

DANIEL JONES MORGAN: Curriculum Vitae

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Vanderbilt University
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Academic Appointments*Vanderbilt University*

2015 – Present	Associate Dean, College of Arts & Science
2018 – Present	Principal Senior Lecturer, Department of Earth & Environmental Sciences
2016 – Present	Affiliated Faculty, Communication of Science and Technology
2018 – 2020	Faculty Head of Memorial House, the Martha Rivers Ingram Commons
2012 – 2015	Director of Undergraduate Studies, Dept. of Earth & Environmental Sciences
2009 – 2018	Senior Lecturer, Department of Earth & Environmental Sciences

University of Washington

2007	Instructor, Program on the Environment
2003 – 2009	Graduate Student Research and Teaching Assistant, Department of Earth and Space Sciences

Education

Ph.D. University of Washington, Seattle (Geological Sciences), 2009
Supervised by Dr. Jaakko Putkonen, Dr. John Stone, and Dr. Eric Steig
Dissertation: “Stability of unconsolidated deposits in the McMurdo Dry Valleys, Antarctica”
Environmental Management Graduate Certificate, 2008

B.A. Pomona College (Geology and Mathematics), 2002

Research and Teaching Interests

Surface processes, landscape evolution, glacial geology, age of landforms, rate of geomorphic processes, exposure dating, cosmogenic nuclides, lichenometry, detrital zircon geochronology, structural geology, tectonic geomorphology, life cycle assessments, sustainable use of natural resources, role of science in environmental decision making, environmentalism in the 21st century.

Honors and Recognition

2023: Dean’s Distinguished Teaching Fellow, College of Arts & Science, Vanderbilt University
2021: COVID-19 Innovative Teaching Award, College of Arts & Science, Vanderbilt University
2019: Greenest Group on Campus – Morgan lab, Sustainability and Environmental Management Office, Vanderbilt University
2018-19: Program of the Year, “Memorial House Hikes,” Vanderbilt Housing and Residential Experience
2015: Chancellor Heard Greek Awards Faculty Member of the Year, Vanderbilt University

2014: Ernest A. Jones Faculty Advisor Award, College of Arts and Science, Vanderbilt University

2014-15: Junior Faculty Teaching Fellow, Center for Teaching, Vanderbilt University

2008: Howard Coombs Fellowship for Excellence in Teaching, Department of Earth and Space Sciences, University of Washington

2006: Richard E. Fuller Fellowship for Research, Department of Earth and Space Sciences, University of Washington

2002: Mason L. Hill Award, Department of Geology, Pomona College

2002: Don Zenger Award, Department of Geology, Pomona College

Current and Recent Support

Current:

PI: "Unlocking the glacial history of the McMurdo Dry Valleys, Antarctica by fingerprinting glacial tills with detrital zircon U-Pb age populations" Source of Support: NSF, Award Number: 1842542. Total Award Amount: \$627,119.00. Total Award Period Covered: 07/01/2019 – 06/30/2025. Includes two field seasons in Antarctica, 2022 and 2024.

Total award includes \$48,670 in supplemental funding awarded in 2022 from the NSF Geoscience Research Experiences for Post-Baccalaureate Students (GEO-REPS) program to support research training for post-baccalaureate students who did not have access to research opportunities as undergraduates due to pandemic-related interruptions.

PI: "Climate Change and Glacial History Immersion in Colorado." Source of Support: Vanderbilt University – Immersion Scholar Grant. Total Award Amount \$27,312. Total Award Period Covered 7/1/2022 – 6/30/2024. Funding is to take the EES 4440, Glacial Geology, on a 5-day research trip to Colorado. Students will collect samples and analyze them at Vanderbilt, and will complete an Immersion Experience.

Recent:

Co-PI: "Collaborative Research: Long Term Sublimation and Preservation of Two Separate, Buried Glacier Ice masses, Ong Valley, Southern Transantarctic Mountains." Source of Support: NSF, Award Number: 1445169. Total Award Amount: \$100,227 VU award (\$465,351 total award), Total Award Period Covered: 11/1/2016 – 10/31/2022. Co-PIs Jaakko Putkonen (UND) and Greg Balco (BGC).

PI: "Vanderbilt Strong Grant." Source of Support: Vanderbilt University. Total Award Amount \$2,000. Total Award Period Covered 17/1/2021 – 12/31/2021. Funding used to hire undergraduate lab research assistants in 2021 to assist with lab work that was delayed due to the COVID-19 pandemic.

Co-PI: "Collaborative Research: Clarifying the Ingredients and Significance of Nonlocal Versus Local Sediment Transport on Steepland Hillslopes." Source of Support: NSF, Award Number: 1420898. Total Award Amount: \$173,374 VU award (\$307,932 total award). Total Award Period Covered: 8/1/2014 – 7/31/2018. Co-PIs David Furbish (VU) and Josh Roering (U. of Oregon).

PI: Scientific Committee on Antarctic Research, Travel Grant, October 2017. \$750 to attend the Antarctic Permafrost and Soils (ANTPAS) Workshop at Insubria University, Italy.

PI: Undergraduate Research Supervision Grant. Source of Support: Vanderbilt University. Total Award Amount: \$2,000. Total Award Period Covered: June 1, 2015 – June 31, 2016. In conjunction with undergraduate student receiving a \$5,000 Vanderbilt University Summer Research Program award.

Research Personnel for Vanderbilt University Discovery Grant, “A Negotiated Settlement: An Interdisciplinary Investigation of a Planned Colonial Town in the Andean Highlands of Peru.” Source of Support: Vanderbilt University, Total Award Amount: \$99,948, Total Award Period Covered: 5/2010 – 12/2012.

Research Personnel for NSF #0838968, "Collaborative Research: Systematic Analysis of Landscape Evolution and Surface Ages in Transantarctic Mountains." Source of Support: NSF, No award to DM (\$366,712 total award). Total Award Period Covered: 9/1/2009 – 8/31/2012. Co-PIs Jaakko Putkonen (UND) and Greg Balco (BGC).

Peer Reviewed Publications (* denotes undergraduate student, + denotes graduate student)

Published

10. Longhi, A.⁺, D. Morgan, and M. Guglielmin (2024). Reconstruction of rock avalanche history in Val Viola, (Upper Valtellina, Italian Central Alps) through ¹⁰Be exposure ages, Schmidt Hammer R values, and surface roughness. *Landslides*, <https://doi.org/10.1007/s10346-024-02210-2>.
9. Bergelin, M.⁺, Putkonen, J., Balco, G., **Morgan, D.**, Corbett, L. B., and Bierman, P. R. (2022). Cosmogenic nuclide dating of two stacked ice masses: Ong Valley, Antarctica. *The Cryosphere*, 16, 2793–2817, <https://doi.org/10.5194/tc-16-2793-2022>.
8. Doane, T. H.⁺, Furbish, D. J., Roering, J. J., Schumer, R., & **Morgan, D. J.** (2018). Nonlocal sediment transport on steep lateral moraines, eastern Sierra Nevada, California, USA. *Journal of Geophysical Research: Earth Surface*, 123. <https://doi.org/10.1002/2017JF004325>.
7. Bibby, T.⁺, J. Putkonen, **D. Morgan**, G. Balco, and D. Shuster (2016). Million year old ice found under meter-thick debris layer in Antarctica. *Geophysical Research Letters*, 43, 6995-7001, <https://doi.org/10.1002/2016GL069889>.
6. Putkonen, J., **D. Morgan**, and G. Balco (2014). Boulder weathering in McMurdo Dry Valleys, Antarctica. *Geomorphology*, Volume 219: 192-199, ISSN 0169-555X, <https://doi.org/10.1016/j.geomorph.2014.05.012>.
5. O’Neal, M. A., N. Legg, B. Hanson, **D. J. Morgan**, and A. Rothgeb⁺ (2013). Lichenometric dating of rock surfaces in the northern Cascade Range, USA. *Geografiska Annaler*, Volume 95, Issue 3, pages 241-248, September 2013, <https://doi.org/10.1111/geoa.12012>.
4. Putkonen, J., **D. J. Morgan**, and G. Balco (2012). Regolith transport quantified by braking block, McMurdo Dry Valleys, Antarctica. *Geomorphology*, Volume 155–156: 80–87, ISSN 0169-555X, <https://doi.org/10.1016/j.geomorph.2011.12.010>.
3. **Morgan, D. J.**, J. Putkonen, G. Balco, and J. Stone (2011). Degradation of glacial deposits quantified with cosmogenic nuclides, Quartermain Mountains, Antarctica, *Earth Surface Processes and Landforms*, 36: 217-228, <https://doi.org/10.1002/esp.2039>.

2. **Morgan, D. J.**, Putkonen, G. Balco, and J. Stone (2010). Quantifying regolith erosion rates with cosmogenic nuclides ^{10}Be and ^{26}Al in the McMurdo Dry Valleys, Antarctica, *Journal of Geophysical Research*, 115, F03037, 17 PP., <https://doi.org/10.1029/2009JF001443>.
1. Putkonen, J. Balco, G.B., and **D. J. Morgan** (2008). Slow regolith degradation without creep determined by cosmogenic nuclide measurements in Arena Valley, Antarctica. *Quaternary Research*, 69, 242–249, <https://doi.org/10.1016/j.yqres.2007.12.004>.

In Review

Longhi, A.⁺, D. Monticelli, D. Morgan, and M. Guglielmin. Assessing Alternative Absolute Dating Methods for Deglaciation in the Central Italian Alps. Submitted to *Catena*, fall 2023.

In Preparation

Morgan, D.J. and J. Putkonen. Degradation of glacial moraines quantified with cosmogenic ^{10}Be , Mono Basin, CA. For submission to *Geophysical Research Letters*, spring 2024.

Morgan, D.J., S.E. Sams*, G. Balco, J.W. Cribb, and J. Putkonen. Bedrock erosion rates in the extreme weathering limited environment of the central Transantarctic Mountains quantified with cosmogenic ^{21}Ne . For submission to *Journal of Geophysical Research – Earth Surface*, summer 2024.

Miller, E.* , E.J. Miranda*, **D.J. Morgan, D.**, J. Putkonen, G. Balco, and W. Cribb. The flow of the Argosy Glacier, Antarctica remains consistent for millions of years. For submission to *Geology*, summer 2024.

Magazine Articles

Morgan, D., “200 years of exploring Antarctica – the world's coldest, most forbidding and most peaceful continent,” *The Conversation*, 24 January 2020, 8:37 am EST, Environment & Energy, <https://theconversation.com/200-years-of-exploring-antarctica-the-worlds-coldest-most-forbidding-and-most-peaceful-continent-129607>.

Reports

Putkonen, J., M. Rosales*, N. Turpen*, **D. Morgan**, G. Balco, and M. Donaldson* (2007). *Regolith transport in the Dry Valleys of Antarctica*, in Antarctica: A Keystone in a Changing World – Online Proceedings of the 10th ISAES, edited by A. K. Cooper and C. R. Raymond et al., USGS Open-File Report 2007-1047, Short Research Paper 103, <https://pubs.usgs.gov/of/2007/1047/srp/srp103/>.

Morgan, D. J., Born, B., Cook, R., Radenovic, H., and S. Renzi, (2007). *Seattle Food System Enhancement Project: Greenhouse Gas Emissions Study*. University of Washington, Program on the Environment Certificate in Environmental Management Keystone Project, 2006-2007. City of Seattle, Department of Neighborhoods.

Cook, R., **Morgan, D. J.**, Radenovic, H., Renzi, S., and B. Born, (2007). *Seattle Food System Enhancement Project*. University of Washington, Program on the Environment Certificate in Environmental Management Keystone Project, 2006-2007. City of Seattle, Department of Neighborhoods.

Abstracts (* denotes undergraduate student, + denotes graduate student and # denotes a high school student). The most recent 5 years are shown. A full list is available upon request.

- Chen, M.* , Breitzmann P.* , McGlynn N.* , Megerian, C.E* , Cribb, J.W., and **Morgan D.J.** (2023). Understanding past glacier flow patterns in Arena Valley, Antarctica using the provenance of glacial tills. *American Geophysical Union, Fall Meeting, San Francisco, CA 2023, PP23D-1408.*
- Morgan, D.,** (2023). The rates and dates of past glacier change help predict the future of ice. Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 28), Dubai, United Arab Emirates, 30 November - 12 December, 2023, Cryosphere Pavilion.
- McGlynn, N.* , **Morgan, D.,** Megerian, C.E* , Breitzmann P.* , and Chen M.* (2023). Characterizing Meserve Glacier flow patterns through the provenance of moraine tills. *42nd Technical Conference of the National Association of Black Geoscientists, Washington, DC, September 27-30, 2023.*
^Nadia received an award for the 1st place student poster at this conference.
- Morgan, D.J.,** R. Stanton, P. Breitzmann*, M. Chen*, N. McGlynn*, C. Megerian*, and J. W. Cribb (2023). Deepening the glacial history of the McMurdo Dry Valleys, Antarctica by fingerprinting glacial tills with provenance tools. *The West Antarctic Ice Sheet Initiative, University of Minnesota, Cloquet Forestry Center, September 25-28, 2023.*
- Morgan D.J.,** Megerian C.E.* , Breitzmann P.* , Chen M.* , and McGlynn N.* (2023). Preliminary Data on the Provenance of Glacial Till in Vernier Valley, Antarctica. *US Antarctic Science Meeting, Online, June 20-23, 2023.*
- Headley, Rachel M., Megerian, C. E.* , and **Morgan, D.** (2023). Spatial variation in glacial erosion and moraine deposition of the Muldrow Glacier through the Holocene warming. *2023 Rocky Mountain Section Meeting, Geological Society of America Abstracts with Programs. Vol. 55, No. 5, 2023, doi: 10.1130/abs/2023RM-388034.*
- Megerian, C.E* , Breitzmann P.* , Chen M.* , McGlynn N.* , and **Morgan D.J.** (2023). The flow of the Ferrar Glacier constrained by the provenance of glacial till in Vernier Valley, Antarctica. *2023 Rocky Mountain Section Meeting, Geological Society of America Abstracts with Programs. Vol. 55, No. 5, 2023, doi: 10.1130/abs/2023RM-388056.*
- Morgan D.J.,** Megerian C.E.* , Scarpitti, E.A.+ , McGlynn N.* , Chen M.* , and Breitzmann P.* (2023). Designing a glacial geology field and lab course-based undergraduate research experience in the Sawatch Range, CO. *2023 Rocky Mountain Section Meeting, Geological Society of America Abstracts with Programs. Vol. 55, No. 5, 2023, doi: 10.1130/abs/2023RM-388058.*
- Morgan, D.J.,** G. Johnson#, E. Miller*, J. Raff+, E. Rimmer*, A. Grant*, E. Miranda*, G. Balco, J.W. Cribb, M. Bergelin+, and J. Putkonen (2022). Glacial history, soil development, and rates of geomorphic activity in Ong Valley, Antarctica. *Scientific Committee on Antarctic Research 10th Open Science Conference, Abstract No. 662.*
- Wang, S.* , **D. J. Morgan,** E. Miller*, C. Megerian* , A. Grunow, and J. W. Cribb (2021). Changes in Glacial Flow Patterns and Provenance of the Mid-Miocene in the Friis Hills and Olympus Range, McMurdo Dry Valleys, Antarctica. *American Geophysical Union, Fall Meeting, New Orleans, LA 2021, PP45B-1091.*
- Miller, E.* , **D. J. Morgan,** S. Wang*, C. Megerian* , J. L. Raff+, D. M. Harwood, A. Grunow, and J. W. Cribb (2021). Provenance of the Sirius Till from Tillite Spur in the Reedy Glacier area, Antarctica,

determined by LA-ICP-MS of detrital zircon. *American Geophysical Union, Fall Meeting, New Orleans, LA 2021*, C13B-06.

- Megerian, C. *, **D. J. Morgan**, S. Wang*, E. Miller*, J. L. Raff*, J. W. Cribb, and G. Balco (2021). The Provenance of Glacial Till and Beach Sand in the Cape Cod Area. *American Geophysical Union, Fall Meeting, New Orleans, LA 2021*, C25E-0872.
- Bergelin, M.+, J. Putkonen, G. Balco, **D. J. Morgan**, R. Matheney, L. B. Corbett, and P. R. Bierman (2021). Core from Buried Ice Mass Dated to Late Pliocene, Ong Valley, Transantarctic Mountains. *American Geophysical Union, Fall Meeting, New Orleans, LA 2021*, C42A-07.
- Bergelin, M.+, J. Putkonen, G. Balco, **D. J. Morgan**, L. B. Corbett, and P. R. Bierman (2021). Cosmogenic Nuclide Dating of Buried Ice Mass Using Englacial Debris; Ong Valley, Antarctica. *American Geophysical Union, Fall Meeting, New Orleans, LA 2021*, EP33B-08.
- Headley, R., C. Megerian*, E. Miller*, S. Wang*, and **D.J. Morgan** (2021). Variation in Glacial Till Provenance Among Recessional Moraines of a Laurentide Ice Sheet Lobe. *American Geophysical Union, Fall Meeting, New Orleans, LA 2021*, C32A-07.
- Morgan, D.**, E. Miller*, E. Miranda*, K. Edwards*, J. Liu*, W. Cribb, M. Bergelin*, J. Putkonen, and G. Balco (2020). Consistent flow patterns of the Argosy Glacier determined from the provenance of glacial till in Ong Valley, Antarctica. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi: 10.1130/abs/2020AM-359310.
- Bergelin, M.+, J. Putkonen, G. Balco, **D. Morgan**, and R.K. Matheney (2020). Million-year-old ice found buried underneath thin layer of dirt; Ong Valley, Antarctica. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi: 10.1130/abs/2020AM-359283.
- Morgan D.**, E. Rimmer*, E. Miller*, E. Miranda*, A. Grant*, G. Balco, W. Cribb W, M. Bergelin+, and J. Putkonen (2020). Exposure age, provenance, and weathering of glacial tills Ong Valley, Antarctica. Scientific Committee on Antarctic Research Open Science Conference, Hobart, Tasmania, Australia, 2020.
- Bergelin, M.+, J. Putkonen, G. Balco, **D. Morgan**, and R.K. Matheney (2020). Million-Year-Old Ice Found Near Surface; Ong Valley, Transantarctic Mountains, Antarctica. Scientific Committee on Antarctic Research Open Science Conference, Hobart, Tasmania, Australia, 2020.
- Putkonen, J., M. Bergelin+, G. Balco, **D.J. Morgan**, and R. Matheney (2019). Ancient Ice Preserved Under a Meter-Thick Layer of Debris; Ong Valley, Transantarctic Mountains, Antarctica. *American Geophysical Union, Fall Meeting 2019*. Abstract #617219.
- Bergelin, M.+, J. Putkonen, G. Balco, and **D. J. Morgan** (2019). Constraints on the Age of Million-Year-Old Buried Ice Mass in Ong Valley, Antarctica Obtained from Cosmogenic Nuclide Measurements. *American Geophysical Union, Fall Meeting 2019*. Abstract #612954.
- Matheney, R., N. Stene*, M. Bergelin*, J. Putkonen, G. Balco, and **D. J. Morgan** (2019). Hydrogen and Oxygen Isotopes Hint at Two Ancient, Stacked Ice Bodies, Ong Valley, Transantarctic Mountains, Antarctica. *American Geophysical Union, Fall Meeting 2019*. Abstract #609436.
- Morgan, D.J.**, M. Guglielmin, A. Longhi+, and G. Balco (2019). Bedrock erosion rates and the development of weathering features in Antarctica. XIII International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea.

Administrative Roles and Responsibilities

Responsibilities for the College of Arts and Science as Associate Dean

- Director, [College Scholars Honors Program](#) (2015 – current): review applications and admit students, develop and select Honors Seminars for curriculum, supervise student enrichment research projects, plan social and professional development activities, coordinate alumni network, advise 240 students in the program.
- Director, Departmental Honors Programs (2015 – current): supervise honors senior thesis program for departments and programs.
- Director, Merit Scholarship Programs (2015 – current): oversee [Cornelius Vanderbilt, Chancellor's](#), and other merit scholarship programs. Advise ~200 students. Supervise, renew, and steward over \$10,000,000 in tuition scholarships annually. Award and administer over \$200,000 in summer stipends for experiential enrichment projects. Coordinate alumni network.
- Faculty Director for Immersion (2018 – current): develop guidelines and processes for students completing immersion projects, supervise 12-16 faculty immersion coordinators, advise faculty and students on immersion projects.
- Director of Internships (2020 – current): advise, review, and supervise student's conducting internships for credit.
- Admissions Committee, Chair (2015 – current): Liaison to Office of Undergraduate Admissions and Financial Aid. Review and select merit-based Honors scholarships during admissions process, recruit approx. 25 scholarship students to Vanderbilt each year.
- Athletics Committee, Chair (2015 - current): Liaison to Athletics department, review applications to Vanderbilt from student-athletes, assist with recruiting athletes to Vanderbilt.
- Study Abroad Committee, Chair (2018 – current): review proposals for new study abroad programs, develop new international initiatives.
- Committee on Educational Programs (2017 – current): review proposals for changes to majors and minors.
- Ad Hoc Immersion Committee, Chair (2016 – 2017): design A&S curriculum for experiential learning graduation requirement, shepherd through faculty governance in 2016-17.

Responsibilities for Vanderbilt University as Associate Dean

- [Immersion Faculty Steering Committee](#), Office of the Provost (2015 – current): A&S representative on committee to define and design experiential learning requirement for all undergraduates, launched fall 2018.
- University Faculty Athletics Committee, Office of the Provost (2023 – current): Provide advice and counsel related to college athletics, assist with designing and refining policies.
- Officer Education Committee, Office of the Provost (2015 – current): Oversight of campus ROTC programs.
- Appellate Review Board, Officer (2016 – 2021): review appeals of sexual misconduct cases.
- Committee on Teacher Education (2015-2018): advisory board for Peabody College on education major, goals, teacher training.
- QEP Committee, Office of the Provost (2015 – 2016): review, select, and implement a curricular innovation as the [Quality Enhancement Plan \(QEP\)](#) for the 10 year review of Vanderbilt's accreditation by SACSCOC, focus on immersion opportunities.
- Faculty Advisory Committee for International Education, Office of the Provost (2015 – 2016): review study abroad options for students, define immersion criteria for study abroad.

Service

Vanderbilt (separate from roles and responsibilities as associate dean)

Environmental and Sustainability Studies Advisory Committee, College of Arts & Science (2014 – current): develop new minor in Environmental and Sustainability Studies and major in Climate Studies.

Member of the Cumberland Project (2011 – current): Vanderbilt University's initiative to develop curriculum on environmental studies and sustainability.

Second-Year Experience Working Group (spring 2019): Co-chair. Identify the Vanderbilt-specific needs of second-year students.

Faculty sponsor for student organizations

Community Garden (2018 – current)

Bridge Club (2017 – current)

Geology Club (2009 – 2017)

Faculty interviewer for Vanderbilt Visions and VUcept (spring 2011 – current): Review and interview students to be peer mentors.

MOSAIC Multicultural Recruitment weekend, Office of Undergraduate Admissions (spring 2010 – current): Faculty lecturer and discussion leader for multicultural recruitment weekend.

Committee on Educational Programs, College of Arts & Science (2014 – 2015): review proposals for new academic programs, program changes.

Vanderbilt Commons review committee, Dean of the Commons (2014): develop curriculum goals for first-year student living-learning community.

Vanderbilt Visions review committee, Dean of the Commons (2012-2013): review Vanderbilt Visions and VUcept programming.

Faculty adviser for Mayfield Living and Learning Community (2012-13, 2014-15, 2018-19, 2019-20): advise a student themed service housing group, 10 students.

University of Washington

Graduate Student Representative, Department of Earth and Space Sciences, 2008-09.

Graduate Student Representative, Advisory Board for the Program on the Environment, 2007-09, and Steering Committee for the Environmental Management Certificate Program, 2006-09, Supervise undergraduate major in environmental studies and graduate certificate programs.

Community

2023 – Current: Polar Rock Repository Curatorial Advisory Board, the Ohio State University.

2021 – Current: Geological Society of America RISE Liaison. RISE: Respectful Inclusive Scientific Events.

2021 – Current: Scientific Committee on Antarctic Research Equality, Diversity and Inclusion Leadership Group.

2019 – Current: Research Grants Committee as a Member-at-Large (Quaternary Geology & Geomorphology), Geological Society of America.

Ongoing: Grant reviewer and panel reviewer for the National Science Foundation.

Ongoing: Peer-reviewer for: *Geology*, *Nature*, *Global Planetary Change*, *Earth and Planetary Science Letters*, *Permafrost and Periglacial Processes*, *SOIL*, *Annals of Glaciology*.

Courses Taught

Vanderbilt University (Courses were renumbered to a 4-digit system in 2015, old numbers in parentheses)
[* indicates a new course developed for VU]

- * ENVS/EES 1001 (099) Antarctic Exploration, the Nature of Virtue, and the Search for Heroism in Modern Life, spring 2014, 2015, 2016: 1 credit-hour seminar for first-year students.
- * EES 1001 The Environment and Environmentalism at Vanderbilt, 2018 – current: - seminar for first-year students, co-taught with Director of Plant Operations Mark Petty.
- * EES 1111/2220W Antarctic Exploration, the Nature of Virtue, and the Search for Heroism in Modern Life, spring 2018: writing seminar for first-year students. Re-cast in fall 2022 as writing seminar for all students.
- EES 1510 (101) Dynamic Earth: Introduction to Geological Sciences, one semester each year, 2009 – 2015: ~120 students.
- EES 1510L (111) Dynamic Earth Lab, fall 2009 – spring 2012, 18-20 students per lab section, 4-6 lab sections each semester.
- EES 1030L (113) Oceanography Lab, fall 2009 – spring 2015, 18-20 students per lab section, 3-6 lab sections each semester.
- * EES 2580 Earth System Dynamics, spring 2019 - 2020 new required course blending math modeling and computer coding for EES majors, 15-20 students.
- EES 3340 (240) Structural Geology, once each academic year, 2009 – 2016, 2020.
- * EES 3865 (210) Field Investigations, May 2013, 2015, 2017 – “Maymester” course in New Zealand, 10-20 students. Topics included glaciers, volcanoes, and earthquakes.
- EES 4420 Geomorphology, will teach for first time in spring 2024.
- * EES 4440 Glacial Geology, fall 2021, fall 2022. Includes a 5-day field trip to Colorado.
- EES 4961 (299) Senior Seminar, spring 2015 – 2017, 2022.
- Vanderbilt Visions, fall 2010 – 2020: mentor for first-year undergraduate students.

Osher Lifelong Learning Institute at Vanderbilt

- * Spring 2021: “The history of exploration in Antarctica” (6-week course)
- * Spring 2017: “The past, present, and future of the Antarctic ice sheets” (single lecture)
- * Fall 2014: “Exploring Antarctica” (6-week course)

University of Washington

Instructor, Program on the Environment

ENVIR 100 Environmental Studies 100: Interdisciplinary Foundations, spring 2007, co-taught with economics professor Yoram Bauman.

Teaching Assistant, Department of Earth and Space Sciences

ESS 101 Introduction to Geological Sciences, 2003-04 (3 quarters), winter 2008

ESS 209 Geomorphological Expedition to Nepal (3-week field course in Nepal), September 2007

ESS 210 Physical Geology, spring 2005

ESS 211 Physical Processes of the Earth, fall 2006

ESS 304 Volcanoes and Glaciers of the Pacific Northwest, summer 2004

ESS 400 Field Geology (6-week field course in SW Montana), summer 2007 and 2008

ESS 426 Fluvial Geomorphology, spring 2008

Students Supervised

Undergraduate students at Vanderbilt University

Honors Senior Thesis students

Courtney Megerian, '22: Provenance of glacial tills in Cape Cod, MA
Ellie Miller, '22: Provenance of the Sirius Group tills, Antarctica
Emma Rimmer, '20: Exposure age of glacial moraines in Antarctica
Andrew Grant, '19: Aerosols in Antarctica soils
Julia Grabowski, '17: Geology of bald mountains, TN and NC
Sarah Sams, '16: Exposure age of glacial tills from Antarctica and California
Katherine Edwards, '15: Provenance of glacial tills, Antarctica
Kyle Broach, '12: Bioturbation rates under sea ice, Explorer's Cove, Antarctica
Catherine Grady, '12: Degradation of glacial moraines in the Sierra Nevada, CA

Summer Undergraduate Research Projects

2023: Payton Breitzmann, Ming Chen, Nadia McGlynn, Gwen Johnson
2022: Gwen Johnson (HS student)
2021: Courtney Megerian, Ellie Miller, Sophia Wang
2020: Courtney Megerian, Ellie Miller, Sophia Wang
2019: Maya Sandel (Italy field work), Emma Rimmer, Lucia Berkey (HS student)
2018: Andrew Grant, Alyssa Rae Larrinaga, Vik Reddy, Ruby Kinkel (HS Student)
2017: Evan Miranda (NY field work)
2016: Alison Cribb, Evan Miranda
2015: Julia Liu, Sarah Sams (CA field work), Tim Watkins (CA field work)
2014: Katherine Edwards
2012: Courtney van Stolk (Peru field work)
2011: Catherine Grady (CA field work)
2010: Rebecca McCracken (Peru field work)

Independent and Directed Study (separate from honors senior thesis students)

Anna Morgan (no relation), fall 2023 – current: Aerosols in Antarctica soils
Siyu Wang, fall 2023 – current: Cosmogenic nuclide sample preparation and analysis
Nicole Hankovsky, fall 2023: Petroleum geology and infrastructure
Avery Sims, fall 2023 – current: Antarctica film project
Payton Breitzmann, fall 2022 – current: Antarctica field work and lab work
Ming Chen, fall 2022 – current: Antarctica field work and lab work
Nadia McGlynn, fall 2022 – current: Antarctica field work and lab work
Courtney Megerian, spring 2020 – current: Glacial till provenance, Antarctica
Ellie Miller, spring 2020 – current: Glacial till provenance, Antarctica
Sophia Wang, spring 2020 – current: Glacial till provenance, Antarctica
Maya Sandel, fall 2019 – spring 2020: Cosmogenic nuclide sample preparation and analysis
Evan Miranda, fall 2015 – spring 2018: Zircon U-Pb ages of zircon in glacial tills
Katherine Norskog, fall 2014 – spring 2015: Quartz microtextures on SEM
Carson Hedberg, fall 2013 – fall 2014: Cosmogenic nuclide sample preparation and analysis
Ashley Ball, spring 2013: Cosmogenic nuclide sample preparation and analysis
Kyle Ringger, spring 2013: Cosmogenic nuclide sample preparation and analysis
Ziquan Fan, spring 2012: Life cycle assessment of smartphones

Michael Diamond, fall 2011 – spring 2012: Glacial geology, cosmogenic nuclide analysis
Rebecca McCracken, spring 2011: Lichenometry from archeological sites in Peru
Mitchell Stocky, spring 2011: Cosmogenic nuclide sample preparation and analysis

High School students supervised through the [School for Science and Math at Vanderbilt](#)

Gwen Johnson, spring 2022 – fall 2022: Detrital zircon provenance project
Lucia Berkey, spring 2019 – fall 2019: Detrital zircon provenance project
Ruby Kinkel, spring 2018 – fall 2018: Detrital zircon provenance project

Graduate students

Alessandro Longhi (Insubria University, PhD 2021) – Committee Member, visiting student intern at Vanderbilt 8/2018 – 3/2019
Jessica Raff (Vanderbilt University, MS 2019) – Committee member
Megan Patrick (Vanderbilt University, MS 2016) – Committee member
Manuel Martinez (Vanderbilt University, MS 2015) – Committee member
Tyler Doane (Vanderbilt University, MS 2014) – Committee member
Siobhan Fathel (Vanderbilt University, MS 2013) – Committee member
Lauren Williams (Vanderbilt University, MS 2013) – Committee member
Allison Rothgeb (University of Delaware, MS 2012) – Reader

Workshops and Professional Development

“Vanderbilt Leadership Enrichment” 2021-22. Vanderbilt Leadership Enrichment (VLE) is a University-wide, yearlong program designed to develop key leadership skills and competencies. The program aims to help participants enhance their leadership self-awareness and increase their institutional knowledge.

“Teaching Computational Thinking Skills with MATLAB,” October 20-22, 2019, Carleton College, Northfield, MN. This workshop brought together faculty in Geoscience, Physics, Math, Biology, Engineering, and beyond who teach computation in their courses and are interested in strengthening and developing their teaching skills and MATLAB based materials. Sponsored by the National Association of Geoscience Teachers and the Science Education Resource Center at Carleton College.

“The Business of VU” Fall 2018. A semester-long course designed for the Vanderbilt community to learn about the business operations of the university and the higher education landscape.

“Teaching Oceanography,” June 18-20, 2013, City College of San Francisco. This workshop is part of the On the Cutting Edge professional development program for current and future geoscience faculty.

“Engineering, Sustainability, and the Geosciences,” Colorado School of Mines, March 6-8, 2013. This workshop is part of the InTeGrate project for interdisciplinary teaching of geoscience for a sustainable future.

“Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career,” June 12-17, 2011, College of William and Mary, Williamsburg, VA. This workshop is part of the On the Cutting Edge professional development program for current and future geoscience faculty.

“Preparing for an Academic Career in the Geosciences: Workshop for Graduate Students and Post-Doctoral Fellows,” July 31-August 3, 2008, National Weather Center, University of Oklahoma. This workshop is part of the On the Cutting Edge professional development program for current and future geoscience faculty.

Public Talks, Invited Seminar Lectures and Outreach Presentations

- “Glaciers and Antarctica” St. Andrew’s School, Jackson, MS – Ms. Woodward’s and all 2nd grade classes, November 16, 2023.
- “Introduction to Antarctica” Harpeth Valley Elementary School – Ms. Koons’s and all 3rd grade classes, May 13, 2019.
- “Introduction to Antarctica” Eakin Elementary School, Ms. Jackson’s 4th grade class, Ms. Rudisill’s 2nd grade class, Mr. Seay’s 1st grade class, May 3, 2019.
- “Research and life in Antarctica” Eakin Elementary School, Ms. Jackson’s 4th grade class visit, March 5, 2018.
- “Research and Life in Antarctica” Carter-Lawrence Elementary School, 2nd grade class visit, November 14, 2017.
- “Research and climate change in Antarctica” Eakin Elementary School, Ms. Jackson’s 4th grade class visit, November 13, 2017.
- “The past, present, and future of the Antarctic ice sheets” Vanderbilt Green Forum, February 22, 2017.
- “The Multi-million year glacial history of the Transantarctic Mountains, Antarctica” Appalachian State University, September 9, 2016.
- “The Multi-million year glacial history of Ong Valley, Antarctica” Middle Tennessee State University, April 20, 2016.
- “[GMA’ Flies Drone into Icelandic Sinkhole](#)” Good Morning America guest scientist, January 6, 2016.
- “Governing the Commons: the Antarctic Treaty and the South China Sea” McGill Hour Dialogue Series, McGill Hall, Vanderbilt University, November 5, 2015.
- “Exploring Antarctica” Williamson County Public Library, October 9, 2015.
- “Contrary landscapes: Age and activity of landforms in Antarctic Dry Valleys” University of Pennsylvania, Department of Earth and Environmental Science, department seminar January 31, 2014.
- “Principles of Hydraulic Fracturing” Vanderbilt University, SPEAR club, October 7, 2013.
- “Research and Life in Antarctica” Vanderbilt multicultural recruitment weekend (MOSAIC) March 2010, 2011, 2012, 2013, 2014.
- “Geology of Tennessee” Vanderbilt University, Wilskills Outdoor Club, October 24, 2012.
- “Geomorphology of Antarctica” University of North Dakota, Department of Geology and Geological Engineering, department seminar, June 22, 2011.
- “Why are rivers fun to paddle?” Vanderbilt University, Wilskills Outdoor Club, February 2010.
- “How will Antarctica react to future climate change?” Vanderbilt University, Students Promoting Environmental Awareness and Recycling (SPEAR), November 2009.
- “Reconstruction of Former Glaciers” University of Washington, ESS 431: Principles of Glaciology, fall 2007, fall 2008.
- “Petroleum Geology” University of Washington, ENVIR 100: Interdisciplinary Foundations, fall 2007, winter 2008, fall 2008, winter 2009.
- “Introduction to Life Cycle Assessment” University of Washington, URBDP 520: Quantitative Methods in Urban Design and Planning, fall 2007.
- “Petroleum Geology of the Arctic National Wildlife Refuge” University of Washington, Program on the Environment, ENVIR 450: Choices and Change in the Arctic National Wildlife Refuge, summer 2005, summer 2006.
- “Geology of Auckland, New Zealand” University of Washington, Program on the Environment and UW Tacoma Urban Studies, ENVIR 400: Comparative Perspectives on Cities & the Environment: Seattle, WA, Auckland, New Zealand, and Sydney, Australia, January 2006.

“Antarctica: Life and Research at the Bottom of the Earth” Dina Pigott’s 2nd grade class, Epiphany School, Seattle, WA, February 2006.

“Field Work and Camp Life in Antarctica” Yakama Tribal School, Toppenish, WA, May 2005.

Professional Affiliations

American Geophysical Union

Geological Society of America

Scientific Committee on Antarctic Research

National Association of Geoscience Teachers