

BIOGRAPHICAL SKETCH

PATRICK L. BREZONIK

TITLE AND ADDRESS

Professor Emeritus, Department of Civil Engineering, University of Minnesota, Minneapolis, MN 55455, (612) 625-5522, Fax: 626-7750; Email: brezonik@umn.edu

EDUCATION

B.S. (1963) Chemistry, Marquette University, Milwaukee, Wisconsin
M.S. (1965) Water Chemistry, University of Wisconsin, Madison, Wisconsin
Ph.D. (1968) Water Chemistry, University of Wisconsin, Madison, Wisconsin

EMPLOYMENT

2004-2007 Program Director, Environmental Engineering, National Science Foundation, Arlington, VA
1995-2003 Director of Graduate Studies, Water Resources Science Graduate Program, Univ. of Minnesota
1985-2003 Director, Water Resources Center, Univ. of Minnesota
1981-2010 Professor, Dept. of Civil Engineering, University of Minnesota
1971-1972 Guest Professor, EAWAG-ETH, Zurich, Switzerland
1966-1981 Asst., Assoc., Full Professor, Dept. of Environmental Engineering Sciences, Univ. of Florida.

PROFESSIONAL ORGANIZATIONS

American Chemical Society, American Society of Limnology and Oceanography; Association of Environmental Engineering Science Professors; International Humic Substances Society

HONORS and AWARDS

U.S. EPA, Career Appreciation Award, 2010; Warren Hall Medal, Universities Council on Water Resources, 2007; David Ford Medal, Minnesota Water Resources Conference, 2007; National Research Council: National Associate, 2006; Distinguished Service Award, Association of Environmental Engineering Professors, 2004; Fesler-Lambert Professor of Urban and Regional Affairs, University of Minnesota, 2003-4; Association of Environmental Engineering Science and Professors, Distinguished Service Award, 2003; U.S. Geological Survey, Service Award, 2003; Friend of UCOWR Award, 1996; NSF Science Faculty Fellow, 1971-1972.

PROFESSIONAL ACTIVITIES

Assoc. Environ. Eng. Sci. Professors (AEESP), Foundation, member, board of directors, 2009-
National Research Council: member, *Committee on Restoration of Aquatic Systems*, 1989-91; member, *Committee to Review EPA's Environmental Monitoring and Assessment Program*, 1991-95; member, *Water Science and Technology Board*, 1993-96; chair, *Committee on the Science of Inland Aquatic Ecosystems*, 1994-96; member, *Committee on Ecological Indicators*, 1996-9; *Committee on Restoration of the Greater Everglades Ecosystem* 1999-2004; *Committee on Restructured Upper Mississippi River-Illinois Waterway Feasibility Study*, 2002-4, chair, *Committee to Review the Cumulative Impact Assessment Study of the St. Johns River*, 2008-2011.
Water Environment Research Foundation: *Research Advisory Council*, 1992-97.
National Association of Water Institute Directors: Council of Representatives, 1986-1991; chair, 1988-1990.
Universities Council on Water Resources: Board of Directors, 1988-1995; president, 1991-92.

REPRESENTATIVE RESEARCH GRANTS

EPA-NSF Water and Watersheds Program. Integrating Modeling and Management in Agriculturally-Impacted Watersheds: Issues of Spatial and Temporal Scale, 1996-1999.

Twin Cities Metropolitan Council, Development of GIS and satellite imagery tools for regional water

quality assessment, 1998-2000, \$100K, PI with two co-investigators.

U.S. Geological Survey, WRRRI Regional grant program. Role of NOM and humic substance in the chemical binding and photochemical reactivity of mercury and methylmercury, 1998-2000, co-PI, \$55K.

NSF Coupled biogeochemical cycles in human ecosystems: stoichiometry, hydrology, connectiveness, and culture, initial PI (resigned from project in 2004 because of COI with NSF position), \$355K, 2003-4.

NSF Biocomplexity: Coupled nutrient, water and salt cycles in urban and agricultural ecosystems, 2001-3, \$99.5K

NSF AEESP symposium on Frontiers in Assessment Methods for the Environment, 2003-4, \$70.5K

NFS CLEANER Workshop 2, 2002-3, \$50K.

EXAMPLES OF RECENT PUBLICATIONS

(from total of ~160 journal articles, book chapters, and conference proceedings papers).

Brezonik, P. L. and W. A. Arnold. 2011. *Water chemistry: an introduction to the chemistry and natural and engineered aquatic systems*. Oxford University Press, New York, 762 p., (publ. date: March 2011).

Khwaja, A. R., P. R. Bloom and P. L. Brezonik. 2010. Binding strength of methylmercury to aquatic NOM. *Environ. Sci. Technol.* **44**: 6151-6156.

Dadaser-Celik, F., J. S. Coggins, P. L. Brezonik, and H. G. Stefan. 2009. The projected costs and benefits of water diversion to and from the Sultan Marshes (Turkey). *Ecol. Econ.* **68**: 1496-1506.

Olmanson, L. G., M. E. Bauer, and P. L. Brezonik. 2008. A 20-year Landsat record of water clarity in Minnesota's 10,000 lakes. *Remote sensing of Environment* **112**: 4086-97.

Dadaser-Celik, F., P. L. Brezonik, and H. G. Stefan. 2008. Agricultural and environmental changes after irrigation management transfer in the Develi Basin, Turkey. *Irrig. Drainage Syst.* **22**: 47-66.

Hines, N. A. and P. L. Brezonik. 2007. Input-output analysis of mercury forms for a small lake in northern Minnesota. *Biogeochem.* **84**: 265-84.

Pilgrim, K. R., B. Huser, and P. L. Brezonik. 2007. A method for comparative evaluation of whole-lake and inflow alum treatment. *Water Research* **41**: 1215-24.

Dadaser-Celik, F., H. G. Stefan, and P. L. Brezonik. 2006. Dynamic hydrologic model of the Örtülüakır marsh in Turkey. *Wetlands* **26**: 1089-1102.

Pilgrim, K. M., B. J. Huser, and P. L. Brezonik. 2007. A method for comparative evaluation of whole-lake and inflow alum treatment. *Water Research* **41**: 1215-24.

Hines, N. A. and P. L. Brezonik. 2007. Mercury inputs and outputs at a small lake in northern Minnesota. *Biogeochem.* **84**: 265-84.

Menken, K., P. L. Brezonik, and M. E. Bauer. 2006. Influence of chlorophyll and humic color on reflectance spectra of lakes: implications for measurement of lake-water properties by remote sensing. *Lake Reserv. Manage.* **22**: 179-190.

Khwaja, A. R., P. R. Bloom, and P. L. Brezonik. 2006. Binding constants of divalent mercury (Hg²⁺) in soil humic acids and soil organic matter. *Environ. Sci. Technol.* **40**: 844-49.

Rockne, K. J. and P. L. Brezonik. 2006. Nutrient removal in a cold-region wastewater stabilization pond: importance of ammonia volatilization. *J. Environ. Eng. (ASCE)* **132** (4): 451-459.

Fang, F., K. W. Easter, and P. L. Brezonik. 2005. Point-nonpoint source water quality trading: a case study in the Minnesota River basin. *J. Am. Wat. Resources Assoc.* **41**: 645-58.

Fang, F., P. L. Brezonik, D. J. Mulla, and L. K. Hatch. 2005. Characterization of soil algal bioavailable phosphorus in the Minnesota River Basin. *Soil Sci. Soc. Am. J.* **69**:1016-1025.

Brezonik, P.L. and T.H. Stadelmann. 2002. Analysis and predictive models of stormwater runoff volumes, loads, and pollutant concentrations from watersheds in the Twin Cities metropolitan area, Minnesota, USA. *Water Research* **36**: 1743-1757.

ADVISEES

Total of 65 M.S., 26 Ph.D. students and 6 postdoctoral associates at the Universities of Florida and Minnesota.