Joel Lawrence Pederson

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education

University of New Mexico Albuquerque, NM	Ph.D. Earth and Planetary Sciences, 1999: A long-term record of climate-controlled hillslope sedimentation.
Northern Arizona University Flagstaff, AZ	M.S. Geology, 1995: Late Holocene geochronology and paleoclimate of Lake Canyon, Utah.
Gustavus Adolphus College St. Peter, MN	B.A. Geology, 1990, magna cum laude, Thesis: Terraces of River Warren

professional experience

2014-	**Professor** **Department Head (2016-)**	Department of Geosciences, Utah State University
2005-2014	**Associate Professor** **Ex. Dir., USU Luminescence Lab** **Graduate Director (2010-2015)**	Department of Geology, Utah State University
1999-2005	**Assistant Professor**	Department of Geology, Utah State University
1996-2004	**Contract Mapping**	New Mexico Bureau of Mines and Geology
1990-1992	**Geologist**	STS Environmental Consultants, Minneapolis, MN

recent major grants

2022-2025	**NSF-Tectonics**	"Exploring the tempo of exhumation and relief development to investigate mantle-to-surface connections around the Yellowstone hotspot"	**$497,900** USU = **$99,153**
2021-2024	**NSF-GLD**	"Deciphering the role of extreme rainstorms and hydroclimate regime on arid escarpment retreat and sub-cliff slope evolution"	**$391,975** USU = **$55,441**
2019-2021	**Utah Gov's Office**	Strategic Workforce Investment grant "Geoscience Technology Workforce Pathways"	**$203,675**
2013-2016	**NSF-TUES**	"Development of mobile games for geoscience education using the Colorado Plateau as a virtual classroom"	**$240,797**

awards

2021 **Fellow, Geological Society of America**
2005 **GSA Biggs Earth Science Teaching Award**
2000 **GSA Gladys W. Cole Memorial Research Award**
1997 **GSA J. Hoover Mackin Award**, for PhD research

recent peer-reviewed publications *(Pederson students in italics)*

- Google Scholar site: http://scholar.google.co.uk/citations?user=ZytbQ6cAAAAJ

McCarroll, N., Pederson, J., Hidy, A. and Rittenrour, T., 2021, Chronostratigraphy of Talus Flatirons and Piedmont Alluvium along the Book Cliffs, Utah – Testing Models of Dryland Escarpment Evolution: Quaternary Science Reviews, doi: 10.1016/j.quascirev.2021.107286

Tuzlak, D., Pederson, J., Bufe, A. and Rittenour, T., 2021, Patterns of Incision and Deformation on the Southern Flank of the Yellowstone Hotspot from Terraces and Topography: Geological Society of America Bulletin, doi: 10.1130/B35923.1

Riley, K.E., Rittenour, T.M., Pederson, J.L. and Belmont, P., 2019, Erosion rates and patterns in a transient landscape, Grand Staircase, southern Utah: Geology, doi: 10.1130/G45993.1

Townsend, K.F., Nelson, M.S., Rittenour, T.M. and Pederson, J.L., 2019, Anatomy and evolution of a dynamic arroyo system: Kanab Creek, southern Utah, USA: Geological Society of America Bulletin, doi: 10.1130/B35195.1

Bursztyn N., Walker, A, Shelton, B. and Pederson, J.L., 2017, Increasing undergraduate interest to learn geoscience with GPS-based, augmented reality field trips on students' own smartphones: GSA Today: v. 27, no. 6, p. 4-10, doi: 10.1130/GSATG304A.1

Bursztyn N., Walker, A, Shelton, B. and Pederson, J.L., 2017, Assessment of student learning using augmented reality Grand Canyon field trips for mobile smart-devices: Geosphere, v. 13, no. 2, p. 260-268, doi: 10.1130/GES01404.1

Pederson, J.L., Janecke, S.U., Reheis, M.C., Kaufman, D.S. and Oaks, R.Q., Jr., 2016, Chapter 2. The Bear River's history and diversion—constraints, unsolved problems, and implications for the Lake Bonneville record, *in* Oviatt, C.G. and Shroder Jr., J.F., eds., Lake Bonneville: A Scientific Update: Elsevier, p. 28-58.

Pederson, J.L., O'Brien, G.R., Anderson, K.C., and Neff, L.T., 2016, Geomorphic Context of the River-Corridor Cultural Record in Grand Canyon (Ch. 6), *in* Smiley, F.E., Downum, C.E., and Smiley S.G., eds., Archaeology of the Grand Canyon: Ancient Peoples, Ancient Places: Grand Canyon Assoc.

Bursztyn N., Pederson, J.L., *Tressler C, Mackley R.D.,* and *Mitchell K.J.,* 2015, Rock strength along a fluvial transect of the Colorado Plateau–quantifying a fundamental control on geomorphology: Earth and Planetary Science Letters, v. 429, p. 90-100, doi:10.1016/j.epsl.2015.07.042

Jochems, A.P. and Pederson, J.L., 2015, Active salt deformation and rapid, transient incision along the Colorado River near Moab, Utah: Journal of Geophysical Research (Earth Surface), v. 120, no. 4, p. 730-744, doi: 10.1002/2014JF003169