

## CURRICULUM VITAE FOR CHRISTOPHER JAN WOLTEMADE

### PERSONAL

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### EDUCATION

- 1987-1993 University of Wisconsin, Madison  
Doctor of Philosophy in Geography, Water Resources Management minor, 1993.  
Master of Science in Geography, 1989.  
Master of Science in Water Resources Management, 1989.  
G.P.A. 3.95 / 4.00
- 1990 University of Colorado, Boulder  
One semester research on western U.S. water resources, Department of Geography.  
G.P.A. 4.00 / 4.00
- 1983-1987 Ohio Wesleyan University, Delaware, Ohio  
Bachelor of Arts with honors in Geography, 1987.  
Graduated valedictorian and Phi Beta Kappa, G.P.A. 3.97 / 4.00

### EMPLOYMENT

- 1994-present Assistant / Associate / Full Professor, Department of Geography-Earth Science, Shippensburg University, Shippensburg, Pennsylvania.
- 1994-present Consulting Hydrologist, Environmental Defense, Washington, D.C.  
Conducted research and wrote seven reports to support initiatives related to hydrology, flooding, wetlands, water quality, and watershed management.

## EMPLOYMENT (continued)

- 1993-1994 Assistant Professor, Department of Geography, Keene State College, Keene, New Hampshire.
- 1991- 1993 Research Assistant, Department of Civil and Environmental Engineering, University of Wisconsin, Madison  
Combined field research and computer modeling to study the influence of valley bottom geomorphology, hydrology, and hydraulics on flood processes.
- Fall 1992 Instructor, Department of Geography, University of Wisconsin-Madison
- Summer 1990 Project Assistant, Department of Geography, University of Wisconsin-Madison  
Compiled, mapped, and interpreted climate and hydrology data to assess hydrologic and geomorphic impacts of climate change.
- Summer 1986 Cartography Intern, National Geographic Society, Washington, D.C.  
Researched and designed four-color maps for *Traveler Magazine*.

## COURSES TAUGHT

- 1994-2009 Shippensburg University  
ESS 110 Introduction to Geology  
GEO 224 Soils  
GEO 226 Hydrology  
GEO 440 Field Techniques  
GEO 445 Remote Sensing  
GEO 446 Water Resources Management  
GEO 503 Fundamentals of Geoenvironmental Research (Graduate)  
GEO 522 Geoenvironmental Hydrology (Graduate)
- 1993-1994 Keene State College  
GEO 100 Introduction to Geography  
GEO 341 Geography of the United States  
GEO 399 Environmental Change and Watershed Management
- 1992 University of Wisconsin-Madison  
GEO 120 Global Physical Environments

## PUBLICATIONS

- 2008      Woltemade, C. J. and J. Woodward. Nitrate removal in a restored spring-fed wetland, Pennsylvania, USA. *Journal of the American Water Resources Association*. 44(1):222-234.
- 2005      Woltemade, C. J. Potential for treatment wetlands to reduce non-point source nitrogen loads on a watershed scale: Modeling the Conestoga River watershed, Pennsylvania, USA. Geosciences Research Abstracts, Vol. 7, SRef-ID: 1607-7962/gra/EGU05-A-00344.
- 2003      Meyer, J. L., L. A. Kaplan, D. Newbold, D. L. Strayer, C. J. Woltemade, J. B. Zedler, R. Beilfuss, Q. Carpenter, R. Semlitsch, M. C. Watzin, and P. H. Zedler. Where rivers are born: The scientific imperative for defending small streams and wetlands. Washington, DC: Sierra Club and American Rivers.
- Woltemade, C. J. Book review of Viessman, W. Jr. and G. L. Lewis. *Introduction to Hydrology (5<sup>th</sup> edition)*, Upper Saddle River, NJ: Prentice Hall, 2003. *Journal of the American Water Resources Association*. 39(3): 727-728.
- Woltemade, C. J. Mississippi River Basin. In E. J. Dasch (ed.) *Water Sciences and Issues*, Macmillan Reference USA, New York: 98-102.
- 2002      Woltemade, C. J. and D. Stanitski-Martin. Comparison of NEXRAD and rain gauge estimates of storm total precipitation in a mountainous south central Pennsylvania watershed. *The Pennsylvania Geographer*. Vol. XL, No.2: 176-186.
- Grote, T. and C. J. Woltemade. Bedrock and surficial geologic controls on baseflow chemistry in the Burd Run Watershed, south-central Pennsylvania. *The Pennsylvania Geographer*. Vol. XL, No.2: 101-112.
- Woltemade, C. J. Transport and fate of nutrients in a riparian zone: Restoration and monitoring strategies. In J. F. Kenny (ed.) *Ground Water / Surface Water Interactions*, American Water Resources Association, Middleburg, Virginia, TPS 02-2, pp.149-154.
- Woltemade, C. J. and W. L. Blewett. Design, implementation, and assessment of an undergraduate interdisciplinary watershed research laboratory. *Journal of Geoscience Education*, 50(4): 372-379.

## PUBLICATIONS (continued)

- 2002      Woltemade, C. J. and D. Stanitski-Martin. A student-centered field project comparing NEXRAD and rain gauge precipitation values in mountainous terrain. *Journal of Geoscience Education*, **50**(3): 296-302.
- Woltemade, C. J. and A. Wood. Comprehensive riparian restoration along Burd Run. *Land and Water*, **46**(2): 27-32.
- 2000      Woltemade, C. J. Ability of restored wetlands to reduce nitrogen and phosphorus concentrations in agricultural drainage water. *Journal of Soil and Water Conservation*, **55**(3): 303-309.
- Woltemade, C. J. and W. L. Blewett. Development of an interdisciplinary watershed research laboratory for undergraduate education. In R. W. Higgins (ed.) *Water Quantity and Quality Issues in Coastal Urban Areas*. American Water Resources Association, Middleburg, Virginia, TPS-00-3, pp.229-232.
- Woltemade, C. J. Book review of Thompson, Stephen A. *Hydrology for Water Management*, Rotterdam, The Netherlands: A.A. Balkema, 1999. *Annals of the Association of American Geographers*, **90**(1): 200-202.
- 1999      Woltemade, C. J. Ability of restored wetlands to improve habitat and water quality in agricultural regions. In R. Sakrison and P. Sturtevant (eds.) *Watershed Management to Protect Declining Species*. American Water Resources Association, Middleburg, Virginia, TPS-99-4, pp.501-504.
- 1998      Starner, K. J.; C. J. Woltemade; and W. L. Blewett. Soil variability across a topographic gradient in colluvial soil of south-central Pennsylvania. *The Pennsylvania Geographer*, **36**(1): 61-78.
- 1997      Woltemade, C. J. Integration of hydrology, geomorphology, and aquatic ecology in management of the Upper Mississippi River Basin. In J. J. Warwick (ed.) *Water Resources Education, Training, and Practice: Opportunities for the Next Century*, American Water Resources Association, Herndon, Virginia, TPS-97-1, pp.455-464.
- Woltemade, C. J. Book review of Changnon, Stanley A. (ed.). *The Great Flood of 1993: Causes, Impacts, and Responses*, Boulder: Westview Press, 1996. *Annals of the Association of American Geographers*, **87**(2): 377-378.

## **PUBLICATIONS (continued)**

- 1997      Woltemade, C. J. Water level management opportunities for ecological benefit, Pool 5 Mississippi River. *Journal of the American Water Resources Association*, **33**(2): 443-454.
- 1994      Woltemade, C. J. Form and process: Fluvial geomorphology and flood flow interaction, Grant River, Wisconsin. *Annals, Association of American Geographers*, **84**(3): 462-479.
- Woltemade, C. J. and K. W. Potter. A watershed modeling analysis of fluvial geomorphologic influences on flood peak attenuation. *Water Resources Research*, **30**(6): 1933-1942.
- 1991      Woltemade, C. J. Environmental impact mitigation under the Clean Water Act and the National Environmental Policy Act: The case of Two Forks Dam. *Water Resources Bulletin*, **27**(2): 293-302.

## **PAPERS AND POSTERS PRESENTED – NATIONAL AND INTERNATIONAL**

- 2009      Modeling residential soil compaction with the NRCS curve number method. Annual meeting of the Association of American Geographers, Las Vegas, NV.
- 2008      Effects of impervious surfaces on maximum stormwater runoff temperatures: Modeling and field monitoring of the Shippensburg University of Pennsylvania campus. Melissa Mimna and Christopher Woltemade. Annual meeting of the Association of American Geographers, Boston, Massachusetts.
- The evolution of air travel: Reducing the friction of distance by becoming an elite flyer. Kurt Fuellhart and Christopher Woltemade. Annual meeting of the Association of American Geographers, Boston, Massachusetts.
- 2007      Nitrate removal in a restored spring-fed wetland, Pennsylvania: Results of a three-year monitoring study. American Water Resources Association Annual Conference, Albuquerque, New Mexico.
- Hydrology and nitrate removal in a restored spring-fed wetland, Pennsylvania, USA. Jinnieth Woodward and Christopher J. Woltemade. Annual meeting of the Association of American Geographers, San Francisco, California.

## PAPERS AND POSTERS PRESENTED – NATIONAL AND INTL. (continued)

- 2006 Ability of restored wetlands to diminish nitrate load in agricultural watersheds. Society of Wetland Scientists Pacific Northwest Annual Meeting, Vancouver, Washington.
- The ability of wetlands to reduce nitrate concentrations in agricultural areas. Jinnieth Woodward and Christopher J. Woltemade. Annual meeting of the Association of American Geographers, Chicago, Illinois.
- 2005 Potential for wetland restoration to reduce nitrogen loads in an agricultural watershed: Conestoga River Basin, Pennsylvania. American Water Resources Association Annual Conference, Seattle, Washington.
- 2005 Potential for treatment wetlands to reduce non-point source nitrogen loads on a watershed scale: Modeling the Conestoga River watershed, Pennsylvania, USA. General Assembly of the European Geosciences Union, Vienna, Austria.
- Fluvial geomorphic change in a reconstructed stream channel, south-central Pennsylvania. Christopher J. Woltemade and John W. Balay. Annual meeting of the Association of American Geographers, Denver, Colorado.
- 2003 Stream channel, riparian corridor, and wetland restoration for water quality and habitat improvement. Geological Society of America Annual Meeting, Seattle, Washington.
- 2002 Influence of land use and geology on geomorphic response to Hurricane Mitch in mountainous northwestern Nicaragua. International Symposium on Land Use Change and Geomorphic, Soil and Water Processes in Tropical Mountain Environments, Quito and Cuenca, Ecuador.
- Transport and fate of nutrients in a riparian zone: Restoration and monitoring strategies. American Water Resources Association Summer Specialty Conference: Ground Water / Surface Water Interactions, Keystone, Colorado.
- Geomorphic impacts of Hurricane Mitch in northwestern Nicaragua. Annual meeting of the Association of American Geographers, Los Angeles, California.
- 2001 Linking undergraduate learning using a watershed research laboratory. Christopher J. Woltemade and William L. Blewett. Annual meeting of the National Council for Geographic Education, Vancouver, British Columbia.

## PAPERS AND POSTERS PRESENTED – NATIONAL AND INTL. (continued)

- 2001      A watershed laboratory model for effective environmental science college teaching. Christopher J. Woltemade and William L. Blewett. Annual meeting of the Association of American Geographers, New York, New York.
- 2000      Using GIS in a multidisciplinary watershed-based environmental science curriculum. William L. Blewett and Christopher J. Woltemade. Geological Society of America Annual Meeting, Reno, Nevada.
- Development of an interdisciplinary watershed research laboratory for undergraduate education. Christopher J. Woltemade and William L. Blewett. American Water Resources Association Annual Conference, Miami, Florida.
- Water resources issues for the new millennium. Panel presentation on the increasing significance of community-based watershed organizations in water resources management. Annual meeting of the Association of American Geographers, Pittsburgh, Pennsylvania.
- 1999      Ability of restored wetlands to improve habitat and water quality in agricultural regions. American Water Resources Association Annual Conference, Seattle, Washington.
- Restored wetlands treating crop field drainage water: The state of the science. Annual meeting of the Association of American Geographers, Honolulu, Hawaii.
- 1998      Teaching water resources management in geography. Panel discussion organizer, chair and participant. Annual meeting of the Association of American Geographers, Boston, Massachusetts.
- 1997      Integration of hydrology, geomorphology, and aquatic ecology in management of the Upper Mississippi River Basin. American Water Resources Association / Universities Council on Water Resources Symposium on Water Resources Education, Training, and Practice: Opportunities for the Next Century, Keystone, Colorado.
- Habitat improvement and pool drawdowns. Annual meeting of the Mississippi River Basin Alliance, St. Louis, Missouri.
- Water level management opportunities for the Upper Mississippi River. Annual meeting of the Association of American Geographers, Fort Worth, Texas.

## **PAPERS AND POSTERS PRESENTED – NATIONAL AND INTL. (continued)**

- 1996 Hydrologic management of the Mississippi River for ecological benefit. Annual meeting of the Association of American Geographers, Charlotte, North Carolina.
- Water level management opportunities for ecological benefit, Pool 5 Upper Mississippi River. Invited paper and panel discussant, Upper Mississippi River Summit Meeting, Bloomington, Minnesota.
- 1994 Geomorphic-hydraulic interaction in the Grant River watershed, Wisconsin. Annual meeting of the Association of American Geographers, San Francisco, California.
- 1993 Fluvial geomorphology and flood hydraulics: Effects of flood peak attenuation. Annual meeting of the Association of American Geographers, Atlanta, Georgia.
- 1992 Influence of channel, floodplain, and basin characteristics on flood magnitude and frequency. Annual meeting of the Association of American Geographers, San Diego, California.
- 1990 Environmental impact studies and human values: The case of Two Forks Dam. Annual meeting of the Association of American Geographers, Toronto, Ontario.
- 1989 Environmental impact studies and human values: The case of Two Forks Dam. American Water Resources Association Annual Conference, Denver, Colorado.
- A critique of NEPA and the analysis of alternatives. Annual meeting of the Association of American Geographers, Baltimore, Maryland.

## **PAPERS AND POSTERS PRESENTED – STATE AND REGIONAL**

- 2004 Implementation and Analysis of a Comprehensive Fluvial Geomorphic Monitoring Methodology for Evaluating a Restored Stream Channel in Southcentral Pennsylvania. John W. Balay and Christopher J. Woltemade. Pennsylvania Geographical Society Annual Meeting, New Cumberland, Pennsylvania.
- 2000 Enhancing undergraduate education: The Burd Run Interdisciplinary Watershed Research Laboratory. Christopher J. Woltemade and William L. Blewett. Joint annual meeting of the Pennsylvania Geographical Society and Middle States Division, Association of American Geographers, Wilkes-Barre, Pennsylvania.

## PAPERS AND POSTERS PRESENTED – STATE AND REGIONAL (continued)

- 2000 Accuracy of NEXRAD precipitation estimates in a mountainous southcentral Pennsylvania watershed. Michael Hanawalt, Ryan Joswick, Sam Spencer, Ben Uhler, Christopher Woltemade, and Diane Stanitski-Martin. Joint annual meeting of the Pennsylvania Geographical Society and Middle States Division, Association of American Geographers, Wilkes-Barre, Pennsylvania.
- 1998 Drinking water consumption rates and associated dietary magnesium and calcium in Shippensburg, PA. Heather Stahlnecker, Mark Ferroni, Jack Ford, Christopher Woltemade, and Penelope Padgett. Pennsylvania Academy of Science Annual Meeting, Pittsburgh, Pennsylvania.
- 1997 Soil variability across a topographic gradient in colluvial soil of south-central Pennsylvania. Kevin Starner, Christopher J. Woltemade, and William L. Blewett. Pennsylvania Geographical Society Annual Meeting, York, Pennsylvania.
- 1996 Mississippi River aquatic ecology: past, present, and future. Pennsylvania Geographical Society Annual Meeting, Carlisle, Pennsylvania.

## UNIVERSITY AND PUBLIC LECTURES

- 2008 Development of an interdisciplinary watershed research laboratory at Shippensburg. Invited lecture, Annual Meeting of the Commonwealth of Pennsylvania University Biologists, Shippensburg, Pennsylvania.
- 2007 Alaskan glaciers and climate change. Department of Geography-Earth Science Seminar Series, Shippensburg University, Shippensburg, Pennsylvania.
- 2006 Hydrologic influences on nitrate-nitrogen removal in a restored wetland, Pennsylvania, USA. Invited lecture, Institute for Geography, Friedrich-Schiller University, Jena, Germany.
- 2003 Design, implementation, and monitoring of a comprehensive stream and wetland restoration project. Invited lecture, Gettysburg College Research Experience for Undergraduates Program, Gettysburg, Pennsylvania.
- Design, implementation, and monitoring of a comprehensive stream and wetland restoration project. Invited lecture, Lock Haven University Science Seminar Series, Lock Haven, Pennsylvania.

## UNIVERSITY AND PUBLIC LECTURES (continued)

- 2003            Status and future of the Burd Run stream and wetland restoration project. Invited lecture, Shippensburg Area High School.
- 2002            Geography and the interdisciplinary science of watershed management: Case studies from Nicaragua. Invited lecture, Ohio Wesleyan University Interdisciplinary Science Lecture Series, Delaware, Ohio.
- Hurricane Mitch in Nicaragua: Landscape impacts and human response. Department of Geography-Earth Science Winter Seminar Series, Shippensburg University, Shippensburg, Pennsylvania.
- 2002            Hurricane Mitch in Nicaragua: Watershed impacts and landscape stabilization efforts. Conodoguinet Creek Watershed Association, Carlisle, Pennsylvania.
- 1999            The Burd Run Interdisciplinary Watershed Research Laboratory: Opportunities to enhance environmental education. Science Seminar Series, Shippensburg University, Shippensburg, Pennsylvania.
- Wetland restoration for water quality improvement in agricultural watersheds. Science Seminar Series, Shippensburg University, Shippensburg, Pennsylvania.
- Glaciers of Mt. Rainier. Department of Geography-Earth Science Winter Seminar Series, Shippensburg University, Shippensburg, Pennsylvania.
- 1995            Flooding in the Upper Mississippi River Basin. Department of Geography-Earth Science Winter Seminar Series, Shippensburg University, Shippensburg, Pennsylvania.
- The Mississippi River: Life on the floodplain. Luther Ridge Retirement Community, Chambersburg, Pennsylvania.

## ADDITIONAL ATTENDANCE AT CONFERENCES, SEMINARS, ETC.

- 2008            Geographic Information Systems and Water Resources. Spring Specialty Conference of the American Water Resources Association. San Mateo, California.
- 2002            Binghamton International Geomorphology Symposium 2002: Dams and Geomorphology. Three-day conference and field trip, Bloomsburg, Pennsylvania.

## **ADDITIONAL ATTENDANCE AT CONFERENCES, SEMINARS, ETC. (continued)**

- 2002 Burd Run workshop for K-12 teachers. Co-directed (with Dr. Diane Stanitski-Martin) this one-day workshop held at Shippensburg University.
- 2001 Process based channel design - Innovative approaches for repairing disturbed stream and river environments. Short course, Inter-Fluve, Inc., Bozeman, Montana.
- 2000 Advanced ArcView GIS training. Three-day short course, Environmental Systems Research Institute, Inc., Vienna, Virginia.
- 1994 Landsat and Beyond. National seminar of the Earth Observation Satellite Company, Baltimore, Maryland.
- Restoration of aquatic ecosystems: Developing a national agenda. National symposium of the Association of State Floodplain Managers, St. Paul, Minnesota.
- 1992 Paleoflood hydrology of the southern Colorado Plateau. Workshop and field trip sponsored by University of Arizona Laboratory for Paleohydrological and Hydroclimatological Analysis, Flagstaff, Arizona.
- 1987 Catastrophic flooding. Eighteenth annual "Binghamton" geomorphology symposium, Miami University, Oxford, Ohio.

## **RESEARCH AND GRANTS**

- 2009 Impact of residential soil compaction on urban storm water runoff. Supported by a \$13,475 grant from the Shippensburg University Research and Scholarship Program.
- National Science Foundation "Chautauqua" Faculty Development Short Course: "Ecology and Geology of the Colorado Front Range." Supported by a \$1,672 grant from Shippensburg University Center for Faculty Excellence in Scholarship and Teaching.
- 2007 National Science Foundation "Chautauqua" Faculty Development Short Course: "Glaciers in Alaska." Supported by a \$1,848 grant from Shippensburg University Center for Faculty Excellence in Scholarship and Teaching.

## RESEARCH AND GRANTS (continued)

- 2007      Effects of impervious surfaces on maximum stormwater runoff temperatures: Modeling and field monitoring of the SU campus. Served as faculty advisor to graduate student Melissa Mimna, supported by \$450 grant from the Shippensburg University Graduate Research Program.
- Analysis of Nutrient Removal Capacity in a Re-constructed Riparian Buffer: Burd Run. Served as faculty advisor to graduate student William Reese, supported by \$500 grant from the Shippensburg University Graduate Research Program.
- Craig's Marsh: An Investigation into the Benefits of a Constructed Wetland. Served as faculty advisor to graduate student Elijah Yearick, supported by \$480 grant from the Shippensburg University Graduate Research Program.
- 2006      Hydrologic influences on nitrogen removal in wetlands. Supported by a \$12,075 grant from the Shippensburg University Research and Scholarship Program.
- 2005      The ability of wetlands to reduce nitrate concentrations in agricultural areas. Served as faculty advisor to graduate student Jinnieth Woodward, supported by \$659 grant from the Shippensburg University Graduate Research Program.
- National Science Foundation "Chautauqua" Faculty Development Short Course: "Volcanism and Volcanic Hazards in the Southern Cascades." Supported by a \$1,666 grant from Shippensburg University Center for Faculty Excellence in Scholarship and Teaching.
- 2003      Expert witness for hydrology and water quality regarding Water Quality Certification for the St. Johns Bayou and New Madrid Floodway Project in the case of Missouri Coalition for the Environment and Environmental Defense (appellants) vs. Missouri Department of Natural Resources (respondent), before the Missouri Clean Water Commission.
- 2003      Opportunities for constructed and restored wetlands to diminish nitrogen concentrations in the Conestoga River Watershed, Lancaster, Pennsylvania, with Angela Bard, Adam Dellinger and Amanda Krugh. Unpublished manuscript prepared for Environmental Defense, Washington, D.C., 45pp.

## RESEARCH AND GRANTS (continued)

- 2000-2003 Burd Run stream channel, riparian zone and wetlands restoration, co-PI with Brian Jaymes, Cumberland County Conservation District. Supported by a \$129,000 Environmental Stewardship and Watershed Protection grant from Pennsylvania Department of Environmental Protection Growing Greener Program.
- 2002 *Amicus curiae* (friend of the court) and contributing scientist in the Supreme Court of the United States, Borden Ranch Partnership, Angelo K. Psakopoulos, v. United States Army Corps of Engineers. This case examines the issue of whether grazed wetlands constitute “prior converted” agricultural lands and thus are not regulated as wetlands under the Clean Water Act.
- Impacts of Dams on Multi-Objective Water Resources Management. Served as faculty advisor to graduate students Michael Akoto, Michelle Clements, Wyatt Taylor, and Heather Urwiller, supported by \$420 grant from the Shippensburg University Graduate Research Program.
- Student Research on Dams and Geomorphology at 2002 Binghamton Symposium. Served as faculty advisor to undergraduate students Kate Christianson, Tom Glass, and Justin Hovetter, supported by \$715 grant from the Shippensburg University Undergraduate Research Program.
- Geomorphic assessment of San Antonio River, San Antonio, Texas. Collaborative research with Inter-Fluve, Inc. to support the San Antonio River Improvements Project, funded by City of San Antonio, Bexar County, and San Antonio River Authority.
- Ours v. Carroll, Berkeley County, West Virginia. Provided hydrologic analysis in this legal case that addresses the cause of flow cessation in Sylvan Run.
- 1999-2001 Burd Run Interdisciplinary Watershed Research Laboratory, co-PI with Dr. William L. Blewett, Shippensburg University. Supported by a \$168,357 grant from National Science Foundation (including matching funds from Shippensburg University and private industry).
- 2001 Assessment of Post-Hurricane Mitch Watershed Stabilization Projects, Nicaragua. Research supported by a two travel grants (\$8,338 total) from the United States Department of Agriculture / Foreign Agricultural Service and United States Agency for International Development.

## RESEARCH AND GRANTS (continued)

- 2001      Reconstruction of the physical and cultural landscape of Shippensburg, Pennsylvania at the time of European settlement, with Drs. Paul Marr and Kurtis Fuellhart and undergraduate student Jeff Cunningham. Supported by a \$462 grant from the Miklausen-Likar Science Research Fund, Shippensburg University.
- Process Based Stream Channel Design. One week training course, Inter-Fluve, Inc., Bozeman, Montana. Supported by a \$1,113 grant from Shippensburg University Professional Development Committee.
- 2000      Comparison of precipitation gauge data to NEXRAD precipitation estimates for the Burd Run watershed, with Dr. Diane Stanitski-Martin and undergraduate hydrology students. Supported by a \$258 grant from the Miklausen-Likar Science Research Fund, Shippensburg University.
- Amicus curiae* (friend of the court) and contributing scientist in the Supreme Court of the United States, Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers. This case examines the issue of whether the Clean Water Act and Commerce Clause permit regulation of discharges into “isolated” wetlands.
- Evaluation of Supplemental Water Quality Analysis, Draft Supplemental Environmental Impact Statement, New Madrid Floodway and St. Johns Bayou Flood Control Project, Lower Mississippi River. Unpublished manuscript prepared for Environmental Defense, Washington, D.C., 18pp.
- Introductory and advanced ArcView GIS training, supported by a \$1,267 technology training grant from Shippensburg University Professional Development Committee.
- 1999      Stream channel and floodplain restoration planning for Burd Run, Shippensburg, Pennsylvania, with graduate student John Herrmann. Supported by a \$5,080 grant from the Shippensburg University Professional Development Committee.
- 1999      Integrating problem-based learning and a course web page into Introduction to Geology. Supported by a \$3,352 grant from the Imperatives General-Education Revitalization Committee, Shippensburg University.
- Potential for constructed wetlands to improve water quality in drained agricultural watersheds. Unpublished manuscript prepared for Environmental Defense Fund, Washington, D.C., 49pp.

## RESEARCH AND GRANTS (continued)

- 1998      Assessment of landscape and land use influences on water quality in the Burd Run watershed, with graduate student Todd Grote. Supported by a \$2,948 grant from Shippensburg University Professional Development Committee.
- Ability of a remediated wetland to filter out/retain common pollutants found in an urban setting, with graduate student Jill Staudinger. Supported by a \$390 grant from the Miklausen-Likar Science Research Fund, Shippensburg University.
- 1997      Towards a self-sustaining river: A three-part strategy to restore the Upper Mississippi River, with Tim Searchinger (Environmental Defense). Unpublished manuscript prepared for Environmental Defense, Washington, D.C., 50pp.
- Drinking water consumption rates and associated dietary magnesium and calcium in Shippensburg, PA, with Drs. Jack Ford and Penelope Padgett and graduate students Heather Stahlnecker and Mark Ferroni. Supported by a \$5,277 grant from Shippensburg University Professional Development Committee.
- 1996      Water level management opportunities for the Upper Mississippi River: Hydrologic, ecologic, economic, and social concerns. Supported by a \$2,282 grant from Shippensburg University Professional Development Committee. Related research produced the unpublished manuscript, Water level management opportunities for ecological benefit, Pool 5 Upper Mississippi River, Environmental Defense Fund, Washington, D.C., 59pp.
- Developing a soils field site for undergraduate geoenvironmental majors, with Dr. William Blewett and undergraduate student Kevin Starner. Supported by a \$4,750 grant from Pennsylvania State System of Higher Education Faculty Professional Development Council.
- 1996      Historical and current land use effects on landscape and water quality in the 100 square mile watershed of Back Creek and Dennis Creek, Franklin County, Pennsylvania, with undergraduate student Barry Elliot. Supported by a \$300 grant from the Miklausen-Likar Science Research Fund, Shippensburg University.
- 1995      Water level management for ecological benefits on the Upper Mississippi River: Probabilities of requisite hydrologic conditions. Unpublished manuscript prepared for Environmental Defense Fund, Washington, D.C., 41pp.
- Computer equipment for teaching and research. Supported by a \$4,113 grant from the Shippensburg University Five-year Technology Plan.

## RESEARCH AND GRANTS (continued)

- 1994 Environmental restoration and flood flow reduction in the Upper Mississippi River Basin. Unpublished manuscript prepared for Environmental Defense Fund, Washington, D.C., 74pp.
- 1991-1993 Influence of channel, floodplain, and basin characteristics on flood magnitude and frequency, Grant River, Wisconsin. Doctoral dissertation, University of Wisconsin—Madison. Dissertation Committee: James C. Knox (chair), Thomas R. Vale, Dorothy Sack, Vance T. Holliday, Kenneth W. Potter.
- 1989 Integrating the groundwater component into the priority watershed program: A case study of the Rattlesnake Creek watershed. Unpublished manuscript prepared for Institute for Environmental Studies, University of Wisconsin—Madison, 91pp.
- 1988-1989 The National Environmental Policy Act, resource management, and human values: A case study of the Two Forks Dam, Denver, Colorado. MS thesis, University of Wisconsin—Madison.

## MANUSCRIPT, PROPOSAL, AND PROJECT REVIEWS

- 2006-2008 External reviewer for Gustavus Adolphus College, National Science Foundation project “Establishing a Research-based Interdisciplinary Watershed Program for an Environmental Studies Program” (NSF Award 0511486).
- 2000-2005 Participant of seven National Science Foundation Division of Undergraduate Education conferences to review grant proposals under the Course, Curriculum and Laboratory Improvement program, Washington, D.C. Served as panel chair twice.
- 1994-present Reviewed grant proposals for the National Science Foundation Geography and Regional Science Program and the National Research Foundation (South Africa); reviewed manuscripts for *Journal of Latin American Geography*, *Journal of the American Water Resources Association*, *Professional Geographer*, *Physical Geography*, *Journal of Geography*, *Journal of Geoscience Education*, *Wetlands*, *Geomorphology*, and *Proteus*; reviewed two books for *Annals*, *Association of American Geographers* and one book for *Journal of the American Water Resources Association*; and reviewed geology and water resources textbooks for Prentice Hall.

## UNIVERSITY AND COMMUNITY SERVICE

- 2009 Faculty Grant Writing Support Specialist, Shippensburg University.
- 2007 Member, Search Committee, Shippensburg University Provost and Vice President for Academic Affairs
- 2003-present Director, Shippensburg University Center for Faculty Excellence in Scholarship and Teaching – Grants Administration.
- 2002- present Member, Shippensburg Borough Authority (water system management).
- 2000-present Member, Pennsylvania State System of Higher Education Faculty Professional Development Council.
- 1996- 2007 Faculty advisor, Shippensburg University Cycling Club.
- 2002-2006 Representative, Shippensburg University Faculty-Management Committee.  
Faculty advisor, Shippensburg University Student Environmental Action Coalition.
- 1999-2006 Board of Directors and web page design and maintenance, Conodoguinet Creek Watershed Association.
- 2000-2003 Chair, Shippensburg University Professional Development Committee.
- 2000-2002 Director, Water Resources Specialty Group, Association of American Geographers.
- 1999-2001 Member, Shippensburg University Curriculum Committee.
- 2001 Director, Shippensburg University Science Seminar Series (spring semester).
- 1998-2000 Shippensburg University Professional Development Committee.
- 1998-2003 APSCUF Representative Council.
- 1996-2003 Chair, Department of Geography-Earth Science Curriculum Committee.
- 1995-2004 President, South Mountain Velo Club, Gettysburg, PA. Developed, organized, and promoted an annual bicycle race, raising over \$3,700 for local charities.
- 1998-1999 Director, Department of Geography-Earth Science winter seminar series.

## UNIVERSITY AND COMMUNITY SERVICE (continued)

- 1996-1998     Alternate, APSCUF Representative Council.
- 1994-1996     Department of Geography-Earth Science Curriculum Committee.
- 1995-1996     Co-director, Department of Geography-Earth Science winter seminar series.

## HONORS AND AWARDS

- 2002            Cumberland County (PA) Conservation District Watershed Protection Award.
- 2000            Who's Who Among America's Teachers.
- 1990            American Water Resources Association graduate student paper competition, second place, "Environmental impact mitigation under the Clean Water Act and the National Environmental Policy Act."
- 1987            Awarded a three year National Science Foundation Graduate Fellowship and a one year Wisconsin Alumni Research Foundation Fellowship.
- Inducted to Phi Beta Kappa Honor Society and Mortar Board Leadership Society.
- Student Research Award of the Ohio Wesleyan Club of Sigma Xi for "Pollen Stratigraphy of Smoot Lake, Licking County, Ohio."

## PROFESSIONAL AFFILIATIONS

- Association of American Geographers.
- American Water Resources Association.
- Geological Society of America.
- American Geophysical Union.
- Pennsylvania Geographical Society.
- Phi Beta Kappa.