

Biographical Sketch for John S. Gierke, Ph.D., P.E.,

a. Professional Preparation

Michigan Technological University	Civil Engineering	BSCE 1984
Michigan Technological University	Civil Engineering	MSCE 1986
Michigan Technological University	Environmental Engineering	Ph.D. 1990

b. Appointments

Professor – August 2009 to Present

Interim Chair – August 2009 to August 2010

Associate Professor - August 1996 to July 2009

Assistant Professor - July 1990 through August 1996

Department of Geological and Mining Engineering and Sciences

Coordinator Strategic Faculty Hiring Initiative – October 2008 to May 2009

Office of the Provost and Academic Affairs

Michigan Technological University, Houghton, Michigan 49931-1295

Summer Research Faculty Visitor - June 1991 to August 1991

Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee 37831

c. Publications (*graduate student author)

(i) Five Relevant Publications

Bachmann LeFevre*, N-J., D.W. Watkins, J.S. Gierke, and J. Brophy-Price, "Hydrologic Performance Monitoring of an Underdrained Low-Impact-Development Stormwater Management System," *Journal of Irrigation and Drainage Engineering*, 136(5), 289-353, 2010.

Bruning*, J.N., J.S. Gierke, and A.L. Maclean, "An Approach to Lineament Analysis for Groundwater Exploration in Nicaragua," *Photogrammetric Engineering & Remote Sensing*, 77(5) 509-519, 2011.

Fuchs*, V.J., J.R. Mihelcic, and J.S. Gierke, "Life cycle assessment of vertical and horizontal flow constructed wetlands for wastewater treatment considering greenhouse gas emissions," *Water Research*, 45(5), 2073-2081, 2011

*Shonsey, C.W., and J.S. Gierke, "Quantifying Available Water Supply in Rural Mali Based on Data Collected by and from Women," *Journal of Cleaner Production*, in press, <http://dx.doi.org/10.1016/j.jclepro.2012.02.013>, available online 21 February 2012.

*Fuchs, V.J., J.S. Gierke, and J.R. Mihelcic, "Laboratory investigation of ammonium and nitrate removal in vertical flow regimes in planted and unplanted wetland columns," *Journal of Environmental Engineering*, accepted for publication, 16 May 2012.

(ii) Five Other Significant Publications

El-Beshry*, M.Z., J.S. Gierke, and P.B. Bedient, "Practical Modeling of Soil Vapor Extraction at a Jet-Fuel Spill Site," *Journal of Environmental Engineering*, 127(7), 630-638, 2001.

Gierke, J.S., C. Wang*, O.R. West, and R.L. Siegrist, "In Situ Mixed Region Vapor Stripping in Low-Permeability Media. 3. Modeling of Field Tests," *Environmental Science & Technology*, 29(9), 2208-2216, 1995.

Huntzinger*, D.N., J.S. Gierke, S.K. Kawatra, T.C. Eisele, and L.L. Sutter, "Carbon Dioxide Sequestration in Cement Kiln Dust through Mineral Carbonation," *Environmental Science & Technology*, 43(6), 1986-1992, 2009.

McCray, J. E., Tick, G. R., Jawitz, J. W., Gierke, J. S., Brusseau, M. L., Falta, R. W., Knox, R. C., Sabatini, D. A., Annable, M. D., Harwell, J. H. and Wood, A. L., "Remediation of NAPL Source Zones: Lessons Learned from Field Studies at Hill and Dover AFB," *Ground Water*, 49(5), 727-744, 2011.

Van Antwerp*, D.J., R.W. Falta, and J.S. Gierke, "Numerical Simulation of Field Scale Contaminant Mass Transfer During Air Sparging," *Vadose Zone Journal*, 7(1), 294-304, 2007.

d. Synergistic Activities

(1) Principal investigator for the Michigan Tech Remote Sensing for Hazard Mitigation and Resource Protection in Pacific Latin America Project, National Science Foundation Partnerships for International Research and Education, where research is conducted on developing, applying, and testing remote sensing in geologic hazards and water resources in Costa Rica, Ecuador, El Salvador, Guatemala, Nicaragua, and Panama; (2) Departmental coordinator of summer internship program for undergraduate students from the University of Puerto Rico—Mayaguez; (3) Director of the Peace Corps Masters International program in Natural Hazard Mitigation, (4) Committee Chair, ABET Coordinator, and Academic Advisor for the Geological Engineering Curriculum, (5) Active/steering committee member of Michigan Tech's Earth, Planetary, and Space Studies Institute, Sustainable Futures Institute, Center for Water and Society, and D80 Center

e. Collaborators and Other Affiliations

(i) *Collaborators and Co-Editors*: Cruz, José Fredy (Universidad de El Salvador-Facultad Multidisciplinaria Paracentral), Galárraga-Sánchez, Remigio (Escuela Politécnica Nacional, Ecuador), McCray, John M. (Colorado School of Mines), Sabatini, David A. (University of Oklahoma)

(ii) *Graduate Advisor*: Neil J. Hutzler, Michigan Technological University

(iii) *Thesis Advisor* for 28 M.S. and 3 Ph.D. graduates, co-advisor for 3 M.S. and 3 Ph.D. graduates; currently advising/co-advising 3 Ph.D. students and 12 M.S. students (*last five years denoted in bold, active students in italic*; ⁺Served/serving as co-advisor, ⁺⁺Served as co-advisor, student at different university): **Alonso, Carla A.** (Instructor, Park University), Anderson, Cecilia P. (Environmental Geologist, ERM-West), ⁺**Bachmann, Nancy-Jeanne** (Emmons & Olivier Resources, Inc), ⁺**Barton, Tyler** (Peace Corps, serving in El Salvador), **Benjakul, Rungroj** (Hydrogeologist, Ministry of Groundwater Protection, Thailand), ⁺**Bowman, Luke** (Michigan Tech), **Bruning, Jill N.** (at home mother), ⁺**Cabret, Eduardo** (Peace Corps, serving in The Gambia), Carpenter, Michael D. (Project Engineer, GEI Consulting), Castor, Meaghan G. (at home mother), ⁺**Cobin, Patricia** (Michigan Tech), **Drake, Briana** (Peace Corps, serving in Panama), Ebsch, Jeffery (Project Engineer, Coleman Engineering), ⁺⁺El-Beshry, Manar (Water Resources Engineer, Ministry of Water Resources and Irrigation, Egypt), **Fish, Randy E.** (Manager, Eco-Resort on St. John's of the Virgin Islands), **Fader, Caleb** (Project Engineer, CH2M Hill), **Fuchs, Valerie J.** (Water Resources Engineer, MWH Global), **Gochis, Emily** (Michigan Tech), **Paterson, Essa L. (Gross)** (Research Scientist, Michigan Tech), Gu, Yingxin (Research Scientist, McGill University), **Giryn, Paula** (Geologist, Cliffs-United Taconite), Harrison, Elizabeth (Research Scientist, Los Alamos National Laboratory), **Hegemann, Robert** (Water Quality Technician, U.S.G.S.), ⁺Hein, Gretchen L. (Lecturer, Michigan Tech), **Houston, Jacqueline** (Michigan Tech), Huntzinger, Deborah N. (Assistant Professor, Northern Arizona University), ⁺**Hutchins, Margot J.** (Post-doctoral Scientist, University of California - Berkeley), ⁺Keating, Gordon (Research Scientist, Los Alamos National Laboratory), **Jones, Erica**, (Peace Corps, serving in Panama) Kremer, Theodore J. (Project Engineer, Malcolm Pirnie, Inc.), **Kucharski, Matthew J.** (searching for employment), Mackenzie, Heidi L. (Grenkowitz) (Environmental Manager, Ford Motor Company), **Maggio, Jarod** (Michigan Tech), **Moilanen, Luke** (Peace Corps, serving in Namibia) Muraski, Jennifer L. (Montgomery Watson), **Myre, Elizabeth A.** (Project Engineer), ⁺Quinnan, Joseph (Project Manager, ARCADIS), ⁺Ritchie, Beatrice (unknown), **Ramos, Edrick** (Peace Corps, serving in Guatemala), **Rios Sanchez, Miriam** (Michigan Tech), Sanders, Deborah L. (Project Engineer, ERM-West), Sawall, R. Hardy (Project Engineer, Geotrans), Schmunk, Steven W. (Systems Administrator, Marquette Intermediate School District), Sherman, Heidi M. (at home mother, part-time consulting), **Shonsey, Cara W.** (Hydrogeological Engineer, EPMAPS (Ecuador)), ⁺**Smith, Daniel** (Michigan Tech), **Smith, Gwynneth** (Project Engineer, Golder Associates), Stright, Lisa E. (Assistant Professor, University of Utah), Taege, Deborah A. (Project Engineer, AMEC), **Tubman, Stephanie** (Michigan Tech), ⁺⁺VanAntwerp, Darby J. (RMT), **Van Sickle, Jordan** (Michigan Tech), **Vincent, Ashlee K.** (Doctoral Student, Univ. of Calif. At Davis), Wang, Congli (Consulting Engineer), ⁺Wojick, Christopher L. (Lecturer, Michigan Tech).