

# DANIEL J. BAIN

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## PROFESSIONAL & RESEARCH EXPERIENCE

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- Jan 2007-      **Assistant Professor:** University of Pittsburgh, Department of Geology and Planetary Science, Pittsburgh, PA
- Jan 2004-      **National Research Council Post-Doctoral Fellow:** USGS Water Resources Division  
Sept 2006      Menlo Park, CA (research advisors: Thomas Bullen and Suzanne Anderson)
- Sept 1998-     **National Science Foundation Graduate Research Fellow:** Johns Hopkins University  
Oct 2003      Department of Geography and Environmental Engineering, Baltimore, MD
- Oct 1996-      **Environmental Scientist I:** North Dakota State Department of Health, Groundwater  
July 1998      Protection Program, Bismarck, ND
- Professional    American Geophysical Union, Association of American Geographers, Geochemical  
Affiliations:   Society, Geological Society of America, U.S. International Association of Landscape  
Ecologists

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## EDUCATION

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- May 2004      **Ph.D. in Geography and Environmental Engineering**  
Department of Geography and Environmental Engineering  
Johns Hopkins University (JHU), Baltimore, Maryland
- Dissertation: *400 Years of Land Use Impacts on Landscape Structure and Riparian Sediment Dynamics: Investigations using Chromite Mining Waste and Property Mosaics* (Advisor: Dr. Grace S. Brush)
- May 2000      **Masters of Science in Environmental Science,** JHU, Baltimore, Maryland  
Department of Geography and Environmental Engineering
- May 1996      **Bachelor of Arts Cum Laude,** Macalester College, St. Paul, Minnesota  
Majors: Chemistry and Geography                      Minor: Mathematics
- Awards & Recognition**      CUAHSI Early Career Fellow, UNH CUAHSI Synthesis Center (2007-present)  
2006 Summer Institute at Duke University's Center on Global Change -- Uncertainty and Variability in Ecological Inference, Forecasting, and Decision Making  
2006 SEEK Early Career Faculty and Post Doctoral Workshop on Ecoinformatics  
2004-2006 NRC Research Associate Fellowship  
2003 NASA-MSU Professional Enhancement Award  
2002 Johns Hopkins University Graduate Representative Organization Service Award  
2001-2002 William R. Kenan, Jr. Fellowship  
2001-2002 JHU Center for Educational Resources Technology Fellowship  
1999 ESRI User Conference Student Assistant

1998-2003 NSF Graduate Research Fellowship  
1998-99 American Meteorological Society Ind./Gov. Graduate Fellowship (declined)  
1998 (April) ND Health Dept. "Going the Extra Mile" Award  
1996 Phi Beta Kappa  
1996 Chester Shiflett Endowed Prize in Chemistry  
1996 AAG/NCGE Award for Excellence of Scholarship  
1995 Hildegard Binder Johnson Award  
1995 ACS Undergraduate Award in Analytical Chemistry  
1991 Eagle Scout

## **PUBLICATIONS (PEER REVIEWED)**

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- Williams, J., C. ReVelle and **D. J. Bain**, (2003), "A Decision Model For Selecting Protected Habitat Areas Within Migratory Flyways," *SocioEconomic Planning Sciences*. **37**(4), 239-268.
- Groffman, P. M., **D. J. Bain**, L. E. Band, K. T. Belt, G. S. Brush, J. M. Grove, R. V. Pouyat, I. C. Yesilonis and W. C. Zipperer (2003), "Urban Riparian Ecology," *Frontiers in Ecology and Environment*. **1**(6), 315-321.
- Bain, D. J.** and G. S. Brush (2004) "Placing the Pieces: Reconstructing The Original Property Mosaic in a Metes and Bounds Watershed", *Landscape Ecology*. **19**(8), 843-856.
- Bain, D. J.** and G. S. Brush (2005) "Early Chromite Mining and Agricultural Clearance: Opportunities for the Investigation of Agricultural Sediment Dynamics in the Eastern Piedmont (USA)", *American Journal of Science*. **305**, 957-981.
- Elliott, E.M., C. Kendall, S. D. Wankel, D. A. Burns, E. W. Boyer, K. Harlin, **D. J. Bain**, and T. J. Butler, (2007) "Nitrogen isotopes as indicators of NO<sub>x</sub> source contributions to atmospheric nitrate deposition across the Midwestern and Northeastern United States", *Environmental Science and Technology*. **41**(22), 7661-7667
- Bain, D. J.** and G. S. Brush (2008) "Gradients, Property Templates, and Land Use Change", *Professional Geographer*. **60**(2)
- Bain, D. J.**, S. P. Anderson, T. D. Bullen, J. Fitzpatrick, M. S. Schulz, D.V. Vivit, and A.F. White (in preparation) "Using Lithogenic and Biogenic Water Chemistries to follow Solute Flushing", *Water Resources Research*.

## **INVITED & RECENT PRESENTATIONS**

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- Oral (invited) *Buried Floodplains and Old Mines: Understanding Legacy Agricultural Sediments in Maryland Valleys*, Maryland Department of Natural Resources Marine and Non-Tidal Assessment (MANTA) Noon Seminar, Annapolis, MD, April 12, 2007
- Metals in Baltimore riparian sediments: Chemical legacies in urban streams*, 2006  
American Geophysical Union Spring Joint Assembly, Baltimore, MD, May 24, 2006
- (invited) *Urban Ecology: Understanding and Managing our Cities*, North Carolina State Department of Forestry and Environmental Resources, Raleigh, NC, May 1, 2006
- (invited) *Impacts of Urbanization and Land Use History on Chemical and Sediment Cycling*, University of Illinois at Urbana-Champaign Department of Natural Resources and Environmental Sciences, Urbana, IL, April 13, 2006
- (invited) *Human Decisions and Trace Metal Cycling: Coupling Social and Natural Science in Urban Systems*, Yale School of Forestry, New Haven, CT, March 29, 2006

(invited) *Trace Metal Cycling in Watersheds & Landscapes*, Wright State University Department of Geological Sciences, Dayton, OH, March 13, 2006

(invited) *Trace Metal Cycling in Watersheds & Landscapes*, University of Pittsburgh Department of Geologic and Planetary Sciences, Pittsburgh, PA, February 28, 2006

*Lithogenic vs Biogenic Stream Water Chemistry: Following the Solute Flush*, 2005 American Geophysical Union Fall Meeting, San Francisco, CA, December 6, 2005

(invited) *Chromium Isotope Fractionation During Oxidation of Cr(III) by Manganese Oxides*, 2005 Goldschmidt Conference, Moscow, ID, May 25, 2005

(invited) *Trace Metal Cycling in Dynamic Landscapes*, SUNY-Albany Department of Geography and Planning, Albany, NY, April 11, 2005

*Experimental Determination of Isotopic Fractionation of Chromium(III) During Oxidation by Manganese Oxides*, 2004 American Geophysical Union Fall Meeting, San Francisco, CA, December 16, 2004

(invited) *Chromite mining signature in Baltimore riparian sediments*. Information Exchange: Sediment and the Chesapeake Bay Watershed From Top to Bottom. Baltimore, MD, January 22, 2002.

## BOOK REVIEWS

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Wetlands and Sustainable Water Systems. Review of M. M. Holland, E. R. Blood, and L. R. Shaffer (eds.), 2003. *Achieving Sustainable Freshwater Systems: A Web of Connections*. Island Press, Washington, DC. 312 pgs. *Landscape Ecology* **19**(7), 815-816.

Glaciers and Riverboats: Landscape History of the Upper Mississippi Corridor. Review of C. E. Fremling, 2005. *Immortal River: The Upper Mississippi in Ancient and Modern Times*. The University of Wisconsin Press, Madison, WI, USA. 429 pp. *Landscape Ecology* **21**(2), 307-308.

Review of Warren R. Hofstra, 2004. *The Planting of New Virginia: Settlement and Landscape in the Shenandoah Valley*. The Johns Hopkins University Press, Baltimore, MD. 410 pgs. *Material Culture* (accepted).

Review of Robert L. France, 2006. *Introduction to Watershed Development: Understanding and Managing the Impacts of Sprawl*. Rowan and Littlefield Publishers, Lanham, MD. 221 pgs. *Journal of Urban Affairs* **28**(5), 535-536.

## PUBLICATIONS (NON-PEER REVIEWED)

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**Bain, D. J.** and E. R. Broich, Powdermill Run Historic Stream Courses, University of Pittsburgh Department of Geology and Planetary Science, Pittsburgh, PA

**Bain, D. J.**, 1997, Wellhead Protection Area Delineation for the City of Strasburg, Emmons County, North Dakota, North Dakota Department of Health, Bismarck, ND.

**Bain, D. J.**, 1997, Wellhead Protection Area Delineation for the City of Glen Ullin, Morton County, North Dakota, North Dakota Department of Health, Bismarck, ND.

**Bain, D. J.**, 1997, Wellhead Protection Area Delineation for the City of Hebron, Morton County, North Dakota, North Dakota Department of Health, Bismarck, ND.

## SERVICE

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2007-present	Member, Nine Mile Run Watershed Association Monitoring (Technical) Committee
2006-present	Baltimore Ecosystem Study Data Management Committee
2005-2006	CLEANER Program Office Social Science & Economics Committee
Spring 2006	Co-convener: B07: Coupled Trace Metal and DOC Dynamics from the Reach to the Landscape Scale, Spring 2006 AGU meeting, Baltimore
Fall 2005	Co-convener: B15: Hydrology, Ecology and Biogeochemistry of Suburbia, Fall 2005 AGU meeting, San Francisco
2001-2003	Baltimore Ecosystem Study Student Representative to the Long Term Ecological Research Network Graduate Student Committee
2000-2002	Johns Hopkins University Graduate Representative Organization Health Insurance Coordinator
1999-2000	Johns Hopkins University Department of Geography and Environmental Engineering Social Committee Chair