

Brief Curriculum Vitae for David Genereux

Address and Related Information

Marine, Earth, and Atmospheric Sciences
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Education

University of Delaware: Geology/Chemistry, B.S., 1984
Massachusetts Institute of Technology: Civil Engineering, M.S., 1988
Massachusetts Institute of Technology: Hydrology, Ph.D., 1991

Academic Employment

- Professor (2007-present) and Associate Professor (2000-2006), Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, and Associate Director for Research (2009-present), Water Resources Research Institute of UNC, Raleigh, NC
- Associate Professor, Geology Department, and Southeast Environmental Research Center, Florida International University, Miami, FL, 1997-2000
- Assistant Professor, Geology Department, and Drinking Water Research Center (College of Engineering), Florida International University, Miami, FL, 1992-1997
- Postdoctoral Research Associate, Department of Civil Engineering, MIT, Cambridge, MA, September 1991 - February 1992

Research Interests

Interaction of groundwater and surface water, watershed hydrology, chemical/isotope hydrology

Recent Publications (* indicates student author)

- Solomon, D.K., D.P. Genereux, L.N. Plummer, and E. Busenberg. 2009. Testing mixing models of old and young groundwater in a tropical lowland rainforest with environmental tracers. In review, *Water Resources Research*.
- Kennedy*, C.D., D.P. Genereux, D.R. Corbett, and H. Mitasova. 2009. Relationships among groundwater age, denitrification, and the coupled groundwater and nitrogen fluxes through a streambed. *Water Resources Research*, 45, W09402, doi: 10.1029/2008WR007400.
- Kennedy*, C.D., D.P. Genereux, D.R. Corbett, and H. Mitasova. 2009. Spatial and temporal dynamics of coupled groundwater and nitrogen fluxes through a streambed in an agricultural watershed. *Water Resources Research*, 45, W09401, doi: 10.1029/2008WR007397.
- Genereux, D.P., M. Webb*, and D.K. Solomon. 2009. The chemical and isotopic signature of old groundwater and magmatic solutes in a Costa Rican rainforest: evidence from carbon, helium, and chlorine. *Water Resources Research* 45, W08413, doi: 10.1029/2008WR007630.
- Genereux, D.P., S. Leahy*, H. Mitasova, C.D. Kennedy*, and D.R. Corbett. 2008. Spatial and temporal variability of streambed hydraulic conductivity in West Bear Creek, North Carolina, USA. *Journal of Hydrology* 358: 332-353. doi:10.1016/j.jhydrol.2008.06.017.

- Kennedy*, C.D., D.P. Genereux, H. Mitasova, D.R. Corbett, and S. Leahy*. 2008. Effect of sampling density and design on estimation of streambed attributes. *Journal of Hydrology* 355(1-4): 164-180. doi:10.1016/j.jhydrol.2008.03.018.
- Kennedy*, C.D., and D.P. Genereux. 2007. ¹⁴C groundwater age and the importance of chemical fluxes across aquifer boundaries in confined Cretaceous aquifers of North Carolina, USA. *Radiocarbon* 49(3): 1181-1203.
- Kennedy*, C.D., D.P. Genereux, D.R. Corbett, and H. Mitasova. 2007. Design of a light-oil piezomanometer for measurement of hydraulic head differences and collection of groundwater samples. *Water Resources Research*, 43, W09501, doi:10.1029/2007WR005904.
- Genereux, D.P., and M.T. Jordan*. 2006. Interbasin groundwater flow and groundwater interaction with surface water in a lowland rainforest, Costa Rica. *Journal of Hydrology*, 320: 385-399. doi: 10.1016/j.jhydrol.2005.07.023.
- Genereux, D.P., M.T. Jordan*, and D. Carbonell*. 2005. A paired-watershed budget study to quantify interbasin groundwater flow in a lowland rainforest, Costa Rica. *Water Resources Research*, 41, W04011, doi: 10.1029/2004WR003635.
- Genereux, D.P. 2004. Comparison of naturally-occurring chloride and oxygen-18 as tracers of interbasin groundwater transfer in lowland rainforest, Costa Rica. *Journal of Hydrology* 295: 17-27. DOI 10.1016/j.jhydrol.2004.02.020
- Saiers, J.E., D.P. Genereux, and C.H. Bolster. 2004. Influence of calibration methodology on ground-water flow predictions. *Ground Water* 42(1): 32-44.
- Genereux, D.P. 2003. Comparison of methods for estimation of 50-year peak discharge from a small rural watershed in North Carolina. *Environmental Geology* 44(1): 53-58. doi: 10.1007/s00254-002-0734-5
- Genereux, D.P., S.J. Wood*, and C.M. Pringle. 2002. Chemical tracing of interbasin groundwater transfer in the lowland rainforest of Costa Rica. *Journal of Hydrology* 258: 163-178. doi: 10.1016/S0022-1694(01)00568-6
- Bolster, C.H., D.P. Genereux, and J.E. Saiers. 2001. Determination of specific yield for a limestone aquifer from a canal drawdown test. *Ground Water* 39(5): 768-777.
- Genereux, D.P., and J.D.A. Guardiario*. 2001. A borehole flowmeter investigation of small-scale hydraulic conductivity variation in the Biscayne Aquifer, Florida. *Water Resources Research* 37(5): 1511-1517.

Selected Service Appointments

- Associate Editor, *Journal of Contaminant Hydrology*, June 2006 – June 2008
- Associate Editor, *Water Resources Research*, October 1998 – December 2003
- Grant Program Panels:
 - NSF: EAR Education and Human Resources Panel, November 2008
 - NSF: Carbon and Water in the Earth System, June 2006
 - NSF: Water Cycle Research, November 2004
 - USDA: Watershed Processes and Water Resources, April 2004
 - EPA: Information & Computing Technology for Multi-Discipline Ecosystem Modeling, 1999
 - EPA/NSF: Water and Watersheds, 1996, 1997
 - NSF: Regional Hydrologic Vulnerability to Global Climate Change, 1995