
JACKIE D. DENSON

CAREER AND RESEARCH INTERESTS: The microbiology and biochemistry of extremophiles, specifically as it relates to their metabolic and genomic diversity. Microbiology education including interdisciplinary, systems biology and non-traditional approaches to subject matter, and providing productive and rewarding undergraduate and graduate research experiences for students.

CAMPUS ADDRESS:

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EDUCATION: Current PhD Candidate in Biological Sciences,
University of Arkansas, Fayetteville, Arkansas
Expected Matriculation, (December 2011)

Master of Science in Molecular Biology, (2000)
University of Maryland Baltimore County, Catonsville, Maryland

Bachelor of Science in Biological Sciences, (1992)
Tennessee Technological University, Cookeville, Tennessee

PROFESSIONAL AFFILIATIONS:

American Society of Microbiology
American Geophysical Union
International Society for the Study of the Origin of Life
American Association for the Advancement of Science

AWARDS AND FUNDING:

- Arkansas Space Grant Consortium Award. Proposal entitled "Lake Magadi, Kenya; A Survey of the Microbial Diversity Associated with Extreme Environments and Thermal Features of a Highly Alkaline Saline Rift Valley Lake (2009)

- Doctoral Dissertation Research Award, J. William Fulbright College of Arts and Sciences, University of Arkansas, Fayetteville, AR. (2009)
- Lewis and Clark Field Scholar in Astrobiology. Travel grant for fieldwork in an astrobiology related topic, funded by the American Philosophical Society, Philadelphia. PA. (2008)
- Arkansas Space Grant Consortium Award. Proposal entitled “The Detection of Biosignatures Indicative of Iron and Sulfur Respiration: Implications for the Detection of Life on Mars and Europa.” (2008)
- Wallenberg Foundation Fellow at the University of Maryland Center of Marine Biotechnology, Baltimore MD (1997-1999) Research Fellowship

IN PROGRESS:

The Microbial and Metagenomic Diversity of Highly Alkaline Saline Brine from a Rift Valley Lake System: Lake Magadi, Kenya. J. Denson, D. M. Ivey, S. Leuko, L. J. Rothschild, and K. Hand (to be submitted to *Applied Environmental Microbiology*, Fall 2011)

A Survey of the Microbial Diversity of an Alkaline Biofilm Associated with a Unique Geological Feature within a Hot Spring of the Hypersaline Alkaline Basin of Lake Magadi, Kenya. J. Denson, D. M. Ivey, L. J. Rothschild, and K. Hand (to be submitted to *Geobiology*, Fall 2011)

PEER REVIEWED PUBLICATIONS:

J. Gidden, **J. Denson**, R. Liyanage, D. M. Ivey, and J.O. Lay Jr. (2009) Lipid compositions in *Escherichia coli* and *Bacillus subtilis* during growth as determined by MALDI-TOF and TOF/TOF mass spectrometry. *International Journal of Mass Spectrometry*. 283 June (1) 178-184.

T. Altheide, V. Chevrier, C. Nicholson, and **J. Denson**. (2009) A kinetic study of the evaporation of liquid magnesium sulfate brines under simulated martian conditions. *Earth and Planetary Science Letters*. 282 May (1) 69-78.

John C. Obenauer, **Jackie Denson**, Perdeep K. Mehta, Xiaoping Su, Suraj Mukatira, David B. Finkelstein, Xiequn Xu, Jinhua Wang, Jing Ma, Yiping Fan, Karen M. Rakestraw, Robert Webster, Erich Hoffmann, Scott Krauss, Jie Zheng, Ziwei Zhang, and Clayton W. Naeve. (2006) Large-scale sequence analysis of avian influenza isolates. *Science* Mar 17; (311) 1576-80.

Denson, J, Xi Z, Wu Y, Yang W, Zhang J. (2006) Screening for inter-individual Splicing Differences in Human GSTM4 and the discovery of a single nucleotide substitution related to the tandem skipping of two exons. *Gene* Sep 1; (379) 148-55.

Denson J, Wu Y, Yang W, Zhang J. (2005) Inter-individual variations of several cytochrome P450 2D6 splice variants in human liver. May 6; 330(2): 498-504. *Biochem Biophys Res Commun*. May 6; (330) 498-504.

Christner, B.C., J.A. Mikucki, C.M. Foreman, **J. Denson**, and J.C. Priscu. (2005) Glacial ice cores: a model system for developing extraterrestrial decontamination protocols. *Icarus*, 174:572-584.

Valerie J. Harwood, **J Denson**, K Robinson-Bidle, and H Schreier. (1997) Overexpression and Characterization of a Prolyl Endopeptidase from the Hyperthermophilic Archaeon *Pyrococcus furiosus*. *Journal of Bacteriology* Vol. 179, NO. 11 3613-3618.

PUBLISHED ABSTRACTS:

Differentiation of Bacteria Using Lipid Profiles from MALDI-MS. Jennifer Gidden, **Jackie Denson**, Rohana Liyanage, Mack Ivey, and Jackson O Lay. 64th Southwest Regional ACS Meeting Little Rock, Arkansas October 12, 2008

Mineralogical Biosignatures: A Laboratory Model for Subsurface Sulfur and Iron Respiring Martian life. **Denson, J** and D. M. Ivey. Astrobiology Science Conference 2008, April 15th-17th, 2008, Santa Clara, CA

An Economical, Portable Vacuum Chamber for Astrobiological Applications. Sample, M. **Denson, J.** and D. M. Ivey. Astrobiology Graduate Student Conference, 2008, April 13th-14th, 2008, SETI Research Institute, Mountain View, CA.

Sulfate Reduction: A Model for Subsurface Martian Life. **Denson, J.** Chevrier, V. Sears, D. and D.M. Ivey. Bioastronomy 2007, July 16-20, 2007. San Juan, Puerto Rico.

Cathodoluminescence and its Application for Biosignature Analysis of Mn-containing Biogenic Minerals: A Review. **Denson, J.** Ivey, D.M. Sears, D. Gucsik, A. and R. Videki. 38th Lunar and Planetary Science Conference, March 12-16th, 2007, League City, TX

Sulfate stability under simulated martian conditions. Workshop on Martian Sulfates as Recorders of Atmospheric-Fluid-Rock Interactions. **Denson, J.** Chevrier, V. and D. Sears. October 22-24, 2006. Lunar Planetary Institute, Houston, TX

Inter-individual differences in splicing – how frequent are they? Xi Z., **Denson J.**, Wu Y., Schuetz E. Zhang J. *Beyond Genome 2005: Genomic Variations*. San Francisco, California, June 2005

Improvement of the DNA Ligation-based Method of Detecting Splice Variants in mRNA Transcripts. **J. Denson**, R. Longoria, D. Naeve, and J. Zhang. (*Intra-institutional Research Event*), St Jude Children's Research Hospital, Memphis TN, July 2003

Characterization of Particles Recovered From a 4 Km Ice Core Above Lake Vostok, Antarctica. J Priscu, D Mogk, C Foreman, J Mikucki, **J Denson**, C Wolf, E Adams, K Welch, M Voytek *Eos Transactions of the American Geophysical Union*. 82 (47) 2001.

Nitrogen Assimilation in the Hyperthermophilic Sulphate-Reducing Archaeon *Archaeoglobus fulgidus*. Hal Schreier, **Jackie Denson**, Lynn-Marie Lenhart and Sheri Brandenburg. VIRTUE Science Meeting, University of Maryland Biotechnology Institute, 2000.