

DR. MARTHA-CARY “MISSY” EPPES

Professor of Earth Sciences, University of North Carolina at Charlotte

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I. EDUCATION

PH.D. EARTH AND PLANETARY SCIENCES

University of New Mexico (UNM) 1997-2002. Dr. Leslie McFadden

Dissertation: Soil geomorphology of the north flank of the San Bernardino Mountains, California

M.S. GEOLOGY

New Mexico Institute of Mining and Technology (NMT) 1994-1996. Dr. Bruce Harrison

Thesis: Spatial and temporal study of soils developing on basalt flows, Potrillo volcanic field, NM

B.S. GEOLOGY, MAGNA CUM LAUDE, HONORS IN GEOLOGY

Washington and Lee University (W&L) 1989-93. Drs. Ed Spencer and David Harbor

Thesis: Quaternary glaciation of Middle Roaring Creek valley, Colorado

Study Abroad: Paris, France. Fall 1991.

II. ACADEMIC POSITIONS HELD

PROFESSOR OF EARTH SCIENCES

University of North Carolina at Charlotte, Dept. of Geography and Earth Sciences, 2017-present

ASSOCIATE PROFESSOR OF EARTH SCIENCES

University of North Carolina at Charlotte, Dept. of Geography and Earth Sciences, 2009-2017

ASSISTANT PROFESSOR OF EARTH SCIENCES

University of North Carolina at Charlotte, Dept. of Geography and Earth Sciences, 2003-2008

LECTURER

UNM, Department of Earth and Planetary Sciences, 1999

Limestone College, Department of Geology, 1997

TEACHING ASSISTANT

UNM, Department of Earth and Planetary Sciences, 1998

NMT, Department of Earth and Environmental Sciences, 1995-1996.

III. RESEARCH

indicates multidisciplinary research that comprises students, co-funded grants and/or faculty from another university, college or department

* indicates current or former student or post-doc that is an author or co-PI

A. PEER REVIEWED PUBLICATIONS

JOURNAL ARTICLES

1. #Eppes, M. C., Magi, B., Scheff, J., Warren, K., *Ching, S., & *Feng, T. (2020). Warmer, wetter climates accelerate mechanical weathering in field data, independent of stress-loading. *Geophysical Research Letters*. doi: 10.1029/2020GL089062
2. #Richter, D. D., Eppes, M. C., Austin, J. C., Bacon, A. R., Billings, S. A., Brecheisen, Z., ... & Wade, A. M. (2020). Soil production and the soil geomorphology legacy of Grove Karl Gilbert. *Soil Science Society of America Journal*, 84(1), 1-20.
3. #Collins, B.D., Stock, G.M. & Eppes, M.C. (2019). Relaxation Response of Critically Stressed Macroscale Surficial Rock Sheets. *Rock Mechanics and Rock Engineering*. <https://doi.org/10.1007/s00603-019-01832-6>
4. #Eppes, M.C., Hancock, G., Chen, X., *Arey, J., Dewers, T., *Huettenmoser, J., *Keisling, S., *Moser, F., *Tannu, N., *Weiserbs, B., *Whitten, J., (2018). Rates of subcritical cracking and long-term rock erosion. *Geology*, 46 (11): 951-954, DOI:10.1130/G45256.1
5. Collins, B., Stock, G, Eppes, M-C., Lewis, S., Corbett, S., Smith, J. (2018). Thermal influences on spontaneous rock dome exfoliation. *Nature Communications* 9, 762 (2018). <https://doi.org/10.1038/s41467-017-02728-1>.
6. #*Hohl, A., * Griffith, A., Eppes, M. C., and Delmelle, E. (2018). Computationally Enabled 4D Visualizations Facilitate the Detection of Rock Fracture Patterns from Acoustic Emissions. *Rock Mechanics and Rock Engineering*, 1-14, doi.org/10.1007/s00603-018-1488-z.
7. # Eppes, M. C., & Keanini, R. (2017). Mechanical Weathering and Rock Erosion by Climate-Dependent Subcritical Cracking. *Reviews of Geophysics*, 55, 470-508.
8. *Schobe, C., Hancock, G.S., Eppes, M.C., & Small, E., (2017). Field evidence for the influence of weathering in shaping bedrock river channels. *Earth Surface Processes and Landforms*, 42, 1997-2012.
9. # Eppes, M.C., Magi, B., Hallet, B., Delmelle, E., Mackenzie-Helnwein, P., Warren, K. & *Swami, S. (2016). Deciphering the role of solar-induced thermal stresses in rock weathering. *Geological Society of America Bulletin*, 128, 1315-1338.
10. #Eppes M.C., Willis A., *Molaro J., *Abernathy S., & *Zhou B. (2015). Cracks in Martian boulders exhibit preferred orientations that point to solar-induced thermal stress. *Nature communications*, 6.
11. *Aldred, J., Eppes, M.C., *Aquino, K., *Deal, R., *Garbini, J., *Swami, S., *Tuttle, A., & *Xanthos, G. (2015). The influence of solar-induced thermal stresses on the mechanical weathering of rocks in humid mid-latitudes. *Earth Surface Processes and Landforms*, 41, 603-614.
12. # *Johnson, B., *Layzell, A., & Eppes, M.C. (2015). Chronosequence development and soil variability from a variety of sub-alpine, post-glacial landforms and deposits in the southeastern San Juan Mountains of Colorado, *Catena*, 127, 222-239.

13. # Warren, K., **Eppes, M. C.**, *Swami, S., *Garbini, J., & Putkonen, J. (2013). Automated field detection of rock fracturing, microclimate, and diurnal rock temperature and strain fields. *Geoscientific Instrumentation, Methods and Data Systems*, 2(2), 275-288.
14. # *Johnson, B.G., Jiménez-Moreno, G., **Eppes, M. C.**, Diemer, J. A., & Stone, J. R. (2013). A multiproxy record of postglacial climate variability from a shallowing, 12-m deep sub-alpine bog in the southeastern San Juan Mountains of Colorado, USA. *The Holocene*, 23(7), 1028-1038.
15. *Layzell, A. L., & **Eppes, M. C.** (2013). Holocene pedogenesis in fluvial deposits of the Conejos River Valley, Southern Colorado. *The Compass: Earth Science Journal of Sigma Gamma Epsilon*, 84(4), 4.
16. # *Layzell, A. L., **Eppes, M. C.**, *Johnson, B. G., & Diemer, J. A. (2012). Post-glacial range of variability in the Conejos River Valley, Southern Colorado, USA: fluvial response to climate change and sediment supply. *Earth Surface Processes and Landforms*, 37(11), 1189-1202.
17. *Layzell, A., **Eppes, M. C.**, & *Lewis, R. (2012). r
18. # *Johnson, B. G., **Eppes, M. C.**, Diemer, J. A., Jiménez-Moreno, G., & *Layzell, A. L. (2011). Post-glacial landscape response to climate variability in the southeastern San Juan Mountains of Colorado, USA. *Quaternary Research*, 76(3), 352-362.
19. **Eppes, M. C.**, McFadden, L. D., Wegmann, K. W., & Scuderi, L. A. (2010). Cracks in desert pavement rocks: Further insights into mechanical weathering by directional insolation. *Geomorphology*, 123(1), 97-108.
20. # *Johnson, B. G., **Eppes, M. C.**, & Diemer, J. A. (2010). Surficial geologic map of the Upper Conejos River drainage, southeastern San Juan Mountains, Southern Colorado, USA. *Journal of Maps*, 6(1), 30-39.
21. **Eppes, M. C.**, & Griffing, D. (2010). Granular disintegration of marble in nature: A thermal-mechanical origin for a grus and corestone landscape. *Geomorphology*, 117(1), 170-180.
22. **Eppes, M. C.** (2009). Introducing field-based geologic research using soil geomorphology. *Journal of Geoscience Education*, 57(1), 11-22.
23. **Eppes, M. C.**, *Bierma, R., Vinson, D., & Pazzaglia, F. (2008). A soil chronosequence study of the Reno valley, Italy: Insights into the relative role of climate versus anthropogenic forcing on hillslope processes during the mid-Holocene. *Geoderma*, 147(3), 97-107.
24. **Eppes, M. C.**, & McFadden, L. (2008). The influence of bedrock weathering on the response of drainage basins and associated alluvial fans to Holocene climates, San Bernardino Mountains, California, USA. *The Holocene*, 18(6), 895-905.
25. McAuliffe, J. R., Hamerlynck, E. P., & **Eppes, M. C.** (2007). Landscape dynamics fostering the development and persistence of long-lived creosotebush (*Larrea tridentata*) clones in the Mojave Desert. *Journal of Arid Environments*, 69(1), 96-126.
26. Nichols, K. K., Bierman, P. R., **Eppes, M. C.**, Caffee, M., Finkel, R., & Larsen, J. (2007). Timing of surficial process changes down a Mojave Desert piedmont. *Quaternary Research*, 68(1), 151-161.
27. Nichols, K. K., Bierman, P. R., **Eppes, M. C.**, Caffee, M., Finkel, R., & Larsen, J. (2005). Late Quaternary history of the Chemehuevi Mountain piedmont, Mojave Desert, deciphered using ¹⁰Be and ²⁶Al. *American Journal of Science*, 305(5), 345-368.
28. McFadden, L. D., **Eppes, M. C.**, Gillespie, A. R., & Hallet, B. (2005). Physical weathering in arid landscapes due to diurnal variation in the direction of solar heating. *Geological Society of America Bulletin*, 117(1-2), 161-173.
29. *Pearce, S. A., Pazzaglia, F. J., & **Eppes, M. C.** (2004). Ephemeral stream response to growing folds. *Geological Society of America Bulletin*, 116(9-10), 1223-1239.

30. Olig, S. S., **Eppes, M. C.**, Forman, S. L., Love, D. W., & Allen, B. D. (2011). Late Quaternary earthquakes on the Hubbell Spring fault system, New Mexico, USA: Evidence for noncharacteristic ruptures of intrabasin faults in the Rio Grande rift. *Geological Society of America Special Papers*, 479, 47-77.
31. **Eppes, M. C.**, McFadden, L. D., Matti, J., & Powell, R. (2002). Influence of soil development on the geomorphic evolution of landscapes: An example from the Transverse Ranges of California. *Geology*, 30(3), 195-198.
32. **Eppes, M. C.**, & Harrison, J. B. J. (1999). Spatial variability of soils developing on basalt flows in the Potrillo volcanic field, southern New Mexico: Prelude to a chronosequence study. *Earth Surface Processes and Landforms*, 24(11), 1009-1024.

ARTICLES IN EDITED VOLUMES

1. Olig, S. S., **Eppes, M. C.**, Forman, S. L., Love, D. W., & Allen, B. D. (2011). Late Quaternary earthquakes on the Hubbell Spring fault system, New Mexico, USA: Evidence for noncharacteristic ruptures of intrabasin faults in the Rio Grande rift. *Geological Society of America Special Papers*, 479, 47-77.

OTHER

1. **Eppes, Martha-Cary**. 2016. Mechanical weathering of desert pavement rocks in the Mojave Desert. In Debra Hughson and Tasha La Doux eds. *Mojave National Preserve Science Newsletter*. National Park Service, April 2016, 12-17.

A. NON-REFEREED PUBLICATIONS

EDITED BOOKS

1. **Eppes, M. C.**, & Bartholomew, M. J. (Eds.). (2012). *From the Blue Ridge to the Coastal Plain; Field Excursions in the Southeastern United States* (Vol. 29). Field Trip Guidebook for the Annual Geological Society of America Meeting, Charlotte, NC.

FIELD GUIDES

1. **Eppes, M., C.**, (2020). Pacific Cell Friends of the Pleistocene 2020 Field Trip Guide. Mechanical Weathering via Thermal Stresses and Subcritical Cracking: A Self-Guided Field Trip usable throughout the Mojave Desert, CA; Friends of the Pleistocene-Pacific Cell, p. 1-7.
2. Diemer, J., **Eppes, M.C.**, Bender, J., *Henke, E., *Aldred, J., *Brazell, S., *Biggers, B., and *Jones, S. (2012). Building Stone Walking Tour of Uptown Charlotte, 24 p., GSA 2012 Annual Meeting Program Website (<http://www.geosociety.org/meetings/2012/downloads.htm>).
3. **Eppes, M.C.**, McDonald, E. V., and McFadden, L. D. (2003). Soil geomorphological studies in the Mojave Desert: Impacts of Quaternary tectonics, climate, and rock type on soils, landscapes, and plant-community ecology. *Quaternary Geology of the United States: INQUA 2003 Field Guide Volume*, 105. Easterbrook, D., (Ed). 105-122.
4. **Eppes, M.C.**, Harrison, B. (1997). *Soils of the Potrillo volcanic field: An overview*. GSA Rocky Mountain Section Meeting in El Paso, TX. Potrillo Volcanic Field Trip Guide.

RESEARCH REPORTS

2. **Co-author** - Condor Earth Technologies, Engineering Report, No. 551. 2015. Prepared for Twain Harte Lake Association.

OPEN FILE REPORTS & MAPS

1. Bobyarchick, A., Diemer, J., **Eppes, M.C.**, and Hilger, H. (2007). *Investigation of radon source material in the Piedmont, Cleveland and Gaston Counties, NC*. Final Report, Radiation Protection Office of NCDENR, Open File Report, 27 p.
2. Olig, S., **Eppes, M.C.**, Forman, S., Love, D., Allen, B. (2004). *Paleoseismic investigation of the central Hubbell Spring fault, Central New Mexico*. U.S. Geological Survey National Earthquake Hazards Reduction Program, Award No. 99HQGRoo89.
3. Koning, D.J., Nyman, M., Horning, R., **Eppes, M.C.**, and Rogers, S. (2002). *Geology of the Cundiyo 7.5-min. quadrangle, Santa Fe County, New Mexico*. New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map OF-GM 56, scale 1:24,000.
4. Personius, S.F., **Eppes, M.C.**, Mahan, S.A., Love, D. W., Mitchell, D.M., and Murphy, A. (2000). *Log and data from a trench across the Hubbell Spring Fault Zone, Bernalillo County, New Mexico*. U.S. Geological Survey Miscellaneous Field Studies Map MF-2348 (3 plates) (provided 10 OSL/TL ages).
5. Connell, S., Love, D., Maldonado, F., Jackson, P., McIntosh, W., **Eppes, M.C.** (2000). *Is the top of the upper Santa Fe Group diachronous in the Albuquerque Basin?* U.S. Geological Survey Middle Rio Grande Basin Study – Proceedings of the Fourth Annual Workshop, Albuquerque, New Mexico, Cole, J. ed. U.S. Geological Survey Open-File Report 00-488.
6. Dello-Russo, R., with contributions from: Abbott, A., **Eppes, M.C.**, Fritz, N., Gish, J., Harrison, B., Martine, K. (1997). *Results of test excavations at six archaeological sites in the Navajo route N55(1) project area, Socorro County, New Mexico*. Zuni Cultural Resource Enterprise Report No. 515. NNHPD Report Number HPD-95.575.4.

D. PAPERS OR POSTERS IN PROFESSIONAL MEETINGS THAT APPEAR AS PUBLISHED ABSTRACTS OR CONFERENCE PROCEEDINGS (+ SIGNIFIES PEER REVIEWED)

1. #Invited – **Eppes, M.C.**, and Keanini, R., (2020). 2020 KIRK BRYAN AWARD LECTURE: A NEW CONCEPTUAL FRAMEWORK FOR ALL MECHANICAL WEATHERING ON EARTH AND OTHER PLANETS – CLIMATE-DEPENDENT SUBCRITICAL CRACKING. Geological Society of America Abstracts with Programs. Vol 52, No. 6, doi: 10.1130/abs/2020AM-358104.
2. #**Eppes, M.**, Magi, B., Scheff, J., (2020). IT'S MORE THAN STRESS – FIELD EVIDENCE FOR CLIMATE'S INFLUENCE ON RATES OF ROCK FRACTURE. MR017-0003 Presented at 2020 Fall Meeting, AGU, 1-17 Dec.
3. *Rasmussen, M., **Eppes, M.**, *Berberich, S., *Bryan-Scaggs, K., *Dahlquist, M., *Flores, J., *Horgan, J., *Porson, s., *Shanon, U., *Tashnia, S., (2020). LATE QUATERNARY EVOLUTION OF ROCK CRACKING RATES AND MORPHOLOGY IN OWENS VALLEY, CALIFORNIA. MR017-0004 Presented at 2020 Fall Meeting, AGU, 1-17 Dec.
4. #Dahlquist, M., **Eppes, M.**, Lamp, J., Swanger, K., *Adams, C., *Barnum, A., *Carter, R., *Gore, V., *Hoffman, M., *Lontai, J., *Vant, M., *Watts, C., (2020). TWO MILLION YEARS OF CRACKS: CO-EVOLUTION OF SUBCRITICAL FRACTURING AND ROCK THERMAL PROPERTIES AT MULLINS GLACIER, ANTARCTICA. MR017-0012 Presented at 2020 Fall Meeting, AGU, 1-17 Dec.
5. Ben Asher, M., Mushkin, A., **Eppes, M.**, Lensky, N., Ming, D., Sletten, R., (2020). DIFFERENTIAL MECHANICAL WEATHERING AND THE EVOLUTION OF TOPOGRAPHIC ASYMMETRY IN THE ANTARCTIC DRY VALLEYS. MR029-03 Presented at 2020 Fall Meeting, AGU, 1-17 Dec.
6. Ferguson, R., **Eppes, M.**, Bacon, Al., Richter, D., Willard, D., Nelson, M., Austin, J., Billings, S., Markewitz, D., Cherkinsky, Al., (2020). LATE PLEISTOCENE, PRE-LGM COLLUVIAL AND ORGANIC-RICH SEDIMENTS IN

- THE INTERFLUVIAL UPLANDS OF THE SOUTHERN PIEDMONT: A CASE STUDY FROM NW SOUTH CAROLINA. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi: 10.1130/abs/2020AM-357572.
7. Dahlquist, M., **Eppes, M.**, Lamp, J., Swanger, K., (2020). A WORKFLOW FOR ANALYSIS OF MICROSCOPIC FRACTURES IN ROCK USING THIN SECTION MICROSCOPY. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi: 10.1130/abs/2020AM-359726.
 8. *Rasmussen, M., **Eppes, M.**, *Berberich, B., *Bryan-Skaggs, K., *Dahlquist, M., *Flores, J., *Horgan, J., *Porson, S., *Shaanan, U., *Tashina, S., (2020). A CLIMOSEQUENCE OF CHRONOSEQUENCES: EXPLORING THE TEMPORAL EVOLUTION OF MECHANICAL WEATHERING ACROSS VARYING CLIMATES, CALIFORNIA. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi: 10.1130/abs/2020AM-358420.
 9. *Horgan, J., Vinson, D., **Eppes, M.**, (2020). SEASONAL HYDROGEOCHEMICAL LINKS AMONG BASEFLOW, SAPROLITE-HOSTED GROUNDWATER, AND WEATHERING DEPTH IN SMALL WATERSHEDS AT A CRITICAL ZONE RESEARCH SITE IN THE NORTH CAROLINA PIEDMONT. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi: 10.1130/abs/2020AM-359184.
 10. Collins, B. D., Stock, G. M., **Eppes, M. C.**, Guerin, A., Jaboyedoff, M., & Sandrone, F. (2020). THERMAL INFLUENCES ON MACROSCALE ROCK DAMAGE. In EGU General Assembly Conference Abstracts (p. 2783).
 11. **Invited - Eppes, M.C.**, Magi, B., Scheff, J. (2019). WARMER AND WETTER CLIMATES ACCELERATE MECHANICAL WEATHERING, CA. Geological Society of America Abstracts with Programs. Vol. 51, No. 5.
 12. **Invited - NELSON, Michelle, EPPES, Martha Cary**, and RITTENOUR, Tammy M., (2019). LUMINESCENCE SIGNALS FROM SOIL AND SAPROLITE IN DEEPLY WEATHERED PROFILES- INTRIGUING NEW RESULTS FROM THE PIEDMONT OF NORTH CAROLINA Geological Society of America Abstracts with Programs. Vol. 51, No. 5, doi: 10.1130/abs/2019AM-338563
 13. **#Eppes, M.**, Hancock, G., Chen, X., Magi, B., Scheff, J., (2019). Testing the role of climate-dependent subcritical cracking in rock weathering and erosion. Geophysical Research Abstracts, Vol. 21, EGU2019-10364, 2019, EGU General Assembly 2019.
 14. Ferguson, Terry A; Bacon, Allan R.; **Eppes, Martha C.**; Richter, Daniel D.; Willard, Debra A.; Billings, Sharon A.; Austin, Jason C.; Nelson, Michelle S.; Cherkinsky, Alexander (2019). RE-INVESTIGATION OF A COLLUVIALLY FILLED VALLEY CONTAINING DEEPLY BURIED ORGANIC-RICH SEDIMENTS OF PLEISTOCENE AGE, PAULINE, SOUTH CAROLINA. Southeastern Section Meeting of the geological Society of America. Geological Society of America Abstracts with Programs. Vol. 51, No. 3, doi: 10.1130/abs/2019SE-327726.
 15. *Berberich, S., **Eppes, M.**, *Duquette, B., Jain, M., (2019). A chronosequence of cracking: how fractures evolve over time in the Eastern Sierra Nevada Foothills, CA. Geological Society of America Abstracts with Programs. Vol. 51, No. 5, doi: 10.1130/abs/2019AM-336916.
 16. *HORGAN, Julianna S.1, *MHATRE, Kaustubh2, *KAKDE, Omkar1, *DIPIETRO, Joseph M.1, *BATIANIS, Elizabeth1, **EPPES, Martha Cary** and VINSON, David. (2019). GROUNDWATER FLUCTUATIONS, STREAM BASEFLOW, AND ION CONCENTRATIONS IN FIRST-ORDER WATERSHEDS ALONG A GRADIENT OF LANDSCAPE POSITION IN THE SOUTHERN PIEDMONT, CA. Geological Society of America Abstracts with Programs. Vol. 51, No. 5, doi: 10.1130/abs/2019AM-337308
 17. MARSHALL, Jill A., **EPPES, Martha Cary** (2019). LISTENING FOR HOW TREES, WIND, WATER, AND TEMPERATURE PROPAGATE AND AMPLIFY NEAR-SURFACE FRACTURING, Geological Society of America Abstracts with Programs. Vol. 51, No. 5, doi: 10.1130/abs/2019AM-333064

18. *DUQUETTE, Breanna, *BERBERICH, Samantha and **EPPES, Martha C.**, (2019) THE INFLUENCE OF TEMPERATURE AND TEMPERATURE GRADIENTS ON ROCKS STRENGTH OVER TIME IN THE EASTERN SIERRA NEVADA FOOTHILLS, CA,. *Geological Society of America Abstracts with Programs*. Vol. 51, No. 5, doi: 10.1130/abs/2019AM-336925.
19. *Aldred, J., *Kayser, B., & **Eppes, M. C.** (2019). SOURCE TO SINK: THE CONTRIBUTION OF HILLSLOPE EROSION TO ALLUVIAL FANS IN THE UPPER CONEJOS RIVER BASIN, SE SAN JUAN MOUNTAINS, CO, USA. In GSA Annual Meeting in Phoenix, Arizona, USA-2019. GSA.
20. Ferguson, T. A., Bacon, A. R., Eppes, M. C., Richter, D. D., Willard, D. A., Nelson, M., & Austin, J. (2019). RETHINKING THE DEVELOPMENT OF THE PIEDMONT UPLANDS OF SOUTHEASTERN NORTH AMERICA: PLEISTOCENE AGE COLLUVIUM AND ORGANIC-RICH SEDIMENTS DATING FROM EARLY MIS 3 TO MIS 5. In AGU Fall Meeting 2019. AGU.
21. **#Eppes, M.C.**, Hancock, G.S., Chen, X. (2018). LONG TERM ROCK WEATHERING AND EROSION DRIVEN BY SUBCRITICAL CRACKING. *Geological Society of America Abstracts with Programs*. Vol. 50, No. 6, doi: 10.1130/abs/2018AM-322200.
22. *Berberich, S., Griffing, D., **Eppes, M.C.**, (2018). Marble Grus and Corestone Weathering in Humid and Arid Climates. *Geological Society of America Abstracts with Programs*. Vol. 50, No. 6, doi: 10.1130/abs/2018AM-323127.
23. **+#Eppes, M. C.**, Hancock, G. S., & Chen, X. (2018). Linking Subcritical Cracking to Long-Term Rock Erosion. In *52nd US Rock Mechanics/Geomechanics Symposium*. American Rock Mechanics Association, Seattle, Washington. *Did not attend, but abstract was accepted and published.*
24. +Collins, B. D., Stock, G. M., & **Eppes, M. C.** (2018). Thermally-Induced Fracture of Macroscale Surficial Granite Sheets. In *52nd US Rock Mechanics/Geomechanics Symposium*. American Rock Mechanics Association, Seattle, Washington.
25. **#Invited Keynote-Eppes, M.**, Keanini, R., Hancock, G., Hallet, B., (2017). Environmentally Dependent Subcritical Crack Growth: New insights into Mechanical Weathering Processes. *Progressive Rock Failure Conference*, ETH, Zurich Switzerland.
26. **#Eppes, M.**, Keanini, R., (2017). Climate, mechanical weathering, rock erosion and regolith production: new insights from fracture mechanics. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-306113.
27. Collins, B., Stock, G., **Eppes, M.**, Lewis, S., Corbett, S., Smith, J., (2017). Thermal-induced rock exfoliation as a modulator for granite dome weathering. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-300052.
28. Hancock, G., *Shobe, C., **Eppes, M.**, Small, E., (2017). Field evidence for the influence of weathering on rock erodibility and channel form in bedrock rivers. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-306421.
29. *Aldred, J., **Eppes, M.**, *Kayser, B., Diemer, J., *Deal, R., (2017). Soil heterogeneity provides evidence of spatial and temporal variance in climate-driven landscape change, southwest San Juan Mountains, CO, USA. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-306116.
30. *Moser, F., *Weiserbs, B., **Eppes, M.**, (2017). Spatial and temporal evolution of rock dome exfoliation in different climatic, geomorphic and geologic settings. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-301455.

31. *Opalka, C., **Eppes, M.**, *Edwards, B., *Allison, N., *Young, S., (2017). Soils and stratigraphy of tributary alluvial fans in the Uwharrie National Forest, NC, USA. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-304858.
32. Collins, B., Stock, G., **Eppes, M.** (2017). Progressive thermally-induced fracture of an exfoliation dome: Twain Harte, CA, USA. *Progressive Rock Failure Conference*, ETH, Zurich Switzerland.
33. Weiserbs, B., **Eppes, M.** (2017). The morphology and history of exfoliation on plutonic domes in the southeastern United States. *Southeastern GSA Abstracts with Programs*, Vol. 49, No. 3, doi: 10.1130/abs/2017SE-291096.
34. Diemer, J., Rich, F., Yankech, M., Mclean, R., Bobyarchick A., **Eppes, M.** (2017). Pollen evidence for the age of the Lilesville Gravels: A Neogene strath terrace deposit from the Fall Zone of North Carolina, USA. *Southeastern GSA Abstracts with Programs*, Vol. 49, No. 3, 10.1130/abs/2017SE-291305.
35. **#Invited – Eppes, M.**, Hancock, G.S., Keanini, R., Hallet, B., Mackenzie, P. (2016). Exploring How Weathering Related Stresses and Subcritical Crack Growth May Influence the Size of Sediment Produced from Different Rock Types. In *2016 AGU Fall Meeting San Francisco, California, USA*.
36. #Collins, B., **Eppes, M.**, Stock, G., Lewis, S. (2016). Apparently spontaneous fracture of a granitic exfoliation dome: observations and monitoring. In *2016 AGU Fall Meeting San Francisco, California, USA*.
37. *Huettenmoser, J., Hancock, G., **Eppes, M.**, *Whitten, J. (2016). An Assessment of the Relationship Between Rock Properties and the Rate of Bare-bedrock Erosion on Ridgeline Outcrops of the Blue Ridge Mountains, Virginia, USA. In *2016 AGU Fall Meeting San Francisco, California, USA*.
38. Hancock, G., *Huettenmoser, J., *Schobe, C., Eppes, M. (2016). Rock Erodibility as a Dynamic Variable Driven by the Interplay between Erosion and Weathering in Bedrock Channels: Examples from Great Falls, Virginia, USA. In *2016 AGU Fall Meeting San Francisco, California, USA*.
39. #*Griffiths, L., Heap, M., Eppes, M., Keanini, R., Baud, P. (2016). Experimentally reproducing thermal breakdown of rock at Erath's surface. In *2016 AGU Fall Meeting San Francisco, California, USA*.
40. # **Eppes, M.**, Hancock, G., *Moser, F., *Weiserbs, B., *Arey, J., *Tannu, N., *Kiessling, S. (2016). Exploring linkages between subcritical crack growth and rock type dependent erosion resistance, a case study from the Blue Ridge, VA. *GSA Abstracts with Programs*, (Vol. 48, No. 7, paper No. 62-5). *GSA Annual Meeting* in Denver, Colorado, USA.
41. # *Moser, F., **Eppes, M.**, Collins, B., Stock, G. (2016). Spatial and temporal variability in rock dome exfoliation and weathering. *GSA Abstracts with Programs*, (Vol. 48, No. 7, paper No. 298-3). *GSA Annual Meeting* in Denver, Colorado, USA.
42. # *Aldred, J., **Eppes, M.**, *Kayser, B., Diemer, J. (2016, September). Post last glacial maximum hillslope evolution in the southeast San Juan Mountains, CO, USA. *GSA Abstracts with Programs*, (Vol. 48, No. 7, paper No. 219-8). *GSA Annual Meeting* in Denver, Colorado, USA.
43. #**Eppes, M.**, Keanini, R., Hancock, G.S. (2016, April). Subcritical crack growth and mechanical weathering: A new consideration of how moisture influences rock erosion rates. *Geophysical Research Abstracts*, Vol. 18, EGU2016-10760, 2016. Presentation given at the 2016 *European Geosciences Union General Assembly* in Vienna, Austria, 17–22 Apr 2016.
44. #Keanini, R., **Eppes, M.** (2016, April). Extending non-fatigue Mode I subcritical crack growth data to subcritical fatigue crack growth: Demonstration of the equivalence of the Charles' law and Paris law exponents. *Geophysical Research Abstracts*, Vol. 18, EGU2016-11136, 2016. Presentation given at the 2016 *European Geosciences Union General Assembly* in Vienna, Austria, 17–22 Apr 2016.

45. **#Invited – Eppes, M.**, Magi, B., Keanini, R. (2015, December). Real-time observations of rock cracking and weather provide insights into thermal stress-related processes of mechanical weathering. In *2015 AGU Fall Meeting* San Francisco, California, USA.
46. *Aldred, J., **Eppes, M.**, *Kayser, B., Diemer, J. (2015, November). Post glacial landscape evolution in the upper Conejos River basin, SE San Juan Mountains, CO, USA. *GSA Abstracts with Programs*, (Vol. 47, No. 7, p.593). *GSA Annual Meeting* in Baltimore, Maryland, USA.
47. **#Invited – Eppes, M.**, Keanini, R. (2015, November). New Insights into the mechanical weathering of rock in humid-temperate climates. *GSA Abstracts with Program* (Vol. 47, No. 7, p.831). *GSA Annual Meeting* in Baltimore, Maryland, USA.
48. *Shobe, C., Hancock, G., **Eppes, M.**, Small, E. (2015, November). Evaluating the influence of feedbacks between erosion rate and weathering on the distribution of erodibility in bedrock river channels. *GSA Abstracts with Program* (Vol. 47, No. 7, p.551). *GSA Annual Meeting* in Baltimore, Maryland, USA.
49. **Invited – Eppes, M.** (2015, January). How insolation drives mechanical weathering in humid mid-latitudes: new insights from field data, instrumentation and numerical modeling. In *2015 Soil Science Society of North Carolina Annual Meeting* in Raleigh, North Carolina, USA.
50. *Shobe, C., Hancock, G., **Eppes, M.**, Small, E. (2014, October). The influence of weathering on the spatial distribution of erodibility in bedrock river channels. *GSA Abstracts with Program* (Vol. 46, No. 6, p.229). *GSA Annual Meeting* in Vancouver, British Columbia.
51. **#Eppes, M.**, Keanini, R. (2014, October). Stress corrosion explicitly considered as a weathering process. *GSA Abstracts with Program* (Vol. 46, No. 6, p.150). *GSA Annual Meeting* in Vancouver, British Columbia.
52. Wells, S., McFadden, L., McDonald, E., **Eppes, M.**, Young, M., Wood, Yvonne. (2013, October). Desert pavement processes and form: Influences on hydrologic processes and long-term landscape evolution in arid regions. *GSA Abstracts with Program* (Vol. 45, No. 7, p.410). *GSA Annual Meeting* in Denver, Colorado, USA.
53. **#*Abernathy, S., Eppes, M.**, Willis, A. (2013, October). Physical Weathering of Martian Rocks as a result of Diurnal Heating and Cooling. *GSA Abstracts with Program*, (Vol. 45, No. 7, p.141). *GSA Annual Meeting* in Denver, Colorado, USA.
54. **#Eppes, M.**, Warren, K., *Hinson, E., *Dash, L. (2012), Long term monitoring of rock surface temperature and rock cracking in temperate and desert climates., Abstract presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
55. **# Hallet, B., Mackenzie, P., *Shi, J., Eppes, M.** (2012), Modeling temperature and stress in rocks exposed to the sun (invited). Abstract presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
56. **# *Aldred, J. L., Eppes, M.**, Diemer, J. A., *Wright, S., & *Abernathy, S. (2012, November). Post glacial evolution of subalpine hillslopes and soils, SE San Juan Mountains, CO, USA. *GSA Abstracts with Program* (Vol. 44, No. 7, p.93). *GSA Annual Meeting* in Charlotte, North Carolina, USA.
57. **# Eppes, M.**, Warren, K., *Hinson, E., & *Dash, L. (2012, November). Physical weathering by insolation: comparison of year long, per-minute observations of temperature, strain and cracking in granite boulders in a temperate pasture and semiarid desert, North Carolina and New Mexico. *GSA Abstracts with Program* (Vol. 44, No. 7, p.145). *GSA Annual Meeting* in Charlotte, North Carolina, USA.

58. # Hallet, B., Mackenzie-Helnwein, P., *Shi, J., and **Eppes, M.** (2012, November). Are thermal stresses in rocks exposed to the sun sufficient to break them? Yes. *GSA Abstracts with Program* (Vol. 44, No. 7, p.145). *GSA Annual Meeting* in Charlotte, North Carolina, USA.
59. *Layzell, A., and **Eppes, M.** (2012, June). The effect of remnant glacial topography on Holocene alluvial forms and processes in the San Juan Mountains, Southern Colorado. AMQUA 2012, Program and Abstracts (Vol. 22, p.80). *American Quaternary Association Biennial Meeting* in Duluth, Minnesota, USA.
60. *Aquino, K., **Eppes, M.**, Diemer, J., *Layzell, T. (2012, April). A chronosequence on the Catawba River near Charlotte, NC: Insights into the geomorphology and remediation of this heavily industrialized river. *GSA Abstracts with Program*, (Vol. 44, No. 4, p.79). *Southeastern Section – GSA 61st Annual Meeting* in Asheville, North Carolina USA.
61. #Hallet, B., **Eppes, M.**, Mackenzie-Helnwein, P., Warren, K., McFadden, L., Gillespie, A., Putkonen, J., *Swami, S., *Shi, Jian. (2011). Solar-induced weathering of rocks: integrating instrumental and numerical studies. Abstract presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
62. #**Eppes, M.**, *Aldred, J., *Aquino, K., *Deal, R., *Garbini, J., *Swami, S., *Xanthos, G. (2011, October). Documentation of preferential orientations of cracks in boulder fields of temperate climates: Further evidence for the influence of directional insolation in physical weathering. *GSA Abstracts with Program*, (Vol. 43, No. 5, p.252). *GSA Annual Meeting*, Minneapolis, Minnesota, USA.
63. *Deal, R., **Eppes, M.**, Diemer, J., Armour, J., *Brazell, S., & *Johnson, B. (2011, October). Temporal and spatial variability of high resolution post-Last Glacial Maximum (LGM) climate records, Southern San Juan Mountains, Colorado. *GSA Abstracts with Program*, (Vol. 43, No. 5, p.423) *GSA Annual Meeting* in Minneapolis, Minnesota, USA.
64. *Brazell, S., *Layzell, A., *McGee, R., **Eppes, M.**, Armour, J., and Diemer, J. (2011, March). Timing of Post-LGM deglaciation of the Central Conejos River Valley, Southern San Juan Mountains. *GSA Abstracts with Program*, (Vol. 43, No. 2, p.76). *Southeastern Section Geological Society of America Meeting* in Wilmington, North Carolina, USA.
65. #*Invited* - **Eppes, M.**, Warren, K., *Swami, S., *Folz-Donahue, K., *Evans, S., *Cavendar, J., *Smith, I., *Layzell, T., 2010 Insolation Weathering: An Instrumentation and Field Based Study. Abstract EP43A-0745 presented at the 2010 AGU fall meeting, San Francisco California 13-17 Dec.
66. #**Eppes, M.**, Willis, A., *Zhou, B., 2010. Collecting field data from Mars Exploration Rover Spirit and Opportunity Images: Development of 3-D Visualization and Data-Mining Software. Abstract IN33B-1303 presented at the 2010 AGU fall meeting, San Francisco California 13-17 Dec. (presenter).
67. #*Cavender, J., **Eppes, M.**, *Smith, I., *Folz-Donahue, K., *Layzell, A., *Evans, S., * Aldred, J. (2010, November). Influence of rock shape on crack characteristics in alluvial fans of arid regions. *GSA Abstracts with Program* (Vol. 42, No. 5, p.240). *GSA Annual Meeting* in Denver, Colorado, USA (listed contributor).
68. #*Folz-Donahue, K., **Eppes, M.**, *Aldred, J., *Cavender, J., *Evans, S., *Layzell, A., *Smith, I. (2010, November). Influence of clast exposure age on crack characteristics of desert pavement rocks, Mojave Desert, California. *GSA Abstracts with Program* (Vol. 42, No. 5, p.240). *GSA Annual Meeting* in Denver, Colorado, USA.
69. #*Evans, S., **Eppes, M.**, *Smith, I., *Folz-Donahue, K., *Cavender, J., *Layzell, A., *Aldred, J. (2010, November). The control of rock type in non-tectonic rock crack characteristics. *GSA Abstracts with Program* (Vol. 42, No. 5, p.239). *GSA Annual Meeting* in Denver, Colorado, USA.

70. #*Layzell, A., **Eppes, M.**, *Johnson, B. (2010, November). A subalpine soil chronosequence in post-glacial deposits of the San Juan Mountains, Southern Colorado. *GSA Abstracts with Program* (Vol. 42, No. 5, p.231). *GSA Annual Meeting* in Denver, Colorado, USA.
71. #*Johnson, B., **Eppes, M.**, Diemer, J., Jimenez-Moreno, G. (2010, November). Post-glacial landscape response to climate variability in the southeastern San Juan Mountains of Colorado, USA. *GSA Abstracts with Program* (Vol. 42, p.33). *GSA Annual Meeting* in Denver, Colorado, USA.
72. *Layzell, A., **Eppes, M.**, *Lewis R. (2010, March). A soil chronosequence study of the terraces of the Catawba River near Charlotte, NC. *GSA Abstracts with Programs* (Vol. 42, p.133). *Northeastern Section (45th Annual) and Southeastern Section (59th Annual) Joint Meeting* in Baltimore, Maryland, USA.
73. #*Layzell, A., **Eppes, M.**, *Johnson, B. (2009, October). Soil Geomorphology of the central Conejos River valley, Colorado: Fluvial response to post-last glacial maximum (LGM) climates and sediment supply. *GSA Abstracts with Programs* (Vol. 41, No. 7, p.648). *GSA Annual Meeting* in Portland, Oregon, USA.
74. Diemer, J., **Eppes, M.**, Bobyarchick, A., Rich, F., *Freyer, J., *Hardison, J., *Layzell, A., *Simino, J., and *Wolfe, M. (2009, October). Quaternary evolution of an incising Piedmont river: the Catawba River near Charlotte, NC. *GSA Abstracts with Programs* (Vol. 41, No. 7, p.640). *GSA Annual Meeting* in Portland, Oregon, USA.
75. #*Johnson, B., Jimenez-Moreno, G., **Eppes, M.**, Diemer, J., and Felts, M. (2009, October). Preliminary paleoclimate implications from a 7 meter sub-alpine bog core in southern Colorado, USA, *GSA Abstracts with Programs* (Vol. 41, No. 7, p.275). *GSA Annual Meeting* in Portland, Oregon, USA.
76. Diemer, J., **Eppes, M.**, Rich, F., Sedlock, J., and Wright, S. (2009, March). Depositional history of an oxbow lake: Duck Cove of the Catawba River, Charlotte, NC. *GSA Abstracts with Programs*, (Vol. 41, No. 1, p.54). *Southeastern Section - GSA 58th Annual Meeting* in St. Petersburg, Florida, USA.
77. *Werner, C., Bender, J., Bobyarchick, A., Diemer, J., **Eppes, M.**, and *Waldron, A. (2009, March). Investigation of the source of high radon levels in Cleveland County, North Carolina. *GSA Abstracts with Programs*, (Vol. 41, No. 1, p.18). *Southeastern Section – GSA 58th Annual Meeting* in St. Petersburg, Florida, USA.
78. #**Eppes, M.C.**, Griffing, D., McFadden, L., Diemer, J., Daigneault, M., *Johnson, B., *Karlin, M., Gagrani, V., Tong, Y., and Scuderi, L. (2008, October). New field data supporting the role of insolation in physical weathering. *Joint Annual Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM* in Houston, Texas, USA.
79. McFadden, L., Meyer, G., *Persico, L., Birkeland, P., **Eppes, M.C.**, Harrision, B., McDonald, E., Ellwein, A., Frechette, J., and Burke, R. (2008, October). Integrating different conceptual models in studies of topography-soil Relations: The importance of chronosequence-based studies. *Joint Annual Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM* in Houston, Texas, USA.
80. Bobyarchick, A., and **Eppes, M.C.** (2008, October). Structure of the Cougar Buttes anticline, northern San Bernardino Mountains, California. *Joint Annual Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM* in Houston, Texas, USA.
81. #*Johnson, B., Diemer, J., **Eppes, M.C.**, Armour, J. (2008, October). Preliminary paleoclimatic Implications from a shallowing kettle pond: 12 meters of data from Cumbres Bog in the southern

- San Juan Mountains of Colorado. *Joint Annual Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM* in Houston, Texas, USA.
82. #*Johnson, B., *Williams, D., *Roth, A., *Shaw, E., Diemer, J., and **Eppes, M.C.** (2008, April). Paleoclimatic implications for total organic content and particle size from a 12 meter bog core from Cumbres Bog, Southern Colorado. *GSA Abstracts with Programs* (Vol. 40, No. 4, p.71). *Southeastern Section – GSA 57th Annual Meeting* in Charlotte, North Carolina, USA.
 83. *Kay, L., *McGee, R., *Blosser, J., **Eppes, M.C.**, and Diemer, J. (2008, April). A comparison of methodology in particle size analysis. *GSA Abstracts with Programs* (Vol. 40, No. 4, p.62). *Southeastern Section – GSA 57th Annual Meeting* in Charlotte, North Carolina, USA.
 84. #*McCormack, J., *Roth, A., *Johnson, B., **Eppes, M.C.** (2008, April). The origin of gullies in Beaverdam Creek, North Carolina. *GSA Abstracts with Programs* (Vol. 40, No. 4, p.52). *Southeastern Section – GSA 57th Annual Meeting* in Charlotte, North Carolina, USA.
 85. **Eppes, M.C.**, McFadden, L., Griffing, D. (2007, October). The influence of bedrock weathering on the response of drainage basins and associated alluvial fans to Holocene climates, San Bernardino Mountains, California. *GSA Abstracts with Programs* (Vol. 39, No. 6, p.260). *GSA Annual Meeting* in Denver, Colorado, USA.
 86. *Lehman, L., **Eppes, M.C.**, Barden, L. (2007, October). Relationships between native plant communities, geomorphology and soils in a rare piedmont prairie, North Carolina. *GSA Abstracts with Programs* (Vol. 39, No. 6, p.182). *GSA Annual Meeting* in Denver, Colorado, USA.
 87. *Habinck, E., **Eppes, M.C.** (2007, October). Correlation of soil development and landscape position with fall leaf colors. *GSA Abstracts with Programs* (Vol. 39, No. 6, p.218). *GSA Annual Meeting* in Denver, Colorado, USA.
 88. #*Johnson, B., **Eppes, M.C.**, and Diemer, J. (2007, October). Preliminary surficial geologic map of the upper Conejos River valley in the southeastern San Juan Mountains, Colorado. *GSA Abstracts with Programs* (Vol. 39, No. 6, p.83). *GSA Annual Meeting* in Denver, Colorado, USA.
 89. *Waldron, A., Bobyarchick, A., Diemer, J., **Eppes, M.C.**, and Meentemeyer, R. (2007, March). Spatial analysis of factors affecting home radon levels around Moss Lake, NC. *GSA Abstracts with Programs* (Vol. 39, No. 2, p.28). *Southeastern Section – GSA 56th Annual Meeting* in Savannah, Georgia, USA.
 90. *Mercer, M., Allan, C., Diemer, J., and **Eppes, M.C.**, 2007. Quantitative sediment provenance determination in a developing watershed, Water Resources Research Institute of North Carolina Annual Conference, Raleigh, North Carolina, USA.
 91. Bobyarchick, A., **Eppes, M.C.**, Diemer, J., Cathey, R., *Cottingham, M., *Eckardt, I., *Shiflet, J., *Waldron, A., (2006, December). Ground penetrating radar profiles of breached anticlinal ridges in the northern piedmont of the San Bernardino Mountains in Southern California. *EOS Trans. AGU* 87 (52). Fall Meet. Suppl., Abstract T43C-1656. San Francisco, California, USA.
 92. Pazzaglia, F., Cascione, J., **Eppes, M.C.**, *Bierma, R., Granger, D., Bennett, R., Picotti, V., Brandon, M. (2005, October). Active folding, growth strata, and terraces at the northern Apennine Mountain front, Bologna, Italy. *GSA Abstracts with Programs* (Vol. 37, No. 7, p.481). *GSA Annual Meeting* in Salt Lake City, Utah, USA.
 93. *Bierma, R., **Eppes, M.C.**, Pazzaglia, F. (2005, October). Evidence for late Quaternary faulting in the Reno River valley, central Apennine Mountains, Italy. *GSA Abstracts with Programs* (Vol. 37, No. 7, p.233). *GSA Annual Meeting* in Salt Lake City, Utah, USA.

94. Griffing, D., Eppes, **M.C.** (2005, October). Preliminary investigation of the occurrence of marble grus and corestones in the San Bernardino Mountains, California. *GSA Abstracts with Programs* (Vol. 37, No. 7, p.431). *GSA Annual Meeting* in Salt Lake City, Utah, USA.
95. Vinson, D., Eppes, **M.C.**, *Bierma, R. (2005, May). Iron oxide crystallinity in stream terraces, Reno River valley, Italy. *GSA Abstracts with Programs* (Vol. 37, No. 6, p.7). *Rocky Mountain Section – GSA 57th Annual Meeting* in Grand Junction, Colorado, USA.
96. *Bierma, R., Eppes, **M.C.** (2004, November). Correlation of fluvial strath terraces in the Reno River Valley, Italy. *GSA Abstracts with Programs*, (Vol. 36, No. 5, p.498). *GSA Annual Meeting* in Denver, Colorado, USA.
97. **Eppes, M.C.** (2003, November). Soil geomorphology in the Reno Valley, Italy: Initial results from the RETREAT project. *GSA Abstracts with Programs*, (Vol. 35, No. 6, September 2003, p.258). *GSA Annual Meeting* in Denver, Colorado, USA.
98. Pazzaglia, F., **Eppes, M.C.**, Granger, D., Reiners, P., Willet, S., Brandon, M. (2003, November). Active tectonics, orogeny, and erosion in the Northern Apennines, Italy; initial results of the RETREAT project. (Vol. 35, No. 6, September 2003, p.296). *GSA Annual Meeting* in Denver, Colorado, USA.
99. Nichols, K., Bierman, P., **Eppes, M.C.**, Finkel, R., Caffee, M., Larsen, J. (2003, November). The life of desert piedmont sediment, sediment tracing using cosmogenic nuclides. (Vol. 35, No. 6, September 2003, p.333). *GSA Annual Meeting* in Denver, Colorado, USA.
100. McAuliffe, J., Hamerlynck, E, and **Eppes, M.C.** (2003, August). Repeated geological perturbations and long-lived creosotebush in the Mojave Desert. *ESA/ISEM Joint Annual Meeting. The Bulletin of the Ecological Society of America*, 84: 52. *Abstracts with Program*. Savannah, Georgia, USA.
101. Olig, Susan S., **Eppes, M.C.**, Forman, S., Love, D., Allen, Bruce. Late Quaternary paleoseismicity of the central Hubbell Spring fault and implications for strain partitioning in the central Rio Grande Rift, New Mexico. International Association for Quaternary Research. Congress (16th: 2003: Reno, Nev.). (2003). XVI INQUA Congress programs with abstracts: July 23-30, 2003, Reno Hilton Hotel and Conference Center, Reno, Nevada, USA. Reno, Nev. :Desert Research Institute.
102. Nichols, K., Bierman, P., **Eppes, M.C.**, Caffee, M., Finkel, R., Larsen, J. The speed and history of piedmont sediment. International Association for Quaternary Research. Congress (16th: 2003: Reno, Nev.). (2003). XVI INQUA Congress programs with abstracts: July 23-30, 2003, Reno Hilton Hotel and Conference Center, Reno, Nevada, USA. Reno, Nev. :Desert Research Institute.
103. **Eppes, M.C.**, McFadden, L., Matti, J., Powell, R. (2002, October). Soil geomorphology of the north flank of the San Bernardino Mountains, California: A summary of interactions and feedbacks between soil development and landscape evolution at various temporal and spatial scales. *GSA Abstracts with Programs* (Vol. 33, No. 7). *GSA Annual Meeting* in Denver, Colorado, USA.
104. McFadden, L., **Eppes, M.C.**, Gillespie, A. (2002, October). Solar insolation and physical weathering in deserts: revisiting an old idea. *GSA Abstracts with Programs* (Vol. 33, No. 7). *GSA Annual Meeting* in Denver, Colorado, USA.
105. Nichols, K., Bierman, P., Hooke, R., **Eppes, M.C.**, Persico, L., Caffee, M., Finkel, R. (2001, December). Regular cosmogenic nuclide dosing of sediment moving down desert piedmonts. *EOS Trans. AGU*, 82(47), Fall Meet. Suppl., Abstract, 2001.
106. **Eppes, M.C.**, McFadden, L., Matti, J., Powell, R., Newland, S. (2000, November). Effects of soil development on tectonic landforms, San Bernardino Mountains, California. *GSA Abstracts with Programs* (Vol. 32, No.7). *GSA Annual Meeting* in Reno, Nevada, USA.

107. McFadden, L., Wells, S., **Eppes, M.C.**, Gillespie, A. (2000, November). Farouk El-Baz Award: The evolution of desert piedmont surfaces: Studies of the origin of desert pavements and soils. *GSA Abstracts with Programs* (Vol. 32, No.7). *GSA Annual Meeting* in Reno, Nevada, USA.
108. Harrison, J.B.J, **Eppes, M.C.**, Niemi, T.N., Hongwei, Z., Atallah, M. (1999, October). Developing soil chronosequences in a hyper-arid environment, Dead Sea, Jordan. *GSA Abstracts with Programs* (Vol. 31, No. 7, p.53). *GSA Annual Meeting* in Denver, Colorado, USA.
109. Personius, S., Mahan, S., **Eppes, M.C.**, (1999, October). Preliminary paleoseismic history of the Hubbell Spring fault zone near Albuquerque, New Mexico. *GSA Abstracts with Programs* (Vol. 31, No. 7, p.47). *GSA Annual Meeting* in Denver, Colorado, USA.
110. Pazzaglia, F., **Eppes, M.C.** (1999). Documenting a geologic record of erosion and extension in the maintenance of a steady-state wedge, Apennine Mountains, Italy. International Workshop on Large-Scale Vertical Movements and Related Gravitational Processes. Rome-Camerino, Abstracts, p. 1.
111. **Eppes, M.C.**, Mattie, J., Powell, R., McFadden, L. (1998, October). Soil Landscapes of the northern flank of the San Bernardino Mountains in the Transverse Ranges of southern California. *GSA Abstracts with Programs* 30-7. *GSA Annual Meeting* in Toronto, Canada.
112. **Eppes, M.C.**, Harrison, J. B. J., 1998. Unraveling soil spatial and temporal complexity; examination of soil landscapes in light of geomorphic processes. New Mexico Geological Society annual spring meeting; abstracts. *New Mexico Geology*, v. 20, n. 2, p. 52.
113. Poths, J., McLain, A., McFadden, L., **Eppes, M.C.**, 1997. Timing of soil accumulation using cosmogenic He surface exposure dating. AGU Fall Meeting. Program with Abstracts, p. F722.
114. **Eppes, M.C.**, Goodwin, L., Harrison, B., Knight, R. (1997, October). Using statistical geophysical relationships and mountain front morphology as tools for evaluation of fault segment lengths: The la Jencia fault, New Mexico. *GSA Abstracts with Programs* (Vol. 29, No. 6, p.415). *GSA Annual Meeting* in Salt Lake City, Utah, USA.
115. **Eppes, M.C.**, Harrison, B. (1996, October). A chronosequence study of soils developing on basalt flows in an arid environment: Potrillo volcanic field, Dona Ana County, NM. *GSA Abstracts with Programs* (Vol. 28, No. 7, p.253). *GSA Annual Meeting* in Denver, Colorado, USA.
116. **Eppes, M.C.**, Harrison, B., 1996. Spatial and temporal variability of soils developing on basalts in the Potrillo volcanic field, NM. New Mexico Geological Society 1996 spring meeting. Abstracts with Programs.
117. **Eppes, M.C.**, Harrison, B. (1995, November). A chronosequence study of soils developing on basalt flows in an arid environment: Potrillo volcanic field, Dona Ana County, NM. *GSA Abstracts with Programs* (Vol. 27, No. 6, p.57). *GSA Annual Meeting* in New Orleans, Louisiana, USA.
118. **Eppes, M.C.**, 1993. Late Quaternary glacial history of Middle Roaring Creek valley, CO. Keck Research Symposium in Geology, v. 6, p. 177-180.

E. EXTERNALLY FUNDED RESEARCH GRANTS AND CONTRACTS

FUNDED

1. **#Lead P.I.** - NSF-BSF: Quantifying climate-dependent subcritical cracking and mechanical weathering over geologic time. National Science Foundation Quaternary Geology and Geomorphology Program, \$508,377 total; \$299,940 to UNC Charlotte.

2. **# Co-P.I.** – Collaborative Research: Landscape evolution in the McMurdo Dry Valleys: Erosion rates and real-time monitoring of rock breakdown in a hyperarid, subzero environment. National Science Foundation Polar Programs, \$515,296 total; \$148,900 to UNC Charlotte, 2018-2020.
3. **Co-PI** – with Dr. Clinton - Undergraduate Internship in Soil Characterization. EPRI 03/07/2019 - 06/30/2020 \$15,316 to UNC Charlotte.
4. **Sole P.I.** – Cellular Uplink Service for the Redlair Observatory _ Part I. Foundation for the Carolinas, Redlair Foundation, \$6000, 2018-2023.
5. **Sole P.I.** – Cellular Uplink Service for the Redlair Observatory _ Part II. Friends of Plant Conservation, \$3000, 2018-2023.
6. **Lead P.I.** - Catawba Basin Upland Watershed Observatory: A Partnership for Long-Term Water Research and Education. Duke Energy Water Resources Fund, \$76, 971, 2017-2018.
7. **# Lead P.I.** - Determining the role of insolation in the mechanical breakdown of rock. National Science Foundation Geomorphology & Land Use Dynamics Program, \$228,343 total; \$142,473 to UNC Charlotte, 2009-2012. No-Cost Extension Granted 2012-2015.
8. **# Lead P.I.** - An investigation of physical weathering on Mars using new web-based, user-friendly, 3D MER data-mining software. NASA ROSES Mars Data Analysis, \$161,648 total to UNC Charlotte, 2009-2012. No-Cost Extension Granted 2012-2015.
9. **# Lead P.I.** - Determining the role of insolation in the mechanical breakdown of rock. National Science Foundation Geomorphology & Land Use Dynamics Program, Supplement. \$11,904 total; \$11,904 to UNC Charlotte, 2013-2015.
10. **# Lead P.I.** - Determining the role of insolation in the mechanical breakdown of rock. National Science Foundation Geomorphology & Land Use Dynamics Program, Supplement. \$12,460 total; \$12,460 to UNC Charlotte, 2012-2013.
11. **Sole P.I.** - Surficial geology and geomorphology of the glaciated portion of the Conejos River valley, southeastern San Juan Mountains, Colorado. United States Geological Survey, EDMAP program, \$12,151 matched by University funds (\$12,248) for a total of \$24,399. 2008-2010.
12. **Co-P.I.** - Influence of Cherryville Granite lithologic heterogeneity on soil gas radon, inner piedmont geologic belt, NC. NC Department of Environmental & Natural Resources, \$10,000 with \$10,000 matching University funds, \$20,000 total. 2008.
13. **# Lead P.I.** - Preliminary instrumentation study of rates and mechanisms of crack Initiation and mechanical weathering. NSF Small Grants for Exploratory Research (SGER), \$24, 929. 2007-2008.
14. **Sole P.I.** - The influence of marble grus on soil development and surface processes, an example from the San Bernardino Mountains, CA. Geological Society of America. \$8600. 2007.
15. **Sole P.I.** - Surficial geology and geomorphology of alpine basins in the southeastern San Juan Mountains, Colorado. United States Geological Survey EDMAP program. \$14,833. \$15,000 matching University funds. \$29,833 total. 2007-2008.
16. **Co-P.I.** - Investigation of radon source material in the Piedmont, Cleveland County, NC. \$24,000 with \$24,000 matching University funds. \$48,000 total. 2006-2007.
17. **Sole P.I.** - G&ES soils laboratory convection oven, DOE Energy-Related Laboratory Equipment Grant, \$2000 equivalent, August 2004.
18. **Sole P.I.** - Sub-contract with Lehigh University - RETREAT (REtreating TRENch, Extension, and Accretion Tectonics) Apennines of Northern and Central Italy , NSF Continental Dynamics Program, \$30, 000. June, 2002-May 2007.

FUNDED GRANTS FOR WHICH I FORMALLY CONTRIBUTE:

1. **Collaborator** – with Dr. Oliver Sass and Dr. Daniel Drabring, University of Bayreuth, “Modelling Rockwall Weathering from Microclimate, Rock Moisture and Rock Properties. German Science Foundation. 2020-2022.
2. **#Collaborator** – with Dr. Yoshi Nara, Kyoto University. Japan Spirits Award. The influence of the mineral precipitation and fracture sealing on the hydraulic constant.

F. INTERNALLY FUNDED RESEARCH GRANTS

FUNDED

1. **#Senior Personnel** – with Lead-PI Pat Fall –IGNITE Planning Grant Proposal, University of North Carolina Charlotte, Long-term Societal Responses to Climatic and Environmental Dynamics, Total amount requested: \$99,630. 2020-2022.
2. **SOLE PI** – UNC Charlotte Faculty Research Grant - Monitoring of rock temperatures in the Piedmont in order to determine their influence on long-term mechanical weathering and erosion, \$7952, 2019-2020.
3. **Sole-PI** – Undergraduate field assistant in California. Honors College Crown Scholar travel grant. Received \$200 for student supplies. 2019
4. **Sole-PI** – Lab Assistant. UNC Charlotte University Professional Internship Program (UPIP). ~\$1500. Fall 2019-Spring 2020.
5. **Sole P.I.** - Exploring the potential influence of subcritical crack growth characteristics on long-term rock erosion rates; a case study in Shenandoah National Park, Virginia. UNC Charlotte Faculty Research Grant. \$5998. 2017-2019.
6. **Sole P.I.** - Determining the influence of soils and geomorphology on anthocyanin production in deciduous trees. UNC Charlotte Faculty Research Grant. \$5960. 2010-2013.
7. **Sole P.I.** - Microsoft access database management course to facilitate database management for physical weathering data. CLAS Small Grant Program. \$750. 2012.
8. **Sole P.I.** - Soil chronosequence in the piedmont of North Carolina. UNC Charlotte Faculty Research Grant, \$5925. 2008-2009.
9. **Lead P.I.** - A potential high-resolution terrestrial record of Holocene climate, San Juan Mountains, Colorado. UNC Charlotte Faculty Research Grant. \$11,995. 2006-2007
10. **Sole P.I.** - Testing a new hypothesis for the solar weathering of surface rocks in temperate climates and at variable latitudes. UNC Charlotte Junior Faculty Grant, \$5953, January 2003-June 2005.

G. CONSULTING CONTRACT WORK

1. **Condor Engineering and the Twain Harte Lake Association**, AE monitoring of exfoliation cracking Twain Harte rock, reimbursed for travel expenses only. No salary was paid. This work allowed me to set up an MS research project for student Faye Moser, 2014 – 2015
2. **URS Corporation**, Hubble Springs Trench Project, soil scientist, 2002
3. **New Mexico State Map Project**, Cundiyo Quad, NM, geomorphologist, 2001
4. **Lehigh University**, Soil laboratory installation, PA, 2000

5. **Geohaz Inc.**, West Mesa Trenching Project, NM, soil scientist, 2000
6. **Southern California Aerial Mapping Project (SCAMP)** geologist, 1997-2002
7. **United States Geological Survey** Volunteer, 1997-2001
8. **Hubbell Springs fault, NM National Seismic Hazard Assessment Project**, soil scientist, 1997
9. **University of Missouri**, Dead Sea Seismic Hazard Project, Jordan; soil scientist, 1997
10. **New Mexico State Map Project**, Mt. Washington Quad, geomorphologist, NM 1997
11. **William Lettis & Assts. Inc.**, Tijeras Fault Trench Project, soil scientist, NM 1997
12. **PNM San Ysidro Gas Storage Reservoir project**, Well log analysis. NM 1995
13. **Zuni Cultural Resource Enterprise**, Alamo Project, NM 1995 Office of Contract Archaeology, New Mexico, El Paso Project, TX. Soil scientist. 1995

IV. TEACHING AND INSTRUCTIONAL ACTIVITY

A. COURSE WORKLOAD 2010-PRESENT

Semester Course	S15	F15	S16	F16	S17	F17	S18*	F18	S19	F19	S20	F20
ESCI 4210/5210 Soil Science & Lab				4/6 15				4/6 20				
ESCI 4105/5105 Geomorphology & Lab		-----RDL (sabbatical)-----				4/6 17	-----no courses**-----			4/6 16		-----no courses**-----
ESCI 6105/INES 8090 Landscape Assessment & Lab (Advanced Geomorphology)			4/6 5								4/6 7	
ESCI 4410/5410 Applied Soil Science & Lab	4/6 7				4/6 11				4/6 19			
ESCI 6600 Earth Science Grad Seminar				1/1 26				1/1 15				
Total	4/6 7		4/6 5	5/7 41	4/6 11	4/6 17		5/7 35	4/6 19	4/6 16	4/6 7	

#/# #	=	Credit Hours/Contact Hours Total Enrollment
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1 contact hour ≥ 1 hr/week of active instruction

*2018 – begin 9 contact hour/year workload

**no courses taught in these semesters due to overloads in prior semesters

B. ALL COURSES TAUGHT (1994-PRESENT)

UNC CHARLOTTE

1. **Soil Science**, ESCI 4210/5210, 4 credits; 6 contact hours
2. **Geomorphology**, GEOL 4105/5105, 4 credits; 6 contact hours
3. **Applied Soil Science**, GEOL 4410/5410; 4 credits, 6 contact hours
4. **Landscape Assessment**, ESCI 6105/INES8190, 4 credits, 6 contact hours
5. **Earth Science Grad Seminar**, ESCI 6600, 1 credit, 1 contact hour
6. **Paleoclimatology**, GEOL 6000/INES8000, 3 credits, 3 contact hours
7. **Earth Sciences Seminar**, ESCI 4600, 1 credit, 1 contact hour
8. **Physical Geology**, GEOL 1200, 3 credits, 3 contact hours

UNM

1. **Physical Geology**

2. **Field Camp** (TA)

LIMESTONE COLLEGE

1. **Physical Geology**

- | | |
|----------------------------------|--------------------------------------|
| NMT | 1. Field Camp , (TA) |
| 2. Surficial Geology (TA) | 3. Soil-Geomorphology
(TA) |

C. THESIS OR DISSERTATION ADVISOR

indicates multidisciplinary teaching or advising comprising students, courses, and/or faculty from other universities, colleges or departments.

º indicates student has graduated

1. Monica Rasmussen, **Ph.D. INES**. Quantifying climate-dependent subcritical cracking and mechanical weathering over geologic time. First semester Fall 2019.
2. # Jennifer Aldred, **Ph.D. INES**. Post-last glacial maximum landscape evolution of the upper Conejos River basin, San Juan Mountains, CO, USA. 2010-2020.
3. Samantha Berberich, **M.S. Earth Sciences**. A chronosequence of cracking in Mill Creek, CA. 2018-2020.
4. ºCo-Advisor with Dr. Peter Rhyser. **M.S. Biology. Laurentian University, Canada**. Influence of soil temperature on root turnover strategy in perennial wetland plants on the northern (Sudbury, ON, CA) and southern (Charlotte, NC, USA) edges of the deciduous forest in North America. 2016-2018.
5. ºCatherine Opalka, **M.S. Earth Sciences**. Alluvial fans of the NC Piedmont. 2016-2018.
6. ºJordan Arey, **M.S. Earth Sciences**. Fluvial terraces of the Catawba River. 2016-2018.
7. ºSuzanne Ching, **M.S. Earth Sciences**. Data analysis from a long term instrumentation study of a cracking rock. Leave of Absence Fall 2016. 2014-2018.
8. ºBen Weiserbs, **M.S. Earth Sciences**. The origin and morphology of exfoliation domes in the SE United States. 2015-2017
9. ºFaye Visco Moser, **M.S. Earth Sciences**. The morphology and origin of exfoliation domes, western Sierra Nevada Mountains, CA. 2015-2017.
10. ºBrandt Kayser, **M.S. Earth Sciences**. Stratigraphy and chronology of tributary alluvial fans in the Conejos River Valley, Colorado. 2010-2015.
11. ºLopita Dash, **M.S. Earth Sciences**. Analysis and comparison of instrumentation data from rocks in North Carolina and New Mexico: A study of strain, temperature and acoustical emission data. 2011-2015.
12. ºKimberly Aquino, **M.S. Earth Sciences**. Soil chronosequence of the Catawba River, North Carolina. 2011-2014.
13. ºCo-Advisor (with Dr. John Diemer, G&ES), Rebecca Deal, **M.S. Earth Sciences**. Paleoclimate spatial variability in the San Juan Mountains of southern Colorado. 2011-2014.
14. ºCo-Advisor (with Dr. John Diemer), Michelle Flowers, **M.S. Earth Sciences**. Geological and geomorphological characterization of NC pottery clay "honey-holes." 2009-2011.
15. # ºCo-Advisor (with Dr. Kimberly Warren, Civil Engineering), Swami Suraj, **M.S. Electrical and Computing Engineering**. The influence of directional insolation in thermal-mechanical degradation of rocks: an instrumentation study. 2009-2011.
16. # ºBrad Johnson, **Ph.D. INES**. Alpine landscape response to Holocene climates, San Juan Mountains, Colorado. 2006-2010. **Currently Assistant Professor at Davidson College.**
17. ºDalen Rice, **MS Earth Sciences**. The influence of mill-dams on Piedmont stream morphology and sedimentation, Charlotte NC. 2008-2010.

18. ^oTony Layzell, **MS Earth Sciences**. Soil geomorphology of the glaciated valley of the Conejos River, San Juan Mountains, Colorado. 2008-2010.
19. ^oMary Cauthen, **M.S. Earth Sciences**. The influence of soils and geomorphology on the production of anthocyanin in deciduous trees, Gaston County, NC. 2008-2010.
20. [#]Co-advisor (with Dr. Kimberly Warren, Civil Engineering), Jacob Garbini, **M.S. Civil & Environmental Engineering**. Strain, temperature and acoustical emission instrumentation of rock to determine the influence of solar heating on crack initiation. 2007-2009.
21. ^oCo-Adviser, Richard Heermance, **U.S.G.S. Mendenhall Post-Doctoral Fellow**. Climatic effects on terrace formation in the Ventura area, California. 2006-2009. Based out of University of Arizona.
22. [#]Co-advisor (with Dr. Larry Barden, Biology), Lee Lehman. **M.S. Biology**. The influence of soils and geomorphology on plant communities in a rare and undisturbed piedmont prairie, North Carolina. 2005-2009.
23. ^oRyan Bierma, **M.S. Earth Sciences**. Soil geomorphology of Quaternary terraces along the Reno River, Italy. 2004-2009.

D. THESIS OR DISSERTATION COMMITTEE MEMBER

1. [#]Tinghao Feng, **Ph.D. Computer Science**. Visual analytics approaches to exploring multi-variate time-oriented data. 2017-ongoing.
2. Riley Finnegan, **Ph.D. Geology and Geophysics, University of Utah**. Vibration damage of rock landforms: Evaluating the resonance response of sandstone arches and towers to anthropogenic and natural energy inputs. 2020-ongoing.
3. Stephen Porson, **Ph.D. Geography**. Bronze Age environmental dynamics and agrarian responses in the Southern Levant. 2018-ongoing.
4. Julie Horgan, **M.S. Earth Sciences**. Seasonal baseflow hydrogeochemistry in low-order watersheds: Landscape position as a critical zone factor in the North Carolina Piedmont. 2018-ongoing.
5. Christopher Sheehan, **Ph.D. Geology, University of Cincinnati**. On the Formation and Evolution of Axial Fluvial Networks in Dipping, Layered Rocks: A Case Study from the Blue Gate and Tununk Valleys. 2018-2020.
6. Matthew Yankech, **M.S. Earth Sciences**. Soils and stratigraphy of the Lylesvill Gravels. 2017-ongoing.
7. Haydin, Derick, **M.S. Earth Sciences**. Groundwater surface water interactions within a pre-restored incised stream. 2015-ongoing.
8. ^oStephen Porson, **M.S. Earth Sciences**. A Paleoecological study of Urban Abandonment in the Early Bronze IV in the Southern Levant. 2016-2018.
9. ^oRachide, Stephen, **M.S. Earth Sciences**. Impacts of beaver impoundments on riparian sedimentation, piedmont of North Carolina. 2012-2015.
10. ^oErin Turner, **M.S. Earth Sciences**. Soils of restored floodplains, Mecklenburg County, NC. 2013-2015.
11. [#]Fabien Besnard, **Ph.D. INES**. The use of construction waste wallboard as a soil carbon sink. 2013.
12. ^oKwahmie, Aaron, **M.S. Earth Sciences**. Evolution of meander bends, Catawba River valley, Piedmont of NC. 2012-2014.
13. ^oRobert Lewis, **M.S. Geology, NC State University**. Legacy sediments and stream water quality: Estimating volume, nutrient content, and stream bank erosion in impaired North Carolina waterways. 2011.

14. °Cameron Moore, **M.S. Earth Sciences**. Surface/groundwater interactions in headwater streams in the piedmont of North Carolina. 2011.
15. °Ralph McGee, **M.S. Earth Sciences**. Hydrogeomorphic influences on small headwater streams in the southeastern piedmont U.S.A. 2011.
16. °Trish Simon, **M.S. Earth Sciences**. Evaluating road culvert installations for upstream instability. 2010.
17. # °Allen Cottingham, **Ph.D. INES**. New procedures for testing and analysis for residual soils developing in granites. 2010.
18. Jeremy Poplawski, **M.S. Earth Sciences**. Variable reflectance properties of the Blue Dragon lava flow, Craters of the Moon National Monument and Preserve: Geochemical variation, eruptive processes, and weathering controls. 2009-2010. Withdrew.
19. °Chris Werner, **M.S. Earth Sciences**. Correlation of geology and high radon levels in the Moss Lake region of North Carolina. 2009.
20. °Amanda Waldron, **M.S. Earth Sciences**. Sources of radon in the vicinity of Moss Lake, NC. 2008.
21. °Courtney Withers, **M.S. Earth Sciences**. Sources of arsenic in NC Piedmont groundwater system. 2006.
22. °Ian Eckardt, **M.S. Earth Sciences**. A history of sedimentation within Brown's Cove. Wireline log subsurface stratigraphy of the Artesia Group, Lea County, NM. 2006.
23. Mike Mercer, **M.S. Earth Sciences**. Provenance study of sediment supply, Browns Cove, NC. 2005-2007. Withdrew.
24. °Marty Frisbee, **M.S. Earth Science**. A hydrological study of the Mint Hill City Park, Mint Hill, NC. 2004.

E. SUPERVISOR OF INDEPENDENT STUDY FOR COURSE CREDIT

1. Carsen Adams, Andrew Barnum, Ryan Carter, Veronica Gore, Matt Hoffman, Jordan Lontai, Mai Vang, Catherine Watts – Earth Sciences and Geology - *Fracture Mapping in Thin Sections of an Antarctica Chronosequence*, Spring 2020. – Weekly 1 hr class with all students.
2. Tinghao Feng, PhD Computer Science, *Yosemite, New Mexico, North Carolina Time Series Data Analysis and Visualization*, Spring & Fall 2019.
3. Hannah Smith, BS Geology, *Soils Field and Lab Analyses*, Summer 2019.
4. Dipietro, Joseph M., BS EES, *Soils Field and Lab Analyses*, Summer 2019.
5. Briony Brundidge, BS EES, *Soils Analyses*, Fall 2019.
6. Monica Rasmussen, PhD INES, *Geochronologic Tools in the Earth Sciences*, Fall 2019.
7. Katherine Sluder, Nick Allison, Pamela Mefford: *Thin section manufacture and analysis of differently eroding rocks, Shenandoah National Park, VA*. Fall 2016.
8. # Jennifer Aldred, Ph.D. INES: *Manuscript writing for physical weathering of rocks in temperate climates*. Completed Spring 2015.
9. Andrew Kottenstette, B.S. Geology: *Laboratory analysis of soil and sediment samples from San Juan Mountains, Colorado*. Completed Fall 2014.
10. J. Hoglen, B.S. Earth Sciences; Jamie MacLaren, B.S. Geology: *Laboratory analysis of sediment cores from the San Juan Mountains of Southern Colorado*. Completed Spring 2013.

11. Shelby Ledford, B.A. Earth Sciences; Stephen Abernathy, B.S. Earth Sciences: *Analysis of soils and sediments from cores of the San Juan Mountains*. Completed 2013.
12. Morgan Rineheart, B.S. Earth Sciences: *Fe analysis of soils from Catawba River terraces*. Completed 2012.
13. Natalie Snow, B.S. Earth Sciences; Jessica Hoglen, B.S. Earth Sciences; Pedro Guzman, B.S. Geology: *Laboratory analysis of sediment cores from the San Juan Mountains of Southern Colorado*. Completed 2012.
14. Brandt Keyser, M.S. Earth Sciences: *Laboratory analysis of soil samples from a chronosequence of soils along the Conejos River, Colorado*. Completed 2012.
15. Bailey Newell, B.S. Geography: *Laboratory analysis of soil samples from Sawtooth Gulch, San Juan Mountains Colorado*. Completed 2012.
16. Brian Biggers, B.S. Earth Sciences: *Geologic walking tour of uptown building stones*. Completed 2011.
17. Roberto G. Taboada, B.S. Earth Sciences. *GIS analysis of drainage basin morphometry, Conejos River Valley, CO*. Completed 2011.
18. Joe Edmonds, B.S. Earth Sciences; William Colson, B.S. Geology; Charles Safrit, B.S. Geology: *Laboratory analyses of Colorado bog core sediment samples*. Completed 2011.
19. Rebecca Deal, M.S. Earth Sciences: *Preparation and analysis of pollen samples from a Colorado bog core*. Completed 2011.
20. Conan Godfrey, B.S. Geology; Leatha Moretz, B.S. Earth Sciences: *Chronosequence study of soils of terraces of the Catawba River, NC*. Completed 2011.
21. Lopita Dash, M.S. Earth Sciences: *Using Microsoft Access and Mat Lab to analyze long-term instrumentation data*. Completed 2011.
22. # Jenn Aldred, Ph.D. INES, ESCI 6800 Soil Science Graduate Level. Completed Fall 2010.
23. Matt Harward, B.S. Geology. KECK Research Senior Project: *Landscape position, weathering, and groundwater chemistry, Eastern Oregon*. Completed 2009-2010.
24. Anthony Layzell, M.S. Earth Sciences: *Extractible iron in soils of fluvial terraces of the Catawba River, NC*. Completed 2009.
25. Melanie Felts, B.S. Earth Sciences: *Sediment analysis of bog core*. Completed 2009.
26. Tara Wilkie, Evonne Paulk, and Jonathan Watkins, B.S. Earth Sciences & Geology: *Soil laboratory analysis of samples from the Conejos River Valley, CO*. Completed 2009.
27. Amanda Cuer, B.S. Earth Sciences: *Preparation and analysis of soil samples from the Conejos River Valley, CO*. Completed 2009.
28. Jonathan Watkins, B.S. Geology: *Particle size and organic carbon analysis of core samples, Cumbres Bog, Colorado*. Completed 2009.
29. Amanda Roth, Eric Shaw, and Dylan Williams, B.S. Earth Sciences & Geology: *Particle size and LOI analysis of core samples from a high alpine bog in Colorado*. Completed 2008
30. Lily Kay, Jessica Blosser, and Ralph McGee, B.S. Geology & Earth Sciences: *Comparison of particle size analysis techniques*. Completed 2007.
31. Bethany Farnsworth, B.S. Earth Sciences: *Analysis of preferential orientations of cracks on Mars*. Completed 2007.
32. Bethany Farnsworth, B.S. Earth Sciences: *Suther Prairie soil sample analyses*. Completed 2007.

33. Greg Fussell, Nick Whitfield, and Brandon Bagley, B.S. Geology: *Sample preparation for U/Th/He thermochronometry*. Completed 2007.
34. Stephanie Tassitino B.S. Earth Sciences : Development of an earth analogy of Mars photos in efforts to calibrate *orientation measurements*. Completed 2007.
35. Karina Solis B.S. Geology: *Using remote sensing to recognize spatial variability in soil development on basalt flows*. Completed 2007-2008.
36. Jessica Jelacic. *Bog core analysis and description*. Completed 2007.
37. Cila Vlachou. Student Writing. Supervised a weekly writing session between Cila and the Writing Center as part of supplemental degree requirements implemented by her Comprehensive Exam. Completed 2006.
38. Jacqueline Jarzombek, Queens College Student Internship. *Soil laboratory analyses*. Completed 2006.
39. Tyler Hannah, graduate student at New Mexico State University. Student Research. Tyler completed approximately 80 hours of work with me on a project related to physical weathering on Mars. Summer 2006-2007.
40. Patrick Kelly. Student Research: *Soil laboratory analyses*. Completed 2005-2006.
41. James Ross. Student Research: *Analysis of cracked rocks on the surface of Mars from publicly available Mars Exploration Rover Mission data*. Completed 2006.
42. #Lee Lehman, Haley Hibbert, and Amanda Waldron: *CaCO₃ analysis of sediment samples*. Completed 2005.
43. Ebonee Green and Ebonie Freeman: *GIS and landscape analysis*. Completed 2005.
44. Ebonie Freeman: *Soil laboratory analysis techniques*. Completed 2005.
45. #Emily Habinck, Senior Project: *Correlation of soil development and landscape position with fall leaf colors*. Multiple semesters completed, 2003-2004.

F. INTERNSHIP ADVISOR

1. Mai Vang, B.S. Geology, *NSF REU – Organization of Tropical Studies at La Selva Education and Research Station*, 2019.
2. Torrellas, Emilia, B.S. Earth and Environmental Sciences, 2018.
3. Amber Lynn Cruz, B.S. Earth and Environmental Sciences. *Grade 9 Teaching Assistant*. F2018.
4. Rebecca Adamik, B.S. Geology: *Analysis of physical weathering of rocks on Mars*. 2013.
5. Jerry Scott, B.S. Earth Sciences. *Natural Resource Conservation Service Internship*. 2009.

G. SUPERVISOR/SPONSOR OF OTHER SIGNIFICANT STUDENT ACTIVITY

Note: papers and abstracts published with students can be found under section "III. Research"

1. **UNC Charlotte Undergraduate Research Conference Presentation**, Jordan Lontai, Mai Vang and Alexander Barnum, Variations in Mechanical Weathering Between Rock Types in Beacon Valley, Antarctica, 2020.
2. **UNC Charlotte Undergraduate Research Conference Presentation**, Carsen Adams, Ryan Carter, Veronica Gore, Mechanical Weathering Over Time in the McMurdo Dry Valleys, Antarctica, 2020.

3. **UNC Charlotte Graduate School Proposal Development Summer Fellowship**, Monica Rasmussen, \$5000, *Climate and Time Dependence of Mechanical Weathering*, 2020.
4. **UNC Charlotte Undergraduate Professional Internship Program (UPIP)**, Carly Stewart, *Laboratory and Research Assistant*, Fall 2019-Spring 2020.
5. **Undergraduate Field Project**, McKenzie Miller, Josh Rodrigues, Anthony Danciu, and Richard Gwyn, *Redlair Bedrock Mapping*, Fall 2020
6. **Undergraduate Field Project**, McKenzie Miller and Josh Rodrigues, *Redlair Bedrock Mapping*, Summer 2020
7. **Undergraduate 3D analysis project**, Eric Choudhry, Department of Electrical and Computing Engineering, *Derivation of a 3D model of Antarctica Rocks using structure-from-motion*, 2020.
8. **SME – Carolinas and Georgia Section Student Grant**, Samantha Berberich, \$1000, A chronosequence of mechanical weathering in Mono Lake, CA. 2019.
9. **GSA Quaternary Geology and Geomorphology Division Pete Birkeland Student Soil Geomorphology Award**, Catherine Opalka, Fall 2017.
10. **Charlotte Research Scholars Undergraduate Research Program**, Brian Edwards. 2017.
11. **GSA On to the Future competitive travel Grant**, Faye Moser, \$600. MS research. GSA, 2016.
12. **GSA Graduate Student Research Grant**, Ben Weiserbs, \$1271. A morphological assessment of exfoliated southeastern plutonic domes. 2016.
13. **GSA Graduate Student Research Grant**, Jordan Arey, ~\$1800, Landscape evolution of the eastern US piedmont: Insights from fluvial terraces on the Catawba River, NC/SC. 2016.
14. **GSA Graduate Student Research Grant**, Faye Moser, \$2500. Documentation of spatial and temporal variance in rock dome exfoliation and weathering. 2016.
15. **1st Place**, Jalen Hairston & Ian Oshaughnessy, G&ES. Long term evolution of tributary alluvial fans in the Piedmont for NC: A case study in Redlair Plant Preserve. UNC Charlotte Undergraduate Research Conference, 2015.
16. **Honorable Mention**, Brandon Weidner, G&ES. Soil geomorphology of boulder fields in the Southeast – A case study at Crowders Mountain, North Carolina. UNC Charlotte Undergraduate Research Conference, 2015.
17. **GSA Graduate Student Research Grant**, Faye Moser, \$1248. The origin and morphology of exfoliation domes, central CA. 2015.
18. **UNC Charlotte Undergraduate Research Conference Presentation**. Jared Yeager. Soils of a restored wetland. 2015.
19. **2nd Place**, Casey Fullbright. Origins of linear mounds along the Catawba River, North Carolina. UNC Charlotte Undergraduate Research Conference, 2013.
20. **Honorable Mention**, Rebecca Adamik. Orientation of cracks on rocks on Mars. UNC Charlotte Undergraduate Research Conference, 2013.
21. **UNC Charlotte Undergraduate Research Conference Presentation**. Jamie MacLaren. Things I learned in the dirt dungeon: Using laboratory analyses as a tool for learning research. 2013.
22. **UNC Charlotte Undergraduate Research Conference Presentation**. Lily Vera. Characterization of the soils and sediments of clay holes on terraces of the Catawba River, North Carolina. 2013.
23. **GSA Graduate Student Research Grant**, Rebecca Deal, ~\$2500. 2012.

24. **Colorado Scientific Society Research Grant**, Rebecca Deal, \$900. 2012.
25. **Charlotte Research Scholars Grant**, Morgan Rineheart \$4000. 2012.
26. **UNC Charlotte Undergraduate Research Conference Presentation**. Shelby Ledford & Stephen Abernathy. Soils and sediment of the San Juan Mountains. 2012.
27. **#GSA Graduate Student Research Grant**, Jennifer Aldred, Ph.D. INES, ~\$3000. 2011.
28. **GSA Graduate Student Research Grant**, Kim Aquino, MS Earth Sciences, ~\$4000. 2011.
29. **GSA Graduate Student Research Grant**, Brandt Keyser, MS Earth Sciences, \$3000. 2011.
30. **Funded, organized and led a 4-week field based NSF-Funded Research Experience for Undergraduates (REU) with 4 undergraduate and 2 graduate students**; Cracking up: examining the role of the Sun in the physical weathering of desert rocks. Mojave Desert, California, May 20 - June 20, 2010.
31. **GSA Graduate Student Research Grant**, Mary Cauthen, M.S. Earth Sciences, \$4000. 2010.
32. **KECK Research Experience for Undergraduates**. Matt Harward, BS Geology, was awarded a full scholarship and invitation to participate. Source to sink - Weathering of volcanic rocks and their influence on soil and water chemistry in Central Oregon. 2010.
33. **UNC Charlotte Research Conference Presentation**. Mary Cauthen and Jordan Olsen. Correlation of anthocyanin production in senescent leaves with soil landscape characteristic. Spring 2009.
34. **UNC Charlotte Research Conference Presentation**. Evonne Paulk and Tara Wilkie. Young alluvial fan deposition from Catawba River tributary in temperate region of the Piedmont, Gaston County, North Carolina, USA. Spring 2009.
35. **UNC Charlotte Research Conference Presentation**. Amanda Cuer and Eric Shaw. Soil and vine growth variability in a single vineyard block, Childress Vineyards, North Carolina. Spring 2009.
36. **UNC Charlotte Research Conference Presentation**. Brock Freyer and Ashley Phifer. Chronology of meander scroll migration in the Duck Cove Oxbow, Catawba River, North Carolina. Spring 2009.
37. **UNC Charlotte Undergraduate Research Conference Presentation**. Robert Q. Lewis. Soil chronosequence on fluvial terraces of the Catawba River, North Carolina. Spring 2009.
38. **(Co-Advisor with Brad Johnson) UNC Charlotte Undergraduate Research Conference Presentation**. Kyle Lyons. Locating rock glaciers in the San Juan Mountains, CO using GIS. 2009.
39. **(Co-Advisor with Brad Johnson) UNC Charlotte Undergraduate Research Conference Presentation**. Amanda Roth, Keara Manning, and Johnathan Lewis. Locating preliminary Paleoclimatic implications from an alpine bog, southern Colorado using multiple proxies. 2009.
40. **# NSF-funded Ph.D. student workshop**. Brad Johnson. Awarded a scholarship to attend the Integrated Solid Earth Sciences Summer School on Dates, States and Rates at Colorado College. July 2008.
41. **# Colorado Scientific Society Student Research Grant**, Brad Johnson, \$1000. A late quaternary soil chronosequence in the upper Conejos River Valley. 2008.
42. **#GSA Graduate Student Research Grant**, Allen Cottingham, \$800. Shear strength of residual soils. 2008.
43. **#GSA Graduate Student Research Grant**, Brad Johnson, \$3000. Paleoclimatic implications for total organic content and particle size from a 12 meter bog core from Cumbres Bog, southern Colorado. 2007.
44. **1st Prize**, Mcgee, R., Kay, L., Blosser, J. Comparing particle size estimation techniques. UNC Charlotte Undergraduate Research Symposium, 2007.
45. **UNC Charlotte Undergraduate Research Conference Presentation**. Farnsworth, B., Tassitino, S. The orientation of cracks in boulders on Mars. 2007.

46. **UNC Charlotte Undergraduate Research Conference Presentation.** Roth, A., McCormick, J., Johnson, B. Gully initiation along Piedmont floodplains. 2007.
47. **UNC Charlotte Undergraduate Research Conference Presentation.** Fussell, G., Whitfield, N., Bagley, B. Long term history of deep valleys in the southern Appalachian mountains using U/Th/He thermochronometry. 2007.
48. **Laboratory analytical assistance for three architecture students** studying the effects of different local clay soils on 'rammed earth structures'. Heather Skinner, Jon Cerny, Adam Wilson. 2007.
49. **1st place Prize G&ES, UNC Charlotte Undergraduate Research Conference.** Lee Lehman, Jared Hamela, Bethany Farnsworth. Soil Spatial Variability of a Rare, Mesic Piedmont Prairie Ecosystem, Suther Prarie NC. 2006.
50. **3rd place Prize GE&S, UNC Charlotte Undergraduate Research Conference.** Haley Hibbert and Patrick Kelly. Correlation of soil properties with Leyland Cypress growth on a hillslope. UNC Charlotte Undergraduate Research Symposium. 2006.
51. **Geological Society of America Student Research Grant, (Co-advised with John Diemer)** Amanda Waldron, ~\$2500. Spatial analysis of factors affecting home radon levels around Moss Lake, NC. Spring 2006.
52. **The State of North Carolina Undergraduate Research Symposium. NC State University.** Patrick Kelly and Mike Gale. Soil chronosequence for fluvial terraces in the southeastern U.S., an example from Toby Creek, NC. Fall 2005.
53. **1st Place G&ES, UNC Charlotte Undergraduate Research Symposium;** April 2005. D.S. Rice, W.O. Faden, E.S. Green, and A.S. Vlachou A soil chronosequence for fluvial terraces in Mecklenburg and Gastonia Counties, North Carolina: Insights into the history of the Catawba River.
54. **#Faculty supervisor** for a rotating group of 2-4 computer science majors for their Senior Thesis Projects related to the G&ES web-site, summer 2004 - 2006.
55. **#Faculty Sponsor,** UNC Charlotte Student PR Firm Project. UNC Charlotte Science Lecture Series, Spring 2004-2005.
56. **#1st Place G&ES, UNC Charlotte Undergraduate Research Symposium.** Emily Habinck. Soils and geomorphology and anthocyanin production in deciduous Trees. UNC Charlotte Undergraduate Research Symposium, 2004.
57. **Sigma Xi Outstanding Undergraduate Researcher Award,** Emily Habinck. Spring 2004.
58. **GSA Student Research Grant,** Ryan Bierma, \$3000. 2004.
59. **GSA SE Section Student Travel Grant recipient,** Ryan Bierma. 2004.
60. Balaji, E. Supervising major revisions and updates to the G&ES web-site. Spring 2004.
61. **2nd Place, UNC Charlotte Undergraduate Research Symposium.** Rhea Crescenia, Vlachou, Aspasia. Soil chronosequence and geomorphology of terraces on Toby Creek, Mecklenburg County, NC. 2003.

H. UNDERGRADUATE ADVISING

Undergraduate advising – typically 15-20 per semester

I. FUNDING SUPPORT PROVIDED TO UNDERGRADUATE/GRADUATE STUDENTS

1. Max Dahlquist, Post-Doc, Full time, Spring and Summer 2020.
2. Carly Stewart, UPIP 10 hrs per week, Spring and Fall, 2020
3. Monica Rasmussen, Full-time GA, tuition and fees on NSF Grant, Spring and Fall 2020

4. Landscape Assessment Students Travel support (meals and lodging) for 7 students (5 MS, 2 PhD) to California for Spring Break trip for Landscape Assessment
5. #Pratik Komtamwar, 10 hr/week GA, Fall 2019
6. #Soumya Deshpande, 10 hr/week GA, Fall 2019
7. Samantha Berberich, Summer Travel Funding, Summer 2019
8. Briony Brundidge, Full time, Summer and Fall, 2019
9. Branden Rogers, 80 Hours work, Spring 2019
10. Gloria Ramirez, 120 Hours work, Spring 2019
11. #Kaustubh Matre, Part-time GA, Spring and Summer, 2019
12. #Michael Ajazi, Hourly Work through UNC Charlotte RA, Fall 2018
13. # Anup Suggula, Hourly Work through NSF grant, Spring 2015
14. # Suzanne Ching, Hourly Work through NSF, Spring and Summer 2014
15. # Gopinath Sundarem, Hourly Work through NSF, Spring 2013 – Spring 2014
16. # Rebecca Adamick, Hourly Work through NASA, Spring 2013
17. # Stephen Abernathy, Hourly Work through NASA, Spring & Fall 2013
18. # Damika Jones, Hourly Work through NSF, Spring & Fall 2013
19. # Vamsi Krishnaalla, Hourly Work through NSF, Spring 2013
20. # Jennifer Aldred, Payment through FRG for External Laboratory Analyses for PhD research, 2013, 2012
21. Brandt Keyser, Payment through FRG for External Laboratory Analyses for MS Thesis, 2013, 2012
22. # Luke Browder, Hourly Work through NSF, Spring 2012
23. # Evan Hinson, Hourly Work through NSF, Summer 2011 – Spring 2013
24. # Bei Bei Zhao, RA through NASA, 2011-2012
25. # Jennifer Aldred, RA through NASA, Spring 2011
26. # Suraj Swami, RA through NSF, Spring 2011
27. # Jungphil Kwon, RA through NASA Spring, 2011
28. Michelle Flowers, Payment through FRG for External Laboratory Analyses for MS Thesis, 2011
29. Beca Deal, Payment through FRG for External Laboratory Analyses for MS Thesis, 2011
30. # Jennifer Aldred, Support through NSF for attending GSA conference, 2011
31. # Skelnic, S. RA through NASA 2010-2011
32. # Suraj Swami, RA through NASA, 2009-2010
33. # Pesapati, R. RA through NASA, 2009-2010
34. Anthony Layzell, Summer Salary and Research Analyses Support, EDMAP, 2009-2010
35. # Brad Johnson, Summer Salary and Research Analyses Support, EDMAP, 2007-2008

J. TEACHING MATERIAL DEVELOPMENT (SINCE 2009)

1. **New field area scouting and assignment development** – annually, every offering of Soil Science, Geomorphology, Applied Soil Science and Landscape Assessment
2. **Geology of Standingstone Mountain Field Trip** – Clemson University Hydrogeology Field Trip, April 2017 (Geomorphology Class Field Site).
3. **Project Mosaic Workshop Series** - R Essentials, 2016.
4. **UNC Charlotte ADVANCE Leadership Training** - Fall 2016-Spring 2017
5. **Development of new field-based projects** - Applied Soil Science, Spring 2015; Spring 2017

6. **Major overhaul of Geomorphology 4105/5105** - Designed and implemented eight new lab assignments, 2012
7. **New course materials and field site investigation** - Carolina Geological Society Fall Field Trip, Charleston, SC, September 2010
8. **New course material development** - Principles of Soil and Groundwater Geochemistry – AEG Carolinas Short Course, May 4-5, 2009
9. **Teaching method development** - GSA K-16 Geology Education Short Course: Using concept-tests for better success in large, lower-division geology classes, 2004.

K. OTHER EDUCATION EXPERIENCES & PROFESSIONAL DEVELOPMENT

ADJUNCT FACULTY POSITIONS

1. **Adjunct Professor**, Department of Biology, Laurentian University – 2016-2018, in order to co-advise MS student Andrea Rayon-Rodriguez.

COURSEWORK & WORKSHOPS

1. **UNC Charlotte ADVANCE Leadership Training**. 2016-2017.
2. **Audit MEGR 8090 – Fracture Mechanics**. 3 credits. Fall 2015, UNC Charlotte. Attended all classes except during conferences, and completed reading assignments. This material will be incorporated into lectures covering mechanical weathering in Soil Science, Geomorphology & Landscape Assessment.

ATTENDEE ON FORMAL FIELD TRIPS

1. Southeastern Friends of the Pleistocene Field Trip, Soils and Sediments of Eastern Florida, Spring 2019.
2. Clemson University Hydrogeology Field Trip, Geology of Standingstone Mountain, NC, 2017.
3. GSA Kirk Bryan Field Trip in Quaternary Geology & Geomorphology: 2008-2013; 2015-2017.
4. Southeastern Friends of the Pleistocene Field Trip, Ancient Soils of the Piedmont, Spartanburg, SC, Spring, 2017.
5. GSA Field Trip - Geomorphology, active tectonics, and landscape evolution in the Mid-Atlantic Region, Fall 2015.
6. Southeastern Friends of the Pleistocene Annual Field Trip - SE Virginia wetlands and Bogs. Spring 2015.
7. Friends of the Pleistocene Field Trip, Pennsylvania. Spring 2013.
8. Southeast GSA Field Trip. Floodplain Geomorphology and Depositional Environments of Congaree National Park, SE GSA, 2008.
9. Southeastern Friends of the Pleistocene Field Trip, Landslides and landslide hazards in North Carolina. Brevard, North Carolina, October 2007.
10. Rocky Mountain Friends of the Pleistocene Field Trip - Quaternary geology of the San Luis Basin of Colorado and New Mexico. September 2007.
11. Ecology of Redlair Field Trip - Redlair Research and Field Station, Gaston County, North Carolina. August 2007.
12. Association of Engineering Geologists Fall Field Trip: Geomorphic and sedimentological evidence of Kiowee Dam Failure. Brevard, North Carolina. October 2004.

13. Southeastern Friends of the Pleistocene: Cosmogenic surface exposure dating of bedrock straths, Great Falls, Virginia. September 2004
14. Carolina Geological Society Fall Field Trip: Paleoseismicity of Charleston, South Carolina. Fall 2004.
15. GSA Field Trip: Tectonic geomorphology of the Olympic Peninsula. October 2003.
16. INQUA Mountain Glaciations of the Sierra Nevada. July 2003.
17. Association of Engineering Geologists Site Assessment and materials engineering field trip. 2003.
18. Death Valley Friends of the Pleistocene Field Trip. Spring 2001.
19. GSA Rocky Mountain Section Field Trip: Central Rio Grande Rift stratigraphy and tectonic development. April 2001.
20. Desert Project 20 Year Field Trip: Las Cruces New Mexico. May 2000.
21. Rocky Mountain Friends of the Pleistocene: Quaternary and environmental geology of the Animas River Valley, Colorado. September 1999.

ATENDEE OF SHORT COURSES

- a. Project Mosaic Workshop Series: R Essentials, 2016.
- b. Microsoft Access Database Management. Raleigh, NC 2012.
- c. Laser ablation ICMPS procedures and applications. GSA 2007.
- d. Interpreting Seismic Reflection Data. NMT 1996.

V. A SERVICE & LEADERSHIP

A. UNIVERSITY SERVICE

1. **Chair, Undergraduate Research Conference Organizational Committee**, 2010 – 2014.
2. **Undergraduate Research Conference Organizational Committee**, 2014 - 2015.
3. **Mediator**, Levine Scholars finalist group discussions, Spring 2015.
4. **University Faculty Mentoring Program**. Mentor for Li Yang, Department of Mathematics and Statistics, 2013 – 2015; Liz McCormick, COAA, 2019-2020.
5. **Supervisor - USDA Soil Importation Laboratory** maintenance and registration, 2003-present. We are the only such facility in the Charlotte region for the importation of soil from other countries.
6. **Organizer** - public lecture on current views concerning plate tectonics through the National Science Foundation MARGINS program. UNC Charlotte, 2005.
7. **G&ES Soils Laboratory Recharge Operation Development**. Account activation 2004-2006.

B. COLLEGE SERVICE

STANDING COMMITTEES

1. **Research Advisory Committee** 2019-ongoing.
 1. **2019 – 2020 led an initiative to allow hourly work by graduate students**
2. **College Review Committee** 2013 - 2015.

AD HOC COMMITTEES

1. **Working Group** to create a College Award for the Integration of Teaching and Research, Fall 2012.

C. DEPARTMENT SERVICE

STANDING COMMITTEES

1. **Faculty Advisory Committee**, 2018-2019.
2. **Department Review Committee**, 2016-present. **Chair**, Fall 2017.
3. **Department Review Committee**, Fall 2010, Spring 2018.
4. **IT Committee**, Summer 2009-Spring 2010; Fall 2004-Spring 2006.
5. **M.S. Earth Sciences Committee** 2005-2006; 2007-2009.
6. **Course and Curriculum Committee** member, 2003-2005.

AD HOC COMMITTEES

1. **Mold Testing and Remediation Committee** 2018-2020.
2. **Search Committee**, G&ES Department Chair, Chair, 2017.
3. **Search Committee**, Hydrometeorologist/Ecohydrologist, 2015; Co-chair, 2016.
4. **Search Committee**, Meteorology, Fall 2013 – Spring 2014
5. **Search Committee**, Urban Economic Geographer, Globalization, 2012
6. **Chair, Departmental Chair Comprehensive Evaluation Committee**, Fall 2011
7. **Curriculum Development Committee** – Development Environmental Sciences Minor, 2007
8. **Curriculum Development Committee** - Reorganization B.A. in Earth Sciences, Spring 2006.
9. **Workload Document Revision Committee**, Fall 2005-Spring 2006.
10. **Chair, Curriculum Development Committee** - New MS Earth Sciences Degree Requirements, 2005-2006.
11. **Compliance Editing Committee** for the G&ES Review; Promotion and Tenure document, 2004.
12. **Chair, Website Reorganization Committee**, Spring 2004.
13. **Web Site Reorganizational Committee**, Fall 2003.
14. **Search Committee**, GIS, September 2003-February 2004.

OTHER DEPARTMENT SERVICE

1. **POST-DOC Mentor**, *Max Dahlquist*, 2019-2020.
2. **Invited Speaker**, *INES 8104 Advanced Infrastructure Systems Course, 2020*
3. **Department Representative** – SE GSA Graduate Student Info Booth, Charleston SC, 2019
4. **Mentor** to David Vinson 2018-ongoing
5. **Invited author** - G&ES newsletter, Earth Matters, 2016
6. **Department coordinator** - UNC Charlotte Undergraduate Research Conference, 2009-2017.
7. **Department representative** - graduate student information booth, Geological Society of America Annual Meeting, 2004-present.
8. **Host** - G&ES Seminar Series; Lecturer Fred Rich, Spring 2009

9. **Host** - G&ES Seminar Series Lecturers: Chuck Pippen, Les McFadden, Rebecca Latham, Mica Jessup, Greg Piler, Lakshmi, and Gail Ashley, 2007-2008
10. **Primary organizer** - G&ES Seminar Series. Arranged four of the seven speakers, Spring 2006
11. **Designer** - new department P.R. poster used for recruiting at national meetings – co-effort with Armour. Fall 2006, Fall 2004
12. **Editing and revision** - G&ES Graduate Student Handbook, 2005-2006.
13. **INES Seminar Series Lecturer**, 2004.
14. **Advertising of new funds for M.S. Students**. Individual effort including: creation of a one-page advertisement flyer, placement of a written advertisement in GSA Today, and overseeing mailing and email of advertisement to ~100 Earth Science Departments, Spring 2004.
15. **Department representative** - Remote Sensing Position interviews GSA Annual Meeting, 2004.
16. **Ad-hoc creation of a new department P.R. poster** for the GSA Annual meeting in November, 2003.
17. **Ad-hoc M.S. Earth Sciences Brochure development**, Spring 2003.
18. **Faculty advisor** to the UNC Charlotte Earth Club, Spring 2003.

D. COMMUNITY SERVICE

1. **Stone Facade Preservation Consultation**, St. Peters Episcopal Church, Charlotte, 2019.
2. **Grades 1&4 Outreach**, Presentations on Antarctica Research, Waddell Language Academy, 2019.
3. **Boyscout Troop 56 Outreach**, Antarctica Conversations from McMurdo station, December 2018.
4. **Grades 1-3 Outreach**, Antarctica Scientists Conversations, Destin Florida, August 2018-January 2019.
5. **Wilmore Neighborhood Association Air-Quality Community Initiative**. 2017-2020.
6. **Mock Interview with Washington and Lee Undergraduates** – Fall 2017.
7. **Guest Instructor** – CMS Teachers course; Fall 2017.
8. **Consultant** - Wilmore Neighborhood Association (501 c 3) Environmental Community Initiative, 2013-present.
9. **Invited Author** - website article to be hosted through an NSF-funded Mentoring Women in Geoscience Initiative, PI-Sandra Clinton, 2015.
10. **Invited Author** - Washington and Lee University Department of Geology's brochure aimed at recruiting more women geology majors, 2015.
11. **Invited Speaker** – Project Scientist, girls in STEM initiative, Spring 2013; Fall 2013; Spring 2014
12. **Phone Interviews** – Project Scientist, girls in STEM initiative, 2013- 2014.
13. **Skype interview** – two classes of 4th graders, Irwin Academic Center, 2013.
14. **Phone interviews** - Elizabeth Lane Elementary School student, Elizabeth Cirone, regarding geology and what it means to be a geologist, 2012.
15. **Skype session** - 4th Grade Earth Sciences class about a day in the life of a Geologist. Shady Brook Elementary, 2011.
16. **Judge** - Gaston County Regional Science and Engineering Fair. January, 2011.
17. **Phone Consultations** - City of Charlotte stream restoration project manager, Karri Blackmon, regarding soils at a restoration site, 2010.

18. **Reviewer**- Senior Exit Project for Harding High School Senior, Ardnas Forney, 2010.
19. **Email and phone interviews** - to a number of reporters from online publications including *Nature* and *National Geographic* for the abstract presented at GSA by my student, Emily Habinck, October 2008.
20. **Consultant** – to WBTV reporter Sharon Smith: The effects of drought on groundwater availability, 2007.
21. **Field Trip Leader**- Boy Scout troop field trip – Introduction to Blue Ridge geology. Cedar Mountain, North Carolina, January 2007.
22. **Consultant**- Middle School Soil Science Project, Ted Langdon, 2007.
23. **Faculty volunteer**- Charlotte Catholic Fall Outing and Environmental Club weekend back-packing trip, Mount Mitchell, North Carolina, 2006.
24. **Faculty volunteer**- Charlotte Catholic Fall Outing and Environmental Club weekend back-packing trip, Mount Mitchell, North Carolina, 2005.
25. **Faculty volunteer**- Charlotte Catholic fall outing and Environmental Club weekend back-packing trip, Cold Mountain North Carolina, 2004.
26. **University faculty volunteer**- K-12 outreach education program at Idlewild Elementary School, North Carolina. Spring 2004.
27. **Department representative** - GIS-Day tour for two Charlotte Catholic High School Environmental Science Classes, 2004.
28. **Americorp National volunteer** - Rio Grande Ecosystem Project, Bosque Del Apache National Wildlife Refuge, New Mexico, 1994-96.

E. PROFESSIONAL SERVICE

REVIEW ACTIVITY, PUBLICATIONS

Manuscript Review - *one per year indicated unless otherwise noted*

1. American Journal of Science, 2002
2. Catena, 2006
3. Catena, 2007
4. Earth Surface Processes and Landforms, 2006, 2010, 2015
5. Elements, 2018
6. Engineering Geology, 2020
7. Environmental Earth Sciences, 2018
8. Environmental Pollution, 2013
9. Geological Society of America Bulletin, 2011, 2013, 2016
10. Geology, 2006, 2012, 2013, 2014, 2016, 2017, 2018 (2)
11. Geomorphology, 2011, 2015, 2016, 2019
12. Geophysical Research Letters, 2014, 2015, 2019 (2), 2020
13. GSA Today, 2006
14. Icarus, 2019

15. International Journal of Nonlinear Sciences and Numerical Simulation, 2015
16. Journal of Geophysical Research – Earth Surface, 2019
17. Journal of Geophysical Research – Planets, 2019 (2), 2020 (2)
18. Journal of Geophysical Research, Earth Surface, 2011, 2016, 2016, 2020
19. Journal of Quaternary Science, 2008
20. Nature Scientific Reports, 2018
21. New Mexico Geology, 2003
22. Physical Geography, 2020
23. Quaternary International, 2007
24. Quaternary Research, 2020

Book Chapter Review

1. *Weathering Complexity*, Treatise on Geomorphology, 2020
2. Elsevier Reference Module: Overview of Weathering and Soils Geomorphology, 2018
3. Weathering chapter, *Geomorphology*, Bierman and Montgomery, (Honorarium) 2010, 2011, 2018, 2019
4. One chapter, *Visualizing Geology*, Murk, 2007
5. Three chapters of Plummer et al., *Physical Geology*, Spring 2006
6. One chapter of Plummer et al., *Physical Geology* 11th edition, 2005
7. Two chapters of Ludgens and Tarbuck *Introduction to Geology*, 2004
8. Two chapters (Minerals, & Arid Lands) of Chernicoff and Whitney *Introduction to Geology*, 2004
9. Chapter 21, Geology of Arid Lands in: *Earth, Portrait of a Planet*, by Steve Marshak, July 2003
10. Schaetzl, R., '*Soils of dry subtropics and midlatitudes*', September 2002

REVIEW ACTIVITY, GRANTS (one review per year listed unless noted)

1. NSF, Geomorphology & Land Use Dynamics, 2007; 2009 (2); 2010 (2); 2015 (2), 2016, 2018, 2019 (2)
2. Colorado State University Internal Grant Program, 2019
3. Swiss National Science Foundation, 2018
4. US-Israel-Binational-Science-Foundation, 2013
5. National Science Foundation, Instrumentation, 2011, 2012
6. NASA Earth and Space Science Fellows, 2011
7. NSF, Sedimentary Geology and Paleobiology Program, 2008
8. US Civilian Research and Development Foundation, 2007
9. National Science Foundation, Tectonics Division, 2 reviews 2004; 2006; 2007
10. National Science Foundation Tectonics Division, August 2006.
11. National Science Foundation Geo-biology and Geochemistry Division, 2004

12. U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union (CRDF), 2003

REVIEW ACTIVITY, PANELS

1. **National Science Foundation Grant Review Panel**, Earth Sciences Instrumentation and Facilities, Houston TX, May 2018.
2. **National Science Foundation Calhoun CZO Annual Meeting Advisory Panel**, Summer 2017.
3. **Geological Society of America Quaternary Geology and Geomorphology Student Awards Review Panel**, 2017.
4. **NSF Geomorphology & Land Use Dynamics Program Panel**, reviewed ~30 proposals, participated in panel meeting in Washington, DC. Fall 2014
5. **NSF Geomorphology & Land Use Dynamics Program Panel**, reviewed ~25 proposals, participated in panel meeting in Washington, DC. Fall 2013
6. **Geological Society of America Student Research Grant Review Panel**, reviewed 58 student grant proposals, 2009.
7. **Geological Society of America Student Research Grant Review Panel**, reviewed 60 proposals, 2008
8. **NSF Geomorphology and Landscape Dynamics Division Review Panel**. Review of 54 proposals, Fall 2006.
9. **NSF Geomorphology and Landscape Dynamics Division Review Panel**. Review of 78 proposals, Spring 2006.
10. **Quaternary Geology and Geomorphology Division Review and selection** of the Kirk Bryan Award Recipient, 2006
11. **Quaternary Geology and Geomorphology Division Review and selection** of the Kirk Bryan Award Recipient and Don Easterbrook Distinguished Scientist Award, 2005

REVIEW ACTIVITY - OTHER

1. **Full Professor External Evaluation** – Boise State University, September 2020

SERVICE ON PROFESSIONAL BOARDS OR ORGANIZATIONS

2. **Outgoing Chair**, Geological Society of America Quaternary Geology & Geomorphology Division, 2020-ongoing.
3. **Chair**, Geological Society of America Quaternary Geology & Geomorphology Division, 2019-2020.
 1. Designed, organized and led a fully online annual meeting of the Division
 2. Initiated and led the development of a new Division Diversity and Inclusion Task Force
 3. Oversaw the technical program for Division-endorsed sessions and abstracts at the 2020 GSA Annual Meeting
 4. Led an initiative to have GSA formally advocate for an International Geodiversity Day
4. **1st Vice Chair**, **Geological Society of America Quaternary Geology and Geomorphology Division**, 2018 – 2019.
 1. Oversaw the technical program for Division-endorsed sessions and abstracts at the 2020 GSA Annual Meeting

2. Oversaw the committee for selection of the Farouk El Baz Award
5. **Elected, 2nd Vice Chair, Geological Society of America Quaternary Geology and Geomorphology Division, 2017 – 2018.**
 1. Oversaw selection of all Division Student Awardees
6. **Invited, International Advisory Board of the Progressive Rock Failure Conference, 2016- 2017.** ETH Zurich.
7. **Chair, Southeastern Friends of the Pleistocene**– Responsible for recruiting and choosing leaders for an annual meeting and fieldtrip, 2007-ongoing
8. **Advisory Board, Redlair Research Preserve-** North Carolina Plant Conservation Program, 2006-ongoing
 1. **Formal Establishment of the Redlair Observatory 2019** – including development of website, installation of 17 groundwater monitoring wells, oversight of 13 soil baseline field and laboratory analyses, oversight of 10Be erosion rate characterization
9. **Young Professional Member at Large, Geological Society of America Publications Committee, 2010-2014**
10. **Advisory Panel, Quaternary Geology and Geomorphology Division of GSA, 2004-2006**

LEADER OF SYMPOSIA OR THEME SESSIONS AT PROFESSIONAL MEETINGS

1. **Technical Session Co-Chair** (both oral and poster) - From Crack Tips to Mountaintops: Interactions Between Environment, Fracture Growth, and Surface Processes in Bedrock Landscapes, AGU Fall Meeting, 2020
2. **Technical Session Chair** – Quaternary Geology, GSA Annual Meeting, 2020
3. **Technical Session Co-Chair** –Processes and Feedbacks in the Critical Zone, GSA Annual Meeting Topical Session, 2018
4. **Technical Session Co-Chair** – How, and Under What Conditions, Does Weathering Influence Surface Processes?, GSA Annual Meeting Topical Session, 2017
5. **Technical Session Co-Chair** - The Co-Evolution of Soils and Landscapes in the Quaternary, GSA Annual Meeting Topical Session, 2013
6. **Technical Session Co-Chair** - Advances in the Study of Physical Weathering Processes and their Influence on Landscape Evolution, GSA Annual Meeting, Charlotte NC, 2012
7. **Technical Session Co-Chair** - Soil Geomorphology: Deciphering Landscapes, Surficial Processes, and Quaternary History through Pedology-Based Geomorphic Study: In Honor of Pete Birkeland. One poster and two oral sessions. GSA Annual Meeting, Denver Colorado, 2010.
8. **Technical Session Chair** - Geological Society of America Southeastern Section meeting. Soil Geomorphology, 2008.
9. **Field Trip Co-Leader** - Southeastern Friends of the Pleistocene Annual Field Trip. Toxaway Dam and Peaks Creek Landslides Failure. Organized the logistics and participants for the trip, 2007-2008
10. **Technical Session Chair** - Geological Society of America Annual Meeting, 2007, Ecology and Geomorphology Interactions and Feedbacks.
11. **Technical Session Chair** - Quaternary Geology and Geomorphology. Geological Society of America Annual Meeting, 2006.

12. **Technical Session Chair** - Quaternary Geology/Geomorphology III: Soils, Aeolian, and Marine Geomorphology Technical Session. Geological Society of America Annual Meeting, 2003

INVITED SPEAKER

1. German Research Centre for Geosciences GFZ, Potsdam Germany, Spring 2021
2. New Mexico Highlands University, Spring 2021
3. Lawrence Berkeley National Laboratory Earth and Environmental Sciences Center, Fall 2020
4. 63rd Annual Soil Science Society of North Carolina Keynote Speaker, January 2020
5. Penn State University, March 2019
6. Arizona State University, September 2018
7. Lehigh University, February 3, 2017
8. William and Mary College, October 19, 2016
9. North Carolina State University, 2015
10. Charlotte Gem and Mineral Club, 2015
11. North Carolina Friends of Plant Conservation Earth Day Event, 2015
12. Lunch "pop-up" at the 2015 GSA Kirk Bryan Field Trip, 2015
13. University of New Mexico, 2013
14. University of South Carolina at Aiken, 2011
15. Duke University, 2007
16. Appalachian State University, 2006
17. University of North Carolina at Chapel Hill, 2005
18. Echo Foundation Voices against Indifference Initiative. A Gathering of Nobel Laureates: Science for the 21st Century Speaker Series, Charlotte, North Carolina. 2005.
19. Rutgers University, 2004
20. College of Charleston, 2004

OTHER PROFESSIONAL SERVICE

1. **GSA Connects Online Drop-In Mentor**, GSA Annual Meeting 2020
2. **AGU Annual Meeting "Speed Mentoring"** Program, 2020
3. **Invited Short Course Instructor – Utah State Geological Survey**, Soils as a tool for Quaternary Geology, May 5-6, 2017
4. **Convener – Geological Society of America Short Course**, Introducing ImageRover: publically available software for the 3D analysis of Mars surfaces, 2013
5. **Field Trip Co-Chair** - Geological Society of America Annual Meeting, Charlotte NC, 2012
6. **Field Trip Co-Leader** - Quaternary Geology and Geomorphology Division Kirk Bryan Field Trip, Piedmont Potpourris: New Perspectives on an Old Landscape, 2012

7. **Invited Participant - NSF Workshop.** Reconsidering the Textbook: Creating the next generation textbook on Geomorphology, 2012
8. **Field Trip Chair - Southeastern Section Geological Society of America Meeting,** Charlotte NC. Solicited and organized field trips for the 2008 meeting
9. **Chair. Quaternary Geology and Geomorphology Division of the Geological Society of America Technical Program Advisory Committee.** 2006, 2007. Solicited abstracts and sessions for the Technical Program of the annual GSA meeting

VI. HONORS, AWARDS AND RECOGNITION

RESEARCH

1. **Geological Society of America, Kirk Bryan Award for Research Excellence,** 2020.
2. Media Interviews related to my research – Quantum Magazine (2020); AGU EOS (2020); VICE News – Life Section (2020); Science Knights in the Morning Podcast (2020); Charlotte Observer (2020); New York Times (2019); Antarctic Sun (2019);
3. **Geological Society of America Fellowship,** November 2018.
4. Best Paper Award, American Rock Mechanics Association Annual Meeting Best Paper Award, awarded to Collins et al., 2018, Seattle Washington.
5. Invited Blog – EOS Homepage Feature Article 8/23/2017. EOS Editor’s VOX (with Russ Keanini). <https://eos.org/editors-vox/peering-into-the-cracks>
6. Featured Scientist in Highlights Magazine article on Fall Leaf Colors, November 2017.
7. Interviewed as a Science Specialist for the BBC television series “World’s Weirdest Events” aired on BBC 2016 regarding Twain Harte Dome research.
8. One of featured scientists in PBS special *Italy’s Mystery Mountains*, on air 2015-2016
9. National Media Attention for Habinck and Eppes, 2007-periodically
10. **Gladys W. Cole Memorial Research Award, Geological Society of America,** 2007
11. UNC Charlotte Bonnie Cone Fellowship Award, 2007
12. National media attention for McFadden et al., 2005
13. American Quaternary Assn. Denise Gaudreau Award for Excellence in Quaternary Studies, 2002
14. Association of Women Geologists Student Award, 2002
15. Outstanding Ph.D. Student, Dept. of E&PS, UNM, 2002
16. The College of Arts and Sciences Dean’s Dissertation Year Fellowship, UNM, 2001
17. J. Hoover Mackin Award of the Quaternary Geology and Geomorphology Division of GSA, 2000
18. GSA student research grant, 2000
19. UNM Graduate Student Fellowship, 1998-2002
20. UNM Dept. of E&PS scholarships, 1998-2001
21. Best Student Paper, NMGS 1998, 1995
22. Roswell Geological Society Scholarship, 1995

23. W&L Award in Geology 1990, 1992, 1993

SERVICE, LEADERSHIP AND COMMUNITY

1. Nominated Participant in the UNC Charlotte ADVANCE Faculty Affairs and Diversity Office *Leadership UNC Charlotte* Initiative (2016-2017)
2. Girl Scout Gold Award, 1989