

Recent Publications (2008-Present)

Carver, S.M., P. Vuoriranta, and O.H. Tuovinen. 2011. A thermophilic microbial fuel cell design. *Journal of Power Sources*, in press.

Bhatti, T.M., J.M. Bigham, A. Vuorinen, and O.H. Tuovinen. 2011. Weathering of biotite in *Acidithiobacillus ferrooxidans* cultures. *Geomicrobiology Journal*, in press.

Bhatti, T.M., J.M. Bigham, A. Vuorinen, and O.H. Tuovinen. 2011. Weathering of phlogopite in simulated bioleaching solutions. *International Journal of Mineral Processing* 98:30-34.

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Bevilaqua, D., O. Garcia Jr., and O.H. Tuovinen. 2010. Oxidative dissolution of bornite by *Acidithiobacillus ferrooxidans*. *Process Biochemistry* 45:101-106.

Bhatti, T.M., J.M. Bigham, M. Riekkola-Vanhanen, and O.H. Tuovinen. 2010. Altered mineralogy associated with stirred tank bioreactor leaching of a black schist ore. *Hydrometallurgy* 100:181-184.

Bigham, J.M., F.S. Jones, B. Özkaya, E. Sahinkaya, J.A. Puhakka, and O.H. Tuovinen. 2010. Characterization of jarosites produced by chemical synthesis over a temperature gradient from 2 to 40 °C. *International Journal of Mineral Processing* 94:121-128.

Carver, S.M., R. Lepistö, and O.H. Tuovinen. 2010. Hydrolysis and metabolism of cellulose by an anaerobic, thermophilic consortium. In: *Proceedings of the Third Conference on Energy from Biomass and Waste*. International Waste Working Group, CISA – Environmental Sanitary Engineering Centre, Padova, Italy, Paper 436, 9 p.

Gaur, R.S., L. Cai, O.H. Tuovinen, and K.M. Mancl. 2010. Pretreatment of turkey fat-containing wastewater in coarse sand and gravel/coarse sand bioreactors. *Bioresource Technology* 101:1106-1110.

Gramp, J.P., J.M. Bigham, and O.H. Tuovinen. 2010. Formation of Fe-sulfides in cultures of sulfate-reducing bacteria. *Journal of Hazardous Materials* 175:1062-1067.

Kupka, D., M. Liljeqvist, P. Nurmi, J.A. Puhakka, O.H. Tuovinen, and M. Dopson. 2010. Oxidation of elemental sulfur, tetrathionate and ferrous iron by the psychrotolerant *Acidithiobacillus* strain SS3. *Research in Microbiology* 160:767-774.

Lakaniemi, A.-M., O.H. Tuovinen, and J.A. Puhakka. 2010. Biological production of H₂, CH₄ and electricity from microalgal biomass. In: *Proceedings of the 12th World Congress of Anaerobic Digestion*. International Water Association, Guadalajara, Mexico, Paper 5236, 4 p.

Nurmi, P., B. Özkaya, K. Sasaki, A.H. Kaksonen, M.L. Riekkola-Vanhanen, O.H. Tuovinen, and J.A. Puhakka. 2010. Biooxidation and precipitation for iron and sulfate removal from heap bioleaching effluent streams. *Hydrometallurgy* 101:7-14.

Nurmi, P., B. Özkaya, A.H. Kaksonen, O.H. Tuovinen, and J.A. Puhakka. 2010. Predictive modelling of Fe(III) precipitation in iron removal process for bioleaching circuits. *Bioprocess and Biosystems Engineering* 33:449-456.

Rismani-Yazdi, H., A.D. Christy, S.M. Carver, Z. Yu, D.A. Dehority, and O.H. Tuovinen. 2011. Effect of external resistance on bacterial diversity and metabolism in microbial fuel cells. *Bioresource Technology* 102:278-283.

Sasaki, K., K. Takatsugi, K. Kaneko, N. Kozai, T. Ohnuki, O.H. Tuovinen, and T. Hirajima. 2010. Characterization of secondary arsenic-bearing precipitates formed in the bioleaching of enargite by *Acidithiobacillus ferrooxidans*. *Hydrometallurgy* 104:124-131.

Tao, J., K.M. Mancl, and O.H. Tuovinen. 2010. Attenuation of organic matter, suspended solids, ammonium and phosphate in sanitary sewer overflow: Comparative evaluation of treatment with fixed media bioreactors. *Bioresource Technology* 101:1781-1786.

Vestola, E.A., M.K. Kuusenaho, H.M. Närhi, O.H. Tuovinen, J.A. Puhakka, J.J. Plumb, and A.H. Kaksonen. 2010. Acid bioleaching of solid waste materials from copper, steel and recycling industries. *Hydrometallurgy* 103:74-79.

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Ghosh, D., K. Roy, V. Srinivasan, T. Mueller, O.H. Tuovinen, K. Sublette, A. Peacock, and M. Radosevich. 2009. *In-situ* enrichment and analysis of atrazine-degrading microbial communities using atrazine-containing porous beads. *Soil Biology and Biochemistry* 41:1331-1334.

Gramp, J.P., H. Wang, J.M. Bigham, F.S. Jones, and O.H. Tuovinen. 2009. Biosynthesis and reduction of Fe(III)-hydroxysulfates. *Geomicrobiology Journal* 26:275-280.

Kolehmainen, R.E., J.P. Korpela, U. Münster, J.A. Puhakka, and O.H. Tuovinen. 2009. Extracellular enzyme activities and nutrient availability during artificial groundwater recharge. *Water Research* 43:405-416.

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Sasaki, K., Y. Nakamuta, T. Hirajima, and O.H. Tuovinen. 2009. Raman characterization of secondary minerals formed during the leaching of chalcopyrite with *Acidithiobacillus ferrooxidans*. *Hydrometallurgy* 95:153-158.

Tao, J., K.M. Mancl, and O.H. Tuovinen. 2009. Treatment of sanitary sewer overflow (SSO) with fixed media bioreactors. *Applied Engineering in Agriculture* 25:39-43.

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Gramp, J.P., F.S. Jones, J.M. Bigham, and O.H. Tuovinen. 2008. Monovalent cation concentrations determine the types of Fe(III) hydroxysulfate precipitates formed in bioleach solutions. *Hydrometallurgy* 94:29-33.

Hita, R., H. Wang, J.M. Bigham, J. Torrent, and O.H. Tuovinen. 2008. Bioleaching of a pyritic sludge from the Aznalcóllar (Spain) mine spillage at ambient and elevated temperatures. *Hydrometallurgy* 93:76-79.

Hurdzan, C.M., N.T. Basta, P.G. Hatcher, and O.H. Tuovinen. 2008. Phenanthrene release from natural organic matter surrogates under simulated human gastrointestinal conditions. *Ecotoxicology and Environmental Safety* 69:525-530.

Kaksonen, A.H., M. Dopson, O.V. Karnachuk, O.H. Tuovinen, and J.A. Puhakka. 2008. Biological iron oxidation and sulfate reduction in the treatment of acid mine drainage at low temperatures. In: *Psychrophiles: from Biodiversity to Biotechnology* (R. Margesin, F. Schinner, J.-C. Marx, and C. Gerday, Eds.), p. 429-454. Springer Verlag, Berlin.

Karnachuk, O.V., K. Sasaki, A.L. Gerasimchuk, O. Sukhanova, D.A. Ivasenko, A.H. Kaksonen, J.A. Puhakka, and O.H. Tuovinen. 2008. Precipitation of Cu-sulfides by copper-tolerant *Desulfovibrio* isolates. *Geomicrobiology Journal* 25:219-227.

Nicomrat, D., W.A. Dick, M. Dopson, and O.H. Tuovinen. 2008. Bacterial phylogenetic diversity in a constructed wetland system treating acid coal mine drainage. *Soil Biology and Biochemistry* 40:312-321.

Rismani-Yazdi, H., S.M. Carver, A.D. Christy, and O.H. Tuovinen. 2008. Cathodic limitations in microbial fuel cells: an overview. *Journal of Power Sources* 180:683-694.