

**BRIAN D. BADGLEY
CURRICULUM VITAE**

Crop & Soil Environmental Science
phone: (540) 231-9629
fax: (540) 231-3431
email: badgley@vt.edu

1121 RB1880 (0493)
1880 Pratt Drive
Virginia Tech
Blacksburg, VA 24061

EDUCATION

- Ph.D. 2009, Biology, University of South Florida, Tampa, Florida
- M.S. 2002, Marine, Estuarine and Environmental Sciences, University of Maryland, College Park, Maryland
- B.S. 1995, Zoology, University of Georgia, Athens, Georgia

CAREER HISTORY

- 2012- Assistant Professor, Crop & Soil Environmental Science, Virginia Tech, Blacksburg, Virginia
- 2009-12 Post-Doctoral Associate, BioTechnology Institute, University of Minnesota, Saint Paul, Minnesota. Advisor: Michael J. Sadowsky
- 2002-04 Coastal Training Program Coordinator, Rookery Bay National Estuarine Research Reserve, Naples, Florida
- 2001-02 Sea Grant Fellow, National Oceanic and Atmospheric Administration, Estuarine Reserves Division, Silver Spring, Maryland
- 1996 Environmental Education Instructor, Jekyll Island 4-H Center, Jekyll Island, Georgia
- 1995 Research Assistant, Key Largo Marine Research Laboratory, Key Largo, Florida

HONORS AND AWARDS

- 2016 Teacher of the Week, Virginia Tech
- 2009 Outstanding Graduate Teaching Assistant, Department of Integrative Biology, University of South Florida
- 2008-09 Old Salt Scholarship, Old Salt Fishing Club
- 2006-09 Aylesworth Scholarship, Aylesworth Foundation for the Advancement of Marine Science
- 2001 Dean John A. Knauss Marine Policy Fellowship, National Sea Grant Office
- 1997 Graduate Fellowship, University of Maryland

TEACHING EXPERIENCE

- 2014- Environmental Microbiology, BIOL/CSSES/ENSC 4164, spring semesters. Virginia Tech Polytechnic Institute and State University, Blacksburg, VA
- 2013- Bioremediation, CSSES/ENSC 4764/5764G, fall semesters. Virginia Tech Polytechnic Institute and State University, Blacksburg, VA
- 2006-09 Graduate Teaching Assistant, Principles of Ecology Laboratory, University of South Florida, Tampa, Florida

- 2006 Graduate Teaching Assistant, General Physiology Laboratory, University of South Florida, Tampa, Florida
- 2004 Graduate Teaching Assistant, Biology I – Cellular Processes Laboratory, University of South Florida, Tampa, Florida
- 2002-04 Planner, Instructor, and Facilitator for professional workshops on coastal natural resources, Instructor for the Florida Master Naturalist Program, Rookery Bay National Estuarine Research Reserve, Naples, FL
- 2000 Graduate Teaching Assistant, Biological Oceanography Laboratory, University of Maryland, College Park, Maryland
- 1997-98 Environmental Education Instructor, various classes on barrier island ecology for visiting grade school children, Jekyll Island 4-H Center, Jekyll Island, Georgia

RESEARCH EXPERIENCE

Grants Awarded (funds awarded to Badgley listed in bold)

- 2017-19 Base cations as drivers of microbial ecology in freshwater systems: implications for water quality management and ecosystem resilience. Project role: co-PI. Institute for Critical Technology and Applied Science, Virginia Tech, **\$24,000** (\$80,000 total)
- 2016-17 The role of plant diversity in promoting microbial function during ecosystem restoration on reclaimed mine lands. Project role: PI. Powell River Project, **\$15,600** (26,000 total)
- 2016-17 Investigating recent water quality issues in the Dan River. Project role: co-PI. National Fish and Wildlife Foundation, **\$114,039** (\$570,197 total)
- 2015-17 Response of the turkey gut microbiome to health-disease transitions and industry interventions. Project role: PI. VT and NCSU CALS Regional Collaborative Program, **\$44,669** (\$148,898 total).
- 2015-17 Does early exposure to antibiotics lead to long-lasting impacts on the gut and fecal microbiome in calves? Project role: co-PI with lead PI Katharine Knowlton. Pratt Foundation, **\$15,100** (\$75,500 total).
- 2014-16 Opening the 'black box' in bioretention cells: how does understanding of microbial ecology translate to improved performance? Project role: lead-PI. Institute for Critical Technology and Applied Science, Virginia Tech, **\$93,922** (\$117,402 total).
- 2014-15 Diverse cover crop mixtures for soil health and wallet health. Project role: lead-PI. American Farmland Trust, **\$10,073** (\$20,145 total).
- 2013-17 Interactions between antibiotic resistance in soil microbial communities and coupled elemental cycles. Project role: co-PI with lead PI Michael Strickland (VT), USDA National Institute of Food and Agriculture, **\$98,667** (\$493,333 total).
- 2013-14 Characterizing microbial community development in reclaimed mine soils. Project role: sole-PI. Powell River Project, **\$30,000**.
- 2013-14 Impacts of urbanization and extreme weather events on resuspension of sediment-associated contaminants in a stream ecosystem. Project role: lead-PI. College of Agriculture and Life Sciences, Virginia Tech, **\$26,600** (\$38,000 total).
- 2012-13 Detecting quorum-sensing in terrestrial environments and assessing its role in ecosystem processes. Project role: co-PI with lead PI Michael Strickland (VT), Fralin Life Science Institute, Virginia Tech, **\$497** (\$4,968 total).
- 2007-09 The potential for benthic vegetated habitats to serve as an important refuge for water quality indicator bacteria in a subtropical watershed. Project role: sole-PI. National Water Research Institute Fellowship, **\$20,000**.

Refereed Publications

(graduate, undergraduate, or post-doctoral trainees underlined)

- #Yuan H, #Sun S, Abu-Reesh IA, **Badgley BD**, He Z (submitted) Unravelling and reconstructing the nexus of salinity, electricity, and microbial ecology for bioelectrochemical desalination. *Environ Sci Tech*.
(#equal contribution)
- #Li X, #Sun S, Yuan H, **Badgley BD**, He Z (submitted) Mainstream nitrification-anammox system with hybrid anaerobic pretreatment: long-term performance and microbial community dynamics. *Environ Sci Tech*.
(#equal contribution)
- Garner E, Benitez R, Sawyer R, Schaberg E, Von Wagoner E, Hession WC, Krometis LAH, **Badgley BD**, Pruden A (submitted) Stormwater loadings of antibiotic resistance genes in an urban stream. *Water Res*.
- Sun S, Li S, Avera B, Strahm BD, **Badgley BD** (in press) Soil bacterial and fungal communities show distinct recovery patterns during forest ecosystem restoration. *Appl Environ Microbiol*.
(Featured by editors as an "AEM Spotlight" article)
- Cantor J, Krometis LA, Sarver E, Cook N, **Badgley BD** (in press) Tracking the downstream impacts of inadequate sanitation in central Appalachia. *J Water Health*.
- Willard LL, Wynn-Thompson T, Krometis LAH, Neher TP, **Badgley BD** (2017) Does it pay to be mature? Evaluation of bioretention cell performance seven years post construction. *J Environ Eng*.
- Wepking C, Avera B, **Badgley BD**, Barrett JE, Franklin J, Knowlton KF, Ray PP, Smitherman C, Strickland MS (2017) Exposure to dairy manure leads to greater antibiotic resistance and increased mass-specific respiration in soil microbial communities. *Proc Roy Soc B* 284:.
- Young S, Nayak B, Sun S, **Badgley BD**, Rohr J, Harwood VJ (2016) Vancomycin resistant enterococci and changes in bacterial community structure associated with a residential sewage spill. *Appl Environ Microbiol* 82:5653-5660.
- Li X, Sun S, **Badgley BD**, He Z (2016) Long-term performance and microbial community characterization of an osmotic anammox system for removing reverse-fluxed ammonium. *Bioresour Tech* 211:628-635.
- Li X, Sun S, **Badgley BD**, Sung S, Zhang H, He Z (2016) Nitrogen removal by granular nitrification - anammox in an upflow membrane-aerated biofilm reactor. *Water Res* 94:23-31.
- Liao H, Krometis LA, Hession WC, Benitez R, Sawyer R, Schaberg E, Von Wagoner E, **Badgley BD** (2015) Storm loads of culturable and molecular fecal indicators in an inland urban stream. *Sci Tot Env* 530:347-356.
- Hunolt AE, Maguire RO, Ogejo JA, **Badgley BD**, Frame WH, Reiter MS, (2015) Multiple applications of sodium bisulfate to broiler litter affect ammonia release and litter properties. *J Environ Qual* 44(6):1903-1910.
- Liao H, Krometis LA, Hession WC, House LL, Kline K, **Badgley BD** (2014) Hydrometeorological and physicochemical drivers of fecal indicator bacteria in urban stream bottom sediments. *J. Environ. Qual.* 43:2034-2043.
- Guentzel KS, Hondzo M, **Badgley BD**, Finlay JC, Sadowsky MJ, Kozarek JL, Sotiropoulos F (2014) Measurement and modeling of denitrification in sand-bed streams of varying land use. *J Environ Qual* 43:1013-1023.
- #Scholz F, #**Badgley BD**, Sadowsky MJ, Kaplan DH (2014) Immune mediated shaping of microflora community composition depends on barrier site. *PLoS One* 9:e84019.
(#equal contribution)
- Harwood VJ, Staley C, **Badgley BD**, Borges K, Korajkic A. (2014) Microbial source tracking

markers for detection of human sewage and fecal contamination in environmental waters: relationships to pathogens and human health outcomes. *FEMS Microbiol Rev* 38:1-40.

(Chosen by editors to represent *Environmental Microbiology* in the "Six Key Topics" collection of 2015)

- Ebentier DL, Hanley KT, Cao Y, **Badgley BD**, Boehm AB, Ervin JS, Goodwin KD, Gourmelon M, Griffith JF, Holden PA, Kelty CA, Lozach S, McGee C, Peed LA, Raith M, Ryu H, Sadowsky MJ, Scott EA, Santo Domingo J, Schriewer A, Sinigalliano CD, Shanks OC, Van De Werfhorst LC, Wang D, Wuertz S, Jay JA (2013) Evaluation of the repeatability and reproducibility of a suite of qPCR-based microbial source tracking methods. *Water Res* 47:6839-6848.
- Sinigalliano CD, Ervin J, Van De Werfhorst LC, Wang D, Wanless D, Bartkowiak J, Layton B, Raith M, Schriewer A, **Badgley BD**, Lee C, Goodwin KD, Lee J, Boehm AB, Noble R, Holden PA, Jay J, Wuertz S, Byappanahalli M, Whitman R, Sadowsky MJ, Meijer WG, Ballesté E, Gourmelon M, Griffith J, Ryu H, Santo Domingo JW (2013) Multi-laboratory assessment on the performance of PCR assays targeting *Catellibacterium marimammalium* for microbial source tracking of coastal birds. *Water Res* 47:6883-6896.
- Cao Y, Van De Werfhorst LC, Dubinsky EA, **Badgley BD**, Sadowsky MJ, Andersen GL, Griffith JF, Holden PA (2013) Evaluation of molecular community analysis methods for discerning fecal sources and human waste. *Water Res* 47:6862-6872.
- Thomas FIM, Kregting LT, **Badgley BD**, Donahue MJ, Yund PO (2013) Fertilization in a sea urchin is not only a water column process: effects of water flow on fertilization near a spawning female. *Mar Ecol Prog Ser* 494:231-240.
- Sugawara M, Epstein B, **Badgley BD**, Unno T, Xu L, Reese J, Gyaneshwar P, Denny R, Mudge J, Bharti AK, Farmer AD, May GD, Woodward JE, Medigue C, Vallenet D, Lajus A, Rouy Z, Martinez-Vax B, Tiffin P, Young ND, Sadowsky MJ (2013) Comparative genomics of the core and accessory genomes of 48 *Sinorhizobium* strains comprising five genospecies. *Genome Biol* 14:R17.
- Ran Q, **Badgley BD**, Dillon N, Dunne GM, Sadowsky MJ (2013) Occurrence, genetic diversity, and persistence of enterococci in a Lake Superior watershed. *Appl Environ Microbiol* 79:3067-3075.
- Badgley BD**, Ferguson J, Hou Z, Sadowsky MJ (2012) A model laboratory system to study the synergistic interaction and growth of environmental *Escherichia coli* with macrophytic green algae. *J Great Lakes Res* 38:390-395.
- Nayak BS, **Badgley BD**, Harwood VJ (2011) Comparison of genotypic and phylogenetic relationships of environmental *Enterococcus* isolates by BOX-PCR typing and 16S rRNA gene sequencing. *Appl Environ Microbiol* 77:5050-5055.
- Badgley BD**, Thomas FIM, Harwood VJ (2011) Quantifying environmental reservoirs of fecal indicator bacteria associated with sediment and submerged aquatic vegetation. *Environ Microbiol* 13:932-942.
- Badgley BD**, Ferguson J, Vanden Heuvel A, Kleinheinz GT, McDermott CM, Sandrin TR, Kinzelman J, Junion EA, Byappanahalli MN, Whitman RL, Sadowsky MJ (2010) Multi-scale temporal and spatial variation in genotypic composition of *Cladophora*-borne *E. coli* populations in Lake Michigan. *Water Res* 45:721-731.
- Badgley BD**, Nayak BS, Harwood VJ (2010) The importance of sediment and submerged aquatic vegetation as potential habitats for persistent strains of enterococci in a subtropical watershed. *Water Res* 44:5857-5866.
- Badgley BD**, Thomas FIM, Harwood VJ (2010) The effects of submerged aquatic vegetation on the persistence of environmental populations of *Enterococcus* spp. *Environ Microbiol* 12:1271-1281.

- Korajcik A, **Badgley BD**, Brownell MJ, Harwood VJ (2009) Application of microbial source tracking methods in a Gulf of Mexico field setting. *J Appl Microbiol* 107:1518-1527.
- Badgley BD**, Lipschultz F, Sebens KP (2006) Nitrate uptake by the reef coral *Diploria strigosa*: effects of concentration, water flow, and irradiance. *Mar Biol* 149:327-338.

Book Chapters

(*graduate, undergraduate, or post-doctoral trainees)

- Badgley BD**, Hagedorn C (2015) Microbial source tracking: advances in research and a guide to application. *In: Advances in Watershed Science and Assessment*, Younos T (ed.), Springer Publishing Company, New York, NY, USA.

Conference Proceedings

- Garner E, **Badgley BD**, Krometis LA, Hession WC, Arabi M, Aga D, Wallace J, von Wagoner E, *Benitez R, *Schaberg E, *Sawyer R, Pruden A (2014) Effect of storm events on transport of antibiotic resistance genes in surface water and sediment: field studies in Colorado and Virginia. *Water Environment Federation Technical Exhibition and Conference (WEFTEC)*, New Orleans, LA, USA.

Invited Presentations

- Badgley BD** (2015) Determining the functional significance of environmental microbiomes. Novozymes, Durham, NC, USA.
- Badgley BD**, *Sun S (2014) Microbial community development during reforestation of reclaimed mine soils. *Powell River Project Annual Symposium*, Wise, VA, USA.
- Badgley BD** (2014) The ecology of microbial fate and transport in the environment. *Microbiology Seminar Series, Virginia Tech*, Blacksburg, VA, USA.
- Badgley BD** (2014) Microbial ecology: where do we go from here? *Crop and Soil Environmental Science Seminar Series, Virginia Tech*, Blacksburg, VA, USA.
- Badgley BD** (2013) Microbiology: do we still need it? *Biology Seminar Series, Roanoke College*, Roanoke VA.
- Badgley BD** (2013) Characterizing variability in the microbial world: modern methods offer more than just deep sequencing. *Organismal Biology and Ecology Seminar Series, Virginia Tech*, Blacksburg, VA.
- Reed A **Badgley BD**, Welch J, Sloan C, Sadowsky MJ, Hicks R (2013) Molecular detection of potentially harmful bacteria discharged into the Duluth-Superior Harbor in the ballast water of commercial ships. *USEPA, Mid-Continent Ecology Division*, Duluth, MN.

Contributed Presentations

(*graduate, undergraduate, or post-doctoral trainees mentored by Badgley)

- *Waller LJ, *Neher T, Evanylo G, Wynn-Thompson T, Krometis LAH, **Badgley BD** (2015) Microbial diversity and denitrification potential in functioning bioretention cells across the Mid-Atlantic Region. *General Meeting of the American Society for Microbiology*, New Orleans, LA, USA.
- *Sun S, **Badgley BD** (2015) Taxonomic and functional patterns of primary succession among microbial communities during reforestation of reclaimed mine sites. *General Meeting of the American Society for Microbiology*, New Orleans, LA, USA.
- Badgley BD**, Liao H, *Sawyer R, *Schaberg E, *Benitez R, *von Wagoner E, Hession WC, Krometis LA, (2015) Storm responses of culturable and molecular fecal indicators in an urban stream. *Annual Meeting of the American Water Resources Association, National Capitol Region*, Washington, DC, USA.
- *Hart CH, *Medley S, *Stewart AN, **Badgley BD**, Krometis LAH, Stewart R, Hession WC (2015) Using microbial source tracking to identify sources of human fecal contamination

- in a small urban watershed. *American Ecological Engineering Society Annual Meeting*, Stillwater, OK, USA.
- *Diallo-Diagne NH, Evanylo G, Daniels WL, Thomason W, Bassene S, **Badgley BD** (2015) Improved management of iron-affected soils for Casamance rice production. *Annual meeting for the Soil Science Society of America*, Minneapolis, MN, USA.
- *Waller LJ, Evanylo G, Wynn-Thompson T, Krometis LAH, **Badgley BD** (2015) Factors affecting denitrification potential and the microbial ecology of established bioretention bioretention cells across the Mid-Atlantic Region. *Water Resources Conference of the Virginias*, Roanoke, WV, USA.
- Badgley BD**, Liao H, *Sawyer R, *Schaberg E, *Benitez R, *von Wagoner E, Hession WC, Krometis LA, (2015) Storm responses of culturable and molecular fecal indicators in an urban stream. *Water Resources Conference of the Virginias*, Roanoke, WV, USA.
- *Sun S, **Badgley BD** (2015) Bacterial and fungal community succession in a chronosequence of reforested mine soils. *Annual meeting of the Virginia Branch of the American Society for Microbiology*, Richmond, VA, USA.
- *Waller LJ, Evanylo G, Wynn-Thompson T, Krometis LAH, **Badgley BD** (2015) Factors affecting denitrification potential and the microbial ecology of established bioretention cells across the Mid-Atlantic Region. *Annual meeting of the Virginia Branch of the American Society for Microbiology*, Richmond, VA, USA.
- *Franklin JL, *Sun S, **Badgley BD** (2014) Restoring microbiomes of reclaimed mine soils: does reclamation approach matter? *Annual Meeting of the Virginia Branch of the American Society for Microbiology*, Harrisonburg, VA, USA.
- *Neher TP, Willard LL, Wynn-Thompson TM, Krometis LA, **Badgley BD** (2014) Spatial distributions of total and denitrifying microbial populations in a mature bioretention cell. *Annual Meeting of the Virginia Branch of the American Society for Microbiology*, Harrisonburg, VA, USA.
- *Sawyer RO, **Badgley BD** (2014) The transport of sediment-associated contaminants and measurements of fecal indicator bacteria on Stroubles creek after rainfall activity. *Annual Biomedical Research Conference for Minority Students*, San Antonio, TX, USA.
- Xia K, **Badgley BD**, Hession WC, Krometis LS, Sosienski T (2014) Occurrence of emerging contaminant 4-Nonylphenol in stream water of a mixed use small watershed: impact of urban storm water runoff. *ASA-CSSA-SSSA International Annual Meetings*, Long Beach, CA, USA.
- *Sun S, **Badgley BD** (2014) Microbial community development during reforestation of reclaimed mine soils. *General Meeting of the American Society for Microbiology*, Boston, MA, USA.
- Liao H, *Sawyer R, *Schaberg E, *Benitez R, *von Wagoner E, Krometis LA, Hession WC, Xia K, **Badgley BD** (2014) Storm transport of fecal indicator bacteria in a small urban stream: how do new molecular indicators compare with traditional culture-based data? *General Meeting of the American Society for Microbiology*, Boston, MA, USA.
- Liao H, **Badgley BD**, Krometis LA, Hession WC, *Benitez R, *Schaberg, *Van Wagoner E (2014) Intra-storm pathogen indicator loadings as determined via culture-based and molecular methods in an urban watershed. *ASABE and CSBE | SCGAB Annual International Meeting*, Montreal, Quebec, Canada.
- Lipscomb E, **Badgley BD**, Krometis LA, Hession WC, Arabi M, Aga D, *von Wagoner E, *Benitez R, *Schaberg E, Pruden A (2014) Effects of storm events on transport of antibiotic resistance genes in surface water and sediment: field studies in Colorado and Virginia. *Fourth International Conference on Emerging Contaminants in the Environment*, Iowa City, IA, USA.
- Hicks RE, Reed AJ, **Badgley BD**, Sloan CM, Sadowsky MJ (2014) Toward forecasting microbial invasions in the Great Lakes. *Upper Midwest Invasive Species Conference*,

- Duluth, MN, USA.
- Crozier JB, Mizelle R, Ballou M, **Badgley BD**, Hagedorn C (2014) Examination of next generation sequencing (NGS) and traditional methods for detection of fecal contamination and in a mixed-use fecal-contaminated waterway. *Water Microbiology Conference*, Chapel Hill, NC, USA.
- *Waller LJ, Sosienski T, Xia K, **Badgley BD**, Hession WC, Krometis LA (2014) Effect of storm events on occurrence of 4-nonylphenol in Stroubles Creek watershed. *Annual Meeting of the Southeastern Section, Geological Society of America*, Blacksburg, VA, USA.
- *Sawyer R, **Badgley BD** (2014) The Transport of Sediment-Associated Contaminants and measurements of Fecal Indicator Bacteria in Stroubles Creek after Rainfall. *71st Joint Annual Meeting of the National Institute of Science and the Beta Kappa Chi Scientific Honor Society*, Houston, TX, USA.
- Reed AJ, **Badgley BD**, Welch JB, Sloan CM, Sadowsky MJ, Hicks RE (2013). Molecular Detection of Potentially Harmful Bacteria Discharged into the Duluth-Superior Harbor in the Ballast Water of Commercial Ships. *International Association of Great Lakes Research Meeting*, West Lafayette, Indiana, USA.
- Crozier, JB, **Badgley BD** (2013) Water quality and microbial analysis: can next-generation sequencing be the next DNA-based assay? *Water Education Summit*, Chattanooga, TN, USA.
- *Schaberg E, *Bentez R, *Van Wagoner E, **Badgley BD** (2013) Fate and transport of sediment-associated bacteria during storm events in an urban stream. *Conference of Research Experiences for Undergraduate Student Scholarship*, Arlington, VA, USA.
- Ran Q, **Badgley BD**, Dillon NA, Dunny GM, Sadowsky MJ (2012) Occurrence, species composition, and genetic diversity of enterococci in a Lake Superior watershed. *Great Lakes Beach Conference*, Mackinac Island, MI, USA.
- Badgley BD**, Scholz FA, Kaplan DH, Sadowsky MJ (2012) The role of immune response in structuring the skin microbiome of mice. *General Meeting of the American Society for Microbiology*, San Francisco, CA, USA.
- Cao Y, Van De Werfhorst LC, Dubinsky EA, **Badgley BD**, Sadowsky MJ, Andersen GL, Griffith JF, Holden PA (2012) Evaluation of four molecular community analysis-based methods for detecting fecal sources in California. *General Meeting of the American Society for Microbiology*, San Francisco, CA, USA.
- Ran Q, **Badgley BD**, Dillon NA, Dunny G, Sadowsky MJ (2011) Genetic diversity and persistence of *Enterococcus* spp. strains in Lake Superior watersheds. *Great Lakes Beach Conference*, Michigan City, IN, USA.
- Badgley BD**, Ferguson J, Vanden Heuvel A, Kleinheinz GT, McDermott CM, Sandrin TR, Kinzelman J, Junion EA, Byappanahalli MN, Whitman RL, Sadowsky MJ (2010) Temporal and spatial variation in genotypic composition of *Cladophora*-borne *E. coli* populations in Lake Michigan. *Great Lakes Beach Conference*, Erie, PA, USA.
- Badgley BD**, Harwood VJ (2009) Investigating the Importance of Sediment and Submerged Aquatic Vegetation as Environmental Reservoirs for Water Quality Indicator Bacteria.. *General Meeting of the American Society for Microbiology*, Philadelphia, PA, USA.
- Badgley BD**, Harwood VJ (2008) Gauging the relative importance of sediment and submerged aquatic vegetation as reservoirs for fecal indicator bacteria and the potential impacts to water quality monitoring. *Annual Meeting of the Southeastern Branch of the American Society for Microbiology*, Jacksonville, FL, USA.
- Badgley BD**, Harwood VJ (2008) The importance of submerged aquatic vegetation as a potential habitat for persistent strains of *Enterococcus* spp. *General Meeting of the American Society for Microbiology*, Boston, MA, USA.

- Korajcik A, **Badgley BD**, Harwood VJ (2008) Application of library-independent microbial source tracking in a Gulf of Mexico field setting. *General Meeting of the American Society for Microbiology*, Boston, MA, USA.
- Badgley BD**, Harwood VJ (2008) The potential for benthic vegetated habitats to serve as an important refuge for water quality indicator bacteria in a subtropical watershed. *Annual Meeting of the National Water Research Institute*, Washington, DC, USA.
- Badgley BD**, Harwood VJ (2007) The effects of submerged aquatic vegetation and temperature on the survival of enterococci bacteria in controlled mesocosms. *Annual Meeting of the Southeastern Branch of the American Society for Microbiology*, Auburn, AL, USA.
- Badgley BD**, Thomas FIM, Yund PO (2006) The effects of hydrodynamics on fertilization success in the green urchin, *Strongylocentrotus droebachiensis*. *Annual Meeting of the Society for Integrative and Comparative Biology*, Orlando, FL, USA.
- Thomas FIM, **Badgley BD**, Yund PO, Grabowski RC (2006) Linking field measurements of hydrodynamic conditions to the fertilization of the green sea urchin *Strongylocentrotus droebachiensis*. *Annual Meeting of the Society for Integrative and Comparative Biology*, Orlando, FL, USA.
- Yund PO, Thomas FIM, **Badgley BD**, Hwang JH (2005) Effects of morphology, gamete viscosity, and local flow regime on the site and level of fertilization in green sea urchins. *Benthic Ecology Meeting*, Williamsburg, VA, USA.
- Badgley BD**, Lipschultz F, Sebens KP (2001) Nitrate uptake by a Bermudian scleractinian coral, *Diploria strigosa*, under realistic environmental conditions. *Benthic Ecology Meeting*, Durham, NH, USA.

PROFESSIONAL SERVICE

Grant Panel Reviewer

- Water Resources Research Institute, North Carolina State University, 2012

Journal Reviewer

- Applied and Environmental Microbiology; Bioremediation; Ecological Engineering; Environmental Science & Technology; FEMS Microbiology and Ecology; Journal of Environmental Monitoring; Journal of Great Lakes Research; Science of the Total Environment; PLoS One; Water; Water Research

Society Memberships

- American Water Resources Association
- American Society of Microbiology

Society Service

- President-elect, President; Virginia chapter of the American Society for Microbiology, 2015-17