DENISE M. AKOB

U.S. Geological Survey
National Research Program (Water)
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EDUCATION

Ph.D. Department of Oceanography, 2008
Florida State University, Tallahassee, Florida.
Advisor: Dr. Joel E. Kostka. 2008

B.A. Biology, St. Mary's College of Maryland, 2002

PROFESSIONAL EXPERIENCE

Research Microbiologist, U.S. Geological Survey, National Research Program (Water), Microbiology and Molecular Ecology Laboratory. 2012-current.

Postdoctoral Research Fellow, Friedrich-Schiller University Jena, Institute of Ecology, Aquatic Geomicrobiology. 2010-2012

Marie Curie Postdoctoral Research Fellow, Friedrich-Schiller University Jena, Institute of Ecology, Aquatic Geomicrobiology. 2008-2010

Research Assistantship, Florida State University. Department of Energy Environmental Remediation Sciences Program. 2004-2008

Guest Scientist, Friedrich-Schiller University Jena. Graduate School for Alteration and Element Mobility at the Microbe-Mineral Interface. 2007

Teaching Assistantship, Florida State University (Biological Science I Laboratory and Animal Diversity Laboratory). 2002-2004

NSF-REU Internship, Carnegie Institution of Washington Geophysical Laboratory with Dr. Marilyn L. Fogel, Dr. Matthew Wooller and Dr. Ilka C. Feller. 2002

Teaching Assistant, St. Mary's College of Maryland (Principles of Biology I and Tropical Marine Biology). 1999-2002

Lab Maintenance Assistant, St. Mary's College of Maryland Coral Reef Wet Lab. 2000-2001

Lab Assistant, Maryland Dept. of Natural Resources, Piney Point Aquaculture Center. 2001

Field Assistant, St. Mary's River Project, St. Mary's College of Maryland. 2000-2001

NSF-REU Internship, University of Delaware College of Marine Studies with Dr. Ilka C. Feller and Dr. S. Craig Cary. 2001

NSF-REU Internship Smithsonian Environmental Research Center with Dr. Ilka C. Feller. 2000

RESEARCH INTERESTS

Microbial Ecology ◆ Environmental Microbiology ◆ Bioremediation ◆ Biogeochemistry ◆ Bioenergy

PUBLICATIONS

1. Keiner, R., A. Rusznyak, **D. M. Akob**, S. Hanf, K. Küsel, J. Popp, and T. Frosch. 2013. Raman spectroscopy – an innovative and versatile tool to follow the respirational activity and carbonate biomineralization of important cave bacteria. Analytical Chemistry, accepted 8/12/2013 (ac-2013-01699d.R1).
2. Risse-Buhl, U., M. Herrmann, **D. M. Akob**, P. Geesink, N. Pizani, W. Schönborn, K.-U. Totsche and K. Küsel. 2012 Phagotrophic protist diversity in the groundwater of a karstic aquifer - morphological and molecular analysis. Journal of Eukaryotic Microbiology, published online ahead of print June 27, 2013, doi: 10.1111/jeu.12054.
3. Gray, S. M., **D. M. Akob**, S. J. Green, and J. E. Kostka. 2012. The predictability of bacterial composition within the *Sarracenia purpurea* model system: local scale differences and relationships with the other members of the food web. PLoS One 7(12): e50969.
4. **Akob, D. M.*,** S. H. Lee*, M. Sheth, K. Küsel, D. B. Watson, A. V. Palumbo, J. E. Kostka, and K.-J.Chin. 2012. Gene expression correlates with process rates quantified for sulfate- and Fe(III)-reducing bacteria in U(VI)-contaminated sediments. Frontiers in Terrestrial Microbiology 3:280. *Equal contribution
5. Rusznyák, A., **D. M. Akob**, S. Nietzsche, K. Eusterhues, K. U. Totsche, T. R. Neu, T. Frosch, J. Popp, R. Keiner, J. Geletneky, L. Katzschmann, E.-D. Schulze, and K. Küsel. 2012. Calcite biomineralization by bacterial isolates from the recently discovered pristine karstic Herrenberg Cave. Applied and Environmental Microbiology 78(4): 1157–1167.
6. **Akob, D. M.** and K. Küsel. 2011. Where microorganisms meet rocks in the Earth's Critical Zone. Biogeosciences 8: 3531-3543.
7. **Akob, D. M.,** L. Kerkhof, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2011. Linking specific heterotrophic bacterial populations to bioreduction of uranium and nitrate using stable isotope probing in contaminated subsurface sediments. Applied and Environmental Microbiology 77(22): 8197–8200.
8. Burkhardt, E.-M., S. Bischoff, **D. M. Akob**, G. Büchel, and K. Küsel. 2011. Heavy metal tolerance of Fe(III)-reducing microbial communities in a contaminated creek bank soil. Applied and Environmental Microbiology 77(9): 3132-3136.
9. Lu, S., S. Gischkat, M. Reiche, **D. M. Akob,** K. B. Hallberg, and K. Küsel. 2010. Ecophysiology of Fe-cycling Bacteria in Acidic Sediments. Applied and Environmental Microbiology 76 (24): 8174-8183.
10. Vishnivetskaya, T. A., C. C. Brandt, A. S. Madden, M. S. Drake, J. E. Kostka, **D. M. Akob**, K. Küsel, and A. V. Palumbo. 2010. Microbial Community Changes in Response to Ethanol or Methanol Amendments for U(VI) Reduction. Applied and Environmental Microbiology 76(17): 5728-5735.
11. Sitte, J., **D. M. Akob**, C. Kaufmann, K. Finster, D. Banerjee, E.-M. Burkhardt, J. E. Kostka, A. Scheinost, G. Büchel and K. Küsel. 2010. Microbial Links between Sulfate Reduction and Metal Retention in Uranium and Heavy Metal-contaminated Soil. Applied and Environmental Microbiology 76(10): 3143–3152.

12. Green, S. J., O. Prakash, T. M. Gihring, **D. M. Akob**, P. Jasrotia, P. M. Jardine, D. B. Watson, S. D. Brown, A. V. Palumbo and J. E. Kostka. 2010. Denitrifying bacteria from the terrestrial subsurface exposed to mixed waste contamination. Applied and Environmental Microbiology 76(10): 3244–3254.
13. Burkhardt, E.-M., **D. M. Akob**, S. Bischoff, J. Sitte, J. E. Kostka, D. Banerjee, A. C. Scheinost, K. Küsel. 2010. Impact of Biostimulated Redox Processes on Metal Dynamics in an Iron-rich Creek Soil of a former Uranium Mining Area. Environmental Science & Technology 44(1): 177-183.
14. Prakash, O., T. M. Gihring, D. D. Dalton, K.-J. Chin, S. J. Green, **D. M. Akob**, G. Wanger, and J. E. Kostka. 2010. *Geobacter daltonii* sp. nov., an iron(III)- and uranium(VI)-reducing bacterium isolated from the shallow subsurface exposed to mixed heavy metal and hydrocarbon contamination. International Journal of Systematic and Evolutionary Microbiology 60(3): 546-553.
15. **Akob, D.M.** 2008. Structure and Function of Microbial Communities Controlling the Fate and Transformation of U(VI) in Radionuclide Contaminated Subsurface Sediments. Dissertation, Florida State University, etd-08242008-163320.
16. **Akob, D. M.**, H. J. Mills, T. M Gihring, L. Kerkhof, J. W. Stucki, A. S. Anastacío, K.-J.Chin, K. Kusel, A. V. Palumbo, D. B. Watson, and J. E. Kostka. 2008. Functional Diversity and Electron Donor Dependence of Microbial Populations Capable of U(VI) Reduction in Radionuclide-Contaminated Subsurface Sediments. Applied and Environmental Microbiology 74(10): 3159-3170.
17. Blöthe, M., **D. M. Akob**, K. Walter, J.E. Kostka, H. L. Drake, and K. Küsel. 2008. Heterogeneity of Fe(III)-reducing microorganisms in coal-mining lake sediments caused by a pH gradient. Applied and Environmental Microbiology 74(4): 1019–1029.
18. **Akob, D. M**., H. J. Mills, & J. E. Kostka. 2007. Metabolically active microbial communities in uranium-contaminated subsurface sediments. FEMS Microbiology Ecology 59:95-107.
19. Diaz, M. C., **D. Akob**, & C. S. Cary. 2004. Denaturing gradient gel electrophoresis of nitrifying microbes associated with tropical sponges. Proceedings of the 6th International Sponge Conference, Rapallo, Italy, 2002. Bollettino dei Musei e degli Istituti biologici dell'Università di Genova 68: 279–289.

MANUSCRIPTS IN PREPARATION

Fabisch, M., F. Beulig, **D. M. Akob**, G. Freyer and K. Küsel. 2012. Linking microbial populations to iron cycling and metal attenuation in heavy metal contaminated creek sediments. In prep.

Akob, D. M., T. Bo Hu, A. Beyer, F. Schäffner, M. Händel, D. Merten, G. Büchel, K.-U. Totsche, and K. Küsel. Identification of Mn(II)-oxidizing bacteria from a low pH contaminated former uranium mine. In prep.

Beulig, F., V. B. Heuer, **D. M. Akob**, B. Viehweger, M. Elvert, M. Herrmann, K.-U. Hinrichs, and K. Küsel. 2013. Carbon flow from volcanic CO2 into soil microbial communities of a wetland mofette. In prep.

RESEARCH GRANTS

Joint Genome Institute Community Sequencing Program. Title: Heavy Metal Immobilization at Moderately Acidic pH by New Fe(II)- and Mn(II)-Oxidizing Bacteria. 2011

European Science Foundation: The Functionality of Iron Minerals in Environmental Processes (FIMIN) Short Visit Grant. Title: Fe(III)-complexes and the iron cycle in slightly acidic environments. 2010

Sigma Xi Grants-in-Aid of Research. Subject: Ecology. Title: The role of epibiont sponges and their microbial symbionts in the nutrient limited *Rhizophora mangle* stands. Institution: St. Mary's College of Maryland. 2001

Caribbean Coral Reef Ecosystem Grant. National Museum of Natural History, Smithsonian Institution. Title: The role of epibiont sponges and their microbial symbionts in the nutrient limited *Rhizophora mangle* stands. 2001

PROFESSIONAL SOCIETIES

American Society for Microbiology (ASM), USA ◆ German Association for General and Applied Microbiology (VAAM), Germany ◆ European Geosciences Union (EGU) ◆ Geological Society of Washington

PROFESSIONAL ACTIVITIES

- Affiliated Professor, Environmental Science and Policy Department at George Mason University, 2013-current.
- Manuscript Reviewer (2009-present) for: Applied and Environmental Microbiology ◆ Environmental, Science, and Technology ◆ Biogeosciences ◆ FEMS Microbiology Ecology ◆ Geomicrobiology Journal

PROFESSIONAL AWARDS AND HONORS

USGS STAR Employee Award (NRP)	2013
Student Travel Fellowship, 3rd Annual ERSP Spring PI Meeting, Lansdowne, VA	2008
Student Travel Fellowship, 2nd Annual ERSP Spring PI Meeting, Lansdowne, VA	2007
Student Travel Fellowship, ERSP Fall PI Meeting, Oak Ridge, TN	2006
Student Travel Fellowship, 1st Annual ERSP Spring PI Meeting, Warrenton, VA	2005
Student Travel Fellowship, NABIR PI Meeting, Warrenton, VA	2005
First Place Award, Poster Presentation, Marine Benthic Ecology Meeting	2003
Dean's List Spring Semester, St. Mary's College of Maryland	2002
Academic Excellence, Multicultural Affairs, St. Mary's College of Maryland	2002
First Place Award, Poster Presentation, AGU Ocean Sciences Meeting	2002
Rho Gamma Chapter Beta Beta Beta, National Biological Honors Society	2001

MEETING ABSTRACTS

Küsel, K., M. Herrmann, A. Rusznyak, **D. Akob**, U. Risse-Buhl, S. Opitz, & K.-U. Totsche. 2013. Depth-dependent links between surface and subsurface as reflected by microbial community structures in limestone aquifers. Goldschmidt 2013 Conference, Florence, Italy.

Beulig, F., **D. M. Akob**, V. Heuer, M. Elvert, B. Viehweger, K.-U Hinrichs, and K. Küsel. 2013. Carbon flow from volcanic CO_2 into soil microbial communities of a wetland mofette. Goldschmidt 2013 Conference, Florence, Italy.

Herrmann, M., S. Opitz, A. Rusznyak, I. Schulze, **D. Akob**, K.-U. Totsche and K. Küsel. 2013. Elucidation of microbial communities involved in CO_2 fixation in karstic limestone aquifers targeting RubisCO- and ammonia-monooxygenase encoding genes. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bremen, Germany.

Beulig, F., V. Heuer, **D. M. Akob**, M. Elvert, B. Viehweger, K.-U Hinrichs, and K. Küsel. 2013. Cold volcanic CO_2 emanations in a wetland area promote *Acidobacteria*, acetogens and methanogens. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bremen, Germany.

Akob, D. M., A. Beyer, F. Schäffner, M. Händel, T. Bohu, Carol Johnson, D. Merten, G. Büchel, K.U. Totsche, and K. Küsel. 2012. Linking Mn(II)-oxidizing bacteria to natural attenuation at a former U mining site. EGU General Assembly, Vienna, Austria, *Invited.*

Schäffner, F. D. Merten, G. De Guidici, A. Beyer, **D. M. Akob,** P. C. Ricci, K. Küsel, G. Büchel. 2012. Formation of secondary minerals in a lysimeter approach: A mineral-microbe interaction. EGU General Assembly, Vienna, Austria, *Invited.*

Schulze, I., A. Rusznyak, S. Opitz, M. Herrmann, **D. M. Akob,** K. U. Totsche, K. Küsel. 2011. AquaDiv@Jena: Diversity of autotrophic groundwater bacteria present in shallow aquifers in the Hainich (Thuringia, Germany). 8th International Symposium of Subsurface Microbiology, Garmisch-Partenkirchen, Germany.

Rusznyak, A., **D. M. Akob**, S. Nietzche, T. Neu, K. Eusterhues, K.-U. Totsche, T. Frosch, R. Keiner, and Küsel, K. 2011. Carbonate biomineralization - role of bacteria in the Herrenberg karstic Cave. 8th International Symposium of Subsurface Microbiology, Garmisch-Partenkirchen, Germany.

Akob, D. M., A. Beyer, F. Schäffner, M. Händel, D. Merten, G. Büchel, K. U. Totsche, and K. Küsel. 2011. Biogenic Mn oxide formation at pH 5.5 and 7 by new Mn-oxidizing bacteria from a former U mining site. Goldschmidt 2011 Conference, Prague, Czech Republic.

Fabisch, M., F. Beulig, **D. M. Akob,** and K. Küsel. 2011. New *Thiomonas* and *Bordetella* Strains Involved in Iron Oxidation at a Slightly Acidic, Heavy Metal Contaminated Creek. Goldschmidt 2011 Conference, Prague, Czech Republic.

Risse-Buhl, U., **D. M. Akob**, M. Herrmann, P. Geesink, N. Pizani, W. Schönborn, and K. Küsel. 2011. Polyphasic characterization of protist diversity in the subsurface of a Thuringian aquifer. European Congress of Protistology, July 25-29, 2011. Berlin, Germany.

Rusznyak, A., **D. M. Akob**, S. Nietzche, T. Neu, K. Eusterhues, K.-U. Totsche, T. Frosch, R. Keiner, and Küsel, K. 2011. Carbonate biomineralization - role of bacteria in the Herrenberg karstic Cave. Annual Conference of the Association for General and Applied Microbiology (VAAM), Karlsruhe, Germany.

Beulig, F., **D. Akob**, M. Fabisch, and K. Küsel. 2010. Microbial Communities Involved in Iron Oxidation at a Heavy Metal Contaminated Creek. Abstracts Remediation Symposium, October 4-5, 2010, Jena, Germany.

Beyer, A., F. Schäffner, M. Händel, D. Merten, **D. Akob**, and K. Küsel. 2010. Formation of Mn-oxides by new Mn(II)-oxidizing bacterial isolates. Abstracts Remediation Symposium, October 4-5, 2010, Jena, Germany.

Schäffner, F., M. Händel, A. Beyer, D. Merten, K. Pollok, **D. Akob**, F. Langenhorst, K. Küsel, and G. Büchel. 2010. Characterization of secondary mineral encrustations in a former uranium mining district using mineralogical and biogeochemical methods. Abstracts Remediation Symposium, October 4-5, 2010, Jena, Germany.

Green, S. J., P. Jasrotia, D. Hubbard, O. Prakash, T. M. Gihring, **D. M. Akob**, P. M. Jardine, D. B. Watson, S. D. Brown, A. V. Palumbo, and W. J. Sul, J. Tiedje, and J. E. Kostka. 2010. Current Molecular Methods that Target Denitrification Genes Do Not Detect Key Denitrifying Taxa. International Society for Microbial Ecology Symposium, Seattle, WA USA.

Akob, D. M., M. Fabisch, E.-M. Burkhardt, J. Sitte, S. Bischoff, and K. Küsel. 2010 Natural attenuation of heavy metals in groundwater by iron-cycling bacteria at a mining-impacted site. Goldschmidt 2010 Conference, Knoxville, TN USA.

Küsel, K., A. Rusznyak, **D. M. Akob**, S. Nietzche, T. Neu, and K. Eusterhues. 2010. Diversity hidden in the dark – microbial communities involved in carbonate mineralization in the Blessberg Cave, Germany. Goldschmidt 2010 Conference, Knoxville, TN USA.

Overholt, W. A., S. J. Green, O. Prakash, T. M. Gihring, **D. M. Akob**, P. Jasrotia, P. M. Jardine, D. B. Watson, S. D. Brown, A. V. Palumbo, W. J. Sul, J. Tiedje, S. Brooks, J. E. Kostka. 2010. Denitrifying bacteria from the Genus Rhodanobacter are key members of microbial communities in the acidic, uranium-contaminated subsurface at Oak Ridge, TN. 110th General Meeting Abstracts American Society for Microbiology, San Diego, CA.

Akob, D., E.-M. Burkhardt, S. Bischoff, J. Sitte, and K. Küsel. 2009. Linking microbial community structure to heavy metal mobility in geochemical barriers at the Gessenbach. Abstracts Remediation Symposium, September 28-29, 2009, Jena, Germany.

Fabisch, M., G. Freyer, A. Fischer, **D. Akob,** and K. Küsel. 2009. Microbial Iron Oxidation in Heavy Metal Contaminated Creek Sediments. - Abstracts Remediation Symposium, September 28-29, 2009, Jena, Germany.

Küsel, K., **D. M. Akob**, E.-M. Burkhardt, M. Fabisch, and S. Bischoff. 2009. Identification of the Active Iron Cycling Bacteria controlling the Dynamics of Heavy Metals and Radionuclides. Gordon Research Conference: Applied & Environmental Microbiology, July 12-17, South Hadley, MA.

Akob, D. M., E.-M. Burkhardt, J. Sitte, L. Kerkhof, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2009. Identification of active microbial communities linked to bioremediation and natural attenuation of radionuclides and heavy metals in contaminated aquifers. Goldschmidt 2009 Conference, Davos, Switzerland.

Burkhardt, E.-M., S. Bischoff, **D. M. Akob**, J. E. Kostka, and K. Küsel. 2009, Mobilization of toxic metals linked to microbial Fe(III)-reduction in contaminated creek soils. Goldschmidt 2009 Conference, Davos, Switzerland.

Akob, D. M., S. Bischoff, S. Rothhardt, E.-M. Burkhardt, J. Sitte, and K. Küsel. 2009. Characterization of Iron Cycling Bacteria Controlling the Mobility of Heavy Metals in

Contaminated Creek Soil. 109th General Meeting Abstracts American Society for Microbiology, Philadelphia, PA.

Lee, S. H., **D. M. Akob**, J. E. Kostka, K-J. Chin. 2009. Metabolically Active Prokaryotes in Uranium(VI)-Contaminated in situ Subsurface Sediments. 109th General Meeting Abstracts American Society for Microbiology, Philadelphia, PA.

Green, S. J., **D. M. Akob**, W. Jun Sul, J. Tiedje, and J. E. Kostka. 2009. Combined Geochemical and Pyrosequencing Community Analysis of a Uranium-contaminated Subsurface Sediment Profile. 109th General Meeting Abstracts American Society for Microbiology, Philadelphia, PA.

Sitte, J., **D. Akob**, C. Kaufmann, K. Pollok, K. Finster, J. Kostka, F. Langenhorst, and K. Küsel. 2009. Activity and Identification of Sulfate Reducing Prokaryotes in Heavy Metal and Radionuclide Contaminated Creek Soil. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bochum, Germany.

Burkhardt, E.-M., **D. M. Akob**, S. Bischoff, J. E. Kostka, and K. Küsel. 2009. Analysis of Fe(III)-reducing microbial communities which cause metal mobilization in contaminated creek soils. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bochum, Germany.

Akob, **D. M.,** K.-J. Chin, L. Kerkhof, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2008. Targeting the Metabolically Active Iron(III)- and Sulfate-Reducing Bacteria with a High Potential for U(VI) Bioimmobilization in Contaminated Subsurface Sediments. DOE 3rd Annual ERSP Spring PI Meeting, Lansdowne, VA.

Kostka, J. E., H. J. Mills, **D. M. Akob**, O. Prakash, D. Swofford, L. Kerkhof, K.-J. Chin, M. Keller, J. Elkins, and J. W. Stucki. 2008. Structure and Function of Subsurface Microbial Communities Affecting Radionuclide Transport and Bioimmobilization. DOE 3rd Annual ERSP Spring PI Meeting, Lansdowne, VA.

Akob, D. M., L. Kerkhof, K-J. Chin, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2008. Characterization of the Metabolically Active Iron(III)- and Sulfate-Reducing Bacteria in Uranium(VI) Contaminated Subsurface Sediments Using DNA-SIP Analysis. 108th General Meeting Abstracts American Society for Microbiology, Boston, MA.

Ewald, E.-M., **D. M. Akob**, J. E. Kostka, J. Sitte, and K. Küsel. 2008. Effect of Iron Reduction on Heavy Metal Mobilization. 108th General Meeting Abstracts American Society for Microbiology, Boston, MA.

Lee, S., **D. M. Akob**, J. E. Kostka, and K-J. Chin. 2008. Quantification of Functional Gene Expression of Sulfate- and Iron(III)-Reducing Bacteria and Phylogenetic Analysis of Metabolically Active Bacteria in Uranium(VI)-Contaminated Subsurface Sediments. 108th General Meeting Abstracts American Society for Microbiology, Boston, MA.

Mills, H. J., M. Humphrys, **D. Akob**, T.M. Gihring, J. Delgardio, K.J. Chin, and J.E. Kostka. 2008. Quantification of Functional Gene Expression of Fe(III) and Sulfate Reducing Prokaryotes in Salt Marsh Sediments. ASLO Ocean Sciences Meeting, March 2008.

Kostka, J.E., H. J. Mills, M. Humphrys, **D. Akob**, and K. Chin. 2007. Metabolically Active Iron- and Sulfate-Reducing Prokaryotes in Shallow Subsurface Sediments. International Workshop on Microbial Life under Extreme Energy Limitations 'The Starving Majority'". Aarhus, Denmark.

Mills, H. J., **D. Akob**, K. Chin, L. Kerkhof and J. E. Kostka. 2007. Structure and function of microbial communities in radionuclide contaminated subsurface sediments**.** International

Workshop on Microbial Life under Extreme Energy Limitations 'The Starving Majority'". Aarhus, Denmark.

Akob, D. M., H. J. Mills, L. Kerkhof, and J. E. Kostka. 2007. Determination of the metabolically active microbial groups in contaminated ORFRC subsurface sediments using stable isotope probing (SIP). DOE 2st Annual ERSP Spring PI Meeting, Lansdowne, VA.

Palumbo, A. V., C. W. Schadt, C. C. Brandt, M. S. McNeilly, A. S. Madden, H. J. Mills, **D. M. Akob**, J. R. Tarver, L. A. Fagan, S. Bottomly, S. M. Pfiffner, and J. E. Kostka 2006. Methanol Stimulated Uranium Reduction: Does Community Heterogeneity Matter? Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract B54B-02.

Akob, D. M., H. J. Mills, L. Kerkhof, and J. E. Kostka. 2006. Determination of the metabolically active microbial groups in contaminated ORFRC subsurface sediments using stable isotope probing (SIP). DOE ERSP Fall PI Meeting, Oak Ridge, TN.

Kostka, J., H. Mills, **D. Akob**, T. Gihring, L. Kerkhof, K. Chin, J. Stucki, and B. Goodman. 2006. Biostimulation of iron reduction and uranium immobilization: microbial and mineralogical controls. DOE ERSP Fall PI Meeting, Oak Ridge, TN.

Palumbo, A., C. Schadt, C. Brandt, M. McNeilly, A. Madden, H. Mills, **D. Akob**, L. Fagan, S. Bottomly, S. Pfiffner and J. Kostka. 2006. An Integrated Assessment of Geochemical and Community Structure Determinants of Metal Reduction Rates in Subsurface Sediments. DOE ERSP Fall PI Meeting, Oak Ridge, TN.

Mills, H. J., **D. Akob,** E. Hunter, S. Winch, L. Kerkhof, K.-J. Chin, and J. E. Kostka, 2006. Molecular analysis of understudied microbial communities in subsurface and permeable sandy sediments. Integrated Ocean Drilling Program/ Joint Oceanographic Institutes Workshop on Subseafloor Life, Vancouver, BC, Canada.

Akob, D. M., H. J. Mills, T. M. Gihring, L. Kerkhof, and J. E. Kostka. 2006. Structure and function of metal- and nitrate-reducing microbial communities in subsurface sediments contaminated with radionuclides. 106th General Meeting Abstracts American Society for Microbiology, Orlando, FL.

Palumbo, A. V., C. C. Brandt, S. M. Pfiffner, L. A. Fagan, A. S. Madden, T. Phelps, J. C. Schryver, M. S. McNeilly, C. W. Schadt, J. R. Tarver, S. Bottomly, H. J. Mills, **D. M. Akob**, J. E. Kostka. 2006. Influence of Geochemistry and Microbial Community Structure on Metal Reduction Rates. DOE 1st Annual ERSP PI Meeting, Warrenton, VA.

Kostka, J. E., H. J. Mills, **D. M. Akob**, T. Gihring, J. W. Stucki, B. A. Goodman, and L. Kerkhof. 2006. Biostimulation of iron reduction and uranium immobilization: Microbial and mineralogical controls. DOE 1st Annual ERSP PI Meeting, Warrenton, VA.

Akob, D. M., H. J. Mills, L. Kerkhof, T. M. Gihring, and J. E. Kostka. 2006. Structure and function of metal- and nitrate-reducing microbial communities in the FRC subsurface. DOE 1st Annual ERSP PI Meeting, Warrenton, VA.

Akob, D. M., T. M. Gihring and J. E. Kostka. 2005. Microbial activity and community composition in microcosms of FRC Area 2 uranium contaminated subsurface sediment and groundwater. DOE NABIR Oak Ridge Field Research Center Workshop, Oak Ridge, TN.

Mills, H. J., **D. M. Akob**, L. Petrie-Edwards, T. M. Gihring, and J. E. Kostka. 2005. Metabolically-active microbial communities in acidic uranium-contaminated subsurface sediments. DOE NABIR Oak Ridge Field Research Center Workshop, Oak Ridge, TN.

Mills, H. J., **D. M. Akob**, L. Petrie-Edwards, T. M. Gihring, and J. E. Kostka. 2005. Metabolically active microbial communities in acidic uranium-contaminated subsurface sediments. EC/US

Taskforce on Biotechnology and Bioremediation 10th year anniversary meeting. Brussels, Belgium.

Gihring, T. M., L., Edwards, M. E. Dollhopf, **D. M. Akob**, and J.E. Kostka. 2005. The isolation and characterization of novel, metal-reducing microorganisms from uranium- and nitrate-contaminated subsurface sediments. 105th General Meeting Abstracts American Society for Microbiology, Atlanta, GA.

Akob, D. M., H. J. Mills, L. Petrie-Edwards, and J. E. Kostka. 2005. The "active" microbial communities found in acidic uranium-contaminated subsurface sediments. 105th General Meeting Abstracts American Society for Microbiology, Atlanta, GA.

Akob, D. M., H. J. Mills, L. Petrie-Edwards, D. L. Balkwill and J. E. Kostka. 2005. Metabolically active microbial communities in acidic uranium-contaminated subsurface sediments. DOE NABIR PI Meeting, Warrenton, VA.

Akob, D. M., M. L. Fogel, and M. J. Wooller. 2003. Determining the diet of mangrove invertebrates using stable isotope analysis. Marine Benthic Ecology Meeting, Groton, CT

Akob, D. M. and I. C. Feller. 2002. The role of epibiont sponges and their microbial symbionts in nutrient limited *Rhizophora mangle* stands. 6th International Sponge Conference, Rapallo, Italy.

Diaz, M. C., **D. Akob**, and C. S. Cary. 2004. Denaturing gradient gel electrophoresis of nitrifying microbes associated with tropical sponges. 6th International Sponge Conference, Rapallo, Italy.

Akob, D. M. and I. C. Feller. 2002. The role of epibiont sponges and their microbial symbionts in the nutrient limited *Rhizophora mangle* stands. AGU/ ASLO Ocean Sciences Meeting, Honolulu, HI, *Invited*.

INVITED SEMINARS

Linking microbes to the fate of Cold War Era heavy metal contamination. Dartmouth College, Department of Earth Sciences, April 19, 2013.

Linking microbes to the fate of Cold War Era heavy metal contamination. Montana State University, Center for Biofilm Engineering, February 14, 2013.

Linking Mn(II) oxidizing bacteria to natural attenuation at a former U mine. Geological Society of Washington 1469th Meeting, January 23, 2013.

Microbes and natural attenuation of heavy metal contaminants. Smithsonian Institution, National Museum of Natural History, Department of Mineral Sciences. January 4, 2012.

Structure and Function of Microbial Communities in Uranium Contaminated Subsurface Sediments. Friedrich-Schiller University Jena, Microbe-Mineral Interactions Graduate School, January 2009.

Cold War Biogeochemistry: Nuclear Legacy Waste in the Subsurface of Former East Germany. Florida State University, Department of Biology, Ecology and Evolution Research and Discussion Group. October 2007.

Structure and Function of Microbial Communities in Uranium Contaminated Subsurface Sediments. Friedrich-Schiller University Jena, Institute for Ecology, June 2007.

TEACHING & STUDENT MENTORSHIP

Instructor

Friedrich Schiller University Jena

Practical Course in Geomicrobiology (MBGW2.2.3)	Summer 2009
Geomicrobiology of the Iron Cycle	Winter 2009, 2010

Teaching Assistant

Florida State University

BSC 2010L	Biological Science I Laboratory	Fall 2002, Spring 2003
BSC 2011L	Animal Diversity Laboratory	Fall 2003, Spring 2004

St. Mary's College of Maryland

BIOL 111L	Principles of Biology I	Fall 1999, Spring 2000
BIOL 485	Tropical Marine Biology	Spring 2002

Student Mentorship

Friedrich Schiller University Jena (co-supervised with Dr. Kirsten Küsel)

Shipeng Lu, Ph.D. student (2008-current)
Tsing Bo Hu, Ph.D. student (2011-current)
Andrea Beyer, master's student (2009-2010)
Felix Beulig, master's student (2009-2010)
Ulrike Litzba, bachelor's student (2009)
Andreas Fisher, bachelor's student (2009)

OUTREACH

2003 Saturday at the Sea, Environmental Education at Florida State University

2003 Educator at the Gulf Specimens Marine Laboratory, Inc.