

CURRICULUM VITAE
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1 Academic Training

- Stanford University
Ph.D. Geological and Environmental Sciences, 1995, supervised by Dr. David D. Pollard.
Dissertation title: “Coupled Tectonic Deformation and Geomorphic Degradation along the San Andreas Fault System.”
National Science Foundation Graduate Fellowship (1989-1993)
- Whittier College
B.A. (Summa Cum Laude) in Geology and Spanish, 1989, supervised by Dr. Dallas D. Rhodes.
Senior Thesis: “Geomorphic Responses in Ephemeral Channels to Strike-slip Faulting along the San Andreas Fault, Carrizo Plain, San Luis Obispo County, California.”
Presidential Scholarship at Whittier College (full tuition 1985–1989).

2 Employment

- Arizona State University, School of Earth and Space Exploration
Professor of Geology
July 1, 2010–Present
- University of Potsdam (Germany), Institut für Erd- und Umweltwissenschaften
Visiting Professor (sabbatical)
July 1, 2001–June 30, 2002 and October 1, 2016–July 31, 2017
- Arizona State University, School of Earth and Space Exploration
Associate Professor of Geology
July 1, 2006–June 30, 2010
- Arizona State University, Department of Geology *then* Geological Sciences
Associate Professor of Geology
July 1, 2001–June 30, 2006
Assistant Professor of Geology
August 1, 1995–June 30, 2001
- Stanford University, Department of Geological and Environmental Sciences
Post-Doctoral Scholar
April 1, 1995–July 31, 1995

3 Research interests

Active tectonics, structural geology and geomorphology; earthquake geology; the San Andreas Fault system; geologic context for paleoanthropology; high resolution topography; earth observation; cyberinfrastructure and geoinformatics.

4 Honors and awards

- Arizona State University School of Earth and Space Exploration Undergraduate Professor of the Year (from students), 2013
- Fellow, Geological Society of America (elected 2009)
- Arizona State University School of Earth and Space Exploration Graduate Professor of the Year (from students), 2008
- Arizona State University School of Earth and Space Exploration Undergraduate Professor of the Year (from students), 2007
- Arizona State University Geological Sciences Department Faculty Appreciation award (from students), 2005
- Arizona State University Geology Department Excellence in Teaching award, 1996 (shared with S. Reynolds)
- Stanford–USGS Fellowship (1993–1994)
- Donath Honors Fellowship, School of Earth Sciences, Stanford University (1992–1993)
- National Science Foundation Graduate Fellowship (1989–1993)
- Whittier College Presidential Scholar (1985–1989)

5 Publications

(Work done primarily as ASU student or post-doc author indicated with asterisk)

5.1 Refereed publications

- Scott, C.P.*, Delong, S. B. Arrowsmith, J R., Distribution of Aseismic Deformation Along the Central San Andreas and Calaveras Faults from Differencing Repeat Airborne Lidar, *Geophysical Research Letters*, USGS internal review, 2020.
- Stirling, M. W., Oskin, M. E., Arrowsmith, J R., Caklais, A. H., Goulet, C. A., Grant Ludwig, L., Kottke, A., King, T. R., Lozos, J. C., Madugo, C. M., McPhillips, D., Prush, V. B., ROod, D. H., Sleep, N. H., Wittich, C. E., Evaluation of Seismic Hazard Models with Fragile Geologic Features, *Seismological Research Letters*, in review, 2020.
- Xu, J., Arrowsmith, J R, Chen, J., Schoenbohm, L. M., Li, T., Yuan, Z., Evaluating young fluvial terrace riser degradation using a nonlinear transport model: With application to the Kongur Normal Fault in the Pamir, northwest China, *Earth Surface Processes and Landforms*, in review, 2020.
- Scott*, C.P., Phan, M., Nandigam, V., Crosby, C. J., Arrowsmith, J R., Measuring change at the Earths surface: On-Demand vertical and 3D topographic differencing implemented on OpenTopography, *Geosphere*, in review, 2020.
- Finzi, Y., Ganz, N., Dor, O., Davis, M., Volk, O., Langer, S., Arrowsmith, J R., Tsesarsky, M., Integrating rock pillars into a fragile geologic features analysis of fault activity in the Negev, Israel, *Journal of Geophysical Research, Solid Earth*, in revision, 2020.
- 128) Chen, Z., Scott, T., Bearman, S., Anand, H., Keating, D., Scott, C., Arrowsmith, J R., Das, J., Geomorphological Analysis Using Unpiloted Aircraft Systems, Structure from Motion, and Deep Learning, 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems, peer-reviewed proceedings, submission 2107, accepted, 2020.

- 127) Arnous, A., Zeckra, M., Venerdini, A., Alvarado, P., Arrowsmith, J R., Guillemoteau, J., Landgraf, Gutierrez, A., Strecker, M., Neotectonic activity in the low-strain broken foreland (Santa Brbara System) of the north-western Argentinean Andes, (26°S), *Lithosphere*, in press, 2020.
- 126) Marliyani*, G., Clarke, A., Helmi*, H., Arrowsmith, J R., Volcano Morphology as an Indicator of Stress Orientation in Java Volcanic Arc, Indonesia, *Journal of Volcanology and Geothermal Research*, in press, 2020.
- 125) Share, P-E., Taborik, P., Stepancikova, P., Stemberk, J., Rockwell, T. K., Wade*, A., Arrowsmith J R., Donnellan, A., Vernon, F. L., Ben-Zion, Y., Characterizing the uppermost 100 m structure of the San Jacinto fault zone southeast of Anza, California, through joint analysis of geologic, topographic, seismic and resistivity data, *Geophysical Journal International*, in press, 2020.
- 124) Hudnut, K.W., B. Brooks, K. Scharer, J.L. Hernandez, T.E. Dawson, M.E. Oskin, R. Arrowsmith, C. Goulet, K. Blake, M.L. Boggs, S. Bork, C.L. Glennie, J.C. Fernandez-Diaz, A. Singhanian, D. Hauser, S. Sorhus, Airborne Lidar and Electro-Optical Imagery Along Surface Ruptures of the 2019 Ridgecrest Earthquake Sequence, Southern California, *Seismological Research Letters: Ridgecrest sequence data mine special issue*, <https://doi.org/10.1785/0220190338>, 2020.
- 123) Crosby, C. J., Arrowsmith, J R., Nandigam, V., Zero to a trillion: Advancing surface process studies with open access to high resolution topography, in Tarolli, P., and Mudd, S., eds., *The Remote Sensing of Geomorphology*, Elsevier book series Developments in Earth Surface Processes, Volume 23, <https://doi.org/10.1016/B978-0-444-64177-9.00011-4>, 2020.
- 122) Zawacki*, E., Clarke, A. B., Arrowsmith, J R., Lynch, D., Bonadonna, C., Tecolote volcano, Pinacate volcanic field (Sonora, Mexico): A case of highly explosive basaltic volcanism and shifting eruptive styles, *Journal of Volcanology and Geothermal Research*, <https://doi.org/10.1016/j.jvolgeores.2019.04.011>, v. 379, p. 2344, 2019.
- 121) Braun, D., Aldeias, V., Archer, W., Arrowsmith, J R., Baraki, N., Campisano, C., Deino, A. L., DiMaggio, E. N., Dupont-Nivet, G., Engda, B., Feary, D. A., Garello, D., Kerfelew, Z., McPherron, S., Patterson, D., Reeves, J. S., Thompson, J. C., Reed, K. E., The Oldest Oldowan Artifacts at > 2.58 Ma from Ledi-Geraru, Ethiopia, Highlight Pliocene Technological Diversity, *Proceedings of the National Academy of Sciences*, <https://doi.org/10.1073/pnas.1820177116>, 2019.
- 120) Scott*, C. P., Champenois, J., Klinger, Y., Nissen, E., Maruyama, T., Chiba, T., Arrowsmith J R., Co-seismic Slip Distribution of the 2016 M7 Kumamoto, Japan, Earthquake derived from a Joint Inversion of Differential Lidar, Optical Correlation, and InSAR Surface Displacements, *Geophysical Research Letters*, <https://doi.org/10.1029/2019GL082202>, 2019.
- 119) Rhodes, D.D., R.M. Negrini, J.R. Arrowsmith, P.E. Wigand, M.R. Palacios-Fest, O.K. Davis, S. Forman, Geomorphic and sedimentologic evidence for Pluvial Lake Carrizo, San Luis Obispo County, California, in S. Starrat, others eds., From Saline to Freshwater: The Diversity of Western Lakes in Space and Time, Special Paper, Geological Society of America, Boulder, CO., [https://doi.org/10.1130/2019.2536\(16\)](https://doi.org/10.1130/2019.2536(16)), 2019.
- 118) Marliyani*, G. I., Arrowsmith J R., Helmi*, H., Evidence for Multiple Ground-rupturing Earthquakes in the Past 4000 Years along the Pasuruan Fault, East Java, Indonesia: Documentation of Active Normal Faulting in the Javan Backarc, *Tectonics*, 38, doi: 10.1029/2018TC005255, 2019.
- 117) Grant-Ludwig, L., Akciz, S., Arrowsmith, J R., Salisbury*, J. B., Reproducibility of San Andreas fault slip rate measurements at Wallace Creek in the Carrizo Plain, CA, *Earth and Space Sciences*, doi: 10.1029/2017EA000360, 2018.
- 116) Lajoie, L. J., Nissen, E., Johnson, K. L., Arrowsmith, J R., Glennie, C. L., Hinojosa-Corona, A., Oskin, M. E., Extent of low-angle normal slip in the 2010 El Mayor-Cucapah (Mexico) earthquake from differential lidar, *Journal of Geophysical Research*, <https://doi.org/10.1029/2018JB016828>, 2018.
- 115) Flowers, R. M., Arrowsmith, J R., McConnell, V., Metcalf, J. R., Rittenour, T., and Schoene, B., The AGeS2 (Awards for Geochronology Student research) Program: Supporting community geochronology needs and interdisciplinary science, *GSA Today: Groundworks*, <https://doi.org/10.1130/GSATG392GW.1>, 2018.

- 114) Scott*, C. P., Arrowsmith, J. R., Nissen, E., Lajoie, L., Maruyama, T., and Chiba, T., The M7 2016 Kumamoto, Japan, earthquake: 3-D deformation along the fault and within the damage zone constrained from differential lidar topography. *Journal of Geophysical Research: Solid Earth*, 123. <https://doi.org/10.1029/2018JB015581>, 2018.
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- 111) Carr*, B. B., Clarke, A. B., Vanderkluisen, L., Arrowsmith, J. R., Mechanisms of lava flow emplacement during the effusive eruption of Sinabung Volcano (Sumatra, Indonesia), *Journal of Volcanology and Geothermal Research*, <https://doi.org/10.1016/j.jvolgeores.2018.03.002>, 2018.
- 110) Carr*, B. B., Clarke, A. B., Arrowsmith, J. R., Vanderkluisen, L., Dhanu, B. Eko, The emplacement of the active lava flow at Sinabung Volcano, Sumatra, Indonesia, documented by structure-from-motion photogrammetry, *Journal of Volcanology and Geothermal Research*, 10.1016/j.jvolgeores.2018.02.004, 2018.
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- 107) Robinson*, S. E., Bohon*, W., Kleber*, E. J., Arrowsmith, J. R., Crosby, C. J., Applications of high-resolution topography in Earth science education, *Geosphere*, v. 13, no. 6, doi:10.1130/GES01236.1, 2017.
- 106) Field, E. H., Jordan, T. J., Page, M. T., Milner, K. R., Shaw, B. E., Dawson, T. E., Biasi, G. P., Parsons, T., Hardebeck, J. L., Michael, A. J., Weldon II, R. J., Powers, P. M., Johnson, K. M., Zeng, Y., Bird, P., Felzer, K. R., van der Else, N., Madden, C., Arrowsmith, J. R., Werner, M. J., Thatcher, W. R., A Synoptic View of the Third Uniform California Earthquake Rupture Forecast (UCERF3), *Seismological Research Letters*, Volume 88, Number 5, doi: 10.1785/0220170045, 2017.
- 105) Campisano, C. J., Cohen, A. S., Arrowsmith, J. R., Asrat, A., Behrensmeier, A. K., Brown, E. T., Deino, A. L., Deocampo, D. M., Feibel, C. S., Kingston, J. D., Lamb, H. F., Lowenstein, T. K., Noren, A., Olago, D., Owen, B., Pelletier, J. D., Potts, R., Reed, K. E., Renaut, R. W., Russell, J. M., Russell, J. L., Schaebitz, F., Stone, J. R., Trauth, M. H., Wynn, J. G., The Hominin Sites and Paleolakes Drilling Project: Acquiring High-Resolution Paleoclimate Records from the East African Rift System and Their Implications for Understanding the Environmental Context of Hominin Evolution, *PaleoAnthropology*: 1-43, 2017.
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- 101) Marliyani*, G. I., Arrowsmith, J R., and Whipple, K. X., Characterization of slow slip rate faults in humid areas: Cimandiri Fault zone, Indonesia, *Journal of Geophysical Research: Earth Surface*, 121, doi:10.1002/2016JF003846, 2016.
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- 98) Landgraf, A., Dzhumabaeva, A., Abdrakhmatov, K. E., Strecker, M. R., Macaulay, E. A., Arrowsmith, J R., Sudhous, H., Preusser, F., Rugel, G., Merchel, S., Repeated large-magnitude earthquakes in a tectonically active, low-strain continental interior: the northern Tien Shan, Kyrgyzstan, *Journal of Geophysical Research, Solid Earth*, 121 (5), 3888-3910, doi:10.1002/2015JB012714, 2016.
- 97) Cohen, A., Campisano, C., Arrowsmith, R., Asrat, A., Behrensmeier, A.K., Deino, A., Feibel, C., Hill, A., Johnson, R., Kingson, J., Lamb, H., Lowenstein, T., Noren, A., Olago, D., Owen, R.B., Potts, R., Reed, K., Renaut, R., Schbitz, F., Tiercelin, J.-J., Trauth, M.H., Wynn, J., Ivory, S., Brady, K., OGrady, R., Rodysill, J., Githiri, J., Russell, J., Foerster, V., Dommmain, R., Rucina, S., Deocampo, D., Russell, J., Billingsley, A., Beck, C., Dorenbeck, G., Dullo, L., Feary, D., Garello, D., Gromig, R., Johnson, T., Junginger, A., Karanja, M., Kimburi, E., Mbuthia, A., McCartney, T., McNulty, E., Muiruri, V., Nambiro, E., Negash, E.W., Njagi, D., Wilson, J.N., Rabideaux, N., Raub, T., Sier, M.J., Smith, P., Urban, J., Warren, M., Yadeta, M., Yost, C., Zinaye, B. , The Hominin Sites and Paleolakes Drilling Project: Inferring the Environmental Context of Human Evolution from Eastern African Rift Lake Deposits, *Scientific Drilling*, 21, 116, www.sci-drill.net/21/1/2016/ doi:10.5194/sd-21-1-2016, 2016.
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5.2 Data Publications

- Bello, S., Scott*, C., Arrowsmith, R., Scott*, T. (2020). High Resolution Topography along the Lost River Valley, Idaho 2019. Distributed by OpenTopography. Accessed: 2020-07-19. <https://doi.org/10.5069/G94M92Q1>
- Scott*, C., Lao Davila, D., Manighetti, I., Scott*, T., Arrowsmith, R., Leclerc, F., Matteo, L., Dominguez, S., Malavieille, J.: Topography of Normal Faults in the Volcanic Tablelands, CA 2018. Distributed by OpenTopography. Accessed 2020-07-01. <https://doi.org/10.5069/G9SF2TC5>
- Scott*, C.P., Scott*, T., Lao-Davila, D.A., Clarke, A.B., Arrowsmith, J. R., and Lynch, D. (2018): Photogrammetric model of the Tecolote Volcano, Pinacate Volcanic Field, Sonora, Mexico (point cloud [563M points], orthophoto [4 cm/pix], and DEM [8 cm/pix]). Distributed by OpenTopography. Accessed May 30, 2018. <https://doi.org/10.5069/G9028PFR>
- Arrowsmith, J. R., DiMaggio, E. N., Garello*, G. I., Villmoare, B. and Ledi Geraru Research Project (2018): Photogrammetric model of a portion of the Lee Adoyta Basin, Afar, Ethiopia (point cloud [122M points], orthophoto [2 cm/pix], and DEM [25 cm/pix]). Distributed by OpenTopography. Accessed October 23, 2018. <https://doi.org/10.5069/G95X271W>
- Arrowsmith, J. R., Pisciotta, F. and CER-G-C (2018): Photogrammetric model of a portion of the Faraglione—a rock outcropping in the Vulcano Town area, Vulcano Island, Sicily, Italy (point cloud [17M points] and DEM [6 cm/pix]). Distributed by OpenTopography. Accessed October 29, 2018. <https://doi.org/10.5069/G9WD3XPD>

5.3 Additional scientific contributions

5.3.1 Blogging and other public comments

- Scientific blogging (one to a few per month): <http://activetectonics.blogspot.com/>
- Arrowsmith, J. R. and Oskin, M. E., Earthquake geology and the Ridgecrest earthquake. Southern California Earthquake Center July 2020 newsletter on the one year anniversary of the 2019 Ridgecrest Earthquake Sequence <https://www.scec.org/article/585>.
- Arrowsmith, J. R., Remembering the Great 1906 San Francisco Earthquake. Blog post April 30, 2018 at the AGU leadership blog From the Prow <https://fromtheprow.agu.org/remembering-the-great-1906-san-francisco-earthquake/>.
- Rowan, L. and Arrowsmith J. R., EarthScope, a Grand Earth-Observing Project with an Epic Future. Blog post May 27, 2014 at the AGU Science Policy site the Bridge <http://thebridge.agu.org/2014/05/27/earthscope-grand-earth-observing-project-epic-future/>.
- Untold Arizona: Arizona Earthquakes Reveal A State On Shaky Ground radio appearance on KJZZ, February 19, 2020 <http://science.kjzz.org/content/1437726/untold-arizona-arizona-earthquakes-reveal-state-shaky-ground>.

5.3.2 Workshop reports

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- Andrew Cohen, Ramon Arrowsmith, Anna K. Behrensmeier, Christopher Campisano, Craig Feibel, Shimeles Fisseha, Roy Johnson, Zelalem Kubisa Bedaso, Charles Lockwood, Emma Mbua, Daniel Olago, Richard Potts, Kaye Reed, Robin Renaut, Jean-Jacques Tiercelin, and Mohammed Umer, 2009, Workshop report: Understanding Paleoclimate and Human Evolution Through the Hominin Sites and Paleolakes Drilling Project, *Scientific Drilling*, no. 8, p. 60–65, doi:10.2204/iodp.sd.8.10.2009.
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5.3.3 Teaching materials

- Bruce Douglas, Nicholas Pinter, Nathan Niemi, J Ramon Arrowsmith, Kate Shervais, and Chris Crosby, "Unit 3: Geodetic survey of a fault scarp has been accepted into the On the Cutting Edge Exemplary Teaching Activity collection (top 20% of all content based on peer review for teaching value).
https://serc.carleton.edu/getsi/teaching_materials/high-rez-topo/unit3.html
- Kate Shervais, J Ramon Arrowsmith, Nathan Niemi, Marin Clark, and Chris Crosby, "Unit 4: Geomorphic change detection has been accepted into the On the Cutting Edge Exemplary Teaching Activity collection (top 20% of all content based on peer review for teaching value).
https://serc.carleton.edu/getsi/teaching_materials/high-rez-topo/unit4.html
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- Arrowsmith, J R. and Washburn, Z., Xinjiang, China, *Tectonics and Topography Slide Collection*, presented at 2001 Geological Society of America Short-course: Tectonics and Topography: Crustal Deformation, Surficial Processes, and Landforms Cosponsored by GSA Structural Geology and Tectonics Division and taught by Dorothy Merritts and Roland Bürgmann.

5.3.4 Other contributions; some peer-reviewed

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- Haddad, D. E., and Arrowsmith, J R., 2014. Balanced Rocks. In Encyclopedia of Planetary Landforms. A. Kereszturi and H. Hargitai (Eds.). New York, NY: Springer Science and Business Media. DOI: 10.1007978-1-4614-9213-9_467-1.
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- Crosby, C. J., and Arrowsmith, J R., Evaluation and Application of LiDAR data to constraining a late Pleistocene slip rate and vertical deformation of the Northern San Andreas Fault, Fort Ross to Mendocino, California: Collaborative research between Arizona State University and the U.S. Geological Survey, USGS National Earthquake Hazards Reduction Program, Final Technical Report 06HQGR0032 (<http://earthquake.usgs.gov/research/external/reports/06HQGR0032.pdf>).
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- Arrowsmith, J R., *Field trip guide: Urbanization, landscape, and geologic history along the Salt River, eastern Maricopa County, AZ*, presented to International Association of Landscape Ecology field trip of April 27, 2001 and Arizona Hydrological Society August 4, 2001. <http://activetectonics.la.asu.edu/qgeo/ahsft.pdf>
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- Arrowsmith, J R., and Péwé, T. L., Geological overview of the McDowell Mountains, *Proceedings of the McDowell Mountain Archeological Symposium*, 1999.
- Strecker, M. R., Arrowsmith, R., and Blisniuk, P. R., Der Pamir: Junge Krustenbewegungen in einer Kollisionzone, *Geographie und Schule*, 119, 11-16, 1999.
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Arrowsmith, R., Geomorphic Responses in Ephemeral Channels to Strike-slip Faulting along the San Andreas Fault, Carrizo Plain, San Luis Obispo County, California, Undergraduate senior thesis, Whittier College, Whittier, California, 67 pp., 1989.

6 Other scientific activities

6.1 Meeting and Short course organization

Numerous High Resolution Topography Courses: See <http://www.opentopography.org/community/workshops>, lead organizer and lecturer.

5th Structural Geology and Tectonics Forum; Co organizer. January 4-9, 2018, Tempe, Arizona

<https://serc.carleton.edu/NAGTWorkshops/structure/2018.Forum/>. Lead organizer along with Kim Blisniuk (San Jose State University)

EarthScope National Meeting; Ramon Arrowsmith (Arizona State University) and Organizing Committee. June 13-17, 2015 Stowe Vermont

http://www.iris.edu/hq/workshops/2015/06/earthscope_national_meeting_2015

VISES SCEC Workshop on High Resolution Topography Applied to Earthquake Studies; Ramon Arrowsmith (Arizona State University), Koji Okumura (Hiroshima University), Edwin Nissen (Colorado School of Mines), Tadashi Maruyama (AIST), Christopher Crosby (UNAVCO), Mike Oskin (UC Davis), Shinji Toda (Tohoku University). September 18-20, 2013 Earthquake Research Institute (ERI), The University of Tokyo, Japan.

http://www.opentopography.org/index.php/resources/VISES_JPN13

Understanding Earth-surface processes in the alpine environment from high resolution topography; Paolo Tarolli (Uni Padova), Paola Passalacqua (UT Austin), Jean-Stephane Bailly (AriTech Paris), Dimitri Lague (CNRS), Ramon Arrowsmith (ASU). European Geosciences Union Summer School 2013, San Vito di Cadore, Dolomiti, Italy.

Short Course: Techniques in Active Tectonic Study; Ramon Arrowsmith and Gayatri Marliyani (Arizona State University) and Mudrik Daryono (LIPI and GREAT). 2013 Course at Research Centre for Geotechnology, Indonesia Institute of Sciences, Bandung, Indonesia, and Graduate Research on Earthquake and Active Tectonics (G.R.E.A.T) Program Institute of Technology Bandung (ITB), Indonesia. <http://activetectonics.la.asu.edu/lipi>

GV International Conference–96th Annual Meeting Geologische Vereinigung Potsdam 2006: Geology and geomorphology of tectonically active regions; workshop organizer (with A. Friedrich, G. Hilley, A. Mulch, and M. Strecker) and course lecturer, 2006.

International Quality Network Potsdam University: Geology, geomorphology, and paleoseismology of tectonically active regions; workshop organizer (with A. Friedrich and M. Strecker; Potsdam University) and course lecturer, 2002 and 2003.

6.2 Colorado River Trips in the Grand Canyon

1. 1992ish–Private trip (18 days)
2. 1996–ASU Geology of the Grand Canyon Trip assistant leader with Prof. T. L. Péwé (6 days)
3. 1998–ASU Geology of the Grand Canyon Trip trip leader for Prof. T. L. Péwé (6 days)
4. 2008–Geology leader Prof. T. L. Péwé Memorial Trip (6 days)
5. 2011–Geology leader Prof. T. L. Péwé Memorial Trip (6 days)
6. 2019–ASU Institute of Human Origins Geology of the Grand Canyon co leader (with C. J. Campisano) (6 days)

6.3 International field research

- Pamir–Alai region of Kyrgyzstan: 1996, 1999, 2017, 2018.
- Northern Tien Shan region of Kyrgyzstan and Kazakhstan: 2004, 2005, 2007, 2016.
- Altyn Tagh Fault system, southern Xinjiang, China: 1998, 1999, 2000, 2007, 2012.
- Northwestern Himalaya, Himachal Pradesh, India: 2001, 2017.

- Ladakh Himalaya, Karakoram, India, 2010.
- Afar region, Ethiopia: 2002, 2004, 2005, 2006, 2008, 2012, 2013, 2014, 2015, 2018, 2019, 2020.
- Southern Baja California, Mexico: 2006.
- Lake Malawi: 2011.
- Eastern Bolivian foreland: 2011.
- Indonesia (Java): 2011, 2012.

7 Research funding

Funded grants–Principal Investigator	Sponsor	Duration	\$
Historic and paleoseismic behavior of the south-central San Andreas Fault between Cholame and the Carrizo Plain	Southern California Earthquake Center	1/1/97–12/31/01	\$130,400
Thrust fault slip rates determined from coupled tectonic and geomorphic models of active faults and folds in the San Francisco Bay area: Collaborative research with ASU and UC Davis	US Geological Survey, National Earthquake Hazards Reduction Program	3/1/97–2/28/99	\$87,380
Geologic mapping of Cave Creek and vicinity, central Arizona, with the aid of advanced remote-sensing methods	US Geological Survey, Educational Mapping Program	8/1/97–7/31/98	\$7,500
Collaborative Research: Magnitude of slip, slip rate, and slip distribution along the Cenozoic Altyn Tagh Fault system	National Science Foundation–Continental Dynamics	7/1/98–6/30/01	\$179,990
Active faults in zones of continental collision: Quaternary deformation in the Pamir–Tien Shan region, central Asia	National Science Foundation–Tectonics	7/1/98–6/30/00	\$120,243
The effects of tectonic processes and climatic fluctuations on landscape development (with G. Hilley)	NASA Earth Systems Science Fellowship Program	9/1/99–8/31/02	\$44,000
Collaborative Research: Arizona State University and University of Texas El Paso: Creation of a Geospatial data system for the transition between the Colorado Plateau and Basin and Range provinces	National Science Foundation–Information Technology Research	10/1/01–9/30/04	\$200,000
ITR Collaborative Research: GEON: A Research Project to Create Cyberinfrastructure for the Geosciences	National Science Foundation–Information Technology Research	9/1/02–8/31/07	\$400,000
Characterization of paleoseismic data resolution using Monte Carlo statistics (with J. Young)	Southern California Earthquake Center	1/1/03–12/31/03	\$20,000
Geological mapping of the San Andreas Fault near Parkfield California: A proposal for support of M.S. student Lela Prashad at Arizona State University	US Geological Survey, Educational Mapping program	3/1/03–2/28/04	\$13,881
Kilometer-scale fault zone structure and kinematics along the San Andreas Fault near Parkfield, California	National Science Foundation–Tectonics	07/01/03–06/30/05	\$187,955

Funded grants—Principal Investigator, continued	Sponsor	Duration	\$
Integrated investigation of active deformation in the northern Tien Shan, Kyrgyz Republic: neotectonics, earthquake geology, and seismology	Civilian Research and Development Foundation	8/1/03–7/31/05	\$12,700
Rupture history of the San Andreas Fault at Van Matre Ranch, Carrizo Plain, California: Collaborative Research with University of California, Irvine and Arizona State University	US Geological Survey, National Earthquake Hazards Reduction Program	2/1/04–1/31/05	\$20,000
Multi-cycle rupture history of the San Andreas Fault in the Carrizo Plain: Collaborative Research with UC Irvine	National Science Foundation–Tectonics	07/1/04–06/30/06	\$90,987
Collaborative Research: Neotectonics across an active oblique-divergent plate margin, southwestern Gulf of California	National Science Foundation–Margins	08/01/05–07/31/08	\$164,152
Application of LiDAR data to constraining a late Pleistocene slip rate and vertical deformation of the Northern San Andreas fault, Fort Ross to Mendocino, California: Collaborative research between Arizona State University and the U. S. Geological Survey	US Geological Survey, National Earthquake Hazards Reduction Program	01/01/06–12/31/06	\$60,000
Tectonic geomorphology and earthquake geology of the 1857 reach of the San Andreas Fault: a new look from Airborne Laser Swath Mapping	Southern California Earthquake Center	05/01/06–04/30/07	\$19,000
Collaborative research: Is the Holocene slip rate along the Altyn Tagh Fault 10 mm/yr, 30 mm/yr, or both? Infilling a 2-6 ka gap using ^{14}C , OSL, and stream reconstructions	National Science Foundation–Tectonics	06/01/06–5/31/09	\$195,494
Renewal: Integrated investigation of active deformation in the northern Tien Shan, Kyrgyz Republic: neotectonics, earthquake geology, and seismology	Civilian Research and Development Foundation	12/1/06–12/31/08	\$13,935
Paleoseismological characterization of earthquakes at Parkfield	US Geological Survey, National Earthquake Hazards Reduction Program	01/01/07–12/31/07	\$43,000
Supplement to: Rupture History of the San Andreas Fault in the Carrizo Plain prior to 1200 AD	Southern California Earthquake Center	02/01/07–1/31/08	\$25,000
Collaborative Research: Slip-per-event rupture history of the San Andreas fault in the Carrizo Plain: Was the 1857 earthquake characteristic?	National Science Foundation–Tectonics	07/01/07–6/30/09	\$158,387

Funded grants—Principal Investigator, continued	Sponsor	Duration	\$
GeoEarthScope LIDAR Project LiDAR point cloud data processing and delivery workflow	GeoEarthscope sub-contract from UN-AVCO	1/1/07–12/31/08	\$150,441
Geomorphic and Geologic Characterization of Precarious Rock Zones in Low Seismicity Regions	Southern California Earthquake Center	02/01/08–12/31/09	\$29,270
Collaborative Research: Facility Support: Building the INTERFACE facility for cm-scale, 3D digital field geology (includes supplement)	National Science Foundation—EAR Instrumentation and Facilities	09/01/07–8/31/10	\$186,840
Slip Along the San Andreas Fault Associated With the Great 1857 Earthquake and Preceding Earthquakes Derived From "B4" LiDAR High Resolution Topographic Data	Southern California Earthquake Center	02/01/09–12/31/09	\$28,000
Rupture history of the San Andreas Fault in the Carrizo Plain: Supplemental excavations, geochronology, and intern support	Southern California Earthquake Center	02/01/09–12/31/09	\$18,000
The effect of structural complexity and fault roughness on fault segment size and multi-segment rupture probability	Southern California Earthquake Center	02/01/09–12/31/09	\$15,000
A Collaborative Project: Comparison and Validation of Earthquake Simulators	Southern California Earthquake Center	02/01/09–12/31/11	\$39,000
Tectonic geomorphology of California's active faults from high resolution topography: ACCESS-G fellowship	Southern California Earthquake Center	02/01/09–12/31/09	\$53,503
Facility Support: OpenTopography - A National Hub for High Resolution Topographic Data, Tools, and Knowledge	National Science Foundation—EAR/IF	09/15/09–09/14/12	\$307,463
RAPID: Airborne Lidar Scan of the 4 April 2010 Sierra El Mayor, Baja California Earthquake Rupture	National Science Foundation—EarthScope and International Programs	04/19/10–04/18/11	\$112,381
Repeatability, accuracy, and precision of surface slip measurements from high-resolution topographic data Collaborative Research with Arizona State University and San Diego State University	US Geological Survey, National Earthquake Hazards Reduction Program	1/1/2011–12/31/2011	\$40,015

Funded grants—Principal Investigator, continued	Sponsor	Duration	\$
Bridging Data, New Technologies, and Communities to Enable and Communicate EarthScope Exploration and Discovery (PI with Semken, Garnero, Fouch) (34% RID; with \$100k supplements)	National Science Foundation EarthScope National Office	1/1/2012–12/31/2015	\$2,450,744
Preliminary Analysis of the El Mayor-Cucupah Earthquake Surface Rupture with Pre- and Post-Event Airborne Lidar Data	Southern California Earthquake Center	1/1/2011–12/31/2011	\$23,071
New Slip Rate estimates from Wallace Creek and Phelan Creek Paleoseismic Sites. Re-sampling, Re-dating, and Re-Synthesizing	Southern California Earthquake Center	1/1/2011–12/31/2011	\$19,844
Element F4 of the Uniform California Earthquake Rupture Forecast 3: Compile Slip in Last Event Data	California Earthquake Authority	3/4/2011–6/30/2012	\$23,502
Collaborative Research: 3-D near-field coseismic deformation from differential LiDAR with application to the El Mayor-Cucupah earthquake (PI with Saripalli)	National Science Foundation—EarthScope Program	1/1/2012–12/31/2014	\$99,258 (50% RID)
Paleoseismic investigation along the inferred northernmost extent of the 1857 rupture: Do large southern San Andreas Fault ruptures extend into the creeping section?	Southern California Earthquake Center	1/1/2012–12/31/2012	\$17,644
New Slip Rate estimates from Wallace Creek and Phelan Creek Paleoseismic Sites. Re-sampling, Re-dating and Re-Synthesizing	Southern California Earthquake Center	1/1/2012–12/31/2012	\$15,000
Centimeter-resolution fault topography and earthquake displacements from UAV photogrammetry (PI with Saripalli)	Southern California Earthquake Center	1/1/2012–12/31/2012	\$16,133
Determining the cause of a significant ground deformation event between A.D. 950 and A.D. 1400 at the Dry Lake Valley Paleoseismic Site along the central creeping section of the San Andreas Fault (Lead PI: Nathan Toke)	Southern California Earthquake Center	1/1/2013–12/31/2013	\$15,000
Collaborative Research: OpenTopography: A cyberinfrastructure-based facility for high-resolution topography data and tools	National Science Foundation—Geoinformatics	7/1/2012–6/30/2015	\$199,221
Collaborative Research: REU Site: Integrative Approach to Landscape Evolution in a Monogenetic Volcanic Field. San Francisco Volcanic Field, Northern Arizona	Northern Arizona University	5/26/2013–9/1/2014	\$40,226

Funded grants—Principal Investigator, continued	Sponsor	Duration	\$
Advances in imaging shallow fault zone deformation with differential LiDAR: a VISES Collaboration	Southern California Earthquake Center	1/1/2014–12/31/2014	\$12,012
Exploration of two new paleoseismic site locations in the Carrizo Plain National Monument land for testing the variable slip/variable magnitude earthquake hypothesis along the northern section of the southern San Andreas Fault	Southern California Earthquake Center	1/1/2014–12/31/2014	\$8,314
Three Dimensional excavation of a 5m offset channel in the Carrizo Plain: Sieh31	Southern California Earthquake Center	1/1/2014–12/31/2014	\$10,344
Collaborative Research: EarthScope Geochronology: A Student Research and Training Program and EarthScope Institute	National Science Foundation–EarthScope	7/1/2014–11/30/2016	\$238,186
Collaborative Research: Low-cost imaging and analysis of the August 24, 2014 M6.0 South Napa California earthquake surface rupture (RAPID)	National Science Foundation–EarthScope	10/1/2014–9/31/2015	\$16,258
The Role of Climate in the Formation of Geomorphic Features Used for Fault Offset Measurement	Southern California Earthquake Center	1/1/2015–12/31/2015	\$25,000
Updated Spatial and Temporal Mapping of the Geomorphic Evolution of Wheeler Ridge and Application to Blind Thrusts in California (with DeVecchio)	Southern California Earthquake Center	1/1/2015–12/31/2015	\$25,000
Short- and Long-Term Slip Histories Along the South-Central San Andreas Fault: Completing OSL and 14C Geochronology of the Phelan Creeks and Van Matre Ranch Sites, Carrizo Plain, CA	Southern California Earthquake Center	1/1/2016–12/31/2016	\$19,006
Testing the shorter and variable recurrence interval hypothesis along the Cholame segment of the San Andreas Fault	Southern California Earthquake Center	1/1/2016–12/31/2016	\$28,500
Low cost structure from motion imaging of faults in Southern California	JPL SURP	9/30/2016–9/30/2017	\$50,000
Refining the earthquake chronology of the last millennium along the Cholame segment of the San Andreas Fault	Southern California Earthquake Center	1/1/2017–12/31/2017	\$32,500

Funded grants—Principal Investigator, continued	Sponsor	Duration	\$
Dekameter-scale geologic structure validation of shallow seismic properties along the San Jacinto fault	Southern California Earthquake Center	1/1/2017–12/31/2017	\$22,000
Collaborative Research: AGeS2 (Awards for Geochronology Student research) Program: Democratizing access to geochronology and promoting interdisciplinary science	National Science Foundation	9/1/2018–8/31/2021	\$687,836
Connecting Plate Boundary Processes to Surface Faulting using Geodetic Imaging	Jet Propulsion Laboratory (JPL)	2/1/2017–2/15/2019	\$50,000
Investigating the earthquake chronology of the last millennium along the Cholame segment of the San Andreas fault: Collaborative Research with Arizona State University and San Diego State University	US Geological Survey–National Earthquake Hazard Reduction Program	3/1/2019–2/28/2020	\$67,692
Rock Traits from Machine Learning: applications to precariously balanced rocks and fault scarps in Southern California	Southern California Earthquake Center	2/1/2019–2/1/2020	\$24,352
Time-series analysis of fault creep rates within the Salton Trough of the Southern San Andreas Fault constrained from a decade of repeat-pass NASA UAVSAR radar imagery (Chelsea Scott lead)	Southern California Earthquake Center	2/1/2019–2/1/2020	\$25,000
Collaborative Research: Hominin diversity, paleobiology, and behavior at the terminal Pliocene from Ledi Geraru (Afar, Ethiopia)	National Science Foundation Biological Anthropology	1/1/2019–12/31/2021	\$108,203
Collaborative Proposal: Community Facility Support for OpenTopography – a Cyberinfrastructure Facility for Topographic Data and Services	National Science Foundation GEO-EAR	1/1/2019–12/31/2023	\$61,776
Implementing an Interdisciplinary Space Physics Program at Arizona State University (RIA split 4 ways)	National Science Foundation GEO	10/1/2019–9/31/2024	\$1,488,347
Collaborative Research: OpenTopography - A cyberinfrastructure facility for advancing geoscience research and education	National Science Foundation Geoinformatics	5/1/2020–4/30/2025	\$286,907
		Total PI	\$8,196,840

Funded grants—Co-I	Sponsor	Duration	Total \$	JRA \$
Geological Mapping of the White Tank Mountains, Arizona with the aid of advanced remote sensing methods (with Stephen J. Reynolds)	US Geological Survey, Educational Mapping program	8/1/96–7/31/97	\$17,000	\$8,500
Impact of extent of wetting in arid region geotechnical practice (with S. and W. Houston and K. Walsh)	National Science Foundation	10/1/96–9/30/00	\$270,000	\$29,119
Land–use change and ecological processes in an urban ecosystem of the Sonoran desert (core scientist)	National Science Foundation–LTER	8/1/97–7/31/02	\$4.3M	\$81,037
Geologic mapping of the Union Hills, central Arizona, with the aid of advanced remote sensing methods (with Edmund Stump)	US Geological Survey, Educational Mapping Program	5/1/98–4/30/99	\$10,000	\$5,000
Proposal to develop a Geographic Information System (with Jana Fry)	IGA: Ak–Chin Indian Community and ASU	9/1/99–8/31/01	\$44,405	\$15,600
Multi–Spectral Remote Sensing of Brush Fire Scars in Arid Urban Regions: Analysis of Future Fire and Flooding Hazards	NASA MTPE program (Mike Ramsey, PI)	5/1/00–4/30/03	\$160,000	\$27,463
Integrative Graduate Education and Research and Training in Urban Ecology (senior faculty)	National Science Foundation	6/1/00–5/31/04	\$2.7M	\$16,623
Gravity and geophysical study of the Pool 24 subsidence area, Scottsdale, AZ (with Jim Tyburczy)	Central Arizona Project	5/15/05–3/31/03	\$25,322	\$12,661
Landuse and Landscape Socioecology in the Mediterranean Basin: A Natural Laboratory for the Study of the Longterm Interaction of Human and Natural Systems (C. M. Barton PI and others; Co-I)	National Science Foundation–Biocomplexity	01/15/05–1/14/09	\$1,355,253	\$203,288
Central Arizona Phoenix LTER: Phase 2 (C. Redman, N. Grimm PIs and others; Co-I)	National Science Foundation–LTER	12/1/04–11/30/10	\$4,919,954	\$196,798
Integrative Graduate Education and Research and Training in Urban Ecology: renewal (Co-I; 11%RID)	National Science Foundation	6/15/05–5/31/10	\$3.2M	\$352,000

Funded grants–Co-I	Sponsor	Duration	Total \$	JRA \$
East Valley Water Forum: visualization for decision-making	East Valley Water Forum	1/11/05-4/31/06	\$80,056	\$12,000
State of Arizona Seismic Hazard Update (with Fouch)	Federal Emergency Management Agency	06/01/08–05/31/10	\$45,613	\$22,807
Geoinformatics-based Data Integration for Study of the Pliocene Fossil-bearing Strata of the Hadar Basin (Afar, Ethiopia)	Late lessons from early history: the SHESC transdisciplinary research program	01/01/08–12/31/12	\$357,832	\$178,916
Collaborative Research: Paleoanthropological investigation of the Ledi-Geraru hominin site (Afar, Ethiopia)	National Science Foundation–Biological Anthropology	1/15/2012–1/14/2014	\$239,745	\$47,949
Collaborative Research: The Hominin Sites and Paleolakes Drilling Project: Acquiring a high resolution paleoenvironmental context of human evolution	National Science Foundation–Sedimentary Geology and Paleobiology Program	1/1/2012–12/31/2014	\$243,888	\$48,777
Earth Science Education and Outreach Provider Summit	National Science Foundation–Division of Earth Sciences	1/15/2012–1/14/2013	\$33,050	\$16,525
FESD Type I: Earth system dynamics and its role in human evolution in Africa: lead PI Andrew Cohen, University of Arizona (ASU lead is Campisano)	National Science Foundation	6/1/2013–5/31/2018	\$542,744	\$217,097
Collaborative Proposal: Paleoanthropology of the Ledi-Geraru: Filling in a temporal gap in hominin evolution (ASU lead is Reed)	National Science Foundation–Biological Anthropology Program	2/15/2015–2/14/2018	\$258,434	\$64,609
Total Co-I			\$1,556,769	

JRA \$ = % recognition x Total \$ or \$ spent in Geological Sciences Department/SESE (including overhead)

8 Teaching

8.1 Courses taught at Arizona State University

- GLG 101, Introduction to Geology (Fall, 1995): 220 student lecture course was taught using innovative instructional technology (for its time) and in-class observations.
- GLG 103, Introduction to Geology Laboratory (Fall, 2003): I oversaw ~30 laboratory sessions (with a total of ~1100 students) taught by 13 teaching assistants and actually taught one of the laboratories.
- GLG 110, Geologic Disasters and the Environment (Fall, 2002, 2010): 75 person lecture course with two labs emphasizing the interactions between humans and their environment (<http://glg110.asu.edu/2002>). Significantly revamped course and handed it over to Stan Williams. Taught again with significant updates with Amanda Clarke in 2010.
- GLG 310, Structural Geology (Spring, 1996, 1997, 1998, 1999, 2000, 2001, Fall 2004, 2012, 2013) Investigation and survey of geologic structures and the mechanical processes involved in their formation (<http://arrowsmith310.asu.edu>).
- GLG 362, Geomorphology (Fall, 1996, 1998, 2000, 2002, 2006): This course focuses on the observation and analysis of earth surface processes and the development of landforms and landscape.
- GLG 410, Computers in Geology (Fall, 1997, 1999, 2000, 2007, 2011, 2015, Spring 2009 with Fouch): This course is designed to teach analytical thinking in geology using computing applications. Significantly revamped course for 1999–2000, and again in 2007 and lots of new video content in 2011 (<http://arrowsmith410-598.asu.edu/>).
- GLG 416, Field Geophysics (with James A. Tyburczy) (Spring, 1997): This course provides an introduction to field geophysical methods including refraction seismology, gravity, magnetics, electromagnetic methods.
- GLG 451, Field Geology I (Spring 2005, 2006, 2007, 2011, 2012, 2013, 2014, 2015, 2016, 2018, 2019, 2020): This course provides an introduction to geology in the field.
- GLG 452, Field Geology II (Summer, 2004, assistant in 2003, 2005, 2006): This course provides a capstone to the major with emphasis on geology in the field.
- GLG 455/598, Advanced Field Geology (with Philip A. Pearthree, Arizona Geological Survey in 2001) (Spring, 1998, 2003): Students gain field experience with a variety of environmental and applied mapping problems (<http://www.public.asu.edu/~arrows/advfield/>).
- GLG 490/598, Desert surface processes and Quaternary geology seminar (Fall, 1997): Brought together students and faculty from diverse disciplines for consideration of current and classic research results and field sites.
- GLG 490/598, Tectonic Geomorphology (with Professor Kelin Whipple) (Spring, 2008): This course provided an overview of a broad range of topics in Tectonic Geomorphology varying from earthquake geology to orogenic-scale tectonic and surface process interaction (http://whipple_arrowsmith598.asu.edu/).
- ASM498/GPH591/GLG598/GLG490: Remote Sensing and Quaternary Landscapes (Spring, 2006): Collaborative teaching with Archeology and Geography faculty and students centered on mapping and interpreting landscapes using remote sensing data.
- GLG 510, Advanced Structural Geology (with Stephen J. Reynolds in 1998 and C. Scott in 2019) (Fall, 1998, 2005, Spring 2009, 2019): Students gain experience with advanced structural geology problems (<http://arrowsmith510.asu.edu/>)

8.2 Student mentoring and collaboration

8.2.1 Postdoctoral scholars and current position if known

- Dr. Edwin Nissen–SESE Exploration Post doctoral scholar co supervised with Sri Saripalli, September 2011 – August 2012. Associate Professor and Canada Research Chair at the School of Earth and Ocean Sciences at the University of Victoria, Canada.
- Dr. Wendy Bohon–EarthScope National Office Post doctoral scholar, May 2014–June 2015. Education and Outreach specialist, Incorporated Research Institutions for Seismology.
- Dr. Harmony Colella–SESE Exploration Post doctoral scholar co supervised with Steve Semken and Ed Garnero, August 2014–June 2016. Earthquake Early Warning specialist, CalOES/UCB.
- Dr. Chelsea Scott–National Science Foundation Post doctoral scholar, January 1, 2017–June 30, 2020. Assistant Research Scientist School of Earth and Space Exploration, Arizona State University.

8.2.2 Graduated students and current position if known

- **Ph.D. Dissertations supervised**

1. George Hilley, Ph.D., Landscape development of tectonically active areas, Arizona State University, May 2001. Associate Professor of Geological and Environmental Sciences, Stanford University.
2. Lee Amoroso, Ph.D., Studies in Quaternary geology of Arizona: Active tectonics *and* relationship of soils to surficial geology, Arizona State University, August 2001. Research Geologist, US Geological Survey, Flagstaff, Arizona.
3. Sarah E. Robinson, Ph.D., (co–advisor with Philip Christensen), Investigation of geomorphic processes on arid piedmonts using field studies, remote sensing analysis and cosmogenic dating, Arizona State University, August 2002. Assistant Professor, Department of Economics and Geosciences United States Air Force Academy.
4. Jeri Young, Ph.D., Characterization of fault behavior along the central San Andreas Fault, California, Arizona State University, May 2004. Research geologist, Arizona Geological Survey.
5. Olaf Zielke, Ph.D., How fault geometric complexity and frictional properties affect seismic fault behavior and accumulation of slip along strike-slip faults, December 2009. Senior Research Scientist, King Abdullah University of Science and Technology.
6. Melanie Busch Coyan, Ph.D. (co–advisor with S. Reynolds), Late Quaternary Normal Faulting and Hanging Wall Basin Evolution of the Southwestern Rift Margin From Gravity and Geology, B.C.S., MX *and* Exploring the Influence of Text-Figure Format on Introductory Geology Learning, May 2011.
7. Nathan Toké, Ph.D., Earthquake Geology, Hazard, Urban Form, and Social Vulnerability along the San Andreas Fault, August, 2011. Associate Professor, Department of Earth Sciences, Utah Valley University.
8. Erin DiMaggio, Ph.D., The Geologic History of Central and Eastern Ledi-Geraru, Afar, Ethiopia, December, 2013. Assistant Research Scientist, Department of Geosciences, Pennsylvania State University.
9. Wendy Bohon, Ph.D., (co–advised with Kip Hodges), Late Cenozoic-recent tectonics of the southwestern margin of the Tibetan Plateau, Ladakh, northwest India, May, 2014. Education and Outreach specialist, IRIS.
10. David Haddad, Ph.D., Effects of fault segmentation, mechanical interaction, and structural complexity on earthquake-generated deformation, May, 2014. Research Geologist, ConocoPhillips.
11. Jeffrey Lockridge, Ph.D., (co–advised with Tom Sharp), Using micro-scale observations to understand large-scale geophysical phenomena: Examples from seismology and mineral physics, December 2015. Assistant professor, Earth Sciences, North Central Michigan College.
12. Gayatri Marliyani, Ph.D., Neotectonics of Java, Indonesia: Crustal Deformation in the Overriding Plate of an Orthogonal Subduction System, May 2016. Assistant Professor, Gadjah Mada University, Yogyakarta, Indonesia.
13. James Barrett Salisbury, Ph.D., Coupling tectonic geomorphology and paleoseismology for understanding of earthquake recurrence, December 2016. Research Geologist, Alaska Division of Geological and Geophysical Surveys.

14. Dominique Garello, Ph.D., (co-advised with Chris Campisano in ASU's School of Human Evolution and Social Change) Tephrostratigraphy of Pliocene drill cores from Kenya and Ethiopia, and Pleistocene exposures in the Ledi-Geraru Research Project area, Ethiopia: Geological context for the evolution of *Australopithecus* and *Homo*, May 2019. Lecturer, Louisiana State University.

- **M.S. Theses supervised**

1. Joshua Roering, M.S., (co-advisor with David D. Pollard), Active Tectonics of Buried Thrust Faults, San Francisco Bay Area, Great Valley, and Los Angeles Basin, California, Stanford University, June 1995. Professor, Department of Geological Sciences, University of Oregon.
2. Keenan Murray, M. S., Using Joint and Fault Structures Along the Tortilla Caldera in the Superstition Mountains, Arizona to Infer the Development of the Stress Field with Regional (Basin and Range) and Local (Volcanic) Deformation Sources, Arizona State University, May 1997. Project Manager, Ninyo and Moore, Phoenix, Arizona.
3. Sean McManus, M. S., Digital Elevation Model Analysis Applied to Active Tectonic Study in Central Asia, Arizona State University, December 1998. National Solar Observatory, Tucson, AZ.
4. Heidi D. Stenner, M. S., (co-advisor with Phil Pearthree (AZ Geological Survey) and Stephen J. Reynolds), A Paleoseismic Investigation of a Portion of the Hurricane Fault, Northwestern Arizona and Southwestern Utah, Arizona State University, December 1998. Formerly at US Geological Survey, Menlo Park, CA, now Senior Scientist at Exponent.
5. Stephen Holloway, M. S., (co-advisor with Edmund Stump), Proterozoic through Quaternary Geology of the Union Hills, North Phoenix, Arizona, Arizona State University, May 1999. Research specialist, Dept. Geology and Geophysics, University of Oklahoma.
6. Elizabeth Zima (née Stone), M. S., Geomorphology, Structure, and Paleoseismology of the central Cholame Segment, Carrizo Plain, California, Arizona State University, May 2000. Formerly Project manager, Ninyo and Moore, Phoenix, Arizona.
7. Ken Fergason, M. S., (co-advisor with James A. Tyburczy), Investigation of changes in groundwater elevation associated with Tempe Town Lake, Arizona State University, December 2000. Project manager, AMEC, Flagstaff, Arizona.
8. Zack Washburn, M. S., Quaternary tectonics and earthquake geology of the central Altyn Tagh fault, Xinjiang, China: implications for tectonic setting and process along the northern margin of the Tibetan Plateau, Arizona State University, August, 2001. Project manager, H and K Consultants in Grass Valley, California.
9. Lela Prashad, M. S., Urban materials and temperature: relating ground and air variables to land use, socioeconomics and vegetation in Phoenix, Arizona, Arizona State University, August 2004. Formerly Director, 100 Cities Project at Arizona State University.
10. Mimi Diaz, M. S., Lithology and erosion styles associated with the Rodeo-Chedeski and Aspen fires, Arizona, Arizona State University, August 2004.
11. Nathan Toké, M.S., Paleoseismology, slip budget, and fault behavior along the Parkfield segment of the San Andreas Fault, Arizona State University, December, 2005. Associate Professor, Department of Earth Sciences, Utah Valley University.
12. Amanda Perkins, M.S., (co-advisor with Jim Tyburczy), Analyzing INSAR, bedrock topography, and hydrogeology to interpret land subsidence patterns, Arizona State University, August, 2006. Geologist, Speedie and Associates, Inc.
13. Maurits Thayer, M.S., Structural geology of the San Andreas Fault Zone at Middle Mountain, near Parkfield, Central California, Arizona State University, May, 2006. Geologist, Conoco-Phillips.
14. Christopher Crosby, M. S., A geoinformatics approach to LiDAR data distribution and processing with applications to geomorphology, Arizona State University, August, 2006. UNAVCO.
15. Jessica Block, M. S., 3-Dimensional Immersive Visualization For Regional Water Planning, Arizona State University, August, 2007. Research Specialist, CalIT2 Facility, UC San Diego.
16. Erin DiMaggio, M. S., Volcanic and stratigraphic characterization of Pliocene tephra from the Ledi-Geraru region of Afar, Ethiopia, August, 2007. Research Scientist, Pennsylvania State University.
17. Paul Ivanich, M. S., Investigation of subsidence using gravity and INSAR in Scottsdale, Arizona, December, 2007. Hydrology Division - Geophysics/Surveying Unit, Arizona Department of Water Resources.

18. Megan Muretta, M. S., Holocene earthquake geology of the central Altyn Tagh fault, Xinjiang, China: Implications for recurrence interval, strain release rate, and fault behavior, May 2009.
19. Haddad, D. E., M. S., 2010. Geologic and geomorphic characterization of precariously balanced rocks. MS thesis, Arizona State University, Tempe, Arizona, 207 pp. Conoco-Phillips.
20. Sarah E. Robinson, M. S., Integrating LiDAR Topography Into the Study of Earthquakes and Faulting, 99 pp., August 2011. PhD student, Northern Arizona University.
21. Jeff Lockridge, M. S. (co-advisor with Matthew Fouch), Spatial and Temporal Analysis of Seismicity Within Arizona During the Deployment of the EarthScope USArray Transportable Array (April 2006 - March 2009), August, 2011.
22. Emily Kleber, M.S., Surface Response to Slip Along a Propagating Blind Thrust Fault Wheeler Ridge, California, December 2015, 95 p. Hazards geologist, Utah Geological Survey.
23. Hurien (Hendri) Helmi, M.S., Characterization of Landslide Geometry and Movement Near Black Canyon City, Arizona, May 2016. Lecturer, Geological Engineering Department, Sekolah Tinggi Teknologi Nasional, Yogyakarta, Indonesia.
24. Adam M. Wade, M.S., Geologic and structural characterization of shallow seismic properties along the San Jacinto Fault at Sage Brush Flat, Southern California. Arizona State University, August 2018. Geoscience consulting professional.
25. Tyler Scott, M. S., Rock Traits from Machine Learning: Application to Rocky Fault Scarps. Arizona State University, August 2020.

8.2.3 Graduate student advising

- Alana Williams, Ph.D. candidate.
- Emily Zawacki, Ph.D. candidate, (co-advised with Chris Campisano in ASU's School of Human Evolution and Social Change).
- Daniel Chupik, Ph.D. pre-candidate, (co-advised with Chris Campisano in ASU's School of Human Evolution and Social Change).

8.2.4 Undergraduate project supervision

- Cali Trammel, undergraduate research project and thesis on Tephrochronology of the Eastern Ledi Geraru, 2018-2019: Tephrochronology and correlations of Bagudo outcrop tephra from Ledi Geraru Research Project, Afar, Ethiopia. Co-advised with Chris Campisano in ASU's School of Human Evolution and Social Change).
- Bryan MacFarlane, undergraduate senior thesis, Subsidence and earth fissuring in east Scottsdale, Arizona, December 2007.
- David Haddad, undergraduate senior thesis, Mechanical fault interaction and tectonic geomorphology on the Volcanic Tableland, Owens Valley, California, December 2006.
- Amanda MacLeod, undergraduate senior thesis, Artificial hydrologic controls and the geomorphology of the greater Phoenix area, September 2003. University of Oregon Department of Geological Sciences M.S. program.
- Matthew Baillie, undergraduate senior thesis, Subsidence and Fissuring in the Casa Grande-Maricopa (Arizona) area due to groundwater withdrawal, May 2001. University of Arizona Ph.D. Hydrology 2005.

8.2.5 Research Experience for Undergraduates (REU) mentoring

- Emily Starke, University of Tulsa, 2005. *Paleoseismology along the San Andreas Fault*—Southern California Earthquake Center SURE intern.
- Brian Campbell, Elizabeth City State University, 2006. *Tectonic geomorphology and earthquake geology of the 1857 reach of the San Andreas Fault: a new look from Airborne Laser Swath Mapping*—Southern California Earthquake Center SURE intern.
- Emma Gleeman, Brown University, 2013. *Erosion of cinder cones in the San Francisco Volcanic Field*—San Francisco Volcanic Field REU
- Sarah Zibart, Western Kentucky University, 2013. *Using cinder cone morphology to constrain age*—San Francisco Volcanic Field REU

- Ryan Till, University of Buffalo, 2014. *Exploring variable original forms in the initial modifications of cinder cones*–San Francisco Volcanic Field REU
- Joanmarie Del Vecchio, Pomona College, 2014. *Spatially variable transport rates and the topographic development of cinder cones*–San Francisco Volcanic Field REU
- Kristin Pearthree, Oberlin College, 2014. *Insights on the topographic development of cinder cones and the transition to fluvial erosion using physical experiments and soil constraints*–San Francisco Volcanic Field REU

8.2.6 Visiting colleagues

- Xu Jianhong, Chinese Earthquake Administration, 2019-2020.
- Simone Bello, University of Chieti, Italy, 2019.
- Federica Ferrarini, University of Chieti, Italy, 2017-2020
- Marta Ferrater Gomez, University of Barcelona, Spain, 2014-2015
- James Muirhead, University of Idaho, 2014
- Tadashi Maruyama, Japanese Geological Survey, 2014.
- Wei Zhanyu, Chinese Earthquake Administration, 2013-2014.
- Riccardo Civico, Istituto di Geofisica i Volcanologia, Italy, 2013.
- Hyun Tae Kim, Department of Earth Environmental Sciences, Environmental and Marine Sciences and Technology, Pukyong National University, Busan 608-737, KOREA, 2011-2012.
- Laura Delgado Mendes, Assistant Professor - Federal Rural University of Rio de Janeiro - Multidisciplinary Institute and Ph.D Student - Faculty of Geology - Rio de Janeiro State University Fulbright Visiting Student 2011-2012.
- Carol Canora Catalán, Departamento de Geodinámica, Universidad Complutense de Madrid, 2008.
- Angela Landgraf, visiting Ph.D. student, Institut für Geowissenschaften, Universität Potsdam, Germany, 2007.
- Rasmus Thiede, visiting Ph.D. student, Institut für Geowissenschaften, Universität Potsdam, Germany, 2003.
- Olaf Zielke, visiting Diploma student, Institut für Geowissenschaften, Universität Potsdam, Germany, 2002.
- Fidel Martín González, visiting Ph.D. student, Departamento de Geodinámica, Facultad de Geología, Universidad Complutense de Madrid, Spain, 2002.
- Laura Colini, visiting scientist, Earthquakes and Landscape Development in the Central Appenine, Italy, Istituto Nazionale de Geofisica, Italy, 2000.

9 Service

9.1 Department/School service

- Deputy Director (2017–2020)
- Associate Director for Operations (2013–2016; 2020–present)
- Associate Director for Graduate Studies (2010–2013)
- Academic Program Review Committee (2010–2011)
- Annual Review Committee (2007–2009)
- Computing Committee (1996–2009)
- Geophysics Faculty Search Committees (2000, Chair 1999)
- Graduate Committee (2001, Chair 2002, 2004, 2005, 2006)
- Graduate Advisor (2003–2005)
- Associate Chairman (2003–2005)
- Geological Sciences Academic Program Review committee (2003–2004, Chair)
- Geodynamics Faculty Search Committee (2003–2004, Chair)
- Sedimentary Geology Faculty Search Committee (2004–2005, Chair)
- Remote sensing Faculty Search Committee (2011–2012)
- Geophysics Faculty Search Committee (2012–2013)

9.2 College and University service

- College of Liberal Arts and Sciences Natural Sciences Dean selection committee (2018)
- School of Earth and Space Exploration Structure and Governance subcommittee member (2004)
- Sustainable Technologies program of Center for Study of Rapidly Urbanizing Regions, Data and visualization group co-leader (2003)
- Proposition 301 Information Sciences/Information Technology committee (2002)
- Vice Provost for Research Greater Phoenix 2100 project
<http://www.gp2100.org/> (2000–2005)
- Vice Provost for Research special rock varnish project (1997–1998)

9.3 Professional service

- 2020–present Southern California Earthquake Center Professional Conduct Committee
- 2020–present Southern California Earthquake Center Committee on Organizational Structure and Center Management
- 2020 Digital Tools for Enhancing Virtual Field Experiences working group co-leader. Working group was part of the Designing Remote Field Experiences project team, and the collaboration between the National Association of Geoscience Teachers and the International Association for Geoscience Diversity. https://nagt.org/nagt/about/workspaces/field_workgroup/index.html
- 2020–present Member, US National Science Foundation Advisory Committee for Geosciences (AC-GEO); <https://www.nsf.gov/geo/advisory.jsp>
- 2019–present Second Vice Chair, Management Board, Structural Geology and Tectonics Division of the Geological Society of America
- 2019–present Chair, Arizona Seismic Safety Advisory Council
- 2018–present Southern California Earthquake Center Planning Committee member (SAFS)
- 2016–present Centre for the Observation and Modelling of Earthquakes, Volcanoes and Tectonics Advisory Committee (<http://comet.nerc.ac.uk/>); chair for two years.
- 2015–2016 NASA Strategic planning committee member for the NASA Earth Surface and Interior (ESI) Focus Area

- 2014–2018 UNAVCO Nominating committee
(<http://www.unavco.org/community/governance/committees/committees.html#nomination>)
- 2007–2017 National Earthquake Prediction Evaluation Council (appointed by Director of US Geological Survey)
- 2011–2016 Southern California Earthquake Center Planning Committee (SoSAFE)
- 2006–present Arizona Land Subsidence Group member
- 2008–2014 Committee on Seismology and Geodynamics, a standing committee within the National Research Council’s Board on Earth Sciences and Resources
- 2011–2015 EarthScope Steering Committee chairman
- 2011–2015 EarthScope National Office Director
- 2013 Palo Verde Nuclear Generating Station Seismic Hazard Review (SSHAC level 3) Resource Expert
- 2010–2013 Scientific Review Panel, Uniform California Earthquake Rupture Forecast 3
- 2010 GeoPrisms Rift Initiation and Evolution implementation plan meeting and writing team
- 2010 Margins Program Successor Planning Science Plan writing team
- 2010 Margins Program Successor Planning Workshop organizing committee
- 2010 UNAVCO Science Workshop Organizing Committee
- 2009–2010 EarthScope Speaker (<http://www.earthscope.org/speakers>)
- MARGINS/GeoPrisms Steering Committee (2009–2010)
- Guest Editor, *Geomorphology*, Special Issue on high resolution topography, publication date summer 2009.
- Earthscope Education and Outreach Steering Committee (2008–2011)
- Seismological Society of America Board of Directors Nomination Committee (2008)
- Dual bachelor of science degree in international field geosciences US Department of Education project (University of Montana, University of Potsdam, and University of Cork) external evaluator (2008–2013)
- National Center for Airborne Laser Mapping (NCALM), steering committee member (2003–2005; Chairman 2005–2006)
- Guest Editor, *Bulletin of the Seismological Society of America* Special Issue on the 2004 Parkfield Earthquake and the Parkfield Earthquake Prediction Experiment (publication date September 2006)
- Moderator: Flood Control District of Maricopa County Alluvial Fan Flood Hazard Management Symposium (April 2005)
- Workshop organizer: GEON Visualization Workshop (March, 2005)
- Convener: Geoinformatics and Geological Sciences: The Next Step (Posters), Technical session at the Geological Society of America Annual meeting, 2004.
- Workshop organizer: "Integrated studies of fault zones; LiDAR and other hi res imaging of fault systems; Information technology: enabling infrastructure" 2004 Southern California Earthquake Center
- Associate Editor, *Lithosphere* (2008–2010)
- Associate editor, *Geosphere* (<http://www.geosociety.org/pubs/geosphere/>) (2004–present)
- Associate editor, *Geology* (2002–2005)
- Associate editor, *Journal of Geodynamics* (1998–2001)
- USGS National Earthquake Hazards Reduction Program proposal review panel (1996–1998, 2001, 2002, 2013)
- National Science Foundation proposal review panelist
- Lead field trips for Arizona Hydrological Society, International Association of Landscape Ecology, Bureau of Land Management, Stanford Alumni Phoenix Chapter, NSF-Sponsored *Explosive Volcanism Workshop*
- International committees: IUGS Committee on Tectonics (COMTEC), and Subcommittee on Tectonic and Surface Processes Interaction (TASPIS) (1996–Present)
- Journal article reviewer: Journal of Geophysical Research, Geology, Geomorphology, Geosphere, Journal of Seismology, Geophysical Journal International, Basin Research, Journal of Geology, Geophysical Research Letters, Bulletin of Seismological Society of America, Annals of Geophysics
- Book reviewer: *Tectonic Geomorphology*, Burbank and Anderson, Blackwell Scientific; *The Living Landscape*, Frederick Steiner, McGraw–Hill
- Arizona state government service: ASU representative of Arizona Earthquake Information Network and member of Arizona Council for Earthquake Safety
- California state government service: external reviewer for the California Earthquake Prediction Evaluation Council (1997–2003)