

## **Curriculum Vitae: Peter Richard Wilcock**

### **EDUCATION**

University of Illinois, Urbana, IL, Dept. of Geography, B.S.(*summa cum laude*), May, 1978.

McGill University, Montreal, PQ, Dept. of Geography, M.Sc., 1981

Massachusetts Institute of Technology, Cambridge MA., Dept. of Earth, Atmospheric, and Planetary Sciences., Ph.D., 1987

### **APPOINTMENTS**

1997 - present: Professor, The Johns Hopkins University, Dept. of Geography and Environmental Engineering; Assoc. Dept. Chair 2004 - present

1993 - 1997: Associate Professor; 1987 - 1993: Assistant Professor

1990 - present: Joint appointment, Dept. of Civil Engineering, The Johns Hopkins University

1985 - 1987: Research Assistant, Dept. of Earth, Atmospheric, and Planetary Sciences, MIT

1982 - 1985: Teaching Assistant, Dept. of Earth, Atmospheric, and Planetary Sciences, MIT

### **PUBLICATIONS (2005 – Present)**

Schmidt, J.C. and P.R. Wilcock, *in press* 2008, Metrics for assessing the downstream impacts of dams, *Water Resources Research*.

Wilcock, P., J. Pitlick, and Y. Cui. *In press*, 2008. Sediment Transport Primer: Estimating Bed-Material Transport in Gravel-bed Rivers, Gen. Tech. Rep., USDA Forest Service, 76 p.

Craig, L., M. Palmer, D. Richardson, S. Filoso, E. Bhardt, B. Bledsoe, M. Doyle, P. Groffman, B. Hassett, S. Kaushal, P. Mayer, S. Smith, and P. Wilcock, 2008. Stream restoration strategies for reducing river nitrogen loads, *Frontiers in Ecology and the Environment*, 6, doi:10.1890/070080.

Wilcock, P.R., C.H. Orr, and J.D.G. Marr, 2008. The need for full-scale experiments in river science. *Eos, Transactions, Am. Geophys. Union*, 89(1):2, 1 January 2008.

Colosimo, M. and P.R. Wilcock, 2007, Alluvial sedimentation and erosion in an urbanizing watershed, Gwynns Falls, Maryland, *J. American Water Resources Association*. 43(2):499-521. DOI: 10.1111/j.1752-1688.2007.00039.x

Grams, P.E., and P.R. Wilcock, 2007, Equilibrium entrainment of fine sediment over a coarse immobile bed, *Water Resources Research*, 43, W10420, doi:10.1029/2006WR005129.

Parker, G.P., P.R. Wilcock, C. Paola, W.E. Dietrich, J.C. Pitlick, 2007, Physical basis for quasi-universal relations describing bankfull hydraulic geometry of single-thread gravel bed rivers, *J. Geophysical Research – Earth Surface*, 112, F04005, doi:10.1029/2006JF000549.

Wiele, S.M., P.R. Wilcock, P.E. Grams, 2007, Reach-averaged sediment routing model of a canyon river, *Water Resour. Res.*, 43, W02425, doi:10.1029/2005WR004824.

Paola, C., E. Foufoula-Georgiou, W. E. Dietrich, M. Hondzo, D. Mohrig, G. Parker, M. E. Power, I. Rodriguez-Iturbe, V. Voller, and P. Wilcock, 2006, Toward a unified science of the Earth's surface: Opportunities for synthesis among hydrology, geomorphology, geochemistry, and ecology, *Water Resour. Res.*, 42, W03S10, doi:10.1029/2005WR004336

Parker, G., M. Hassan, and P. Wilcock, 2006, Adjustment of the bed surface size distribution of gravel-bed rivers in response to cycled hydrograph. In Ergenzinger, P. (ed.), *Gravel-Bed Rivers VI*.

- Wilcock, P.R. and G. Parker, 2006. Research, coordination, and open-source models to improve stream restoration practice, Proceedings, 8th Federal Interagency Sedimentation Conference, Reno NV.
- Curran, J.C. and P.R. Wilcock, 2005, The effect of sand supply on transport rates in a gravel-bed channel, *J. Hydraulic Engineering*. DOI: 10.1061/(ASCE)0733-9429(2005)131:11(961)
- Wilcock, P.R. and B.T. DeTemple, 2005, Persistence of armor layers in gravel-bed streams, *Geophysical Research Letters*, 32, L08402, doi:10.1029/2004GL021772.
- DeTemple, B.T., and P.R. Wilcock, 2005. Observations of armor formation in a sediment-recirculating flume, in Parker, G. and Garcia, M (eds.), *River, Coastal and Estuarine Morphodynamics*, Taylor and Francis Group, London, pp. 1049-1058.
- Grams, P.E., P.R. Wilcock, S.M. Wiele, 2005. Entrainment and non-uniform transport of fine sediment in coarse-bedded rivers, in Parker, G. and Garcia, M (eds.), *River, Coastal and Estuarine Morphodynamics*, Taylor and Francis Group, London, pp. 1073-1081.
- Curran, J. C., and P. R. Wilcock, 2005, Characteristic dimensions of the step-pool bed configuration: An experimental study, *Water Resour. Res.*, 41, W02030, doi:10.1029/2004WR003568.

## SYNERGISTIC ACTIVITIES

- National Center for Earth-Surface Dynamics, Project Leader, Stream Restoration Integrated Project.  
Coordinate research, convene partner meetings, conduct short courses, and develop computational tools to support the project goal of improving the science and practice of stream restoration.
- Convener, NCED (National Center for Earth-surface Dynamics) Stream Restoration Workshops. NCED Stream Restoration Partners Meeting: Minneapolis, February, 2005.  
Morphodynamics of Dam Removal: Torrey UT, April 2005.  
Stream Restoration Training Workshop: Midway UT, April 2006  
NCED Stream Restoration Partners Meeting: Berkeley, July, 2006.
- Sediment Transport and Stream Restoration Short Courses for Practitioners:  
University of California, Berkeley (3 days) 2004.  
Univ. California, (w/ G.M. Kondolf, UCB), (5 day course) Annual 2003 - present.  
Utah State University (w/ John C. Schmidt, USU) (10 day course) Annual 2004 - present.  
University of Maryland (w/ Margaret Palmer, UMCP) (5 day course) Annual 2005 - present  
2006 Southeastern Stream Restoration Conference, North Carolina State University, Pre-conference ½ day workshop, October 2006.  
2007 River Restoration Northwest, Pre-conference one-day workshop, Feb. 2007.
- US Forest Service, Stream System Technology Center. Co-developed software, manual, and primer for practical predictions of sediment transport in coarse-bedded streams, 2005-2007.
- National Research Council, Ocean Science Board and Water Science and Technology Board, Panel Chair:  
Panel on River Basin and Coastal Systems Planning, Committee to Assess the U.S. Army Corps of Engineers Methods of Analysis and Peer Review for Water Resources Project Planning. 2002-2004.
- Am. Geophysical Union, *Journal of Geophysical Research – Earth Surfaces*, Assoc. Editor, 2002-2006.

## Advisees

- PhD – Jeffrey Clark (1997), Mark Colosimo (2002), Joanna Curran (2002), Brendan DeTemple (current), Paul Grams (2006), Stephen Kenworthy (2002), Andreas Krause (current), Brian McArdell (1996), David Miller (1995), Charles Podolak (current), Conor Shea (1995), Sean Smith (current)
- MS - D. Shane Cherry (1996), Adelaide Johnson (1997), Joseph Schweitzer (1993), Rachel Shea (1994)