ANDREW J. GUSWA

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ACADEMIC EMPLOYMENT

2016-present Director, Picker Engineering Program, Smith College

This innovative program at the largest women's college in the country takes on the challenge of identifying and meeting the goals for engineering education in the twenty-first century and integrating them with the values and strengths of a liberal-arts college. My responsibilities as director include development and oversight of courses, curriculum, and co-curricular programming, mentoring of faculty and staff, budget management, preparation for successful ABET reviews, and communication of program goals and strengths to students, alumnae, employers, and potential donors.

2021-present	L. Clark Seelye Professor of Engineering
2012-2021	Professor
2007-2012	Associate Professor
2001-2007	Assistant Professor

2015-2016 Visiting Scholar, Dept. of Civil and Environmental Engineering and Woods Institute for the Environment, Stanford University

2012-2018 Senior Hydrology Advisor, The Natural Capital Project

2009-2015 Founding Director, Center for the Environment, Ecological Design, and Sustainability Smith College

The Center helps students integrate knowledge within the unifying context of the environment and empowers and enables them to take on environmental projects that draw upon their liberal-arts education and intellectual capacities. As founding director, my activities included developing a cohesive team of staff and faculty with a common mission, working closely with development to share our vision with alumnae and potential donors, managing our financial resources, and initiating and overseeing a range of programmatic initiatives.

2000-2001 Post-Doctoral Teaching Fellow, Department of Civil and Environmental Engineering, Princeton University

EDUCATION

2000 Ph.D., Stanford University, Dept. of Civil and Env. Engineering

1995 M.S., Stanford University, Dept. of Civil and Env. Engineering

1994 B.S.E., Princeton University, Dept. of Civil Engineering and Operations Research
Summa cum laude, Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Highest Dept Honors

EXTERNAL GRANTS (PI OR CO-PI)

Natural Capital Project, sabbatical support, 8/1/2015-6/1/2016, $40,000.

Natural Capital Project (Department of Defense – Prime), Enlisting Ecosystem Services: Quantification and Valuation of Ecosystem Services to Inform Base Management, 3/1/2014-8/31/2014, $25,283.

National Science Foundation, MRI Collaborative: Acquisition of expanded distributed temperature sensing instrumentation to serve community demand and stimulate undergraduate discovery, 9/1/2013 – 8/31/2015, $250,123 (Smith portion).

Natural Capital Project (Department of Defense – Prime), Enlisting Ecosystem Services: Quantification and Valuation of Ecosystem Services to Inform Base Management, 2/1/2013-1/31/2014, $25,373.

Andrew W. Mellon Foundation via Five Colleges, Inc., Bridging Liberal Arts Undergraduate Programs and Graduate and Professional Programs, *Environment and Sustainability across the Five Colleges: Making Connections and Enriching the Curriculum*, 5/1/2012-6/30/2014, $99,000.

Natural Capital Project, Senior Hydrology Advisor, 12/1/2011-11/30/2012, $44,000.

US Geological Survey, Water Resources Annual Institute Program*, Impact of the hemlock woolly adelgid on the water cycle in New England: Differences in hydrologic fluxes between hemlock and deciduous forest stands*, dates, 5/1/10-12/31/10, $5000.

Mellon Foundation Summer Stipend Grant, *The Role of Dry-Season Precipitation in the Cloud Forests of Monteverde, Costa Rica*, 2005, $8000.

AWARDS AND HONORS

New Century Scholar Workshop for Junior Faculty in Engineering
National Science Foundation, 7/02

Council on Science and Technology Post-Doctoral Teaching Fellowship
Princeton Environmental Institute Post-Doctoral Fellowship
Department of Civil and Environmental Engineering, Princeton University, 9/00-8/01

Achievement Rewards for College Scientists Fellowship
Department of Civil and Environmental Engineering, Stanford University, 9/98-8/99

National Science Foundation Fellowship
Department of Civil and Environmental Engineering, Stanford University, 9/95-8/98

Departmental Fellowship
Department of Civil and Environmental Engineering, Stanford University, 9/94-6/95

Calvin Dodd MacCracken Senior Thesis / Project Award
School of Engineering, Princeton University, recognizing the senior thesis or project work that is most distinctive for its inventiveness and technical accomplishment, June 1994

David W. Carmichael Prize
Dept. of Civil Engineering and Operations Research, Princeton University, recognizing the senior who has written an outstanding thesis in civil engineering, June 1994

American Water Resources Association Scholarship
Dept. of Civil Engineering and Operations Research, Princeton University, November 1993

PEER-REVIEWED PUBLICATIONS (LEAD AUTHOR ON 16/33; UNDERGRADUATES INDICATED BY GRADUATION YEAR)

33. Mrad, A., G. G. Katul, D. F. Levia, **A.J. Guswa**, et al., 2020. Peak grain forecasts for the US High Plains amid withering waters, *PNAS*, doi.org/10.1073/pnas.2008383117 [A,R]

32. Levia, D., I. Creed, D. Hannah, K. Nanko, E. Boyer, D. Carlyle-Moses, N. van de Giesen, D. Grasso, **A.J. Guswa**, et al., 2020. Planetary resilience jeopardized by homogenization of the terrestrial water cycle, *Nature Geoscience*, doi:10.1038/s41561-020-0641-y. [A,R]

31. **Guswa, Andrew J.**, Hall, B., Cheng, C., Thompson, J. R., 2020. Co-designed land-use scenarios and their implications for storm runoff and streamflow in New England, *Environmental Management*, 66(5), 785-800, doi:10.1007/s00267-020-01342-0. [D,O,A,W,R]

30. Hamel, P., J. Valencia, R. Schmitt, M. Shrestha, T. Piman, R.P. Sharp, W. Francesconi, **A.J. Guswa**, 2020. Modeling seasonal water yield for landscape management: applications in Peru and Myanmar, *Journal of Environmental Management*, 270, doi:10.1016/j.jenvman.2020.110792 [A,R]

29. **Guswa, Andrew J.,** Tetzlaff, D., Selker, J. S., Carlyle-Moses, D. E., Boyer, E. W., Bruen, M., Cayuela, C., Creed, I. F., van de Giesen, N., Grasso, D., Hannah, D. M., Hudon, J. E., Hudson, S. E., Iida, S., Jackson, R. B., Katul, G. G., Kumagai, T., Llorens, P., Ribeiro, F. L., Michalzik, B., Nanko, K., Oster, C., Pataki, D., Peters, C. A., Rinaldo, A., Sanchez Carretero, D., Trifunovic, B., Zalewski, M., Levia, D. F., 2020. Advancing ecohydrology in the 21st century: a convergence of opportunities, *Ecohydrology*, e2208. doi:10.1002/eco.2208. [D,O,A,W,R]

28. **Guswa, Andrew J.**, P. Hamel, K. Meyer, 2018. Curve number approach to estimate monthly and annual direct runoff, *Journal of Hydrologic Engineering*, 23(2): 04017060, doi: 10.1061/(ASCE)HE.1943-5584.0001606. [D,O,A,W,R]

27. Hamel, P., **A.J. Guswa**, J. Sahl, L. Zhang, 2017. Predicting dry-season flows with a monthly rainfall-runoff model: performance for gauged and ungauged catchments, *Hydrological Processes*, doi:10.1002/hyp.11298. [D,A,W,R]

26. **Guswa, Andrew J.**, P. Hamel, P.J. Dennedy-Frank, 2017. Potential effects of landscape change on water supplies in the presence of reservoir storage, *Water Resources Research*, doi:10.1002/2016WR019691. [D,O,A,W,R]

25. Rhodes, A.L. and **A.J. Guswa**, 2016. Storage and release of road-salt contamination from a calcareous lake-basin fen, western Massachusetts, USA, *Science of the Total Environment*, 525-545, doi: 10.1016/j.scitotenv.2015.12.060.

24. **Guswa, Andrew J.**, 2015. Reaction: Authentic, Exemplary, and Diverse, *Engineering Studies*, doi: 10.1080/19378629.2015.1062508.

23. Vico, G., S.E. Thompson, S. Manzoni, A. Molini, J.D. Albertson, J.S. Almeida-Cortez, P.A. Fay, X. Feng, **A.J. Guswa**, H. Liu, T.G. Wilson, A. Porporato, 2015. Climatic, ecophysiological and phenological controls on plant ecohydrological strategies in seasonally dry ecosystems, *Ecohydrology*, 8, 660-681, doi:10.1002/eco.1533.

22. Hamel, P., **A.J. Guswa**, 2015. Uncertainty analysis of a spatially explicit annual water-balance model: case study of the Cape Fear basin, North Carolina. *Hydrology and Earth System Sciences*, 19, 839-853, doi:10.5194/hess-19-839-2015.

21. **Guswa, Andrew J**., K.A. Brauman, C. Brown, P. Hamel, B.L. Keeler, and S.S. Sayre, 2014. Ecosystem services: Challenges and opportunities for hydrologic modeling to support decision making, *Water Resources Research*, 50(5), 4535-4544, doi:10.1002/2014WR015497.

20. **Guswa, Andrew J.**, 2012. Canopy versus roots: Production and destruction of variability in soil moisture and hydrologic fluxes, *Vadose Zone Journal*, doi:10.2136/vzj2011.0159.

19. Jenerette, G.D., G.A. Barron-Gafford, **A.J. Guswa**, J.J. McDonnell, J. Villegas, 2012. Organization of complexity in water-limited ecohydrology, *Ecohydrology*, 5(2), 184-199, doi: 10.1002/eco.217.

18. **Guswa, Andrew J.** and C.M. Spence '11, 2012. Effect of throughfall variability on recharge: Application to hemlock and deciduous forests in western Massachusetts, *Ecohydrology*, 5(5), doi: 10.1002/eco.281.
17. Shah, S.H.H., R.W. Vervoort, S. Suweis, **A.J. Guswa**, A. Rinaldo, S.E.A.T.M. van der Zee, 2011. Stochastic modeling of salt accumulation in the root zone due to capillary flux from brackish groundwater, *Water Resources Research*, 47, W09506, doi:10.1029/2010WR009790.
16. Gerecht '10, K.E., M.B. Cardenas, **A.J. Guswa**, J.D. Nowinski, A.H. Sawyer, and T.E. Swanson, 2011. Dynamics of hyporheic flow and heat transport across a bed-to-bank continuum in a large regulated river, *Water Resources Research*, 47, W03524, doi: 10.1029/2010WR009794.
15. **Guswa, Andrew J**., 2010. Effect of plant-uptake strategy on the water-optimal root depth, *Water Resources Research*, 46, W09601, doi:10.1029/2010WR009122.
14. Rhodes, Amy L., **A.J. Guswa**, and S.E. Newell '04, 2010. Using stable isotopes to identify orographic precipitation events in Monteverde, Costa Rica. In: Bruijnzeel, L.A., Scatena, F.N., and Hamilton, L.S., (eds), *Tropical Montane Cloud Forests: Science for Conservation and Management*, Cambridge University Press, Cambridge, UK.
13. Rhodes, Amy L., **A.J. Guswa**, S. Dallas, E.M. Kim '02, S. Katchpole '02, A. Pufall, 2010. Human impacts on stream-water chemistry in a tropical montane cloud forest watershed, Monteverde, Costa Rica. In: Bruijnzeel, L.A., Scatena, F.N., and Hamilton, L.S., (eds), *Tropical Montane Cloud Forests: Science for Conservation and Management*, Cambridge University Press, Cambridge, UK.
12. **Guswa, Andrew J.**, 2008. The influence of climate on root depth: A carbon cost-benefit analysis, *Water Resources Research*, 44, W02427, doi:10.1029/2007WR006384.
11. **Guswa, Andrew J.**, A.L. Rhodes, and S.E. Newell '04, 2007. Importance of orographic precipitation to the water resources of Monteverde, Costa Rica, *Advances in Water Resources*, 30, 2098-2112, doi:10.1016/j.advwatres.2006.07.008.
10. Puma, Michael J., I. Rodriguez-Iturbe, M.A. Celia, and **A.J. Guswa**, 2007. Implications of rainfall temporal resolution for soil-moisture and transpiration modeling, *Transport in Porous Media*, 68(1), 37-67.
9. Rhodes, Amy L., **A.J. Guswa**, and S.E. Newell '04, 2006. Seasonal variation in the stable isotopic composition of precipitation in the tropical montane forests of Monteverde, Costa Rica, *Water Resources Research*, 42, W11402, doi:10.1029/2005WR004535.
8. **Guswa, Andrew J.,** 2005. Soil-moisture limits on plant uptake: An upscaled relationship for water-limited ecosystems, *Advances in Water Resources*, 28(6), 543-552.
7. Puma, M.J., M.A. Celia, I. Rodriguez-Iturbe, and **A.J. Guswa**, 2005. Functional relationship to describe temporal statistics of soil moisture averaged over different depths, *Advances in Water Resources*, 28(6), 553-566.
6. **Guswa, Andrew J.**, M.A. Celia, and I. Rodriguez-Iturbe, 2004. Effect of vertical resolution on predictions of transpiration in water-limited ecosystems, *Advances in Water Resources*, 27(5), 467-480.
5. Celia, M.A. and **A.J. Guswa**, 2002. Hysteresis and Upscaling in Two-Phase Flow through Porous Media, *Proc. Joint Summer Research Conference on Fluid Flow and Transport in Porous Media: Mathematical and Numerical Treatment*, Chen and Ewing (Eds.), American Mathematical Society, 93-104.
4. **Guswa, Andrew J.**, M.A. Celia, and I. Rodriguez-Iturbe, 2002. Models of soil-moisture dynamics in ecohydrology: A comparative study, *Water Resources Research*, 38(9).
3. **Guswa, Andrew J.**, and D.L. Freyberg, 2002. On using the equivalent conductivity to describe solute spreading in geologic environments with low-permeability lenses, *Water Resources Research*, 38(8).
2. Bruant, Jr., R. G., **A.J. Guswa**, M.A. Celia, and C.A. Peters, 2002. Safe Storage of CO_2 in Deep Saline Aquifers, Feature article in *Environmental Science and Technology*, 36(11), 240A-245A.

1. **Guswa, Andrew J.**, and D.L. Freyberg, 2000. Slow advection and diffusion through low permeability inclusions, *Journal of Contaminant Hydrology*, 46 (3-4), 205-232.

ABSTRACTS, OP-EDS, AND TECHNICAL REPORTS

Ndlovu, W., **A. Guswa**, A. Rhodes, 2022. Accumulation of road salt in a calcareous fen: Kampoosa Bog, western Massachusetts, Abstract H25S-1330 presented at the 2022 Fall Meeting, AGU, Chicago, IL, 12-16 December.

Guswa, Andrew J., N. S. Ismail, A. L. Rhodes, 2022. Undergraduate Water Research at Smith College: Experiments, Field Work, and Modeling. Paper Number 236-142, Frontiers in Hydrology Meeting, San Juan, Puerto Rico, 19-24 June 2022.

W. Ndlovu, A Rhodes, **A. Guswa**, H. Kreutzer, H. Gilliot, P. Wetzel, 2022. Determining conditions for storage and release of road salt pollution in a calcareous fen: A hydrological and geochemical analysis of Kampoosa Bog, Stockbridge and Lee, MA: Geological Society of America Abstracts with Programs, v. 50, no. 5, https://doi.org/10.1130/abs/2022NE-374999.

D.F. Levia, I.F. Creed, D.M. Hannah, K. Nanko, E.W. Boyer, D.E. Carlyle-Moses, N. Van De Giesen, D. Grasso, **A.J. Guswa**, J.E. Hudson, S. Hudson, S. Iida, R.B. Jackson, G.G. Katul, T. Kumagai, P. Llorens, F.L. Ribeiro, D.E. Pataki, C.A. Peters, D. Sanchez Carretero, J.S. Selker, D. Tetzlaff, M. Zalewski, M.P. Bruen, 2020. Planetary resilience jeopardized by homogenization of the terrestrial water cycle, Abstract 714541 presented in session GC065 at the Fall Meeting of the American Geophysical Union.

Demir, G., Metzger, J. C., Flipzik, J., **Guswa, A.**, Michalzik, B., and Hildebrandt, A.: Comparative study: Do grasslands canopies create less spatial heterogeneity in net precipitation than forest?, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-20447, https://doi.org/10.5194/egusphere-egu2020-20447, 2020.

D.F. Levia, **A.J. Guswa**, D. Tetzlaff, J.S. Selker, D.E. Carlyle-Moses, E.W. Boyer, M.P. Bruen, C. Cayuela, I.F. Creed, N. Van De Giesen, D. Grasso, D.M. Hannah, J.E. Hudson, S. Hudson, S. Iida, R.B. Jackson, G.G. Katul, T. Kumagai, P. Llorens, F.L. Ribeiro, B. Michalzik, K. Nanko, C. Oster, D.E. Pataki, C.A. Peters, A. Rinaldo, D.S. Carretero, B. Trifunovic, M. Zalewski, 2019. Ecohydrology in the 21st Century: A Convergence of Opportunities for Global Sustainability and Social Justice and Equity, Abstract H14C-04 presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 December.

Demir, Gökben, J. C. Metzger, **A.J. Guswa**, J. Filipzik, A. Hildebrandt, 2019. Spatial variations of soil properties and throughfall in European mixed beech forest, *Geophysical Research Abstracts*, 21, EGU2019-16074-1.

Guswa, Andrew J., B. Hall, C. Cheng, J. Thompson, 2018. Stakeholder-designed scenarios to investigate the effect of land use on water partitioning and high flows in New England, Abstract H21Q-1955 presented at the 2018 Fall Meeting, AGU, Washington, D.C., 10-14 December.

Guswa, Andrew J., 2017. "Beyond Opportunity," op-ed published as "Last Word" in *Prism*, magazine of the American Society of Engineering Education, http://www.asee-prism.org/last-word-dec-5/.

Guswa, Andrew J., P. Hamel, 2016. Characterization of baseflow generation to support land-use and ecosystem-service decisions (invited), Abstract H54B-01 presented at 2016 Fall Meeting, AGU, San Francisco, CA, 12-16 December.

Hamel, P., **A.J. Guswa**, R. Sharp, 2016. A simple spatially-explicit seasonal model for valuing water provisioning (InVEST), Chapman Conference.

Hamel, P., **A.J. Guswa**, B. Wemple, I. Mohammed, R. Sharp, 2015. The value of simple models: Performance of a spatially-explicit seasonal model for valuing water provisioning, Abstract H41G-1409, presented at 2015 Fall Meeting, AGU, San Francisco, CA 14-18 December.

Rhodes, A.L. and **A.J. Guswa**, 2015. Storage and release of road-salt contamination from a calcareous lake-basin fen, Stockbridge, Massachusetts, USA, GSA Abstracts with Programs, 47(7).

Mikic, B. and **A.J. Guswa**, 2014. Engineering Meaning: How Smith engineers embrace a liberal education, 7th Annual Symposium on Engineering and Liberal Education, Union College, 6-7 June.

Guswa, Andrew J., 2013. Upscaling water fluxes from plant to plot: Effects of plant-modulated variability (invited), Abstract B54A-01 presented at 2013 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec.

Guswa, Andrew J., K.A. Brauman, Y. Ghile, 2012. Modeling for Ecosystem Services: Challenges and Opportunities, Abstract H53K-05 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.

Guswa, Andrew J., 2011. Creation and destruction of soil moisture variability by vegetation, Abstract H11E-1096 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.

Guswa, Andrew J., E. Armstrong, M. Barresi, A. Leone, C. McCune, D. Riley, S. Sayre, E. Spelman, 2011. A Case for Integration: The Deepwater Horizon Oil Spill, Annual meeting of the Association of Environmental Sciences and Studies, University of Vermont, 23-26 June.

Guswa, Andrew J., 2011. Effect of vegetation on throughfall patterns and recharge: Application to hemlock and deciduous forests in western Massachusetts (invited), *Ecohydrology and Sustainabilty in Seasonally Dry Ecosystems, International Workshop*, Duke University, 13-14 June.

Guswa, Andrew J., E. Armstrong, A. Leone, S. Sayre, 2011. Fostering Integration: Faculty Learning Communities, 4th Annual Symposium on Engineering and Liberal Education, Union College, 3-4 June.

Spence ’11, C. and **A. J. Guswa**, 2011. Biotic and abiotic factors affecting throughfall volume and spatial variability in a New England forest, *MA Water Resources Research Center, 8th Annual Conference*, University of Massachusetts, Amherst, MA, 7 April 2011.

Guswa, Andrew J., M. Mussehl ‘12, A. Pecht ‘12, and C. Spence ‘11, 2010. Spatial pulses of water inputs in deciduous and hemlock forest stands, *Eos Trans. AGU*, Fall Meeting Suppl., Abstract B24B-08.

Gerecht, ‘10 K. E., M.B. Cardenas, **A.J. Guswa**, A.H. Sawyer, T.E. Swanson, J.D. Nowinski, 2010. Hyporheic flow and heat transport in a large regulated river, *Eos Trans. AGU*, Fall Meeting Suppl., Abstract H21B-1049.

Guswa, Andrew J., 2010. The Simplest in Hypothesis and Richest in Phenomena: Vegetation Structure and Hydrologic Fluxes (invited), Latsis International Symposium on Ecohydrology, EPFL Lausanne, Switzerland, 17-20 October 2010.

Guswa, Andrew J., J. Bellemare, R. Bertone-Johnson, S. Froehlich, R. Newton, D. Renfrow, A. Rhodes, and P. Voss, 2010. Environmental Monitoring: the Ada and Archibald MacLeish Field Station, Smith College, Whately, MA, *MA Water Resources Research Center, 7th Annual Conference, Monitoring and Responding to Water Resources Challenges*, University of Massachusetts, Amherst, MA, 8 April 2010.

Gerecht ’10, K.E., A.H. Sawyer, T.E. Swanson, J.D. Nowinski, **A.J. Guswa**, and M.B. Cardenas, 2010. Dam release impacts on stream-groundwater interactions, *MA Water Resources Research Center, 7th Annual Conference, Monitoring and Responding to Water Resources Challenges*, University of Massachusetts, Amherst, MA, 8 April 2010 [First place in student poster competition].

Spence ’11, C. and **A.J. Guswa**, 2010. Exploiting temporal persistence for efficient throughfall measurement, *MA Water Resources Research Center, 7th Annual Conference, Monitoring and Responding to Water Resources Challenges*, University of Massachusetts, Amherst, MA, 8 April 2010.

Klein, J.D., J.J. Krupczak, I. Baker, J.S. Rossman, **A.J. Guswa**, 2010. Engineering and Liberal Education, 96th Annual Meeting of the Association of American Colleges and Universities: The Wit, the Will, and the Wallet, January 20-23.

Guswa, Andrew J., A.L. Rhodes, J. McNicholas ‘11, S. Mehter ‘11, and C. Spence ’11, 2009**.** Ecohydrologic implications of differences in throughfall between hemlock and deciduous forest plots, West Whately, MA, *Eos Trans. AGU*, 90(52), Fall Meeting Suppl., Abstract H33D-908.

Rhodes, A.L., **A.J. Guswa**; J. McNicholas ‘11; S. Mehter ‘11; C. Spence ’11, 2009. Effect of hemlock and deciduous forest canopy on chemistry of throughfall, West Whately, Massachusetts. *Eos Trans. AGU*, 90(52), Fall Meeting Supplement, Abstract H34E-01.

Guswa, Andrew J., 2009. Spatial variability of throughfall and implications for root architecture, Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions, 5-9 October 2009.

Guswa, Andrew J. and A.L. Rhodes, 2009. Out in the Field: A Natural Integration of Landscape, History, Engineering, and the Environment. 2009 Symposium on Engineering and Liberal Education: Educating Stewards of a Sustainable Future, Union College.

Rhodes, A.L., **A.J. Guswa**, A. Pufall, 2009. Fate and transport of road salt contamination through a calcareous fen: Kampoosa Bog, Stockbridge, MA, GSA Abstracts with Programs, Vol 41., No 3.

Guswa, Andrew J., 2008. Effect of plant-uptake representation on the water-optimal root depth, *Eos Trans. AGU*, 89(53), Fall Meeting Suppl., Abstract H13E-0967.

Rhodes, A.L., **A.J. Guswa**, 2008. Geochemical response of a calcareous fen to road salt contamination during snow melt and precipitation events: Kampoosa Bog, Stockbridge, MA, *Eos Trans. AGU*, 89(53), Fall Meeting Suppl., Abstract H33F-1084.

Guswa, Andrew J., and A.L. Rhodes, 2008. Meteorology of Monteverde, Costa Rica, 2007. Technical Report submitted to the Monteverde Institute, 29 pages.

Guswa, Andrew J., 2008. Response of root depth to climate: A hydrologist's view of the critical zone (invited), Geological Society of America Annual Meeting, Abstracts with Programs, 40(6), 56-4.

Rhodes, A.L., **A.J. Guswa**, A. Pufall, 2008. Hydrogeochemistry of Kampoosa Bog, Final Report to the Massachusetts Environmental Trust, 15 June 2008, 75 pages.

Guswa, Andrew J., 2008. The effect of precipitation variability on root depth and the partitioning of hydrologic fluxes, *MA Water Resources Research Center, 5th Annual Conference, Integrating Water Resources Management*, Proceedings, University of Massachusetts, Amherst, MA, 8 April 2008.

Rhodes, A.L., **A.J. Guswa**, A. Pufall, 2008. Fate and transport of road salt during snowmelt through a calcareous fen: Kampoosa Bog, Stockbridge, Massachusetts, *MA Water Resources Research Center, 5th Annual Conference, Integrating Water Resources Management*, Proceedings, University of Massachusetts, Amherst, MA, 8 April 2008.

Alex Webster '08, **A.J. Guswa**, V. Hayssen, 2008. Effect of stand characteristics on throughfall in a New England forest, *MA Water Resources Research Center, 5th Annual Conference, Integrating Water Resources Management*, Proceedings, University of Massachusetts, Amherst, MA, 8 April [Honorable mention in student poster competition].

Rhodes, A.L., **A.J. Guswa**, and A. Pufall, 2007. Fate and transport of road salt during snowmelt through a calcareous fen: Kampoosa Bog, Stockbridge, Massachusetts, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract H21I-03.

Guswa, Andrew J., and A.L. Rhodes, 2007. Meteorology of Monteverde, Costa Rica, 2006. Technical Report submitted to the Monteverde Institute, 33 pages.

Guswa, Andrew J. and A.L. Rhodes, 2007. Ecohydrology and Water Resources of Monteverde, Costa Rica: Implications of a Changing Climate, *MA Water Resources Research Center, 4th Annual Conference, Sustainable Waters in a Changing World: Research to Practice*, Proceedings, University of Massachusetts, Amherst, MA, 9 April 2007.

June K. Yeung '07 and **A.J. Guswa**, 2007. Rainfall-runoff modeling for a small headwater catchment in Monteverde, Costa Rica, *MA Water Resources Research Center, 4th Annual Conference, Sustainable Waters in a Changing World: Research to Practice*, Poster, University of Massachusetts, Amherst, MA, 9 April.

Guswa, Andrew J., 2006. The influence of climate on root depth, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B41E-0235.

Yeung, June K. '07, **A.J. Guswa**, A.L. Rhodes, 2006. Streamflow report for the Quebrada Cuecha in Monteverde, Costa Rica, June 2004 – April 2006. Technical report submitted to the Monteverde Institute.

Guswa, Andrew J., and A.L. Rhodes, 2006. Meteorology of Monteverde, Costa Rica, 2005. Technical Report submitted to the Monteverde Institute, 34 pages.

Guswa, Andrew J., and A.L. Rhodes, 2005. Importance of dry-season precipitation to the water resources of Monteverde, Costa Rica, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract H54C-03.

Rhodes, Amy L., **A.J. Guswa**, and S.E. Newell '04, 2005. Seasonal variation in the stable isotopic composition of precipitation in the tropical montane forests of Monteverde, Costa Rica, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract H43E-0533.

Puma, Michael A., I. Rodriguez-Iturbe, M.A. Celia, J.M. Nordbotten, and **A.J. Guswa**, 2005. Effects of spatial heterogeneity in rainfall and vegetation on the space-time scaling of soil-moisture and evapotranspiration, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B33D-1056.

Guswa, Andrew J., 2005. Implementation of "Structures and the Urban Environment" at Smith College: Doing Design, *Proceedings of the Summer Symposium on Teaching and Scholarship in the Grand Tradition of Modern Engineering*, Princeton University, NJ, August 7-10, 2005.

Celia, M.A., I. Rodriguez-Iturbe, **A.J. Guswa**, J.M. Nordbotten, and M.J. Puma, 2005. Representation of soil moisture, evapotranspiration, and solute transport across different length and time scales, *Eos Trans. AGU*, 86(18), Joint Meeting, Abstract H42A-01.

Guswa, Andrew J., 2005. Mountains in the mist: Characterization of hydrologic fluxes in Monteverde, Costa Rica. *Proceedings of the 3rd CNR-Princeton Workshop on New Frontiers in Hydrology*, Princeton, NJ, May 17-20, 2005.

Johnson, Ilona R. '06, **A.J. Guswa**, and A.L. Rhodes, 2005. Meteorology of Monteverde, Costa Rica, November 2003 – November 2004. Technical Report submitted to the Monteverde Institute, 23 pages.

Guswa, Andrew J., and A.L. Rhodes, 2004. Wet-season throughfall in primary and secondary tropical montane cloud forests, Monteverde, Costa Rica. *Eos Trans. AGU*, 85(47), Fall Meeting Suppl., Abstract H54C-08.

Rhodes, Amy L., **A.J. Guswa**, and S.E. Newell '04, 2004. Using stable isotopes to trace orographic precipitation in a tropical montane cloud forest, Monteverde, Costa Rica. *Eos Trans. AGU*, 85(47), Fall Meeting Suppl., Abstract H54C-05.

Guswa, Andrew J., 2004. Implementation of "Structures and the Urban Environment" at Smith College: Development of a Digital Image Database, *Proceedings of the Summer Symposium on Teaching and Scholarship in the Grand Tradition of Modern Engineering*, Princeton, NJ, August 8-13, 2004.

Guswa, Andrew J., A.L. Rhodes, 2004. Unique Benefits of Involving Undergraduates in Tropical Montane Cloud Forest Research: A Case Study from Smith College, Forests in the Mist: 2nd Intl. Symp. on Tropical Montane Cloud Forests, July 27 – August 2, 2004.

Rhodes, A.L., **A.J. Guswa**, S. Dallas, E.M. Kim '02, S. Katchpole '02, S.E. Newell '04, A. Pufall, 2004. Water quality of a tropical montane cloud forest watershed, Monteverde, Costa Rica, *Eos. Trans. AGU*, 85 (17), Joint Assembly Suppl., Abstract H23B-13.

Guswa, Andrew J., M.A. Celia, and I. Rodriguez-Iturbe, 2003. Effect of model resolution on predictions of vegetation health in water-limited ecosystems, *Eos Trans. AGU*, 84 (46), Fall Meeting Suppl., Abstract H42H-01.

Guswa, Andrew J., and A.L. Rhodes, 2003. Successful undergraduate research: Creating win-win-win, *Eos Trans. AGU*, 84 (46), Fall Meeting, Abstract ED11B-0105.

Puma, Michael J., M.A. Celia, I. Rodriguez-Iturbe, **A.J. Guswa**, 2003. Functional relationship to describe temporal statistics of soil moisture averaged over different depths, *Eos Trans. AGU*, 84(46), Fall Meeting Suppl., Abstract H42H-02.

Guswa, Andrew J., 2003. Soil-moisture limits on plant water uptake: A multivalued upscaled relationship for water-limited ecosystems, *Proceedings of the 2nd CNR-Princeton Workshop on New Frontiers in Hydrology*, Capri, Italy, October 22-24, 2003.

Guswa, Andrew J., I. Rodriguez-Iturbe, and M.A. Celia, 2002. Soil-moisture dynamics and plant uptake in water-limited ecosystems: Process representation and model scale, *Proceedings of the 1st CNR-Princeton Workshop on New Frontiers in Hydrology*, Princeton University, October 23-25, 2002.

Rodriguez-Iturbe, I., M.A. Celia, and **A.J. Guswa**, 2002. Climate, soil, and vegetation: A dynamical perspective of ecohydrology, invited plenary talk, *14th International Conference on Computational Methods in Water Resources*, June 2002, Delft, Chapter 47 in Computational Methods in Water Resources, S. M. Hassanizadeh, R. J. Schotting, W. G. Gray, and G. F. Pinder, editors, Elsevier, pp. 1459-1470.

Guswa, Andrew J., Celia, M.A., and Rodriguez-Iturbe, I., 2001. Comparison of infiltration models for evaluating vegetation stress in water-controlled ecosystems, [Abstract], *Eos Trans. American Geophysical Union*, Vol 82, No 20.

Guswa, Andrew J., Bruant, Jr., R.G., and Celia, M.A., 2001. Hydraulic Controls on Carbon Dioxide Injection in Deep Saline Aquifers, [Abstract], *Eos Trans. American Geophysical Union*, Vol. 82, No. 20.

Guswa, Andrew J., and D.L. Freyberg, 2000. Evaluation of the Need for a Mass-Transfer Model to Describe Solute Tailing due to Low-Permeability Lenses, [Abstract], *Eos Trans. American Geophysical Union*, Vol. 81, No. 48, F435.

Guswa, Andrew J., 2000. *Modeling Solute Transport: Tailing Due to Low-Permeability Lenses*, Ph.D. dissertation, Stanford University.

Guswa, Andrew J., J.A. Cunningham, and D.L. Freyberg, 1999. A Two-Region Model to Account for Slow Advection through Low Permeability Lenses, [Abstract], *Eos Trans. American Geophysical Union*, Vol. 80, No. 46, p. F389.

Guswa, Andrew J., and D.L. Freyberg, 1998. Transport Effects of Diffusion and Slow Advection Through a Low Permeability Inclusion, [Abstract], *Eos Trans. American Geophysical Union*, Vol. 79, No. 45, p. F392.

Cunningham, J.A., **A.J. Guswa**, D.L. Freyberg, and P.V. Roberts, 1998. Use of temporal moment analysis to determine the importance of sorption kinetics for contaminant transport through heterogeneous groundwater aquifers, [Abstract], *Eos Trans. American Geophysical Union*, Vol. 79, No. 45, p. F257.

Guswa, Andrew J., D.L. Freyberg, and P.V. Roberts, 1997. Characterization of Regions of Low Peclet Number in Complex Geologic Environments, [Abstract], *Eos Trans. American Geophysical Union*, Vol. 78, No. 46, p. F293.

Guswa, Andrew J., 1994. *Design and Application of a Three-Dimensional Multiphase Finite Difference Numerical Model for Investigation of the Effects of Geologic Heterogeneities on Subsurface Flow*, undergraduate thesis, Princeton University.

OTHER INVITED PRESENTATIONS

July 2021, “Hydrologic Education: Looking Ahead to the Next 20 Years,” panel discussion at the Biennial Conference of the Consortium of Universities for the Advancement of Hydrologic Science, Inc., virtual.

November 2019, “Quenching our Thirst: A Tale of Three Cities,” guest lecture in SPN/POR 205 Seminar: Cities, Smith College, Northampton, MA.

May 2019, “The Tower and the Bridge: The Art of Structural Design,” Smith College reunions, Northampton, MA.

April 2019, “David Billington, Robert Maillart, and the Art of Structural Design,” Landscape Studies, Smith College, Northampton, MA.

December 2018, “Education in the 21st Century,” conversation with Smith alumnae, Washington, D.C.

November 2018, “Water partitioning and high flows under future land-use scenarios,” *The Future of Ecosystem Services in an Uncertain World: Research Applications of Scenario Simulations in New England*, Capstone workshop for the Scenarios, Services and Society Research Coordination Network, University of Massachusetts, Amherst, MA.

March 2017, “Forests and Water – Natural and Built Infrastructures,” Harvard Forest Symposium, Harvard Forest, Petersham, MA.

November 2016, “Ecohydrology and Natural Infrastructure,” Department of Civil and Environmental Engineering, University of Massachusetts, Amherst, MA.

May 2016, “Beyond the Drought: Sustainable Water for California,” presentation to Smith alumnae in Carmel-by-the-Sea, CA.

March 2016, “Beyond the Drought: Sustainable Water for a Changing World,” presentation at Smith in the City, San Francisco, CA.

March 2016, “Beyond the Drought: Sustainable Water for California,” presentation to Smith alumnae in Woodside, CA.

January 2016, “Beyond the Drought: Sustainable Water for California,” presentation to Smith alumnae in San Diego, CA.

January 2016, “Beyond the Drought: Sustainable Water for California,” presentation to Smith alumnae in Los Angeles, CA.

October 2015, “Ecohydrology and Natural Infrastructure,” Environmental Fluid Mechanics and Hydrology, Stanford University, Stanford, CA.

October 2015, “Ecohydrology and Natural Infrastructure,” Department of Civil and Environmental Engineering, UC Berkeley, Berkeley, CA.

July 2015, “What is the Value of Nature? Natural Capital and Ecosystem Services,” Discover Southeast Alaska, Smith Alumnae Trip.

July 2015, “Quenching our Thirst: Sustainable Water for a Changing World,” Discover Southeast Alaska, Smith Alumnae Trip.

May 2015, “Water, Food, Climate: Leadership for a Sustainable World,” Smith College 1st and 2nd Reunion Weekends.

January 2015, “Natural Infrastructure: Ecosystem Services and Hydrologic Modeling,” University of Vermont, Burlington, VT.

January 2014, “What is the Value of Nature? Natural Capital and Ecosystem Services,” Smith alumnae trip through the Panama Canal.

January 2014, “Quenching our Thirst: Sustainable Water Resources for a Changing World,” Smith alumnae trip through the Panama Canal.

May 2013, “Quenching our Thirst: Sustainable Water Resources for a Changing World,” Reunion Weekends (first and second), Smith College.

October 2012, “Smith by Design: Environment, Action, and Liberal Education,” Women’s Global Leadership Celebration, Smith College.

April 2012, “Canopy versus Roots: Production and Destruction of Variability in Soil Moisture and Hydrologic Fluxes,” Department of Biological and Environmental Engineering, Cornell University, Ithaca, NY.

March 2012, “Quenching our Thirst: Sustainable Water Resources for a Changing World,” presentation to Smith College alumnae in Woodside, CA.

December 2011, “Quenching our Thirst: Sustainable Water Resources for a Changing World,” presentation to Smith College alumnae in San Francisco, CA.

October 2011, “Quenching our Thirst: Sustainable Water Resources for a Changing World,” Smith in the City, presentation to Smith College alumnae in New York, NY.

April 2011, “Smith by Design: Environment, Action and Liberal Education,” Smith Alumnae Club of Northeast Massachusetts, Rockport, MA.

December 2010, “Smith by Design: Environment, Action, and Liberal Education,” Smith Alumnae group in San Francisco, CA.

November 2010, “Water, Climate, and Vegetation: Ecohydrology for a Changing World,” New England Faculty Colloquium: Impacts of Climate Change, Univ. of Massachusetts, Amherst, MA.

October 2010, “Smithies in Action: Environment, Engineering, and Liberal Education,” Smith Alumnae Club of Cambridge, MA.

October 2010, “Smithies in Action: Environment, Engineering, and Liberal Education,” Smith Alumnae Club and Smith JYA of Geneva, Switzerland.

July 2010, “Smithies in Action: Environment, Engineering, and Liberal Education,” Smith Alumnae Club of Boulder, CO.

May 2010, “Smithies in Action: Environment, Engineering, and Liberal Education,” Smith Alumnae Club of Princeton, NJ.

March 2010, “Specialization is for Insects: Integration, Action, and Liberal Education,” Smith Alumnae Club of Washington, DC.

February 2010, “The Importance of Dry-Season Precipitation to the Cloud Forests of Monteverde, Costa Rica,” Department of Geosciences, University of Texas, Austin, TX.

July 2009, “Robert Maillart and the Inescapable Art of Bridges,” given at a workshop for local middle-school teachers: “A Blueprint For Teaching Tomorrow's Engineers Today,” Smith College.

February 2009, “Quenching our Thirst: Sustainable Water Resources for a Changing World,” Landscape Studies, Smith College.

February 2009, “Climate Change and Water: Flood or Drought?” National Teach-in on Global Climate Change, Smith College.

November 2008, “Quenching our Thirst: Sustainable Water Resources and a Changing World,” Smith College Alumnae Club of Greenwich, CT.

October 2008, “The Importance of Orographic Precipitation to the Cloud Forests of Monteverde, Costa Rica,” Department of Earth Sciences, Boston University, Boston, MA.

October 2008, “Quenching our Thirst: Sustainable Water Resources and Smith College,” Smith College Alumnae Club of Houston, TX.

September 2008, “Ecohydrology for a Changing World: Plant Uptake, Root Depth, and Climate,” Department of Civil and Environmental Engineering, University of Massachusettes, Amherst.

May 2008, “Can Hamlet help engineers? Liberal arts and the education of engineering students,” Princeton Alumni Association of Western Massachusetts, Amherst, MA.

May 2008, “Integration throughout the curriculum: Cumulative Effects,” presentation at the Symposium on Engineering and Liberal Education, Union College, Schenectady, NY.

April 2008, “Ecohydrology and Engineering for a Changing World,” Picker Engineering Program, Smith College.

November 2007, “Toward a Sustainable World,” panel discussion for Smith College alumnae and guests, Denver Museum of Nature and Science.

March 2007, “The Importance of Dry-Season Precipitation to the Water Resources of Monteverde, Costa Rica,” Department of Civil and Environmental Engineering, Stanford University.

February 2007, “The Importance of Dry-Season Precipitation to the Water Resources of Monteverde, Costa Rica,” Department of Environmental Science, University of Virginia.

June 2006, “Hydrology and Water Chemistry of Monteverde, Costa Rica,” The Monteverde Institute, Monteverde, Puntarenas, Costa Rica.

May 2006, “Ecohydrology and Water Resources: Learning from Costa Rica,” Alumnae College, Smith College, Northampton, MA.

May 2006, “The Tower and the Bridge,” Alumnae College, Smith College, Northampton, MA.

April 2006, “The Importance of Dry-Season Precipitation to the Cloud Forests of Monteverde, Costa Rica,” Department of Civil and Environmental Engineering, Princeton University, Princeton, NJ.

April 2006, “Hydrology and Water Chemistry of Monteverde, Costa Rica,” Centro Cientifico Tropical, San Jose, Costa Rica.

February 2006, “The Role of Dry-Season Orographic Precipitation in the Cloud Forests of Monteverde, Costa Rica,” Center on Global Change, Duke University, Durham, NC.

October 2005, “The Role of Dry-Season Orographic Precipitation in the Cloud Forests of Monteverde, Costa Rica,” Dept. of Civil and Env. Engineering, Cornell University, Ithaca, NY.

September 2005, “Hurricane Katrina: What Lessons can we learn from this disaster?” panel discussion at Smith College, Northampton, MA.

May 2005, “Designing the Future: The New Picker Engineering Program,” Smith College alumnae gathering, Pittsburgh, PA.

October 2004, “Scaling Up Plant Uptake in Water-Limited Ecosystems,” Department of Civil and Environmental Engineering, Princeton University, Princeton, NJ.

April 2004, “The Bridges of Robert Maillart,” SmithsCape, Falmouth, MA.

February 2003, “The Inescapable Art of Bridges,” Landscape Studies, Smith College, Northampton, MA.

February 2002, “Watering the Garden: Hydrology, Water Resources, and Landscape,” Landscape Studies, Smith College, Northampton, MA.

March 2001, “Modeling Solute Transport: Tailing Due to Low-Permeability Lenses”, Dept of Civil and Environmental Engineering, University of Massachusetts, Amherst, MA.

March 2001, “Modeling Solute Transport: Tailing Due to Low-Permeability Lenses”, United States Geological Survey, Water Resources Group, Reston, VA.

October 2000, “Modeling Solute Transport: Tailing Due to Low-Permeability Lenses” Department of Civil and Environmental Engineering, Princeton University, Princeton, NJ.

TEACHING EXPERIENCE

ENGINEERING FOR EVERYONE: SUSTAINABLE WATER RESOURCES
EGR 100 serves as an accessible course for all students, regardless of background or intent to major in engineering. Students investigate and design water-resources infrastructure – for hydropower, water supply, wastewater treatment, stormwater management, and irrigation. Those technologies are introduced through historical and contemporary examples. In contrast to design as invention, this course puts the emphasis on the adaptation of common designs to particular places, as influenced by climate, physical geography, culture, history, economics, politics, and legal frameworks. Examples include the historic Mill River, Northampton’s water resources, Boston’s Deer Island wastewater treatment facility, San Francisco’s water supply system, California’s State Water Project and the Bay-Delta system, the Colorado River, and water recycling and reclamation in southern California.

ECOHYDROLOGY
This course focuses on the measurement and modeling of hydrologic processes and their interplay with ecosystems. Material includes the statistical and mathematical representation of infiltration, evapotranspiration, plant uptake, and runoff over a range of scales (plot to watershed). The course introduces students to South African savannas, the cloud forests of Costa Rica, and the forests of New England.

HYDROSYSTEMS ENGINEERING
Through systems analysis and design projects, this course introduces students to the field of water resources engineering. Topics include water use and water law, pipe and open-channel flow, economics, decision-making, and the hydrologic cycle. Projects include reservoir operation, stormwater management, and irrigation design.

STRUCTURES AND THE BUILT ENVIRONMENT
This course for a general audience examines the development of large structures (towers, bridges, and domes) throughout history with emphasis on the past 200 years. Following the evolution of ideas and materials, students interpret significant works from scientific, social, and symbolic perspectives.

FLUID MECHANICS
This course, which includes a laboratory, introduces students to fundamental principles of fluid mechanics. Topics covered in this course include intensive and extensive thermophysical properties of fluids, control-volume and differential expressions for conservation laws, dimensional analysis, and external, internal, and open-channel flows.

MASS AND HEAT TRANSFER
This upper-level course introduces the processes and accompanying mathematical representations that govern the transport of heat and mass, including advection, dispersion, adsorption, conduction, convection, and radiation. Applications include environmental sensing, transport and mixing, and separation processes.

DESIGN CLINIC
This two-semester course synthesizes and marshals the students' previous coursework to address a real engineering design problem. Students work in teams on year-long design projects, usually in collaboration with industry and/or government. These projects are supplemented by course seminars to prepare students for engineering design and professional practice.

COLLEGE AND DEPARTMENTAL SERVICE

Picker Engineering Program, Smith College
- Director, 2016 – present
- ABET Self-Study and Site Visit review, 2022
- Inclusion and Equity subcommittee, 2019 – present
- Assessment subcommittee, 2013 – 2018
- Science Center Committee on Diversity, 2011 – 2015
- Search Committees, Assistant Professor, 2014-15, 2011-12, 2007-2008 (chair), 2004-2005
- Search Committee, Permanent Lecturer, 2021 (chair)
- Search Committee, Visiting Assistant Professor, 2018-19 (chair)
- Search Committee, Director, 2004-2005
- Search Committee, Lab Instructor, Spring 2003 (chair)
- Departmental Tenure and Promotion Committee, 2007, 2010, 2012, 2014, 2019 (chair), 2020 (chair), 2021 (chair), 2022 (chair)
- Science Center Distinguished Fellowship Committee, 2014 – 2015
- Liaison for Princeton-Smith exchange, 2004 – 2017

Environmental Science and Policy, Smith College
Departmental Tenure and Promotion Committee, 2018
Steering Committee member, 2004-2010, 2011-2015
Search Committee, Assistant Professor, 2013-2014
Task Force member to develop a new major in ES&P, 2007-2008

Landscape Studies, Smith College
Steering Committee member, 2002-2008, 2011-2014, 2021-present
Program Tenure and Promotion Committee, 2012

Environmental Concentration, Director, Smith College
Sustainable Food, 2011-2015
Climate Change, 2014-2015

Organizing Fellow, Louise W. and Edmund J. Kahn Liberal Arts Institute, Smith College
Year-long project, *Destroy then Restore: Transforming our Lands and Waters*, 2017-2018.
Short-term project, *Mill River Greenway Initiative*, 2011.
Short-term project, *Sustainable Operations: Are we on the right path?*, 2010.

Participating Fellow, Louise W. and Edmund J. Kahn Liberal Arts Institute, Smith College
Short-term project, *The Situation and the Story: Portraying Scientific Discovery*, 2008.
Year-long project, *Form and Function*, 2005-2006.

Committee on Tenure and Promotion, Smith College, 2017-2018, 2019-2022

Architect Selection Committee, Neilson Library, Smith College, 2014-2015

Committee on Sustainability, Smith College, 2011-2014

Presidential Search Committee, Smith College, 2012

Futures Initiative Steering Committee, Smith College, 2010-2011

Committee on Mission and Priorities, Smith College, 2007-2010

Advisor to the President, Center for the Environment, Ecological Design, and Sustainability initiative, Smith College, 2008-2009

Member, Provost-appointed group to frame curricular priorities to implement strategic plan, Smith College, 2009

Committee on Athletics, Smith College, 2006-2009

Junior Faculty in Science and Engineering, Chair, Smith College 2005-2006.

PROFESSIONAL EXPERIENCE AND SERVICE

Consortium of Universities for the Advancement of the Hydrologic Sciences, Inc.
Board of Directors, 2023 – present
Delegate, 2006 – present
Convener, Ecohydrology Session, Biennial meeting, 27-31 July 2014, Sheperdstown, West Virginia

American Geophysical Union
Convener, Ecohydrological Systems, Ecosystem Services, and Freshwater Sustainability: Modeling, Uncertainty, and Organizing Principles, Fall 2012, American Geophysical Union
Convener, Cloud Water and Fog: Hydrology, Ecology, and Chemistry, Fall 2006, American Geophysical Union
Chair**,** Horton Student Research Grant Committee, 2006-2009
Associate Editor, *Water Resources Research*, 2006-2009

National Science Foundation, Panel Reviews
Hydrologic Sciences, CAREER, October 2020
Hydrologic Sciences, October 2018
Hydrologic Sciences, October 2014
Water, Sustainability, and Climate, Category 2, June 2010

Programmatic Reviews
Physics and Engineering Department, Washington and Lee University, 2018
Miller Worley Center for the Environment, Mount Holyoke College, 2012
Engineering Studies Program, Lafayette College, 2012

Living Building Challenge Workshop, March 2011, Building Energy 11 Conference and Trade Show, New England Sustainable Energy Association

Steering/Planning Committees
Water Resources Research Center Conference, University of Massachusetts, Amherst, MA, (Three conferences: 2008 – 2010)
Symposia on Engineering and Liberal Education, Union College, Schenectady, NY, (Two conferences: 2009, 2010)

Research Associate, Monteverde Institute, Monteverde, Costa Rica, 2002-2008

Delegate to the Organization of Tropical Studies, 2004-2008

Member, Faculty Working Group on Climate Change, University of Massachusetts, 2006-2007

Reviewer
Advances in Water Resources, Agronomy for Sustainable Development, American Naturalist, Earth System Dynamics, Ecohydrology, Ecological Applications, Ecological Economics, Ecological Modelling, Ecosystems, Encyclopedia of Hydrological Sciences, Environmental Earth Sciences, Environmental Engineering Science, Environmental Science and Technology, Forest Ecology and Management, Geography Compass, Geophysical Research Letters, Geosciences, Global Change Biology, Hydrologic Engineering, Hydrological Processes, Hydrological Sciences Journal, Hydrology, Hydrology and Earth System Sciences, Journal of Environmental Management, Journal of Environmental Quality, Journal of Geophysical Research – Biosciences, Journal of Hydrologic Engineering, Journal of Hydrology, Journal of Hydrometeorology, Journal of Mountain Science, Journal of Theoretical Biology, Journal of Water Resources Planning and Management, National Science Foundation, Nature Communications, New Phytologist, Nonlinear Processes in Geophysics, Science, Science of the Total Environment, Sustainability, Vadose Zone Journal, Water, Water Research, Water Resources Management, Water Resources Research

Consultant
JG Environmental, Inc., Provided expert advice on the sensitivity of groundwater recharge to the interannual variability of precipitation, October 2009
Tighe & Bond, Inc., Provided expert advice on groundwater modeling, August 2005

Engineer-in-Training, passed EIT exam spring 1995

Professional Memberships
American Geophysical Union, American Society of Civil Engineers, American Society of Engineering Education, Society of Women Engineers