

James Garrett Elkins

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EDUCATION

Ph.D.	2006	Microbiology (<i>summa cum laude</i>)	University of Regensburg, Regensburg, Germany
M.Sc.	1999	Environmental Microbiology	Montana State University, Bozeman
B.Sc.	1995	Microbiology	Montana State University, Bozeman

PROFESSIONAL EXPERIENCE

2007-	R&D Associate, Oak Ridge National Lab, Biosciences Division, BioEnergy Science Center
2006-07	Postdoctoral Researcher, University of California, San Diego Systems Biology Research Group, PI: Bernhard Ø. Palsson
2002-06	Graduate Fellow, University of Regensburg/Diversa Corporation Advisor: Dr. Karl O. Stetter
2001-02	Associate Staff Scientist, Microbiology, Diversa Corporation, San Diego, CA
1999-01	Sr. Research Associate, Microbiology, Diversa Corporation, San Diego, CA
1996-99	Graduate Research Assistant, Center for Biofilm Engineering, Montana State University, Bozeman, MT
1995-96	Research Technician, Dept. of Land Resources & Environmental Sciences, Montana State University, Bozeman, MT
1994-95	Undergraduate Research Assistant, Dept. of Land Resources & Environmental Sciences, Montana State University, Bozeman, MT

AWARDS AND RECOGNITION

Graduate Fellowship, co-sponsored by the Univ. of Regensburg and Diversa Corp., (2002)
Graduate Research Assistantship, Center for Biofilm Engineering, (1996)
First Place award for presentation of original research, Undergraduate Scholars Conference, Montana State University, (1995)
Montanans on a New Track for Science (MONTS) scholarship, (1995)

GRANTS

Co-PI, Dept. of Energy – Joint Genome Institute, 2006 Community Sequencing Program, “A metagenomics approach toward understanding the *Korarchaeota*” Funds for 250 Mb of DNA sequencing and annotation

Author, National Science Foundation Small Business Innovative Research (SBIR) program, Phase I & II, "Development of novel enzymatic antibiofilm formulations", \$600,000.

TEACHING AND MENTORING

Lecturer and Lab TA, International Training Workshop on Advances in Molecular Techniques to Assess Microbial Biodiversity, Bogor, Indonesia, (2000)

NSF Research Experience for Undergraduates (REU) Mentor (2 students), (1997)

PROFESSIONAL ASSOCIATIONS

American Society for Microbiology

PUBLICATIONS

Elkins, J. G., and K.O. Stetter. The complete genome sequence from a member of the novel archaeal group the "Korarchaeota". Manuscript in preparation.

Elkins, J. G., and K.O. Stetter. Cultivation of a novel archaeal group: the "Korarchaeota". Manuscript in preparation.

Zengler, K., Toledo, G., Rappé, M., **Elkins, J.**, Mathur, E.J., Short, J.M., and M. Keller. 2002. Culturing the uncultured. *Proc. Natl. Acad. Sci.* **99**:15681-15686.

Frederick, J. R., **J. G. Elkins**, N. Bollinger, D. J. Hassett, and T. R. McDermott. 2001. Factors affecting catalase expression in *Pseudomonas aeruginosa* biofilms and planktonic cells. *Appl. Environ. Microbiol.* **67**:1375-9.

Deng, S., **J. G. Elkins**, L. H. Da, L. M. Botero, and T. R. McDermott. 2001. Cloning and characterization of a second acid phosphatase from *Sinorhizobium meliloti* strain 104A14. *Arch. Microbiol.* **176**:255-63.

Stewart, P. S., F. Roe, J. Rayner, **J. G. Elkins**, Z. Lewandowski, U. A. Ochsner, and D. J. Hassett. 2000. Effect of catalase on hydrogen peroxide penetration into *Pseudomonas aeruginosa* biofilms. *Appl. Environ. Microbiol.* **66**:836-8.

Hassett, D. J., **J. G. Elkins**, J. F. Ma, and T. R. McDermott. 1999. *Pseudomonas aeruginosa* biofilm sensitivity to biocides: use of hydrogen peroxide as model antimicrobial agent for examining resistance mechanisms. *Methods Enzymol.* **310**:599-608.

Hassett, D. J., J. F. Ma, **J. G. Elkins**, T. R. McDermott, U. A. Ochsner, S. E. West, C. T. Huang, J. Fredericks, S. Burnett, P. S. Stewart, G. McFeters, L. Passador, and B. H. Iglesias. 1999. Quorum sensing in *Pseudomonas aeruginosa* controls expression of catalase and superoxide dismutase genes and mediates biofilm susceptibility to hydrogen peroxide. *Mol. Microbiol.* **34**:1082-93.

Elkins, J. G., D. J. Hassett, P. S. Stewart, H. P. Schweizer, and T. R. McDermott. 1999. Protective role of catalase in *Pseudomonas aeruginosa* biofilm resistance to hydrogen peroxide. *Appl. Environ. Microbiol.* **65**:4594-600.

Summers, M. L., **J. G. Elkins**, B. A. Elliott, and T. R. McDermott. 1998. Expression and regulation of phosphate stress inducible genes in *Sinorhizobium meliloti*. *Mol. Plant Microbe Interact.* **11**:1094-101.

Al-Niemi, T. S., M. L. Summers, **J. G. Elkins**, M. L. Kahn, and T. R. McDermott. 1997. Regulation of the phosphate stress response in *Rhizobium meliloti* by PhoB. *Appl. Environ. Microbiol.* **62**:4978-4981.

INVITED LECTURES

Gordon Research Conference; Topic: Archaea: Ecology, Metabolism & Molecular Biology; Proctor Academy, NH; Title: A Complete Korarchaeal Genome Sequence Reveals a Unique Combination of Signature Genes. (2007)

Departmental seminar; California State University, Northridge; Dept. of Microbiology; Northridge, California; Title: Ecology, physiology, and genomics of deep-branching hyperthermophilic Archaea. (2007)

Bioscience Day; University of Regensburg, Regensburg, Germany; Title: Cultivation and genomics of a novel hyperthermophile representing the "Korarchaeota". (2007)

Departmental seminar; Montana State University, Bozeman; Thermal Biology Institute; Bozeman, Montana; Title: The "Korarchaeota" revealed: Identification, cultivation, and genomics of a novel hyperthermophile inhabiting Obsidian Pool, YNP. (2006)

Gordon Research Conference; Topic: Archaea: Ecology, Metabolism & Molecular Biology, Oxford, UK; Title: First Insights into a "Korarchaeal" genome. (2005)

International Training Workshop on Advances in Molecular Techniques to Assess Microbial Biodiversity; Bogor, Indonesia; Title: Enrichment, isolation, and identification of soil microorganisms. (2000)

Technical Advisory Committee (TAC) meeting for the Center for Biofilm Engineering; Bozeman, MT, USA; Title: Role of catalase in protection of biofilm from hydrogen peroxide. (1999)

Montana Academy of Sciences annual meeting; Bozeman, MT, USA; Title: Cloning and partial characterization of a *Rhizobium meliloti* acid phosphatase. (1998)

National Science Foundation review meeting for the Center for Biofilm Engineering; Bozeman, MT, USA; Title: Oxidative stress response in *Pseudomonas aeruginosa* biofilms. (1997)

Technical Advisory Committee (TAC) meeting for the Center for Biofilm Engineering; Bozeman, MT, USA; Title: Oxidative stress response in *Pseudomonas aeruginosa* biofilms. (1997)

Undergraduate Scholars Conference; Bozeman, MT, USA; Title: *Rhizobium meliloti* acid phosphatases. (1995)

POSTERS

GTL Awardee Wrokshop V; Bethesda, Maryland, USA; Summers, Z., K. Nevin, C. Herring, R. Glaven, S. Haveman, J. Elkins, B. Palsson, and D. Lovley; Title: Genome-scale analysis of adaptive evolution of *Geobacter* for improved metal reduction and electricity production. (2007)

Plant Biology '98, Annual Meeting of the American Society of Plant Physiologists; Madison, Wisconsin, USA; Elkins, J.G. et al; Title: Identification and partial characterization of acid phosphatases in *Rhizobium meliloti*. (1998)

Technical Advisory Committee (TAC) meeting for the Center for Biofilm Engineering;
Bozeman, MT, USA; Elkins J. E.; Title: Quorum sensing is essential for optimal hydrogen peroxide resistance in *Pseudomonas aeruginosa*. et al. (1998)

REFERENCES

Dr. Martin Keller

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