

DR. BRIDGET R. SMITH-KONTER

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EDUCATION

- **Ph.D., University of California, San Diego, 2005**
Emphasis: Earth Science/Geophysics, supervised by Dr. David Sandwell
Dissertation title: "Three dimensional deformation and stress models: Exploring one thousand years of earthquake history along the San Andreas Fault System"
National Science Foundation Graduate Fellowship (1999-2002)
NASA Earth System Science Graduate Fellowship (2003-2005)
- **B.S., Northern Arizona University, 1999**
Major: Physics & Astronomy (Magna Cum Laude)
NASA Space Grant Scholarship at NAU (amongst others, full tuition 1995-1999)

PROFESSIONAL EXPERIENCE

- 2016 (Aug.)** Associate Professor, UH (with tenure)
2014 (Jan.) – 2016 (Aug.) Assistant Professor, UH /Adjunct Professor, UTEP
2012 (Aug.) – 2014 (Jan.) Associate Professor, UTEP (with tenure)
2008 (Jan.) – 2012 (Aug.) Assistant Professor, UTEP
- Integration of GPS, InSAR (Interferometric Synthetic Aperture Radar), geologic, tide gauge, and paleoseismic data to investigate the dynamics of the lithosphere and asthenosphere along active fault systems
 - Investigating 4-D stress evolution of the earthquake cycle
 - Modeling tidally-driven failure dynamics and crustal deformation mechanisms of fractures on satellites of the outer Solar System
 - Development of 3D visualization techniques for investigating crustal deformation and seismicity of the Western U.S.
- 2007-2008** Postdoctoral Researcher, California Inst. of Technology, NASA JPL
- Development and application of tidally-driven 3-D viscoelastic stress accumulation model for icy fractures on Saturn's moon Enceladus
- 2005-2007** Postdoctoral Researcher, UC San Diego, Scripps Inst. Oceanography
- Vertical constraints on plate boundary motion from California coastal tide gauge records
- 1999-2005** Graduate Research Asst., UC San Diego, Scripps Inst. Oceanography
- Lithospheric deformation and Coulomb stress evolution of the San Andreas fault
 - Development of 3-D elastic and viscoelastic crustal deformation model
 - Shuttle Radar Topography Mission Data resolution analysis and application
- 1999** Undergraduate Research Asst., NASA Ames, NASA Academy
- Statistical modeling of biological/chemical constraints of a terraformed Mars
- 1998** Undergraduate Research Asst., Stanford University
- Monte Carlo simulations of B meson in BaBAR drift chamber

1997-1999 Undergraduate Research Asst., NASA Space Grant, Lowell Obsv.

- Modeling the rotational morphology of gas and dust jets in Comet Hale-Bopp
- Morphology of HCN and CN in Comet Hale-Bopp

PUBLICATIONS

- Articles from 1997-2007 were published under name B. Smith; all contributions since 2007 have been published under the name B. Smith-Konter.
- Student authorship denoted with underline.

Manuscripts in preparation

37. Burkhard, L., B. Smith-Konter, L. Ward, K. Scharer, and D.T. Sandwell, Earthquake cycle stress accumulation disparities of the Cajon Pass region, *to be submitted to Seismological Research Letters, Fall 2019.*
36. Solis, T., and B. Smith-Konter, Estimating variations in locking depth for the Mojave segment of the San Andreas fault over the past 1500 years from paleoseismic stress drop, *to be submitted to BSSA.*
35. Luttrell, K. and B. Smith-Konter, Regional-scale models of crustal stress in southern California with implications for heterogeneous tectonic loading and in situ stress magnitude, *to be submitted to J. Geophys. Res.*

Commentary

34. Tong, X., B. Smith-Konter, and D.T. Sandwell (2014), A new viscoelastic earthquake cycle model may explain discrepancies in San Andreas fault slip, *EOS AGU Research Spotlight*, v. 95, no. 34.

Publications

33. Ward, L., B. Smith-Konter, X. Xu, X. Tong, and D.T. Sandwell (2019), Seismic moment dependence on crustal rigidity for the southern San Andreas Fault System, submitted to *J. Geophys. Res.*, doi:10.1029/2019JB018723.
32. Cameron, M., B. Smith-Konter, L. Burkhard, G. Collins, D. Patthoff, and R.T. Pappalardo (2019b), Ganymede then and now: How past eccentricity may have altered tidally-driven Coulomb failure, submitted to *J. Geophys. Res. Planets.*
31. Cameron, M., B. Smith-Konter, G. Collins, D. Patthoff, and R.T. Pappalardo (2019a), Tidal stress modeling of Ganymede: Strike-slip tectonism and Coulomb failure, *Icarus*, 319, doi: 10.1016/j.icarus.2018.09.002.
30. Xu, X., L. Ward, J. Jiang, B. Smith-Konter, E. Tymofeyeva, E. O. Lindsey, A. G. Sylvester and D.T. Sandwell (2018), Surface creep rate of the Southern San Andreas Fault modulated by stress perturbations from nearby large events, *Geophys. Res. Lett.*, doi: 10.1029/2018GL080137.
29. Sandwell, D.T. and B. Smith-Konter (2018), Maxwell: A semi-analytic 4-D code for earthquake cycle modeling of transform fault systems, *Computers and Geosciences*, doi: 10.1016/j.cageo.2017.737.
28. Cameron, M., B. Smith-Konter, L. Burkhard, G. Collins, and R.T. Pappalardo (2018), Morphological mapping of Ganymede: Investigating the role of strike-slip tectonics in the evolution of terrain types, *Icarus*, 315, doi: 10.1016/j.icarus.2018.06.024.

27. Boston, B., Howell, S., Sleeper, J., Anderson, A., Cameron, M., Sigurdardottir, T., Tree, J., Togia, H., Smith-Konter, B., Moore, G. F. (2018), Seafloor Mapping at Your Fingertips: Setting Sail on Sonar Education with an Interactive Exhibit. *The Earth Scientist*, 34, 1, 11-15.
26. Luttrell, K. and B. Smith-Konter (2017), Limits on crustal differential stress in southern California from topography and earthquake focal mechanisms, *Geophys. J. Int.*, doi: 10.1093/gji/ggx301.
25. Howell, S., B. Smith-Konter, N. Frazer, X. Tong, and D.T. Sandwell (2016), The vertical fingerprint of earthquake-cycle loading in Southern California, *Nature Geosciences*, doi: 10.1093/2015-03-04591.
24. Schleicher, D.G., A.N. Bair, S. Sackey, L.A. Alciatore, R.M. Eby, and B. Smith-Konter (2015), The evolving photometric lightcurve of Comet 1P/Halley's coma during the 1985/86 apparition, *The Astronomical Journal*, 150:79, doi:10.1088/0004-6256/150/3/79.
23. Carrick, T., K. Miller, E. Hagedorn, B. Smith-Konter, and A. Velasco (2016), Pathways to the Geosciences Summer High School Program: A ten year evaluation, *Journal of Geoscience Education*, 64, 87-97, doi: 10.5408/15-088.1.
22. Tong, X., D.T. Sandwell, and B. Smith-Konter (2015), An integral method to estimate the moment accumulation rate on the Creeping Section of the San Andreas Fault, *Geophysical Journal International*, doi: 10.1093/gji/gjv140783.
21. Smith-Konter, B., G.M. Thornton, and D.T. Sandwell (2014), Vertical crustal displacement due to interseismic deformation along the San Andreas fault: Constraints from tide gauges, *Geophysical Research Letters*, doi:10.1029/2014GL060091.
20. Tong, X., B. Smith-Konter, and D.T. Sandwell (2014), Is there a discrepancy between geological and geodetic slip rates along the San Andreas Fault System?, *Journal of Geophysical Research*, doi:10.1029/2013JB010765.
19. Tong, X., D.T. Sandwell, and B. Smith-Konter (2013), High-resolution interseismic velocity data along the San Andreas Fault System, *Journal of Geophysical Research*, 118, doi:10.1029/2012JB009442.
18. Del Pardo, C., B. Smith-Konter, C. Kreemer, G. Blewitt, W. Hammond, and L. Serpa (2012), Interseismic deformation and stress evolution of the Death Valley Fault Zone, *Journal of Geophysical Research*, 117, B060404, doi:10.1029/2011JB008552.
17. Smith-Konter, B., D.T. Sandwell, and P. Shearer (2011), Locking depths estimated from geodesy and seismology along the San Andreas Fault System: Implications for seismic moment release, *Journal of Geophysical Research*, 116, B06401, doi:10.1029/2010JB008117.
16. Olgin, J., B. Smith-Konter, and R.L. Pappalardo (2011), The limits of Enceladus's ice shell thickness from tidally driven tiger stripe failure, *Geophysical Research Letters*, 38, doi:10.1029/2010GL044950.
15. Smith-Konter, B., D.T. Sandwell, and M. Wei (2010), Integrating GPS and InSAR to resolve stressing rates of the SAF System, *EarthScope inSights*, Summer 2010.
14. Wei, M., D.T. Sandwell, and B. Smith-Konter (2010), Optimal combination of InSAR and GPS for measuring interseismic crustal deformation, *Journal of Advances in Space Research*, doi: 10.1016/j.asr.2010.03.013.
13. Smith-Konter, B. and D.T. Sandwell (2009), Stress evolution of the San Andreas Fault System: Recurrence interval versus locking depth, *Geophysical Research Letters*, 36, doi:10.1029/2009GL037235.
12. Smith-Konter, B. and R.T. Pappalardo (2008), Tidally driven stress accumulation and shear failure of Enceladus's tiger stripes, *Icarus*, 198, doi:10.1016/j.icarus.2008.07.005.
11. Luttrell, K., D.T. Sandwell, B. Smith-Konter, B. Bills, and Y. Bock (2007), Modulation of

- the earthquake cycle at the southern San Andreas fault by lake loading, *Journal of Geophysical Research*, 112, doi:10.1029/2006JB004752.
10. Sandwell, D.T. and B. Smith (2007), California Earthquakes, Glimpses of a Changing World: Views of Planet Earth from Space, M. D. King, C. L. Parkinson, K. C. Partington, and R. G. Williams, Eds., *Cambridge University Press*, 140-143.
 9. Wdowinski, S., B. Smith-Konter, Y. Bock, and D.T. Sandwell (2007), Spatial characterization of the interseismic velocity field in southern California, *Geology*, doi:10.1130/G2938A.1.
 8. Smith, B. and D.T. Sandwell (2006), A model of the earthquake cycle along the San Andreas Fault System for the past 1000 years, *Journal of Geophysical Research*, 111, doi:10.1029/2005JB003703.
 7. Taesombut, N., X. Wu, A. Chien, A. Nayak, B. Smith, D. Kilb, T. Im, D. Samilo, G. Kent, and J. Orcutt (2006), Collaborative data visualization for Earth sciences with the OptIPuter, *Journal of Future Generation Computational Systems*, 22, doi:10.1016/j.future.2006.03.023.
 6. Smith, B. and D.T. Sandwell (2004), A 3-D semi-analytic viscoelastic model for time-dependent analysis of the earthquake cycle, *Journal of Geophysical Research*, doi:10.1029/2004JB003185.
 5. Smith, B. and D.T. Sandwell (2003), Coulomb stress along the San Andreas Fault System, *Journal of Geophysical Research*, 108 (B6), doi:10.1029/2002JB002136.
 4. Smith, B. and D.T. Sandwell (2003), Accuracy and resolution of Shuttle Radar Topography Mission data, *Geophysical Research Letters*, 30 (9), doi:10.1029/2002GL016643.
 3. Sandwell, D.T., L. Sichiox, and B. Smith (2002), The 1999 Hector Mine earthquake, southern California: Vector near-field displacements from ERS InSAR, *Bulletin of Seismological Society of America*, 92, 1341-1354.
 2. Woodney, L.M., M.F. A'Hearn, D.G. Schleicher, T.L. Farnham, J.P. McMullin, M.C.H. Wright, J.M. Veal, L. E. Snyder, I. De Pater, J.R. Forster, P. Palmer, Y. J. Kuan, W. R. Williams, C.C. Cheung, and B. Smith (2002), Morphology of HCN and CN in Comet Hale-Bopp (1995 O1), *Icarus* 157, 193.
 1. Schleicher, D.G., T.L. Farnham, W.R. Williams, B. Smith, and C.C. Cheung (1999), Modeling the rotational morphology of gas and dust jets in Comet Hale-Bopp (1995 O1) At Perihelion, *Bulletin of American Astronomical Society*, 31, 1128.

RESEARCH FUNDING

ACTIVE

NSF GP-IMPACT (\$318,679) 08/01/19 – 07/31/22; *Project EPIK – Earth, Planets, Ika, and Kuleana – Preparing the next generation of diverse geoscientists in Hawaii*, PI = **B. Smith-Konter**; Co-PI = J. Konter, H. Dulai, S. Rowland, J. Engels (UHM).

NASA Earth Surface and Interior (\$146,647) 06/01/19 – 05/31/21; *Estimating Seismic Hazard Along the San Andreas Fault System from InSAR and GNSS*, UCSD subcontract, UH PI = **B. Smith-Konter**.

NSF Geophysics (\$369,439) 09/15/18 – 08/30/21; *The Earthquake Cycle and the Evolution of Fault Friction at Kilauea Volcano, Hawaii*, PI = J. Foster; Co-PI = **B. Smith-Konter**.

Southern California Earthquake Center (\$15,000) 5/1/18 - 4/30/18; *Assessing the sensitivity of earthquake cycle vertical deformation of the San Andreas Fault System*; PI = **B. Smith-Konter**; Co-PI = K. Scharer (USGS), D. Sandwell (UCSD).

NSF EarthScope (\$42,812) 8/1/18 – 7/30/19; *The Earth Moves Me!* (EAR supplement); PI = **B. Smith-Konter**.

NSF EarthScope (\$174,975) 9/1/18 – 8/31/20; *The EarthScope/GMT Analysis and Visualization Toolbox*; PI = P. Wessel; Co-PI = **B. Smith-Konter**, L. Uidea.

NSF EarthScope (\$246,810) 06/01/16 – 05/31/19; *Imaging Vertical Earthquake Cycle Crustal Deformation of the San Andreas Fault System Utilizing the GAGE Facility*, **PI = B. Smith-Konter**.

NASA Outer Planets Research (\$342,978) 10/1/13 - 2/18/19; *Strike-slip faulting processes of Ganymede: Morphological inferences and failure mechanics*; **PI = B. Smith-Konter**; Co-PI = R. L. Pappalardo (JPL), G. Collins (Wheaton).

NASA Earth Surface and Interior (\$339,662) 03/01/16 – 02/29/19; *Moment and Strain Accumulation Rate along the San Andreas Fault System from InSAR and GPS*, PI = D. Sandwell (UCSD); Funded Collaborators = **B. Smith-Konter** and X. Tong (UW).

Japanese Aerospace Exploration Agency (ALOS-2 data acquisition) 04/01/16 – 03/01/19; *Moment and Strain Accumulation Rate along the Southern San Andreas Fault System from InSAR and GPS*; **PI = B. Smith-Konter**; Co-Is = D. Sandwell (UCSD), Y. Fialko (UCSD), X. Tong (UW), C. Crosby (UNAVCO), P. Wessel (UH), E. Fielding (JPL), R. Burgmann (Berkeley), M. Shirzaei (ASU), A. Gonzalez (CICESE).

Japanese Aerospace Exploration Agency (ALOS-2 data acquisition) 04/01/16 – 03/01/19; *Moment and Strain Accumulation Rate along the Northern San Andreas Fault System from InSAR and GPS*; PI = D. Sandwell (UCSD); **Co-Is = B. Smith-Konter**, Y. Fialko (UCSD), X. Tong (UW), C. Crosby (UNAVCO), P. Wessel (UH), E. Fielding (JPL), R. Burgmann (Berkeley), M. Shirzaei (ASU), A. Gonzalez (CICESE).

NSF GEO/EAR Education and Human Resources (\$829,264) 01/01/16 – 12/31/20; *REU Site: Earth Science on Volcanic Islands*, PI = P. Wessel; Collaborators = H. Dulaiova, M. Garcia, C. Glenn, A. El-Kadi, J. Hammer, G. Ito, J. Konter, S. Martel, B. Popp, **B. Smith-Konter**.

COMPLETED

Southern California Earthquake Center (\$15,000) 5/1/18 - 4/30/18; *Investigating earthquake gate stress evolution at Cajon Pass*; PI = **B. Smith-Konter**; Co-PI = K. Scharer (USGS), D. Sandwell (UCSD).

Southern California Earthquake Center (\$20,000) 5/1/17 - 4/30/18; *Development of 4-D models of the earthquake cycle that include spatial variations in crustal rheology*; PI = **B. Smith-Konter**; Co-PI = D. Sandwell (UCSD).

Southern California Earthquake Center (\$25,577) 02/1/16 – 1/31/17; *Visualizing Earthquake Cycle Stress Evolution in 4D along the San Andreas Fault System*; **PI = B. Smith-Konter**; Co-PI K. Luttrell (LSU), D. Sandwell.

Southern California Earthquake Center (\$19,878) 02/1/16 - 1/31/17; *Interpreting crustal stress orientation along the San Andreas and San Jacinto faults: A forward modeling study with constraints from seismology, geodesy, topography, and gravity*; PI = K. Luttrell (LSU); **Co-PI = B. Smith-Konter**.

NSF EarthScope (\$170,797) 4/1/12 - 5/31/16; *Collaborative Research: Strain Rate and Moment Accumulation Rate along the San Andreas Fault System from InSAR and GPS*; **PI = B. Smith-Konter**; Co-PI = D. Sandwell (UCSD).

NSF CAREER (\$501,048) 6/1/09 - 9/31/15; *CAREER: An integrated geologic, geodetic, and paleoseismic study of plate boundary stress evolution and geoscience education utilizing the*

EarthScope database; **PI = B. Smith-Konter**.

Southern California Earthquake Center (\$22,000) 2/1/15 - 1/31/16; *Improved analysis of crustal stress in Southern California, with constraints from seismology, geodesy, topography, and gravity*; PI = K. Luttrell (LSU); Co-PIs = **B. Smith-Konter**, D. Sandwell (UCSD).

Southern California Earthquake Center (\$20,000) 2/1/15 - 1/31/16; *Improving the Community Geodetic Model with GPS and InSAR*; PI = D. Sandwell (UCSD); Co-PIs = A. Gonzalez-Ortega (CICESE), J. Gonzalez (CICESE), **B. Smith-Konter**, Y. Zeng (USGS).

Southern California Earthquake Center (\$19,000) 2/1/14 - 1/31/15; *Toward integrating models of stress from multiple physical processes, timescales, and spatial scales in Southern California*; PI = K. Luttrell (LSU); Co-PIs = **B. Smith-Konter**, D. Sandwell (UCSD).

Southern California Earthquake Center (\$20,000) 2/1/14 - 1/31/15; *Improving the Community Geodetic Model with GPS and InSAR*; PI = D. Sandwell (UCSD); Co-PIs = **B. Smith-Konter**, X. Tong (UCSD), A. Gonzalez (CICESE), Y. Zeng (USGS).

Southern California Earthquake Center (\$25,000) 2/1/14 - 1/31/15; *Integrated static and dynamic stress modeling for investigating tremor source regions*; PI = H. Gonzalez-Huizar (UTEP); Co-PIs = **B. Smith-Konter**, A. Velasco (UTEP).

Strategic Conversions and Expansions Distance Education Efforts (\$37,807) 9/1/12 – 12/31/14; *Strategic Online Conversion of the UTEP Geology MAT Program*; **PI = B. Smith-Konter**; Co-PI = L. Serpa (UTEP), E. Anthony (UTEP).

Southern California Earthquake Center (\$15,000) 2/1/12 - 1/31/14; *Investigating absolute stress in Southern California constrained by earthquake focal mechanisms and models of stress contributions from topography and fault loading*; **PI = B. Smith-Konter**; Co-PIs = K. Luttrell (USGS), D. Sandwell (UCSD).

NSF Tectonics (\$230,773) 1/1/09 - 12/31/13; *Integrating geologic, geodetic, and coastal tide gauge observations with 100-year vertical deformation models of California earthquake history*; **PI = B. Smith-Konter**.

NASA Outer Planets Research (\$268,529) 7/13/09 - 7/12/13; *Three-dimensional semi-analytic viscoelastic earthquake modeling as applied to faulting processes on Enceladus and Europa*; **PI = B. Smith-Konter**; Co-PI = R.T. Pappalardo (JPL).

NASA EarthScope (\$386,471) 1/1/09 - 12/31/13; *Geodetic imaging and modeling of the San Andreas Fault System*; PI = D. Sandwell (UCSD); Co-PI = B. Smith-Konter.

NSF MRI (\$699,671) 5/1/09 - 4/30/12; *Acquisition of Cyber-ShARE Collaborative Visualization System*; PI = R. Romero; Co-PIs = V. Gonzalez, J. Hurtado, J. Konter, B. Smith-Konter.

Southern California Earthquake Center (\$15,000) 2/1/11 - 1/31/12; *Investigating along-strike depth variations of seismicity along the San Andreas Fault System to better resolve geodetic locking depths*; **PI = B. Smith-Konter**; Co-PIs = D. Sandwell (UC San Diego), P. Shearer (UC San Diego), Y. Zeng (USGS).

Southern California Earthquake Center (\$10,000) 2/1/10 - 1/31/11; *Earthquake-induced vertical deformation modeling constrained by geodetic and geologic observations*; PI = B. Hooks; Co-PI = B. Smith-Konter.

Southern California Earthquake Center (\$16,000) 2/1/09 - 1/31/10; *Quantifying stress evolution models the San Andreas Fault System using an improved paleoseismic database spanning the last 2000 years*; **PI = B. Smith-Konter**; Co-PI = D. Sandwell (UCSD).

Southern California Earthquake Center (\$16,900) 2/1/08 - 1/31/09; *Stress uncertainties of the San Andreas Fault System due to variations in slip rates, fault locking depths, & fault rheology*; **PI =**

B. Smith-Konter; Co-PI = D. Sandwell (UCSD).

Southern California Earthquake Center (\$13,600) 2/1/07 - 1/31/08; *Modeling secular and time-dependent stress accumulation in Southern California*; PI = D. Sandwell (UCSD); Co-PI = B. Smith-Konter (formerly at UCSD).

AWARDS AND HONORS

*Awards prior to 2006 were awarded to B. Smith; all awards since 2007 have been awarded to B. Konter or B. Smith-Konter

University of Texas System Regents' Outstanding Teaching Award

University of Texas System (2011)

- This award recognizes “an outstanding commitment to teaching through the delivery of the highest quality undergraduate instruction throughout the entire University of Texas System”. Smith-Konter was 1 of 17 tenure-track faculty members from 16 institutions in UT System to receive this award. (<http://www.utsystem.edu/teachingawards>)

EarthScope Speaker Series Lecturer

NSF EarthScope Program (2011)

- “Speakers are selected based on their outstanding research accomplishments involving EarthScope, as well as their abilities to engage a variety of audiences.” (<http://www.earthscope.org/speakers>)

College of Science Distinguished Achievement Award for Teaching

University of Texas at El Paso (2011)

- This award recognizes “distinguished achievement in teaching by UTEP’s College of Science”. Smith-Konter was one of the first instructors within UTEP’s College of Science to receive this award.

Office of Research and Sponsored Projects Outstanding Research Award

University of Texas at El Paso (2009)

- This award recognizes an outstanding performance in securing external funding. Smith-Konter was awarded 5 federal grants (NSF and NASA) from 2008-2009, totaling \$1,403,721.

Faculty Early Career Award

National Science Foundation (2008)

- The National Science Foundation Early Career grant (a 5-year award for ~\$500,000) is “a prestigious award in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations.” (<http://www.nsf.gov/pubs/2011/nsf11038/nsf11038.jsp>)

Outstanding Postdoctoral Research Award

NASA Jet Propulsion Laboratory (2007)

- This award recognizes “outstanding research efforts” at NASA’s Jet Propulsion Laboratory. Smith-Konter received this award for her presentation titled “*Tidally driven stress accumulation and shear failure at Enceladus’s Tiger Stripes*” at JPL’s annual Postdoctoral Research Competition.

Outstanding Undergraduate Teaching Award*Scripps Institution of Oceanography, University of California San Diego (2005)*

- This award recognizes “excellence in undergraduate teaching and an outstanding commitment to student learning”. Smith-Konter received this award in 2005, competing against over 200 seasoned educators, and was also a finalist for this award in 2006. (<http://sio.ucsd.edu/About/Awards/teaching.php>)

Outstanding Geodesy Student Paper Award*American Geophysical Union Annual Meeting (2004)*

- This award recognizes outstanding student research at the American Geophysical Union Fall Meeting, Geodesy Section. Smith-Konter received this award for her presentation titled “*A 3-D semi-analytic viscoelastic model of the San Andreas Fault System: A 1000-year perspective of the earthquake cycle*”.

1st Place, SIO Visualization Contest*Scripps Institution of Oceanography, University of California San Diego (2004)*

- This prize was awarded for the creation of research-based digital movie, *San Andreas: Earthquake Machine*.

E. Frieman Director’s Prize for Outstanding Graduate Research*Scripps Institution of Oceanography, University of California San Diego (2003)*

- This prize is awarded annually to a Scripps graduate student who has published an outstanding research paper, as evaluated by a Scripps faculty committee.

NASA Earth System Science Fellowship*National Aeronautics and Space Administration (2003-2005)***National Science Foundation Graduate Fellowship***National Science Foundation (1999-2002)***Outstanding Graduating Senior in the Arts and Sciences***Northern Arizona University (1999)*

INVITED PRESENTATIONS

- All contributions since 2007 have been presented under the name B. Smith-Konter
37. Smith-Konter, Stress evolution of the Cajon Pass, SCEC Annual Meeting, Palm Springs, CA (September 2018).
 36. Cameron, M., B. Smith-Konter, L. Burkhard, G. Collins, D. Patthoff, and R.T. Pappalardo (2017), Strike-slip tectonism on Ganymede: Investigating Coulomb failure at a global scale, *invited presentation*, GSA Annual Meeting, Denver, CO (October 2017).
 35. Luttrell, K. and B. Smith-Konter (2016), How stressed are we really? Harnessing community models to characterize the crustal stress field in Southern California, invited plenary speaker, *2016 SCEC Annual Meeting*, Palm Springs, CA (September 2016).
 34. Sandwell, D.T., B. Smith-Konter, and X. Tong (2015), *A 4-D earthquake cycle model for bounding seismic moment accumulation rate*, IUGG General Assembly, Prague (June 2015).
 33. 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*, 2014 AGU Fall Meeting, San Francisco (December 2014).

32. Smith-Konter, B. (2014), Keynote speaker: *4-D earthquake cycle modeling of the San Andreas Fault System: Stress rates, historical stress accumulation, and uncertainties*, SCEC Community Stress Modeling Workshop, Pomona, CA (October 2014).
31. Smith-Konter, B., K. Luttrell, and D.T. Sandwell (2014), *Investigating absolute stress in southern California: Constraints from compensated topography, tectonic loading, and earthquake focal mechanisms*, CIG Crustal Deformation Modeling Workshop, Stanford, CA (June 2014).
30. Smith-Konter, B. and T. Solis (2012), *Focusing the EarthScope for a broader audience: Advancing geoscience education with interactive kiosks*, 2012 AGU Annual Meeting, San Francisco, CA (December 2012).
29. Smith-Konter, B., T. Solis, and M. Cameron, *EarthScope in 4D: Visualizing earthquake cycle stress evolution at depth along the San Andreas Fault System*, 2012 GSA Annual Meeting, Charlotte, NC (November 2012)
28. Sandwell, D., K. Luttrell, and B. Smith-Konter. (2012), *Investigating absolute stress in southern California: How well do stress models of compensated topography and fault loading match earthquake focal mechanisms?*, SCEC Community Stress Model Workshop (October 2012).
27. Smith-Konter, B. (2012), *Exploring earthquake stress history of seismically-active faults of the San Andreas Fault System*, SACNAS Annual Meeting (October 2012).
26. Smith-Konter, B. (2012), *Crustal dynamics of the seismic cycle: Investigating stress evolution of terrestrial faults and icy fractures of the outer Solar System*, Northern Arizona University (March 2012).
25. Smith-Konter, B. (2012), *Crustal dynamics of the seismic cycle: Investigating stress evolution of terrestrial faults and icy fractures of the outer Solar System*, Arizona State University (February 2012).
24. Smith-Konter, B. (2012), *Locked, loaded, and looming? Exploring earthquake cycle stress history of seismically-active faults of the San Andreas Fault System*, Stony Brook University (February 2012).
23. Smith-Konter, B. (2012), *Locked, loaded, and looming? Exploring earthquake cycle stress history of seismically-active faults of the San Andreas Fault System*, Utah State University (February 2012).
22. Smith-Konter, B. (2012), *Locked, loaded, and looming? Exploring earthquake cycle stress history of seismically-active faults of the San Andreas Fault System*, University of California Davis (February 2012).
21. Smith-Konter, B. (2011), *Locked, loaded, and looming? Exploring earthquake cycle stress history of seismically-active faults of the San Andreas Fault System*, East Los Angeles College, Los Angeles, CA.
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13. Smith-Konter, B. (2009), *Popularize or perish: Communicating, visualizing, and publicizing EarthScope data and model products for non-specialized audiences*, 2009 EarthScope National Meeting, Boise, ID.
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ABSTRACTS

- Abstracts from 1997-2007 were published under name B. Smith; all contributions since 2007 have been published under the name B. Smith-Konter.
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 159. Sandwell, D.T., X. Xu, L.A. Ward, J. Jiang, B.R. Smith-Konter, E. Tymofeyeva (2018), Surface Creep Rate of the Southern San Andreas Fault Modulated by Stress Perturbations from Nearby Large Events, Abstract [T51J-0321] presented at the 2018 AGU Fall Meeting, Washington, D.C., 10-14 Dec.

158. Ward, L.A., B.R. Smith-Konter, J.T. Higa, X. Xu, X. Tong & D.T. Sandwell (2018b), Seismic moment variations of the San Andreas Fault System: Exploring sensitivity of crustal rheology in southern California, Abstract [T13D-0259] presented at the 2018 AGU Fall Meeting, Washington, D.C., 10-14 Dec.
157. Burkhard, L., B. Smith-Konter, and D.T. Sandwell, Stress accumulation rates of the San Andreas Fault System derived from spatial variations in crustal rigidity, *2018 AGU Fall Meeting, Abstract submission #428958, Washington, D.C.*
156. Smith-Konter, B.R., L.A. Ward, L. Burkhard, A. Aryal, J.H. Foster, X. Xu & D.T. Sandwell (2018), Geodetic Imaging of the 2018 Kilauea Volcano Eruption, Abstract [V43J-0272] presented at the 2018 AGU Fall Meeting, Washington, D.C., 10-14 Dec.
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151. Ward, L., B.R. Smith-Konter, X. Xu & D.T. Sandwell (2018a), Strain rate dependence on crustal rheology for the Cajon Pass, California. Poster Presentation at 2018 SCEC Annual Meeting.
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138. Tong, X., A. Gonzalez-Ortega, B. Smith-Konter, and D.T. Sandwell (2016), Postseismic deformation and viscosity of the Mexicali region following the El-Mayor Cucapah earthquake inferred from GPS observations, *2016 SCEC Annual Meeting*, Abstract 156, Palm Springs, CA.
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135. M. Cameron, B. Smith-Konter, L. Burkhard, R.T. Pappalardo, and G. Collins (2016), Strike-slip faulting on Ganymede: Morphological mapping and failure mechanics, *Lunar and Planetary Sciences Meeting*, Abstract #2630, Houston, TX.
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133. Sandwell, D.T., B. Smith-Konter, and X. Tong (2015), Interseismic Moment Accumulation Rate along the San Andreas Fault System from InSAR and GPS, *NASA ESI Strategic Plan Workshop*, Pasadena, CA.
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127. Hardy, S., H. Geonzalez-Huizar, and B. Smith-Konter (2015), Integrated static and dynamic stress modeling for investigating tremor source regions in the San Andreas Fault System, *2015 AGU Fall Meeting*, San Francisco, CA.
126. Burkhard, L., M. Cameron, B. Smith-Konter, F. Seifert, R. Pappalardo, and G. Collins (2015), Strike-slip faulting processes on Ganymede: Global morphological mapping and structural interpretation of grooved and transitional terrain, *2015 AGU Fall Meeting*, San Francisco, CA.

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118. Aryal, A., B. Smith-Konter, J. Foster, and P. Okubo (2014), Coseismic and postseismic slip of the 2006 Kiholo Bay earthquake in Hawaii from GPS data, *2014 AGU Fall Meeting*, San Francisco, CA.
117. Cameron, M., B. Smith-Konter, and R.T. Pappalardo (2014), Investigating stress sources and fault parameters along major strike-slip lineae on Europa, *2014 AGU Fall Meeting*, San Francisco, CA.
116. 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, *2014 AGU Fall Meeting*, San Francisco, CA. (*invited*)
115. Cameron, M., B. Smith-Konter, and R.T. Pappalardo (2014), What causes an icy fault to slip? Investigating the depth and frictional conditions for tidally driven Coulomb failure along major strike-slip faults of Europa and Ganymede, *2014 DPS Meeting, Tucson, AZ*.
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107. Nahm, A., M. Cameron, B. Smith-Konter, and R.T. Pappalardo (2013), Displacement magnitude and distribution along Agenor Linea, Europa: Effect of orbital eccentricity, Geological Society of America Abstracts with Programs. Vol. 45, No. 7, paper 305-10.

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103. Hardy, S., and B. Smith-Konter (2013), Comparing vertical deformation recorded by PBO GPS and regional tide gauge stations in California, *2013 EarthScope Meeting*, Raleigh, NC.
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83. Smith-Konter, B. and C. Del Pardo (2011), EarthScope imaging of 4D stress evolution of the San Andreas Fault System, *Abstract G53C-03 presented at the 2011 Fall Meeting*, AGU, San Francisco, Calif., 5-9 Dec.
82. Smith-Konter, B. (2011) Focusing the EarthScope for a broader audience, *Abstract ED41C-05 presented at the 2011 Fall Meeting*, AGU, San Francisco, Calif., 5-9 Dec.
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74. Luttrell, K., D.T. 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*, Palm Springs, CA.
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72. Thornton, G.M., B. Smith-Konter, and J. Konter (2011), Discrepancies in observed vertical

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- Workshop*, Snowbird, UT.
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 43. Smith-Konter, B., T. Solis, and D.T. Sandwell (2009), Quantifying stress evolution models of the San Andreas Fault System using an improved paleoseismic database spanning the last 2000 years, *Proceedings from the 2009 SCEC Annual Meeting*.
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- San Andreas Fault System derived from the PBO GPS network, *Proceedings from the 2009 EarthScope National Meeting*.
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 27. Sandwell, D. B. Smith-Konter, and M. Wei (2008), Geodetic imaging of large-scale continental deformation with ALOS InSAR and CGPS, *Proceedings from the 2008 GSA Joint Annual Meeting*, 204-6.
 26. Sandwell, D. and B. Smith-Konter (2008), Imaging crustal deformation along the San Andreas Fault System with ALOS InSAR and GPS, *Proceedings from the IGAR Meeting*.
 25. Smith-Konter, B. and R.T. Pappalardo (2007), Tidally driven stress accumulation and fault displacements of Enceladus's Tiger Stripes, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., PFF-06.
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 23. Smith-Konter, B. and D.T. Sandwell, Stress evolution of the San Andreas Fault System: Dependencies on paleoseismicity, recurrence intervals, and fault locking depths, *Proceedings from the 2007 Southern California Earthquake Center Annual Meeting*, Volume XVII.
 22. Smith-Konter, B., R.T. Pappalardo, and Z. Crawford (2007), Tidally driven fault deformation and stress accumulation at Enceladus's tiger stripes, *Workshop on Ices, Oceans, and Fire: Satellites of the Outer Solar System*.
 21. Smith-Konter, B. and R.T. Pappalardo (2007), Tidally driven stress accumulation and shear failure at Enceladus's tiger stripes, *2007 NASA JPL Postdoc Research Symposium*.
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 19. Smith-Konter, B., A. Jacobs, K. Lawrence, and D. Kilb (2006), Earthquakes in Action – Incorporating multimedia, internet resources, large-scale seismic data, and 3-D visualizations into innovative activities and research projects for today's high school students, *EOS Trans. AGU*, Fall Meet. Suppl., 87(52), ED53C-06.

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16. Luttrell, K., D.T. Sandwell, B. Smith-Konter, B. Bills, and Y. Bock (2006), Modulation of the earthquake cycle at the Southern San Andreas fault by lake loading, *Proceedings from the 2006 Southern California Earthquake Center Annual Meeting*, Volume XVI.
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14. Wdowinski, S., B. Smith, Y. Bock, and D. Sandwell (2005), Diffuse interseismic deformation across the North America-Pacific Plate Boundary: Observations and modeling results, *EOS Trans. AGU*, Fall Meet. Suppl., U43B-0832.
13. Smith, B., and D.T. Sandwell (2005), Is the elastic half-space dislocation model appropriate for estimating far-field velocity, *EOS Trans. AGU*, Fall Meet. Suppl., G53A-0864.
12. Luttrell, K., D.T. Sandwell, and B. Smith (2005), Slip rate modulation caused by ocean loading on glacial timescales, *EOS Trans. AGU*, Fall Meet. Suppl., G53A-0865.
11. Smith, B. and D. T. Sandwell (2005), Historical deformation models of the San Andreas Fault System: Integrating 1000 years of earthquake activity with modern deformation measurements, *EOS Trans. AGU*, Spring Meet. Suppl. 86(18), Jt. Assem. Suppl, G21A-05, *Invited presentation*.
10. Smith, B. and D.T. Sandwell, A 3-D semi-analytic viscoelastic model of the San Andreas Fault System: A 1000-year perspective of the earthquake cycle, *EOS Trans. AGU*, Fall Meet. Suppl., 85(47), G14A-02, 2004.
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8. Smith, B. and D.T. Sandwell (2004), A 3-D semi-analytic viscoelastic model for time-dependent analyses of the earthquake cycle: A 1000-year perspective of the San Andreas Fault System, *Proceedings from the 2004 Southern California Earthquake Center Annual Meeting*, Volume XIV.
7. Smith, B. and D.T. Sandwell (2003), Time-dependent Coulomb stress along the San Andreas Fault System, *EOS Trans. AGU*, 84(46), Fall Meet. Suppl., G31B-0708.
6. Smith, B. and D.T. Sandwell (2003), A 4-D semi-analytic model of stress evolution along the San Andreas Fault System, *Proceedings from the 2003 Southern California Earthquake Center Annual Meeting*, Volume XIII.
5. Smith, B. and D.T. Sandwell (2003), Magnitude of deviatoric stress along the San Andreas fault, *EOS Trans. AGU*, Spring Meet. Suppl., EAE03-A-14336.
4. Smith, B., D.T. Sandwell, and B. Bills (2002), Estimating SRTM resolution for applications of fault offset recovery, *EOS Trans. AGU*, 83(47), Fall Meet. Suppl., T71E-1221.
3. Sandwell, D.T. and B. Smith (2001), Variations in normal stress along the San Andreas fault due to isostatically compensated topography, *EOS Trans. AGU*, 82(47), Fall Meet. Suppl., G52A-10.
2. Smith, B. and D. T. Sandwell (2001), Variations in Coulomb stress accumulation along the San Andreas Fault System, *EOS Trans. AGU*, 82(47), Fall Meet. Suppl., G52A-12, *Invited presentation*.
1. Sandwell, D.T., L. Sichiox, and B. Smith (2000), Hector Mine Earthquake: Vector coseismic displacement from ERS InSAR, *EOS Trans. AGU*, 81(48), Fall Meet. Suppl., S61A-02.

TEACHING

¹MAT: Masters of Arts in Teaching, a masters program for both pre- and in-service teachers

* Mean score for overall instructor performance, converted to 1-5 scale

Courses taught at The University of Hawaii

- *Dynamic Earth* (GG 101) This introductory course focuses on fundamental geological principles of Earth's natural physical environment, the landscape, rocks and minerals, rivers and oceans, volcanism, earthquakes, and other processes inside the Earth. Topics also include effects of human use of the Earth and its resources. iClicker technology used throughout the course. F-2015, SP-2018 (online); F-2019 (online)
http://www.soest.hawaii.edu/GG/FACULTY/smithkonter/GG_101/

Teaching evaluation mean score for overall instructor performance*: 4.8/5

- *Voyage Through The Solar System* (GG 105) This introductory course offers an illustrated voyage through the Solar System based on recent scientific results. Topics include origin, evolution, and current knowledge of the eight planets, their moons, asteroids, comets, and the Sun. Course topics will emphasize applicable geology, tectonic activity, material properties, and atmospheric conditions of the planets and how these properties compare to planet Earth. iClicker technology used throughout the course. F-2014, SP-2015, SP-2016, F-2017
http://www.soest.hawaii.edu/GG/FACULTY/smithkonter/GG_105/

Teaching evaluation mean score for overall instructor performance*: 4.93/5

- *Crustal Deformation Monitoring and Modeling* (GG 711) This course is a seminar-style, literature-based, discussion of crustal deformation monitoring and modeling methods and applications. Topics include GPS and InSAR methods and observations, earthquake/plate boundary/ volcanic deformation, episodic tremor and slip, crustal stress accumulation, fault creep, and numerical modeling techniques. SP-2014.
http://www.soest.hawaii.edu/GG/FACULTY/smithkonter/GG_711/

Teaching evaluation mean score for overall instructor performance*: 5/5

- *Earthquakes and Crustal Deformation* (GG 451) This course explores the fundamentals of earthquakes and tectonic crustal deformation through modern seismological and geodetic observations. SP-2017, SP-2019.
http://www.soest.hawaii.edu/GG/FACULTY/smithkonter/GG_451/
- *Geophysics: Solid, Fluid, and Wave Mechanics* (GG 631) This course studies continuum mechanics in geophysics, as applied to the deformation of Earth materials (elastic, viscoelastic, and plastic deformations) and seismic wave propagation (body waves, surface waves, anisotropy, and attenuation). Topics to be covered may include tensors, stress and strain in solids, rock failure, moment tensors, elasticity, ductile rheology, viscous flow, equations of motion & boundary conditions, the vector wave equation, wave field energy, reflection and transmission of seismic waves, and surface waves. F-2016, F-2018.
http://www.soest.hawaii.edu/GG/FACULTY/smithkonter/GG_631/

Courses taught at The University of Texas at El Paso

- *Principles of Earth Science II* (GEOL 1312) is a course aimed at the study of the Earth as a planet. This course covers topics in Earth history as interpreted from and exhibited by plants, animals, rocks, and minerals. This course also focuses on planetary properties and provides a survey of physical processes operating in the hydrosphere. 2008-2012.
http://www.geo.utep.edu/pub/bkonter/geol_1312

Teaching evaluation mean score for overall instructor performance*: 4.8/5

- *Introduction to Geographic Information Systems (GIS)* (GEOL 4385) is a course that provides an introduction to the principals, practice, and applications of GIS emphasizing the importance of producing map products, data structures, spatial analysis, and visualization techniques. 2010.
http://www.geo.utep.edu/pub/bkonter/geol_4385

Teaching evaluation mean score for overall instructor performance*: 5/5

- *Computer Applications in Geosciences* (GEOL 4315) is a course aimed at exploring common software and computational methods frequently utilized in the geological sciences. Topics include introductory Unix applications, general Adobe suite tips/tricks, computational techniques using MATLAB, and digital mapping/visualization using Surfer, GMT, and Fledermaus software. 2008-2011.
http://www.geo.utep.edu/pub/bkonter/geol_4315

Teaching evaluation mean score for overall instructor performance*: 4.9/5

- *Digital Image Processing* (GEOP 5336) is a course focused on the processing of remotely sensed digital images in the context the Earth and environmental sciences, emphasizing both basic concepts and mathematical treatments of topics in statistical analysis, Fourier analysis, photogrammetry, and interferometry. 2008.
<http://www.geo.utep.edu/pub/hurtado/5336>

Teaching evaluation mean score for overall instructor performance*: N/A

- *MAT^d Computer Applications in Earth Science* (GEOL 5303) is a teaching training course aimed at “hands on” computer exercises designed to expose participants to software programs frequently utilized in Earth science classrooms. Aligned with UTEP’s Masters of Arts in Teaching (MAT) Science Program, this course provides its participants with an improved conceptual understanding of Earth science topics they teach (or plan to teach) and pertinent information in science and technology. This course explores the fundamentals of plate tectonics, earthquakes, fault systems, and volcanoes using Earth science freeware programs such as *Seismac*, *Seismic/Eruption*, *Seismic Waves*, *EqLocate*, and *Global Earthquake Explorer*. 2009-2011.
http://www.geo.utep.edu/pub/bkonter/geol_5303

Teaching evaluation mean score for overall instructor performance*: 4.9/5

- *MAT^d Earth Structure* (GEOL 5304) is a teacher training course class designed to give teachers a strong understanding of the 3-dimensional character of the Earth and how that relates to global geological and geophysical processes. 2010.

Teaching evaluation mean score for overall instructor performance*: 4.9/5

Courses taught at The University of California San Diego

- *The Planets* (ERTH 01) is an introductory course designed to teach undergraduate students a broad range of topics about the origin, evolution, and present state of the planets of our solar system. This course focuses on the geology, tectonic activity, material properties, and atmospheric conditions of the planets. 2005-2006.

<http://topex.ucsd.edu/erth01>.

Teaching evaluation mean score for overall instructor performance*: N/A

- *Frontiers in Plate Boundary Deformation* (SIO 239) is a graduate seminar course that explores state-of-the-art measurement techniques and contemporary observations of active plate boundaries, with particular emphasis on the North American continent and the San Andreas Fault System. 2006.

<http://topex.ucsd.edu/sio239>

Teaching evaluation mean score for overall instructor performance*: N/A

- *Earthquakes in Action* is a high school summer science course designed for the COSMOS (California State Summer School for Mathematics and Science) Program through the University of California. *Earthquakes in Action* consists of classroom lectures, lab experiments, and a final research project designed to foster geophysical innovations, technological inquiries, and effective scientific communication at the high school level. 2005-2006.

<http://topex.ucsd.edu/cosmos/earthquakes>

Teaching evaluation mean score for overall instructor performance*: N/A

STUDENT/POSTDOC MENTORING

Undergraduate Supervised Research

- *Morphological mapping of Ganymede strike-slip structures* (February 2015 – 2017).
Advised: Lilliane Burkhard
- *Coulomb stress fault modeling of icy fractures on Europa* (June 2011 – May 2012).
Advised: Marissa Cameron
- *Analysis of tide gauge data in California* (July 2009 - August 2009).
Advised: Slade Jones
- *Active Earth interactive kiosks* (June 2009 – May 2012).
Advised: Perry Houser
- *Investigating active fault segment locations of the San Andreas Fault System using B4 and GeoEarthScope LIDAR data* (July 2008 - December 2010).
Advised: Teira Solis

Master's Thesis Research

- *Faulting mechanics icy fractures on Enceladus, Europa, and Ganymede* (June 2012 – May 2014).
Advised: Marissa Cameron
- *Paleoseismic stress evolution models of the San Andreas Fault System* (January 2011 – May 2013).
Advised: Teira Solis
- *Vertical deformation of the San Andreas fault.* (August 2010 – May 2012)
Advised: Garrett Thornton
UTEP Geophysics Academic Excellence Award recipient
- *Numerical modeling of tectonics and fault activity of icy satellites: Enceladus and Europa* (February 2009 - April 2011)
Advised: John Olgin
- *Seismic velocity structure of the Rio Grande Rift* (September 2008 - July 2010)
Advised: Lennox Thompson (co-advised by A. Velasco)

Ph.D. Dissertation Research

- *Vertical deformation of the San Andreas Fault System*(August 2017 – present).
Advised: Lauren Ward
- *Earthquake cycle stress evolution* (August 2017 – present).
Advised: Liliane Burkhard
- *Coulomb stress fault modeling of icy fractures on Ganymede* (August 2014 – April 2017).
Advised: Marissa Cameron
- *Vertical deformation in California recorded by tide gauge stations, GPS, and geologic observations* (August 2012 –)
Advised: Sandra Hardy
- *Three-dimensional models of crustal deformation in the Death Valley Fault Zone and evolution of the pull-apart basin* (April 2009 – May 2012)
Advised: Cecilia Del Pardo (co-advised by L. Serpa)
UTEP Geophysics Research Excellence Award recipient

Postdoctoral

- *3D deformation and stress fields on dipping faults* (February 2014 – present)
Advised: Arjun Aryal
- *Coulomb stress triggering of faults on Europa* (August 2012 – May 2013)
Advised: Amanda Nahm
- *Mechanical fault modeling of the San Andreas Fault* (August 2009 – May 2010)
Advised: Benjamin Hooks

SERVICE

University/Department Service

- Chair, UHM Department of Earth Sciences Geophysics & Tectonics Division (2018-present)

- Member, UHM Geology and Geophysics Ad hoc Recruiting Committee (2016-present)
- Member, UHM Geology and Geophysics Curriculum Committee (2015-present)
- Member, UHM Geology and Geophysics Grad Studies Committee (2014-2016)
- Member, UHM Geology and Geophysics Student Committee (2014-2015)
- Member, UTEP Department of Geological Sciences Personnel Committee (2012)
- Member, UTEP College of Science Dean Search Committee (2012)
- Member, UTEP College of Science MAT Task Force Committee (2012)
- Chair, UTEP Earth Science Week Committee (2010-2011)
- Contributor, Centennial Museum Geology exhibit (2010)
- Member, UTEP Earth Science Week Committee (2009)
- Member, UTEP Geology Computational Facilities Committee (2008-present)
- Member, UTEP Geology Library Liaison Committee (2008-present)
- Member, UTEP Geology Webpage Committee (2008-present)
- Chair, Students@SIO (2003-2004)
- Chair, SIO Teaching Award Committee (2003-2004)
- Vice-Chair, Students@SIO (2002-2003)
- Geophysics Representative, Students@SIO (2001-2002)

Professional Service and Memberships

- Member, SCEC Science Planning Committee, Southern California Earthquake Center (2016-)
- Plenary Session Chair, 2016 UNAVCO Science Workshop (2015-2016)
- Member, UNAVCO Geodetic Infrastructure Advisory Committee (2015-)
- Invited participant, Future of PBO in the GAGE Facility (2013-2018) and After EarthScope Workshop (September 2014)
- Member, UNAVCO Plate Boundary Observatory Working Group Committee (2014-2015)
- Invited virtual participant, EarthCube Charrette (2012)
- Invited series speaker, EarthScope Speaker Series (2011-2012)
- Member, EarthScope Education and Outreach Sub-Committee (2011-2014)

- Peer Reviewer, NSF EarthScope Program, NSF Geophysics Program, NSF Tectonics Program, NSF Frontiers in Earth Systems Dynamics Program, NASA Outer Planets Research Program (2008-present)
- Peer Reviewer, *J. Geophys. Res.*, *Geology*, *Earth Planet Sci. Lett.*, *Geophys. J. Int.*, *Tectonophysics*, *Bull. Seismol. Soc. Amer.*, *G-cubed*, *Physics of the Earth and Planetary Interiors* (2007-present)

- Member, Division of Planetary Sciences AAS (2014 – present)
- Member, Seismological Society of America (2008-present)
- Member, Geological Society of America (2008-present)
- Member, Sigma Xi (2008-present)
- Member, American Geophysical Society (1999-present)
- Member, Golden Key National Honor Society (1997-1999)
- Member, Phi Kappa Phi National Honor Society (1997-1999)

Education and Outreach Service

- The Manoa Experience – University Preview Day (March 2018)
- Hawaii P-20 (Hawaii Middle School Career Fair) (Feb. 2018)
- Hawaii Baptist Academy Connection (Oct. 2017)

- Exhibitor, Earthquakes and Plates, 2017 SOEST Open House (Oct. 2017)
- The Early School Geology and Geophysics UH tour (Oct. 2017)
- Waialae Elementary School 2nd grade Earth Science presentation (Sept. 2017)
- Kapiolani Community College STEM Pa'ina (Sept. 2017)
- Think Tech Hawaii, Life on Icy Moons (Aug. 2017)
- Exhibitor, STEM Expo, Kaimuki High School (Aug. 2017)
- The Manoa Experience – University Preview Day (March 2017)
- Planets of the Solar System craft activity, The Early School (May 2017)
- Exhibitor, Quake Catcher Kinect Game, 2015 SOEST Open House (2015)
- Development, construction, and installation of *Active Earth Kiosk* for Manoa Elementary School and Waialae Public Charter School (2014-2015); for UTEP Centennial Museum and Hueco Tanks State Park (2009-2011)
- Advised 3rd grade teachers from Palolo Elementary School on earthquake demonstrations (April 2015)
- Assisted undergraduate students with internship applications (January 2015)
- UH Lab School Plate Tectonics demonstration (July 2, 2014)
- The Early School Earth Science demonstration (January 23, 2014)
- Certificate of Completion, UTEP Digital Academy (2012)
- Contributor/Creator, UTEP Earth Science Week promotional flyer and video (<http://www.geo.utep.edu/esweek>) (2009-present)
- Contributor, Cyberteam Teacher Workshop instructor (2009)
- Guest Speaker, North Loop Elementary (3rd grade) visit; lead plate tectonic visualization demonstrations (2009)
- Contributor/Creator, UTEP Centennial Museum Geology brochure (2009)
- Coordinator/Participant, UTEP Earth Science Day, plate tectonics visualizations (2008-2011)
- Contributor, UTEP Pathways to the Geosciences Summer Program (2008-present)
- Co-Organizer and Contributor, SIO Earthquake Education Workshop (2005-2007)
- Contributor, Earthquake! S. Birch Aquarium exhibit (2005)
- Contributor, *Earthquakes in Action* high school summer enrichment course on seismology, remote sensing, and Earth science topics (2005-2006)
- Contributor, Enduring Resources for Earth Science Education (ERESE) Workshop (2004)
- Graduate mentor for Summer Training Academy for Research in the Sciences (STARS), a UCSD summer program for underrepresented undergraduate students (2002-2003).

Media Contributions

- Scripps News online article (<https://scripps.ucsd.edu/news/14075>) (2014)
- Blast Beyond (Kcos13), children's television program, taped three live episodes on Earth structure, great earthquakes, and seismic shaking (2013)
- Contributor for *Discovery* special about geological evolution of North America, S. Petzold, Dreamtime Pictures (2012)
- Contributed animation of 3D perspective of global seismicity for *The National Geographic's X-Ray Earth* video (<http://channel.nationalgeographic.com/episode/x-ray-earth-5102/Overview>) (2011)
- Contributed illustration for "What makes faults slip?" chapter in *A History of the Earth in 100 Discoveries* by Douglas Palmer of the University of Cambridge Institute of Continuing Education (2011)
- UTEP Magazine feature, Spring 2010 Edition, *Centennial Museum Makeover* (2010)
- UTEP Magazine feature, Spring 2009 Edition, College of Science Profile, *Seismic Science* (2009)
- Contributor, video interview for internet course *Physical Geology* offered by the LeCroy Center for Educational Telecommunications (2008)

- San Andreas Fault model graphic featured in *Apple.com*'s website in online article *Seeing the Big Picture* (<http://www.apple.com/science/profiles/sio/>) (2006)
- San Andreas Fault model graphic featured in *The National Geographic*'s coverage of the 100th anniversary of the Great San Francisco Earthquake in their article *The Next Big One* (April 2006 issue)

FIELD EXPERIENCE AND CRUISE PARTICIPATION

- Geodetic mapping survey of the Ancient Lake Cahuilla shoreline, Salton Trough (PI K. Luttrell, Winter 2006)
- Geodetic and photographic survey of permanent scatterers in the Coachella Valley (PI S. Lyons, Fall 2002)
- Geodetic survey of Mexicali Valley, Cerro Prieto fault, and Laguna Salada fault (PI S. Lyons, Spring 2001)
- Southern Mid-Atlantic Ridge Transit, R/V Nathaniel B. Palmer (PIs J. Stock & S. Cande, Spring 2001)
- Rapid-static GPS survey of Imperial Valley geodetic network (PI S. Lyons, Spring 2000)

SYNERGISTIC ACTIVITIES

- Development, construction, and installation of *Active Earth Kiosk* at Honolulu elementary schools (Manoa and Wai'ala'e) and in UTEP Centennial Museum and Hueco Tanks State Park (2009-present)
- Development of Earth Science Week promotional video and flyer (<http://www.geo.utep.edu/esweek>) (2009-present)
- Development and distribution of new earthquake-related teaching tools (K-12 classroom demonstrations, lab exercises, and activity sheets) for UTEP MAT Program, Pathways to Geosciences Program, and SIO Visualization Center Earthquake Education Workshop (2006-present)
- Development and implementation of *Earthquakes in Action*, a high school summer enrichment course on seismology, remote sensing, and Earth science topics (2005-2006)
- Development of 3-D semi-analytic elastic and viscoelastic fault model, code made freely available for application of earthquake deformation and stress analyses (2001-present)

Graduate Advisor: David Sandwell (Scripps Inst. of Oceanography, UC San Diego)

Postdoctoral Advisors: David Sandwell (Scripps Inst. of Oceanography, UC San Diego)

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