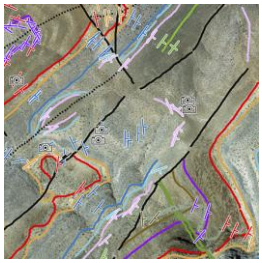
Nicolas C. Barth, Ph.D., P.G.
Associate Professor of Geology
Jr Faculty Distinguished Teaching Professor
Department of Earth & Planetary Sciences
University of California, Riverside
Riverside, CA 92521-0423 U.S.A.
+001 (951) 827-3183
nic.barth@ucr.edu
ncbarth.com
https://profiles.ucr.edu/nic.barth
California Professional Geologist #9904
US FAA Remote Pilot #3980450


EDUCATION

Ph.D. Geology	University of Otago – New Zealand *"A Tectono-Geomorphic Study of the Alpine Fault, N.Z."* Distinguished as a 2013 Exceptional Thesis (top 10%) Advisors: Virginia Toy, Richard Norris, Alan Cooper, Simon Cox	May 2013
M.Sc. Geological Sciences	University of California – Santa Barbara *"Strain in the Western Gneiss Region of Norway Recorded by Quartz LPOs"* Advisor: Brad Hacker	Jun 2008
B.Sc. Geological Sciences	University of California – Santa Barbara High Honors, Distinction in the Major, Senior Thesis *"Geology of the S. Branch of the Pareora and Otaio Rivers Region, Hunter Hills, Canterbury, NZ"* Advisor: Rick Sibson	Mar 2007

POSITIONS

Associate Professor	University of California – Riverside (UCR)	2023–present
Assistant Professor	University of California – Riverside (UCR)	2014–2023
Geological Consultant	Native American Land Conservancy (non-profit)	2022–2024
Geoscience Consultant	Planet 3 – fact-checked middle school geoscience modules	2016
Science Instructor	New Mexico Tech – Upward Bound Program (NMT)	2013
Geological Consultant	GNS Science, Alpine Fault LiDAR data, New Zealand	2011
Consulting Geologist	BreitBurn Energy Company, Ltd. – Santa Maria, CA	2007

PUBLICATIONS

For detailed analytics see Google Scholar page. Citations (1314), h-index (17), i10-index (21)

* advised graduate student # advised undergraduate student

32. Mere, A.M.*, **Barth, N.C.**, Seward, D., McPhillips, D. (2026) From Collision to Subduction: Thermal-Kinematic Inversions Constrain Plate Boundary Structure and Dip-Slip Activity in Southwestern New Zealand. *Journal of Geophysical Research – Solid Earth*. doi: 10.1029/2025JB032213

31. Mere, A.M.*, **Barth, N.C.**, Schwartz, J.J., Kylander-Clark, A.C. (2024) Slip History, Tectonic Evolution, and Fault Zone Structure along the Southern Alpine Fault, New Zealand. *G-Cubed*. doi: 10.1029/2024GC011839

30. **Barth, N.C.**, Kearse, J.R., Little, T.A., Van Dissen, R.J. (2024) Rupture Direction of paleoearthquakes on the Alpine Fault, New Zealand, as Recorded by Curved Slickenlines. *Geology*. doi: 10.1130/G52543.1

29. Guilinger, J.J.*, Foufoula-Georgiou, E., Gray, A.B., Randerson, J., Smyth, P., **Barth, N.C.**, Goulden, M. (2023) Predicting Postfire Sediment Yields of Small Steep Catchments Using Airborne Lidar Differencing. *Geophysical Research Letters*. doi: 10.1029/2023GL104626

28. Toy, V.G., **Barth, N.C.**, Bond, C.E., McLaren, S. (2023) Virtual and Digital Geology Introduction., *Journal of Structural Geology*, 168, doi: 10.1016/j.jsg.2023.104821

27. Stanton, T.W., Arden, T., **Barth, N.C.**, Diaz, J.F., Miller, S.J., Taube, K.A., Rohrer, P., Beckner, E., Magnoni, A. (2023) Chapter 3: Roads, temples, and the community boundaries of Coba, Quintana Roo. "*The Ties that Bind and the Walls that Divide: Prehistoric to Contemporary Maya Manipulation of Social Space*" University of Arizona Press. doi: 10.2307/jj.7263513.7

26. Swiatlowski, J. L.*, Funning, G. J., **Barth, N. C.** (2022) Monitoring creep along the Hayward Fault using structure-from-motion photogrammetry of offset curbs. *Geophysical Journal International*. doi: 10.1093/gji/ggac145

25. Kendrick, K., Matti, J., **Barth, N.C.** (2022) Geologic and geomorphic evidence for multi-phase history of strands of the San Andreas Fault through the San Gorgonio Pass structural knot, southern California. *Geosphere*. doi: 10.1130/GES02424.1

24. **Barth, N.C.**, Stock, G.M., Atit, K. (2022) From Virtual Field Trip to Geologically-Reasoned Decisions in Yosemite Valley. *Geoscience Communication*. doi: 10.5194/gc-5-17-2022

23. Stanton, T.W., Tsukamoto, K., Fernandez-Diaz, J.C., **Barth, N.C.** (2021) El Lidar en Mesoamerica. *Arqueologia Mexicana*, no. 166, pp. 82-87.

22. Kyriakopolous, C., **Barth, N.C.**, Koelemeijer, P., Winterbourne, J., Toussaint, R. (2021) 3D printing in geology and geophysics: a new world of opportunities in research, outreach, and education. *Frontiers in Earth Science*. doi: 10.3389/feart.2021.734291

21. Hutson, S.R., Dunning, N.P., Cook, B., Ruhl, T., **Barth, N. C.**, Conley, D. (2021) Ancient Maya Rural Settlement Patterns, Household Cooperation, and Regional Subsistence Interdependency in the Río Bec Area: Contributions from G-LiHT. *Journal of Anthropological Research*. doi: 10.1086/716750

20. Hutson, S.R., Hare, T.S., Stanton, T.W., Masson, M.A., **Barth, N.C.**, Ardren, T., Magnoni, A. (2021) A space of One's own: Houselot size among the ancient Maya. *Journal of Anthropological Archaeology*. doi: 10.1016/j.jaa.2021.101362

19. Howarth, J.D., **Barth, N.C.**, Fitzsimons, S.J., Richards-Dinger, K., Clark, K.J., Biasi, G.P., … Sutherland, R. (2021). Spatiotemporal clustering of great earthquakes on a transform fault controlled by geometry. *Nature Geoscience*. doi: 10.1038/s41561-021-00721-4

18. Ponti, D.J., Blair, J.L., Rosa, C.M., Thomas, K., Pickering, A.J., Akciz, S., Angster, S., Avouac, J-P., Bachuber, J., Bacon, S., **Barth, N.C.**, and 66 co-authors (2020) Documentation of Surface Fault Rupture and Ground-Deformation Features Produced by the 4 and 5 July 2019 Mw 6.4 and Mw 7.1 Ridgecrest Earthquake Sequence. *Seismological Research Letters*. doi: 10.1785/0220190322

17. Nourse, J.A., Swanson, B.J., Lusk, A.D., **Barth, N.C.**, Schwartz, J. J., & Vermillion, K. B. (2020) Recent advancements in geochronology, geologic mapping, and landslide characterization in basement rocks of the

San Gabriel Mountains block. *From the Islands to the Mountains: A 2020 View of Geologic Excursions in Southern California*. doi: 10.1130/2020.0059(02)

16. Stanton, T.W., Ardren, T., **Barth, N.C.**, Fernandez-Diaz, J.C., Rohrer, P., Meyer, D., Magnoni, A., Pérez, M. (2020) "Structure" density, area, and volume as complementary tools to understand Maya Settlement: An analysis of lidar data along the great road between Coba and Yaxuna. *Journal of Archaeological Science: Reports*. doi: 10.1016/j.jasrep.2019.102178

15. Guilinger, J.J.*, Gray, A.B., **Barth, N.C.**, Fong, B.T.# (2020) The Evolution of Sediment Sources Over a Sequence of Postfire Sediment-Laden Flows Revealed Through Repeat High-Resolution Change Detection. *Journal of Geophysical Research: Earth Surface*. doi: 10.1029/2020JF005527

14. Boulton, C., **Barth, N.C.**, Moore, D.E., Lockner, D.A., Townend, J., Faulkner, D.R. (2018) Frictional properties and 3-D stress analysis of the southern Alpine Fault, New Zealand. *Journal of Structural Geology*. doi: 10.1016/j.jsg.2018.06.003

13. Toy, V.G., Sutherland, R., Townend, J., …**Barth, N.C.** and the DFDP-2B Science Team (2017) Bedrock Geology of the DFDP-2, Central Alpine Fault, New Zealand. *New Zealand Journal of Geology & Geophysics*. doi: 10.1080/00288306.2017.1375533

12. Townend, J., Sutherland, R., Toy, V. G., Doan, M.-L., Célérier, B., Massiot, C., …**Barth, N.C.** and the DFDP-2B Science Team. (2017) Petrophysical, Geochemical, and Hydrological Evidence for Extensive Fracture-Mediated Fluid and Heat Transport in the Alpine Fault's Hanging-Wall Damage Zone. *Geochemistry, Geophysics, Geosystems*. doi: 10.1002/2017GC007202

11. Sutherland, R., Townend, J., Toy, V.G., Upton, P., …**Barth, N.C.** and the DFDP-2B Science Team (2017) Extreme hydrothermal conditions at an active plate-bounding fault. *Nature*. doi: 10.1038/nature22355

10. Magnoni, A., Stanton, T.W., **Barth, N.C.**, Fernandez Diaz, J., Osorio León, J., Pérez Ruíz, F., Wheeler, J.A. 2016. Detection Thresholds of Archaeological Features in Airborne LiDAR Data from Central Yucatán. *Advances in Archaeological Practice*. doi: 10.7183/2326-3768.4.3.232

9. Stephens, S., MacKenzie, D., **Barth, N.C.**, Craw, D. (2015) Links between orogenic and placer gold on the Old Man Range, Central Otago, New Zealand. *New Zealand Journal of Geology & Geophysics*. doi: 10.1080/00288306.2015.1070181

8. Robinson, T., Davies, T., Wilson, T., Orchiston, C., **Barth, N.C.** (2015) Evaluation of coseismic landslide hazard on the proposed Haast-Hollyford Highway, South Island, New Zealand. *Georisk*. doi: 10.1080/17499518.2015.1077974

7. **Barth, N.C.**, Kulhanek, D.K., Beu, A.G., Murray-Wallace, C.V., Hayward, B.W., Mildenhall, D.C., Lee, D.E. (2014) New c. 270 kyr strike-slip and uplift rates for the southern Alpine Fault and implications for the New Zealand plate boundary. *Journal of Structural Geology*. doi: 10.1016/j.jsg.2013.08.009

6. Langridge, R.M., Ries, W.F., Farrier, T., **Barth, N.C.**, Khajavi, N., De Pascale, G.P. (2014) Developing sub-5-m LiDAR DEMs for forested sections of the Alpine and Hope faults, South Island, New Zealand: Implications for structural interpretations. *Journal of Structural Geology*. doi: 10.1016/j.jsg.2013.11.007

5. **Barth, N.C.** (2014) Lidar reveals uniform Alpine fault offsets and bimodal plate boundary rupture behavior, New Zealand: COMMENT. *Geology*. doi: 10.1130/G35816C.1

4. **Barth, N.C.** (2013) The Cascade rock avalanche: implications of a very large Alpine Fault-triggered failure, New Zealand. *Landslides*. doi: 10.1007/s10346-013-0389-1

3. **Barth, N.C.**, Boulton, C., Carpenter, B.M., Batt, G.E., Toy, V.G. (2013) Slip localization on the southern Alpine Fault, New Zealand. *Tectonics*. doi: 10.1002/tect.20041

2. **Barth, N.C.**, Toy, V.G., Langridge, R.M., Norris, R.J. (2012) Scale dependence of oblique plate-boundary partitioning: New insights from LiDAR, central Alpine fault, New Zealand. *Lithosphere*. doi: 10.1130/L201.1

1. **Barth, N.C.**, Hacker, B.R., Seward, G.G., Walsh, E.O., Young, D., Johnston, S. (2010) Strain within the ultrahigh-pressure Western Gneiss region of Norway recorded by quartz CPOs. *Continental Tectonics and Mountain Building: the Legacy of Peach and Horne*. Geological Society of London, Special Publications. doi: 10.1144/SP335.27

ABSTRACTS

* advised graduate student # advised undergraduate student

70. Van Dissen, R.J., Kearse, J., **Barth, N.C.**, Little, T.A., Kaneko, Y., Howarth, J. (2025) Unearthing Slickenlines on the 2016 Rupture of the Kekerengu Fault and Paleosurface Ruptures of the Alpine Fault, New Zealand: Testing the Veracity and Utility of the Rupture-Propagation-Direction / Curved-Slickenline Hypothesis. 2025 SSA Annual Conference. Talk

69. Haddad, M.#, **Barth, N.C.**, Ganti, V., Greenberg, E. (2024) River Response to Deforestation in the Amazon Rainforest. 2024 UCR Undergraduate Research and Creative Activities Symposium. Poster

68. Mere, A.M.*, **Barth, N.C.**, Schwartz, J., Kylander-Clark, A.R. (2024) Variability in Slip History, Tectonic Evolution, and Fault Zone Structure along the Southern Alpine Fault, New Zealand. 2024 AGU Fall Meeting. Poster

67. Kearse, J., Van Dissen, R.J., Little, T.A., **Barth, N.C.**, (2024) Un-earthing Fault Rupture Slickenlines: Testing a New Method to Excavate and Document Paleoslickenlines on Active Faults. 12th PATA-DAYS Meeting, Chile. 4p. Talk

66. **Barth, N.C.**, Kearse, J., Little, T.A., Van Dissen, R.J. (2024) Curved slickenlines record rupture directivity of paleoearthquakes on the Alpine Fault, New Zealand. 12th PATA-DAYS Meeting, Chile. 4p. Talk

65. **Barth, N.C.**, Kearse, J., Little, T.A., Van Dissen, R.J. (2024) Enriching the Alpine Fault Paleoseismic Record Using Curved Slickenlines to Constrain Paleo-Epicentres. 2024 GSNZ Annual Conference. Talk

64. **Barth, N.C.**, Mere, A.M.* (2023) The Alpine Fault in the Lidar Age: Refined Interpretations, New Discoveries, and the Next Earthquake. 2023 GSNZ Annual Conference. Talk

63. Van Dissen, R.J., Little, T.A., Quinn, N., Kearse, J., Kaneko, Y., **Barth, N.C.**, Howarth, J. (2023) Unearthing Slickenlines on the 2016 Rupture of the Kekerengu Fault: Testing the Veracity and Utility of the Rupture-Propagation-Direction / Curved-Slickenline Hypothesis. 2023 GSNZ Annual Conference. Talk

62. Little, T.A., Van Dissen, R.J., Kearse, J., Kaneko, Y., **Barth, N.C.**, Howarth, J. (2023) The Structural Geology of Curved Slickenline Patterns and Modelling their Geometrical Evolution as a Function of Asperity Inception Timing, Longevity, and Rupture Propagation. 2023 GSNZ Annual Conference. Talk

61. Howarth, J., Moody, A., Fitzsimons, S., Vandergoes, M., Van Dissen, R.J., Little, T.A., Kearse, J., Kaneko, Y., **Barth, N.C.**, Li, X., Francios-Holden, C., Townend, J. (2023) Lacustrine Paleoseismology May Reveal the Rupture Direction of Past Great Earthquakes on a Plate Boundary Transform Fault. 2023 AGU Fall Meeting. Poster

60. Guilinger, J.J.*, Foufoula-Georgiou, E., Gray, A.B., Randerson, J.T. Smyth, P., **Barth, N.C**., Goulden, M. (2023) Using Repeat Airborne Laser Mapping for Prediction of Postfire Sediment Yield from Small Steep Catchments. 2023 AGU Annual Meeting. Talk

59. Guilinger, J.J.*, Foufoula-Georgiou, E., Gray, A.B., Randerson, J.T. Smyth, P., **Barth, N.C**., Goulden, M. (2023) Utilizing Repeat Airborne Laser Mapping for Prediction of Postfire Sediment Yield from Small Steep Drainages. 2023 GSA Annual Meeting. Talk

58. Knott, J., **Barth, N.C**. (2023) Pleistocene Pluvial Lake Deposits at the Poverty Hills, Inyo County, CA: Evidence of Greater Effective Precipitation during Marine Isotope Stages 22-19 and 5A/4 in the Southwestern Great Basin. 2023 GSA Annual Meeting. Talk

57. **Barth, N.C**. (2022) On the interaction of active faults and bedrock landslides. 2022 SCEC Annual Meeting. Poster

56. **Barth, N.C.** (2021) Creating virtual field trips with Google Earth Web. UC GIS Week 2021. Talk

55. Mere, A.*, **Barth, N.C.**, Kylander-Clark, A.R.C. (2021) Insights into the tectonic evolution of the southern Alpine Fault from mapping, petrography, and zircon U-Pb geochronology at Kaipo River, New Zealand. 2021 GSA Annual Meeting. Poster

54. Guilinger, J.J.*, Gray, A.B., **Barth, N.C.** (2021) Timescale between fires is an important control on postfire channel erosion in steep headwater catchments. 2021 AGU Fall Meeting. Talk

53. **Barth, N.C.** (2020) Current advances and future potential of digital field mapping. UC GIS Week 2020. Talk

52. Mere, A.M.*, **Barth, N.C.** (2020) GIS-based geologic mapping and analysis of the Kaipo Mélange and southern Alpine Fault. UC GIS Week 2020. Poster

51. **Barth, N.C.**, Gentile, C.* (2020) Ages, Geologic Controls, and Landscape Effects of Rock Avalanches in Southern California. 2020 GSA Annual Meeting. Talk

50. Guilinger, J.J.*, Gray, A.B., **Barth, N.C.** (2020) Geologic and aspect-driven controls on post-fire sediment export from steep headwater catchments. 2020 AGU Fall Meeting. Poster

49. Toy, V., Schuck, B., Matsumura, R., Orchiston, C., **Barth, N.C.**, Stirling, M. (2020) Scientific basis for definition of a fault rupture hazard in Franz Josef Glacier, New Zealand, and the fight to see use made of this information. 2020 EGU General Assembly. Talk.

48. Lara, J.#, Ford, H., **Barth, N.C.** (2019) Characterization of Gravity Anomalies on the Wyoming Craton. UCR GIS Day 2019. Poster

47. Churchill, M.#, Ford, H., **Barth, N.C.** (2019) Locating seismic activity in the Powder River Basin. UCR GIS Day 2019. Poster

46. Stanton, T.W., Arden, T., **Barth, N.C.**, Fernandez-Diaz, J.C., Rohrer, P., Magnoni, A. (2019) Lidar survey in the Coba/Yaxuna corridor: Implications for understanding urban and rural settlement along Sacbe 1. XI Congreso Internacional de Mayistas, Chetumal. Talk

45. Stanton, T.W., Arden, T., **Barth, N.C.**, Fernandez-Diaz, J.C., Roher, P., Miller, S.J., Meyer, D., Magnoni, A. (2019) A not so simple path: Settlement research along the Yaxuna-Coba Causeway. 8th Annual Maya at the Lago Conference. Talk

44. Howarth, J.D., **Barth, N.C.**, Fitzsimmons, S.J., Richards-Dinger, K., Clark, K., Cochran, U.A., Langridge, R.M., Berryman, K., Sutherland, R. (2019) Geometry causes temporal clustering of great earthquakes on a transform plate boundary. 2019 GSNZ Annual Conference. Plenary Talk

43. Guilinger, J.J.*, Gray, A.B., **Barth, N.C.** 2019 Seasonal shift of post-fire sediment provenance from channels to hillslopes documented through high-resolution monitoring. 2019 AGU Fall Meeting. Talk

42. Howarth, J., **Barth, N.C.**, Fitzsimmons, S., Richards-Dinger, K.B., Biasi, G.P., Clark, K., Cochran, U.A., Langridge, R.M., Berryman, K.R., Sutherland, R. (2019) Paleoseismology and simulations reveal geometry controls the temporal clustering of great earthquakes on the Alpine Fault, New Zealand. 2019 AGU Fall Meeting. Talk

41. Fong, B.T.#, Guilinger, J.J.*, **Barth, N.C.**, Gray, A.B. (2019) Hillslope boulder displacement from shallow landslides. 2019 AGU Fall Meeting. Poster

40. Guilinger, J.J.*, Gray, A.B., **Barth, N.C.** (2019) Strong scale dependence of erosion domains in post-fire headwater catchments. 2019 SoCal Geomorphology Symposium. Talk

39. Fong, B.T.#, Guilinger, J.J., **Barth, N.C.,** Gray, A.B. (2019) Hillslope Boulder Displacement in the Box Springs Mountains, California. 2019 SoCal Geomorphology Symposium. Poster

38. Guilinger, J.J.#, Gray, A.B., **Barth, N.C.** (2019) The evolution and depletion of sediment pools in a steep headwater catchment following wildfire as documented by high resolution change detection. 2019 GSA Annual Meeting. Talk

37. **Barth, N.C.** (2019) Lidar revealed constraints on the southern Alpine Fault, New Zealand. 2019 AGU Fall Meeting. Poster

36. Salazar, S.#, Funning, G., **Barth, N.C.** (2019) Examining the February 2018 Oaxaca, Mexico earthquake using InSAR. UCR Research in Science and Engineering Symposium. Poster

35. Boulton, C., **Barth, N.C.**, Townend, J. (2018) Stress, Strength, and Earthquakes on the Alpine Fault. 2018 Taiwan-Japan-New Zealand Seismic Hazard Workshop, Oamaru, NZ. Talk

34. **Barth, N.C.**, Howarth, J., Richards-Dinger, K., Fitzsimmons, S., Biasi, G. (2018) Forecasting Earthquake Behavior on the Alpine Fault, New Zealand. 2018 SCEC Annual Meeting. Poster

33. Guilinger, J.J.*, Gray, A.B., **Barth, N.C.** (2018) Confinement or conveyance: characterization of post-wildfire sedimentological connectivity using repeat terrestrial LiDAR. 2018 AGU Fall Meeting. Poster

32. Jumps, N.I.#, Gray, A.B., **Barth, N.C.** (2017) An investigation into dominant post-wildfire erosion regimes using fallout radionuclides (137Cs and excess 210Pb). 2017 SoCal Geomorphology Symposium. Poster

31. Guilinger, J.J.*, Gray, A., **Barth, N.C.** (2017) Characterizing post-wildfire erosion in a steep headwater catchment using nested scales of topographic change detection. 2017 SoCal Geomorphology Symp, Poster

30. Pearson, J.*, **Barth, N.C.** (2017) Using lidar to elucidate the slip behavior of the southern Alpine Fault, New Zealand. 2017 SCEC Annual Meeting. Poster

29. Leeper, R.*, **Barth, N.C.**, Gray, A. (2017) Analyzing postfire erosional processes and topographic change using hydrologic monitoring and repeat Structure-from- Motion photogrammetry at the storm event scale. 2017 AGU Fall Meeting. Poster

28. Stanton, T.W., Magnoni, A., Wheeler, J.A., **Barth, N.C.**, Osorio León, J., Pérez Ruíz, F. (2017) Using Lidar and Ground Survey to Understand Regional Settlement Patterns in Terminal Classic Central Yucatan. Society for American Archaeology 2017 Annual Meeting. Talk

27. Guilinger, J.J.*, Gray, A., **Barth, N.C.**, Ajami, H., Leeper, R.* (2017) Using UAVs to characterize hillslope erosional responses in a burned catchment. UCR GIS Day 2017. Poster

26. Janku-Capova, L., Sutherland, R., Townend, J., and the **DFDP-2B Science Team** (2017). Quantitative Analysis of Thermal Anomalies in the DFDP-2B Borehole, New Zealand. 2017 EGU General Assembly. Talk

25. Gentile, C.*, **Barth, N.C.**, Steinmuller, H. (2017) Inventory and analysis of landslides in the Mojave Desert, CA. 2017 Desert Studies Center Annual Desert Symposium. Poster

24. Toy, V.G., Billia, M., Easingwood, R., Kirilova, M., Kluge, E., Sauer, K., Sutherland, R., Timms, N., Townend, J., and the **DFDP-2B Science Team** (2017) Can Multi-Scale Calibrations Allow MT-Derived Resistivities to be Used to Probe the Structure of the Deep Crust?. 2017 EGU General Assembly. Talk

23. Toy, V.G., and the **DFDP-2B Science Team** (2017) Bedrock Geology of the DFDP-2 Drill-Site, Central Alpine Fault, New Zealand. 2017 EGU General Assembly. Talk

22. Kirilova, M., Toy, V.G., Timms, N., Halfpenny, A., Menzies, C., Craw, D., Beyssac, O., Rooney, J., Giorgetti, C., and the **DFDP-2B Science Team** (2016) Transformation of graphite by tectonic and hydrothermal processes in an active plate boundary fault zone, Alpine Fault, N.Z. 2016 EGU General Assembly. Talk

21. Langridge, R.M., Ries, W.F., **Barth, N.C.**, Howarth, J., Quigley, M., Farrier, T. (2016) Assembling lidar swaths along the South Island plate boundary, New Zealand: The South Island 'b4' project. 7th International PATA-DAYS Meeting. 4p. Talk

20. Leeper, R.*, **Barth, N.C.**, Gray, A. (2016) Analyzing the occurrence of debris flows and floods in a small watershed two years after a wildfire, San Gabriel Mountains, California. 2016 AGU Fall Meeting. Poster

19. Howarth, J., Cox, S.C., Sutherland, R., Langridge, R.M., Upton, P., **Barth, N.C.**, Atkins, C. (2015) Quaternary geology of the DFDP-2 drill holes, Alpine Fault, N.Z. 2015 GSNZ Annual Meeting. Talk

18. Cox, S.C., Howarth, J., Sutherland, R., Langridge, R.M., Upton, P., **Barth, N.C.**, Atkins, C. (2015) Quaternary geology of the DFDP-2 drill holes, Alpine Fault, New Zealand. 2015 AGU Fall Meeting. Talk

17. Sutherland, R., and 71 co-authors. (2015) Extreme Hydrothermal Conditions Near an Active Geological Fault, DFDP-2B Borehole, Alpine Fault, New Zealand. 2015 AGU Fall Meeting. Poster

16. **Barth, N.C.** (2014) New Zealand's Alpine Fault: Insights into the San Andreas Fault System. 2014 SCEC Annual Meeting. Poster

15. Boulton, C., Carpenter, B.M., **Barth, N.C.**, Toy, V.G. (2012) Mineralogy, microstructures, and frictional properties of weak fault core phyllosilicates, Alpine Fault, N.Z. 2012 Gordon Research Conference. Talk

14. Toy, V.G., Boulton, C., **Barth, N.C.**, Carpenter, B.M. (2012) What can microstructural observations of natural faults tell us about dissipative mechanisms that operated at the earthquake source?. Earthquake Source Physics on Various Scales Conference. Luxembourg. Talk

13. Ikari, M.J., Carpenter, B.M., Kopf, A.J., **Barth, N.C.**, Marone, C., Saffer, D.M., Oberhansli, R., Toy, V.G. (2012) Frictional behavior of the Alpine Fault, New Zealand, sampled from DFDP drilling and surface outcrops. Joint Colloquium of IODP and ICDP. Talk

12. Langridge, R.M., **Barth, N.C.**, De Pascale, G.P., Sutherland, R. (2012) The character of Holocene Alpine Fault deformation near DFDP-1 and DFDP-2 sites: Insights from LiDAR. 2012 GSNZ Conference. Talk

11. Boulton, C., **Barth, N.C.**, Carpenter, B.M., Toy, V.G. (2012) Weak Fault Cores, Alpine Fault, New Zealand. 2012 GSNZ Annual Conference. Talk

10. Boulton, C., Toy, V.G., **Barth, N.C.**, Carpenter, B.M (2012) Along strike applicability of results from the Deep Fault Drilling Program, Alpine Fault, New Zealand. 2012 AGU Fall Meeting. Talk

9. Langridge, R.M., **Barth, N.C.**, De Pascale, G.P., Toy, V.G. (2011) Geomorphic structure and paleoseismicity of the central Alpine Fault revealed through LiDAR imagery. 2011 GSNZ Annual Conference. Talk

8. **Barth, N.C.**, Toy, V.G., Langridge, R.M., Norris, R.J. (2011) Shallow transpressional segmentation and partitioning revealed by LiDAR data: central Alpine Fault, New Zealand. Cooper & Norris Retirement Symposium: The Alpine Fault, Earthquakes and Mountain Building. University of Otago, N.Z. Talk

7. Boulton, C., Carpenter, B.M., **Barth, N.C.**, Toy, V.G., Marone, C. (2011) Frictional and hydrological properties of Alpine Fault cataclastic fault rocks. Cooper & Norris Retirement Symposium. Talk

6. Boulton, C., **Barth, N.C.**, Carpenter, B.M., Toy, V.G. (2011) Significant along-strike variations in fault gouge thickness, friction coefficient and mineralogy. 2011 AGU Fall Meeting. Talk

5. **Barth, N.C.**, Toy, V.G., Langridge, R.M., Norris, R.J. (2011) Shallow transpressional segmentation & partitioning revealed by LiDAR data, central Alpine Fault, New Zealand. 2011 AGU Fall Meeting. Poster

4. Langridge, R.M., Toy, V.G., **Barth, N.C.**, De Pascale, G.P., Sutherland, R., Farrier, T. (2010) First LiDAR images of the Alpine Fault, central South Island, New Zealand. 2010 AGU Fall Meeting. Talk

3. **Barth, N.C.**, Toy, V.G., Boulton, C., Carpenter, B.M. (2010) Anatomy of a plate boundary at shallow crustal levels: A composite section from the Alpine Fault, New Zealand. 2010 GSNZ Annual Conference. Poster

2. **Barth, N.C.**, Toy, V.G., Boulton, C., Carpenter, B.M. (2010) Anatomy of a plate boundary at shallow crustal levels: A composite section from the Alpine Fault, New Zealand. 2010 AGU Fall Meeting. Poster

1. **Barth, N.C.**, Hacker, B.R., Seward, G.G., Johnston, S., Young, D., Walsh, E.O., Root, D. (2007) Strain within the ultrahigh-pressure Western Gneiss Region of Norway recorded by quartz LPOs. 2007 GSA Annual Meeting. Talk

STUDENT SUPERVISION

Andre Mere (PhD). "Fault Kinematics, Structure, and Evolution in Southwest New Zealand and Southern California". 2019-2025. Now a Senior Geologist at Lettis Consultants International.

Terry Li (MSc). "A LiDAR-Based Bedrock Landslide Inventory of the San Gabriel Mountains, California". 2023-2025.

James Guilinger (PhD). Co-advised with Andrew Gray. "A Multi-Scale Analysis of Post-Wildfire Sediment Cascades in Mountainous Southern California, USA". 2017-2021. Now Assistant Professor at California State University Monterey Bay.

Chris Gentile (MSc). "A Study of Rock Avalanche Deposits in San Antonio Canyon, San Gabriel Mountains, California". 2016-2018. Now a high school science teacher in Beaumont, CA.

Jozi Pearson (PhD candidate). Alpine Fault lidar geomorphology and thermochronology, NZ. 2015-2018. Withdrew for personal reasons. Now a high school teacher in Los Angeles.

Robert Leeper III (PhD candidate). Post-wildfire landscape response of the 2016 Fish Fire in the San Gabriel Mountains, CA. 2015-2018. Withdrew for personal reasons. Now a geology instructor at Mt San Antonio College and consulting geologist.

Jerlyn Swiatlowski (PhD). Supervised on Hayward Fault displaced curbs study. "Understanding Fault Creep from the Macroscopic to the Microscopic". 2015-2019. Now at EarthScope Consortium.

Eight undergraduate senior thesis projects supervised on local Box Springs Mountains and San Gabriel Mountains geology. Two undergraduate senior theses co-advised on geophysics projects. Nine independent projects supervised on field geology topics. Over two dozen undergraduates mentored on professional geologist licensure and UC education abroad opportunities.

TEACHING

Instructor (UCR)	Summer Field Geology – GEO 102A & B		2016/2017/2018/2019
	Modern Field & Visualization Methods – GEO 248		2016/2018/2022
	Geomorphology – GEO 162		2016/2018/2021/2023
	The Earth's Crust & Interior – GEO 001		2022/2023/2024/2025/2026
	Introductory Mineralogy – GEO 122		2015/2016
	Intro to Geographical Information Science (GIS) – GEO 157		2024/2026
	Proposal Writing & Review – GEO 201B		2023
	Geology of California – GEO 259		2022
	Natural Hazards & Disasters – GEO 004		2021
	Tectonic Geomorphology & Quat. Field Tech. – GEO 249		2015
	Capstone Geology – GEO 190	*COVID-19 substitute for Summer Field*	2020/2021
	Special Studies – GEO 190	*9 undergraduate projects supervised*	2015–2025
	Senior Thesis – GEO 195A & B	*10 undergraduate projects supervised*	2017–2025
Instructor (NMT)	Geology, Upward Bound program, New Mexico Tech		2013
Teach Fellow (OU)	Structural Analysis of Deformed Rocks – GEOL 351 – Toy		2010/2011
	Advanced Field Studies – GEOL 302 – White		2010/2011
Teach Asst (OU)	Sedimentary Processes and Materials – GEOL 273/373 – Wilson		2009
	Structural Analysis of Deformed Rocks – GEOL 351 – Toy		2009
	Field Studies and New Zealand Geology – GEOL 252 – Palin		2009
Teach Asst (UCSB)	Field Methods – EARTH 104B – Hacker		2008
	Igneous Petrology – EARTH 102B – Spera		2008
	Earth Materials – EARTH 114A – Hacker		2007
	Geology of Death Valley – EARTH 18 – Atwater		2007
	Geology of Yosemite – EARTH 19 – Keller		2007
Course Designer	Earth Materials – EARTH 114A & B (UCSB) – Hacker		2007

AWARDS

GSA Field Camp Excellence Award	One award annually by GSA & ExxonMobil, recognizing academic excellence & safety awareness	2019

UCR Junior Excellence in Teaching	UCR Academy of Distinguished Teachers presented to 2 pre-tenure faculty, bestows honorary title of "UCR Junior Faculty Distinguished Teaching Professor"	2016–2017
OU Science Outreach Certificate	University of Otago Division of Sciences in recognition of >60 hours of geology-related public outreach	2012
Otago Postgraduate Scholarship	University of Otago – New Zealand	2009–2012

GRANTS

RSNZ Marsden Fund	PI Russ Van Dissen. Barth is Co-PI. Geological fingerprinting of earthquake rupture directions: Can it be done? $649k	2020–2025
GeoAllies Program	NSF funded program to improve diversity and inclusion in geosciences. $2k sub-award	2021–2024
SCEC Grant	Southern California Earthquake Center $29k for San Andreas Fault research	2018–2023
SCEC Grant	Southern California Earthquake Center $15k for Cucamonga Fault research	2017–2023
PRIME Lab Seed Grant	Purdue Rare Isotope Measurement Lab $10k in cosmogenic radionuclide analyses	2018
UCEAP Academic Integration Grant	UC Education Abroad Program. $5k to develop course list & website to encourage Earth Science participation in UCEAP	2017–2018
Innovative Use of Tech in Teaching	UCR Academic Senate. $40k for tablet & drone digital field mapping incorporation into Earth Sciences courses	2015–2016
Capstone Development Grant	UCR Office of Undergraduate Education $5k to develop Summer Field Geology course	2015–2016
NGS & Waitt Institute Grant	National Geographic Society $11k for NZ Sea Cave Project	2014–2015
NGS Young Explorer Grant	National Geographic Society $5k for PhD fieldwork	2010

PROFESSIONAL SERVICE

OpenTopo Education AC	Member of OpenTopography Education Advisory Committee	2025–present
UNAVCO ECE AC	Chair of UNAVCO (now EarthScope) Education and Community Engagement Advisory Committee since 2022; member since 2020	2020–2023
VFT Working Group Leader	Co-led the "Virtual Class-Related Field Trips" working group (30 participants) as part of a NAGT & IAGD led "Designing Remote Field Experiences" (250 participants) initiative driven by COVID-19 field skill challenges	2020
SERC Teaching Module	Developed the Geology of Yosemite Valley teaching module, used by at least 20 universities, awarded "exemplary" status, mentioned in *Science*	2020
NSF & NASA Panels	Panel review member for NSF (1) and NASA (2);	2016–2021

	reviewed 45 proposals (15 as primary) and participated in discussions for a total of 170	
Peer Reviews	Reviewer for 35 journal submissions (18 journals), 3 ad hoc grant proposals, 1 promotion file	2013–present
Special Issue Guest Editor	Editor for 8 submissions to Journal of Structural Geology "Virtual and Digital Structural Geology" and Frontiers in Earth Science "3D Printing in Geology & Geophysics: A New World of Opportunities in Research, Outreach, and Education"	2019–2023
Invited Lectures	Presented talks at universities (15), institutions (7), UCR (4), and community groups (6)	2019–present
Conference Organizing	Co-organizer for GSA Montreal sessions (2)	2020
	Co-led GSA Flagstaff "Applications of Unmanned Aerial Vehicles" workshop and session	2018
Field Trip Organizing	Contributed to planning, guidebook, and stops for the South Coast Geological Society annual field trip	2024
	Co-organized GSA Pasadena San Gabriel Mtns field trip (cancelled last minute due to COVID-19)	2020
	Led 14 CGS mappers on a San Antonio Cyn field trip	2019
Workshop Participant	EarthScope Governance Workshop, CO	2022
	UC Field Safety Leadership Workshop, CA	2022
	GSA Field Safety Leadership Short Course, AZ	2019
	SCEC Mentor Training Workshop, CA	2019
	GSA Mega-Scale Landslides Field Forum, UT	2017
	UNAVCO TLS & SfM in Undergrad Field Education, MT	2016
	SCEC Analyzing Faults with High Resolution Topography	2016
	NAGT Early Career Geoscience Faculty Workshop, VA	2015
	ICDP Drilling in Active Fault Zones, NZ	2014
Website Development	Created geopad.ucr.edu website to promote digital field mapping techniques in education and research	2016
Student Letters	Wrote 135 student letters of recommendation for MSc/PhD, jobs, internships, PG licensure, grants	2016–present

UNIVERSITY SERVICE

Systemwide

UCEAP Faculty AC	Member of new program-wide faculty advisory committee for the University of California Education Abroad Program (UCEAP)	2025–present
UCIE UCEAP 10-Yr Review	Chair of committee for 10-year review of the UCEAP's New Zealand programs	2020–2021
UCEAP Australia/NZ FAC	Member of faculty advisory committee	2014–2025

Campus

R'Courses Committee Chair	Chair of Governing Board for R'Courses, approving student-led courses of their own design	2024–present
Search Committee Member	Member of 12 UCR search committees for director (1), faculty (9), and instructor (2)	2014–2024
Judge	Judge of student presentations at UCR Undergraduate Research Symposium and UCR GIS Day (annually)	2016–present
Diversity Advocate	Participant in NSF-funded GeoAllies Field Program	2022

	Participant in #FirstGenUCR Project promoting the role of first-generation faculty and staff at UCR	2017–2019
	Trained ally in UCR Safe Zone Ally Program to support LGBTQ students	2016–present
Department		
Undergraduate Advisor	Faculty advisor to department's undergraduates	2025–present
Faculty Advisor	Advisor to UCR's Geology Student Organization (undergraduate club) for guidance and events	2018–present
Education Abroad Liaison	Promote UCEAP opportunities, mentor interested students, help plan curriculum, identify scholarships	2018–present
Undergraduate Advising Comm.	Member of committee examining curriculum pathways, mentoring students, participating in events	2019–present
Collections Acquisition	Assisted the department's museum in mineral donations	2016

COMMUNITY SERVICE & OUTREACH

Recipient	Riverside County Parks General Manager's Volunteer Award for public service	2025
Commissioner	For the 5th District on the Riverside County Park District Advisory Commission, advising on parks, wildlife, and open-space matters	2024-present
Director	On board of the Riverside County Parks Foundation, supporting scenic, recreational, and historic interests	2018–present
Director	On board of the Friends of Riverside's Hills supporting preservation of natural spaces	2023–present
Scientific Media	Many news articles highlighting Barth et al. (2024) Alpine Fault research, e.g. 1, 2, 3, 4, 5	2024
	Many news articles highlighting Howarth et al. (2021) Alpine Fault research, e.g. 1, 2, 3, 4, 5, 6	2021
	Several UCR articles highlighting research, e.g. 1, 2, 3	2020–2021
	National Geographic explorer profile and video	2016–2018
Geological Reviewer	Provided content for 16 interpretative signs installed along trails in the Box Springs Mountain Reserve	2025–2026
	Contributed geologic content to "Mountains, Volcanoes, Coasts and Caves: Origins of Aotearoa New Zealand's Natural Wonders" book ISBN 9781869409678	2022
	Served on technical advisory committee for Gage Canal Trail near UCR, created geology interpretative sign	2021–2022
	Reviewed the "Box Springs Trails Master Plan"	2015–2020
	Edited geology sections of "Caves: Exploring New Zealand's Subterranean Wilderness" coffee table book ISBN 97804733827997	2016
	Provided geology introduction to "Canyoning in New Zealand" recreational guidebook ISBN 9780473330965	2015
Conservation & Research Officer	for the New Zealand Speleological Society, >100 hours	2010–2012
Public Speaker	on geology at various community/non-profit clubs and events, >30 hours	2010–present
Hands-on Teacher/Guide	for 1st-8th grade students about geology at UCR and UCSB affiliated events and career fairs, >100 hours	2004–present