CURRICULUM VITAE

Michael P. Bunds

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EDUCATION

Ph.D. in Geology, University of Utah **2001**
Dissertation: Faulting, Fluid Flow and Geochemical Alteration in the Matanuska Valley and Cook Inlet, Alaska. Advisor R.L. Bruhn.

M.Sc. in Geology, University of California, Davis **1994**
Thesis: Fluid Infiltration, Alteration, and Deformation Mechanisms in the Border Ranges Fault System, Eastern Chugach Mountains, Alaska. Advisor S.M. Roeske.

B.A. in Geological Sciences, University of California, Santa Barbara **1984**
Second emphasis in Mathematics

TEACHING POSITIONS

Professor, Utah Valley University **2018 – present**

- Courses taught: Structural Geology and Tectonics, Geospatial Field Methods, Field Methods, Introduction to Geology, Introduction to Meteorology, Introduction to Physical Geography, Student Research, Independent Study, Earth Science Seminar

Associate Professor and Department Chair, Utah Valley University **2011 – 2018**

- Courses developed: Geospatial Field Methods
- Courses taught: Structural Geology and Tectonics, Geospatial Field Methods, Field Methods, Introduction to Geology, Introduction to Meteorology, Department Seminar, Independent Studies, Student Research

Associate Professor, Utah Valley University **2006 – 2011**

- Courses developed: Honors Introduction to Geology, live-interactive Introduction to Meteorology
- Courses taught: Introduction to Geology, Structural Geology and Tectonics, Introduction to Meteorology, Introduction to Oceanography, Natural History Excursion, Independent Studies

Assistant Professor, Utah Valley State College **2001 – 2006**

- Courses developed: Earth Materials, Structural Geology and Tectonics, live-interactive Introduction to Geology
- Courses taught: Earth Materials, Introduction to Geology, Structural Geology and Tectonics, Introduction to Meteorology, Survey of Physical Science, Introduction to Oceanography, Natural History Excursion

Adjunct Instructor, Utah Valley State College **1999 – 2000**

- Taught Introduction to Geology lectures and laboratories (7 courses total)

Teaching Assistant, University of Utah **1993 – 1999**

- Taught eight classes, including Engineering Geology Laboratory, Geophysics Laboratory, Igneous and Metamorphic Petrology Laboratory, Igneous Geodynamics Laboratory, Structural Geology Laboratory

Teaching Assistant, University of California, Davis **1990 – 1993**

- Taught nine classes, including Field Methods, Physical Geology Discussion, Physical Geology Laboratory, Structural Geology Laboratory
- Completed two courses in methods for teaching writing
- Developed a new Structural Geology Laboratory curriculum

English Instructor, Club Daumar, Barcelona, Catalunya, Spain **1985 – 1986**

Tutor, University of California, Santa Barbara **1984 – 1985**

RESEARCH POSITIONS

Research Intern, Exxon Mobil Upstream Research Company **2000**

- Conducted numerical modeling investigations of fluid flow in faulted reservoirs

Research Assistant, University of Utah **1994 - 1998**

- Conducted Ph.D. research, including three summers of field work in remote areas of southern Alaska

Research Assistant, University of California, Davis **1991 - 1992**

- Conducted Master's thesis research, including field work in remote portions of the eastern Chugach Mountains, southern Alaska

Geochemist / Phys. Sci. Tech., USGS Western Minerals Research Branch, Menlo Park, CA **1988 - 1990**

- XRD mineralogic analyses, including clay separation and identification
- Extractions of SO_2 and CO_2 from minerals for stable isotope analysis
- Field mapping and sampling of hydrothermal ore deposits

Geochemist / Phys. Sci. Tech., U.S.G.S. Radiocarbon Lab, Menlo Park, CA **1986 - 1988**

- Responsible for all laboratory processing, including radioactivity measurement and CO_2 extraction and purification

Field and Laboratory Assistant, Univ. of California, Santa Barbara **1982 - 1985**

- Designed, constructed, and surveyed geodetic first order leveling and geodimeter arrays
- Supervised field survey crews
- Wrote computer programs to calculate surface deformation from survey data

Field Assistant, University of California, Santa Barbara; Summer **1983**

- Collected and analyzed field data on fracture sets in the Monterey Formation, as a field assistant for Wendy Bartlett, a Ph.D. student

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GRANT AWARDS AND PROPOSALS (PI and successfully funded unless noted otherwise)

- UVU Office of Teaching and Learning Faculty Development Center Travel Grant, Travel to present and mentor students at American Geophysical Union Fall Meeting, December 12-16 2022, Chicago, USA, $800
- National Science Foundation UVU PRO-STEM Award, Promoting Engagement in Chemistry, Physics, and Earth Sciences, Co-PI, $1,500,000 over 6 years for scholarships in Earth Science, Physics, and Chemistry.

- UVU Scholarly Activities +Committee award, 2021, $4680, “Tectonic Deformation of Lake Bonneville Shorelines II”
- UVU Undergraduate Research Summer Institute Grant, Summer 2021, $8440, “R.E.V.E.A.L. the Geosciences: Research Experiences and Virtual Exploration for Accelerated Learning” (Co-PI)
- UVU Scholarly Activities Committee award, 2020, $1300, “The Tectonic Deformation of Lake Bonneville Shorelines”
- UVU Quick Grant for Engaged Learning Award, 2020, $1903, “UVU Student Participation in High Resolution Topography Acquisition on the Southern San Andreas Fault, California”
- UVU Scholarly Activities Committee award, 2019, $4756, “Earthquake Hazards Study of the Topliff Fault to Inform Earthquake Risk in Utah and Tooele Valleys and Train Students”
- UVU Grant for Engaged Learning Award 2018, $10,000, “Earthquake Hazards Study of the Topliff Fault to Inform Earthquake Risk in Utah and Tooele Valleys and Train Students”
- UVU Office of Teaching and Learning Faculty Development Center Travel Grant, Travel to present and mentor students at American Geophysical Union Fall Meeting, December 11-15 2018, New Orleans, USA, $800
- “Measuring near-fault creep along the San Andreas fault using high-resolution differential topography and UAVSAR,” submitted to Southern California Earthquake Center, November, 2017, $5,150, unfunded (co-PI)
- National Science Foundation S-STEM Award, November, 2017, $999,826, “Promoting Engagement in Chemistry, Physics, and Earth Sciences” (co-PI)
- UVU Quick Grant for Engaged Learning, 2017, $1500, “Applied Research Integrated into the Classroom: How and Why do Some Faults Creep Without Producing Earthquakes?”
- UVU Scholarly Activities Committee award, 2017, $2398 “Assessment of Earthquake Mechanics and Chronology Through Ultra-High Resolution Digital Topography”
- UVU Scholarly Activities Committee award, 2017, $2200 (funding for additional student) “Should a Mega-Tsunami Be Expected on the South Coasts of the Indonesian Archipelago?: Collaborative Research to Reduce Indonesian Tsunami Risk”
- UVU Grant for Engaged Learning award, 2016, $10,000, “Should a Mega-Tsunami Be Expected on the South Coasts of the Indonesian Archipelago?: Collaborative Research to Reduce Indonesian Tsunami Risk”
- Australian Nuclear Science and Technology Organisation Research Grant, Cosmogenic Be-10 Dating of a Major Holocene Watershed-Damming Rockslide in the Central Wasatch Mountains, UT, USA: The Little Cottonwood Case Study (co-PI). Approximately $10,000 in-kind donation of laboratory facility access.
- NVIDIA Hardware Grant. In-kind donation of an NVIDIA GTX Titan X GPU for a custom portable workstation for processing Structure-from-Motion in the field. $1500.
- UVU Scholarly Activities Grant, 2016, $800 Indonesian Tsunami Hazard Mitigation
- UVU Scholarly Activities Grant, 2016, $3600, Assessing Earthquake History and Faulting Mechanics with Ultra-High Resolution Digital Topography
- UVU Quick Grant for Engaged Learning award, 2016, $2500, Improved Assessment of Aseismic Creep and Seismic Hazard on the San Andreas Fault, California, from Ultra-high Accuracy Digital Elevation Maps of Active Fracturing
- Proposal to Southern California Earthquake Center, Using Repeat Structure-from-Motion Photogrammetry Surveys to Map Evolution of Tectonic Geomorphology on Creeping Sections of the San Andreas Fault, $19,703, unfunded, November, 2015
- Proposal to Southern California Earthquake Center, Did triggered slip, creep, slumping, or fissures from drawdown produce NW-striking vertical fractures and faults in modern beach deposits within the East Shoreline strand of the San Andreas Fault at Durmid Hill, $14,573, co-Pi, unfunded, November 2015.
- UVU Scholarly Activities Grant, 2015, $2650, A Collaborative Effort Involving Students to Re-address Four Outstanding Questions in Regional Geoscience Using Ultra-high Resolution Topographic Mapping from Structure from Motion

- Proposal to NSF, GP-Extra: Evaluation of a Geoscience Career Emulation Model for Improving Undergraduate Student Outcomes, co-Pi, $374,034, unsuccessful, 2015
- iUtah Innovative Urban Transitions and Arid Region Hydro-Sustainability Research Catalyst Grant, 2015, Multi-disciplinary Investigation of the Timing and Impact of Major Watershed-Damming Landslides in the Central Wasatch: Little Cottonwood and City Creek Canyon Case Studies, $19,000
- National Science Foundation Scholarships in STEM: Utah Valley University's PRO-STEM Scholarship Program (Promoting Engagement in STEM), $600,000, co-PI, 2012-2017.
- UVU Grant for Engaged Learning award 2012, Assessing water resources in Ouelessebougou and Bamako, Mali, West Africa
- UVU Presidential Scholar Award, 2012, Mapping the Groundwater Table in Ouelessebougou and Bamako, Mali, West Africa
- UVU Grant for Engaged Learning award, 2011, Cooperative Research by American and Nepali Undergraduates on Environmental Hazards in Nepal and South Asia
- UVU Presidential Scholar Award 2011, Glacial Retreat and the Frequency of Glacial Lake Outburst Floods in the Nepal Himalaya: A Cooperative Study Between UVU and Tribhuvan University, Nepal
- UVU Presidential Scholar Award 2009/10, Assessing potable water resources in Oulessebougou, Mali
- UVU College of Science and Health Scholarly Activities award, 2009 – 2011, Geology, Hydrogeology, and Community Health of the Sierra Tarahumara, Sierra Occidental, Mexico and Improving Water Supply Options on for Villages on Shield Volcanoes in The Trans-Mexican Volcanic Belt
- UVU Institute for Professional Engagement Award, 2009/10
- UVU Center for Engaged Learning Grant, 2009/10, Improving Water Supplies for Villages in Volcanic Terrains in Mexico
- UVU Center for Engaged Learning Grant, 2008/09, Assessing drinking water arsenic contamination and GLOF hazards, Nepal
- UVSC School of Science and Health Scholarly Activities Grant, 2005, $5000, Mechanics and Geochemical Alteration of the Wasatch Fault at the Provo – Nephi Segment Boundary.
- UVSC Presidential Scholar Award, 2004, Carrier-phase differential GPS equipment acquisition
- UVSC School of Science and Health Summer Research Stipend Award, 2003, Landslide studies
- UVSC School of Science and Health Scholarly Activities Grant, 2003, $5000, Carrier-phase differential GPS equipment acquisition
- UVSC Exceptional Merit Grant for Research, 2002, Carrier-phase differential GPS equipment acquisition
- Geological Society of America John T. Dillon Alaskan Research Award received for Ph.D. research at University of Utah
- Geological Society of America Research Grant awarded for M.Sc. research at U. C. Davis
- American Association of Petroleum Geologists Grant-in-Aid awarded for M.Sc. research at U. C. Davis

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PUBLICATIONS (UVU student authors in *underlined italics*; this list includes large datasets with documented methods and editorial review by the data host organization)

Harris, R.A., Meservey, W., Sulaeman, H., **Bunds, M.P.**, *Andreini, J.*, Sharp, B., Barrett, B., Whitehead, J., Carver, G., Setiadi, G., Hapsoro, S., Prasetyadi, C., 2024, Discovery of Imbricated Beachrock Deposits Adjacent to the Java Trench, Indonesia: Influence of Tsunami and Storm Waves, and Implications for Mega-Thrust Earthquakes, Natural Hazards (Springer), DOI: https://doi.org/10.1007/s11069-023-06327-w (non-paywall view-only link: https://rdcu.be/dKrTZ)

DuRoss, C.B., Briggs, R.W., Gold, R.D., Hatem, A.E., Elliott, A., Delano, J., Medina-Cascales, I., Gray, H., Mahan, S., Micovich, S., Lifton, Z., Kleber, E., McDonald, G., Hiscock, A., **Bunds, M.P.**, Reitman, N., 2022, How Similar was the 1983 Mw 6.9 Borah Peak earthquake to its surface-faulting predecessors along the

northern Lost River fault zone (Idaho, USA)?, Geological Society of American Bulletin, DOI: https://doi.org/10.1130/B36144.1

Bunds, M.P., Scott, C., *Whitney, B.*, Lee, V.J.C., 2021, High Resolution Topography of the Southern San Andreas Fault from Painted Canyon to Bombay Beach, USA, distributed by OpenTopography, DOI: https://doi.org/10.5069/G94M92RG.

Niemi, N.A., Stahl, T.A., **Bunds, M.P.**, 2021, Structure-from-Motion Digital Surface model of Drum Mountains fault scarps, Millard County, Utah. Distributed by Open Topography. DOI: https://doi.org/10.5069/G9125QT8

Stahl, T.A., Niemi, N.A., Delano, J., Wolfe, F.D., **Bunds, M.P.**, Howell, A., 2021, Diffuse Tectonic Deformation in The Drum Mountains Fault Zone, Utah, USA: Testing the Utility of Legacy Aerial Photograph-Derived Topography, Frontiers in Earth Science 8:600729. doi: https://doi.org/10.3389/feart.2020.600729

Bunds, M.P., DuRoss, C.B., Gold, R.D., Reitman, N.G., Toke, N.A., Briggs, R.W., *Ungerman, B., and Matheson, E.*, 2020, Lost River Fault at Doublespring Pass Rd, Idaho 2015. Utah Valley University (UVU). Distributed by OpenTopography. https://doi.org/10.5069/G9TH8JWV

Bunds, M.P., Scott, C., Toké, N.A., *Saldivar, J., Woolstenhulme, L., Phillips, J., Keck, M., Smith, S., and Ranney, M.*, 2020, High Resolution Topography of the Central San Andreas Fault at Dry Lake Valley, California, USA, distributed by OpenTopography. DOI: https://doi.org/10.5069/G91N7Z92

Scott, C., **Bunds, M.P.**, Shirzaei, M., Toke, N., 2020, Creep along the Central San Andreas Fault from Surface Fractures, Topographic Differencing, and InSAR Imagery, Journal of Geophysical Research, https://doi.org/10.1029/2020JB019762.

Stahl, T., Niemi, N., **Bunds, M.P.**, *Andreini, J., Wells, J.*, 2019, Paleoseismic patterns of Quaternary tectonic and magmatic surface deformation in the eastern Basin and Range, USA, Geosphere, https://doi.org/10.1130/GES02156.1.

DuRoss, C.B., **Bunds, M.P.**, Gold, R.D., Briggs, R.W., Reitman, N.G., Personius, S.F., Toke, N.A., 2019, Variable normal-fault rupture behavior, northern Lost River fault zone, Idaho, USA, Geosphere, v 15, https://doi.org/10.1130/GES02096.1.

Bunds, M.P., *Andreini, J., Wells, J.*, and Stahl, T.A., 2019, High Resolution Topography of a Portion of the House Range Fault and Pleistocene Lake Bonneville Shorelines, Sevier Desert, Utah, USA, distributed by OpenTopography. https://doi.org/10.5069/G9348HH6.

Bunds, M.P., DuRoss, C.B., Gold, R.D., Reitman, N.G., Toke, N.A., Briggs, R.W., Personius, S.F., Johnson, K., Lajoie, L., *Ungermann, B., Matheson, E., Andreini, J., Larsen, K.,* 2019, High Resolution Topography of the Northern 16 km of the M6.9 1983 Borah Peak Earthquake Surface Rupture on the Lost River Fault Zone, Idaho, USA, distributed by OpenTopography, DOI: https://doi.org/10.5069/G9222RWR.

Arendt, A., **Bunds, M.P.**, *Hernandez-Turner, R.*, Harris, R., Prasetyadi, C., Amarjargal, K., and Emmett, C., 2018, Mitigating Tsunami Risk in Indonesia via Practical Planning and Construction Guidelines: Eleventh U.S. National Conference on Earthquake Engineering, 5pp.

Toké, N., *Thomas, J.,* **Bunds, M.P.**, *Arnoff, M.*, Horns, D.M., *Carlson, J.K.*, 2017, Inferences about segmentation from recent surface breaks along the Wasatch Fault revealed from LiDAR, SfM, and outrcops from American Fork Canyon to Dimple Dell Regional Park, Utah, *in* Lund, W.R., Emerman, S.H., Wang, W., and A. Zanazzi, eds., Geology and Resources of the Wasatch: Back to Front: Utah Geological Association Special Publication vol.46, p. 251-276

Bunds, M.P., Emerman, S.H., Bhattarai, T.N., *Anderson, R.B.,* Adhikari, N., Karki, K., and *Palmer, M.*, 2010, Using lichenometry to assess long term GLOF and landslide frequency in the Nepal Himalaya: Proceedings of the 11th IAEG Congress, Williams, A.L., Pinches, G.M., Chin, C.Y., McMorran, T.J., and Massey, C.I., eds.

Bunds, M.P., Dinklage, W., and Horns, D., 2007, Uplift and evolution of the Central Wasatch Range, Utah : Guidebook for American Association of Petroleum Geologists Rocky Mountain Section meeting field trip; American Association of Petroluem Geologists Foundation Library; 18pp.

Bunds, M.P., Dinklage, W., and Horns, D., 2005, Geology of the Wasatch — A Two Billion Year Tour through the Upper Third of the Crust: guidebook for Geological Association of America field trip, 17 pp.

Horns, D., **Bunds, M.P.**, and Dinklage, W., 2003, Geology Along the Wasatch Front: guidebook for American Association of Petroleum Geologists field trip, 15 pp.

Bunds, M.P., 2001, Fault strength and transpressional tectonics along the Castle Mountain strike-slip fault, Alaska: Geological Society of America Bulletin, v. 113, n. 7, p. 908-919.

Parry, W.T., **Bunds, M.P.**, Bruhn, R.L., Hall, C.M., and Murphy, J.M., 2001, Mineralogy, $^{40}Ar/^{39}Ar$ dating and apatite fission track dating of rocks along the Castle Mountain fault, Alaska: Tectonophysics, v. 337, p. 149-172.

Bruhn, R.L., Parry, W.T., and **Bunds, M.P.**, 2000, Tectonics, fluid migration and fluid pressure in a deformed forearc basin, Cook Inlet, Alaska: Geological Society of America Bulletin, v. 112, p. 550-563

ABSTRACTS AND PRESENTATIONS AT PROFESSIONAL MEETINGS AND OTHER INFORMAL PRESENTATIONS

(UVU student authors in *underlined italics*; **student first-author abstracts are listed separately in following section**)

Bunds, M.P., Stearns, M.A., McKean, A., Toké, N., *Conger, A., Karns, H., Saunders, E., and Limb, E.*, 2024 Differential Uplift of the Uinta-Cottonwood Arch on the Salt Lake Segment of the Wasatch Fault Zone and Possible Implications for Wasatch Fault Structure, 2024 Fall Meeting of the American Geophysical Union, December 9-13.

Scott, C., Reitman, N., **Bunds, M.P.**, Brigham, C., Schwarz, M., Bello, S., and Toké, N., 2024 Insights on data quality and resolution needs from several past studies on solid Earth deformation, 2024 Fall Meeting of the American Geophysical Union, December 9-13.

Toké, N., *Farnworth, P., Richards, V., Johnson, D., Smith, K.*, Czajka, D., and **Bunds, M.P.**, 2024, Examining Variability of Uplift along the Wasatch Fault and Adjacent Basin and Range Normal Faults Using Normalized Channel Steepness and Mountain Front Sinuosity, 2024 Fall Meeting of the American Geophysical Union, December 9-13.

Bunds, M.P., 2024, How High is High?, Chapter on elevation and geodesy for Geology of the Tour de France; stage 19 of 2024 Tour de France, https://www.geo-sports.org/tour-de-france-2024/

Bunds, M.P., Scott, C., *Whitney, B.*, Lee, JC, 2023, New High Resolution Topography along 40 km of the Southern San Andreas Fault, 2023 Geospatial Applications Symposium, Utah Valley University, May 15, 2023.

Stearns, M.A., *Waters, E.*, **Bunds, M.P.**, 2022, Paleorelief and Footwall Rotation Adjacent to the Wasatch Fault Zone Recorded by the Eocene-Oligocene Paleosurfaces, Snyderville Basin, Utah, USA, Fall Meeting of the American Geophysical Union, December 12-16.

Bunds, M.P. and Stearns, M.A., 2022, Coulomb Stress Change from the March 18, 2020 Magna Mw5.7 Earthquake and Implications for Wasatch Fault Seismic Hazard, Basin and Range Earthquake Summit (BRES), Salt Lake City, Utah, October 17-19.

Bunds, M.P., Scott, C., *Whitney, B.*, Lee, JC, 2021, New High Resolution Topography along 40 km of the Southern San Andreas Fault, Annual Meeting of the Geological Society of America, Portland, OR, Abstracts with Programs v 53, n 6. DOI: 10.1130/abs/2021AM-370385

Scott, C., Arrowsmith J.R., DeLong, S., **Bunds, M.P.**, Toké, N., and Shirzaei, M., 2021, Shallow Creep Along the Central San Andreas Fault from Differential Lidar Topography, Annual Meeting of the Southern California Earthquake Center, held virtually 9/13-16/2021.

Bunds, M.P., and Stearns, M., 2020, Implications of the March 18, 2020 Magna Mw5.7 Earthquake for Coulomb Stress Change, Earthquake Hazard, and Listric Structure on the Wasatch Fault, USA, Fall Meeting of American Geophysical Union, December 1-17 (held virtually).

Scott, C.P, **Bunds, M.P.,** Shirzaei, M., Toké, N., 2020, Creep Along the Central San Andreas Fault from Surface Fractures, Topographic Differencing, and InSAR, Fall Meeting of the American Geophysical Union, December 1-17 (held virtually).

Bunds, M.P., Scott, C., Lee, JC, *Whitney, B.*, 2020, High Resolution Topography along 40 km of the Southern San Andreas Fault, 2020 Annual Meeting of the Southern California Earthquake Center (held virtually).

Bunds, M.P., Toké, N.A., *Fletcher, A., Andreini, J., Larsen, K.*, 2020, Late Quaternary Activity and Segmentation on the Northern Oquirrh Fault and Isostatic Rebound Gradients in the Tooele Valley from Pleistocene Lake Bonneville Shoreline Elevations, Utah, USA, 72nd Annual Meeting of the Geological Society of America Rocky Mountain Section (meeting postponed due to COVID-19).

Bunds, M.P., *Uribe, A.T.*, Harris, R.A., Berrett, B., Horns, D., Prasetyadi, C., *Andreini, J.*, 2019, Three Years of UAS-Based High Resolution Topographic Surveys of a Coastal Boulder Deposit to Monitor Change and Assess Tsunami vs Storm Wave Deposition in Java, Indonesia, Fall Meeting of American Geophysical Union, December 9-12, San Francisco, California, USA.

Niemi, N., Stahl, T., **Bunds, M.P.**, 2019, Unraveling Diffuse Deformation in the Drum Mountains, Utah, with Paleoseismology, Modern Geodesy, and Historical Aerial Photography, Fall Meeting of American Geophysical Union, December 9-12, San Francisco, California, USA.

White, J., *Thomas, J.*, **Bunds, M.P.**, 2019, Remote detection of wildlife in a montane, urban-fringe environment using ground-based thermal technology, Annual Meeting of the Association of American Geographers, Washington D.C.

Bunds, M.P., Scott, C., Toké, N., Arrowsmith, J.R., *Saldivar, J., Woolstenhulme, L., Phillips, J.,* Janecke, S., Evans, J., Three Dimensional Aseismic Creep Deformation from Differencing of Structure from Motion and LiDAR High Resolugion Topography on the San Andreas Fault, California, 2018 Fall Meeting of the American Geophysical Union, Washington D.C., USA.

Scott, C., Toké, N., **Bunds, M.P.**, Manoochehr, S., and Arrowsmith, R., 2018, Creep Along the Central San Andreas Fault Measured from Surface Cracks, 3D Topographic Differencing, and UAVSAR Imagery, Southern California Earthquake Center 2018 Annual Meeting program with abstracts.

Arendt, A., **Bunds, M.P.**, *Hernandez-Turner, R.*, Harris, R., Prasetyadi, C., Amarjagal, K., Emmett, C., 2018, Mitigating Tsunami Risk in Indonesia via Practical Planning and Construction Guidelines, Proceedings of the 11th National Conference on Earthquake Engineering, Los Angeles, California.

Bunds, M.P., *Uribe, A.T.*, Horns, D.M., *Andreini, J.*, Harris, R.A., Prasetyadi, C., 2018, Indonesian Coastal Imbricated Boulders: Tsunami Indicator or Storm Wave Deposit? Measurement of non-Tsunami Boulder Motion Using UAVs and Structure from Motion Photogrammetry, 2018 Annual Meeting of the American Association of Geographers, New Orleans, LA.

Bunds, M.P., Toké, N., *Keck, M., Smith, S.,* 2018, Preliminary Look at Topliff Hills Fault History, Utah Quaternary Fault Parameter Working Group annual meeting February 14, 2018.

Bunds, M.P., 2017, Geospatial Field Methods: An Undergraduate Course Built Around Point Cloud Construction and Analysis to Promote Spatial Learning and Use of Emerging Technology in Geoscience, 2017 Fall Meeting of the American Geophysical Union, New Orleans, LA.

DuRoss, C.B., **M.P. Bunds**, N.G. Reitman, R.D. Gold, S.F. Personius, R.W. Briggs, N.A. Toké, K. Johnson, and L. Lajoie, "Surface displacement in late Quaternary ruptures of the Warm Springs and Thousand Springs sections of the Lost River fault zone" 2017 Annual Meeting of the American Geophysical Union in New Orleans, LA.

Stahl, T., Niemi, N., **Bunds, M.**, *Andreini, J., and Wells, J.*, 2017, Tectono-magmatic domains of the eastern Basin and Range, Utah, determined from paleoseismic investigations on active faults, 8th International INQUA Meeting on Paleoseismology, Active Tectonics, and Archeoseismology (PATA), 13-16 November, 2017, New Zealand.

Toké, N.A., *N. Butterfield*, **M.P. Bunds**, A. Zanazzi, *A. Uribe*, A. Arendt, and *V. Pacheco*. Initial Assessments of the Geomorphic Impacts from Two Late Holocene, Drainage-Damming Landslides within the City Creek and Little Cottonwood Creek Watersheds, iUtah 2017 Summer Symposium, Logan, Utah, July 13th, 2017.

DuRoss, C.B., **M.P. Bunds**, N.G. Reitman, R.D. Gold, S.F. Personius, R.W. Briggs, N.A. Toké, K. Johnson, and L. Lajoie, "The distribution of surface displacements in the 1983 Borah Peak earthquake and prehistoric ruptures of the Warm Springs and Thousand Springs sections of the Lost River fault zone." Seismological Society of America Annual Meeting, Denver, CO: April 20 th, 2017, Poster # 1

Bunds, M.P., *Andreini, J., Arnold, M., Larsen, K., Fletcher*, A., Toke, N., 2017, Constraints on the Timing, Surface Displacement, and Lateral Extent of the Oquirrh Fault's Most Recent Surface-Rupturing Event from High Resolution Topography; Utah Quaternary Fault Parameter Working Group annual meeting.

Bunds, M.P., *Andreini, J., Arnold, M., Larsen, K., Fletcher, A.*, Toke, N., 2016, New Data on Quaternary Surface Offset and Slip Rates of the Oquirrh Fault (Utah, USA) from DSMs Made with Structure from Motion Methods, Fall Meeting of the American Geophysical Union.

Niemi, N., Stahl, T., *Andreini, J., Wells, J.*, **Bunds, M.P.**, 2016, Late Pleistocene to Holocene Paleoseismicity of the House Range Fault from UAV Photogrammetry and Exposure-Age Dating, Fall Meeting of the American Geophysical Union.

Deng, M., Harris, R., Yulianto, E., Horns, D., Hall, S., Emmett, C., **Bunds, M.**, and Prasetyadei, C., 2016, Tsunami Disaster Risk Assessment and in Prevention West Java, Indonesia, Fall Meeting of the American Geophysical Union.

Bunds, M.P., *Andreini, J., Wells, J.*, Janecke, S., Toke, N., Evans, J., Harris, R., Horns, D., and Fellows, S., 2016, High-Resolution Topography for Geologic Hazard Studies Using UAV-Based Photography and Structure from Motion Software, *Association of Engineering and Environmental Geologists Annual Meeting Abstracts with Programs*.

Janecke, S.U., Markowski, D., Bilham, R., Evans, J.P., **Bunds, M.P.**, *Wells, J., Andreini, J.*, and Quinn, R., 2016, The East Shoreline Strand of the San Andreas Fault and Its Implications for the Next Big One in Southern California, Southern California Earthquake Center 2016 Annual Meeting program with abstracts, https://www.scec.org/publication/6629.

Toke, N., **Bunds, M.P.**, Salisbury, J.B., Arrowsmith, JR, Horns, D., *Abueg, N., Anderson, J., Carlson, J.K.*, 2016, Dry Lake Valley Observations of Historical and Prehistoric Creep on the Central San Andreas Fault, invited talk for the Southern San Andreas Fault Evaluation (SoSAFE) Workshop: Project Successes and Future Challenges at the Southern California Earthquake Center Annual Meeting, Palm Springs, California, September 09, 2016.

Duross, C.B., Gold, R., Personius, S., Briggs, R., Reitman, N., **Bunds, M.P.**, Toke, N., Johnson, K., Lajoie, L., and Schwartz, D., 2016, Spatial distribution of displacement along the northern part of the 1983 M 6.9 Borah Peak earthquake rupture, Seismological Society of America Annual Meeting, Program with Abstracts.

Janecke, S.U., **Bunds, M.P.,** *Wells, J., Andreini, J.,* 2016, UAV-Survey and Photogrammetry Produce LiDAR-Like DEM of Scarps in Logan, UT, Utah Quaternary Fault Parameter Working Group annual meeting.

Bunds, M.P., *Andreini, J., Arnold, M., Larsen, K., Fletcher, A.*, Toké, N., 2016, New Data on Holocene Offsets and Slip Rates for the Oquirrh Fault from DEMs Made with Structure-from-Motion Methods, Utah Quaternary Fault Parameter Working Group annual meeting.

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Dry Lake Valley Paleoseismic Record, Southern California Earthquake Center 2015 Annual Meeting program with abstracts.

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Bunds, M.P., Toké, N., Walther, S., *Fletcher, A., Arnoff, M.*, 2014 Applications of Structure from Motion Software in Earthquake Geology Investigations: Examples from the Wasatch, Oquirrh, and San Andreas Faults, Basin and Range Seismic Hazard Summit III, Salt Lake City Utah.

Bunds, M.P., Horns, D.A., *Ungerman, B.*, 2013, Improved Hazard Assessment, Effect of Water Table Height on Landslide Displacement Rate, and Failure Plane Rheology from Nine Years of Monitoring of the Sherwood Hills Slump, Provo, Utah, *Geological Society of America Abstracts with Program*, v.45, no.7.

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Bunds, M.P., S.H. Emerman, T.N. Bhattarai, *R.B. Anderson, N. Adhikari, K. Karki, and M.A. Palmer*, Using lichenometry to assess long term GLOF and landslide frequency in the Nepal Himalaya: in proceedings of the11th Congress of the International Association of Engineering and Environmental Geologists, Auckland, New Zealand, September 5, 2010.

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Emerman, S.H., *R.B. Anderson*, S. Bhandari, R.R. Bhattarai, *M.A. Palmer*, T.N. Bhattarai, and **M.P. Bunds**, Arsenic and other heavy metals in the Sun Koshi and Sapta Koshi Rivers, eastern Nepal, 6th Nepal Geological Congress, Kathmandu, Nepal, November 15, 2010.

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Horns, D., W.S. Dinklage, **M.P. Bunds**, 2005, Assessing the use of research to motivate students at an open-enrollment college, *Geological Society of America Abstracts with Program*, v.37, no.7.

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Bruhn, R.L., Parry, W. T., and **Bunds, M.P.**, 1996, Geodynamics and fluid pressure in the Cook Inlet fold and fault belt, Alaska, EOS, Transactions of the American Geophysical Union, v. 77, no. 46, pg. 658 (abstract).

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Roeske, S. M., Snee, L. W., and **Bunds, M. P.**, 1993, $^{40}Ar/^{39}Ar$ dates from the Border Ranges fault system, a hydrothermally altered brittle-ductile transition strike-slip shear zone, southern Alaska. GSA Abstracts with programs, 1993 Annual Meeting, vol. 25, no. 5.

Bunds, M. P. and S. M. Roeske, 1992, Early Tertiary brittle strike-slip faulting and fluid infiltration in the Border Ranges fault system, Eastern Chugach Mountains, Southern Alaska. Eos v. 73, n. 43, p. 534.

STUDENT-LED ABSTRACTS AND PRESENTATIONS (Student authors in *underlined italics*)

Stearns, M.A., *Waters, E.*, **Bunds, M.P.**, 2022, Paleorelief and Footwall Rotation Adjacent to the Wasatch Fault Zone Recorded by the Eocene-Oligocene Paleosurfaces, Snyderville Basin, Utah, USA, Fall Meeting of the American Geophysical Union, December 12-16. (Student-led project, Bunds as primary mentor)

Memmot, C.F., **Bunds, M.P.**, 2022**,** Insights into Segmentation of the Oquirrh – Great Salt Lake Fault System from Fault Scarp Heights and Lake Bonneville Shoreline Elevations, Basin and Range Earthquake Summit, Salt Lake City, Utah, October 17-19.

Memmot, C.F., **Bunds, M.P.**, 2021**,** Insights into Segmentation and Surface Rupture History of the Oquirrh – Great Salt Lake Fault System, Utah, USA, from Scarp Heights and Lake Bonneville Shoreline Elevations, Annual Meeting of the Geological Society of America, Portland, OR, Abstracts with Programs v 53 n 6. DOI: 10.1130/abs/2021AM-370049

Whitney, B., Forsythe, D., Campbell, D., **Bunds, M.P.**, 2020, Detection of Earthflow Creep from Topographic Differencing of Airborne LiDAR and sUAS – Derived High Resolution Topography, Shurtz lake, Utah, USA, 72nd Annual Meeting of the Geological Society of America Rocky Mountain Section (meeting postponed due to COVID-19).

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Richards, R., Tolman, A., Whitney, B., Ward, S, Rittenour, T.M., Ideker, C.J., **Bunds, M.P.**, Toke, N.A., 2020, Earthquake History of the Topliff Hills Fault: Evidence of Six Events Since 69.3 Ka, 72nd Annual Meeting of the Geological Society of America Rocky Mountain Section (meeting postponed due to COVID-19).

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Garcia, P.K., S.H. Emerman, *S.A. Robertson*, **M.P. Bunds**, D. Samake, A. Maiga, K, Keita, A. Maiga, and S.Y.M. Madeleine, 2010, Comparison of surface water and groundwater arsenic in the floodplains of the Ganges and Niger Rivers, 6th Nepal Geological Congress, Kathmandu, Nepal, November 15, 2010.

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Nelson Hadley, J., M. Thayne, P.K. Garcia, S.H. Emerman, *M.E. Van Wagoner*, **M.P. Bunds**, and J.A. Bradford, 2010, Use of aqueous chemistry of springs to delineate aquifers in the Sierra Tarahumara, Chihuahua, Mexico, 62nd Annual Meeting, Geological Society of America, Rocky Mountain Section, Rapid City, South Dakota, April 23, 2010.

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Anderson, R.B., S.H. Emerman, *S. Bhandari, R.R. Bhattarai, M.A. Palmer*, T.N. Bhattarai, and **M.P. Bunds**, 2010, Arsenic and other heavy metals in the Sun Koshi and Sapta Koshi Rivers, eastern Nepal, 62nd Annual Meeting, Geological Society of America, Rocky Mountain Section, Rapid City, South Dakota, April 23, 2010.

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Robertson, S.A., J.K. Schoenrock, D.C. Witt, **M.P. Bunds**, S.H. Emerman, and J. Bradford, 2010, Volcanostratigraphy of the Divisadero Tuff in Rio San Ignacio Canyon, Creel, Mexico, 62nd Annual Meeting, Geological Society of America, Rocky Mountain Section, Rapid City, South Dakota, April 22, 2010.

Witt, D.C., **M.P. Bunds**, *J.K. Schoenrock, S.A. Robertson*, S.H. Emerman, and J. Bradford, 2010, Volcanostratigraphy of the Divisadero Tuff in the Sierra Tarahumara near Escuela San Elias, Chihuahua, Mexico, 62nd Annual Meeting, Geological Society of America, Rocky Mountain Section, Rapid City, South Dakota, April 23, 2010.

Anderson, R.B., S.H. Emerman, and **M.P. Bunds**, 2010, The use of lichenometry to date landslides, glacial lake outburst floods (GLOFs) and cultural artifacts in the Langtang Valley, Nepal Himalaya, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

Anderson, R.B., M.A. Palmer, S.H. Emerman, **M.P. Bunds**, and J.A. Bradford, 2010, Arsenic and other heavy metals in the Sun Koshi and Sapta Koshi Rivers, eastern Nepal, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

Nelson Hadley, J., M. Thayne, P.K. Garcia, M.E. Van Wagoner, S.H. Emerman, **M.P. Bunds**, and J.A. Bradford, 2010, Use of aqueous chemistry of springs to delineate aquifers in the Sierra Tarahumara, Chihuahua, Mexico, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

Schoenrock, J.K., P.K. Garcia, R.B. Anderson, T.L. Kemp, J. Durand, M.A. Palmer, S.H. Emerman, **M.P. Bunds**, and J.A. Bradford, 2010, Hydrogeology of a shield volcano in the Trans-Mexican Volcanic Belt, Guanajuato, Mexico, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

*Thayne, M., J. Nelson Hadley, M. Van Wagoner, P.K. Garci*a, S.H. Emerman, **M.P. Bunds**, and J.A. Bradford, 2010 Mapping of springs to determine fracture pathways for groundwater in the Sierra Tarahumara, Chihuahua, Mexico, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

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Witt, D.C., **M.P. Bunds**, *J.K. Schoenrock, S.A. Robertson*, S.H. Emerman, and J. Bradford, 2010, Volcanostratigraphy of the Divisadero Tuff in the Sierra Tarahumara near Escuela San Elias, Chihuahua, Mexico, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

Yerra, E., C. Morris, J. Leavitt, J.A. Bradford, S.H. Emerman, B. Barthel, and **M.P. Bunds**, 2010, Arsenicosis among the Tarahumara Indians, Chihuahua, Mexico, Utah Conference on Undergraduate Research, Cedar City, Utah, February 26, 2010.

Garcia, P.K., K.A. Rey, S.H. Emerman, **M.P. Bunds**, *C.K. Smith Barnes*, and J.A. Bradford, 2009, Water supply options for a village on a Pleistocene shield volcano in the Trans-Mexican Volcanic Belt, Session on Hydrologic Studies in the Rocky Mountains and Beyond, 61st Annual Meeting, Geological Society of America, Rocky Mountain Section, Orem, Utah, May 11, 2009.

Anderson, R.B., **M.P. Bunds**, S.H. Emerman, *R.C. White*, and J.A. Bradford, 2009, Preliminary hydrologic survey of the Sierra Tarahumara, Chihuahua, Mexico: Identification of aquifers, Session on Hydrologic Studies in the Rocky Mountains and Beyond, 61st Annual Meeting, Geological Society of America, Rocky Mountain Section, Orem, Utah, May 11, 2009.

White, R.C., T.L. Kemp, **M.P. Bunds**, S.H. Emerman, and J.A. Bradford, 2009, Preliminary hydrologic survey of the Sierra Tarahumara, Chihuahua, Mexico: Aquifer petrology, Session on Hydrologic Studies in the Rocky Mountains and Beyond, 61st Annual Meeting, Geological Society of America, Rocky Mountain Section, Orem, Utah, May 11, 2009.

Kemp, T.L., S.H. Emerman, **M.P. Bunds**, and J.A. Bradford, 2009, Preliminary hydrologic survey of the Sierra Tarahumara, Chihuahua, Mexico: Well productivity, Session on Hydrologic Studies in the Rocky Mountains and Beyond, 61st Annual Meeting, Geological Society of America, Rocky Mountain Section, Orem, Utah, May 11, 2009.

Durand, J.P., M.A. Palmer, S.H. Emerman, *T.L. Kemp, C.K. Smith Barnes*, **M.P. Bunds**, and J.A. Bradford, 2009, Preliminary hydrologic survey of the Sierra Tarahumara, Chihuahua, Mexico: Water chemistry, Session on Hydrologic Studies in the Rocky Mountains and Beyond, 61st Annual Meeting, Geological Society of America, Rocky Mountain Section, Orem, Utah, May 11, 2009.

Anderson, R.B., J.P. Durand, M.A. Palmer, T.L. Kemp, S.H. Emerman, **M.P. Bunds**, *C.K. Smith Barnes*, J.A. Bradford, 2009, Preliminary hydrologic survey of the Sierra Tarahumara, Chihuahua, Mexico, Poster Session, 26th Annual American Geophysical Union Hydrology Days, Fort Collins, Colorado, March 27, 2009.

Richardson, C., A. Craig, J.A. Bradford, **M.P. Bunds**, and S.H. Emerman, 2009, I can't believe people drink this: Providing clean water to a small, thirsty village in Mexico, Utah Conference on Undergraduate Research, Salt Lake City, Utah, February 19, 2009.

Anderson, R.J., **M.P. Bunds**, S.H. Emerman, *R.C. White*, and J.A. Bradford, 2009, Hydrologic survey of Copper Canyon, Mexico: Identification of aquifers, Utah Conference on Undergraduate Research, Salt Lake City, Utah, February 19, 2009.

Durand, J.P., M.A. Palmer, S.H. Emerman, *R.B. Anderson, T.L. Kemp, C.K. Smith Barnes*, **M.P. Bunds**, and J.A. Bradford, 2009, Hydrologic survey of Copper Canyon, Mexico: Water chemistry, Utah Conference on Undergraduate Research, Salt Lake City, Utah, February 19, 2009.

T.L. Kemp, S.H. Emerman, **M.P. Bunds**, and J.A. Bradford, 2009, Hydrologic survey of Copper Canyon, Mexico: Well productivity, Utah Conference on Undergraduate Research, Salt Lake City, Utah, February 19, 2009.

R.C. White, **M.P. Bunds**, S.H. Emerman, and J.A. Bradford,2009, Rocks of the Divisadero Tuff, Sierra Madre Occidental volcanic field, Chihuahua, Mexico, and their relationship to water well productivity, Utah Conference on Undergraduate Research, Salt Lake City, Utah, February 19, 2009.

Rey, K., C.K. Smith Barnes, **M.P. Bunds**, and S.H. Emerman, 2009, Potential development of a perched aquifer in shallow basalt flows on a Pleistocene shield volcano, Tamaula, Guanajuato, Mexico, Utah Conference on Undergraduate Research, Salt Lake City, Utah, February 19, 2009.

Rey, K., C.K. Smith Barnes, **M.P. Bunds**, and S.H. Emerman, 2008, Potential development of a perched aquifer in shallow basalt flows on a Pleistocene shield volcano, Tamaula, Guanajuato, Mexico, 2008 International Conference on Service-Learning, Orem, Utah, October 2, 2008.

Wright, C., J. Bradford, *A. Craig, C. Richardson, K. Rey, C.K. Smith Barnes*, **M.P. Bunds**, and S.H. Emerman, 2008, Water purification and international service learning: A panel discussion with participants from Southern Utah University & Utah Valley University, 2008 International Conference on Service-Learning, Orem, Utah, October 2, 2008.

White, R.C., Gardner, P., **Bunds, M.P**., Horns, D.A., 2008, Seasonal variations in movement and correlations to precipitation rates of a Provo bench landslide: Utah Conference on Undergraduate Research, February, 2008.

White, R.C., Oxford, J., Gardner , P., **Bunds, M.P.**, and Horns, D., 2007, Episodic Movement of a Suburban Slump, *Geological Society of America Abstracts with Program*, v.39, no.5, p. 4.

Gardner, P., White, R., Oxford, J., Sailer, V. and Healey, A. and **Bunds, M.P.**, 2006, Episodic Movement of an East Provo Bench Landslide: Presented at annual meeting of the Utah Council on Undergraduate Research, February, 2006.

PROFESSIONAL ACTIVITIES AND SERVICE

- Participant, Southern California Earthquake Center Workshop: *Coordinating Post-Earthquake Field Data Collection*, January 12-14, 2022.
- Invited Speaker, UVU Department of Earth Science Seminar Series, *The Magna Earthquake: Implications for Wasatch Fault Structure and Earthquake Hazard*, November 10, 2020
- External Reviewer and Review Committee Chair, Weber State University Department of Geosciences, 2020.
- Co-Chair, Technical Program Committee, 2020 Geological Society of America Rocky Mountain Section Meeting, Provo, Utah, 2019-present
- Co-presenter, *Earthquake Hazards Along the Wasatch Front*, Orem Public Library Revolutions in Science speaker series, February 20, 2018
- Presenter and participant, Utah Quaternary Fault Parameters Working Group, February 14 2018 Meeting, Salt Lake City, Utah
- Co-instructor, "Using high-resolution topography, UAVs, and GPS in undergraduate field education," UNAVCO, Boulder CO, August 15-18, 2017

- Member of "Waves Java" tsunami field research team, 2017
- Obtained Federal Aviation Administration Remote Pilot Certificate with Small Unmanned Aerial System Rating, June, 2017 (renewed 2019)
- Invited Speaker, UVU Department of Earth Science Seminar Series, "Fault Parameter and Geomorphic Change from High Resolution Topography, April 18, 2017.
- Invited Speaker, California State University at Sacramento Department of Geology Colloquium, "High-Resolution Topography from UAVs and Structure from Motion: Methods and Applications", April 11, 2017.
- Participant in American Geophysical Union / UNAVCO Short Course "Hooking Undergraduates into Geophysics Data and Methods (GPS, LiDAR, InSAR, SfM Photogrammetry) Through Societally Important Issues," Fall Meeting of the American Geophysical Union, December 11, 2016, San Francisco, California
- Panelist, "Sci-Hub and the Ethics of Academic Publishing," UVU Ethics Awareness Week, September, 2016.
- Invited Speaker, UVU Department of Physics Colloquium, "Imbricated Boulders on the South Coast of Java: Created by a Paleo-tsunami or Just Big Waves? A UAV and Photogrammetry Study," September 27, 2016
- Invited Speaker, UVU Department of Earth Science Seminar Series, "Imbricated Boulders on the South Coast of Java: Created by a Paleo-tsunami or Just Big Waves? A UAV and Photogrammetry Study," August 30, 2016.
- Participant in Traverse Ridge Paleoseismology trench review, Draper, UT, August 31, 2016.
- Participant in UNAVCO Short Course "Using TLS and Structure from Motion (SfM) Photogrammetry in Undergraduate Field Education," Indiana State University Geologic Field Station, Bozeman, Montana, August 16-19, 2016 (see Pratt-Sitaula, B., B. Crosby, and C. Crosby (2017), Integrating topographic imaging into geoscience field courses, *Eos, 98,* https://doi.org/10.1029/2017EO067411)
- Member of "Waves Java" tsunami field research team, 2016
- Invited speaker, Intermountain Section of the Association of Environmental and Engineering Geologists, "High Resolution Topographic Mapping for Geologic Hazard Studies Using Aerial Imagery and Structure from Motion Software: Methods, Accuracy, and Examples," Salt Lake City, Utah, January 7, 2016.
- Peer reviewer, Bulletin of the Seismological Society of America, 2015.
- Invited speaker, GIS Day by Utah County GIS Users Group, "Ultra-high Resolution Topographic Mapping for Earthquake Studies Using UAV-Based Photography," Orem, Utah, November, 2015
- California Earthquake Clearinghouse Training and Fieldwork Liability Certification, September 12, 2015
- Invited speaker, UVU Department of Earth Science Seminar Series, "3-Dimensional Surface Models from Structure from Motion: Methods, Error Analysis, and Geoscience Applications, March 24, 2015
- Participant in the Basin and Range Province Seismic Hazards Summit III, January 13-17, 2015, Salt Lake City, UT.
- Participant in UNAVCO 'Field Education and Support by the UNAVCO GAGE Facility' Workshop, November 16-18, 2014, Boulder Colorado.
- Organizing Committee member and presenter, Ronald L. Bruhn "Bruhn-fest" Retirement Symposium, March 29-30, 2013, University of Utah.
- Participant in Draper Ridge Paleoseismology Trench review, September 30, 2013.
- Co-organizer and presenter, 'Bruhnfest,' a symposium in tribute to the career of Ronald Bruhn, Salt Lake City, Utah, March 30, 2013
- Invited speaker, UVU Department of Earth Science Seminar Series, "Water Table Height, Displacement Rate and Glide Plane Rheology of the Sherwood Hills, Utah, Landslide," January 22, 2013.
- Session Chair, Landslide Processes, Annual Meeting of the Association of Environmental and Engineering Geologists, 20 September, 2012
- Presentation to Provo Rotary Club, Assessing Arsenic in Public Water Sources in Mali: A Collaboration Between UVU and University of Bamako, March, 2011, co-presented with Dr. Steven Emerman
- Invited speaker, UVU Department of Earth Science Seminar Series, "Dating Landslides, Moraines, GLOFs and More Using Lichenometry in the Langtang Himal, Nepal, December, 2009.

- Invited speaker, Utah Gem and Mineral Society, "Using Lichenometry to Assess Long Term Glacial Lake Outburst Flood and Landslide Frequency in the Nepal Himalaya," September, 28, 2009, Salt Lake City, UT
- Participant in the 2003 Intermountain Great Teacher's Summit
- Participant in Penrose Conference 'Faults and Subsurface Fluid Flow: Fundamentals and Applications to Hydrogeology and Petroleum Geology,' September 1997
- Participant in Penrose Conference 'Fine Grained Fault Rocks,' September 1995
- Member of Geological Society of America, Association of Engineering Geologists, International Association of Engineering Geologists, American Geophysical Union

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UVU SERVICE (selected examples, primarily since 2012)

- Co-Chair, Department of Earth Science Physical Geographer Faculty Search Committee, 2021-2022
- Member, Utah Valley University Tenure/Promotion Denial Appeal Hearing Committee, 2021
- Chair, Utah Valley University Tenure/Promotion Denial Appeal Hearing Committee, 2021
- Member, Utah Valley University Retention, Tenure, and Promotion Appeals Committee, January 2020 – 2022
- UVU Representative to UNAVCO (2021 to present) and spearheaded membership by UVU in UNAVCO
- Led acquisition, installation, and public dissemination of UVU Campus air quality instrumentation, 2021 (data are available real-time online and on Science Building A/V Display)
- Led acquisition, installation, and public dissemination of earthquake seismometers on UVU Campus (data are available real-time online and via direct on-campus connection for use in classrooms)
- Chair, Department of Earth Science GIS Laboratory Technology Oversight Committee, 2020 – present.
- Member, UVU Department of Earth Science RTP committee, July 2018-2020
- Expanding Your Horizons K-12 outreach event, prepared virtual reality demonstration, February, 2018
- SheTech K-12 STEM outreach, prepared virtual reality demonstration, February, 2018
- University Timely Completion Committee, 2017-2020
- UVU Department of Earth Science Chair, February 2011 – June 2018
- Chair, Geography B.S. degree program development committee, September 2016 – 2020
- Chair, Geography GIS Certificate program development committee, September 2013 – present
- Led Geospatial Field Methods class field trips to Topliff Fault, Utah, and San Andreas Fault (4-day trip), fall 2017
- Structure and Tectonics weekend field trip April 1-2, 2017
- Utah Valley GIS Day Organizing Committee member and presenter, November, 2016
- Organizer and participant in Dean's Day, College of Science and Health, October 12, 2016
- Structure and Tectonics weekend field trip April 9-10, 2016
- Served on 25-year Plan Needs Committee January 28, 2016
- Utah Valley GIS Day Organizing Committee member and presenter, November, 2015
- Geospatial Field Methods weekend field trips October 3 and 18, 2015
- Chair, Hiring Committee for Lab Manager, Dept. of Earth Science, Summer 2015
- Presenter, UVU Prep, July 10, 2015
- Structure and Tectonics weekend field trip April 4-5, 2015
- Member Jesse Marshall Integrated Studies Thesis Committee, fall 2014 – spring 2015
- Member of Hiring Committee, Human Geography, winter 2014-2015
- Chair, Geography Minor program development committee chair, 2012-2014
- Created new course, "Geospatial Field Methods," 2014
- Utah Valley GIS Day Organizing Committee member and presenter, November, 2014
- Geospatial Field Methods weekend and day-long field trips October 17, November 8, 9, 2014
- Organizer and participant, College of Science and Health Dean's Day, September 23, 2014
- pXRF purchase committee, May-June, 2014

- Dry Creek Paleoseismology Trench review participant, June 5, 2014
- Structure and Tectonics weekend field trip April 12-13, 2014
- University Program Assessment Pilot Committee, 2014
- Organizer, UVU Department of Earth Science Seminar Series (weekly), 2013-2014 academic year
- Created new UVU course, "Earth Science Seminar," GEO 480R, 2013
- Utah Valley GIS Day presenter, November, 2013
- Dean's Day organizer and participant, September 25, 2013
- Structure and Tectonics weekend field trip April 6-7, 2013
- Organizer, UVU Department of Earth Science Seminar Series (weekly), 2011-2014
- Organizer, UVU Department of Earth Science Seminar Series (weekly), 2012-2013 academic year
- ICP-OES purchasing committee, winter 2012-13.
- GNSS / Total Station purchasing committee, winter 2012-13
- Member, UVU Travel Policy Working Group, 2012
- Science Building Open House participant, April 19-12, 2012
- Structure and Tectonics weekend field trip April 7-8, 2012
- Organizer, UVU Department of Earth Science Seminar Series (weekly), 2011-2012 academic year
- Chair, Physical Geography Faculty Search Committee, 2011-2012
- Chair, Department of Earth Science RTP Committee, 2008-2012
- Member, Hydrologist Faculty Hiring Committee, 2007-2008
- Peer-reviewer, Tectonophysics, 2005
- Peer-reviewer, U.S. Geological Survey Open File Report, 2004
- Member, Petrology Faculty Hiring Committee, 2003-2004
- Department of Earth Science Faculty Senator, 2001-2004