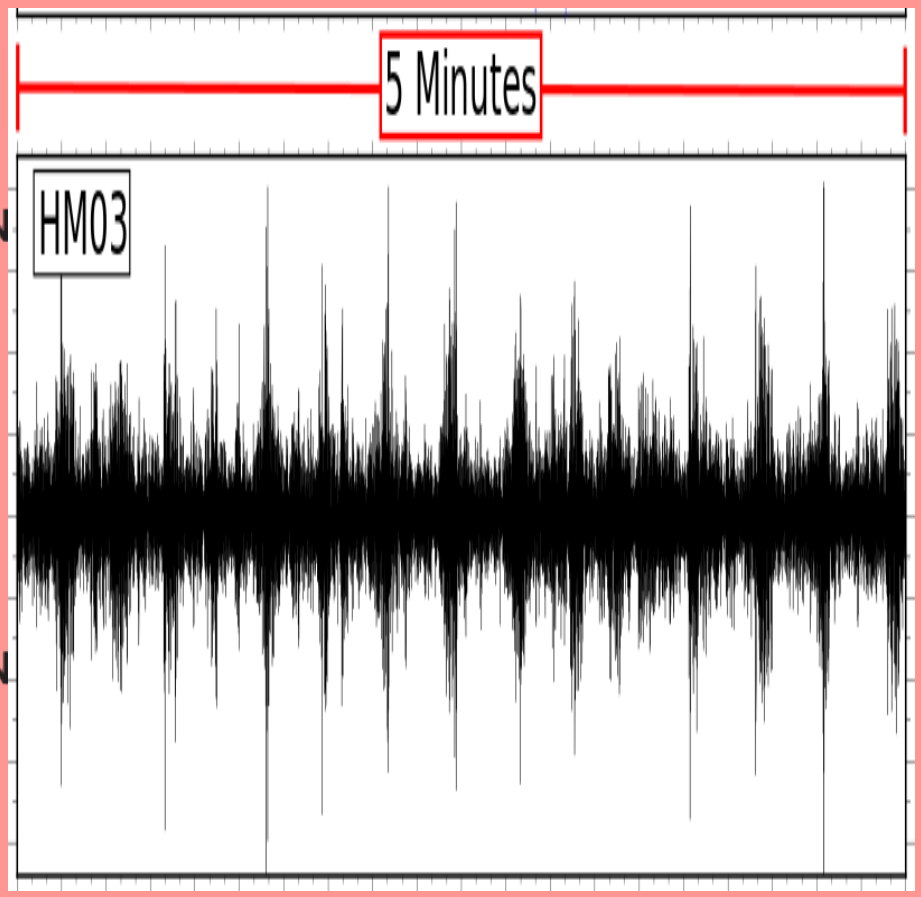
Stephen A. Veitch

LDEO/ Columbia PhD Student (2009--Current)

Research: Glacial Seismicity



Global / Long Period



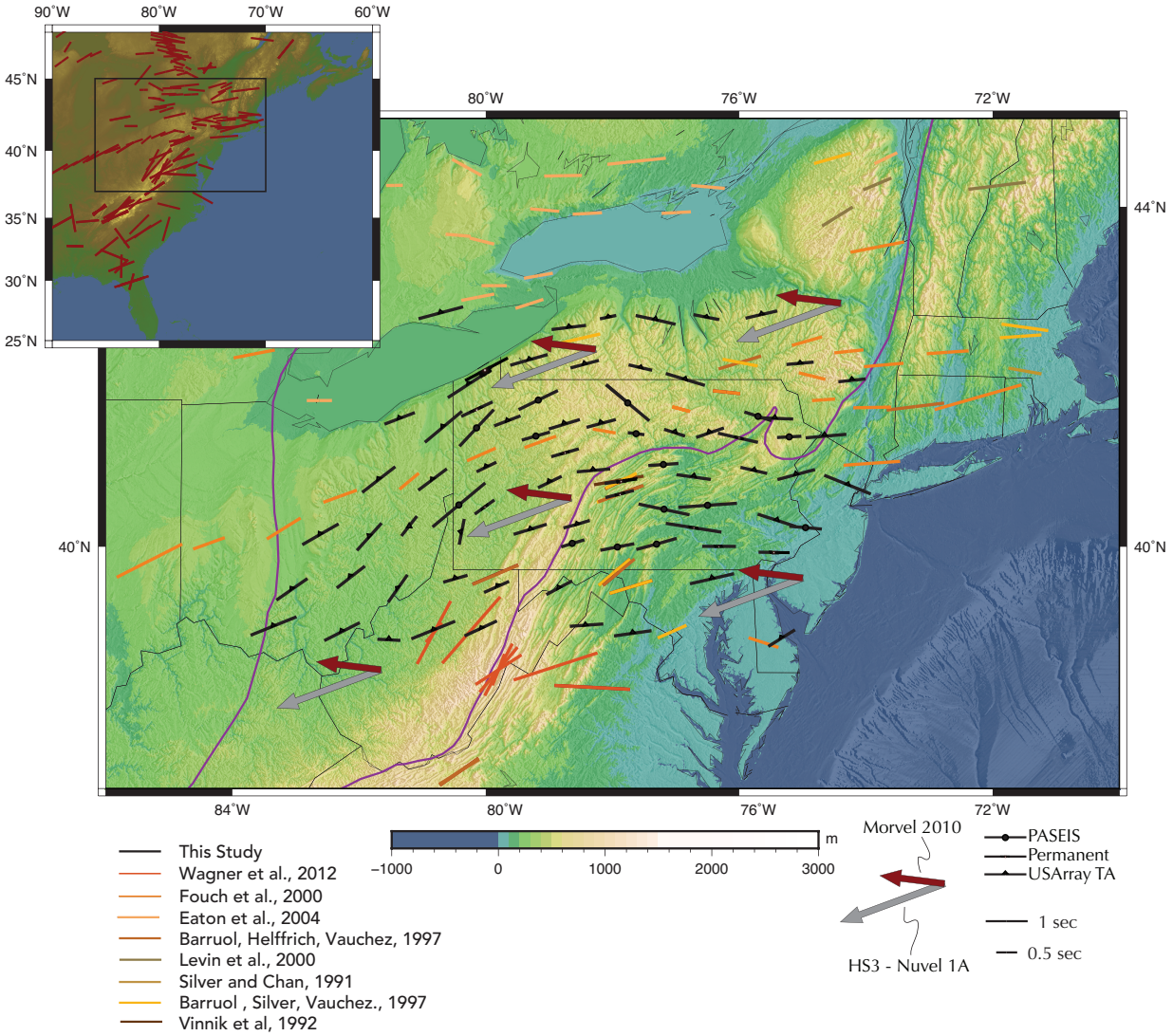
Local / High Frequency

Also: Graduating this spring, I like jobs?

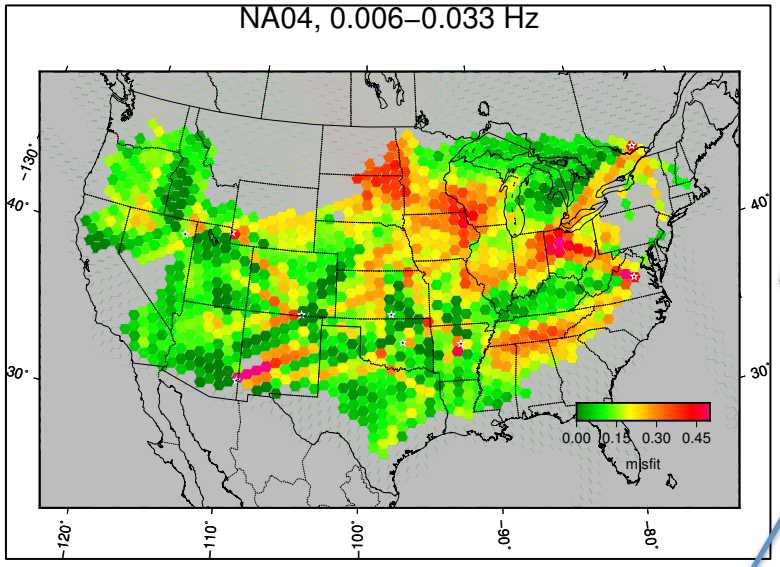
Austin White-Gaynor

2nd year - M.S. Penn State
B.S. Virginia Tech

Seismic Anisotropy across the central Appalachian Mountains




Emily Wolin
6th year PhD candidate
Northwestern University



How do we know our tomographic models are improving?

Why does noise at SPREE stations vary seasonally and diurnally?

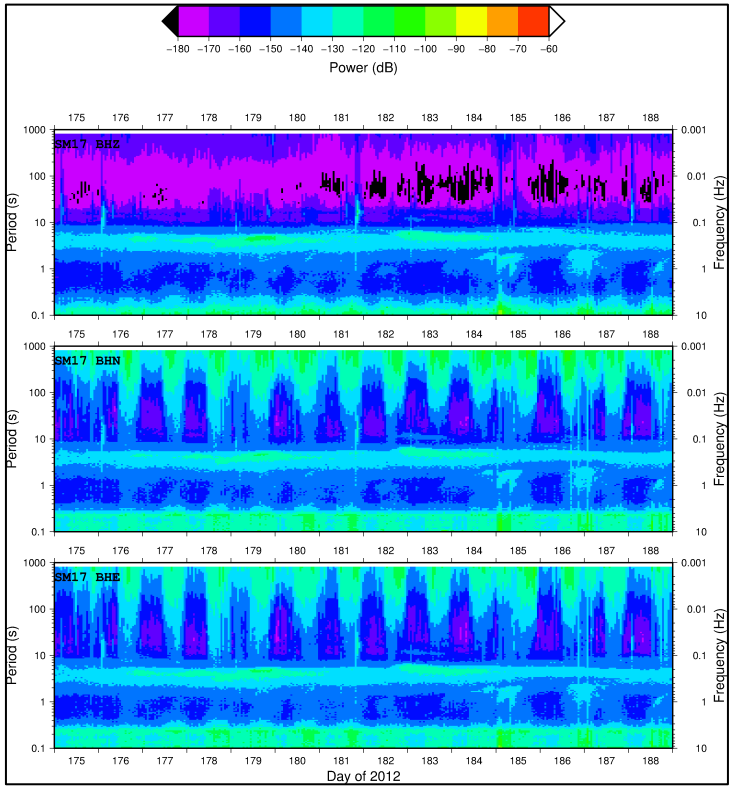
What is the structure of the lithosphere below central and eastern North America?

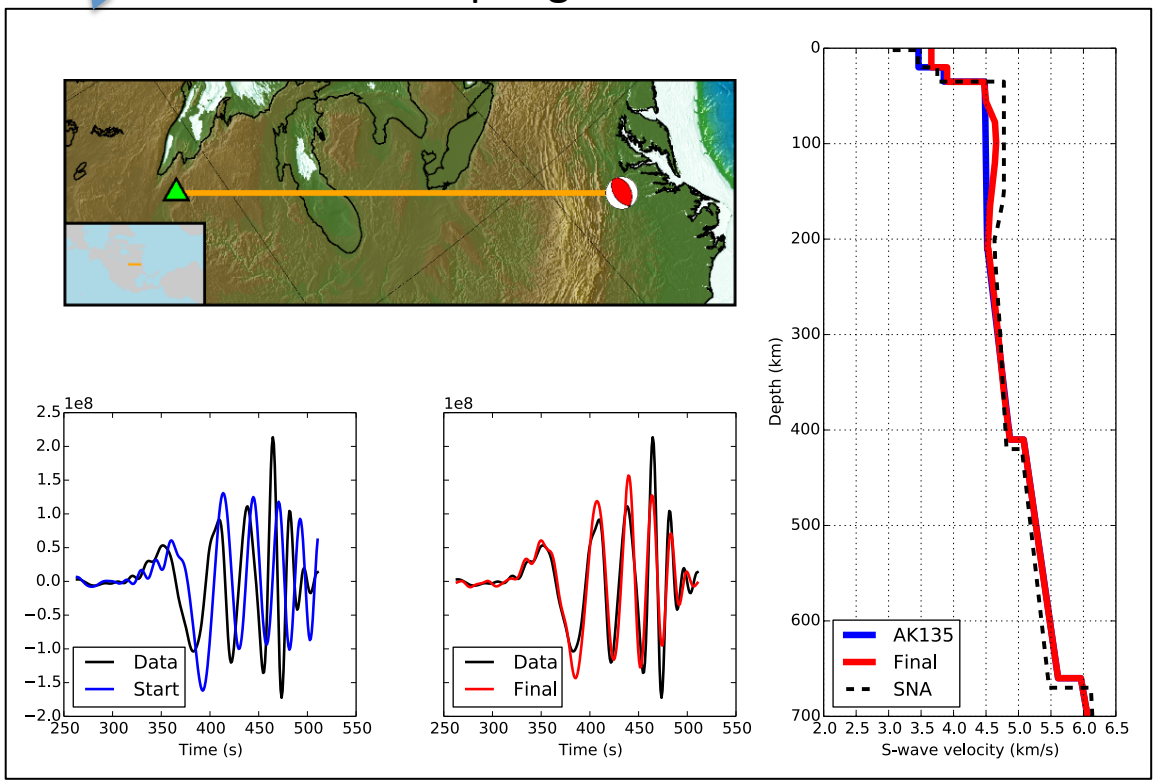
Next steps:

Explore “blowdown” signal at SPREE

Invert for new tomographic model

Defend in spring 2015!





Lingling Ye

UC Santa Cruz
Senior PhD Student
Earthquake Seismology

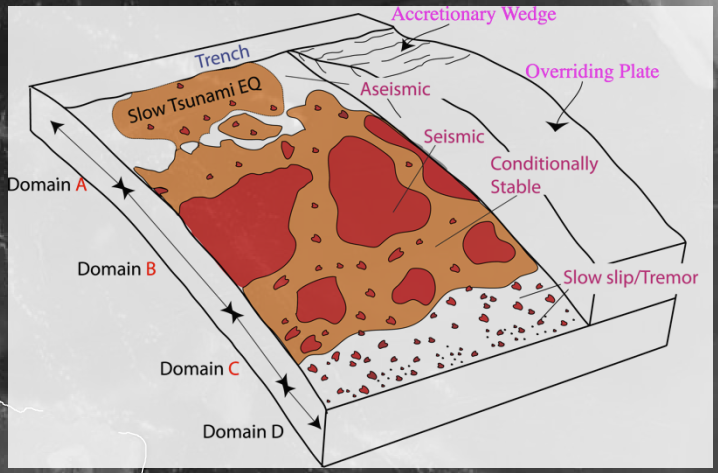
BS 2004 - 2008 University of Science and Technology at China, Geophysics

M.S. 2008 - 2011 Institute of Geophysics and Geology, Chinese Academic Sciences
Thesis: *mantle transition zone seismic velocity structure*

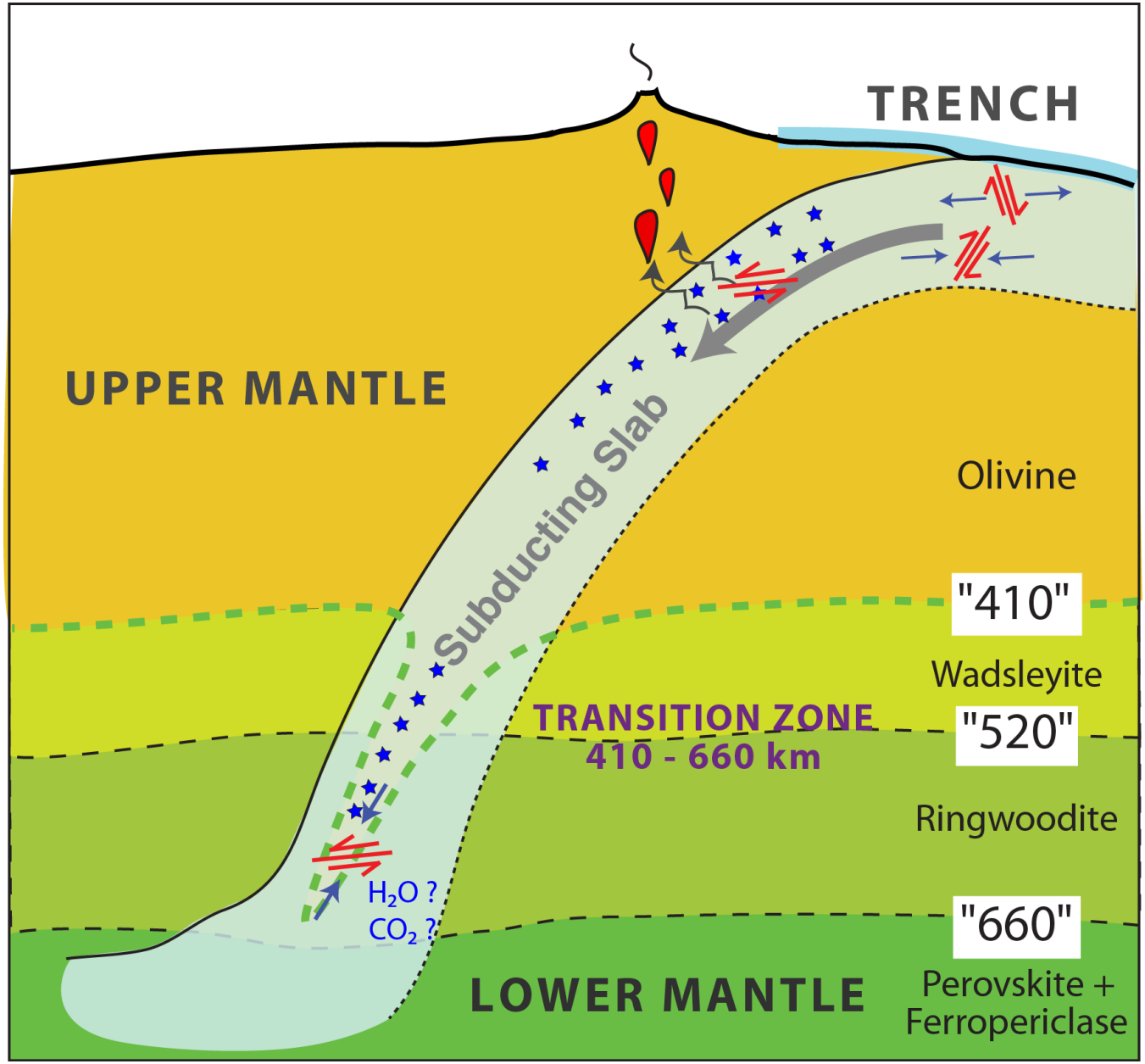
PhD 2011 - 2015 (expected) University of California, Santa Cruz
Thesis: *rupture process and seismic radiation for large earthquakes*

Large ($M_w \geq 7$) Megathrust Earthquakes (0 – 60 km)

1. How do megathrust ruptures vary with depth?



2. How do large earthquake parameters scale?



Earthquakes

Seismicity

Rupture Process

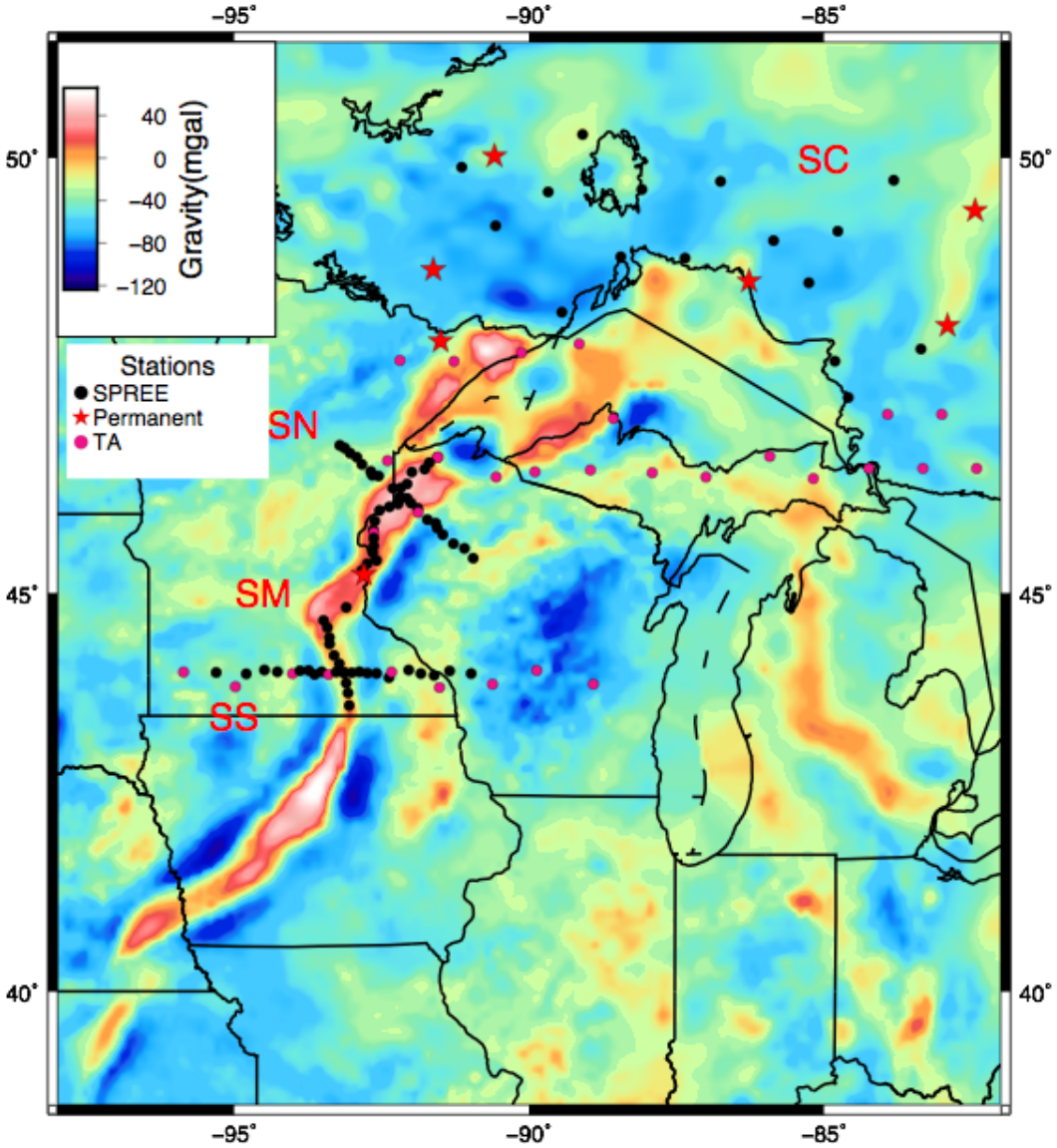
Seismic Radiation

Physical Mechanisms

Hao Zhang, PhD

Postdoc 2013-2014		Northwestern University, Seismology
PhD	2013	Peking University, China
BS	2007	Peking University, China

Research: Structure of the Mid-continent Rift



Next step: construct a 2D crust using SPREE data