

Alexander Lewis Nereson

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Personal Profile

Interdisciplinary earth scientist with experience applying remote sensing, digital spatial analyses, and field studies to complex natural systems in academic and industry settings. An articulate and effective communicator with excellent interpersonal skills who enjoys testing new and creative approaches to problem-solving.

Education

PhD candidate, Earth and Planetary Sciences, University of California, Santa Cruz, anticipated March 2018

Dissertation topic: Distribution, persistence, and landscape impacts of slow-moving landslides

MS, Earth and Planetary Sciences, University of New Mexico, Albuquerque, 2012

Thesis: Dynamic topography of the western Great Plains

BA, Geology, Macalester College, St. Paul, 2006

Thesis: Late 20th century record of sedimentation in a high-arctic, pro-glacial lake

Work Experience

Chevron North America, Inc., 2014

Houston, TX—Earth Science Intern

Gained proficiency with an industry-specific GIS software to evaluate an unconventional shale play in the Permian Basin of west Texas; maximized use of historic well log data by developing and implementing a log-normalization protocol, produced maps and data products to assist in ongoing appraisal efforts

National Center for Earth-surface Dynamics, 2008

Minneapolis, MN—Jr. Scientist, Trainee

Executed design plans for the Outdoor StreamLab facility under the direction of project scientists at St. Anthony Falls Laboratory; designed and built sediment delivery systems; monitored stream turbidity; performed topographic surveys

Macalester College Geology Department, 2007-2010

St. Paul, MN—Laboratory and Teaching Assistant

Prepared and analyzed samples using scanning electron microscopy, x-ray diffractometry, x-ray fluorescence, and petrographic techniques; maintained lab equipment and spaces; monitored introductory geology lab courses; conducted classroom demonstrations; constructed learning aids

Teaching Experience

Supervised science laboratory sections of undergraduate courses; prepared and delivered short lectures on course fundamentals to groups with 20+ students; updated curriculum and created assessment criteria for laboratory assignments; assessed student understanding of fundamental course concepts; organized transportation and equipment for field trips.

2017, Spring Summer field and GIS with applications to the earth sciences, UC Santa Cruz
2017, Winter Geomorphology, UC Santa Cruz
2016, Fall Geographic information systems and environmental applications, UC Santa Cruz
2016, Spring Summer field and GIS with applications to the earth sciences, UC Santa Cruz
2009, Spring Dynamic Earth and Global Change, Teaching Assistant, Macalester College

Software Proficiencies

Microsoft Office Suite; ArcGIS; Adobe Illustrator, Acrobat, and Muse; Matlab; ENVI (beginner); Petra (beginner)

Awards and Honors

2016 Northern California Geological Society, Richard Chambers Memorial Scholarship
2015 Central Coast Joint Data Committee, Best Poster at Annual GIS Day Meeting
2012 University of California, Santa Cruz, EPS Department, J. Casey Moore Award
2012 University of New Mexico, EPS Department, Outstanding Master of Science Graduate
2012 University of New Mexico, Alexander and Geraldine Wanek Graduate Scholarship
2011 University of New Mexico, Office of Graduate Studies, Research-Project-Travel Grant
2011 Geological Society of America, Annual Meeting Travel Grant
2011 American Geological Institute, Minority Participation Program Scholarship
2011 University of New Mexico, Alexander and Geraldine Wanek Graduate Scholarship
2011 National Science Foundation, Graduate Research Fellowship
2010 Geological Society of America, Annual Meeting Travel Grant
2010 Louis Stokes Alliance for Minority Participation, Bridge to the Doctorate Fellowship
2010 Macalester College, Hugh S. Alexander Endowed Prize
2009 Subaru, Minority Student Scholarship
2009 Minnesota Space Grant Consortium, Research Scholarship
2009 Macalester College Geology Department, Field Studies Grant
2009 National Association of Geoscience Teachers, Field Studies Grant
2008 Gondwana-13 Conference, Dali, China, "Best Paper" Citation (co-authored)
2006 Andersen Corporation, Academic Scholarship
2006 Comanche Nation, Academic Scholarship
2006 Tozer Foundation, Academic Scholarship
2006 Kopp Family Foundation, Academic Scholarship

Civic Engagement and Academic Service

2015-16	Santa Cruz Homeless Services Center (administrative assistant)
2015	Drones, Data, X Conference, Santa Cruz, CA (guest experience volunteer)
2014	Westlake Elementary School, Santa Cruz, CA (ocean science outreach activity coordinator)
2011-12	Project PeacePal, Albuquerque, NM (office and outreach volunteer)
2011	NM Alliance for Minority Participation Annual Conference, Las Cruces, NM (graduate panelist)
2011	John Baker Elementary School, Albuquerque, NM (science fair judge)
2010-11	U.N.M. Assoc. of Geology Graduate Students, Albuquerque, NM (rep. to student government)
2009-10	Macalester College Geology Club, St Paul, MN (President)
2004-10	National Park Service and Friends of the Mississippi River, St Paul, MN (restoration volunteer)
2006	City of Oakdale Environmental Management Commission, Oakdale, MN (appointed member)

Publications and Conference Abstracts

Peer-reviewed Publications

Priewisch, A.R., Crossey, L.J. Karlstrom, K.E., Polyak, V.J., Asmerom, Y., **Nereson, A.L.**, Ricketts, J.W. (2014) U-series geochronology of large-volume Quaternary travertine deposits of the southeastern Colorado Plateau: Evaluating episodicity and tectonic and paleohydrologic controls, *Geosphere*, v. 10, n. 2, p. 401-423.

Nereson, A., Stroud, J., Karlstrom, K., Heizler, M., McIntosh, W. (2013) Dynamic topography of the western Great Plains: geomorphic and $^{40}\text{Ar}/^{39}\text{Ar}$ evidence for mantle-driven uplift associated with the Jemez lineament of NE New Mexico and SE Colorado, *Geosphere*, v. 9, n. 3, p. 521-545.

Conference Abstracts

Finnegan, N.J. and **Nereson, A.L.** (2017) Untangling Topographic and Climatic Forcing of Earthflow Motion: American Geophysical Union Annual Fall Meeting

Davila Olivera, S., **Nereson, A.L.**, and Finnegan, N.J. (2017) Soil Properties and the Conditions for Recurring Earthflow Failure: American Geophysical Union Annual Fall Meeting

Nereson, A.L. and Finnegan, N.J. (2015) Earthflow yield strength constrained by lateral levee morphology: American Geophysical Union Annual Fall Meeting

Nereson, A.L. and Finnegan, N.J. (2013) The spatial distribution, persistence, and landscape impacts of earthflows in the California Coast Ranges: Central Coast GIS Day Meeting

- Nereson, A.L.**, Finnegan, N.J., Booth, A.M. (2013) Evaluating controls on the aspect dependence of earthflows in the central California Coast Ranges: American Geophysical Union Annual Fall Meeting
- Nereson, A.L.**, Karlstrom, K., Heizler, M., Kelley, S.A., McIntosh, W., Brown, S. (2012) The role of mantle dynamics in shaping landscapes of the western Great Plains: an analysis of post-Miocene patterns of erosion and tilting in NE New Mexico and SE Colorado, Geological Society of America Abstracts with Programs, vol. 44, no. 6, p. 30.
- Burkett, C., Wortman, R., Ricketts, J.W., **Nereson, A.L.**, Karlstrom, K. (2012) Landscape denudation along the western edge of the Rio Grande Rift using basalt paleosurfaces, Geological Society of America Abstracts with Programs, vol. 44, no. 6, p. 75.
- Priewisch, A., Crossey, L.J., Embid, E., Karlstrom, K.E., Polyak, V., Asmerom, Y., Ricketts, J., and **Nereson, A.L.** (2012) Large- volume Quaternary travertine deposits in the Rio Grande rift and Jemez lineament, New Mexico and Arizona: implications for paleoclimate, landscape evolution, and neotectonics, Geological Society of America Abstracts with Programs, vol. 44, no. 6, p. 33.
- Nereson, A.L.**, Karlstrom, K., McIntosh, W., Heizler, M., Kelly, S. Brown S. (2011) Dynamic topography of the western Great Plains: landscape evidence for mantle-driven uplift associated with the Jemez lineament of NE New Mexico and SE Colorado: American Geophysical Union Annual Fall Meeting, Abstract # T13B-2380.
- Nereson, A.L.**, Karlstrom, K., McIntosh, W., Heizler, M., Kelly, S. Brown S. (2011) Dynamic topography of the western Great Plains: proposed surface expressions of mantle dynamics in the Raton Section of New Mexico and Colorado: Geological Society of America Abstracts with Programs, Vol. 43, No. 5, p. 386.
- Donahue, M.S., Ricketts, J., **Nereson, A.L.**, Kelley, S., Karlstrom, K.E., Crow, R., and Gonzales, D. (2011) Testing a hypothesis for multistage uplift of the Rockies using thermochronology and detrital zircon data: Laramide reverse faulting, long wavelength Oligocene uplift, and shorter wavelength Neogene differential uplift, New Mexico Geological Society Annual Spring Meeting, Program with Abstracts, p. 4.
- Nereson, A.L.**, Brown S.W., Karlstrom, K.E., Stroud, J., McIntosh, W., and Heizler, M. (2011) Dynamic topography of the Great Plains: Evidence from fluvial incision and exhumation in New Mexico and Colorado: New Mexico Geological Society Annual Spring Meeting, Program with Abstracts, p. 2.
- Nereson, A.L.**, Brown S.W., and Karlstrom, K.E. (2010) Evaluating a hypothesis for mantle-driven epeirogenic uplift along the Jemez Lineament of northeastern New Mexico using river terraces and long-profile analysis: Geological Society of America Abstracts with Programs, Vol. 2, no. 5, p. 76
- Nereson, A.L.** (2010) Sediment Chronology Defined by Cesium-137 in the Deep Main Basin of Proglacial Linnévatnet, Western Spitsbergen, Svalbard: 23rd Keck Geology Undergraduate Research Symposium, ExxonMobil, Houston, TX.
- Nereson, A.L.** (2008) Geological Reconnaissance of Choice Localities Near Endulen, Northern Tanzania: ACM Undergraduate Research Symposium, Nyerere Cultural Center, Dar es Salaam, Tanzania.
- Craddock, J.P., Konstantinou, A., **Nereson, A.L.**, Webers, G.F., Ojakangas, R.W., Fitzgerald, P., and G. Gehrels (2008) Detrital Zircon and Heavy Mineral Provenance of the Ellsworth Mountains, Antarctica and Gondwana-wide Carboniferous Tillite: Gondwana-13 Conference Presentation (China), p. 35.