

W. Payton Gardner

EDUCATION	Ph.D., Geophysics, 2009 University of Utah, Salt Lake City, UT	
	M.S., Geophysics, 2007 University of Utah, Salt Lake City, UT	
	B.S., Geology 2004; University of Montana, Missoula, MT	
RESEARCH INTERESTS	<i>Hydrogeology, Isotope Hydrology, Groundwater Age Dating, Noble Gas Geochemistry, Multi-phase subsurface flow and transport</i>	
EMPLOYMENT EXPERIENCE	<i>Assistant Professor - Department of Geosciences</i>	University of Montana August 2015-Present
	<i>Expert Consultant - Nuclear Waste Technology Section</i>	International Atomic Energy Agency Sept 2014-February 2015
	<i>Senior Member of the Technical Staff - Geological Engineering</i>	Sandia National Labs Sept 2011-August 2015
	<i>Office of the Chief Executive - Postdoctoral Fellow</i>	CSIRO Land and Water May 2009-Sept 2011
HONORS	<ul style="list-style-type: none">• 6 month secondment as Expert Consultant to the IAEA. Radioactive Waste Disposal Technologies - 2014.• Invited Speaker - CUAHSI Biannual Workshop on Critical Zone Hydrology. Isotopes of Helium to Detect Regional Groundwater Discharge in Rivers - 2014.• Invited Speaker - AGU Fall Meeting - Isotopes of Radon in Groundwater - Stream Water Interactions - 2013.• Invited consultant to the IAEA - Isotope methods to characterize fluid flow in clay aquitards - 2013.• Invited Speaker - GSA Fall Meeting - Isotopes of Helium in Groundwater - Stream Water Interactions - 2012.• Outstanding Groundwater Talk. 11th Australasian Environmental Isotope Conference and 4th Australasian Hydrogeology Research Conference - 2011.• Outstanding Groundwater Talk. 10th Australasian Environmental Isotope Conference and 3rd Australasian Hydrogeology Research Conference - 2009.• Outstanding PhD Student (Geophysics). University of Utah Department of Geology and Geophysics - 2009.• Outstanding Master's Student. University of Utah Department of Geology and Geophysics - 2007.• WEST Fellowship. University of Utah Department of Geology and Geophysics. 2005-2006.• Cooper-Hansen Fellowship. University of Utah Department of Geology and Geophysics. 2004-2005.• Mortar Board Environmental Geology Senior of the Year. University of Montana Department of Geology - 2002.	

SELECTED JOURNAL PUBLICATIONS Brian D. Smerdon, Laura A. Smith, Glenn A. Harrington, W. Payton Gardner, Claudio Delle Piane, and Joel Sarout. “Estimating the hydraulic properties of and aquitard from in situ pore pressure measurements.” *Hydrogeology Journal*, 2014, *in Press*

W. Payton Gardner, David D. Susong, D. Kip Solomon, and Henry P. Heasler. “Using environmental tracers and numerical simulation to investigate regional hydrothermal basins – Norris Geyser Basin area, Yellowstone National Park, USA.”, *Journal of Geophysical Research: Solid Earth*, 2013, Vol. 118, 1-11, doi:10.1002/jgrb.50210.

W. Payton Gardner, Glenn E. Hammond, Peter Lichtner. “High Performance Simulation of Environmental Tracers in Heterogeneous Domains.”, *Groundwater*, 2013, *online early view*

Glenn A. Harrington, W. Payton Gardner, Brian D. Smerdon, and M. Jim Hendry. “Palaeohydrogeological insights from natural tracer profiles in aquitard porewater, Great Artesian Basin, Australia.”, *Water Resources Research*, 49, 2013.

Glenn A. Harrington, W. Payton Gardner and Tim J. Munday. “Tracking groundwater discharge to a large river using tracers and geophysics.”, *Groundwater*, 2013, *online early view*

Stanley D. Smith, D. Kip Solomon, and W. Payton Gardner. “Testing helium equilibrium between quartz and pore water as a method to determine pore water helium concentrations”. *Applied Geochemistry*. 2013. doi:10.1016/j.apgeochem.2013.04.010.

W. Payton Gardner, Glenn Harrington and Brian Smerdon. “Using excess ^4He to quantify variability in aquitard leakage”, *Journal of Hydrology*, 2012, 468, 63-75

Brian Smerdon, W. Payton Gardner and Glenn Harrington. “Identifying the contribution of regional groundwater to the base flow of a tropical river (Daly River, Australia)”, *Journal of Hydrology*, 2012, 464, 107-115

W. Payton Gardner, David D. Susong, D. Kip Solomon and Henry P. Heasler. “A multitracer approach for characterizing interactions between shallow groundwater and the hydrothermal system in the Norris Geyser Basin area, Yellowstone National Park”, *Geochem. Geophys. Geosyst.*, 2011, 12, Q08005

W. Payton Gardner, Glenn Harrington, D. Kip Solomon and Peter Cook. “Using Terrestrial ^4He to Identify and Quantify Old Groundwater Discharge to Streams”. *Water Resources Research*, 2011, 47, W06523

W. Payton Gardner, David D. Susong, D. Kip Solomon and Henry P. Heasler. “Using noble gases measured in spring discharge to trace hydrothermal processes in the Norris Geyser Basin, Yellowstone National Park, U.S.A.” *Journal of Volcanology and Geothermal Research*, 2010, 198, 394-404

W. Payton Gardner, David D. Susong, D. Kip Solomon and Henry P. Heasler. “Snowmelt hydrograph interpretation: revealing basin scale hydrologic characteristics of the Yellowstone Volcanic Plateau.” *Journal of Hydrology*, 2010, 383, 209-222

W. Payton Gardner and D. Kip Solomon. “Advanced passive diffusion samplers for the collection and determination of aqueous dissolved gas concentrations.” *Water Resources Research*, 45, 2009

Matt V. Vitale, W. Payton Gardner, Nancy W. Hinman. “Surface water – groundwater interaction and chemistry in a mineral-armored hydrothermal outflow channel, Yellowstone National Park, USA.” *Hydrogeology Journal*, 2008, 16, 1615 - 1627