Jacob Hosen
Postdoctoral Associate

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Education

2015 Ph.D. Behavior, Ecology, Evolution, and Systematics, University of Maryland

2005 B.S. Chemistry and Biology, College of William & Mary

Professional Experience

2015 - Postdoctoral Associate, School of Forestry & Environmental Studies, Yale University

Publications & Presentations

Articles, Chapters & Reports

Hosen, J.D., C.M. Febria, L.A. Harris, M.C Day, M.A. Palmer. 2015. Groundwater, season, and watershed controls on microbial extracellular enzyme activity in headwater streams. In Review.

Febria, C.M.*, J.D. Hosen*, B.C. Crump, M.A. Palmer, D.D. Williams. 2015. Microbial responses to changes in flow status in tmeporary headwater streams: a cross-system comparison. Frontiers in Microbiology. 6:522. [*denotes equal contribution]

Koch, B.J., C.M. Febria, R.M. Cooke, J.D. Hosen, M.E. Baker, A.R. Colson, S. Filoso, K. Hayhoe, J.V. Loperfido, A.M.K. Stoner, M.A. Palmer. 2015. Suburban watershed nitrogen retention: Estimating the effectiveness of stormwater management structures. Elementa. 3:000063.

McDonough, O.T., M.W. Lang, J.D. Hosen, and M.A. Palmer. 2015. Surface hydrologic connectivity between Delmarva bay wetlands and nearby streams along a gradient of agricultural alteration. Wetlands. 35:41-53.

Hosen, J.D., O.T. McDonough, C.M. Febria, and M.A. Palmer. 2014. Altered stream dissolved organic matter composition and bioavailability with urbanization. Environmental Science & Technology. 48:7817-7824.

Peters, J.L, S. Cohen, J. Staudenmayer, J.D. Hosen, T.A.E. Platts-Mills, R.J. Wright. 2012. Prenatal negative life events increase cord blood IgE: Interactions with dust mite allergen and maternal atopy. Allergy, 67:545-551.

McDonough, O.T., J.D. Hosen, and M.A. Palmer. 2011. Temporary streams: the hydrology, geography, and ecology of non-perennially flowing waters. In: River Ecosystems: Dynamics, Management and Conservation (H.S. Elliot and L.E. Martin, eds). Nova Science Publishers, Inc., Hauppauge, NY.

Palmer, M.A., L.A. Wainger, L.S. Craig, K.K. Politano, J.D. Hosen, A.P Davis, and J.M. Olszewski. 2010. Promoting Successful Watershed Restoration Through Effective Monitoring and Assessment. Chesapeake Biological Laboratory (CBL), Univ. of Maryland Center for Environmental Science, Solomons, MD 20688-0038. CBL report: CBL11-061.

Peters, J.L., S.F. Suglia, T.A.E. Platts-Mills, J.D. Hosen, D.R. Gold, and R.J. Wright. 2009. Relationships among prenatal aeroallergen exposure and maternal and cord blood IgE: Project ACCESS, Journal of Allergy and Clinical Immunology, 123:1041-1046.

Commins, S.P., S.M. Satinover, J.D. Hosen, J. Mozena, L. Borish, B.D. Lewis, J.A. Woodfolk, and T.A.E. Platts-Mills. 2009. Delayed anaphylaxis, angioedema, or urticaria after consumption of red meat in patients with IgE antibodies specific for galactose-alpha-1,3- galactose. Journal of Allergy and Clinical Immunology. 123:426-433.

Erwin, E.A., J.D. Hosen, S.M. Pollart, M.J. Reid, and T.A.E. Platts-Mills. 2008. High-titer IgE antibody specific for pollen allergens in northern Califronia is associated with both wheezing and total serum IgE. Journal of Allergy and Clinical Immunology 123:706-708.

Chung, C.H., B. Mirakhur, E. Chan, Q. Le, J. Berlin, M. Morse, B.A. Murphy, S.M. Satinover, J.D. Hosen, D. Mauro, R.J. Slebos, Q. Zhou, D. Gold, T. Hatley, D.J. Hicklin, and T.A.E. Platts-Mills. 2008. Cetuximab-induced anaphylaxis and IgE specific for galactose-alpha- 1,3-galactose. New England Journal of Medicine. New England Journal of Medicine 358:1109-1117.

Presentations

Hosen, J.D. Invited Seminar. Changes to headwater stream organic matter and microbial communities in response to urbanization. September 17, 2015. University of New Hampshire Department of Natural Resources.

Hosen, J.D., C. Febria, L. Harris, C. Swan, S. Filoso, M. Williams, M. Palmer. Poster. Predicting stream dissolved organic matter quality and quantity using basic watershed characteristics. 2015 Gordon Research Conference: Catchment Science - Interactions of Hydrology, Biology & Geochemistry, Andover, NH

Hosen, J.D., C. Febria, B.Crump, C. Kellogg, M. Doherty, and M. A. Palmer. Oral Presentation. Microbial community composition and enzyme activity in Coastal Plain headwater streams relates to spatial water conductivity gradient. 2014 Joint Aquatic Sciences Meeting, Portland, OR.

Hosen, J.D. Invited Panelist. Maintaining Maryland's Healthy Watersheds. 2014 Maryland Land Conservation Conference, Adamstown, MD.

Hosen, J.D., C. Febria, and M. A. Palmer. Poster. Seasonal variability of microbial use of dissolved organic matter in Coastal Plain headwater streams. Abstract H43B-1454. American Geophysical Union 2013 Fall Meeting, San Francisco, CA.

Hosen, J.D., O.T. McDonough, C.M. Febria, M.R. Williams, M.A. Palmer. Oral Presentation. Anthropogenic Land Cover Linked to Shifts in Stream Dissolved Organic Matter Composition. ASLO 2013 Aquatic Sciences Meeting, 2013 February 17-22, New Orleans, LA.

Hosen, J.D., C. Febria, O.T. McDonough, and M. A. Palmer. Poster. Land use and inorganic nutrient load alter enzymatic processing of dissolved organic matter by stream microbial communities. Abstract B41D-0316. American Geophysical Union 2012 Fall Meeting, San Francisco, CA.

Hosen, J.D., O.T. McDonough, and M.A. Palmer. Poster. Patterns of Dissolved Organic Matter Characteristics in Perennial and Non-Perennial Streams of a Maryland Coastal Plain Watershed. Abstract B33A-0413. American Geophysical Union 2011 Fall Meeting, San Francisco, CA.

Hosen, J.D., M.S. Perzanowski; M.C. Carter; J. Odhiambo; L. Nganga; P. Ngari; S.M. Satinover; T.A.E. Platts-Mills. Oral Presentation. IgE antibodies to helminthes and the cross-reactive oligosaccharide galactose-alpha-1,3-galactose (alphaGal) among children in a village in Africa. American Academy of Allergy, Asthma, and Immunology 2008 Annual Meeting.

Outreach Articles

Microbes in streams: Little things make a big difference. Watershed Observer, Spring 2014.

Many streams run through it: How ACLT's headwater streams represent the pulse of human activity and conservation in Calvert County. Watershed Observer, Summer 2013.

Outreach Talks and Seminars

Hosen, J.D. Temporary Sttreams. November 2, 2014. Merrimac Farm Master Naturalist Course.

Hosen, J.D. Dissolved Organic Matter Quality and Bioavailability Changes Across an Urbanization Gradient in Headwater Streams. October 1, 2014. Center for Watershed Protection Lunch and Learn Seminar Series.

Hosen, J.D. Organic matter in streams and rivers. November 7, 2013. Prince William County Stream Stewards Lecture Series.

Hosen, J.D. Headwater Streams and the Chesapeake Bay. July 18, 2013. Chesapeake Bay Foundation Professional Learning Summer Course.

Hosen, J.D. Temporary streams in the Chesapeake Bay watershed. April 4, 2012. Prince William County Stream Stewards Lecture Series

Grants

2012 - 2014	Doctoral Dissertation Improvement Grant, National Science Foundation - $13,535
2012	Graduate Student Summer Research Fellowship, University of Maryland - $5,000
2010	Drach-Mellody Navigator Award, Chesapeake Biological Laboratory - $2,500
2008 - 2009	Darwin Fellowship, University of Maryland - $13,520
2004	Summer Research Fellowship from the HHMI Education grant to the College of William & Mary - $4,000

Teaching

2009	The Ecological and Geomorphic Principles of Stream Restoration (TA)
2008 - 2009	Human Anatomy (TA)

Service

Peer Reviewer	*Environmental Science & Technology*, *Environmental Science: Processes & Impacts*, *Freshwater Science*, *Hydrobiologia*
2009 - 2014	Member, Chesapeake Biological Laboratory Graduate Education Committee
2013	Member, University of Maryland Center for Environmental Science Presidental Review Committee

Project Participation

2015 - Present	National Science Foundation - "The Pulse-Shunt Concept: A conceptual framework for quantifying and forecasting watershed DOM fluxes and transformations at the MacroSystem scale."
2013 - Present	United States Department of Agricultre - ARS. "Wetland-Stream Hydrologic Connectivity and Ecosystem Services."
2012 - 2014	Environmental Protection Agency - "Quantification of Freshwater Ecosystem Service Production Functions under a Changing Climate."
2010 - 2013	National Oceanic & Atmospheric Administration. "Integrating Climate Change into the Restoration of the Chesapeake Bay and Watershed."
2009 - 2010	National Fish & Wildlife Foundation. "Promoting Successful Watershed Restoration using Cost-Effectiveness Monitoring and Assessment."

Collaborators

Ph.D. Advisor: Margaret Palmer

Postdoctoral Advisor: Peter Raymond

Collaborators: Laurie Alexander (US EPA), Byron Crump (Oregon State University), Catherine Febria (University of Canterbury), Solange Filoso (University of Maryland Center of Environmental Science), Lora Harris (University of Maryland Center for Environmental Science), Megan Lang (USDA), Greg McCarty (USDA), Benjamin Koch (Northern Arizona University), James Saiers (Yale University), William Sobczak (College of the Holy Cross), Chris Swan (University of Maryland Baltimore County).

Professional Affiliations

American Geophysical Union, Association for the Sciences of Limnology and Oceanography, Society for Freshwater Science.