

# David P. Genereux

## Address and Contact Information

Marine, Earth, and Atmospheric Sciences  
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## Education

- Massachusetts Institute of Technology, Cambridge, MA  
Ph.D. in Hydrology, Department of Civil and Environmental Engineering, September 1991.  
Laboratory Graduate Participation Fellow, Oak Ridge National Lab, October 1989 to June 1991.
- Massachusetts Institute of Technology, Cambridge, MA  
M.S. in Civil Engineering, February 1988.
- University of Delaware, Newark, DE  
B.S. in Geology, minor in Chemistry, June, 1984. Freshman Honors Program, Dean's Scholar Program, Sharp Scholarship, and Undergraduate Achievement Award.

## Academic Employment

- Department of Marine, Earth, & Atmospheric Sciences, North Carolina State University, Raleigh, NC (<http://www.meas.ncsu.edu/>): Professor (2007-present), Associate Professor (2000-2007)
- Water Resources Research Institute of the University of North Carolina, Raleigh, NC (<http://www.ncsu.edu/wrri/>): Associate Director for Research (2009 – 2014)
- Geology Department, and Southeast Environmental Research Center, Florida International University, Miami, FL: Associate Professor (1997-2000)
- Geology Department, and Drinking Water Research Center (College of Engineering), Florida International University, Miami, FL: Assistant Professor (1992-1997)
- Department of Civil Engineering, MIT, Cambridge, MA: Postdoctoral Research Associate (September 1991 – February 1992)

## Board Membership

Board of Directors, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI, <https://www.cuahsi.org/>), 2016-2018; Board Chair, 2017

## Peer-Reviewed Publications (\*student author †post-doc author)

Solomon, K.D., E. Humphrey, T.E. Gilmore, D.P. Genereux, V. Zlotnik. 2020. An automated seepage meter for streams and lakes. *Water Resources Research*.  
<http://doi.org/10.1029/2019WR026983>

Stewart-Maddox\*, N.S., M.D. Frisbee, C.L. Andronicos, D.P. Genereux, Z.P. Meyers. 2018. Identifying the regional extent and geochemical evolution of interbasin groundwater flow using geochemical inverse modeling and  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios in a complex conglomeratic aquifer. *Chemical Geology* 500: 20-29. <http://doi.org/10.1016/j.chemgeo.2018.07.026>

Osburn, C.L., D. Oviedo-Vargas†, E. Barnett\*, D. Dierick†, S.F. Oberbauer, D.P. Genereux. 2018. Regional groundwater and storms are hydrologic controls on the quality and export of dissolved organic matter in two tropical rainforest streams, Costa Rica. *Journal of Geophysical*

*Research – Biogeosciences* 123: 850-866. <http://doi.org/10.1002/2017JG003960>

Koh, D.C., D.P. Genereux, G.W. Koh, K.S. Ko. 2017. Relationship of groundwater geochemistry and flow to volcanic stratigraphy in basaltic aquifers affected by magmatic CO<sub>2</sub>, Jeju Island, Korea. *Chemical Geology* 467: 143-158. <http://doi.org/10.1016/j.chemgeo.2017.08.009>

Gilmore\*, T.E., D.P. Genereux, D.K. Solomon, K.M. Farrell, H. Mitasova. 2016. Quantifying an aquifer nitrate budget and future nitrate discharge using field data from streambeds and well nests. *Water Resources Research*, 52: 9046-9065. <https://doi.org/10.1002/2016WR018976>

Oviedo-Vargas<sup>†</sup>, D., D. Dierick<sup>†</sup>, D.P. Genereux, S.F. Oberbauer. 2016. Chamber measurements of high CO<sub>2</sub> emissions from a rainforest stream receiving old C-rich regional groundwater. *Biogeochemistry*, 130: 69-83. <https://doi.org/10.1007/s10533-016-0243-3>

Heilweil, V., D.K. Solomon, T. Darrah, T.E. Gilmore\*, and D.P. Genereux. 2016. A gas-tracer experiment for evaluating the fate of methane in a coastal plain stream: Degassing versus in-stream oxidation. *Environmental Science and Technology*, 50(19): 10504–10511. <https://doi.org/10.1021/acs.est.6b02224>

Burnette\*, M., D.P. Genereux, F. Birgand. 2016. *In-situ* falling-head test for hydraulic conductivity: evaluation in layered sediments of an analysis derived for homogenous sediments. *Journal of Hydrology*, 539: 319-329. <https://doi.org/10.1016/j.jhydrol.2016.05.030>

Gilmore\*, T.E., D.P. Genereux, D.K. Solomon, J.E. Solder\*. 2016. Groundwater transit time distribution and mean from streambed sampling in an agricultural coastal plain watershed, North Carolina, USA. *Water Resources Research*, 52, 2025-2044. <https://doi.org/10.1002/2015WR017600>

Gilmore\*, T.E., D.P. Genereux, D.K. Solomon, J.E. Solder\*, B.A. Kimball, H. Mitasova, F. Birgand. 2016. Quantifying the fate of agricultural nitrogen in an unconfined aquifer: stream-based observations at three measurement scales. *Water Resources Research*, 52, 1961-1983. <https://doi.org/10.1002/2015WR017599>

Solder\*, J.E., T.E. Gilmore\*, D.P. Genereux, and D.K. Solomon. 2016. A tube seepage meter for in situ measurement of seepage rate and groundwater sampling. *Groundwater*, 54(4): 588-595. <https://doi.org/10.1111/gwat.12388>

Solomon, D.K., T.E. Gilmore\*, J. Solder\*, B. Kimball, D.P. Genereux. 2015. Evaluating an unconfined aquifer by analysis of age-dating tracers in stream water. *Water Resources Research*, 51, 8883–8899. <https://doi.org/10.1002/2015WR017602>

Oviedo-Vargas<sup>†</sup>, D., D.P. Genereux, D. Dierick<sup>†</sup>, and S.F. Oberbauer. 2015. The effect of regional groundwater on carbon dioxide and methane emissions from a lowland rainforest stream in Costa Rica. *Journal of Geophysical Research - Biogeosciences*, 120, 2579-2596. <https://doi.org/10.1002/2015JG003009>

Ganong\*, C.N., G.E. Small, M. Ardón, W.H. McDowell, D.P. Genereux, J.H. Duff, C.M. Pringle. 2015. Interbasin flow of geothermally-modified groundwater stabilizes stream exports of biologically important solutes against variation in precipitation. *Freshwater Science*, 34(1): 276–286. <https://doi.org/10.1086/679739>

Zanon\*, C., D.P. Genereux, and S.F. Oberbauer. 2014. Use of a watershed hydrologic model to estimate interbasin groundwater flow in a Costa Rican rainforest. *Hydrological Processes*, 28: 3670-3680. <https://doi.org/10.1002/hyp.9917>

Genereux, D.P., L. Nagy\*, C.L. Osburn, and S.F. Oberbauer. 2013. A connection to deep groundwater alters ecosystem carbon fluxes and budget: example from a Costa Rican rainforest. *Geophysical Research Letters*, 40(10): 2066-2070. <https://doi.org/10.1002/grl.50423>

Kennedy\*, C.D., L.C. Murdoch, D.P. Genereux, D.R. Corbett, K. Stone\*, P. Pham\*, and H. Mitasova. 2010. Comparison of Darcian flux calculations and seepage meter measurements in a sandy streambed in North Carolina, USA. *Water Resources Research*, 46, W09501. <https://doi.org/10.1029/2009WR008342>

Solomon, D.K., D.P. Genereux, L.N. Plummer, and E. Busenberg. 2010. Testing mixing models of old and young groundwater in a tropical lowland rainforest with environmental tracers. *Water Resources Research*, 46, W04518. <https://doi.org/10.1029/2009WR008341>

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. <https://doi.org/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. <https://doi.org/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. <https://doi.org/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. <https://doi.org/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. <https://doi.org/10.1016/j.jhydrol.2008.03.018>

Kennedy\*, C.D., and D.P. Genereux. 2007.  $^{14}\text{C}$  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. <https://doi.org/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: A review. *Journal of Hydrology*, 320: 385-399. <https://doi.org/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. <https://doi.org/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. <https://doi.org/10.1016/j.jhydrol.2004.02.020>

Saiers, J.E., D.P. Genereux, and C.H. Bolster<sup>†</sup>. 2004. Influence of calibration methodology on ground-water flow predictions. *Ground Water*, 42(1): 32-44. <https://doi.org/10.1111/j.1745-6584.2004.tb02448.x>

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. <https://doi.org/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. [https://doi.org/10.1016/S0022-1694\(01\)00568-6](https://doi.org/10.1016/S0022-1694(01)00568-6)

Genereux, D.P., and I. Bandopadhyay\*. 2002. Numerical investigation of lake bed seepage patterns: Effects of porous medium and lake properties. Reply to comment by M. Bakker and E.I. Anderson. *Journal of Hydrology*, 258: 265-266. [https://doi.org/10.1016/S0022-1694\(01\)00572-8](https://doi.org/10.1016/S0022-1694(01)00572-8)

Bolster<sup>†</sup>, 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. <https://doi.org/10.1111/j.1745-6584.2001.tb02368.x>

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.

Genereux, D.P., and I. Bandopadhyay\*. 2001. Numerical investigation of lake bed seepage patterns: Effects of porous medium and lake properties. *Journal of Hydrology*, 241(3-4): 286-303. doi:10.1016/S0022-1694(00)00380-2

Zechner<sup>†</sup>, E., D.P. Genereux, and J. Saiers. 2000. The benefit of using data on canal seepage and tracer concentration in aquifer parameter estimation. In: F. Stauffer, W. Kinzelbach, K. Kovar, and E. Hoehn (editors), Calibration and Reliability in Groundwater Modelling: Coping with Uncertainty, International Association of Hydrological Sciences Publication number 265, pages 256-262.

Genereux, D.P., and E. Slater\*. 1999. Water exchange between canals and surrounding aquifer and wetlands in the southern Everglades, USA. *Journal of Hydrology*, 219: 153-168. doi 10.1016/S0022-1694(99)00060-8

Genereux, D.P. 1998. Quantifying uncertainty in tracer-based hydrograph separations. *Water Resources Research*, 34(4): 915-919.

Genereux, D.P., and J.D.A. Guardiario\*. 1998. A canal drawdown experiment for determination of aquifer parameters. *ASCE Journal of Hydrologic Engineering*, 3(4): 294-302.

Genereux, D.P., and R.P. Hooper. 1998. Oxygen and hydrogen isotopes in rainfall-runoff studies on mid-latitude catchments. Chapter 10 (pages 319-346) in: C. Kendall and J. McDonnell (eds.), Isotope Tracers in Catchment Hydrology, Elsevier Science Publishers, Amsterdam, 840 pages.

Kraemer, T.F., and D.P. Genereux. 1998. Applications of uranium- and thorium-series radionuclides in catchment hydrology studies. Chapter 20 (pages 679-722) in: C. Kendall and J. McDonnell (eds.), Isotope Tracers in Catchment Hydrology, Elsevier Science Publishers, Amsterdam, 840 pages.

Genereux, D.P., and C.M. Pringle. 1997. Chemical mixing model of streamflow generation at La Selva Biological Station, Costa Rica. *Journal of Hydrology*, 199: 319-330. doi 10.1016/S0022-1694(96)03333-1

Genereux, D.P., and H.F. Hemond. 1994. Determination of gas exchange rate constants for a small stream on Walker Branch Watershed, Tennessee. Reply to comment. *Water Resources Research*, 30(5): 1633-1634.

Genereux, D.P., H.F. Hemond, and P.J. Mulholland. 1993. Use of <sup>222</sup>Rn and calcium as tracers in a three-end-member mixing model for streamflow generation on the West Fork of Walker Branch Watershed. *Journal of Hydrology*, 142: 167-211. doi 10.1016/0022-1694(93)90010-7

Genereux, D.P., H.F. Hemond, and P.J. Mulholland. 1993. Spatial and temporal variability in streamflow generation on the West Fork of Walker Branch Watershed. *Journal of Hydrology*, 142: 137-166. doi:10.1016/0022-1694(93)90009-X

Genereux, D.P., and H.F. Hemond. 1992. Determination of gas exchange rate constants for a small stream on Walker Branch Watershed, Tennessee. *Water Resources Research*, 28(9): 2365-2374.

Genereux, D.P., and H.F. Hemond. 1991. Measurement of the  $^{222}\text{Rn}$  content of soil gas by liquid scintillation counting. *Chemical Geology (Isotope Geoscience Section)*, 87: 265-275.

Genereux, D.P., and H.F. Hemond. 1990. Naturally-occurring  $^{222}\text{Rn}$  as a tracer for streamflow generation: Steady-state methodology and field application. *Water Resources Research*, 26(12): 3065-3075.

Genereux, D.P., and H.F. Hemond. 1990. Three-component tracer model for stormflow on a small Appalachian forested catchment: Comment. *Journal of Hydrology*, 117: 377-380 (with corrigendum, 1991, *Journal of Hydrology*, 122: 429).

**Other Publications** (\*student author)

Zanon, C., and D.P. Genereux. 2011. Stage and Discharge Data for Two Small Streams in a Costa Rican Rain Forest, La Selva Biological Station, 2006-2010. Published on-line in the CUAHSI Hydrologic Information System (HIS), October 2011  
[http://hiscentral.cuahsi.org/pub\\_network.aspx?n=217](http://hiscentral.cuahsi.org/pub_network.aspx?n=217)

Genereux, D.P., and C. Zanon. 2011. Stage and Discharge Data for Two Small Streams in a Costa Rican Rain Forest, La Selva Biological Station, 2006-2010. Published on-line at <http://www.ots.ac.cr/meteoro/default.php?pestacion=2>, web site of the Organization for Tropical Studies, 14 September 2011.

Genereux, D.P., and C. D. Kennedy\*. 2005. Pilot Project on Groundwater Dating in Confined Aquifers of the North Carolina Coastal Plain. Report No. 355 of the Water Resources Research Institute of the University of North Carolina, Raleigh, NC, 200 pages.

Reckhow, K., L. Band, C. Duffy, J. Famiglietti, D. Genereux, J. Helly, R. Hooper, W. Krajewski, D. McKnight, F. Ogden, B. Scanlon, and L. Shabman. 2004. Designing Hydrologic Observatories: A Paper Prototype of the Neuse Watershed. Technical Report Number 6 of the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI), Washington DC, 84 pages. <https://www.cuahsi.org/PageFiles/docs/doi/CUAHSI-TR6.pdf>

Genereux, D.P. and G. Sen. 2004. A suggestion concerning proposal reviews. *Eos, Transactions, American Geophysical Union* 85(17): 171.

Pringle, C., F.J. Triska, D.P. Genereux, A. Ramirez\*, E. Anderson\*, and D. Parsons. 2001. Stream research in Costa Rica: Linking freshwater research programs to environmental outreach. *SILNews*, International Association of Theoretical and Applied Limnology, 32: 1-4.

Graham, W.D., K.L. Campbell, J. Mossa, L.H. Motz, P.S.C. Rao, W.R. Wise, and D.P. Genereux. 1997. Water Management Issues Affecting the C-111 Basin, Dade County, Florida. Report number CNR-1997-1002, Center for Natural Resources, University of Florida, Gainesville, 156 pages.

Genereux, D.P., H.F. Hemond, and P.J. Mulholland. 1992. Field Studies of Streamflow Generation Using Natural and Injected Tracers on Bickford and Walker Branch Watersheds. Technical Manuscript ORNL/TM-12018, Oak Ridge National Laboratory, Oak Ridge, Tennessee, 292 pages.

**Presentations/Abstracts** (\*student author †post-doc author)

Nichols, E.G., H. Rudd\*, D. Shea, A. Neal, D.P. Genereux, S. Graham, and N. Wilson. 2020. HRMS approaches to fingerprint critical aquifers, evaluate young water intrusion, and assess aquifer vulnerability to catastrophic storms and excessive groundwater withdrawals. Presentation at the Society of Environmental Toxicology and Chemistry (SETAC) Conference on Nontarget Analysis for Environmental Risk Assessment, May 2020, Durham NC, conference postponed to 2021 due to COVID-19.

Rudd\*, H., A. Neal, N. Wilson, D.P. Genereux, D. Shea, and E.G. Nichols. 2020. Impact of Hurricane Florence on water quality of North Carolina coastal aquifers. Presentation accepted and prepared for the annual conference of the Water Resources Research Institute of UNC, March 2020, Raleigh NC, conference cancelled due to COVID-19.

Genereux, D.P. 2020. PFAS transport in North Carolina groundwater. Invited presentation for the annual conference of the Water Resources Research Institute of UNC, March 2020, Raleigh NC, conference cancelled due to COVID-19.

Genereux, D.P., M.A. Pétré†, L. Koropecj-Cox\*, S. Duboscq\*, D.R.U. Knappe, T.E. Gilmore. 2020. PFAS in groundwater near Chemours. Invited presentation at the Fayetteville Public Forum: PFAS Updates in Food and Ground Water, Fayetteville State University, 26 February 2020.

Genereux, D.P. 2019. Quantifying coupled water and contaminant fluxes from groundwater systems to streams: field methods and examples from North Carolina. Invited presentation at the annual conference of the Water Resources Research Institute of UNC, March 2019, Raleigh NC.

Koropecj-Cox\*, L., D.P. Genereux, D.R.U. Knappe, Z. Hopkins\*, L. Cheng\*. 2019. Field determination of PFAS flux from groundwater to streams in a contaminated area of the NC coastal plain. Presented at the annual conference of the Water Resources Research Institute of UNC, March 2019, in Raleigh NC.

Koropecj-Cox\*, L., D.P. Genereux, D.R.U. Knappe, Z. Hopkins\*, L. Cheng\*. 2019. Field determination of PFAS flux from groundwater to streams in a contaminated area of the NC coastal plain. Presented at the American Council of Engineering Companies (ACEC) Emerging Contaminants Conference, April 23-24, 2019, Raleigh NC.

Koropecj-Cox\*, L., D.P. Genereux, and D. Knappe. 2018. Field determination of the PFAS flux from groundwater to streams in a contaminated area of the North Carolina coastal plain. Presented at the American Geophysical Union Fall Meeting, Washington DC, December 2018.



Hattenberger\*, D., D.P. Genereux. 2018. Comparing carbon dioxide and methane emissions from restored and unrestored streams in the Piedmont region of NC. American Geophysical Union Spring 2018 Poster Showcase.

Stewart-Maddox\*, N., M.D. Frisbee, C.L. Andronicos, D.P. Genereux, and Z.P. Meyers. 2017. Using the geochemical kinetics and  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios of a complex reworked aquifer to identify the regional extent of interbasin groundwater flow and its impact on regional baseflow generation. Presented at the Geological Society of America Conference, Seattle, WA, October 2017. *Geological Society of America Abstracts with Programs*, Vol. 49, No. 6, ISSN 0016-7592, doi: 10.1130/abs/2017AM-300777

Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Presentation in the Department of Geological Sciences, East Carolina University, September 2017.

Clay, K., D.P. Genereux, and D. Knappe. 2017. Temporal variation in groundwater and VOC flux through a sandy streambed. American Geophysical Union Spring 2017 Poster Showcase. (Third place winner in the graduate student category, <https://education.agu.org/virtual-poster-showcase/recognition/winners-2017>)

Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Presentation in the Department of Marine, Earth, Atmospheric Sciences, NC State University, 24 April 2017.

Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Invited presentation, Duke University Water Symposium on Managing Groundwater – Surface Water Interactions in the South, 24 March 2017.

Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Invited presentation, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, 23 March 2017.

Ayub\*, R., D.R. Obenour, A.J. Keyworth, D.P. Genereux, and K. Mahinthakumar. 2016. Vulnerability assessment of groundwater resources by nutrient source apportionment to individual groundwater wells: A case study in North Carolina. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2016.

Solomon, D.K., T.E. Gilmore\*, D.P. Genereux, J. Georgek, V. Heilweil, and J.E. Solder\*. 2016. Characterizing unconfined aquifers using seep- and stream-based measurements of groundwater age. *Geological Society of America Abstracts with Programs*, Vol. 48, No. 7, doi 10.1130/abs/2016AM-282088. Presented at the Geological Society of America Annual Meeting, Denver, CO, October 2016.

Genereux, D.P. 2016. Understanding water resources in the coastal plain: giving context to regional challenges. Invited presentation at the conference "Freshwater in the North Carolina



Coastal Plain: Understanding and Preparing for 21st Century Challenges", New Bern, NC, 16 February 2016 (<https://wrri.ncsu.edu/wrri-events/coastal-plain/>).

Solomon, D.K., D.P. Genereux, T.E. Gilmore\*, and J.E. Solder\*. 2015. Transit times in a shallow aquifer from tracer measurements in the aquifer and a gaining stream. Invited talk at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2015.

Oviedo-Vargas<sup>†</sup>, D., D. Dierick<sup>†</sup>, D.P. Genereux, S.F. Oberbauer, C.L. Osburn. 2015. Regional groundwater discharge drives high carbon dioxide emissions from a lowland tropical rainforest stream. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2015.

Barnett\*, E., C.L. Osburn, D. Oviedo-Vargas<sup>†</sup>, D.P. Genereux, S.F. Oberbauer, and D. Dierick<sup>†</sup>. 2015. The influence of regional groundwater on the dissolved organic matter in Costa Rican streams. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2015.

Barros, A.P., A.M. Wilson, D.K. Miller, J. Tao, D.P. Genereux, O. Prat, W.A. Petersen, N.A. Brunzell, M.D. Petters, and Y. Duan. 2015. Science-grade observing systems as process observatories: mapping and understanding nonlinearity and multiscale memory with models and observations. Invited presentation at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2015.

Babuin\*, J.L., D.P. Genereux, and D.R.U. Knappe. 2015. Coupled groundwater and volatile organic compound fluxes through a streambed contribute to off-site migration of contaminants in a coastal plain stream, North Carolina. Geological Society of America *Abstracts with Programs*, Vol. 47, No. 7, p.320, <https://gsa.confex.com/gsa/2015AM/webprogram/Paper265579.html>. Presented at the Geological Society of America Annual Meeting, Baltimore, Maryland.

Gilmore\*, T.E., D.P. Genereux, D.K. Solomon, K. Farrell, H. Mitasova. 2015. Aquifer nitrate legacy and dynamics: observations from well nests and streambed sampling. Presented at the annual conference of the American Society of Agricultural and Biological Engineers (ASABE), New Orleans, LA, July 2015.

Solomon, D.K., T.E. Gilmore\*, J. Solder\*, B. Kimball, and D.P. Genereux. 2015. Determining groundwater transit times using SF<sub>6</sub> in streams. Presented at the IAEA (International Atomic Energy Agency) Isotope Hydrology Symposium, Vienna, Austria, May 2015.

Genereux, D.P. 2015. Field study of groundwater transit times and pollutant nitrogen fluxes at the groundwater-stream interface in the North Carolina coastal plain. Invited presentation, Department of Environmental Engineering and Earth Sciences, Clemson University, January 2015.

Oberbauer, S.F., D.P. Genereux, C.L. Osburn, D. Dierick<sup>†</sup>, D. Oviedo-Vargas<sup>†</sup>. 2014. Availability of deep groundwater-derived CO<sub>2</sub> for plant uptake in a Costa Rican rainforest.

Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.

Gilmore\*, T.E., D.P. Genereux, K. Solomon, H. Mitasova, M. Burnette\*. 2014. Vertical sampling in recharge areas versus lateral sampling in discharge areas: assessing the agricultural nitrogen legacy in groundwater. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.

Genereux, D.P. 2014. Groundwater transit times, nitrogen pollution, and nitrogen fluxes at the groundwater-stream interface. Invited seminar at the KIGAM International Symposium on Conjunctive Use of Groundwater and Surface Water, Korea Institute of Geoscience and Mineral Resources (KIGAM), Daejeon, South Korea, August 2014.

Gilmore\*, T.E., D.P. Genereux, D.K. Solomon, J. Solder\*, B. Kimball, F. Birgand, H. Mitasova, M. Burnette\*, S. Becker\*. 2014. Using groundwater discharge to assess an agricultural nitrogen legacy: three approaches to sampling in stream channels at different scales. Presented at the American Society of Agricultural and Biological Engineers Annual International Meeting, Montreal, Canada, July 2014.

Oviedo-Vargas<sup>†</sup>, D., D.P. Genereux, D. Dierick<sup>†</sup>, C.L. Osburn, S.F. Oberbauer. 2014. Effect of regional groundwater on carbon emissions from a tropical stream. Presented at the CUAHSI Biennial Colloquium, Shepherdstown, West Virginia, July 2014.

Oviedo-Vargas<sup>†</sup>, D., D.P. Genereux, C.L. Osburn, S.F. Oberbauer. 2014. Contribution of stream CO<sub>2</sub> and methane emissions to carbon budgets in lowland tropical watersheds with and without connections to carbon-rich deep groundwater. Presented at the Joint Aquatic Sciences Meeting, Portland, Oregon, May 2014.

Genereux, D.P. 2014. Old and young groundwaters in a Costa Rican rainforest: mixing, budgets, ages, magmatic outgassing, and carbon fluxes. Invited presentation, Department of Geological Sciences, University of Delaware, April 2014.

Gilmore\*, T.E., D.P. Genereux, H. Mitasova, K. Solomon, J. Solder\*, N.L. Plummer, B. Kimball. 2014. Estimating groundwater age and nitrogen fluxes through a streambed: Effects of sampling integration scale. Presentation at the annual conference of the Water Resources Research Institute of the University of North Carolina, Raleigh NC, March 2014.

Genereux, D.P. 2014. Groundwater age, coupled water and nitrogen fluxes from aquifers to streams, and the multi-decade legacy of groundwater pollution. Invited presentation, Department of Earth and Ocean Sciences, University of South Carolina, February 2014.

Genereux, D.P. 2014. Groundwater age, coupled water and nitrogen fluxes from aquifers to streams, and the multi-decade legacy of groundwater pollution. Invited presentation, Department of Geological Sciences, East Carolina University, January 2014.

Genereux, D.P. 2014. Groundwater age, coupled water and nitrogen fluxes from aquifers to streams, and the multi-decade legacy of groundwater pollution. Invited presentation at Nicholas School of the Environment, Duke University, January 2014.

Genereux, D.P., C.L. Osburn, L. Nagy\*, S.F. Oberbauer, L.D. Rojas-Jiménez\*. 2013. Connection to deep groundwater alters ecosystem carbon fluxes and budgets: an example from a Costa Rican rainforest. Invited talk at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2013.

Gilmore\*, T.E., J.E. Solder\*, D.K. Solomon, D.P. Genereux, B.A. Kimball, M. Burnette\*, S. Becker\*. 2013. How sampling integration scale affects estimates of coupled groundwater and nitrogen fluxes into an agricultural stream. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2013.

Solder\*, J.E., D.K. Solomon, T.E. Gilmore\*, D.P. Genereux, and D.O. Rosenberry. 2013. Development and testing of shelby tubes as an in-situ discharge and hydraulic conductivity measurement device. Geological Society of America *Abstracts with Programs*. Vol. 45, No. 7, p.195. Presented at the Geological Society of America Annual Meeting, Denver, CO, October 2013.

Genereux, D.P. 2013. The multi-decade legacy of non-point-source groundwater pollution. Invited presentation at the University Global Partnership Network (UGPN, <http://oia.ncsu.edu/ugpn>) workshop on water resources, NC State University, January 2013.

Genereux, D.P. 2012. Surface water quality and the multi-decade legacy of non-point-source groundwater pollution. Invited talk at the Stormwater Group – Urban Water Consortium, Charlotte NC, December 2012 (NC municipal stormwater managers and engineers, <http://www.ncsu.edu/wrri/code/partnerships/swg.htm>).

Genereux, D.P., D.K. Solomon, C. Zanon\*, L. Nagy\*. 2012. Quantifying the role of old groundwater in the modern hydrologic cycle of a Costa Rican rainforest. Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p.153. Invited talk at the Geological Society of America Annual Meeting, Charlotte NC, November 2012.

Genereux, D.P. 2012. Aquifer hydraulics, and the multi-decade legacy of non-point-source pollution. Invited talk at the North Carolina Forum on Nutrient Over-Enrichment, Raleigh, May 2012, for state leaders (elected, government agencies, utilities, business, NGOs), <http://www.ncsu.edu/mckimmon/cpe/opd/NCFONOE/>

Genereux, D.P., C.L. Osburn, S.F. Oberbauer, and L. Nagy\*. 2012. Water-carbon links in a tropical rainforest: how interbasin groundwater flow affects carbon fluxes and ecosystem carbon budgets. Presentation at the DOE Terrestrial Ecosystem Science Program workshop, Washington DC, April 2012.

Koh, D.C., D.P. Genereux, and S. Becker\*. 2012. Relationship between age and dissolved silica concentration in groundwater from the North Carolina coastal plain. Presentation at the annual

conference of the Water Resources Research Institute of the University of North Carolina, Raleigh NC, March 2012. <http://www.ncsu.edu/wrri/code/events/pastevents/ac2012.htm>

Genereux, D.P. 2011. Old and young groundwaters in a Costa Rican rainforest: mixing, budgets, modeling, ages, magmatic outgassing, carbon fluxes. Invited talk, Dept. of Geology and Geophysics Distinguished Lecture Series, University of Utah, September 2011

Small, G.E., M. Ardon, E.E. Ellis, D. Genereux, P.J. Hernes, M.S. Johnson, E. Mayorga, W.H. McDowell, C.M. Pringle, and J.W. Six. 2011. A synthesis of carbon transport and processing in tropical streams and rivers: effects of global change. Presented at the American Society of Limnology and Oceanography conference, San Juan, Puerto Rico, February 2011.

Genereux, D.P. 2010. Coupled water and nitrogen fluxes through a streambed in an agricultural watershed: measurements, patterns, controls. Invited talk, CUAHSI 2nd Biennial Colloquium, Boulder, CO, July 2010

Genereux, D.P. 2010. Interbasin groundwater flow, carbon fluxes, and carbon budgets in a lowland rainforest. Invited talk, Workshop on Carbon Transport and Processing in Tropical Streams, Costa Rica, April 2010 (sponsored by the Organization for Tropical Studies and the NSF Research Coordination Networks program)

Genereux, D.P., M. Webb\*, K. Solomon. 2009. Old and young groundwaters in a Costa Rican rainforest: mixing, budgets, ages, magmatic outgassing, and carbon fluxes. Invited talk, Tropical Hydrology Symposium, Panama City, Panama, March 2009 (sponsored by the U.S. Army Research Office, Smithsonian Tropical Research Institute, Autoridad Nacional del Ambiente de Panama, and Autoridad del Canal de Panama).

Genereux, D.P., M. Webb\*, and D.K. Solomon. 2009. Old groundwater, interbasin groundwater flow, magmatic solutes, and hydrologic fluxes of carbon in a lowland Costa Rican rainforest. *Geophysical Research Abstracts*, Vol. 11, EGU2009-12545 (<http://www.geophysical-research-abstracts.net/volumes.html>). Presented at the European Geosciences Union annual conference, Vienna, Austria, April 2009.

Genereux, D.P., C.D. Kennedy\*, H. Mitasova, and D.R. Corbett. 2009. Spatial and temporal dynamics of coupled groundwater and nitrogen fluxes through a streambed in an agricultural watershed. *Geophysical Research Abstracts*, Vol. 11, EGU2009-11704-1 (<http://www.geophysical-research-abstracts.net/volumes.html>). Presented at the European Geosciences Union annual conference, Vienna, Austria, April 2009.

Webb\*, M., D.P. Genereux, and D.K. Solomon. 2008. The chemical and isotopic signature of old groundwater and magmatic solutes in a Costa Rican rainforest: evidence from carbon, helium, and chlorine. *Eos, Transactions, American Geophysical Union* 89(53), Fall Meeting Supplement, Abstract H51C-0823. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2008.

- Genereux, D.P., C.D. Kennedy\*, D.R. Corbett, and H. Mitasova. 2008. Relationships among groundwater age, denitrification, and the coupled groundwater and nitrogen fluxes through a streambed. Invited talk at the North Carolina Water Resources Research Institute Annual Conference, October 2008, Raleigh, North Carolina.
- Kennedy\*, C.D., D.P. Genereux, D.R. Corbett, H. Mitasova, B. Elkins\*, and S. Leahy\*. 2007. Spatial and temporal variability in groundwater-based nitrogen input to a stream in an agricultural watershed in North Carolina. *Eos, Transactions, American Geophysical Union* 88(52), Fall Meeting Supplement, Abstract H24F-05. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2007.
- Elkins\*, B., D.R. Corbett, C.D. Kennedy\*, D.P. Genereux, S. Leahy\*, H. Mitasova, and J.R. Soban\*. 2007. Nutrient exchange between the riparian and hyporheic zones for a stream in a large agricultural watershed in the North Carolina Coastal Plain. *GSA Abstracts with Programs* 39(2): 32. Presented at the Geological Society of America Southeastern Section Annual Meeting in Savannah, GA, March 2007.
- Kennedy\*, C.D., S. Leahy\*, D.P. Genereux, D.R. Corbett, H. Mitasova, and B. Elkins\*. 2006. Quantifying nitrogen transport from groundwater to a stream in a large agricultural watershed in North Carolina. *GSA Abstracts with Programs* 38(7): 104. Presented at the Geological Society of America Annual Meeting in Philadelphia, PA, October 2006.
- Oberbauer, S.F., D.A. Clark, D. Genereux, D. Lawrence, A. Russel, T. McGlynn, M.-L. Smith, N. Bynum, J. Espeleta, and C. Lewis. 2005. Complex interactions among water, nutrients and carbon stocks and fluxes across a natural fertility gradient in tropical rain forest. National Science Foundation Biocomplexity meeting, March 21-23, Washington DC.
- Genereux, D.P., and C. Kennedy\*. 2004. Groundwater ages in the Black Creek and Upper Cape Fear Aquifers. Invited talk at the North Carolina Water Resources Research Institute, Raleigh, North Carolina, October 2004.
- Genereux, D.P., and M.T. Jordan\*. 2004. Interbasin groundwater transfer and groundwater interaction with surface water in Costa Rica. Invited talk at the 7th INTECOL International Wetlands Conference, Utrecht, The Netherlands, July 2004.
- Kennedy\*, C., D.P. Genereux, and N. Plummer. 2004. Groundwater dating in confined aquifers of the North Carolina Coastal Plain. Presented at the North Carolina Water Resources Research Institute Annual Conference, March 2004, Raleigh, North Carolina.
- Genereux, D.P., C. Duffy, J. Famiglietti, J. Helly, R. Hooper, W. Krajewski, D. McKnight, F. Ogden, K. Reckhow, B. Scanlon, and L. Shabman. 2003. *Eos, Transactions, American Geophysical Union* 84(46): F612. Surface water and groundwater measurements in a prototype hydrologic observatory. Invited presentation at the American Geophysical Union Fall Meeting, San Francisco, California, December 2003.
- Band, L., K. Reckhow, J. Famiglietti, D. Genereux, J. Helly, R. Hooper, W. Krajewski, D.

McKnight, F. Ogden, B. Scanlon, L. Shabman, and C. Duffy. 2003. Implementing a network of hydrologic observatories. *Eos, Transactions, American Geophysical Union* 84(46): F612. Invited presentation at the American Geophysical Union Fall Meeting, San Francisco, California, December 2003.

Genereux, D.P., M. Jordan\*, and D. Carbonell\*. 2003. Use of water and chemical budgets to quantify interbasin groundwater transfer in the lowland rainforest. *Eos, Transactions, American Geophysical Union* 84(46): F756. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 2003.

Bolster<sup>†</sup>, C.H., D.P. Genereux, and J.E. Saiers. 2002. Use of a canal drawdown test to calculate the specific yield of the Biscayne Aquifer. *Eos, Transactions, American Geophysical Union* 83(19): S164. Invited presentation at the American Geophysical Union Spring Meeting, Washington DC, May 2002.

Genereux, D.P., and D. Carbonell\*. 2001. Watershed chemical budgets and interbasin groundwater transfer in the lowland rainforest of Costa Rica. *Eos, Transactions, American Geophysical Union* 82(47): F433. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 2001.

Childers, Daniel L, L Powell, M Ruge, J Boyer, J Fourqurean, R Jaffe, R Jones, J Trexler, W Anderson, R Chambers, D.P. Genereux, E Gaiser, C McIvor, J Meeder, J Richards, M Ross, L Scinto, F Sklar, and R Twilley. 2000. Regional controls of population and ecosystem dynamics in an oligotrophic wetland-dominated coastal landscape - The new Florida Coastal Everglades LTER project. Presented at the NSF-LTER All Scientists Meeting, Snowbird, Utah, August 2000.

Childers, D.L., J. Boyer, J. Fourqurean, R. Jaffe, R. Jones, J. Trexler, W. Anderson, R. Chambers, D.P. Genereux, E. Gaiser, C. McIvor, J. Meeder, J. Richards, L. Scinto, F. Sklar, and R. Twilley. 2000. Regional controls of population and ecosystem dynamics in an oligotrophic wetland-dominated coastal landscape: introducing a new LTER in the coastal Everglades. Presented at the meeting of the International Association for Landscape Ecology, Fort Lauderdale, Florida, April 2000.

Bandopadhyay\*, I., and D.P. Genereux. 1999. Numerical investigation of lake bed seepage patterns: Effects of porous medium and lake properties. *Eos, Transactions, American Geophysical Union* 80(46): F341-F342. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1999.

Zechner<sup>†</sup>, E., D.P. Genereux, and J. Saiers. 1999. The benefit of using data on canal seepage and tracer concentration in aquifer parameter estimation. Presented at the International Conference on Calibration and Reliability in Groundwater Modeling (ModelCARE 99), Zurich, Switzerland, September 1999.

Yuhr\*, L., and D.P. Genereux. 1999. A combined geophysical and water quality approach to measurement of saltwater intrusion. *Eos, Transactions, American Geophysical Union* 80(17): S122.

Invited presentation at the American Geophysical Union Spring Meeting, Boston, Massachusetts, May-June 1999.

Wood\*, S., D.P. Genereux, and C. Pringle. 1998. Geochemical tracing of interbasin groundwater flow in lowland tropical rainforest. *Eos, Transactions, American Geophysical Union* 79(45): F322. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1998.

Slater\*, E., and D.P. Genereux. 1998. Flow and water budgets in the L-31W and C-111 Canals near Everglades National Park, Florida. *Eos, Transactions, American Geophysical Union* 79(17): S93. Presented at the American Geophysical Union Spring Meeting, Boston, Massachusetts, May 1998.

Zechner<sup>†</sup>, E., J.E. Saiers, and D.P. Genereux. 1998. Using water and tracer flux information at canal boundaries to improve aquifer parameter estimation: Biscayne Aquifer, Florida. *Annales Geophysicae* 16(II): C-438. Presented at the General Assembly of the European Geophysical Society, Nice, France, April 1998.

Zechner<sup>†</sup>, E., J.E. Saiers, D.P. Genereux, J.D.A. Guardiario\*. 1997. Using water and tracer flux information at canal boundaries to improve aquifer parameter estimation: Biscayne Aquifer, Florida. *Eos, Transactions, American Geophysical Union* 78(46): F326. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1997.

Zechner<sup>†</sup>, E., D.P. Genereux, J.D.A. Guardiario\*, and J.E. Saiers. 1997. Estimation of aquifer parameters in highly permeable limestone (Biscayne Aquifer, Florida). *Proceedings of the Sixth Conference on Limestone Hydrology and Fissured Media, Volume 2, La Chaux-de-Fonds, Switzerland, 10-17 August 1997, page 199.*

Genereux, D.P., J.D.A. Guardiario\*, and E. Zechner<sup>†</sup>. 1997. A canal drawdown experiment and borehole flowmeter measurements for determination of hydrogeological parameters in the Biscayne Aquifer. *Eos, Transactions, American Geophysical Union* 78(17): S145. Presented at the American Geophysical Union Spring Meeting, Baltimore, Maryland, May 1997.

Genereux., D.P. 1996. Quantifying the uncertainty in tracer-based hydrograph separations. *Eos, Transactions, American Geophysical Union* 77(17): 107. Presented at the American Geophysical Union Spring Meeting, Baltimore, Maryland, May 1996.

Genereux, D.P., and J.D.A. Guardiario\*. 1995. Estimating dispersivity from the spatial distribution of hydraulic conductivity in the Biscayne Aquifer of southeast Florida: Borehole flowmeter measurements and stochastic analysis. *Eos, Transactions, American Geophysical Union* 76(46): 274. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1995.

Genereux, D.P. 1995. Naturally-occurring tracers as indicators of the role of soil moisture in runoff. *Eos, Transactions, American Geophysical Union* 76(17): 139-140. Invited presentation at the American Geophysical Union Spring meeting, Baltimore, Maryland, May 1995.



Genereux, D.P., and C. Pringle. 1994. Contributions to streamflow from local runoff and geothermally-influenced groundwater in a lowland tropical rainforest. *Eos, Transactions, American Geophysical Union* 75(44): 261. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1994.

Genereux, D.P. 1993. Hydrologically mediated fluxes of radon-222 on a forested landscape in east Tennessee. *Eos, Transactions, American Geophysical Union* 74(43): 299. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1993.

Genereux, D.P., H.F. Hemond, and P.J. Mulholland. 1991.  $^{222}\text{Rn}$  and Ca as tracers in a three-end-member mixing model for streamflow generation on the West Fork of Walker Branch Watershed, Tennessee. *Eos, Transactions, American Geophysical Union* 72(44): 218. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1991.

Hemond, H.F., D.P. Genereux, and H. Kim. 1991. Quantification of groundwater discharge, origin, and quality by in-stream mass balance. *Eos, Transactions, American Geophysical Union* 72(44): 173. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1991.

Genereux, D.P., H.F. Hemond, and P.J. Mulholland. 1990. Spatial variability in streamflow generation on Walker Branch Watershed, Tennessee. *Eos, Transactions, American Geophysical Union* 71(43): 1348. Presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 1990.

Genereux, D.P., and H.F. Hemond. 1989. Use of naturally-occurring  $^{222}\text{Rn}$  in tracing inflows to small streams. Presented at the American Geophysical Union Chapman Conference on Hydrogeochemical Responses of Forested Watersheds, Bar Harbor, Maine, Sept. 1989.

Hemond, H.F., D.P. Genereux, and M. Villars. 1988. Hydrologic flowpaths at Bickford Watershed: Implications for acid deposition modeling. Presented at the annual meeting of the American Society of Limnology and Oceanography.

**Research Funding (D.P. Genereux lead PI unless otherwise noted)**

Coastal Plain Aquifer Vulnerability To Extreme Storms And Implications For Rural Prosperity, Food Security, And Water Resource Resiliency. USDA National Institute of Food and Agriculture. 1 May 2019 – 30 April 2021. \$200,000. E. Nichols (FER, NCSU), D.P. Genereux.

Per- and Polyfluoroalkyl Substance Testing Network. North Carolina Policy Collaboratory. 11 Sept 2018 – 30 June 2021. \$378,027 total (\$240,927 to D.P. Genereux). D.P. Genereux, Jackie MacDonald-Gibson (UNC-CH), Detlef R.U. Knappe (CCEE, NCSU).

Investigation of the relationship between groundwater age and PFAS concentration in North Carolina. North Carolina Policy Collaboratory. 31 July 2018 – 31 December 2020. \$61,588. D.P. Genereux (NC State Univ.), Troy Gilmore (Univ. of Nebraska).

Collaborative Research: Groundwater transit time distributions: bridging the gap between advanced tracer techniques and numerical modeling. National Science Foundation. 1 June 2018 – 31 May 2021. \$880,944 total (\$254,441 to D.P. Genereux). Troy Gilmore (PI, Univ. of Nebraska), Aaron Mittelstet (Univ. of Nebraska), D.P. Genereux (NC State Univ.), Kip Solomon (Univ. of Utah), Vitaly Zlotnik (senior collaborator, Univ. of Nebraska).

Greensboro NC Lakes: Water Quality Pilot Studies and Pre-Design Visioning. Funded through Greensboro-area private developers, October 2017 – September 2018. \$21,411. Andrew Fox (PI, Landscape Architecture, NCSU), Tarek Aziz (CCEE, NCSU), D.P. Genereux, Detlef Knappe (CCEE, NCSU), Astrid Schnetzer (MEAS, NCSU).

Towards understanding nitrate contamination risk at the regional scale: A high performance computing enabled simulation-optimization framework. NCSU Research and Innovation Seeding Funding (RISF) Program, 1 July 2016 through 30 June 30 2017. \$31,250. Kumar Mahinthakumar (CCEE, NCSU) PI, Dan Obenour (CCEE, NCSU) and D.P. Genereux co-PIs.

Collaborative Research: RAPID - Integrated Precipitation and Hydrology 2014 (IPHEX) - Enhancing Coupled Observations of the Land-Atmosphere System and Educational Opportunities. National Science Foundation. 5/1/2014-10/31/2014. \$18,183. Ana Barros (Duke Univ.) PI, D.P. Genereux and M.D. Petters (NCSU) co-PIs.

Water-carbon links in a tropical forest: how interbasin groundwater flow affects carbon fluxes and ecosystem carbon budgets. U.S. Department of Energy. 9/15/11-9/14/16. \$788,331. Co-PIs Chris Osburn (NCSU), Steve Oberbauer (FIU).

Collaborative Research: Evaluating how the sampling integration scale affects field estimates of groundwater transit time and nitrogen fluxes. National Science Foundation. 6/1/2011-5/31/2016. \$638,839. Helena Mitasova NCSU co-PI, Kip Solomon PI of linked collaborative proposal from Univ. of Utah, Niel Plummer USGS senior collaborator.

Sustainable agriculture and environmental impacts on nutrient-sensitive waters: a North Carolina-Brittany collaboration. NCSU Internationalization Seed Grant, 7/1/2012-6/30/2013. Francois Birgand PI, D.P. Genereux and C.L. Osburn co-PIs. \$5000.

RAPID: Quantifying the Influence of Interbasin Groundwater Flow on the Hydrologic Fluxes of Dissolved Carbon in a Lowland Rainforest. National Science Foundation. 4/1/10-3/31/11. \$2066.

Biocomplexity in the Environment/Coupled Biogeochemical Cycles: Complex interactions among water, nutrients, and carbon stocks and fluxes across a natural fertility gradient in tropical rain forest. National Science Foundation. 4/05-12/09. \$1.639 million (\$143,097 to D. Genereux). Lead PI Steve Oberbauer (FIU), co-PIs Deborah Clark (Univ. of Missouri), David Genereux (NCSU), Deborah Lawrence (Univ. of Virginia), and Ann Russell (Iowa State Univ.). Other collaborators are Nora Bynum (American Museum of Natural History), Caroline Lewis (Fairchild Tropical Garden), Terrance McGlynn (U.C. San Diego), Marie-Louise Smith (USDA).

Acquisition of a laser diffraction particle size analyzer for research in sedimentology and biogeochemistry. National Science Foundation. 8/1/07-7/31/08. \$62,600. PI Elana Leithold, co-PIs David DeMaster, David Genereux, Jingpu (Paul) Liu, and Elizabeth Nichols (all NCSU).

A multi-tracer investigation of interbasin groundwater transfer in the lowland rainforest of Costa Rica. National Science Foundation. 5/1/05-10/31/08. \$234,702. Co-PI Kip Solomon (Utah), senior collaborator Niel Plummer (USGS).

Quantifying nitrogen transport from groundwater to a river in a large agricultural watershed in North Carolina. U.S. Department of Agriculture. 2003-2007. \$325,000. Co-PIs Reide Corbett (ECU) and Helena Mitasova (NCSU).

Development of a prototype long-term hydrologic observatory for the Neuse watershed. National Science Foundation, through the Consortium of Universities for the Advancement of Hydrologic Science Inc. (CUAHSI). 2003-2004. \$190,565. Lead PI Ken Reckhow (Duke), co-PI D. Genereux.

Pilot project on groundwater dating in confined aquifers of the North Carolina Coastal Plain. North Carolina Water Resources Research Institute (U.S. Geological Survey). 2003-2004. \$39,904.

Supplemental Award: Paired watershed study of water and solute budgets in a tropical rainforest. National Science Foundation, Hydrologic Sciences Program. 2002-2003. \$13,408.

Forensic hydrology: Runoff and drainage at the Drewry accident site on N.C. Highway 217. North Carolina Department of Transportation. 2001-2002. \$13,308.

Paired watershed study of water and solute budgets in a tropical rainforest. National Science Foundation, Hydrologic Sciences Program. 1999-2003. \$156,000.

Effects of Everglades restoration on groundwater exchange with canals in the southern Everglades. U.S. Army Research Office. 1999-2000. \$105,948.

Potential for nutrient discharges to Florida Bay from wastewater handling and treatment facilities. National Park Service, U.S. Dept. of the Interior. 1999-2000. \$74,708. Lead PI Rudolf Jaffe, co-PIs D. Genereux, Joseph Boyer (all at FIU).

Water and chemical budgets for two tropical rainforest watersheds. National Science Foundation, Hydrologic Sciences Program. 1998-1999. \$49,526.

Field determination of groundwater and solute fluxes to streams, rivers, and canals, and evaluation of the significance for calibration and verification of numerical transport models. U.S. Army Research Office. 1996-1999. \$223,900. Co-PI Jim Saiers (then at FIU, currently at Yale).

Environmental Scholarship/Fellowship and Grants Program. U.S. Dept. of Defense. 1994-1999. \$68,070 (D. Genereux's portion). Lead PI Frank Schwartz (Ohio State), co-PIs D. Genereux (FIU) and several scientists at Ohio State.

Water budgets and groundwater exchange with canals in Taylor Slough, Everglades National Park. National Park Service, U.S. Dept. of the Interior. 1994-1996. \$49,836.

Determination of dispersivity and hydraulic conductivity in the Biscayne Aquifer, Taylor Slough, Everglades National Park. National Park Service, U.S. Dept. of the Interior. 1993-1995. \$58,266.

Graduate education of environmental scientists and engineers at FIU. 1993-1995. U.S. Environmental Protection Agency. \$100,000. Lead PI (H. Fuentes), co-PIs D. Genereux and several others at FIU.

Determination of rates of solute exchange between water and soil, and implications for modeling streamflow generation. FIU Foundation. 1993. \$3150.

### **Research grants directly to my graduate student advisees, based on their proposals**

Lydia Koropecjy-Cox: First Annual MEAS GSA Graduate Student Research Grant, \$500, and Sigma Xi Grant in Aid of Research, \$1000

Dylana Hattenberger: Research Grant from The Geological Society of America, April 2017, \$850

Kevin Clay: Research Grant from The Geological Society of America, April 2016, \$2490

J. Lisa Babuin (now J. Lisa Nickels): Research Grant from the Southeastern Section of The Geological Society of America, April 2015, \$630

Matt Burnette: Tilford Field Studies Scholarship from the Association of Engineering Geologists, May 2012, \$2000

### **Supervision of Graduate Theses/Dissertations, Post-Doctoral Researchers**

Pétre, Marie-Amélie. Post-doctoral scholar, June 2019 – present. Use of field data and modeling to quantify PFAS transport in a contaminated coastal plain aquifer, including discharge to surface water.

Jensen, Craig. 2020. Pilot project on estimating groundwater age using measured SF6 concentrations in the South Branch of the Middle Loup River, Nebraska Sand Hills. M.S. expected July 2020.

Duboscq, Sandrine. 2020. PFAS discharge from groundwater and relationship to groundwater age in a small tributary watershed of the Cape Fear River. M.S. expected June 2020.

Koropecjy-Cox, Lydia. 2019. Quantifying the transport of per- and polyfluoroalkyl substances (PFAS) from groundwater to surface water near the Chemours property in Bladen County, NC.

M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 107 pages.

<https://repository.lib.ncsu.edu/handle/1840.20/36724>

Hattenberger, Dylana. 2018. Comparing carbon dioxide and methane emissions from restored and unrestored sections of three North Carolina streams. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 103 pages.

<https://repository.lib.ncsu.edu/handle/1840.20/35725>

Clay, Kevin. 2017. Temporal variation in groundwater and VOC flux through a sandy streambed, Wilson, North Carolina. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 85 pages.

<https://repository.lib.ncsu.edu/handle/1840.20/34791>

Nickels, Josephine Lisa. 2016. Coupled groundwater and volatile organic compound fluxes through a coastal plain streambed, North Carolina. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 105 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/11241>

Oviedo Vargas, Diana. Post-doctoral research scholar, June 2013 – September 2015. Coupled carbon and water fluxes in a Costa Rican rainforest, gas exchange and CO<sub>2</sub> degassing fluxes from streams.

Gilmore, Troy. 2015. Groundwater transit times and the fate of aquifer nitrate: Observations from sampling in stream channels and well nests in an agricultural watershed, North Carolina, USA. Ph.D. Dissertation, Department of Biological and Agricultural Engineering, North Carolina State University, Raleigh, NC, 226 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/10373>

Koh, Dong-Chan. Visiting international research scholar from KIGAM, South Korea, August 2011 to December 2012. Groundwater flow, non-point-source contamination, and mineral weathering in coastal plain aquifers.

Burnette, Matt. 2013. Applicability of the Hvorslev solution in estimating streambed hydraulic conductivity from falling-head tests. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 125 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/9030>

Becker, Scott. 2013. Assessing the use of dissolved silicon as a proxy for groundwater age: a critical analysis of published data and new data from the North Carolina coastal plain. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 175 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/8684>

Nagy, Laura. 2012. Effect of interbasin groundwater flow on optical properties of DOC and watershed export of DIC and DOC in a tropical rainforest, La Selva Biological Station, Costa Rica.

M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 119 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/7736>

Zanon, Carlo. 2011. Watershed hydrologic modeling to assess interbasin groundwater flow in a tropical rainforest. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 225 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/6738>

Kennedy, Casey. 2008. Quantifying rates, controls, and spatiotemporal dynamics of water and nitrogen fluxes through the streambed of West Bear Creek, North Carolina, USA. Ph.D.

Dissertation, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 260 pages. <http://repository.lib.ncsu.edu/ir/handle/1840.16/3966>

Leahy, Scott. 2007. Spatial and temporal variability of stream bed hydraulic conductivity in West Bear Creek, North Carolina. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 117 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/2006>

Webb, Mathew. 2007. Carbon, chloride, and oxygen isotopes as tracers of interbasin groundwater flow at La Selva Biological Station, Costa Rica. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 112 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/1512>

Kennedy, Casey. 2004. Pilot project on groundwater dating in confined aquifers of the North Carolina Coastal Plain. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 200 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/1541>

Jordan, Michael. 2003. Effects of interbasin groundwater transfer on water and chemical budgets in lowland tropical watersheds – La Selva, Costa Rica. M.S. Thesis, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 192 pages.

<http://repository.lib.ncsu.edu/ir/handle/1840.16/2304>

Memberg, Steven. 2000. A comparison of methods used to determine porosity in the Gray Limestone Aquifer of south Florida. M.S. Thesis, Dept. of Geology, FIU, Miami, FL, 82 pages.

Yuhr, Lynn. 1999. Measurement of saltwater intrusion in south Florida: Comparing traditional water sampling with geophysical techniques. M.S. Thesis, Dept. of Geology, FIU, Miami, FL, 165 pages.

Wood, Sharon. 1999. Chemical tracing of geothermally-modified interbasin transfer at La Selva Biological Station, Costa Rica. M.S. Thesis, Dept. of Geology, FIU, Miami, FL, 204 pages.

Zechner, Eric. Post-doctoral research scholar, June 1996 to January 1999. Numerical modeling of groundwater flow and solute transport in the southern Everglades. Dept. of Geology, FIU.

Slater, Eric. 1996. Flow and water budgets in the C-111 and L-31W canals near the Everglades National Park, Dade County, Florida. M.S. Thesis, Dept. of Geology, FIU, Miami, FL, 459 pages.

Bandopadhyay, Indranil. 1996. Investigation of spatial patterns of groundwater exchange with lakes, using a three-dimensional numerical model. M.S. Thesis, Dept. of Geology, FIU, Miami, FL, 429 pages.

Guardiario, Jose. 1996. Determination of hydraulic conductivity and dispersivity in the Biscayne Aquifer, Taylor Slough, Everglades National Park. M.S. Thesis, Dept. of Geology, FIU, Miami, FL, 195 pages.

### **Courses Taught at North Carolina State University**

Physical Hydrogeology (graduate). Fall 2001, Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2013, Spring 2015, Spring 2017, Spring 2018, Spring 2019, Spring 2020.

Chemical Hydrogeology (graduate). Spring 2002, Spring 2003, Spring 2004, Spring 2005, Spring 2007, Spring 2009, Spring 2011, Spring 2013, Fall 2015, Fall 2017, Fall 2019.

Introduction to Hydrogeology (undergraduate). Spring 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019.

Environmental Geology (undergraduate). Spring 2001.

### **Courses Taught at Florida International University**

Hydrogeology (graduate). Spring 1993, Fall 1993, Fall 1994, Fall 1995, Fall 1996, Fall 1998.

Chemical Hydrogeology (graduate). Spring 1994, Spring 1995, Fall 1997.

Hydrogeology Laboratory (graduate). Fall 1993, Fall 1994, Fall 1995.

Introduction to Hydrogeology (undergraduate). Fall 1994.

Graduate Seminar (graduate). Fall 1996, Spring 1997, Fall 1997, Spring 1998.

Environmental Geology (undergraduate). Fall 1999, Spring 2000.

Introduction to Earth Science (undergraduate). Spring 1996, Spring 1997.

Environmental Hydrology for High Schools (high school students). Spring 1996, Spring 1997.

### **Professional Service**

Faculty grievance mediator, NC State University (40-hour training certificate in employment mediation), 2018-present

Member, Board of Directors, CUAHSI ([www.cuahsi.org](http://www.cuahsi.org)), 2016-2018; Board Chair Elect, Chair, and Immediate Past Chair in 2016, 2017, and 2018, respectively

Associate Director for Research, Water Resources Research Institute of the University of North Carolina system, 2009-2014

Associate Editor, *Journal of Contaminant Hydrology*, June 2006 – June 2008

Associate Editor, *Water Resources Research*, October 1998 – December 2003

Grant Program Panels:

- NSF: Hydrologic Sciences Panel, October 2018
- 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

Other Panels:

- National Research Council: Colloquium on Hydrologic Sciences, 1997
- Everglades National Park: Ecological Effects of High Water in the Everglades, 1996

Chair:

- CUAHSI Board of Directors, 2017
- Water Quality Technical Committee, American Geophysical Union, 10/99-12/01
- Special Sessions, American Geophysical Union Conferences, 12/95, 5/98, 12/98 (2), 12/99, 12/00, 12/01, 12/14

Member/Other:

- Board of Directors, CUAHSI, 2016-2018 (elected by CUAHSI membership)
- UNC system representative to CUAHSI, 2011-present
- Workshop on Carbon Transport/Processing in Tropical Streams, Costa Rica, April 2010
- Workshop on Tropical Hydrology, Panama, March 2009
- Science Advisory Board, MacArthur Agro-Ecology Research Center, Florida, 1999-2002
- Water Quality Technical Committee, American Geophysical Union, 1996-2001, and 2013-2014
- Expert Assistance Pool, South Florida Water Management District, 1993-1998
- Internal Executive Committee, Florida Coastal Everglades LTER, 2/00-8/00
- Workshop on IGBP Mountain Initiative in Latin America, March 2000, Papallacta, Ecuador
- Hydrologic Sciences Task Force on Water Management Issues Affecting the C-111 Basin, Dade County, Florida, 1996-1997
- Universities Council on Water Resources, FIU Delegate 1993-2000, NCSU Delegate 2011-present

### **Professional and Honorary Memberships**

American Geophysical Union, Phi Beta Kappa, Phi Kappa Phi, Sigma Xi

### **Invited Presentations** (\* indicates student co-author)

59. Genereux, D.P. 2019. Quantifying coupled water and contaminant fluxes from groundwater systems to streams: field methods and examples from North Carolina. Invited presentation at the annual conference of the Water Resources Research Institute of UNC, March 2019, Raleigh NC.
58. Genereux, D.P. 2018. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Invited presentation in the Department of Civil, Construction, and Environmental Engineering, NC State University, October 2018.
57. Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Invited presentation in the Department of Geological Sciences, East Carolina University, September 2017.
56. Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Invited presentation, Duke University Water Symposium on Managing Groundwater – Surface Water Interactions in the South, 24 March 2017.

55. Genereux, D.P. 2017. The nitrate goes in, but when will it come out? Groundwater transit times in the NC coastal plain. Invited presentation, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, 23 March 2017.
54. Genereux, D.P. 2016. Understanding water resources in the coastal plain: giving context to regional challenges. Invited presentation at the conference "Freshwater in the North Carolina Coastal Plain: Understanding and Preparing for 21st Century Challenges", New Bern, NC, 16 February 2016 (<https://wrri.ncsu.edu/wrri-events/coastal-plain/>).
53. Genereux, D.P. 2015. Field study of groundwater transit times and pollutant nitrogen fluxes at the groundwater-stream interface in the North Carolina coastal plain. Invited presentation, Department of Environmental Engineering and Earth Sciences, Clemson University, January 2015.
52. Genereux, D.P. 2014. Groundwater transit times, nitrogen pollution, and nitrogen fluxes at the groundwater-stream interface. Invited seminar at the KIGAM International Symposium on Conjunctive Use of Groundwater and Surface Water, Korea Institute of Geoscience and Mineral Resources (KIGAM), Daejeon, South Korea, August 2014.
51. Genereux, D.P. 2014. Old and young groundwaters in a Costa Rican rainforest: mixing, budgets, ages, magmatic outgassing, and carbon fluxes. Invited presentation, Department of Geological Sciences, University of Delaware, April 2014.
50. Genereux, D.P. 2014. Groundwater age, coupled water and nitrogen fluxes from aquifers to streams, and the multi-decade legacy of groundwater pollution. Invited presentation, Department of Earth and Ocean Sciences, University of South Carolina, March 2014.
49. Genereux, D.P. 2014. Groundwater age, coupled water and nitrogen fluxes from aquifers to streams, and the multi-decade legacy of groundwater pollution. Invited presentation, Department of Geological Sciences, East Carolina University, January 2014.
48. Genereux, D.P. 2014. Groundwater age, coupled water and nitrogen fluxes from aquifers to streams, and the multi-decade legacy of groundwater pollution. Invited presentation at Nicholas School of the Environment, Duke University, January 2014.
47. Genereux, D.P., C.L. Osburn, L. Nagy\*, S.F. Oberbauer, L.D. Rojas-Jiménez. 2013. Connection to deep groundwater alters ecosystem carbon fluxes and budgets: an example from a Costa Rican rainforest. Invited talk at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2013.
46. Genereux, D.P. 2013. The multi-decade legacy of non-point-source groundwater pollution. Invited presentation at the University Global Partnership Network (UGPN, <http://oia.ncsu.edu/ugpn>) workshop on water resources, NC State University, January 2013.
45. Genereux, D.P. 2012. Surface water quality and the multi-decade legacy of non-point-source groundwater pollution. Invited talk at the Stormwater Group – Urban Water Consortium, Charlotte NC, December 2012 (NC municipal stormwater managers and engineers, <http://www.ncsu.edu/wrri/code/partnerships/swg.htm>).
44. Genereux, D.P., D.K. Solomon, C. Zanon\*, L. Nagy\*. 2012. Quantifying the role of old groundwater in the modern hydrologic cycle of a Costa Rican rainforest. Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p.153. Invited talk at the Geological Society of America Annual Meeting, Charlotte NC, November 2012.
43. Aquifer hydraulics, and the multi-decade legacy of non-point-source pollution. Invited talk at the North Carolina Forum on Nutrient Over-Enrichment, Raleigh, May 2012, for state leaders, <http://www.ncsu.edu/mckimmon/cpe/opd/NCFONOE/>

42. Old and young groundwaters in a Costa Rican rainforest: mixing, budgets, modeling, ages, magmatic outgassing, carbon fluxes. Invited talk, Dept. of Geology and Geophysics, University of Utah, September 2011
41. Coupled water and nitrogen fluxes through a streambed in an agricultural watershed: measurements, patterns, controls. Invited talk, CUAHSI 2nd Biennial Colloquium, Boulder, CO, July 2010
40. Interbasin groundwater flow, carbon fluxes, and carbon budgets in a lowland rainforest. Invited talk, Workshop on Carbon Transport and Processing in Tropical Streams, Costa Rica, April 2010 (organized by the Organization for Tropical Studies, funded by an NSF Research Coordination Networks grant)
39. Old and young groundwaters in a Costa Rican rainforest: mixing, budgets, ages, magmatic outgassing, and carbon fluxes: Invited talk, Tropical Hydrology Symposium, Panama City, Panama, March 2009 (organized by the U.S. Army Research Office, Smithsonian Tropical Research Institute, Autoridad Nacional del Ambiente de Panama, and Autoridad del Canal de Panama).
38. Genereux, D.P., C.D. Kennedy\*, D.R. Corbett, and H. Mitasova. Relationships among groundwater age, denitrification, and the coupled groundwater and nitrogen fluxes through a streambed. Invited presentation at the North Carolina Water Resources Research Institute Annual Conference, October 2008, Raleigh, NC.
37. Genereux, D.P., C.D. Kennedy\*, D.R. Corbett, and H. Mitasova. 2008. Coupled water and nitrogen fluxes through the streambed of West Bear Creek: magnitudes, spatial and temporal variation, and controls. Invited presentation, U.S. Geological Survey, Raleigh NC, 6/25/08.
36. Genereux, D.P. Quantifying interbasin groundwater flow: Mixing of old and new groundwater in a Costa Rican rainforest. Invited presentation in the Department of Civil, Construction, and Environmental Engineering, North Carolina State University, 10/30/06.
35. Kennedy, C.D., D.P. Genereux, D.R. Corbett, and H. Mitasova. Quantifying groundwater-based nitrogen input and groundwater age for a stream in an agricultural watershed. Seminar at U.S. Geological Survey, Reston VA, 4/4/06.
34. Genereux, D.P., and C. Kennedy. Groundwater ages in the Black Creek and Upper Cape Fear Aquifers. Invited presentation at the North Carolina Water Resources Research Institute, Raleigh, North Carolina, 10/11/04.
33. Genereux, D.P., and M.T. Jordan. 2004. Interbasin groundwater transfer and groundwater interaction with surface water in Costa Rica. Invited presentation at the 7th INTECOL International Wetlands Conference, Utrecht, The Netherlands, 7/30/04. (<http://www.bio.uu.nl/intecol/index2.html>)
32. Marine, Earth, and Atmospheric Sciences, N.C. State University, 2/2/04
31. Genereux, D.P., C. Duffy, J. Famiglietti, J. Helly, R. Hooper, W. Krajewski, D. McKnight, F. Ogden, K. Reckhow, B. Scanlon, and L. Shabman. 2003. *Eos, Transactions, American Geophysical Union* 84(46): F612. Surface water and groundwater measurements in a prototype hydrologic observatory. Invited presentation at the American Geophysical Union Fall Meeting, San Francisco, California, December 2003.
30. Department of Civil and Environmental Engineering, University of Cincinnati, 2/7/03
29. Department of Geological Sciences, UNC Chapel Hill, 10/3/02
28. Bolster, C.H., D.P. Genereux, and J.E. Saiers. 2002. Use of a canal drawdown test to calculate the specific yield of the Biscayne Aquifer. *Eos, Transactions, American*

- Geophysical Union* 83(19): S164. Invited presentation at the AGU Spring Meeting, Washington DC, May 2002.
27. Department of Geology, East Carolina University, 3/9/01
  26. Marine, Earth, and Atmospheric Sciences, N.C. State University, April 2000
  25. USDA Forest Service, Durham, NH, January 2000
  24. Yuhr, L., and D.P. Genereux. 1999. A combined geophysical and water quality approach to measurement of saltwater intrusion. *Eos, Transactions, American Geophysical Union* 80(17): S122. Invited presentation at the AGU Spring Meeting, Boston, Massachusetts, May-June 1999 (D. Genereux invited, M.S. student Lynn Yuhr made presentation)
  23. Organization for Tropical Studies, La Selva Biological Station, Costa Rica, November 1999
  22. Wisconsin Geological Survey, February 1999
  21. Georgia Institute of Technology, October 1998
  20. Dept. of Earth and Environmental Sciences, Rensselaer Polytechnic Institute, June 1998
  19. National Research Council Colloquium on the Hydrologic Sciences, Washington D.C., May 1997
  18. College of Forest Resources, University of Georgia, May 1997
  17. Miami Geological Society, September 1997
  16. Dade County Agricultural Center, April 1997
  15. Department of Geology, University of Florida, March 1997
  14. Department of Geology, Florida International University, February 1997
  13. Department of Geosciences, Pennsylvania State University, May 1996
  12. Department of Earth Resources, Colorado State University, March 1996
  11. Department of Forest Resources, Utah State University, March 1996
  10. Department of Geology, University of Illinois, February 1996
  9. Miami Geological Society, January 1996
  8. Rosenstiel School of Marine and Atmospheric Science, University of Miami, January 1996
  7. Genereux, D.P. 1995. Naturally-occurring tracers as indicators of the role of soil moisture in runoff. *Eos, Transactions, American Geophysical Union* 76(17): 139-140. Invited presentation at the AGU Spring meeting, Baltimore, Maryland, May 1995.
  6. Department of Geosciences, University of California at Santa Barbara, May 1995
  5. Department of Land, Air, and Water Resources, University of California at Davis, April 1995
  4. Department of Environmental Sciences, University of Virginia, February 1995
  3. Drinking Water Research Center and Southeast Environmental Research Program, Florida International University, February 1995
  2. Rosenstiel School of Marine and Atmospheric Science, University of Miami, fall 1993
  1. Department of Civil and Environmental Engineering, Florida International University, fall 1993

### **Other Positions, Experience**

Gee & Jensen Engineers-Architects-Planners, Inc., West Palm Beach, FL (1995-1996)  
 Consultant, field determination of hydrogeological parameters on the eastern boundary of Everglades National Park

Modell Development Corp., Framingham, MA (1988-1989)  
 Modeling of incineration and supercritical fluid processes with ASPEN simulation software, research on sludge generation and treatment costs

MIT/ Woods Hole Joint Program in Oceanography (1984-1985)

Participant in two oceanographic research cruises, 50 days at sea; chemical/isotope analyses by solid-source mass spectrometry

Department of Chemistry, University of Delaware, Newark, DE (1983-1984)

Teaching undergraduate chemistry labs

Department of Geology and Geophysics, Yale University, New Haven, CT (summer 1983)

Research on  $^{210}\text{Pb}$  in soils with Prof. Karl Turekian