

Joel S. Scheingross (he/him/his)

Associate Professor, University of Nevada Reno
1664 N. Virginia St, Mail Stop 0172, Reno, NV 89557, USA
+1 (775) 682-9839 | jscheingross@unr.edu | http://www.joelscheingross.com

Professional appointments

Associate Professor, University of Nevada Reno, Dept. of Geological Sciences and Engineering, July 2024 – Present
Assistant Professor, University of Nevada Reno, Dept. of Geological Sciences and Engineering, Jan. 2019 – June 2024
Postdoctoral Scientist, GFZ – German Research Centre for Geosciences, Potsdam, Germany, Nov. 2017 – Oct. 2018
Alexander von Humboldt Postdoctoral Fellow, GFZ – German Research Centre for Geosciences, Potsdam, Germany,
Nov. 2015 – Oct. 2017
Research / Teaching Assistant, California Institute of Technology, September 2009 – October 2015
Research staff, University of California, Berkeley, May 2008 – June 2009

Education

PhD, Geology, California Institute of Technology, Adviser: Michael Lamb, 2015
M.S., Geology, California Institute of Technology, 2012
B.A., Geology and B.S., Environmental Science, University of California, Berkeley, 2007

Honors

International and National Honors

AGU Editors' Citation for Excellence in Refereeing (2021)
AGU [Luna B. Leopold Early Career Award](#) and AGU Fall Meeting [Robert P. Sharp Lecture](#) invited speaker (2019)
Awarded annually by the AGU Earth and Planetary Surface Processes section. My contribution are summarized in the [award citation from Dr. Kelin Whipple](#) and the [award presentation and lecture](#).
Outstanding Student Presentation Award, AGU Fall Meeting (2013)

University Honors

University of Nevada Reno Graduate Program of Hydrologic Sciences Outstanding Faculty (2023)
Awarded annually by students to a single faculty member in the Graduate Program of Hydrologic Sciences
University of Nevada Reno Patricia Berninsone Award for Outstanding Service (2022)
Awarded annually by the UNR College of Science. My award was in recognition of my DEI contributions.
Making-a-difference Award for Dedication to Justice, Equity, Diversity, and Inclusivity in the Geosciences (2022)
Awarded annually by the UNR Geoscience Community (including the Department of Geological Sciences and Engineering, the Nevada Bureau of Mines and Geology, and the Nevada Seismological Laboratory).
UC Berkeley, Earth and Planetary Science Department Citation (2007)
Awarded annually to the top graduating undergraduate in the Earth and Planetary Science Department.

Funding and awards

NSF EAR Geomorphology and Land Use Dynamics, “Controls on ridgeline morphology” (EAR 2344250), **J.S. Scheingross (PI)** and M. Beckam (co-PI), \$498,356 to UNR (1 July 2024 – 30 June 2027).
NSF EAR Frontier Research in Earth Sciences (FRES), Collaborative Research, “The interplay of surface evolution, shallow magmatism, a large hydrothermal system, and hazards at Puyehue-Cordon Caulle Volcanic Complex, Chile” (EAR 2317729), P. Ruprecht (PI), **J.S. Scheingross (co-PI)**, plus additional co-PIs at other institutions, \$1,111,232 to UNR (October 2023 – September 2028).
NSF EAR Low Temperature Geochemistry and Geobiology and Geomorphology and Land Use Dynamics, “EAR Climate Collaborative Research: Physical Controls on CO₂ Release from Shale Weathering” (EAR 214519), **J.S. Scheingross (PI)** and M. Torres (co-PI, Rice University), \$378,521 to UNR (July 2022 – August 2025).
NSF EAR Geomorphology and Land Use Dynamics, “Formation, morphology and retreat of autogenic waterfalls” (EAR 1946342), **J.S. Scheingross (PI)** and S.M. McCoy (co-PI), \$365,149 to UNR (Aug. 2020 – July 2023).
Alexander von Humboldt Postdoctoral Fellow, German Research Centre for Geosciences (GFZ) (2015 – 2017)
NSF Graduate Research Fellowship Program fellow (2011-2014)
National Center for Airborne Laser Mapping (NCALM) Seed Grant (2010)
NSF Research Experience for Undergraduates, Oregon State University (2006)
Charles H. Ramsden Research Fellow, UC Berkeley (2007)

Teaching

Sedimentology and stratigraphy (GEOL 202): Fall 2019, Fall 2020, Fall 2021, Fall 2022, Fall 2023
Fluvial sediment transport and bedrock erosion (GE 430/630): Spring 2021, Spring 2024
Earth science communication: theory and practice (GEOL 740): Spring 2020, Fall 2024
Geology Summer Field (GEOL 451, co-taught, Scheingross teaches 1 week of instruction): 2021, 2022, 2023, 2024
Earth surface processes seminar and reading group (GEOL 701): Every semester (since 2019)
Introduction to the UNR Geoscience Graduate Program (GEOL 710): Fall 2022, Fall 2023
Nevada Geoscience Seminar (GEOL 790): Spring 2024

Advising

Current graduate students

Priyasha Negi, PhD Student, University of Nevada Reno, Fall 2023 - present
Michael Robinson, PhD Student, University of Nevada Reno, Fall 2021 - present
Sophie Rothman, PhD student, University of Nevada Reno (co-advised with Scott McCoy), Fall 2019 – present

Current undergraduate students

Adan Albarran Ayala, Bedrock erosion experiments, Summer 2024 – present
Sterling Ferguson, Shale weathering, Spring 2024 - present
Dennis Garcia, NevadaTeach Intern, 2021 – present

Former graduate students

Mara Nutt, MS 2023, Investigating the tectonic geomorphology of the Santa Ynez Mountains, CA and developing middle school geoscience lessons.
Scott Feehan, PhD 2023 (primary adviser: Scott McCoy), Controls on the uncertainty of sediment transport thresholds and the implications for interpreting river processes. (Now a Mendenhall Postdoc at USGS).
Erika Groh, MS 2021, University of Nevada Reno, Morphologic signatures of autogenic waterfalls: A case study in the San Gabriel Mountains, California. (Now at Balance Hydrologics)
Nina Golombek, MS 2019, University of Potsdam, Germany (co-advised with Niels Hovius), Seasonality of organic carbon export and stable isotopic signatures in an Andean lowland River. (Now a postdoc at UC Berkeley)

Former undergraduate and high school students

Peyton Cromer, NevadaTeach Intern, 2023.
Ryen Brown, NevadaTeach Intern, 2021-2022.
Tarra Mora, McNair Scholar, Jan. – Sept 2022, Automated waterfall identification in the Sierra Nevada, CA
Ramona Schneider, Winter 2018, Experimental investigation of silicate weathering during fluvial transport
Toni Schmidt, Spring 2017, Experimental investigation of organic carbon oxidation during river transport
Nina Golombek, 2016-2017, Oxidation of organic carbon in the Rio Bermejo, Argentina
Juliane Preimesberger, Summer 2014, Bedrock erosion experiments at steep slopes
Gheorghe Schreiber, Summer 2013, The role of mixed grain size distributions in fluvial bedrock incision
Khadijah Omerdin, 2012-2013, Bedrock erosion by suspended sediment
Daniel Lo, Summer 2012, Foam and waterfall erosion experiments
Conor O'Toole, Summers 2010 and 2011, Waterfall sediment transport and erosion experiments

Contributions to justice, equity, diversity and inclusion (JEDI)

UNR Geoscience Community Diversity, Equity, and Inclusion founder and Committee Chair (2020 – 2024)
UNR Geoscience Community Diversity, Equity, and Inclusion member (2020 – present)
UNR Geoscience Community Unlearning Racism in the Geoscience Pod Leader (2021) and member (2021-2024)
UNR Graduate Program of Hydrologic Sciences Diversity, Equity, and Inclusion Committee founding member (2020 – 2022)

Accomplishments I lead or substantially contributed to:

- Led and submitted a NSF GEOPATHS proposal (currently pending) to secure funding for targeted high school outreach designed to improve perceptions of the geosciences in low-income and first-generation students (2023).

- Led the organization, administration and analysis of results for an annual ‘community climate survey’ to poll members of the UNR Geoscience community on our efforts to create a safe, welcoming and inclusive environment (2020 - present).
- Helped develop and twice taught (Fall 2022 and Fall 2023) an ‘onboarding class’ for first year graduate students (GEOL 710) designed to cover aspects of the ‘hidden curriculum’ that are important for success in graduate school but are not often taught. While I am no longer teaching this course, it has become part of our department curriculum and continues to be regularly taught by UNR faculty.
- Initiated a major overhaul of the UNR Geoscience department webpage to showcase our commitment to diversity, display demographic data, and create a transparent list of diversity-related goals and accomplishments. This includes continually updating the webpage with recent accomplishments (2020 – present)
- Helped to promote accessibility by working with faculty to make changes to our geology curriculum to make our field courses more accessible and worked with a disabled UNR undergrad to [communicate simple actions that teachers and students can make our classrooms and buildings more accessible](#) (2022)
- Updated the UNR geology department graduate admissions page to explicitly include tips for building a successful application (including tips for contacting prospective advisers) that is traditionally part of the ‘hidden curriculum’ and may not be common knowledge for students of all backgrounds (2021)
- Served as a mentor to a post-baccalaureate student through the Geosciences Education & Mentorship Support (GEMS) program (sponsored by the National Association of Geoscience Teachers), which focuses on providing mentorship to graduate students and prospective graduate students from historically excluded groups in the geosciences (main activity from 2021-2022; however, I continue to meet with my GEMS mentor, who is now a PhD student at University of Oregon, 1-2 times per year).
- Co-drafted and edited a Code of Conduct which has been adopted by the UNR Geoscience community and is covered in all geology department courses. (2020-2021)
- Invited departmental seminars from diverse speakers and encouraged all speakers to speak about issues related to diversity, equity, inclusion and justice (sometimes in a separate talk) if they wish (2020 to present)
- Organized professional development and JEDI panel discussions for the AGU Earth and Planetary Surface Processes online seminar series (e.g., [The Intersection of Geomorphology and Environmental Justice](#) and [Building a Supporting Research Community](#)) (2020).

Conference abstracts related to JEDI work:

Scheingross, J.S., Cao, W., DesOrmeau, J., Gardner, M., Gordon, S.M., De Masi, C., Sheevam, P. and Toller, J., 2021, Progress on JEDI initiatives within the University of Nevada Reno geosciences community, submitted to the American Geophysical Union Fall Meeting.

Educational outreach

Volunteer at public school Family STEM Nights (organized by Sierra Nevada Journeys), ~4x/year (2023 – present)
 Guest lecturer for middle school earth science lessons at Washoe County School District, ~4x year (2023 – present)
 Supervision of UNR NevadaTeach undergraduates to help prepare and deliver K-12 geology lessons (2021 – present)
 Volunteer for Nevada State Science Teachers Association Science NV CONNECTS program (2021)
 Regular (6x/yr) guest lecturer, 6th Grade Earth Sciences, McKinley Middle School (2010- 2015)
 Caltech *Science Saturday* public outreach lecture (2011)

Academic Service

UNR Geology Department Graduate Program Director (2024 – present)
 AGU Earth and Planetary Surface Processes (EPSP) Section Secretary (2023 – present)
 AGU Earth and Planetary Surface Processes (EPSP) executive committee member (2017 – present)
 AGU EPSP webmaster and social media co-coordinator (2015 – present)
 AGU EPSP Student Committee Liaison (2019 – 2022)
 AGU EPSP Connects (online seminar/professional development series) co-founder and organizer (2020 – 2021)
 Organizer, AGU EPSP “Ways & Means” mug fundraiser (\$1380 raised, 2018)
 Organizer and co-founder of AGU EPSP “Early Career Geomorphologist Night” (2013-2014)
 Session convener: Goldschmidt (2020), AGU (2014–2018, 2020), EGU (2016 - 2017), GSA Cordilleran (2023)
 Reviewer for *Earth Surface Dynamics*, *Earth Surface Processes and Landforms*, *Geology*, *Geophysical Research Letters*, *GSA Bulletin*, *JGR – Earth Surface*, *Nature Geoscience*, *Science Advances*, American Chemical Society Petroleum Research Fund, Nevada NASA Space Grant, NOAA Sea Grant, US NSF, US-Israel Binational Science Foundation.
 Organizer for Caltech Geoclub seminar series (academic year 2011/2012, summer 2014)

Invited Lectures

2024: Stanford University
2023: UCLA, Landscapes Live (online seminar series hosted by the European Geosciences Union, [view the talk here](#))
2022: University of Wyoming, University of Idaho, Washington University in St. Louis
2021: Humboldt State University, ETH Zürich
2020: Dalhousie University
2019: AGU Fall Meeting, Sacramento State University, University of Colorado Boulder
2018: Ben-Gurion University of the Negev, University Nevada Reno
2017: UC Berkeley, UC Riverside, UC Santa Barbara, Université Rennes, Universität Tübingen
2016: Dartmouth College, Imperial College London, University of Edinburgh, Université Grenoble Alpes
2015: Ben-Gurion University of the Negev, University of Potsdam
2014: GFZ German Research Center for Geosciences, University of Southern California
2013: NASA Jet Propulsion Laboratory

Peer-reviewed publications ([ORCID](#) | [Google Scholar](#)) (*indicates advised graduate, undergraduate, or high school student)

In Review and Revision

Inoue, T., Hiramatsu, Y., **Scheingross, J.S.**, Yamaguchi, S., Takahashi, Kazutaka, in review, Controls on erosion and cyclic step-formation upstream of waterfalls.

*Rothman, S.D., **Scheingross, J.S.**, and McCoy, S.W., in review, Waterfalls alter reach-scale fluvial erosion rates: Evidence from field data and process modeling.

Dosch, S., Hovius, N., Repasch, M., **Scheingross, J.S.**, Turowski, J.M., Tofelde, S., Rach, O., and Sachse D., in review, Sourcing and Long-Range Transport of Particulate Organic Matter in River Bedload: Rio Bermejo, Argentina.

In Press and Print

28. *Robinson, M.J. and **Scheingross, J.S.**, 2024, The length and spacing of river tributaries, *Proceedings of the National Academy of Sciences*, V. 121, No. 15, doi: 10.1073/pnas.2313899121.
27. Ramos, E.J., Larsen, W.J., Hou, Y., Muñoz, S., Cosslett Kemeny, P., **Scheingross, J.S.**, Repasch, M.N., Hovius, N., Sachse, D. Ibarra, D.E., and Torres, M.A., 2024, Competition or collaboration: Clay formation sets the relationship between silicate weathering and organic carbon burial in soil, *Earth and Planetary Science Letters*, V. 628, doi: 10.1016/j.epsl.2024.118584.
26. *Nutt, M.R., Beckam, M.A., and **Scheingross, J.S.**, in press, Hands on rock weathering, *Science Scope*. (*Science Scope is a peer-reviewed teaching journal and this manuscript focuses middle school weathering curriculum. The article was accepted in October 2023; however, articles at Science Scope typically take 10-18 months to go from accepted to published*).
25. *Feehan, S.A., McCoy, S.W., **Scheingross, J.S.**, Gardner, M.H., 2023, Quantifying uncertainty of incipient motion thresholds in gravel-bedded rivers using a grain-scale force-balance model, *JGR Earth Surface*, V. 128, Issue: 9, doi: 10.1029/2023JF007162.
24. ^Repasch, M.N., ^**Scheingross, J.S.**, Cook, K.L., Sachse, D., Dosch, D., Orfeo, O., and ^Hovius, N., 2023, Lithospheric flexure controls on geomorphology, hydrology, and river chemistry in the Andean foreland basin, *AGU Advances*, V. 4, Issue: 5, doi: 10.1029/2023AV000924. (^*These authors contributed equally and are all corresponding authors*)
23. *Rothman, S.D., **Scheingross J.S.**, McCoy, S.W., and Dow, H.W., 2023, Impacts of spontaneous waterfall development on bedrock river longitudinal profile morphology, *JGR Earth Surface*, V. 128, Issue 7, doi: 10.1029/2022JF007057.
22. Inoue, T., Izumi, N., **Scheingross, J.S.**, Hiramatsu, Y., Tanigawa, S., and Sumner, T., 2023, Waterfall height sets the mechanism and rate of upstream retreat, *Geology*, V. 51, Issue: 7, 693-697, doi: 10.1130/G51039.1.
21. Repasch, M.N., **Scheingross, J.S.**, Hovius, N., Vieth-Hillebrand, A., Mueller, C., Hoeschen, C., Szupiany, R.N., and Sachse, D., 2022, River organic carbon fluxes modulated by hydrodynamic sorting of mineral-bound and free particulate organic matter, *Geophysical Research Letters*, V. 49, Issue: 3, doi: 10.1029/2021GL096343.

20. *Golombek, N.Y., **Scheingross, J.S.**, Repasch, M.N., Hovius, N., Sachse, D., Lupker, M., Eglinton, T.I., Menges, J., Haghypour, N., Poulson, S.R., Grocke, D.R., Latosinski, F.G., Szupiany, R.N., 2021, Fluvial organic carbon composition regulated by seasonal variability in lowland river migration, *Geophysical Research Letters*, V.48, Issue: 24, doi: 10.1029/2021GL093416.
19. *Groh, E.L. and **Scheingross, J.S.**, 2022, Morphologic signatures of autogenic waterfalls: A case study in the San Gabriel Mountains, California, *Geology*, V. 50, Issue: 2, doi: 10.1130/G49320.1.
18. Repasch, M., **Scheingross, J.S.**, Hovius, N., Lupker, M., Wittmann, H., Haghypour, N., Grocke, D.R., Orfeo, O., Eglinton, T.I., and D. Sachse, 2021, Fluvial organic carbon cycling regulated by sediment transit time, *Nature Geoscience*, V. 14, p. 842-848, doi: 10.1038/s41561-021-00845-7.
17. **Scheingross, J.S.** and M.P. Lamb, 2021, Mass balance controls on sediment scour and bedrock erosion in waterfall plunge pools, *Geology*, v. 49, doi: 10.1130/G48881.1.
16. **Scheingross, J.S.**, Repasch, M.N., Hovius, N., Sachse, D., Lupker, M., Fuchs, M., Halevy, I., Gröcke, D.R., *Golombek, N.Y., Haghypour, N., Eglinton, T.I., and O. Orfeo, 2021, Constrains on organic carbon modification and oxidation during transient floodplain storage, *Earth and Planetary Science Letters*, V. 561, doi: 10.1016/j.epsl.2021.116822.
15. **Scheingross, J.S.**, Limaye, A.B., McCoy, S.M., and A.C. Whittaker, 2020, The shaping of erosional landscapes by internal dynamics, V. 1, *Nature Reviews Earth & Environment*, doi: 10.1038/s43017-020-0096-0.
14. Repasch, M., Wittmann, H., **Scheingross, J.S.**, Hovius, N., Sachse, D., Szupiany, R., and O. Orfeo, 2020, Sediment transit time and floodplain storage dynamics in alluvial rivers revealed by meteoric ¹⁰Be, *JGR Earth Surface*, V. 125, doi: 10.1029/2019JF005419.
13. **Scheingross, J.S.**, Hovius, N., Dellinger, M., Hilton, R.G., Repasch, M., Sachse, D., Gröcke, D.R., Vieth-Hillebrand, A., and J.M. Turowski, 2019, Preservation of organic carbon during active fluvial transport and particle abrasion, *Geology*, V. 47, no. 10, p. 958-962, doi:10.1130/G46442.1.
12. **Scheingross, J.S.**, M.P. Lamb, and B. Fuller, 2019, Self-formed bedrock waterfalls, *Nature*, V. 567, doi: 10.1038/s41586-019-0991-z.
11. **Scheingross, J.S.**, and M.P. Lamb, 2017, A mechanistic model of waterfall plunge-pool erosion into bedrock, *JGR – Earth Surface*, doi: 10.1002/2017JF004195.
10. **Scheingross, J.S.**, *Lo, D.Y., and M.P. Lamb, 2017, Self-formed waterfall plunge pools in homogeneous rock, *Geophysical Research Letters*, V. 44:1, p. 200-208, doi: 10.1002/2016GL071730.
9. **Scheingross, J.S.** and M.P. Lamb, 2016, Sediment transport through self-adjusting, bedrock-walled waterfall plunge pools, *JGR-Earth Surface*, V. 121, p. 939-963, doi: 10.1002/2015JF003620.
8. Lamb, M.P., Finnegan, N.J., **Scheingross, J.S.**, and Sklar, L.S., 2015, New insight into the mechanics of fluvial bedrock erosion through flume experiments and theory, *Geomorphology*, V. 244, p. 33-55, doi: 10.1016/j.geomorph.2015.03.003.
7. **Scheingross, J.S.**, Brun, F., *Lo, D.Y., *Omerdin, K., and M.P. Lamb, 2014, Experimental evidence for fluvial bedrock incision by suspended and bed-load sediment, *Geology*, V. 42, no. 6, p. 523-526, doi:10.1130/G35432.1.
6. Mackey, B.H., **Scheingross, J.S.**, Lamb, M.P., and K.A. Farley, 2014, Knickpoint formation, rapid propagation, and landscape response following coastal cliff retreat at last-interglacial sea-level highstand: Kuaʻi, Hawaiʻi, *GSA Bulletin*, V.126, no.7/8, p. 925-942, doi:10.1130/B30930.1.
5. DiBiase, R.A., Limaye, A.B., **Scheingross, J.S.**, Fischer, W.W. and Lamb, M.P., 2013, Deltaic deposits at Aeolis Dorsa: Sedimentary evidence for a standing body of water on the northern plains of Mars, *JGR - Planets*, V. 118, Issue 6, pg. 1285-1308, doi: 10.1002/jgre.20100.
4. **Scheingross, J.S.**, Winchell, E.W., Lamb, M.P., and W.E. Dietrich, 2013, Influence of bed patchiness, slope, grain hiding, and form drag on gravel mobilization in very steep streams, *JGR – Earth Surface*, V. 118, Issue 2, p. 982-1001, doi: 10.1002/jgrf.20067.
3. **Scheingross, J.S.**, Minchew, B.M., Mackey, B.H., Simons, M., Lamb, M.P., and S. Hensley, 2013, Fault-zone controls on the spatial distribution of slow-moving landslides, *GSA Bulletin*, V. 125, no. 3/4, p. 473–489; doi: 10.1130/B30719.1.
2. Lamb, M.P., **Scheingross, J.S.**, Swanson, E., Amidon, W., Limaye, A., 2011, A model for post-fire sediment flux by dry ravel in steep landscapes. *JGR - Earth Surface*, V. 116, Issue F3, doi: 10.1029/2010JG001878.
1. Hurst, T.P., Cooper, D.W., **Scheingross, J.S.**, Seale, E.M., Laurel, B.J., and M.L. Spencer. 2009. Effects of ontogeny, temperature, and light on vertical movements of larval Pacific cod (*Gadus macrocephalus*). *Fisheries Oceanography*, 18, 5, p. 301-311 doi:10.1111/j.1365-2419.2009.00512.x.

Other publications

- Scheingross, J.S.**, 2015, Mechanics of sediment transport and bedrock erosion in steep landscapes, Ph.D. dissertation, California Institute of Technology, Pasadena, California.
- Scheingross, J.S.**, 2007. Predicting species distribution of Sierra Nevada butterflies in response to climate change. Senior Thesis, University of California, Berkeley.