

DR. KAREN M. LUTTRELL

Dept. of Geology and Geophysics, Louisiana State University
E235 Howe-Russell-Kniffen, Baton Rouge, LA 70803, USA
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EDUCATION

- **Ph.D., Scripps Inst. of Oceanography, University of California, San Diego, 2010**
Emphasis: Earth Science – Geophysics, supervised by Dr. David Sandwell
Dissertation title: “Stress in the Lithosphere from Non-Tectonic Loads with Implications for Plate Boundary Processes”
NASA Earth System Science Graduate Fellowship (2007-2010)
- **B.S., Texas A&M University, 2003**
Major: Geophysics (Magna Cum Laude)
- **B.S., Texas A&M University, 2002**
Major: Physics (Magna Cum Laude)
TAMU President’s Endowed Scholarship (1998-2002)

PROFESSIONAL EXPERIENCE

- 2019 – present Associate Professor, Department of Geology and Geophysics
- 2013 – 2019 Assistant Professor, Department of Geology and Geophysics
Louisiana State University, Baton Rouge
- Crustal deformation observations, magma reservoir characterization, and hydrothermal dynamics of Yellowstone Volcano
 - Numerical modeling of crustal stress state along active plate boundaries as a driver of the earthquake cycle
 - Crustal deformation observations and numerical modeling of climate driven surface deformation (subsidence) and stress perturbations to active fault systems
 - Faulting dynamics expressed in glacial ice via geodetic and seismic observations
- 2011 – 2013 Research Geophysicist, Volcano Science Center
U.S. Geological Survey, Menlo Park, California**
- Quantifying climate forcing of volcanic and earthquake hazards using statistical analysis and mechanical numerical models
 - Mendenhall Postdoctoral Fellow
- 2003 – 2010 Graduate Research Asst., Inst. Geophysics and Planetary Physics,
Scripps Inst. of Oceanography, University of California, San Diego**
- Development of 3-D model of stress from *in situ* topography, with applications to stress constraints along global Mid Ocean Ridge and Chilean subduction zone

- Development of 3-D elastic and viscoelastic model of crustal deformation and stress from surface loads, with applications to global fault reactivation from Pleistocene sea level rise and southern California mantle rheology
- Geodetic (GPS and LIDAR) analysis of paleo-lake shorelines in Southern California
- Models of lithospheric strength on icy Galilean satellites of Jupiter

**2002 – 2003 Undergraduate Research Asst., Department of Geophysics
Texas A&M University, College Station**

- Measuring permeability of diatomaceous sediment from ODP drill cores

**1999 Undergraduate Research Asst., Department of Physics
Texas A&M University, College Station**

- Instrument fabrication for measuring optical resonance, atomic optics lab

PUBLICATIONS

- Student authorship denoted with underline
 - **K. Luttrell** authorship denoted with bold
 - Citation information available from Google Scholar (scholar.google.com)
20. Fowler, A., C. Tan, **K. Luttrell**, A. Tudor, P. Scheuermann, W.P. Shanks, and W. Seyfried (2019), Geochemical heterogeneity of sublacustrine hydrothermal vents in Yellowstone Lake, Wyoming, *J. Volcano. Geotherm. Res.*, 386, 106677, doi:10.1016/j.jvolgeores.2019.106677.
 19. Sohn R.A., **K. Luttrell**, E. Shroyer, C. Stranne, R.N. Harris, and J.E. Favorito (2019), Observations and Modeling of a Hydrothermal Plume in Yellowstone Lake, *Geophys. Res. Lett.*, 46, doi:10.1029/2019GL082523.
 18. Garcia, L., **K. Luttrell**, D. Kilb, and F. Walter (2019), Joint geodetic and seismic analysis of surface crevassing near a seasonal glacier-dammed lake, Gornergletscher, Switzerland, *Ann. Glaciol.*, 1-13, doi:10.1017/aog.2018.32.
 17. Sohn, R., R. Harris, C. Linder, **K. Luttrell**, D. Lovalvo, L. Morgan, W. Seyfried, and P. Shanks (2017), Exploring the restless floor of Yellowstone Lake, *Eos*, 98, doi:10.1029/2017EO087035. *Published online on 4 December 2017, in print May 2018.*
 16. **Luttrell, K.**, and B. Smith-Konter (2017), Limits on crustal differential stress in southern California from topography and earthquake focal mechanisms, *Geophys. J. Int.*, 211, 472-482, doi:10.1093/gji/ggx301.
 15. Neves, M.C., C. Roque, **K. Luttrell**, J. Vázquez, and B. Alonso (2016), Impact of sea-level rise on earthquake and landslide triggering offshore the Alentejo margin (SW Iberia), *Geo-Mar. Lett.*, 36, 415-424, doi:10.1007/s00367-016-0459-1.
 14. Neves, M.C., J. Cabral, **K. Luttrell**, P. Figueiredo, T. Rockwell, and D. Sandwell (2015), The effect of sea level changes on fault reactivation potential in Portugal, *Tectonophysics.*, 658, 206 – 220, doi:10.1016/j.tecto.2015.07.023.

13. Garcia, E., D. Sandwell, and **K. Luttrell** (2015), An iterative spectral solution method for thin elastic plate flexure with variable rigidity, *Geophys. J. Int.*, 200 (2), 1012-1028, doi:10.1093/gji/ggu449.
12. Brothers, D., **K. Luttrell**, and J. Chaytor (2014), Sea level induced seismicity and submarine landslide occurrence: reply, *Geology*, 42 (6), E339, doi:10.1130/G35711Y.1.
11. Hurwitz, S., R. Sohn, **K. Luttrell**, and M. Manga (2014), Triggering and modulations of geyser eruptions in Yellowstone National Park by earthquakes, earth tides, and weather, *J. Geophys. Res. Solid Earth*, 119, doi:10.1029/2013.JB010803.
10. Brothers, D., **K. Luttrell**, and J. Chaytor (2013), Sea level induced seismicity and submarine landslide occurrence, *Geology*, 41 (9), 979-982, doi:10.1130/G34410.1.
9. **Luttrell, K.**, D. Mencin, O. Francis, and S. Hurwitz (2013), Constraints on the Upper Crustal Magma Reservoir Beneath Yellowstone Caldera Inferred From Lake-Seiche Induced Strain Observations, *Geophys. Res. Lett.*, 40, 1-6, doi:10.1002/grl.50155.
8. **Luttrell, K.** and D. Sandwell (2012), Constraints on 3-D stress in the crust from support of mid-ocean ridge topography, *J. Geophys. Res.*, 117, B04402, doi:10.1029/2011JB008765.
7. **Luttrell, K.**, X. Tong, D. Sandwell, B. Brooks, and M. Bevis (2011), Estimates of stress drop and crustal tectonic stress from the 27 February 2010 Maule, Chile earthquake: Implications for fault strength, *J. Geophys. Res.*, 116, B11401, doi:10.1029/2011JB008509.
6. Brothers, D., D. Kilb, **K. Luttrell**, N. Driscoll, and G. Kent (2011), Loading of the San Andreas fault by flood-induced rupture of faults beneath the Salton Sea, *Nature Geosci.*, 4, 486-492, doi:10.1038/ngeo1184.
5. Tong, X., D. Sandwell, **K. Luttrell**, B. Brooks, M. Bevis, M. Shimada, J. Foster, R. Smalley Jr., H. Parra, J. C. Báez Soto, M. Blanco, E. Kendrick, J. Genrich, and D. J. Caccamise II (2010), The 2010 Maule, Chile earthquake: Downdip rupture limit revealed by space geodesy, *Geophys. Res. Lett.*, 37, L24311, doi:10.1029/2010GL045805.
4. **Luttrell, K.** and D. Sandwell (2010), Ocean Loading Effects on Stress at Near Shore Plate Boundary Fault Systems, *J. Geophys. Res.*, 115, B08411, doi:10.1029/2009JB006541.
3. **Luttrell, K.**, D. Sandwell, B. Smith-Konter, B. Bills, and Y. Bock (2007), Modulation of the earthquake cycle at the southern San Andreas fault by lake loading, *J. Geophys. Res.*, 112 (B08411), doi:10.1029/2006JB004752.
2. **Luttrell, K.** and D. Sandwell (2006), Strength of the lithosphere of the Galilean satellites, *Icarus*, 183 (1), 159-167, doi:10.1016/j.icarus.2006.01.015.
1. Kwon, O., **K. Mobley (now K. Luttrell)**, and R. L. Carlson (2004), Measured Permeabilities of Diatomaceous Sediments and Pelagic Clay from the Northwest Pacific, ODP Site 1179, in *Proc. ODP, Sci. Results Vol. 191*, edited by W. W. Sager, T. Kanazawa, and C. Escutia, doi:10.2973/odp.proc.sr.191.005.2004.

RESEARCH FUNDING

- LSU award amount indicated if different from full award amount
- **K. Luttrell** as investigator denoted with bold
- Student PI working under supervision of K. Luttrell denoted with underline

ACTIVE

NSF Integrated Earth Systems (\$2,700,436) 08/01/2015 – 07/31/2020; *Collaborative Research: The Response of Continental Hydrothermal Systems to Tectonic, Magmatic, and Climate Forcing*, Lead PI = R. Sohn (WHOI), **LSU PI = K. Luttrell**, Co-PI = K. Ding (UM), S. Fritz (UN), R. Harris (OSU), C. Linder (WHOI), W. Seyfried (UM), C. Whitlock (MSU); #EAR-1514865; LSU budget \$105,034.

Louisiana Coastal Protection Restoration Authority (\$75,000) 06/01/2019 – 05/31/22; *Coastal Science Assistantship Program: Quantifying variability in subsidence patterns related to seasonal surface loads across coastal Louisiana*; **PI = K. Luttrell**

Southern California Earthquake Center [NSF+USGS] (\$25,000) 02/01/2019 – 01/31/2020; *Quantifying Uncertainty In Models Of Absolute Crustal Stress In Cajon Pass*; **PI = K. Luttrell**, Co-PI = B. Smith-Konter (UH).

PENDING

Southern California Earthquake Center [NSF+USGS] (\$29,782) 02/01/2020 – 01/31/2021; *Crustal Stress Models for Cajon Pass with Epistemic Uncertainty and Implications for Earthquake Gate Behavior*; **PI = K. Luttrell**, Co-PI = B. Smith-Konter (UH).

COMPLETED

Louisiana Board of Regents RCS (\$162,636) 06/01/2014 – 05/31/2019; *Characterizing subsurface magma in Yellowstone Caldera by monitoring Yellowstone Lake seiche waves and associated crustal deformation*; **PI = K. Luttrell**; #LEQSF(2014-17)-RD-A-04.

Southern California Earthquake Center [NSF+USGS] (\$25,000) 02/01/2018 – 01/31/2019; *Interrogating Synthesis Models of Crustal Stress In Cajon Pass With Implications For Stress Field Heterogeneity*; **PI = K. Luttrell**, Co-PI = B. Smith-Konter (UH); #18150.

Southern California Earthquake Center [NSF+USGS] (\$20,000) 02/01/2018 – 01/31/2019; *Reconciling Stress Field Orientation From Borehole Breakouts And Local Earthquake Focal Mechanism Inversions: Implications For The Length Scale Of Stress Heterogeneity*; **PI = K. Luttrell**, Co-PI = J. Hardebeck (USGS); #18148.

Southern California Earthquake Center [NSF+USGS] (\$14,000) 02/01/2018 – 01/31/2019; *Community Stress Model (CSM) Workshop*; PI = J. Hardebeck (USGS), **Co-PI** = T. Becker (UT), **K. Luttrell**, P. Persaud (LSU), J. Stock (Caltech); #18132; LSU budget \$0.

Southern California Earthquake Center [NSF+USGS] (\$25,000) 05/01/2017 – 09/30/2018; *Are Observations of Stress Field Orientation from Borehole Breakouts and Earthquake Focal Mechanisms Locally Consistent? Implications for 3-D Stress Field Heterogeneity and the Development of CXM*; **PI** = **K. Luttrell**, Co-PI = J. Hardebeck (USGS); #17174.

UNAVCO Deprecated Equipment Surplus (in kind geodetic equipment: 2 GPS receivers, 2 GPS antennae) 01/01/2018 – 06/30/2018; *Monitoring and modeling crustal deformation in South Louisiana*; **PI** = **K. Luttrell**; #PSR-3157P.

National Center for Airborne Laser Mapping SEED Project (in kind LIDAR survey: aircraft flights, technicians, and survey of 40 km² area) 02/01/2017 – 05/31/2018; *Mapping of Hydrothermal Explosion Craters in Yellowstone National Park*; **PI** = **L. Garcia**, **K. Luttrell**.

Louisiana Board of Regents Enhancement (\$153,000) 06/01/2016 – 05/31/2017; *Acquisition of Gravimetric Instrumentation in Support of a New Quasigeoid Model for Accurate Elevations in Louisiana*; PIs = G. Voyiadjis and J. Kent; **Co-PI** = S. Bentley, Q. Chen, N. Lam, K. Liu, **K. Luttrell**, F. Tsai, F. Wang (all LSU); #07ENGA-16.

Southern California Earthquake Center [NSF+USGS] (\$23,000) 02/01/2016 – 01/31/2017; *Depth Dependent In Situ Crustal Stress Models With Implications For Fault Strength In Southern California*; **PI** = **K. Luttrell**, Co-PI = B. Smith-Konter (UH); #16096.

Southern California Earthquake Center [NSF+USGS] (\$22,000) 02/01/2016 – 01/31/2017; *4D Stress Evolution Models of the San Andreas Fault System Using Improved Geodetic and Paleoseismic Constraints*; PI = B. Smith-Konter (UH), **Co-PI** = **K. Luttrell**, D. Sandwell (UCSD); #16177; LSU budget \$0.

Southern California Earthquake Center [NSF+USGS] (\$22,000) 02/01/2015 – 01/31/2016; *Improved Analysis of Crustal Stress in Southern California, with constraints from Seismology, Geodesy, Topography, and Gravity*; **PI** = **K. Luttrell**, Co-PI = B. Smith-Konter (UH); #15187.

Southern California Earthquake Center [NSF+USGS] (\$19,000) 02/01/2014 – 01/31/2015; *Toward Integrating Models of Stress From Multiple Physical Processes, Timescales, And Spatial Scales In Southern California*; **PI** = **K. Luttrell**, Co-PI = B. Smith-Konter (UH), D. Sandwell (UCSD); #14152.

Southern California Earthquake Center [NSF+USGS] (\$25,000) 02/01/2014 – 01/31/2015; *Integrated Static and Dynamic Stress Modeling for Investigating Tremor Source Regions*; PI = H. Gonzalez-Huizar (UTEP), **Co-PI** = B. Smith-Konter (UH), A. Velasco (UTEP), **K. Luttrell**; #14165; LSU budget \$0.

Louisiana State University Teaching Enhancement Fund (\$500) 05/15/2014 – 08/31/2014; *Travel to SERC On The Cutting Edge Workshop*; PI = **K. Luttrell**; #184-20-6304.

Southern California Earthquake Center [NSF+USGS] (\$15,000) 02/01/2012 – 01/31/2014; *Investigating Absolute Stress in Southern California*; PI = B. Smith-Konter (UTEP), **Co-PI** = **K. Luttrell** (USGS), D. Sandwell (UCSD); #12127; USGS budget \$0 (USGS employees may not receive funding from NSF sources).

UNFUNDED

RESTORE Act Center of Excellence for Louisiana (\$185,329) 06/01/2017 – 05/31/2019; *Modeling geodetically observed spatial and temporal subsidence patterns in coastal Louisiana associated with seasonal loads*; **PI** = **K. Luttrell**, Co-PI = J. Kent (LSU).

Southern California Earthquake Center [NSF+USGS] (\$35,174) 02/01/2017 – 01/31/2018; *Were Varying Holocene Recurrence Intervals On The Ventura-Pitas Point Thrust Fault Modulated By Ocean Loading?*; **PI** = **K. Luttrell**, Co-PI = T. Rockwell (SDSU).

Amelia Resources, LLC (\$5,000) 10/01/2015 – 09/30/2016; *Tuscaloosa Marine Shale Research Consortium (TMSRC)*, Lead PI = A. Dahi Taleghani (LSU), Co-PI = **K. Luttrell**, C. Wicks (LSU).

NSF Integrated Earth Systems (\$2,697,760) 08/01/2014 – 07/31/2018; *Collaborative Research: Dynamics of Yellowstone Lake (DYLAKE): Integrated, Multidisciplinary Research to Model the Response of Hydrothermal Systems to Multi-Scale Perturbations*, Lead PI = R. Sohn (WHOI), **LSU PI** = **K. Luttrell**, Co-PI = K. Ding (UM), S. Fritz (UN), R. Harris (OSU), S. Hurwitz (USGS), C. Linder (WHOI), D. Lovalvo (GFOE), D. Mencin (UNAVCO), L. Morgan (USGS), P. Roux (LGIT - France), W. Seyfried (UM), P. Shanks (USGS), D. Shelly (USGS), J. Taron (USGS), J. Vandemeulebrouck (LGIT - France), C. Whitlock (MSU); LSU budget \$80,854.

Louisiana State University ORED Summer Stipend Program (\$5,000) 05/01/2014 – 08/31/2014; *Monitoring Yellowstone Lake seiche waves and associated crustal deformation to characterize subsurface magma*, **PI** = **K. Luttrell**.

NSF Continental Dynamics (\$5,086,834) 08/01/2013 – 07/31/2018; *Collaborative Research: Dynamics of Yellowstone Lake (DYLAKE): The Response of Continental Hydrothermal Systems to Multi-Scale Perturbations*, Lead PI = R. Sohn (WHOI), **Co-PI** = K. Ding (UM), S. Fritz (UN), R. Harris (OSU), S. Hurwitz (USGS), W. Inskeep (MSU), C. Linder (WHOI), D. Lovalvo (GFOE), **K. Luttrell** (USGS), D. Mencin (UNAVCO), L. Morgan (USGS), P. Roux (LGIT - France), W. Seyfried (UM), P. Shanks (USGS), D. Shelly (USGS), J. Vandemeulebrouck (LGIT - France), C. Whitlock (MSU); USGS budget \$0 (USGS employees may not receive funding from NSF sources).

AWARDS AND HONORS

USGS Mendenhall Postdoctoral Fellowship

U.S. Geological Survey (2011-2013)

NASA Earth and Space Science Fellowship

National Aeronautics and Space Administration (2007-2010)

UC San Diego Academic Senate Research Grant

University of California, San Diego (2006)

Texas A&M University Gathright Scholar Award

*Outstanding Graduating Senior in the College of Geoscience
Texas A&M University (2003)*

Texas A&M University President's Endowed Scholar

Texas A&M University (1998-2002)

INVITED PRESENTATIONS

- **K. Luttrell** authorship denoted with bold
16. **Luttrell, K.** (2019), Using local topography to constrain absolute stress, SCEC Community Stress Model workshop, January 2019, Pomona, CA.
 15. **Luttrell, K.** (2018), How stressed are we really? Insights into the crustal stress field in southern California, Departmental Seminar, Department of Geology and Geophysics, Louisiana State University, September 2018.
 14. **Luttrell, K.** (2017), How stressed are we really? Harnessing a community of models to characterize the crustal stress field in southern California, Colloquium, Department of Earth and Environmental Sciences, Tulane University, September 2017.
 13. **Luttrell, K.** (2016), How stressed are we really? Harnessing community models to characterize the crustal stress field in southern California, Invited Plenary Speaker, Session 3: Modeling Fault Systems – Community Models, SCEC Annual Meeting.

12. **Luttrell, K** (2016), Crustal stress along the San Andreas fault system: Insights from a community of stress models, Colloquium, Department of Earth and Planetary Sciences, Harvard University, April 2016.
11. **Luttrell, K.**, B. Smith-Konter, and D. Sandwell (2015), Crustal Stress: constraints from seismology, geodesy, topography, and gravity, SCEC Community Stress Model workshop, September 2015, Palm Springs, CA.
10. **Luttrell, K** (2015), Strains, Lakes, and Magma: a novel technique for monitoring the Yellowstone volcano, Graduate Seminar, Department of Physics, University of Louisiana at Lafayette, March 2015.
9. **Luttrell, K.**, B. Smith-Konter, and D. Sandwell (2014), Critically Stressed Crust in Southern California: A Model of Crustal Stress from Plate Driving, Topography, and Fault Loading, with Geodetic and Seismic Constraints [INVITED], EOS Trans. AGU, Fall Meeting Suppl., Abstract T12B-01.
8. **Luttrell, K.**, B. Smith-Konter, and D. Sandwell (2014), Earthquake cycle influence on the plate boundary stress budget, as constrained by seismology, geodesy, and topography, SCEC Community Stress Model workshop, October 2014, Pomona, CA.
7. **Luttrell, K** (2014), How stressed are we really? Insights into the earthquake cycle from computational models of stress in the lithosphere, Graduate Seminar, Department of Petroleum Engineering, Louisiana State University, October 2014.
6. **Luttrell, K** (2014), Which one are you? Geophysics as a model for life on the borderlands, CFSN Seminar, Louisiana State University, October 2014.
5. **Luttrell, K.**, B. Smith-Konter, and D. Sandwell (2014), Investigating Absolute Stress in Southern California: Constraints from compensated topography, tectonic/fault loading, and earthquake focal mechanisms, CIG Crustal Deformation Modeling workshop, June 2014, Stanford, CA.
4. **Luttrell, K.** (2014), Modeling Seiche Signals in Yellowstone, UNAVCO Science Meeting – Borehole Strainmeter Shortcourse, March 2014, Broomfield, CO.
3. **Luttrell K.** and D. Brothers (2011), Earthquake cycle modulation via the redistribution of surface water mass [INVITED], EOS Trans. AGU, Fall Meet. Suppl., Abstract T43I-03.
2. **Luttrell, K.** and D. Sandwell (2010), Using 3D models of stress from topography to understand the global stress field, GLADE 2010: Geodynamics of the Lithosphere and Deep Earth, La Jolla, CA.
1. **Luttrell, K.** and D. Sandwell (2008), Non-tectonic perturbations to the earthquake cycle from lake and ocean loading, Seminar, Department of Earth, Planetary, and Space Sciences, University of California Los Angeles, May 2008.

ABSTRACTS

- Student authorship denoted with underline
 - **K. Luttrell** authorship denoted with bold
52. Favorito, J., R. Harris, R. Sohn, and **K. Luttrell** (2019), Assessing the Thermal Regime of the Stevenson Island Vent Field, Yellowstone Lake, Yellowstone National Park, Wyoming, EOS Trans. AGU, Fall Meeting Suppl., Abstract V33D-0201.
 51. Fowler, A., **K. Luttrell**, W. Shanks, and W. Seyfried (2019), Geochemically diverse hydrothermal vents in Yellowstone Lake, Wyoming, EOS Trans. AGU, Fall Meeting Suppl., Abstract V23A-06.
 50. **Luttrell, K.**, D. Mencin, and R. Sohn (2019), Multi-year Pressure Temperature Records from the Floor of Yellowstone Lake as indicators of Crustal Loading and Deformation, EOS Trans. AGU, Fall Meeting Suppl., Abstract V33D-0205.
 49. McKay, L., O. Nigro, **K. Luttrell**, M. Fields, and W. Inskeep (2019), A dynamic sulfur cycle at suboxic, high-temperature vents in Yellowstone Lake is mediated by deeply-rooted thermophiles and their associated viruses, EOS Trans. AGU, Fall Meeting Suppl., Abstract V23A-07.
 48. Mencin, D., **K. Luttrell**, and R. Sohn (2019), Remarkable and Persistent Seiches in Lake Yellowstone, EOS Trans. AGU, Fall Meeting Suppl., Abstract V33D-0203.
 47. Pilié, M., **K. Luttrell**, L. Morgan, and D. Lovalvo (2019), Geologic observations from the floor of Yellowstone Lake using high-resolution video, EOS Trans. AGU, Fall Meeting Suppl., Abstract V33D-0204.
 46. Sohn, R., S. Fritz, R. Harris, W. Inskeep, C. Linder, **K. Luttrell**, D. Lovalvo, L. Morgan, W. Seyfried, W. Shanks, and C. Whitlock (2019), The HD-YLAKE project: or, How I Learned to Stop Worrying and Love the Smell of Hydrogen Sulfide, EOS Trans. AGU, Fall Meeting Suppl., Abstract V23A-05.
 45. Pfadenhauer, J., and **K. Luttrell** (2019) Geodetic Observations of Seasonal Subsidence Across Southeast Louisiana Compared with Fluctuating Surface Water in the Mississippi River Basin with Implications for Shallow Crustal Rheology, Louisiana Coastal Geology Symposium.
 44. Helgans, E., **K. Luttrell**, B. Smith-Konter, and L. Burkhard (2019), Multicomponent Model of Crustal Stress at Cajon Pass, Southern California with Implications for Stress Field Heterogeneity, SCEC Annual Meeting poster 143.
 43. **Luttrell, K.**, and J. Hardebeck (2019), Heterogeneity of Shallow Crustal Stress Estimated from Borehole Breakouts and Local Earthquake Focal Mechanism Inversions in the Los Angeles Basin, SSA Annual Meeting, oral presentation 2019-04-26 13:30.
 42. Helgans, E., **K. Luttrell**, and B. Smith-Konter (2018), Multicomponent Model of Crustal Stress at Cajon Pass with Implications for Stress Field Heterogeneity, EOS Trans. AGU, Fall Meeting Suppl., Abstract S21E-0483.
 41. **Luttrell, K.**, R. Sohn, E. Shroyer, R. Harris, and J. Favorito (2018), The influence of active hydrothermal vents on the Yellowstone Lake ecosystem, Greater Yellowstone Ecosystem Biennial Scientific Conference.

40. Helgans, E., **K. Luttrell**, and B. Smith-Konter (2018), Multicomponent Model of Crustal Stress at Cajon Pass with Stress Field Heterogeneity Implications, SCEC Annual Meeting poster 259.
39. **Luttrell, K.**, and J. Hardebeck (2018), Estimates of Shallow Crustal Stress Heterogeneity Length Scale from Borehole Breakouts and Local Earthquake Focal Mechanism Inversions in the Los Angeles Basin, SCEC Annual Meeting poster 143.
38. Pfadenhauer, J. and **K. Luttrell** (2018), An analysis of subsidence patterns in coastal Louisiana as a result of seasonal water loading, Louisiana Coastal Geology Symposium.
37. Everhardt, C., and **K. Luttrell** (2018) The Origin of Winter Seiche Waves in Yellowstone Lake: Atmospheric, Hydrothermal, Both, or Neither?, LSU Discover Day Undergraduate Research Symposium.
36. Garcia, L., **K. Luttrell**, D. Kilb, and F. Walter (2017), Joint Geodetic and Seismic Analysis of the effects of Englacial and Subglacial Hydraulics on Surface Crevassing near a Seasonal, Glacier-Dammed Lake on Gornergletscher, Switzerland, EOS Trans. AGU, Fall Meeting Suppl., Abstract C41D-1265.
35. Sohn, R., P. Smalls, and **K. Luttrell** (2017) OBS Detection of Shallow Water Microseisms in Yellowstone Lake, poster presentation, 2017 OBS Symposium, Portland Maine.
34. **Luttrell, K.** and J. Hardebeck (2017), Borehole Breakouts Versus Earthquake Focal Mechanisms as Stress Field Orientations Indicators in Southern California: Interpreting Crustal Stress Orientation Along the San Andreas and San Jacinto Faults: Should We Agree to Disagree?, SCEC Annual Meeting poster 208.
33. Gryger, K., and **K. Luttrell** (2016), Observations from multiple seiche load induced transient strains constrain the upper crustal magma reservoir beneath Yellowstone Caldera, EOS Trans. AGU, Fall Meeting Suppl., Abstract G33A-1081.
32. **Luttrell, K.**, and B. Smith-Konter (2016), Regional-Scale Models of Crustal Stress in Southern California, with Implications for Heterogeneous Tectonic Loading and In Situ Stress Magnitude, SSA Annual Meeting, Abstract 16-698.
31. **Luttrell, K.**, and B. Smith-Konter (2016), Regional-Scale Models of Crustal Stress Along the Pacific-North America Plate Boundary, with Implications for Heterogeneous Tectonic Loading and In Situ Stress Magnitude, GSA South-Central Section Meeting, Abstract #273845.
30. Gryger, K., and **K. Luttrell** (2016), Characterization of Seiche Load Induced Strain in the Yellowstone Caldera, GSA South-Central Section Meeting, Abstract #273834.
29. **Luttrell, K.**, B. Smith-Konter, and D. Sandwell (2015), Crustal Stress Rotation Along the San Andreas and San Jacinto Faults: A Modeling Study With Constraints From Seismology, Geodesy, Topography, and Gravity, EOS Trans. AGU, Fall Meeting Suppl., Abstract T41A-2860.
28. **Luttrell, K.**, B. Smith-Konter, D. Sandwell, and J. Spansel (2015), Interpreting Crustal Stress Orientation Along the San Andreas and San Jacinto Faults: A Forward Modeling Study With Constraints From Seismology, Geodesy, Topography, and Gravity, SCEC Annual Meeting poster 184.

27. Neves, M.C., C. Roque, and **K. Luttrell** (2015), Variações do nível do mar e sismicidade na margem SW da Ibéria: Implicações para deslizamentos submarinos - Sea level changes and earthquake triggering in SW Iberia: Implications for submarine landslides from Coulomb stress models, VIII Symposium on the Iberian Atlantic Margin, September 2015, Málaga, Spain.
26. Štěpančíková, P., T. Rockwell, D. Nývlt, F. Hartvich, J. Stemberk, M. Ortuño, **M. Myers**, **K. Luttrell**, D.H. Rood, P. Tábořík, N. Wechsler, and J. Hók (2015), Late Pleistocene acceleration of the Sudetic Marginal Fault activity (Central Europe) due to Ice Loading?, 2015 INQUA Congress, Nagoya Japan.
25. Mencin, D., **K. Luttrell**, K. Hodgkinson, O. Francis, S. Hurwitz (2015), Seiches in Lake Yellowstone: a Geophysical Tool, GSA Rocky Mountain Section Meeting, Abstract #256279.
24. Štěpančíková, P., T. Rockwell, D. Nývlt, F. Hartvich, J. Stemberk, D.H. Rood, J. Hók, M. Ortuño, **M. Myers**, **K. Luttrell**, and N. Wechsler (2014), A signal of Ice Loading in Late Pleistocene Activity of the Sudetic Marginal Fault (Central Europe), EOS Trans. AGU, Fall Meeting Suppl., Abstract T41C-4631.
23. Neves, M.C., J. Cabral, P.M. Figueiredo, R. Neves, D. Sandwell, T.K. Rockwell, and **K. Luttrell** (2014), Variações de tensão na Ibéria induzidas por subida eustática do nível do mar – Stress changes in Iberia induced by eustatic sea-level rise, Iberfault Paleoseismology conference, September 2014, Lorca, Spain.
22. **Luttrell K.**, B. Smith-Konter, and D. Sandwell (2013), Toward constraining absolute stress in southern California, SCEC Annual Meeting poster 184.
21. **Luttrell, K.**, D. Mencin, O. Francis, S. Hurwitz (2013), Yellowstone Lake Seiche Waves Produce Surface Deformation Influenced by Upper Crustal Magma, IAVCEI Commission on Volcanic Lakes Workshop, Abstract No. CVL8-12.
20. **Luttrell, K.**, D. Mencin, O. Francis, S. Hurwitz (2013), Borehole Strainmeters in Yellowstone Reveal Surface Deformation is Influenced by Upper Crustal Magma, Earthscope National Meeting.
19. **Luttrell, K.**, D. Mencin, O. Francis, S. Hurwitz, K. Hodgkinson, and S. Kinsey (2012), Constraints on the Upper Crustal Magma Reservoir Beneath Yellowstone Lake Inferred From Lake-Seiche Induced Strain Observations, EOS Trans. AGU, Fall Meet. Suppl., Abstract V13B-2848.
18. Mencin, D., H. Heasler, **K. Luttrell**, O. Francis, K. Hodgkinson, S. Hurwitz, J. Lente, and S. Kinsey (2012), Unique and remarkable observations of Seiche behavior in Yellowstone Lake, EOS Trans. AGU, Fall Meet. Suppl., Abstract V13B2851.
17. **Luttrell K.**, B. Smith-Konter, and D. Sandwell (2012), Investigating absolute stress in southern California: How well do stress models of compensated topography and fault loading match earthquake focal mechanisms? SCEC Annual Meeting poster 039.
16. Mencin, D., **K. Luttrell**, H. Heasler, O. Francis, K. Hodgkinson, and A. Borsa (2012), Seiches in Lake Yellowstone: a tool to probe the Yellowstone caldera, EGU General Assembly 2012.
15. **Luttrell, K.**, F. Pollitz, L. Bollinger, and A. Thomas (2011) Climate Loads as Forcers of Seismic and Volcanic Processes, AGU Fall Meeting sessions U51A and U53E.

14. **Luttrell K.**, D. Sandwell, and B. Smith-Konter (2011), Absolute Stress in southern California constrained by earthquake focal mechanisms and models of stress contributions from topography and fault loading, SCEC Annual Meeting poster A-060.
13. **Luttrell K.** and D. Sandwell (2011), A lower bound on crustal driving stress in megathrust regions from topography and gravity, Earthscope Annual Meeting poster.
12. **Luttrell K.**, X. Tong, D. Sandwell, and B. Brooks (2010), Estimates of stress drop from the 27 February 2010 Chile earthquake and tectonic stress in the crust: Implications for fault strength, EOS Trans. AGU, Fall Meet. Suppl., Abstract G33A-0840.
11. Tong, X., D. Sandwell, **K. Luttrell**, B. Brooks, M. Bevis, M. Shimada, J. Foster, R. Smalley Jr., H. Parra, J. C. Báez Soto, M. Blanco, E. Kendrick, J. Genrich, and D. J. Caccamise II (2010), The Mw8.8 2010 Maule, Chile Earthquake: Significant slip occurred only above the continental Moho, EOS Trans. AGU, Fall Meet. Suppl., Abstract G331-0839.
10. Brothers, D., D. Kilb, **K. Luttrell**, N. Driscoll, and G. Kent (2010), Two Potential Triggers for Large Ruptures Along the Southern San Andreas Fault: Secondary Fault Displacement and Lake Loading, SCEC Annual Meeting poster 1-103.
9. Kilb, D., D. Brothers, **K. Luttrell**, G. Lin, N. Driscoll, G. Kent, and R. Newman (2009), Faulting, Seismicity and Stress Interaction in the Salton Sea Region of Southern California, EOS Trans. AGU, Fall Meet. Suppl., Abstract T31A-1786.
8. **Luttrell, K.** and D. Sandwell (2009), Estimates of the minimum 3-D stress in the lithosphere needed to support global topography, EOS Trans. AGU, Fall Meet. Suppl., Abstract T51F-07.
7. **Luttrell, K.** and D. Sandwell (2008), 3-D Stress Variation at Ridge-Transform Systems From Bathymetry Variations and Plate Driving, EOS Trans. AGU, Fall Meet. Suppl., Abstract T21B-1966.
6. **Luttrell, K.** and D. Sandwell (2007), Computation of 3-D static stress in the lithosphere from topographic loads at the surface and base, EOS Trans. AGU, Fall Meet. Suppl., Abstract T13G-02.
5. Wei, M., **K. Luttrell**, A. Van Zandt, D. Sandwell, R. Mellors, Y. Fialko, and K. Hudnut (2007), The October 2006 Superstition Hills Creep Event: combined observations from creep-meter, field mapping, InSAR, and B4 altimetry, SCEC Annual Meeting poster.
4. **Luttrell, K.**, D. Sandwell, B. Smith-Konter, B. Bills, and Y. Bock (2006), Modulation of the Earthquake Cycle at the Southern San Andreas Fault by Lake Loading, EOS Trans. AGU, 87(52), Fall Meet. Suppl., Abstract G43B-0996.
3. **Luttrell, K.**, D. Sandwell, B. Smith-Konter, B. Bills, and Y. Bock (2006), Modulation of the Earthquake Cycle at the Southern San Andreas Fault by Lake Loading, SCEC Annual Meeting poster.
2. **Luttrell, K.**, D.T. Sandwell, and B.R. Smith (2005), Slip Rate Modulation Caused by Ocean Loading on Glacial Timescales, EOS Trans. AGU, 86(52), Fall Meet. Suppl., Abstract G53A-0865.

1. **Luttrell, K.**, B.R. Smith, D.T. Sandwell, and Y. Fialko (2004), Models of Afterslip and Viscoelastic Response following the Landers and Hector Mine Ruptures, EOS Trans. AGU, 85(47), Fall Meet. Suppl., Abstract G13A-0794.

FIELD SITES FOR RESEARCH ACTIVITIES

- Offshore field operations investigating the Hydrothermal Dynamics of Yellowstone Lake, including pressure/temperature gauges, Remotely Operated Vehicle (ROV) navigation and sensing data, and project wide Geographic Information System development and maintenance – Yellowstone National Park (2016 – present)
- Deployment and recovery of campaign pressure/temperature gauge sensors along shoreline of Yellowstone Lake – Yellowstone National Park (2014 – present)
- Mapping Ancient Lake Cahuilla shoreline using kinematic GPS surveys, theolite surveys, areal photography, and B4 LIDAR surveys – southern California and northern Mexico (2006 – 2007)
- Mapping Superstition Hills fault trace following large magnitude aseismic rupture – southern California (Winter 2006; lead PI Meng Wei)

COURSES TAUGHT

Courses taught at Louisiana State University

- **Introduction to Geodesy (Seminar in Geophysics) (GEOL 7972 – 3 hrs)**
First Developed: Fall 2013
Introduction to common geodetic methods used in research today, applications of geodetic measurements, and scientific questions that geodesy can help answer. This is a combination of background lecture by the instructor, student-led discussion of scientific journal articles, and a final written/oral project.
- **Solid Earth Geophysics (GEOL 4060 – 3 hrs)**
First Developed: Spring 2014
Subsequently Taught: Spring 2015, Fall 2016
Principles and methods of geophysics applied to the solid earth system, with emphasis on tectonic plate motions, geomagnetism, global seismology, gravity, and isostasy. This is a lecture based course with a strong computer programming component (MATLAB based projects) in addition to “pencil and paper” homework exercises and exams throughout the semester.
Teaching Innovations: developed 6 new Lab Assignments, 7 new Homework Assignments. See Supporting Material for samples of newly developed material.
- **Honors Physical Geology (GEOL 1002 – 3 hrs)**
First Developed: Fall 2014
Subsequently Taught: Fall 2015

Fundamentals of Earth Science literacy, including plate tectonics, earth materials, natural hazards, and resources. This is a lecture based course in which students complete several projects involving critical thinking, exploration, and elements of scientific inquiry, as well as regular quizzes, exams, and a field trip to Clark Creek, MS.

Teaching Innovations: developed 3 new Project Assignments. See Supporting Material for samples of newly developed material.

- **Plate Tectonics (GEOL 4066 – 3 hrs)**

First Developed: Fall 2015

Basic concepts of plate tectonics, plate driving mechanisms, and common geological and geophysical techniques used to characterize plate boundaries. This is a two-part course. The first part is lecture based, with regular homework projects, quizzes, and exams covering the basic principles of plate tectonics. The second part consists of student-led discussion of scientific journal articles covering real-life investigations of a range of tectonic systems.

Teaching Innovations: designed and adapted a series of 4 Homework Projects that together build from a basic to advanced understanding of plate kinematics and geologic plate reconstructions.

- **Topics of Interest in Geology and Geophysics (Seminar) (GEOL 7921 – 2 hrs)**

First Developed: Spring 2016

This discussion based course has two parts. In the first part, students attend the weekly departmental seminar to gain exposure to a wide range of research areas in Geology and Geophysics, and write self-evaluative reflections on what they learn from each speaker. The second part consists of student-led discussion of scientific journal articles written by the speaker each week, including the advance preparation of discussion questions by each student and the completion of peer-evaluation feedback for each discussion leader.

Teaching Innovations: designed and developed course Learning Management System structure by which students could independently conduct and evaluate peer-led discussions.

- **Physical Geology (GEOL 1001 – 3 hrs)**

First Developed: Fall 2017

Subsequently Taught: Spring 2018

Fundamentals of Earth Science literacy, including plate tectonics, earth materials, natural hazards, and resources. This is a lecture based course which covers the same material as the Physical Geology Honors course (GEOL 1002), but has a different set of homeworks and exams designed specifically for non-major general education students.

Teaching Innovations: designed 20 new lecture and textbook based homework problem sets, principally drawing material from textbook's online homework system.

- **GPS Processing Strategies (Directed Research) (GEOL 7909 – 3 hrs)**

First Developed: Spring 2018 – voluntary teaching overload

Strategies for processing GPS data, beginning with raw files from GPS receivers and GPS satellites, and ending with position estimates. This course is primarily student independent study of a focused topic, guided by the instructor during weekly course meetings, and graded by a combination of participation and a final written project.

- **Geodynamics (GEOL 7900 – 3 hrs)**

First Developed: Fall 2018

Fundamentals of geodynamics, including stress, strain, elasticity, flexure, heat flow, gravity, and rock rheology. This is a lecture based course in which students complete several projects involving critical thinking, exploration, and elements of scientific inquiry, as well as regular homeworks.

Teaching Innovations: designed 3 new student projects, along with curated homework sets based on textbook material.

- **Applied Geophysics (GEOL 7900 – 3 hrs)**

First Developed: Spring 2019, co-taught with P. Persaud

Techniques of geophysical data collection and analysis for the purpose of exploring the Earth's shallow subsurface and solving geoscience, environmental and engineering problems. This is a combined lecture and field work course in which students explore practical methods and applications of geodesy and seismology.

Teaching Innovations: developed 3 new modules introducing students to airborne and space-based geodetic techniques, based on geodetic education community best practices.

- **Field Geology: Geophysics Unit (GEOL 3666 – 6 hrs)**

First Developed: Summer 2019, supervised by instructor of record A. Luther

Fundamentals of the study of rocks and geologic features in their natural settings. This is a one-week unit taught as part of the six-week Field Camp course based at Camp Barney outside of Colorado Springs, CO. Basics of geophysical data acquisition, field methods, data processing, analysis, and scientific communication, using campaign gravity survey as the example technique.

Teaching Innovations: designed 2 field-based gravity projects to be conducted at Camp Barney, designed processing strategies suitable for computational resources available in the field.

- **Physical Geology: Geology of the National Parks (GEOL 1001 – 3 hrs)**

First Developed: Fall 2019, co-taught with A. Herrmann

Fundamentals of Earth Science literacy, including plate tectonics, earth materials, natural hazards, and resources. This is a lecture based course which covers the same material as the regular Physical Geology course (GEOL 1001), but with contextualized examples, in class exercises, homeworks, and exams focused on U.S. National Parks, designed specifically for non-major general education students.

Teaching Innovations: revised 16 lectures, 5 in class activities and 2 exams to focus on National Park locations, history, and issues.

- **Becoming a Scientist (SCI 1001 – 1 hr)**

First Developed: Fall 2019, based on College of Science curriculum

How to launch a science or math major at LSU. Integration into the campus; development of essential academic skills; personal growth/self-awareness; career exploration; and becoming a member of the community within science/mathematics, the campus and beyond. This is weekly seminar course combining lecture, discussion, and group panel presentations.

Teaching Innovations: developed and facilitated weekly lectures, in-class activities, and semester-long project based on piloted College of Science curriculum.

Courses taught at University of California San Diego

- **Satellite Remote Sensing (SIO 135 – 4 hrs) (Laboratory Teaching Assistant)**

First Developed: Spring 2007

Overview and physical principles of remote sensing, including orbits, electromagnetic radiation, diffraction, electro-optical, and microwave systems. Spring 2007 was the first time this course incorporated a lab. As Laboratory Teaching Assistant, I developed 8 new computer lab projects (largely MATLAB based) in which students explore and analyze different types of remote sensing data sets.

Teaching Innovations: developed 8 new Computer Lab Projects. See Supporting Material for samples of newly developed material.

Courses taught at Texas A&M University

- **College Physics I (PHYS 201 – 4 hrs) (Supplemental Instructor)**

First Developed: Spring 2007

Fundamentals of classical mechanics, heat, and sound. As a supplemental instructor, attended course lectures and prepared additional lectures and review materials for weekly peer-led study sessions.

Teaching Related Professional Enrichment

- LSU Communication Across the Curriculum (CxC) Faculty Summer Institute; nominated and supported by Dean of College of Science (May 2015, Baton Rouge, Louisiana)
- NAGT On the Cutting Edge Workshop – Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career; supported by LSU Teaching Enhancement Fund Award #184-20-6304 (June 2014, College Park, Maryland)

STUDENT MENTORING

Graduate Students Supervised as Primary Research Advisor (Major Professor)

5. **Nicholas Schuler (MS, August 2019 – present)**
 - Investigations of climate driven surface loading across coastal Louisiana
 - Supported by Louisiana Coastal Protection Restoration Authority Coastal Science Assistantship Program to K. Luttrell
4. **Jesse Pfadenhauer (MS, August 2017 – present)**
 - Investigations of climate driven surface loading across coastal Louisiana
 - Supported by Board of Regents grant #LEQSF(2014-17)-RD-A-04LSU to K. Luttrell
3. **Elliott Helgans (MS, August 2017 – December 2019)**
 - Thesis: *Multicomponent models of crustal stress at Cajon Pass, southern California with implications for stress field heterogeneity*
 - Supported by startup funds to K. Luttrell and SCEC grants #18150 and #19070 to K. Luttrell
2. **Louis Garcia (MS, July 2016 – August 2018)**
 - Thesis: *Joint Geodetic and Seismic Analysis of Englacial and Subglacial Hydraulic Effects on Surface Crevassing Near a Seasonal Glacier-Dammed Lake on Gornergletscher, Switzerland*
 - Supported by Board of Regents Graduate Fellowship to Promote Diversity
1. **Kevin Gryger (MS, August 2015 – May 2017)**
 - Thesis: *Spatial Variability of the Depth to the Magma Reservoir beneath the Yellowstone Caldera Inferred from Observations of Seiche Loading Induced Strain*, graduated Spring 2017
 - Supported by Board of Regents grant #LEQSF(2014-17)-RD-A-04 to K. Luttrell

Undergraduate Students Supervised as Primary Research Advisor

8. **Mallory Pilié (January 2018 – present)**
 - Interpretation of ROV dive video from hydrothermal areas of Yellowstone Lake
 - Earned 4 hrs GEOL 3909 credit, and supported by NSF grant # EAR-1514865 to K. Luttrell
 - Awarded an LSU Discover Travel Stipend to present at 2019 AGU Fall Meeting.
7. **Charles J. Everhardt (August 2017 – May 2018)**
 - Thesis: *The Origin of Winter Seiche Waves in Yellowstone Lake: Atmospheric, Hydrothermal, Both, or Neither?*
 - Earned 3 hrs GEOL 3909 credit and 3 hrs GEOL 3999 credit

6. **Phoenix Harris (May 2016 – August 2016)**
 - Investigating historic industry well logs for evidence of borehole breakouts as indicators of stress field orientation in southern California
 - Supported by SCEC grant #16096
5. **Patrick Carpenter (February 2016 – May 2016)**
 - Testing RBR duet pressure/temperature gauge instruments, and development of deployment anchor and recovery strategy for Yellowstone Lake study
 - LSU Crustal Deformation Lab volunteer
4. **Erin Schwartz (August 2015 – December 2015)**
 - Investigating historic industry well logs for evidence of borehole breakouts as indicators of stress field orientation in southern California
 - Earned 1 hr GEOL 3909 credit
3. **W. Spencer Aertker (August 2015 – December 2015)**
 - Processing InSAR scenes coastal Louisiana deformation using GMTSAR
 - Earned 3 hrs GEOL 3909 credit
2. **Joel Spansel (May 2015 – August 2015)**
 - Comparing stress field orientations indicated by earthquake focal mechanisms with those indicated by borehole breakouts across southern California
 - Supported by SCEC grant #15187
1. **Madeline Myers (May 2014 – December 2014)**
 - Field assistant in deploying pressure/temperature gauges in Yellowstone Lake
 - Modeling stress perturbations from removal of Weichselian Ice Sheet and potential reactivation of faults in Czech Republic
 - Supported by SCEC grant #14152, and earned 1 hr GEOL 3909 credit

Research Students Supervised as Committee Member

- *All students in LSU Dept. of Geology and Geophysics, unless otherwise indicated*
 - *Student thesis/dissertation committees meet semesterly to discuss research progress and review written research products produced by the student*
20. **Joseph Honings (October 2019 – present)**
PhD student, primary advisor C. Wicks
 19. **Joshua Wolpert (January 2019 – present)**
MS student, primary advisor A. Forte
 18. **Justin Kain (January 2019 – present)**
MS student, primary advisor P. Persaud
 17. **Madeline Myers (January 2018 – August 2019)**
MS Summer 2019, primary advisor P. Doran
 16. **Guibao Liu (October 2018 – May 2019)**
MS Spring 2019, primary advisor P. Persaud

15. **Shuqian Liu (October 2017 – May 2019)**
PhD Spring 2019, Dept. of Civil Engineering, primary advisor S. Cai
14. **E. Harris Pritchard (March 2017 – December 2018)**
MS Fall 2018, primary advisor P. Persaud
13. **Matthew Danielson (September 2016 – May 2018)**
MS Spring 2018, primary advisor P. Bart
12. **Justin Kain (April 2017 – December 2017)**
BS senior thesis Fall 2017, primary advisor A. Hermann
11. **Nicole Button (April 2014 – December 2017)**
MS Fall 2017, primary advisor S. Karunatillake
10. **Abigail Maxwell (January 2016 – May 2017)**
MS Spring 2017, primary advisor J. Lorenzo
9. **Trudy Watkins (January 2015 – December 2016)**
MS Fall 2016, primary advisor J. Lorenzo
8. **Ruholla Keshvaridoost (March 2015 – September 2016)**
PhD student, primary advisor J. Lorenzo
7. **Eleanor Smith (November 2014 – May 2016)**
BS senior thesis Spring 2015, primary advisor B. Dutrow
MS Spring 2016, primary advisor B. Dutrow
6. **Derek Goff (March 2014 – May 2016)**
MS Spring 2016, primary advisor J. Lorenzo
5. **Ryky Nelson (September 2014 – December 2015)**
PhD Fall 2015, Dept. of Physics and Astronomy, primary advisor J. Moreno
4. **Gregory Keller (January 2015 – December 2015)**
MS Fall 2015, primary advisor S. Bentley
3. **Tessa Hermes (March 2014 – August 2015)**
MS Summer 2015, primary advisor B. Dutrow
2. **Crawford White (January 2015 – May 2015)**
PhD Summer 2017, primary advisor S. Bentley
1. **Dan Mullally (January 2014 – May 2015)**
MS Spring 2015, primary advisor P. Bart

SERVICE

Service to LSU Department of Geology and Geophysics

- Member, Ad Hoc Field Camp Committee (2019 – present)
- Chair, Undergraduate Curriculum Committee (2019 – present)
- Summer advisor for Freshman Orientation, Advising, and Preregistration (2019)
- LSU Majors Fair Undergraduate Recruiting (2019)
- Member, Undergraduate Curriculum Committee (2018 – 2019)
- Member, Department IT Specialist Search Committee (2018)

- Chair, Awards, Honors, and Scholarship Committee (2016 – 2018)
- Member, Ad Hoc Education Technology Enhancement Committee (2016)
- Member, Awards, Honors, and Scholarship Committee (2015 – 2016)
- Member, Geophysicist Search Committee (2015 – 2016)
- Member, Ad Hoc Computer Resources Committee (2015 – 2016)
- Member, Department IT Specialist Search Committee (2015)
- Member, Ad Hoc Computer Redistribution Committee (2015)
- Member, Graduate Admissions Committee (2014 – 2015)
- Staffed recruitment booth at AGU Fall Meeting (2015)
- Organized and staffed recruitment booth at AGU Fall Meeting (2014)
- Member, Graduate Curriculum Committee (2014)
- Member, Graduate Recruiting Committee (2013 – 2015)

Service to LSU College of Science

- Judge, LSU Discover Day Undergraduate Research Symposium (2019)
- Member, College Awards, Honors, and Scholarship Committee (2016 – 2018)

Professional Service and Memberships

- Co-Convened session “Magmatic and Hydrothermal Activity of the Yellowstone Plateau, or, How I Learned to Stop Worrying and Love the Volcano” at American Geophysical Union Fall Meeting (2019)
- Co-Convened SCEC Community Stress Model Workshop in Pomona, CA (January 2019)
- Elected Member, UNAVCO Nominating Committee (2018 – 2020)
- National Science Foundation Review Panel, Geosciences Directorate, Earth Sciences Division (2017)
- Co-Convened session “Characterizing the stress field for earthquake source physics and hazard assessment.” at Seismological Society of America Annual meeting (2016)
- Textbook reviewer for Grotzinger and Jordan, *Understanding Earth*, 8th edition (2015)
- Member, IRIS Early Career Investigator Working Group (2014 – 2016)
- Alternate LSU institutional representative to Incorporated Research Institutions for Seismology (IRIS) (2013 - present)
- Member, Southern California Earthquake Consortium (SCEC) Community Stress Model Working Group (2012 – present)
- Co-Coordinator Volcano Science Center Seminar, USGS (2011 – 2013)
- Co-Convened session “Climate Loads as Forcers of Seismic and Volcanic Processes” at American Geophysical Union Fall Meeting (2011)
- Peer Reviewer: (2011 – present)
Earth and Planetary Science Letters
Geochemistry Geophysics Geosystems (G-cubed)
Geophysical Research Letters
Journal of Geophysical Research – Solid Earth
Science
 NSF – Geosciences Directorate, Earth Sciences Division, EarthScope

NSF – Geosciences Directorate, Earth Sciences Division, Geophysics
USGS internal review

- Member, Seismological Society of America (2015 – present)
- Member, American Geophysical Union (2002 – present)

Education and Outreach Service

- Yellowstone National Park Service Employee Education: Lake Floor Extravaganza (Lake Maintenance Village, Yellowstone National Park, August 2018)
- Yellowstone National Park Service Employee Education: HD-YLake science and field activities update (Lake Maintenance Village, Yellowstone National Park, August 2017)
- Judge at Kenilworth Science and Technology Middle School Science Fair (Baton Rouge, Louisiana, December 2014)
- Earthquake Science Workshop Presenter, Sally Ride Science Festival for Girls (San Diego, California, November 2007)

Media Contributions

Wendel, J. (2014) Yellowstone geysers influenced by internal processes, *Eos Research Spotlight*, 95, 21, 27 May 2014, doi: 10.1002/2014EO210008

Jenkins, D. (2014) Peering below the surface: LSU Geologist Examines Crustal Deformation in Yellowstone, *LSU College of Science PURSUIT Magazine*, 2014 issue, online at https://issuu.com/djenkins1/docs/the_pursuit-2014?utm_source=conversion_success&utm_campaign=Transactional&utm_medium=email

Stovall, W., K. Luttrell, and J. Lowenstern (2013) Sloshing Detected in Yellowstone Lake Helps to Locate Magma Storage Region (2013), *USGS Yellowstone Volcano Observatory web article*, 20 March 2013, online at http://volcanoes.usgs.gov/volcanoes/yellowstone/monitoring_seiche.html

French, B. (2013) Seismic sensors detect tiny rhythmic wave action on Yellowstone Lake, *Billings Gazette*, 10 April 2013, online at http://billingsgazette.com/news/state-and-regional/montana/seismic-sensors-detect-tiny-rhythmic-wave-action-on-yellowstone-lake/article_aca22e29-7181-55a5-8602-c05f64caa19c.html

Perlman, D. (2011) Big quake near Salton Sea may be long overdue, *San Francisco Chronicle*, 3 July 2011, online at <http://www.sfgate.com/bayarea/article/Big-quake-near-Salton-Sea-may-be-long-overdue-2365882.php>

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