

## David C. Richardson

Cary Institute of Ecosystem Studies  
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### Positions held

2009 March – present      Visiting Scholar, Dept. of Biological Sciences, Dartmouth College, Hanover, NH  
2008 September – present      Postdoctoral scientist, Cary Institute of Ecosystem Studies, Millbrook, NY  
2008 May – September      Postdoctoral scientist, Stroud Water Research Center, Avondale, PA

### Education

2002 – 2008      Ph.D. in Stream Ecology. Marine, Estuarine, and Environmental Sciences (MEES),  
University of Maryland, College Park, MD.  
*Research advisors:* Dr. Margaret Palmer, Dr. Louis Kaplan  
*Dissertation title:* Transport, sources, and quality of seston in a Piedmont headwater stream.

2004      Fundamentals of ecosystem ecology short course, Cary Institute of Ecosystem Studies,  
Millbrook, NY.

2002 – 2005      Ecological Circuitry Collaboratory (ECC) – National Science Foundation sponsored  
program to "close the circuit" between empiricists and modelers by training a group of  
young scientists to recognize themselves as both. <http://www.ecostudies.org/cc/index.html>

1998 – 2002      B.S. in Operations Research and Industrial Engineering.  
Cornell University, College of Engineering, Ithaca, NY.

### Publications

*In prep.*      Richardson DC, Aufdenkampe, AK, Newbold, JD, and Kaplan, LA. Modeling sources and  
seasonal dynamics of seston and suspended particulate organic carbon within a stream  
ecosystem. Amed Submission: Limnology and Oceanography, February 2009.

*In prep.*      Richardson DC, Newbold, JD, Aufdenkampe, AK, Taylor, PG and Kaplan, LA. A method  
for measuring bacterial mineralization rates of suspended particulate organic carbon in  
stream ecosystems. Amed Submission: Limnology and Oceanography Methods, December  
2008.

*In press*      Palmer, MA and Richardson, DC. Provisioning services: a focus on freshwater. In *The  
Princeton Guide to Ecology*, Levin, SA, Ed. Princeton University Press: Princeton, NJ.  
Estimated publication date: Spring 2009.

*In press*      Menninger, HL, Palmer, MA, Craig, LS, and Richardson, DC. Periodical cicada detritus  
impacts stream ecosystem function. Ecosystems DOI:10.1007/s10021-008-9194-4

2009      Richardson, DC, Kaplan, LA, Newbold, JD and Aufdenkampe, AK. Temporal dynamics of  
seston: A recurring nighttime peak and seasonal shifts in composition in a stream  
ecosystem. Limnology and Oceanography 54(1):344-354.

2008      Craig, LS, Palmer, MA, Richardson, DC, et al. Stream restoration strategies for reducing  
river nitrogen loads. Frontiers in Ecology and the Environment 6(10):529-538.

2008 Swan, CM, Healey, B and *Richardson, DC*. The role of native riparian tree species in decomposition of invasive Tree of Heaven (*Ailanthus altissima*) leaf litter in an urban stream. *Ecoscience* 15(1):27-35.

### **Awards and Funding**

2008 Spring Jacob Goldhaber travel grant (University of Maryland Graduate School)

2008 Washington Biologists' Field Club research grant: "Putting stream salamanders in context: linking stream salamander behavior, bioturbation, and the loss of small streams."  
Collaborator: EHC Grant

2007 Summer North American Benthological Society award for best oral presentation emphasizing methodology, Columbia, South Carolina

2007 Summer Entomology Student Organization travel grant (University of Maryland)

2006 Fall University of Maryland College of Chemical and Life Science Bioscience Research & Technology Review Day- Best poster in biodiversity and environmental sciences

2006 Summer College of Life Sciences graduate travel grant (University of Maryland)

2005 – 2008 Research assistant for National Science Foundation grant: "Collaborative research: Seston contributions to metabolism across longitudinal ecosystems (SCALE) - Dynamics of organic particles in river networks." Stroud Water Research Center, Avondale, Pennsylvania.

2005 Spring North American Benthological Society President's award

### **Teaching Experience**

2009 January "Heterogeneity and ecosystem function" lecture. Fundamentals of ecosystem ecology short course, Cary Institute of Ecosystem Studies, Millbrook, NY.

2008 November Bard College, Science of the Natural and Built Environment - guest lecturer during visit to Cary Institute of Ecosystem Studies

2008 November SUNY New Paltz, Biology 340 - Ecology (guest lecturer/lab coordinator for aquatic ecology lab)

2005 – 2008 Summers Stroud Water Research Center, Mentor for Research Experience for Undergraduate (REU) interns: research advising and organization of journal club

2006 Spring University of Maryland, Biological Sciences 103 - The World of Biology (teaching assistant)

2005 August University of Maryland, Marine, Estuarine and Environmental Sciences 698S - Ecological and geomorphic principles of stream restoration (guest lecturer)

2002 Spring Cornell University, Operations Research and Industrial Engineering 310 - Industrial systems analysis (teaching assistant)

## Presentations

- 2008 Kaplan, LA, *Richardson DC*, Newbold, JD, and Aufdenkampe, AK. Diel Patterns of Dissolved and Particulate Organic Matter Transport in a Pennsylvania Piedmont Stream. Diurnal Cycling of Chemical Constituents in Surface Water and Related Scientific Regulatory Consideration, NJDEP, USGS, and Rutgers WRPI, Trenton, NJ.
- 2008 *Richardson, DC*. Stream seston: Transport, sources, and Darwin. University of Maryland, Department of Entomology, Invited Oral Seminar, College Park, MD.
- 2008 *Richardson, DC*. Biological regulation of stream particle transport. Cary Institute of Ecosystem Studies, Lunch Bunch Oral Presentation, Millbrook, NY.
- 2008 *Richardson, DC*, Aufdenkampe, AK, Newbold, JD, and Kaplan, LA. Modeling sources of seston, particulate organic carbon and particulate nitrogen within a stream ecosystem. North American Benthological Society Conference Oral Presentation, Salt Lake City, UT.
- 2007 Grant, EHC and *Richardson, DC*. Stream drying and the salamander larvae: where do they go? Marine Estuarine and Environmental Sciences Colloquium Poster Presentation, University of Maryland, College Park, MD.
- 2007 *Richardson, DC*, Newbold, JD, Aufdenkampe, AK, Taylor, PG and Kaplan, LA. A method for measuring bacterial mineralization rates of suspended particulate organic carbon in stream ecosystems. North American Benthological Society Conference Oral Presentation, Columbia, SC.
- 2006 *Richardson, DC*, Kaplan, LA and Newbold, JD. Baseflow dynamics and sources of seston in a stream ecosystem: recurring nighttime peaks. Ecological Society of America Conference Poster, Memphis, TN.
- 2005 Menninger, HL, Palmer, MA, Craig, LS, Hassett, BA, *Richardson, DC*, Smith, RF. Terrestrial-aquatic linkage: The effects of periodical cicadas on stream ecosystem function. Ecological Society of America Conference Oral Presentation, Montreal, Canada.
- 2004 *Richardson, DC*; Kaplan, LA and Palmer, MA. Point source contributions of suspended organic matter to an agricultural watershed with intact riparian forests. Marine Estuarine and Environmental Sciences Colloquium Poster Presentation, Horn Point Laboratory, Cambridge, MD.
- 2004 Ewing, H; Suarez, E; St. John, M; *Richardson, DC*; Peierls, B; Frost, C; Euskirchen, E; Brookshire, J; Lindberg, S; Weathers, K. Mercury deposition and emission to and from heterogeneous landscapes: Exploring simple models. Ecological Society of America Conference Poster, Portland, OR.
- 2004 Ewing, H; Weathers, K; Brookshire, J; Euskirchen, E; Frost, C; Peierls, B; *Richardson, DC*; St. John, M; Suarez, E; Groffman, P. Learning to model and learning to collaborate: An experiment in graduate education. Ecological Society of America Conference Poster, Portland, OR.
- 2004 Swan, CM; *Richardson, DC*; Palmer, MA. A simulation study of detritivore foraging on speciose leaf litter: implications for the diversity-function relationship in stream ecosystems. Ecological Society of America Conference Oral Presentation, Portland, OR.

### **Committees and Service**

- 2007 – 2008      Green Science at Stroud (GSAS) committee member, Stroud Water Research Center, Avondale, PA.
- 2007 – 2008      Marine, Estuarine and Environmental Sciences Graduate Student Organization representative to the University of Maryland Graduate Student Government
- 2005 – 2006      Department of Entomology website committee, University of Maryland, College Park, Maryland
- 2005 – 2008      Palmer lab website webmaster: <http://www.palmerlab.umd.edu>

### **Professional Affiliations**

- 2002 – present      North American Benthological Society; Ecological Society of America
- 2008 – present      Global Lake Ecological Observatory Network (GLEON)

### **Reviewing Activity**

Methods in Stream Ecology, 2<sup>nd</sup> edition, 2006, Hauer, R. and Lamberti, G.A.; Journal of Geophysical Research (with Newbold, J.D.); Limnology and Oceanography (with Palmer, M.A.)

### **Research mentoring**

- 2008 Summer      *Laura Fox* (Indiana University-Purdue University Indianapolis) - Research assistant at Stroud Water Research Center
- 2008 Summer      *Hanh Nguyen* (Dartmouth College) - Research Experience for Undergraduates at Stroud Water Research Center
- 2008 Summer      *Laura Regester* (Trinity University, DC) - Research Experience for Undergraduates at Stroud Water Research Center
- 2007 Summer      *Jaclyn McIlwain* (University of Delaware) - Research Experience for Undergraduates at Stroud Water Research Center
- 2007 Summer      *Maddie Winters* (Guilford College) - Research assistant at Stroud Water Research Center