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, research, 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 July 2017
Dissertation topic: Slow-moving landslides in the California Coast Ranges

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
Evaluated an unconventional shale play in the Permian Basin of west Texas; maximized use of historic log data using by developing and implementing a log-normalization protocol, guided ongoing appraisal efforts with maps and data products

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

Research Experience

Keck Geology Consortium, 2010

Svalbard, Norway—Undergraduate Researcher

Conducted field work in the high-arctic archipelago Svalbard, including collection of lake-bottom sediment cores using a surface coring device; utilized gamma-ray spectroscopy to identify radioactive tracers in laminated sediments; constrained rates of sedimentation to inform paleoclimatic reconstructions

Associated Colleges of the Midwest: Human Evolution and Ecology Program, 2008

Dar es Salaam, Tanzania—Undergraduate Researcher

Developed and executed a four-week geological reconnaissance of the area near Endulen village in northern Tanzania; mapped and described major hydrologic, geologic, and geographic features in the region; compiled a database of potential type localities for various units and features

Arizona LaserChron Center, 2008 & 2009

University of Arizona, Tuscon—Visiting Undergraduate Researcher

Completed detrital zircon analyses using the center's Laser-Ablation Multicollector ICP Mass Spectrometer to constrain the timing of key events in the tectonic evolution of the Teton Range of Wyoming-Idaho and the Ellsworth Mountains of Antarctica

Software Proficiencies

Microsoft Word, PowerPoint, Excel; ArcGIS; Adobe Illustrator, Acrobat, Muse; ENVI; Petra; Matlab

Awards and Honors

2012	University of California, Santa Cruz, E&PS Department, J. Casey Moore Award
2012	University of New Mexico, E&PS 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

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 40Ar/39Ar 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.

Other Publications

Nereson, A. (2010) Sediment Chronology Defined by Cesium-137 in the Deep Main Basin of Proglacial Linnévatnet, Western Spitsbergen, Svalbard: Proceedings of the 23rd Annual Keck Research Symposium in Geology, ExxonMobil, Houston, TX

Conference Abstracts

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 surfaces 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.