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EDUCATION AND TRAINING

1993 Postdoctoral Research Associate, Battelle Pacific Northwest Laboratory
1990 National Research Council Postdoctoral Research Associate, U.S. Geol. Survey
1990 Ph.D. , Marine-Estuarine Environmental Science, University of Maryland, 1990
1979 B.S., Biology, Lebanon Valley College

RESEARCH AND PROFESSIONAL EXPERIENCE

1993-1998, **Assistant Professor of Biological Sciences**, The University of Alabama, Tuscaloosa, AL *Terminal electron accepting processes in wetland sediments. Microbial and geochemical controls on dissimilatory iron oxide reduction. Bacterial diversity and selection in wetland biofilms.*

1998-2004, **Associate Professor of Biological Sciences**, The University of Alabama, Tuscaloosa, AL *Competitive interactions between microbial iron oxide reduction and methanogenesis in sediments. Partitioning of metal cations during microbial iron oxide reduction. Biotic and abiotic pathways for uranium reduction in sediments.*

2004-2005, **Professor of Biological Sciences**, The University of Alabama, Tuscaloosa, AL *Iron isotope fractionation during dissimilatory iron oxide reduction. Chemolithotrophic oxidation of ferrous iron. Microbial mercury methylation in aquatic sediments.*

2005-Present, **Professor of Geoscience**, University of Wisconsin, Madison, WI *Microbially-catalyzed iron-nitrogen redox interactions. Biogeochemical reaction modeling. Abiotic mechanisms of redox-driven iron isotope fractionation. Chemolithotrophic alteration of iron-silicate minerals. Application of genetic and genomic tools for analysis of microbial communities in sediments and mixed cultures. Phyllosilicate-iron redox metabolism in subsurface sediments.*

SELECTED PUBLICATIONS *(h-index of 42 from 125 publications)*

Percak-Dennett, E. M., and E. E. Roden. 2014. Geochemical and microbiological responses to oxidant introduction in reduced subsurface sediment from the Hanford 300 Area, WA. Environ. Sci. Technol. 48:9197-9204.

Benzine, J., E Shelobolina, M.Y. Xiong, D.W. Kennedy, J.P. McKinley, X. Lin, and E.E. Roden. 2013. Fe-phyllosilicate redox cycling organisms from a redox transition zone in Hanford 300 Area sediments. Front. Microbiol. 4:388.

Converse, B. J., T. Wu, R. H. Findlay, and E. E. Roden. 2013. U(VI) Reduction in sulfate-reducing subsurface sediments amended with ethanol or acetate. *Appl. Environ. Microbiol.* 79:4173-4177.

Roden, E.E. 2012. Microbial iron-redox cycling in subsurface environments. Biochem. Trans. 40:1249-1256.

Roden, E.E., J.M. McBeth, M. Blothe, E.M. Percak-Dennett, E.J. Fleming, R.R. Holyoke, G.W. Luther III, and D. Emerson. 2012. The microbial ferrous wheel in a neutral pH groundwater seep. Front. Microbiol. 3:172. (15, 25, 30).

Shelobolina E., H. Konishi, H. Xu, J. Benzine, M.Y. Xiong, T. Wu, M. Blothe, and E. Roden. 2012. Isolation of phyllosilicate-iron redox cycling microorganismsfrom an illite-smectite rich hydromorphic soil. Front.Microbiol. 3:134.

Shelobolina, E, H. Xu, H. Konishi, R. Kukkadapu, T. Wu, M. Blöthe, and E.E. Roden. 2012. Microbial lithotrophic oxidation of structural Fe(II) in biotite. Appl. Environ. Microbiol. 78:5746–5752.

Craig, L, J.M. Bahr, and E.E. Roden. 2010. Localized zones of denitrification in a floodplain aquifer in southern Wisconsin, USA. *Hydrogeol. J.* 18: 1867–1879.

Wu, T., E. Shelobolina, H. Xu, H. Konishi, R. Kukkadapu, and E.E. Roden. 2012. Isolation and microbial reduction of Fe(III) phyllosilicates from subsurface sediments. Environ. Sci. Technol. 46:11618−11626.

Roden, E., A. Kappler, I. Bauer, J. Jiang, A. Paul, R. Stoesser et al. 2010. Extracellular electron transfer through microbial reduction of solid-phase humic substances. *Nat. Geosci.* 3:417-421.

Mohanty, S., B. Kollah, D. Hedrick, A. Peacock, R. K. Kukkadapu, and E. E. Roden. 2008. Biogeochemical processes in ethanol stimulated uranium-contaminated subsurface sediments. *Environ. Sci. Technol.* 42:4384-4390.

Scheibe, T.D., Fang, Y., Murray, C.J., Roden, E.E., Chen, J., Chien, Y.J, Brooks, S.C., Hubbard, S.S. 2006. Transport and biogeochemical reaction of metals in a physically and chemically heterogeneous aquifer. *Geosphere.* 2:220-235.

SYNERGISTIC ACTIVITIES

- Member of the editorial panels of Geomicrobiology Journal and Geobiology, 2007-present
- Member of EMSL Geochemistry/Biogeochemistry and Subsurface Science–Science Theme Advisory Panel, 2009-2011
- Co-chaired symposia on microbial phyllosilicate redox transformations at 2009 American Chemical Society and 2010 Goldschmidt Geochemistry conferences
- Served on ERSP (SBR) Transuranic Science Focus Area review panel, April 2009
- Served on Early Career Research in Subsurface Environmental Systems Sciences Program review panel, December 2009/2010/2011
- Invited participant in BER Workshop on Subsurface Complex System Science, August 2009
- Co-authored concept paper, with Qusheng Jin, to NSF-sponsored workshop on Futures in Geobiology and Low-temperature Geochemistry Workshop, August 2010