

Dr. Lauren M. Simkins
Assistant Professor of Environmental Sciences
University of Virginia
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EDUCATION

University of California Santa Barbara 2010 - 2014
Doctor of Philosophy in Geological Sciences (under the advisement of Drs. A.R. Simms and R. Dewitt)
NSF Louis Stokes Alliance for Minority Participation Bridge to Doctorate Fellow

Oklahoma State University 2005 - 2009
Bachelor of Science in Geology
NSF Louis Stokes Alliance for Minority Participation Scholar

PROFESSIONAL APPOINTMENTS

Assistant Professor 2018 - present
Department of Environmental Sciences, University of Virginia

Postdoctoral Research Associate 2014 - 2018
Department of Earth Science, Rice University

RESEARCH EXPERIENCE

Based on geophysical, remote sensing, and sedimentological data from glaciated and deglaciated continental margins and landscapes, I use qualitative, semi-quantitative (categorical), and quantitative methods from field observations, laboratory measurements, and published datasets to isolate the sensitivity of glaciers and ice sheets to processes and conditions, particularly the role of subglacial terrain and its influence on ice flow, meltwater drainage, and retreat.

SELECTED PEER-REVIEWED PUBLICATIONS (ADVISEES ARE UNDERLINED)

Lepp, A.P., Simkins, L.M., Anderson, J.B., Wellner, J.S., Clark, R., Lehrmann, A., Hillenbrand, C.-D., Smith, Minzoni, R., Graham, A., Hogan, K., Nitsche, F., Larter, R., Wacker, L., 2022. Sedimentary signatures of persistent subglacial meltwater drainage from Thwaites Glacier, Antarctica. *Frontiers in Earth Science*, in press. [[link](#)]

McKenzie, M., Simkins, L.M., Principato, S., 2022. Subglacial bedform sensitivity to bed characteristics across the deglaciated Northern Hemisphere. *Earth Surface Processes and Landforms*. [[link](#)]

Robel, A., Pegler, S., Catania, G., Felikson, D., **Simkins, L.M.**, 2022. Ambiguous stability of glaciers at bed peaks. *Journal of Glaciology*, 1-8. [[link](#)]

Simkins, L.M., Greenwood, S.L., Munevar Garcia, S., Eareckson, E.A., Anderson, J.B., Prothro, L.O., 2021. Topographic controls on channelized meltwater in the subglacial environment. *Geophysical Research Letters*, 48, e2021GL094678. [[link](#)]

Simms, A.R., Bentley, M., **Simkins, L.M.**, Zurbuchen, J., Reynolds, L.C., DeWitt, Regina, 2021. Evidence for a “Little Ice Age” glacial advance within the Antarctic Peninsula – examples from glacially-overrun raised beaches. *Quaternary Science Reviews*, 271, 107195. [[link](#)]

Greenwood, S.L., **Simkins, L.M.**, Winsborrow, M.C.M., Bjarnadóttir, L.R., 2021. Exceptions to bed-controlled ice sheet flow and retreat from glaciated continental margins worldwide. *Sciences Advances*, 7, eabb6291. [[equal authorship](#); [link](#)]

- Hogan, K., Larter, R., Graham, A., Arthern, R., Kirkham, J.D., Minzoni, R.T., Jordan, T., Clark, R., Fitzgerald, V., Anderson, J.B., Hillenbrand, C.D., Nitsche, F.O., **Simkins, L.M.**, Smith, J.A, Gohl, K., Arndt, J.E., Hong, J., Wellner, J., 2020. Revealing the former bed of Thwaites Glacier using sea-floor bathymetry. *The Cryosphere*, 14, 2883–2908. [[link](#)]
- Prothro, L.O., Majewski, W., Yokoyama, Y., **Simkins, L.M.**, Anderson, J.B., Yamane, M., Miyairi, Y. and Ohkouchi, N., 2020. Timing and pathways of East Antarctic Ice Sheet retreat. *Quaternary Science Reviews*, 230, 106166. [[link](#)]
- Halberstadt, A.R., **Simkins, L.M.**, Anderson, J.B., Prothro, L.O., Bart, P.J., 2018. Characteristics of the deforming bed: Till properties on the deglaciated Antarctic continental shelf. *Journal of Glaciology*, 1-14. [[link](#)]
- Simkins, L.M.**, Greenwood S.L., Anderson, J.B., 2018. Diagnosing ice sheet grounding line stability from landform morphology. *The Cryosphere*, 12, 2707-2726. [[link](#)]
- Greenwood, S.L., **Simkins, L.M.**, Halberstadt, A.R.W., Prothro, L.O., Anderson, J.B., 2018. Holocene reconfiguration and readvance of the East Antarctic Ice Sheet. *Nature Communications*, 9, 3176. [[link](#)]
- Prothro, L.O., **Simkins, L.M.**, Majewski, W., Anderson, J.B., 2018. Glacial retreat patterns and processes determined from integrated sedimentology and geomorphology records. *Marine Geology*, 395, 104-119. [[link](#)]
- Simkins, L.M.**, Anderson, J.B., Greenwood, S.L., Gonnermann, H., Prothro, L.O., Halberstadt, A.R.W., Stearns, L.A., Pollard, D., DeConto, R.M, 2017. Anatomy of a meltwater drainage system beneath the ancestral East Antarctic Ice Sheet. *Nature Geoscience*, 10, 691-697. [[link](#)]
- Halberstadt, A.R.W., **Simkins, L.M.**, Greenwood, S.L., Anderson, J.B., 2016. Paleo-ice sheet behaviour: retreat scenarios and changing controls in the Ross Sea, Antarctica. *The Cryosphere*, 10, 1003-1020. [[link](#)]
- Yokoyama, Y., Anderson, J.B., Yamane, M., **Simkins, L.M.**, Miyairi, Y., Yamazaki, T., Koizumi, M., Suga, H., Kusahara, K., Hasumi, H., Southon, J.R., Ohkouchi, N., 2016. Widespread collapse of the Ross Ice Shelf during the late Holocene. *Proceedings of the National Academy of Sciences*, 113(9), 2354-2359. [[link](#)]
- Simkins, L.M.**, Simms, A., Regina DeWitt, 2015. Assessing the link between coastal morphology, wave energy, and sea ice throughout the Holocene from Antarctic raised beaches. *Journal of Quaternary Science*, 30, 335-348. [[link](#)]

PROFESSIONAL AWARDS

2020-2021 Mead Honored Faculty, University of Virginia

Nominated and awarded for outstanding educational engagement with students in and outside of class, after just two years as faculty at UVA.

PROFESSIONAL ORGANIZATIONS

Geological Society of America (GSA), American Geophysical Union (AGU), International Glaciology Society (IGS), WAIS Workshop, American Indian Science and Engineering (AISES)