Thomas M. Gihring
curriculum vitae

Degrees

M.S., Geology, The University of Wisconsin - Madison (2001)
B.S., Geology, The University of Wisconsin - Madison (1998)

Research Positions

Graduate Research Assistant, The Florida State University (2004 - present)
Graduate Research Fellow, NOAA National Estuarine Research Reserve System (2005 - 2008)
Researcher, Pacific Northwest National Laboratory (2001 - 2004)
Graduate Research Assistant, The University of Wisconsin - Madison (1999 - 2001)
Senior Thesis Independent Research, The University of Wisconsin - Madison (1997 - 1998)

Teaching Experience

Guest lectures in *Elementary Oceanography* and *Current Issues in Environmental Science*. Florida State University (2007-2008).
Mentor, National Science Foundation Research Experiences for Undergraduates workshop: "Biogeochemical Educational Experiences - South Africa" (2004).
Co-advisor to a Senior Integrative Thesis student at Carleton College (2003 - 2004).
Mentor to high school and undergraduate students, Pac. Northwest Nat. Lab. (2002 - 2003).
Teaching Assistant, The University of Wisconsin - Madison (2000 - 2001).

Awards, Professional Membership, and Service

NOAA National Estuarine Research Reserve System Graduate Fellowship (2005 - 2008).
Ph.D. research featured in Council of Florida Graudate Deans newsletter (2008).
US-EU Task Force on Biotechnology Research, Transatlantic Fellowship (2007).
Florida State University 'Featured Student'- selected as 1 of 22 graduate students for website biographical profiles of top FSU students (2006).
Outstanding Performance Award, Pacific Northwest National Laboratory (2003).
Best Student Research Paper Award, Department of Geol & Geophys, UW – Madison (2000).
Wasatch-Uinta Field Camp Scholarship, Dept Geol & Geophys, UW – Madison (1998).
Peer reviewer for *Archaea*, *Environ Sci Technol*, *FEMS Microbiol Ecol*, *JGR-Biogeosciences*, *Mar Freshwater Res*, and *Microb Ecol*.
Member, American Society for Limnology and Oceanography, American Society for Microbiology, and Estuarine Research Federation.
US Patents Nos. 6764847 and 6589772.

Peer-reviewed Publications

Akob DM, Mills HJ, Gihring TM, Kerkhof L, Stucki JW, Anastacio AS, Chin K-J, Kuesel K, Palumbo AV, Watson DB, Kostka JE. (2008) Functional Diversity and Electron Donor Dependence of Microbial Populations Capable of U(VI) Reduction in Radionuclide-Contaminated Subsurface Sediments. *Appl. Environ. Microbiol.* 74:3159.
Gihring TM, Moser DP, Lin L-H, Davidson M, Onstott TC, Morgan L, Milleson M, Kieft TL, Trimarco E, Balkwill DL, Dollhopf ME. (2006) The distribution of microbial taxa in the subsurface water of the Kalahari Shield, South Africa. *Geomicrobiol. J.* 23:415.
Lin L-H, Gihring TM, Sherwood Lollar B, Boice E, Pratt LM, Lippmann-Pipke J, Bellamy RES, Hall JM, Onstott TC. (2006) Heterogeneous microbial communities associated with a 0.7 to 1.4 kmbls section of the continental crust, *Geomicrobiol. J.* 23:475.
Onstott TC, Lin L-H, Davidson M, Mislowack B, Borcsik M, Hall J, Slater G, Ward J, Sherwood Lollar B, Lippmann-Pipke J, Boice E, Pratt LM, Pfiffner S, Moser DP, Gihring TM, Kieft T, Phelps TJ, van Heerden E, Litthaur D, DeFlaun M, Rothmel R. (2006) The origin and age of biogeochemical trends in deep fracture water of the Witwatersrand Basin, South Africa. *Geomicrobiol. J.* 23:369.

Sherwood-Lollar B, Lacrampe-Couloume G, Slater GF, Ward J, Moser DP, Gihring TM, Lin L-H, Onstott TC. (2006) Unravelling abiogenic and biogenic sources of methane in the Earth's deep subsurface. *Chemical Geology*. 226:328.

Moser DP, Gihring TM, Brockman FJ, Fredrickson JK, Balkwill DL, Dollhopf ME, Sherwood Lollar B, Pratt LM, Boice E, Southam G, Wanger G, Welty AT, Baker BJ, Pfiffner SM, Onstott TC. (2005) *Desulfotomaculum* spp. and *Methanobacterium* spp. Dominate a 4-5 km Deep Fault. *Appl. Environ. Microbiol.*71:8773-8783.

Kieft T, McCuddy S, Onstott TC, Davidson M, Lin L-H, Mislowack B, Pratt L, Boice E, Lollar B, Lippmann-Pipke J, Pfiffner S, Phelps T, Gihring TM, Moser D, Heerden A. (2005) Geochemically Generated, Energy-Rich Substrates and Indigenous Microorganisms in Deep, Ancient Groundwater. *Geomicrobiol. J.* 22:325.

Lin L-H, Hall J, Lippmann-Pipke J, Ward JA, Sherwood Lollar B, DeFlaun M, Rothmel R, Moser D, Gihring TM, Mislowack B, Onstott TC. (2005). Radiolytic H_2 in continental crust: Nuclear power for deep subsurface microbial communities. *Geochem. Geophys. Geosyst.*, 6, Q07003.

Druschel GK, Baker BJ, Gihring TM, Banfield JF. (2004) Acid mine drainage biogeochemistry at Iron Mountain, California. *Geochem. Trans.* 5:13.

Gihring TM, Bond PL, Peters SC, Banfield JF. (2003) Arsenic resistance in the archaeon "*Ferroplasma acidarmanus*": new insights into the structure and evolution of the *ars* genes. *Extremophiles*, 7:123.

Gihring TM and Banfield JF. (2001) Arsenite oxidation and arsenate respiration by a new *Thermus* isolate. *FEMS Microbiology Letters*, 204:335.

Gihring TM, Druschel GK, McKlesky RB, Hamers RJ, Banfield JF. (2001) Rapid arsenite oxidation by *Thermus aquaticus* and *Thermus thermophilus*: field and laboratory investigations. *Environ. Sci. Technol.*, 35:3857.

Edwards KJ, Bond PL, Gihring TM, Banfield JF. (2000) An archaeal iron-oxidizing extreme acidophile important in acid mine drainage. *Science*, 287:1796.

Edwards KJ, Gihring TM, Banfield JF. (1999) Interdependence of microbial populations and environmental conditions at an extreme acid mine drainage environment. *Appl. Environ. Microbiol.*, 65:3627.

Edwards KJ, Goebel BM, Rodgers TR, Schrenk MO, Gihring TM, Cardona MC, Hu B, McGuire MM, Hamers RJ, Pace NR, Banfield JF. (1999) Geomicrobiology of pyrite (FeS_2) dissolution: A case study at Iron Mountain, California. *Geomicrobiol. J.*, 16:155.

Conference Presentations

ASLO/AGU Ocean Sciences Meeting, Orlando, FL. (2008) "Quantification of Nitrogen Removal and Temperature Regulation of Microbial Communities that Mediate Denitrification and Anammox in Permeable Marine Sediments". Oral.

Estuarine Research Federation, 19th Biennial Conference, Providence, RI. (2007) "Microbial Populations Mediating Phytodetritus Degradation and Denitrification in Shallow Marine Permeable Sediments". Oral.

Gordon Research Conference on Permeable Sediments, Colby College, ME. (2006) "Direct rate measurements of inorganic nitrogen flux at the sediment-water interface in shallow marine permeable sediments". Poster.

American Society for Microbiology General Meeting, Atlanta, GA. (2005) "The Isolation and Characterization of Novel, Metal-Reducing Microorganisms From Uranium- and Nitrate-Contaminated Subsurface Sediments". Poster.

Florida-Georgia Alliance for Minority Participation Project, Symposium on Diversity in the Earth, Ocean, and Atmospheric Sciences. Florida State University. (2004) "Subsurface Microbiology and Biogeochemistry". Oral.

American Society for Microbiology General Meeting, New Orleans, LA. (2004) *Invited.* Oral.

Thermal Biology Institute, Montana State University. (2004) *Invited*. Oral.

American Society for Microbiology General Meeting, Washington D.C. (2003) “Isolation of a Deeply-Branching Iron-Reducing Bacterium from Ancient Deep-Subsurface Fluids”. Poster.

American Geophysical Union Fall Meeting, San Francisco, CA. (2002) “Subsurface Microbial Communities and Geochemistry Within a Vertical Transect of a Uranium-Contaminated Aquifer”. Poster.

American Geophysical Union Fall Meeting, San Francisco, CA. (2001) “Genomic Analysis of the Archeaon *Ferroplasma acidarmanus*: New Insights into the Evolution of Arsenic Resistance”. Oral.

American Geophysical Union Fall Meeting, San Francisco, CA. (2000) “Rapid Arsenite Oxidation by *Thermus aquaticus*”. Oral.

Geological Society of America Annual Meeting, Denver, CO. (1999) “Microbial Interactions with Arsenopyrite During Oxidative Dissolution”. Oral.

V.M. Goldschmidt Conference, Cambridge, MA.” (1999) “Hyperthermophilic Microorganisms in Arsenic-rich Hot Springs”. Poster.

Geological Society of America Annual Meeting, Toronto, Ontario. (1998) “Microbial Populations and Geochemical Conditions at an Extreme Acid Mine Drainage Environment”. Oral.