
BRIAN P. HEDLUND, PH.D.

Greg Fullmer Professor of Life Sciences
School of Life Sciences
University of Nevada Las Vegas
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EDUCATION

- University of Washington** 1994 – 2000
Department of Microbiology Seattle, WA
• Ph.D. in Microbiology
• Polycyclic aromatic hydrocarbon degradation by marine bacteria, Verrucomicrobia
- University of Illinois** 1990 – 1994
Biology Urbana-Champaign, IL
• B.S. in Biology
• Application of genetic techniques for the study of methanogenic archaea

RESEARCH EXPERIENCE

- Greg Fullmer Professor of Life Sciences** 2014 –
University of Nevada Las Vegas Las Vegas, NV
School of Life Sciences
• Microbial ecology, genomics, biogeochemical cycling, physiology & taxonomy of thermophiles
- Greg Fullmer Associate Professor of Life Sciences (endowed since 2012)** 2009 – 2014
University of Nevada Las Vegas Las Vegas, NV
School of Life Sciences
• Microbial ecology, genomics, biogeochemical cycling, physiology & taxonomy of thermophiles
- Assistant Professor** 2003 – 2009
University of Nevada Las Vegas Las Vegas, NV
School of Life Sciences
• Ecology of Great Basin hot springs; desert playas
- Postdoctoral Fellow** 2001 – 2002
Universität Regensburg Lehrstuhl für Mikrobiologie Regensburg, Germany
• Advisor: Karl O. Stetter, Ph.D.
• Cultivation of novel thermophiles from Yellowstone National Park
- Postdoctoral Fellow** 2000 – 2001
University of Washington Department of Microbiology Seattle, WA
• Advisor: James T. Staley, Ph.D.
• Marine polycyclic aromatic hydrocarbon catabolism; Verrucomicrobia
- Graduate Student** 1994 – 2000
University of Washington Department of Microbiology Seattle, WA
• Advisor: James T. Staley, Ph.D.
• Marine polycyclic aromatic hydrocarbon catabolism; Verrucomicrobia

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Undergraduate Researcher

University of Illinois Department of Microbiology

1992 – 1994

Urbana-Champaign, IL

- Advisor: Jordan Konisky, Ph.D.
- Early work into applying genetic approaches to methanogenic Archaea

PEER-REVIEWED PUBLICATIONS (*corresponding)

1. **Hedlund BP***, Murugapiran SK, Alba TW, Levy A, Dodsworth JA, Goertz GB, Ivanova N, Woyke T. 2015. Uncultivated thermophiles: Current status and spotlight on 'Aigarchaeota'. Current Opinion in Microbiology. In press.
2. **Saw JH**, Spang A, Zaremba-Niedzwiedzka K, Juzokaite L, Dodsworth JA, Murugapiran S, Colman DR, Takacs-Vesbach C, Hedlund BP, Guy L, Ettema TJG*. 2015. Exploring microbial dark matter to resolve the deep archaeal ancestry of eukaryotes. Phil. Trans. R. Soc. B. In press.
3. **Nobu, MK**, Dodsworth JA*, Murugapiran SK, Rinke C, Gies EA, Webster G, Schwientek P, Kille P, Weightman A, Parkes J, Sass H, Liu WT, Hallam SJ, Tsiamis G, Woyke T, Hedlund BP. 2015. Phylogeny and physiological potential of the candidate phylum "Atribacteria" (OP9/JS1) inferred from single-cell genomes and metagenome bins. ISME Journal. In press.
4. **Hedlund BP***, Dodsworth JA, Staley JT. 2015. The changing landscape of microbial biodiversity exploration and its implications for systematics. Systematic and Applied Microbiology. In press. doi: 10.1016/j.syapm.2015.03.003
5. **Yang J**, Zhou E, Jiang H*, Li W, Wu G, Huang L, Hedlund BP, Dong H. 2015. Censuses of *coxL* genes in geothermal springs in China, Philippines, and U.S. suggest geographically distinct populations among thermophilic, aerobic cox-encoding bacteria. Geomicrobiology Journal. In press. 10.1080/01490451.2015.1008605
6. **Hedlund BP***, Reysenbach AL*, Huang L, Ong JC, Liu Z, Dodsworth JA, Ahmed, R, Briggs BR, Liu Y, Hou W, Dong H*. 2015. Isolation of diverse members of the Aquificales from geothermal springs in Tengchong, China. Frontiers in Microbiology. 6: 157.
7. **Xie W**, Zhang C*, Wang J, Chen Y, Zhu Y, de la Torre J, Dong H, Hartnett HE, Hedlund BP, Klotz MG. 2014. Distribution of ether lipids and composition of the archaeal community in terrestrial geothermal springs: impact of environmental variables. Environmental Microbiology. 17: 1600-1614.
8. **Li F**, Zhang CL*, Wang S, Chen Y, Sun C, Dong H, Li W, Klotz MG, Hedlund BP. 2014. Production of branched tetraether lipids in Tibetan hot springs: a possible linkage to nitrite reduction by thermotolerant or thermophilic bacteria? Chemical Geology 386: 209–217.
9. **Hedlund BP***, Dodsworth JA, Murugapiran SK, Rinke C, Woyke T. 2014. Impact of single-cell genomics and metagenomics on the emerging view of extremophile "microbial dark matter". Extremophiles 18:865-875.
10. **Dodsworth JA***, Gevorkian J, Despujos F, Cole JK, Murugapiran SK, Ming H, Li WJ, Zhang G, Dohnalkova A, Hedlund BP. 2014. *Thermoflexus hugenholtzii* gen. nov., sp. nov., a thermophilic, microaerophilic, filamentous bacterium representing a novel class in the *Chloroflexi*, *Thermoflexia* classis nov., and description of *Thermoflexaceae* fam. nov. and *Thermoflexales* ord. nov. International Journal of Systematic and Evolutionary Microbiology 64:2119-2127.
11. **Briggs BR**, Brodie EL, Tom LM, Dong H*, Jiang H, Huang Q, Wang S, Hou W, Wu G, Huang L, Hedlund BP, Zhang C, Dijkstra P, Hungate BA. 2014. Microarray-detected spatial and temporal microbial distributions in the hot springs of Tengchong, Yunnan Province, China. Environmental Microbiology 16: 1579-1591.
12. **Hedlund BP***, Li WJ, Zhang C. 2013. ₂ Addressing Questions on Life in Terrestrial

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Geothermal Systems. Eos 94:325. (Meeting report)

13. **Zhang CL***, Wang J, Dodsworth JA, Williams AJ, Zhu C, Hinrichs KU, Zheng F, Hedlund BP*. 2013. In situ production of branched glycerol dialkyl glycerol tetraethers in a Great Basin hot spring. *Frontiers in Microbiology* 4:181.
14. **Paraiso JJ**, Williams AJ, Huang Q, Wei Y, Dijkstra P, Hungate BA, Dong H, Hedlund BP*, Zhang CL*. The distribution and abundance of archaeal tetraether lipids in U.S. Great Basin hot springs. *Frontiers in Microbiology* 4:247.
15. **Hedlund BP***, Paraiso JJ, Williams AJ, Huang Q, Wei Y, Dijkstra P, Hungate BA, Dong H, Zhang CL*. 2013. The distribution and abundance of branched glycerol dialkyl glycerol tetraethers (bGDGTs) in U.S. Great Basin hot springs. *Frontiers in Microbiology* 4:222.
16. **Cole JK**, Gieler BA, Heisler DL, Palisoc MM, Williams AJ, Dohnalkova AC, Ming H, Yu TT, Dodsworth JA, Li WJ, Hedlund BP*. 2013. *Kallotenua papyrolyticum* gen. nov., sp. nov., a cellulolytic and filamentous thermophile isolated from Great Boiling Spring that represents a novel lineage (*Kallotenuales* ord. nov., *Kallotenuaceae* fam. nov.) within the class *Chloroflexia*. *International Journal of Systematic and Evolutionary Microbiology* 63:4675-4682.
17. **Rinke C**, Schwientek P, Sczyrba A, Ivanova NN, Anderson IJ, Cheng JF, Darling A, Malfatti S, Swan BK, Gies EA, Dodsworth JA, Hedlund BP, Tsiamis G, Sievert SM, Liu WT, Eisen JA, Hallam SJ, Kyrpides NC, Stepanauskas R, Rubin EM, Hugenholtz P, Woyke T*. 2013. Insights into the phylogeny and coding potential of microbial dark matter. *Nature*. 499:431-437.
18. **Dodsworth JA**, Blainey PC, Murugapiran SK, Swingley WD, Ross CA, Tringe SG, Chain PS, Scholz MB, Lo CC, Raymond J, Quake SR, Hedlund BP*. 2013. Single-cell and metagenomic analyses indicate a fermentative, saccharolytic lifestyle for members of the OP9 lineage. *Nature Communications* 4:1854.
19. **Schoenfeld TW***, Murugapiran SK, Dodsworth JA, Floyd S, Lodes M, Mead DA, Hedlund BP. 2013. Lateral gene transfer of Family A DNA polymerases between thermophilic viruses, Aquificae and Apicomplexa. *Molecular Biology and Evolution* 30:1653-1664.
20. **Hedlund BP***, Dodsworth JA, Cole JK, Panosyan HH. 2013. An integrated study reveals diverse methanogens, Thaumarchaeota, and yet-uncultivated archaeal lineages in Armenian hot springs. *Antonie van Leeuwenhoek* 104:71-82.
21. **Edwards TA**, Calica NA, Huang DA, Manoharan N, Hou W, Huang L, Panosyan H, Dong H, Hedlund BP*. 2013. Cultivation and characterization of thermophilic *Nitrospira* species from geothermal springs in the U.S. Great Basin, China, and Armenia. *FEMS Microbiology Ecology* 85:283-292.
22. **Murugapiran SK**, Huntemann M, Wei CL, Han J, Detter JC, Han C, Erkkila TH, Teshima H, Chen A, Kyrpides N, Mavrommatis K, Markowitz V, Szeto E, Ivanova N, Pagni I, Pati A, Goodwin L, Peters L, Pitluck S, Lam J, McDonald AI, Dodsworth JA, Woyke T, Hedlund BP*. 2013. *Thermus oshimai* JL-2 and *T. thermophilus* JL-18 genome analysis illuminates pathways for carbon, nitrogen, and sulfur cycling. *Standards in Genomic Sciences* 7:449-468.
23. **Murphy CN**, Dodsworth JA, Babbitt AB, Hedlund BP*. 2013. Community microrespirometry reveals a diverse energy economy in Great Boiling Spring and Sandy's Spring West in the U.S. Great Basin. *Applied and Environmental Microbiology* 79:3306-3310. (*AEM Spotlight*)
24. **Peacock JP**, Cole JK, Murugapiran SK, Dodsworth JA, Fisher JC, Moser DP, Hedlund BP*. 2013. Pyrosequencing reveals high-temperature cellulolytic microbial consortia in Great Boiling Spring after *in situ* lignocellulose enrichment. *PLoS One* 8:e59927.
25. **Cole JK**, Peacock JP, Dodsworth JA, Williams AJ, Thompson DB, Dong H, Wu G, Hedlund BP*. 2013. Sediment microbial communities in Great Boiling Spring are controlled by temperature and distinct from water communities. *ISME Journal* 7:718-729.

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26. **Hou W, Wang S, Dong H*, Jiang H, Briggs BR, Peacock JP, Huang Q, Huang L, Wu G, Zhi X, Li W, Dodsworth JA, Hedlund BP, Zhang C, Hartnett HE, Dijkstra P, Hungate BA.** 2013. A comprehensive census of microbial diversity in hot spring of Tengchong, Yunnan Province China using 16S rRNA gene pyrosequencing. *PLoS One* 8:e53350.
27. **Murugapiran SK, Huntemann M, Wei CL, Han J, Detter JC, Han C, Erkkila TH, Teshima H, Chen A, Kyrpides N, Mavrommatis K, Markowitz V, Szeto E, Ivanova N, Pagani I, Pati A, Goodwin L, Peters L, Pitluck S, Lam J, McDonald AI, Dodsworth JA, Woyke T, Hedlund BP*.** 2013. Whole genome sequencing of *Thermus oshimai* JL-2 and *T. thermophilus* JL-18, incomplete denitrifiers from the U.S. Great Basin. *Genome Announcements* 1: e00106-12.
28. **Dodsworth JA, McDonald AI, Hedlund BP*.** 2012. Calculation of total free energy yield as an alternative approach for predicting the importance of potential chemolithotrophic reactions in geothermal springs. *FEMS Microbiology Ecology* 81:446-454.
29. **Miller-Coleman RL, Dodsworth JA, Ross CA, Shock EL, Williams AJ, Hartnett HE, McDonald AI, Havig JR, Hedlund BP*.** 2012. Korarchaeota diversity, biogeography, and abundance in Yellowstone and Great Basin hot springs and ecological niche modeling based on machine learning. *PLoS One* 7: e35964.
30. **Hedlund BP*, Cole JK, Hou W, Zhou E, Li WJ, Dong H.** 2012. A review of the microbiology of the Rehai Geothermal Field in Tengchong, Yunnan Province, China. *Geoscience Frontiers* 3: 273-288.
31. **Hedlund BP*, McDonald AI, Lam J, Dodsworth JA, Brown JR, Hungate BA.** 2011. Potential role of *Thermus thermophilus* and *T. oshimai* in high rates of nitrous oxide (N₂O) production in ~80°C hot springs in the US Great Basin. *Geobiology* 9: 471-480.
32. **Dodsworth JA, Hungate BA, Hedlund BP*.** 2011. Ammonia oxidation, denitrification and dissimilatory nitrate reduction to ammonium in two US Great Basin hot springs with abundant ammonia-oxidizing archaea. *Environmental Microbiology* 8:2371-2386.
33. **Dodsworth JA, Hungate B, de la Torre JR, Jiang H, Hedlund BP*.** 2011. Measuring nitrification, denitrification, and related biomarkers in continental geothermal ecosystems. *Methods in Enzymology* 486: 171-203.
34. **Dodsworth JA, Hedlund BP*.** 2010. Microbiology and geochemistry of Smith Creek and Grass Valley hot springs: Emerging evidence for wide distribution of novel thermophilic lineages in the US Great Basin. *Journal of Earth Science* 21: 315-318.
35. **Dodsworth JA, Li L, Wei S, Hedlund BP, Leigh JA, de Figueiredo P*.** 2010. Inter-domain conjugal transfer of DNA from Bacteria to Archaea. *Applied and Environmental Microbiology* 76: 5644-5647.
36. **Lefèvre CT, Abreu F, Schmidt ML, Lins U, Frankel RB, Hedlund BP, Bazyliński DA*.** 2010. Moderately thermophilic magnetotactic bacteria from hot springs in Nevada USA. *Applied and Environmental Microbiology* 76: 3740-3743.
37. **Vick TJ, Dodsworth JA, Costa KC, Shock EL, Hedlund BP*.** 2010. Microbiology and geochemistry of Little Hot Creek, a hot spring environment in the Long Valley Caldera. *Geobiology* 8: 140-154.
38. **Sun HJ*, Saccomanno V, Hedlund B, McKay CP.** 2009. Stereo-Specific Glucose Consumption May Be Used to Distinguish Between Chemical and Biological Reactivity on Mars: A Preliminary Test on Earth. *Astrobiology* 9: 443-446.
39. **Costa KC, Navarro JB, Shock EL, Zhang CL, Soukup D, Hedlund BP*.** 2009. Microbiology and geochemistry of Great Boiling and Mud Hot Springs in the United States Great Basin. *Extremophiles* 13: 447-459.

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40. Navarro JB, Moser DP, Flores A, Ross C, Rosen MR, Dong H, Zhang G, Hedlund BP*. 2009. Microbial community succession in an ephemeral hypereutrophic Mojave Desert playa lake. *Microbial Ecology* 57: 307-320.
41. Elkins JG, Podar M, Graham DE, Makarova KS, Wolf Y, Randau L, Hedlund BP, Brochier-Armanet C, Kunin V, Anderson I, Lapidus A, Goltsman E, Barry K, Koonin EV, Hugenholtz P, Kyrpides N, Wanner G, Richardson P, Keller M, Stetter KO*. 2008. A korarchaeal genome reveals insights into the evolution of archaea. *Proceedings of the National Academy of Sciences* 105: 8102-8107.
42. Zhang CL*, Ye Q, Huang Z, Li W, Chen J, Song Z, Zhao W, Bagwell C, Inskeep WP, Ross C, Gao L, Wiegel J, Romanek CS, Shock EL, Hedlund BP. 2008. Global occurrence of archaeal *amoA* genes in terrestrial hot springs. *Applied and Environmental Microbiology* 74: 6417-26.
43. Costa KC, Moser DP, Hallmark J, Navarro JB, Soukup D, LaBahn S, Hedlund BP*. 2008. Geomicrobiological Changes in Two Ephemeral Desert Playa Lakes in the Western United States. *Geomicrobiology Journal* 25:250-259.
44. Huang Z, Hedlund BP, Wiegel J, Zhou J, Zhang CL*. 2007. Molecular phylogeny of uncultivated Crenarchaeota in Great Basin hot springs of moderately elevated temperature. *Geomicrobiology Journal* 24: 535-542.
45. Hedlund B P*, Staley JT. 2006. Isolation and characterization of *Pseudoalteromonas* strains with divergent polycyclic aromatic hydrocarbon catabolic properties. *Environmental Microbiology* 8: 178-182.
46. Gu AZ, Hedlund BP, Staley JT, Strand SE, Stensel HD*. 2004. Analysis and comparison of the microbial community structures of two enrichment cultures capable of reductively dechlorinating TCE and cis-DCE. *Environmental Microbiology* 6: 45-54.
47. Oakley B, North M, Franklin JF, Hedlund BP, Staley JT*. 2004. Diversity and distribution of *Frankia* strains symbiotic with *Ceanothus* in California. *Applied and Environmental Microbiology* 70: 6444-6452.
48. Rachel R, Bettstetter M, Hedlund BP, Häring M, Kessler A, Stetter KO, Prangishvili D*. 2002. Remarkable morphological diversity of viruses and virus-like particles in hot terrestrial environments. *Archives of Virology* 147: 2419-2429.
49. Hohn MJ, Hedlund BP, Huber H*. 2002. Detection of 16S rDNA sequences representing the novel phylum "Nanoarchaeota": indication for a world-wide distribution in high temperature biotopes. *Systematic and Applied Microbiology* 25: 551-554.
50. Jenkins C, Samudrala R, Anderson I, Hedlund BP, Petroni G, Michailova N, Pinel N, Overbeek R, Rosati G, Staley JT*. 2002. Genes for the cytoskeletal protein tubulin in the bacterial genus *Prostheco bacter*. *Proceedings of the National Academy of Sciences* 99: 17049-17054.
51. Hedlund BP*, Staley JT. 2002. Phylogeny of the genus *Simonsiella* and other members of the Neisseriaceae. *International Journal of Systematic and Evolutionary Microbiology* 52: 1377-1382.
52. Hedlund BP*, Geiselbrecht AD, Staley JT. 2001. *Marinobacter* strain NCE312 has a *Pseudomonas*-like naphthalene dioxygenase. *FEMS Microbiology Letters* 201: 47-51.
53. Hedlund BP*, Staley JT. 2001. *Vibrio cyclotrophicus* sp. nov., a polycyclic aromatic hydrocarbon (PAH)-degrading marine bacterium. *International Journal of Systematic and Evolutionary Microbiology* 51: 61-66.
54. Ward NL*, Rainey FA, Hedlund BP, Staley JT, Ludwig W, Stackebrandt E. 2000. Comparative phylogenetic analyses of members of the order Planctomycetales and the division Verrucomicrobia: 23S rRNA gene sequence analysis supports the 16S rRNA gene sequence-derived phylogeny. *International Journal of Systematic and Evolutionary Microbiology* 50: 1965-1972.

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55. Rockne KJ, Chee-Sanford JC, Sanford RA, Hedlund BP, Staley JT, Strand SE*. 2000. Anaerobic naphthalene degradation by microbial pure cultures under nitrate-reducing conditions. *Applied and Environmental Microbiology* 66: 1595-1601.
56. Hedlund BP*, Geiselbrecht AD, Bair TJ, Staley JT. 1999. Polycyclic aromatic hydrocarbon degradation by a new marine bacterium, *Neptunomonas naphthovorans* gen. nov., sp. nov. *Applied and Environmental Microbiology* 65: 251-259.
57. Geiselbrecht AD*, Hedlund BP, Tichi MA, Staley JT. 1998. Isolation of marine polycyclic aromatic hydrocarbon (PAH)-degrading *Cycloclasticus* strains from the Gulf of Mexico and comparison of their PAH degradation ability with that of Puget Sound *Cycloclasticus* strains. *Applied and Environmental Microbiology* 64: 4703-4710.
58. Hedlund BP*, Gosink JJ, Staley JT. 1997. Verrucomicrobia div. nov., a new division of the bacteria containing three new species of *Prostheco bacter*. *Antonie van Leeuwenhoek* 72: 29-38.
59. Hedlund BP*, Gosink JJ, Staley JT. 1996. Phylogeny of *Prostheco bacter*, the fusiform caulobacters: members of a recently discovered division of the Bacteria. *International Journal of Systematic Bacteriology* 46: 960-966.

BOOK CHAPTERS (not including 22 chapters in Bergey's Volume 4)

1. Zhang C.L., B.P., Hedlund, and J. Meng. 2011. Diversity of archaea in terrestrial hot springs and role in ammonia oxidation. In De Bruijn FJ, (ed) *Handbook of Molecular Microbial Ecology II: Metagenomics in Different Habitats*. John Wiley & Sons, Hoboken, New Jersey. pp. 381-394. DOI: 10.1002/9781118010549.ch37
2. Hedlund, B. P. and K. C. Costa. 2009. *Neptunomonas*. In Kenneth N. Timmis (ed.) *Handbook of Hydrocarbon and Lipid Microbiology*. Springer Verlag, Heidelberg, Germany, pp. 1774-1779.
3. Hedlund, B. P. and D. A. Kuhn. 2006. The genera *Simonsiella* and *Alysiella*. In M. Dworkin, S. Falkow, E. Rosenberg, K.-H. Schleifer, and E. Stackebrandt (eds.) *The Prokaryotes*, 3rd Edition, Volume 5. Springer Verlag, New York, USA, pp. 828-839.
4. Stetter, K.O., M.J. Hohn, H. Huber, R. Rachel, E. Mathur, B. P. Hedlund, and U. Jahn. 2005. A novel kingdom of parasitic archaea. In W.P. Inskeep and T.R. McDermott (eds.) *Geothermal Biology and Geochemistry in Yellowstone National Park*, Montana State University Publications, Bozeman, MT, USA. pp. 249-259.
5. Hedlund, B. P. 2005. Genus *Neptunomonas*. In D.J. Brenner, N.R. Krieg, J.T. Staley, and G.M. Garrity (eds.) *Bergey's Manual of Systematic Bacteriology*, 2nd Edition, Volume 2B, Springer Verlag, New York, USA, pp. 292-295.
6. Hedlund, B. P. and T. Tønjum. 2005. Genus *Simonsiella*. In D.J. Brenner, N.R. Krieg, J.T. Staley, and G.M. Garrity (eds.) *Bergey's Manual of Systematic Bacteriology*, 2nd Edition, Volume 2C, Springer Verlag, New York, USA, pp. 292-295.
7. Hedlund, B. P. and J. T. Staley. 2003. Microbial Endemism and Biogeography. In A.T. Bull (ed.) *Microbial Diversity and Bioprospecting*, ASM Press, Washington DC, USA. pp. 225-231.
8. Staley, J. T., J. J. Gosink, and B.P. Hedlund. 1996. New bacterial taxa from polar sea ice communities and culture collections, P. 114-118. In R.A. Sampson, J.A. Stalpers, D. van der Mai, and A.H. Stouthamer (eds.) *Culture collections to improve the quality of life*. Ponson and Looyen, Wageningen, The Netherlands.

BOOKS EDITED*

* I edited all chapters, 34 in total, for two phyla of bacteria, *Lentisphaerae* and *Verrucomicrobia*. Editors

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typically write family- to phylum-level descriptions. In all, I co-authored 22 chapters. These are not included in the publication list above.

1. **Krieg, N.R., W. Ludwig, W.B. Whitman, B.P. Hedlund, B.J. Paster, J.T. Staley, N. Ward, D. Brown, A. Parte (eds).** 2011. *Bergey's Manual of Systematic Bacteriology: Volume 4: The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteria, Dictyoglomi, Gemmatamonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 2nd Edition. Springer Verlag, New York, USA.

GRANTS (>\$200K EXTRAMURAL)

1. **NSF Integrated Earth Systems.** 2015-2019. Collaborative Research: Tectonic and climatic forcing of hydrological systems in the southern Great Basin: Implications for ancient and future aquatic system resilience. \$238,028 (UNLV budget) (Co-PI with PI Phillips and Co-PIs Wilson, Axen, van Wijk, Sada, Knott, Frisbee, Rademacher)
2. **NIH R01.** 2014-2019. Prophylaxis of *Clostridium difficile* infection. \$3,200,000. (Co-PI with PI Abel-Santos and Co-PI Firestine)
3. **NASA Exobiology.** 2011-2014. Exploration of “biological dark matter” in geothermal springs. \$995,349. (PI with Co-PIs J. Dodsworth, S. Quake, J. Raymond, W. Swingley.)
4. **NSF Partnerships in International Research and Education (PIRE).** 2010-2015. PIRE: Toward a holistic and global understanding of hot spring ecosystems: A US-China based international collaboration. \$3,750,000. (PI with Co-PIs C. Zhang, H. Dong, M.K. Orgill, C. Ross, B. Hungate, J. de la Torre, J. Peters, S. Quake, H. Hartnett, K. Regner.)
5. **NSF Early Career Development Award.** 2006-2011. CAREER: Linking novel thermophiles with ecosystem function: Study of a model spring in Nevada. \$841,632. (PI) With REU and ROA supplements 2007, 2009, 2010: ~\$67,000 total.
6. **Nevada Renewable Energy Consortium (DOE).** 2010-2011. Novel thermophilic microorganisms and cellulases for improving second-generation biofuels technologies. \$312,500. (PI with Co-PI Moser)

GRANTS (IN KIND, <\$200K, OR INTRAMURAL)

1. **UNLV Faculty Opportunity Award.** 2012-2013. Probing relationships between *Clostridium difficile* infection (CDI), CDI prophylactics, and the intestinal microbiome. \$20,000. (PI)
2. **NASA EPSCoR.** 2013-2014. Host a workshop to develop ideas on Nevada's astrobiology expertise. \$11,216, (PI)
3. **Illumina/MicroSeq.** 2013-2014. 16S rRNA Gene Tagging from Multiple Samples to Obtain Pilot Data for Grant Applications to NIH, NSF, DOE, and NASA. In kind DNA sequencing grant. (PI)
4. **UNLV Faculty Opportunity Award.** 2012-2013. Informatics and functional metagenomics focusing on viral polymerases in Nevada hot springs. \$30,000. (PI with collaborators David Mead, Tom Schoenfeld, and Eric Wommack)
5. **Amazon Web Services Education Research Grant.** 2012. Unraveling the Mysteries of “Biological Dark Matter”. ~\$25,000 in Cloud Computing Time. (PI)
6. **DOE JGI Community Sequencing Program.** 2012. Sequencing the genomes of two abundant thermophiles in Great Basin hot springs: *Thermocrinis jamiesonii* and novel Chloroflexi *Thermoflexus hugenholtzii*. Funding for genome sequencing and annotation. (PI with Co-PI Dodsworth)
7. **DOE EMSL Rapid.** 2012. TEM imaging of cell ultrastructure of novel thermophilic bacteria in the phyla *Chloroflexi* and *Aquificae*. Funding for collaboration with Alice Donhalkova at PNNL.

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8. **Urban 21 (DOE).** 2010-2012. Working toward a competitive secondary biofuels industry: biochemical characterization of novel thermophilic cellulases. \$44,526. (PI with co-PI Abel-Santos)
9. **NSF REU Site.** 2011-2014. Environmental microbiology. ~\$275,000. (Senior personnel)
10. **Nevada Space Grant.** 2010. Nevada's NASA Space Grant Summer Short Courses: Nevada Earth And Space Science Initiative III: Geobiology. \$195,000. (Co-PI with PI Fritsen and co-PIs Murray, Sun, and Crowther)
11. **DOE JGI Community Sequencing Program.** 2010. Sequencing Genomes of Environmentally Important Thermophiles in Great Basin hot springs: *Thermocrinis ruber*, three species of *Thermus*, and a novel *Chloroflexi*. Funding for genome sequencing and annotation.
12. **DOE JGI Community Sequencing Program.** 2009-2010. Metagenomes of Great Boiling Spring Sediment and Water Microbial Communities. Funding for ~4 Gbp of DNA sequence and annotation.
13. **UNLV Reseach Infrastructure Award Proposal.** 2006. A Broadly Equipped Gas Chromatography Suite to Enhance the Competitiveness of Research in Biology and Biogeoscience Research at UNLV. \$69,748 (with Co-PI Dennis Bazylinski)
14. **UNLV Applied Research Initiative.** 2005-2006. Title: Investigation of the mechanism and microbial populations involved in the Cannibal sludge reduction process \$76,000 (with Co-PI April Gu)
15. **UNLV Stimulation, Implementation, Transition & Enhancement Award.** 2004. Stimulation, Implementation, Transition & Enhancement Award. Development of the Center for Aridlands Biodiversity Research and Education (CABRE) at the University of Nevada, Las Vegas. \$7,500 (Co-PI with PI Brett Riddle)
16. **UNLV Stimulation, Implementation, Transition & Enhancement Award.** 2003. Evolution of microbial commensals of desert mammals. \$7,500
17. **UNLV New Investigator Award.** 2003-2004. Microbial Diversity Survey in High Temperature Hot Springs (>70°C) in the Basin and Range Region. \$15,000
18. **Alexander von Humboldt Postdoctoral Fellowship.** 2001-2002. Cultivation of Korarchaeota from Obsidian Pool, Yellowstone National Park. \$76,000
19. **NIH Molecular & Cellular Biology Graduate Fellowship.** 1999-2000 and 1995-1996. Diversity of marine polycyclic aromatic hydrocarbon catabolizing organisms in Puget Sound. ~\$30,000
20. **NOAA Graduate Fellowship.** 1997-1999. Diversity of marine polycyclic aromatic hydrocarbon catabolizing organisms in Puget Sound. ~\$60,000
21. **Sigma Xi Grants in Aid of Research,** 1995, 1997

HONORS & AWARDS (some awards are also listed under grants)

1. **UNLV College of Sciences Distinguished Researcher Award.** 2014.
2. **UNLV Angel Professorship.** 2012-2015. \$75,000 award from benefactor Greg Fullmer.
3. **Nevada Regents' Rising Researcher Award.** 2010. Awarded annually to one researcher on each University of Nevada campus (must be within ten years of Ph.D.).
4. **NSF Early Career Development Award.** 2006.
5. **UNLV New Investigator Award.** 2003.
6. **Helen Raiboff Whiteley Endowment Fellowship.** 2000. Award to outstanding graduate student, Department of Microbiology, University of Washington.

RESEARCH SEMINARS

1. Montana State University, Thermal Biology Institute. February 2015.

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2. University of Nevada Las Vegas, School of Life Sciences. September 2013.
3. Virginia Polytechnic Institute and State University (Virginia Tech), VBI. August 2013
4. Sichuan University of Science & Engineering. June 2013.
5. Pacific Northwest National Laboratories. October, 2012.
6. National University of Ireland, Galway. April 2012.
7. Arizona State University, Astrobiology Coffee. November 2011.
8. Yunnan University, Yunnan Institute of Microbiology. June 2011.
9. University of Nevada Las Vegas, Department of Geoscience. March 2011.
10. Portland State University, School of Life Sciences. February 2011.
11. China University of Geosciences-Beijing, January 2011.
12. University of Nevada Reno, Department of Environmental Sciences. September 2010.
13. Montana State University, Department of Microbiology. April 2008.
14. Montana State University, Thermal Biology Institute. April 2008.
15. Pacific Lutheran University, Department of Biology. February 2008.
16. University of Georgia, Department of Marine Sciences. September 2007.
17. California Institute of Technology, Environmental Science & Engineering. February 2007.
18. Black Hills State University, Biology Department. November 2006.
19. Miami University, Department of Microbiology. February 2003.
20. University of Nevada Las Vegas, Department of Biological Sciences. February 2003.
21. St. Lawrence University, Biology Department. February 2003.
22. Universität Regensburg, Germany, Department of Microbiology and Archaea Studies. March 2000.
23. Western Oregon University, Department of Biology. November 1998.

SELECTED MEETING PRESENTATIONS*

Selected presentations since 2003 only. Note that some presentations were given in more than one meeting.

* Presenting author is denoted by an asterisk.

1. Brian P. Hedlund*. 2014. Progress on yet-uncultivated candidate phyla of microorganisms from single-cell genomics- and metagenomics-driven research. International Workshop on Trends in Microbiology and Microbial Biotechnology. October 5-8, 2014, Yerevan, Armenia. (Invited oral presentation; keynote lecture and session chair; international meeting.)
2. Brian P. Hedlund*, Jeremy A. Dodsworth, Senthil K. Murugapiran, Christian Rinke, Brandon R. Briggs, Paul C. Blainey, Iwijn De Vlaminck, Jad Kanbar, Patrick Schwientek, Susannah G. Tringe, Patrick S.G. Chain, Matthew B. Scholz, Chien-Chi Lo, Stephen R. Quake, Hailiang Dong, and Tanja Woyke. 2014. New Insights on Ecological Functions of Candidate Microbial Phyla Inhabiting Geothermal Springs from Single-Cell Genomes and Metagenomes. 10th International Conference on Thermophiles Research. September 7 - 11, 2014 in St. Petersburg, Russia. (Invited oral presentation; keynote lecture and session chair; international meeting.)
3. Senthil K. Murugapiran*, Jeremy A. Dodsworth, Paul C. Blainey, Nobu Masaru, Christian Rinke, Patrick Schwientek, Wes Swingley, Christian A. Ross, Susannah G. Tringe, Patrick S.G. Chain, Matthew B. Scholz, Chien-Chi Lo, Esther A. Gies, Gordon Webster, Peter Kille, Andrew Weightman, Wen-Tso Liu, Steven J. Hallam, George Tsiamis, Jason Raymond, Stephen R. Quake, Tanja Woyke, and Brian P. Hedlund. 2014. Physiology and Phylogeny of the Candidate Phylum Atribacteria (OP9 & JS-1) Inferred from Single-Cell Genomics and Metagenomics. 10th International Conference on Thermophiles Research. September 7 - 11, 2014 in St. Petersburg, Russia. (Oral presentation; international meeting.)
4. Hedlund, B.P.*, Dodsworth, J.A., Murugapiran, S.K., Rinke, C., and Woyke, T. 2014. "Microbial dark

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- matter” genomes from geothermal springs: progress report and taxonomic perspective. 2nd Meeting of Bergeys International Society for Microbial Systematics (BISMIS). April. Edinburgh, Scotland. (Oral presentation; international meeting.)
5. B.P. Hedlund*. 2014. Integrating single-cell genomics and metagenomics to uncover 'microbial dark matter' in Great Boiling Spring, Nevada. JGI User Meeting. March 18-20, 2014. Walnut Creek, CA. (Oral presentation).
 6. J.A. Dodsworth*, N. Masaru, S.K. Murugapiran, C. Rinke, P. Schwienetek, E.A. Gies, G. Webster, P. Kille, A. Weightman, W.T. Liu, S.J. Hallam, G. Tsiamis, and B.P. Hedlund. 2014. Phylogeny and physiological potential of the candidate phylum "Atribacteria" inferred from single-cell genomes and binned metagenomes. JGI User Meeting. March 18-20, 2014. Walnut Creek, CA. (Poster presentation).
 7. Murugapiran, S.K.*, J.A. Dodsworth, I. De Vlaminck, P. Blainey, J. Kanbar, C. de Bourcy, C. Rinke, T. Woyke, S.R. Quake, and B.P. Hedlund. 2014. Sequencing and assembly of DNA from "Aigarchaeota" single cells using Pacific Biosciences, Illumina and 454 sequencing platforms, and integration with metagenomic analyses. JGI User Meeting. March 18-20, 2014. Walnut Creek, CA. (Poster presentation).
 8. Alba, T.W.*, S.K. Murugapiran*, P. Blainey, J.A. Dodsworth, S. Thomas, C. Rinke, T. Woyke, I. De Vlaminck, R. Stepanauskas, S.R. Quake, and B.P. Hedlund. 2014. Insights into the global diversity and physiology of "Aigarchaeota" through synergistic analysis of single-cell genomes and metagenomes. JGI User Meeting. March 18-20, Walnut Creek, CA. (Poster presentation).
 9. Murugapiran, S.K.*, J.A. Dodsworth, P. Blainey, S. Quake, S.G. Tringe, T. G. del Rio, and B.P. Hedlund. 2014. Integrating single-cell genomics and metagenomics to uncover 'microbial dark matter' in Great Boiling Spring, Nevada. JGI User Meeting. March 2014. Walnut Creek, CA. (Oral presentation).
 10. Brian P. Hedlund*, Jeremy A. Dodsworth, Scott C. Thomas, Jessica Cole, Joseph Peacock, James Han, Bruce A. Hungate, Paul Dijkstra, James R. Brown, José R. de la Torre, Tanja Woyke, Susan M. Lucas, Sam Pitluck, Tara A. Edwards, Len Pennacchio, Dee Huang, Nicole Calica, Chuanlun Zhang, Senthil K. Murugapiran, Lynne Goodwin. 2013. Toward understanding the nitrogen biogeochemical cycle in terrestrial geothermal habitats. 11th International Conference on Thermophiles Research. September 8-13, 2013 in Regensburg, Germany. (Invited oral presentation; international meeting.)
 11. Hovik H. Panosyan*, Jeremy A. Dodsworth, Jessica Cole, Brian P. Hedlund. 2013. Archaeal diversity in Armenian geothermal springs detected by molecular and culture-based approaches. 11th International Conference on Thermophiles Research. September 8-13, 2013 in Regensburg, Germany. (poster presentation; international meeting.)
 12. Timothy W. Alba*, Gisele B. Goertz, Amanda J. Williams, Jessica K. Cole, Senthil K. Murugapiran, Jeremy A. Dodsworth, Brian P. Hedlund. 2013. Diversity and Habitat Niche Modeling of Candidate Archaeal Phylum Aigarchaeota. American Geophysical Union Annual Meeting. Dec. 9-13, 2013. San Francisco, CA. (Poster presentation; international meeting.)
 13. Scott C. Thomas*, Kevin O. Tamadonfar, Paul Dijkstra, Jeremy A. Dodsworth, Brian P. Hedlund. 2013. Use of Position-Specific ¹³C Isotopomers to Examine Central Carbon Metabolism in the thermophile "Thermoflexus hugenoltzii". American Geophysical Union Annual Meeting. Dec. 9-13, 2013. San Francisco, CA. (Poster presentation; international meeting.)
 14. Joseph Hungate*, Toniann M. DeSousa, John C. Ong, Melanie Caron, Jamie R. Brown, Nisarg Patel, Xiaojun Liu, Jeremy A. Dodsworth, Paul Dijkstra, Brian P. Hedlund, and Bruce A. Hungate. 2010. Using Hydrogen Isotopes to Trace Terrestrial Subsidies to Hot Springs. American Geophysical Union Annual Meeting. Dec. 9-13, 2010. San Francisco, CA. (Poster presentation; international meeting.)
 15. Hedlund, B.P*. 2013. Overview of NSF-funded China-US collaborations. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
 16. Hailiang Dong*, Hongchen Jiang, Weiguo Hou, Shang Wang, Brandon Briggs, Qiuyuan Huang,

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- Liuqin Huang, Geng Wu, Brian Hedlund, Chuanlun Zhang, and Jizhong Zhou. 2013. Biogeochemical Cycling in Hot Springs - a global view. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
17. Paul Dijkstra*, Kees-Jan van Groenigen, Shannon Hagerty, Elena Salpas, Dawson Fairbanks, Bruce Hungate, George Koch, Egbert Schwartz, Scott Thomas, and Brian Hedlund. 2013. C Cycling in Microbial Communities – Metabolic Pathways and Efficiencies in Soils and Hot Springs. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
 18. Amy Jo A. Johnson*, Talia N. Jewell, William B. Ludington, Jeremy A. Dodsworth, Senthil K. Murugapiran, Iwijn De Vlaminck, Jad Kanbar, Stephen R. Quake, Joseph L. DeRisi, Brian P. Hedlund, and José R. de la Torre. 2013. Ammonia Oxidation in Archaea: Insights from Comparative Genomics and Gene Expression Studies of the thermophile *Nitrosocaldus yellowstonii* and its relatives. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
 19. Chuanlun L. Zhang*, Jinxiang Wang, Jeremy A. Dodsworth, Amanda J. Williams, Chun Zhu⁴, Kai Hinrichs, Brian P. Hedlund. 2013. In Situ Production of Branched Glycerol Dialkyl Glycerol Tetraethers in a Great Basin Hot Spring (USA). Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
 20. Brian P. Hedlund*, Jeremy A. Dodsworth, Senthil K. Murugapiran, Timothy Alba, Iwijn de Vlaminck, Christian Rinke, Patrick Schwientek, Stephen R. Quake, and Tanja Woyke. 2013. Genomes from novel microbial lineages in Tengchong hot springs reconstructed by metagenomics and single-cell genomics. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
 21. Brandon R. Briggs*, Eoin L. Brodie, Lauren M. Tom, Hailiang Dong, Hongchen Jiang, Qiuyuan Huang, Shang Wan³, Weiguo Hou, Geng Wu, Liuqin Huang, Brian P. Hedlund, Chuanlun Zhang, Paul Dijkstra, and Bruce A. Hungate. 2013. Seasonal patterns in microbial communities inhabiting the hot springs of Tengchong, Yunnan Province, China. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Oral presentation; international meeting.)
 22. Jeremy A. Dodsworth, Paul C. Blainey, Senthil K. Murugapiran, Wesley D. Swingley, Christian A. Ross, Susannah G. Tringe, Patrick S. G. Chain, Matthew B. Scholz, Chien-Chi Lo, Jason Raymond, Stephen R. Quake, and Brian P. Hedlund*. 2013. Single-cell and metagenomic analyses indicate a fermentative, saccharolytic lifestyle for members of the OP9 lineage. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 23. Jeremy A. Dodsworth, Jonathan Gevorkian, Fairuz Despujos, Jessica K. Cole, Senthil K. Murugapiran, Hong Ming, Tian Tian Yu, Wen-Jun Li, Alice Dohnalkova, and Brian P. Hedlund*. 2013. *Thermoflexus hugenholtzii* gen. nov., sp. nov., a thermophilic, microaerophilic, filamentous bacterium representing a novel class in the *Chloroflexi*, *Thermoflexia* classis nov., and description of *Thermoflexaceae* fam. nov. and *Thermoflexales* ord. nov. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 24. Tara A. Edwards, Nicole A. Calica, Dolores A. Huang, Namritha Manoharan, Weiguo Hou, Liuqin Huang, Hovik Panosyan, Hailiang Dong, and Brian P. Hedlund*. 2013. Cultivation and characterization of thermophilic *Nitrospira* species from geothermal springs in China, Armenia, and Western U.S.

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- Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster)
25. Dawson Fairbanks, Bruce Hungate, George Koch, Egbert Schwartz, Scott Thomas, Brian Hedlund and Paul Dijkstra*. 2013. Measuring and Modeling Activities of the Central Carbon Metabolic Processes using Position-Specific ^{13}C -Labeled Glucose in Soil and Hot Spring Microbial Communities. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 26. Weiguo Hou*, Shang Wang, Hailiang Dong*, Hongchen Jiang, Brandon R. Briggs, Joseph P. Peacock, Qiuyuan Huang, Liuqin Huang, Geng Wu, Xiaoyang Zhi, Wenjun Li, Jeremy A. Dodsworth, Brian P. Hedlund, Chuanlun Zhang, Hilairy E. Hartnett, Paul Dijkstra, Bruce A. Hungate. 2013. A Comprehensive Census of Microbial Diversity in Hot Springs of Tengchong, Yunnan Province China using 16S rRNA gene Pyrosequencing. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 27. Brandon Gieler, Jessica K. Cole, Devon Heisler, Maryknoll Palisoc, Amanda J. Williams, Duy Trinh, Jeremy A. Dodsworth, Hong Ming, Tian Tian Yu, Wen-Jun Li, and Brian P. Hedlund*. 2013. Characterization of a Novel Order Within the Phylum *Chloroflexi* Capable of Cellulose Degradation. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 28. Bruce Hungate, Jamie R. Brown*, Rebecca L. Mau, Scott C. Thomas, Jeremy A. Dodsworth, Brian P. Hedlund, Eric S. Boyd, Talia N. Jewell, José R. de la Torre and Paul Dijkstra. 2013. Nitrification and C Fixation in Hot Springs in the Presence and Absence of Allyl-Thio-Urea (ATU), a Nitrification Inhibitor. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 29. Julienne J. Paraiso, Amanda J. Williams*, Brian P. Hedlund, Chuanlun L. Zhang. 2013. Survey of glycerol dialkyl glycerol tetraethers (GDGTs) in Nevada and California hot springs and selected thermophiles Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 30. Kevin O. Tamadonfar*, Scott C. Thomas, Paul Dijkstra, Jeremy A. Dodsworth, Brian P. Hedlund. 2013. Examining Central Carbon Metabolism in the thermophile “*Thermoflexus hugenholtzii*”. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting. Best student presentation.)
 31. Jin-Xiang Wang*, Eric Boyd, Brian Hedlund, Chuanlun L. Zhang. 2013. The Potential Biological Source of Branched Glycerol Dialkyl Glycerol Tetraethers (bGDGTs) in Geothermal Systems of Yellowstone National Park, USA. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting. Best student presentation.)
 32. Wei Xie*, Jinxiang Wang, Yufei Chen, Martin Klotz, Yuanqing Zhu, Jose de la Torre, Hailiang Dong, Brian Hedlund, Chuanlun Zhang. 2013. Genetic vs. chemical/physical controls on the distribution of archaeal lipids from Tengchong hot springs. Symposium: China-US Collaborative Research on Life in Terrestrial Geothermal Springs Kunming, China, June 26-28, 2013. (Poster presentation; international meeting.)
 33. Manoharan, N. *, N.A. Calica, E.S. Boyd, and B.P. Hedlund. 2013. Distribution, thermal limit, and biogeography of nitrite-oxidizing bacteria in geothermal springs throughout the U.S. West. AAAS 94th Annual Meeting of the Pacific Division. June 16-19, 2013. Las Vegas, NV.
 34. Manoharan, N. *, N.A. Calica, E.S. Boyd, and B.P. Hedlund. 2013. Distribution, thermal limit, and biogeography of nitrite-oxidizing bacteria in geothermal springs throughout the U.S. West.

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- 3rd Annual Festival of Communities Creative Activities Symposium. April 20, 2013. Las Vegas, NV.
35. Manoharan, N. *, N.A. Calica, E.S. Boyd, and B.P. Hedlund. 2013. Distribution, thermal limit, and biogeography of nitrite-oxidizing bacteria in geothermal springs throughout the U.S. West. Nevada Undergraduate Research Symposium. April 15-16, 2013. Reno, NV.
36. Paraiso, J.P. *, Williams, A.J., Hedlund, B.P., and Zhang, C.L. 2013. Survey of glycerol dialkyl glycerol tetraethers (GDGTs) in Nevada and California hot springs and selected thermophiles. 3rd Annual Festival of Communities Creative Activities Symposium. April 20, 2013. Las Vegas, NV.
37. Tamadonfar, K.O. *, S.C. Thomas, P. Dijkstra, J.A. Dodsworth, and B.P. Hedlund. 2013. Examining central carbon metabolism in the thermophile “*Thermoflexus hugenholtzii*”. 3rd Annual Festival of Communities Creative Activities Symposium. April 20, 2013. Las Vegas, NV.
38. Tamadonfar, K.O. *, S.C. Thomas, P. Dijkstra, J.A. Dodsworth, and B.P. Hedlund. 2013. Examining central carbon metabolism in the thermophile “*Thermoflexus hugenholtzii*”. Nevada Undergraduate Research Symposium. April 15-16, 2013. Reno, NV.
39. Paraiso, J.P. *, Williams, A.J., Hedlund, B.P., and Zhang, C.L. 2012. Survey of glycerol dialkyl glycerol tetraethers (GDGTs) in Nevada and California hot springs and selected thermophiles. 13th Annual UNLV McNair Scholars Symposium. October 18, 2012. Las Vegas, NV.
40. Babbitt, A.B. *, Dodsworth, J.A., and Hedlund, B.P. 2012. Testing the importance of alternative catabolic pathways of *Thermocrinis* in Great Boiling Spring. UNLV Undergraduate Research Symposium. August 9, 2012. Las Vegas, NV.
41. Gieler, B. *, Cole, J.K., Orbeck, K., Paliso, M.K., Williams, A.J., Trinh, D., Dodsworth, J.A., Hong, M., Yu, T.T, Li, W.J., and Hedlund, B.P. 2012. Characterization of a novel order with the phylum *Chloroflexi* capable of cellulose degradation. UNLV Undergraduate Research Symposium. August 9, 2012. Las Vegas, NV.
42. Edwards, T.A., Huang, D., Calica, N. *, Dodsworth, J.A., and Hedlund, B.P. 2012. Nitrite oxidation in Tengchong Geothermal System. Nevada Undergraduate Research Symposium. April 18-19, 2012. Reno, NV.
43. Edwards, T.A. *, Huang, D., Calica, N., Dodsworth, J.A., and Hedlund, B.P. 2012. Nitrite oxidation in Tengchong Geothermal System. 2nd Annual Festival of Communities Creative Activities Symposium. April 21, 2012. Las Vegas, NV.
44. Hedlund, B.P.* 2012. Nitrogen cycling *in extremis*. 2012 Society for General Microbiology. March 26, Dublin, Ireland. (Invited oral presentation; international meeting.)
45. Murugapiran, S.K.*, J.A. Dodsworth, P. Blainey, S. Quake, S.G. Tringe, T. G. del Rio, and B.P. Hedlund. 2012. Single-cell genomics and metagenomics of the OP9 lineage in US Great Basin hot springs. JGI User Meeting. March 23, 2012. Walnut Creek, CA. (Poster presentation).
46. Hedlund, B.P. 2011. Life at high temperature: an altered nitrogen cycle and cultivation and genomics of “biological dark matter”. 2011 International Conference on Microbial Life in Extreme Environments. December 5-8, 2011 in Shenzhen, China (Invited oral presentation; international meeting.)
47. Dijkstra, P. *, Brown, J.R., Dodsworth, J.A., Hedlund, B.P., and Hungate, B.A. 2011. Aspects of N cycling in thermal environments. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Invited oral presentation; international meeting.)
48. Dodsworth, J.A., Murugapiran, S.K., Gevorkian, J.*, Han, J., Woyke, T., Lucas, S.M., Pitluck, S., Pennacchio, L., Goodwin, L. and Hedlund, B.P. 2011. Isolation, characterization, and genome sequence of the first representative of a novel class within the Chloroflexi that is abundant in some US Great Basin hot springs and may play important roles in N and C cycling. First International Conference on Geomicrobial Ecotoxicology. May 28-31, 2011 in Wuhan, China. (Poster presentation; international meeting.) Best presentation award.
49. Dodsworth, J.A., Murugapiran, S.K., Gevorkian, J.*, Han, J., Woyke, T., Lucas, S.M., Pitluck, S.,

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- Pennacchio, L., Goodwin, L. and Hedlund, B.P. 2011. Isolation, characterization, and genome sequence of the first representative of a novel class within the Chloroflexi that is abundant in some US Great Basin hot springs and may play important roles in N and C cycling. UNLV Undergraduate Research Symposium. August 9, 2011. Las Vegas, NV. (Poster presentation; local meeting.)
50. Dodsworth, J.A.*, Murugapiran, S.K., Gevorkian, J., Han, J., Woyke, T., Lucas, S.M., Pitluck, S., Pennacchio, L., Goodwin, L., and Hedlund, B.P. 2011. Isolation of the first representative of a novel class within the Chloroflexi that is abundant in some U.S. Great Basin hot springs and may play important roles in N and C cycling. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Poster presentation; international meeting.)
51. Edwards, T.A., Huang, D., Calica, N.*, Dodsworth, J.A., and Hedlund, B.P. 2011. Nitrite oxidation in the Great Boiling Spring system in the US Great Basin. First International Conference on Geomicrobial Ecotoxicology. May 28-31, 2011 in Wuhan, China. (Poster presentation; international meeting.) Best presentation award.
52. Edwards, T.A.*, Huang, D., Calica, N., Dodsworth, J.A., and Hedlund, B.P. 2011. Nitrite oxidation in the Great Boiling Spring system in the U.S. Great Basin. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Poster presentation; international meeting.)
53. Edwards, T.A., Huang, D., Calica, N.*, Dodsworth, J.A., and Hedlund, B.P. 2011. Nitrite oxidation in the Great Boiling Spring system in the US Great Basin. UNLV Undergraduate Research Symposium. August 9, 2011. Las Vegas, NV. (Poster presentation; regional meeting.)
54. Gray, H.M. *, Melloy, S.M., Theis, R., Johnson, A.J.A., Jewell, T., Tung, E., Hedlund, B.P., Stahl, D.A., and de la Torre, J.R. 2011. Insights into high-temperature nitrogen cycling from studies of the thermophilic ammonia-oxidizing archaeon *Nitrosocaldus yellowstonii*. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Poster presentation; international meeting.)
55. Guy, J.K.*, Peacock, J.P., Dodsworth, J.A., Woyke, T., del Rio, T.G., and Hedlund, B.P. 2011. A spatial and temporal analysis of microbial communities in Great Boiling Spring, Nevada, by 16S rRNA gene pyrotag analysis. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Poster presentation; international meeting.)
56. Guy, J.K., Peacock, J.P.*, Murugapiran, S.K., Dodsworth, J.A., Woyke, T., del Rio, T.G., and Hedlund, B.P. 2011. A Spatial and Temporal Analysis of Microbial Communities in Great Boiling Spring, Nevada, by 16S rRNA Gene Pyrotag Analysis. First International Conference on Geomicrobial Ecotoxicology. May 28-31, 2011 in Wuhan, China. (Oral presentation; international meeting.) Best presentation award.
57. Guy, J.K., Peacock, J.P., Murugapiran, S.K., Dodsworth, J.A., Woyke, T., del Rio, T.G., and Hedlund, B.P.* 2011. A Spatial and Temporal Analysis of Microbial Communities in Great Boiling Spring, Nevada, by 16S rRNA Gene Pyrotag Analysis. Inagural Meeting of Bergeys International Society for Microbial Systematics (BISMIS). May 19-23, 2011. Beijing, China. (Poster presentation; international meeting.)
58. Guy, J.K., Peacock, J.P.*, Murugapiran, S.K., Dodsworth, J.A., Woyke, T., del Rio, T.G., and Hedlund, B.P. 2011. A Spatial and Temporal Analysis of Microbial Communities in Great Boiling Spring, Nevada, by 16S rRNA Gene Pyrotag Analysis. UNLV Undergraduate Research Symposium. August 9, 2011. Las Vegas, NV. (Poster presentation; international meeting.)
59. Hedlund, B.P.*, Dodsworth, J.A., Guy, J., Peacock, J., Han, J., Hungate, B.A., de la Torre, J.R., Woyke, T., Lucas, S.M., Pitluck, S.; Edwards, T.A., Pennacchio, L., Huang, D., Calica, N., Gevorkian, J., Zhang, C., Murugapiran, S.K., and Goodwin, L. 2011. The emerging view of life in Great Boiling Spring, Nevada. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Invited oral presentation; international meeting.)

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60. Johnson, A.J.A.*, Theis, R.M., Gray, H.M., Dodsworth, J.A., Hedlund, B.P., and de la Torre, J.R. 2011. Comparing hot spring metagenomes to the complete genome of the ammonia-oxidizing thermophilic archaeon, *Nitrosocaldus yellowstonii*. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Poster presentation; international meeting.)
61. Murugapiran, S.K., Dodsworth, J.A., Guy, J.K., Peacock, J.P.*, Woyke, T., Tringe, S.G. and Hedlund, B.P. 2011. Novel thermophilic microorganisms and cellulases for improving second-generation biofuel technologies. First International Conference on Geomicrobial Ecotoxicology. May 28-31, 2011 in Wuhan, China. (Poster presentation; international meeting.)
62. Murugapiran, S.K., Dodsworth, J.A., Guy, J.K., Peacock, J.P., Woyke, T., Tringe, S.G. and Hedlund, B.P.* 2011. Novel thermophilic microorganisms and cellulases for improving second-generation biofuel technologies. Inagural Meeting of Bergeys International Society for Microbial Systematics (BISMIS). May 19-23. Beijing, China. (Poster presentation; international meeting.) Best presentation award.
63. Murugapiran, S.K.*, Dodsworth, J.A., Guy, J.K., Peacock, J., Woyke, T., Tringe, S.G., and Hedlund, B.P. 2011. Thermophilic cellulolytic enrichments as sources of novel microorganisms and cellulases for improving second-generation biofuels. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Poster presentation; international meeting.)
64. Zhang, C.L.*, Wang, J., Li, F., He, L., Song, Z., Li, W., Dong, H., Zhang, Y., Jiang, H., Boyd, E., Dodsworth, J.A., and Hedlund, B.P. 2011. Intact polar tetraether lipids of archaea and bacteria from hot springs in China and the USA. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Invited oral presentation; international meeting.)
65. Schoenfeld, T.*, Hermersmann, N., Moser, M., Hedlund, B.P., Dodsworth, J.A., and Mead, D. 2011. Comparative viral metagenomics of neutral hot springs in Yellowstone and Nevada reveals high genetic diversity and identifies novel replication operons and useful reagent enzymes. 11th International Conference on Thermophiles Research. September 11-16, 2011 in Big Sky, MT, U.S.A. (Invited oral presentation; international meeting.)
66. Palisoc, M.M.*, Guy, J.K., Peacock, J.P., Dodsworth, J.A., Trinh, D.C., and Hedlund, B.P. 2011. Novel thermophilic cellulolytic isolates belonging to the phylum Chloroflexi. UNLV Undergraduate Research Symposium. August 9, 2011. Las Vegas, NV. (Poster presentation; local meeting.)
67. Xie W., Wang J., Li F., Wei Y., Dong H., Hedlund B., Zhang C.L. 2011. Occurrence of branched GDGT-lipids in Tengchong hot springs, China. American Geophysical Union Annual Meeting. Dec. 4-9, 2011. San Francisco. (Poster presentation; international meeting.)
68. Jeremy A. Dodsworth, Bruce A. Hungate, Brian P. Hedlund*. 2010. Quantification of Nitrogen Cycle Processes in two US Great Basin Geothermal Springs. American Geophysical Union Annual Meeting. Dec. 9-13, 2010. San Francisco. (Invited oral presentation; international meeting.)
69. Hedlund, B.P.* (on behalf of 19 other authors). 2010. The Tengchong Geothermal System PIRE Project: US-China Collaboration in Action. Workshop: US-China Collaborative Research on Geomicrobiological Processes in Extreme Environments. Penn State University, May 18-23, 2010. (International meeting; plenary session)
70. Hedlund, B.P.*, J.A. Dodsworth, P. Blainey, and S. Quake. 2010. A Microfluidics Platform for Single-Cell Genomics: Some Preliminary Results from Great Basin Hot Springs. Workshop: US-China Collaborative Research on Geomicrobiological Processes in Extreme Environments. Penn State University, May 18-23, 2010. (International meeting)
71. Dodsworth, J.A., J. Brown, B.A. Hungate, and B.P. Hedlund*. 2010. Denitrification and nitrification in two US Great Basin geothermal springs. American Society for Microbiology Annual Meeting, May, 2010, San Diego, CA. (Poster presentation; International meeting)
72. McDonald, A.I.*, J. Lam, J.A. Dodsworth, and B.P. Hedlund. 2010. Possible role of *Thermus thermophilus* and *Thermus oshimai* in high nitrous oxide flux at ~80°C in Great Basin hot

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- springs. Arizona/Southern Nevada American Society for Microbiology Annual Meeting, April, 2010, Las Vegas. (Regional meeting)
73. Guy, J.*, J.A. Dodsworth, and B.P. Hedlund. 2010. Exploring cellulolytic microbial life in Nevada hot springs. Arizona/Southern Nevada American Society for Microbiology Annual Meeting, April, 2010, Las Vegas. (Regional meeting)
74. Guy, J.*, J.A. Dodsworth, and B.P. Hedlund. 2010. Exploring cellulolytic microbial life in Nevada hot springs. UNLV Undergraduate Research Symposium, August, 2010. (Regional meeting)
75. Dolores A. Huang*, Jeremy A. Dodsworth, and Hedlund, B.P. 2009. Researching nitrite oxidation at high temperatures. UNLV Undergraduate Research Symposium, August, 2009. (Local meeting)
76. Jenny Lam*, Jeremy A. Dodsworth, and Brian P. Hedlund. 2009. Exploring diversity of nitrate reducing thermophiles in Nevada hot springs. UNLV Undergraduate Research Symposium, August, 2009. (Local meeting)
77. Hedlund, B.P.* and J.A. Dodsworth. 2008. Great Basin Hot Spring Cafe: Who's The Clientele, What's On The Menu, And Who's Eating What? China-US Collaborative Research on Geomicrobiological Processes in Extreme Environments Wuhan, China, Oct. 10th – 16th, 2008. (Invited talk. International meeting; 2 hours)
78. Hedlund, B.P.* and J.A. Dodsworth. 2008. Does the water residence time matter in hot spring microbiology? China-US Collaborative Research on Geomicrobiological Processes in Extreme Environments Beijing, China, Oct. 10th – 16th, 2008. (Invited talk. International meeting; 20 minutes)
79. Skinner, R.*, J.A. Dodsworth, and B.P. Hedlund. 2008. Genomic foundations of carbon fixation in bacteria living in hot springs. Kentucky Academy of Sciences, November, 2008. (Regional meeting) Best presentation award.
80. Skinner, R.*, J.A. Dodsworth, and B.P. Hedlund. 2008. Genomic foundations of carbon fixation in bacteria living in hot springs. UNLV Undergraduate Research Symposium, August, 2008. (Local meeting)
81. McDonald., A.*, and B.P. Hedlund. 2008. Linking nitrate reduction in Great Basin hot springs to specific organisms. UNLV Undergraduate Research Symposium, August, 2008. (Local meeting)
82. Chaires, M.*, J.A. Dodsworth, and B.P. Hedlund. 2008. Nitrogen cycling processes in Great Basin Hot Springs. UNLV Undergraduate Research Symposium, August, 2008. (Local meeting)
83. Miller-Coleman, R.L.*, K.C. Costa, E.L. Shock, and B.P. Hedlund. Diversity and Biogeography of Korarchaeota in hot springs. 2008. American Society for Microbiology Annual Meeting, May, 2008, Boston. (Poster presentation; International meeting)
84. Brian P. Hedlund*, Robin Miller-Coleman, Christian A. Ross, Everett L. Shock. 2008. Integrating Geochemical Data to Characterize Microbial Habitats: The Korarchaeota Example. American Geophysical Union Annual Meeting. Dec. 9-13, 2008. San Francisco, CA. (Invited oral presentation; international meeting.)
85. Zhang, C.L.*, Y. Qi, Z. Huang, W.-J. Li, J. Chen, Z. Song, W. Zhao, B.P. Hedlund, C. Bagwell, W.P. Inskeep, L. Gao, J. Wiegel, and C. Romanek. 2008. Ammonia-Oxidizing Archaea in Terrestrial Hot Springs. Yellowstone Research Coordination Network Meeting, January 2008, Mammoth Lodge, WY. (Oral presentation 20 minutes; National meeting)
86. Hedlund, B.P.*, K. C. Costa, T.J. Vick, J.A. Dodsworth, E.L. Shock, H. Hartnett, J. Wiegel, C. Romanek, and C.L. Zhang. 2008. Geochemistry and microbiology of Great Basin hot springs – are they different from Yellowstone springs? Yellowstone Research Coordination Network Meeting, January 2008, Mammoth Lodge, WY. (Oral presentation 20 minutes; National meeting)
87. Hedlund, B.P.* 2007. Great Basin Hot Spring Cafe: Who's The Clientele And What's On The Menu? International Conference on Thermophiles, September 2007, Bergen, Norway (Oral presentation 20 minutes; International meeting; Invited)

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88. Vick, T.J.*, K.C. Costa, E.L. Shock, and B.P. Hedlund. 2007. Microbiology and Geochemistry of Little Hot Creek, Long Valley Caldera, California. American Society for Microbiology Annual Meeting, May, 2007, Toronto. (Poster presentation; International meeting)
89. Zhang, C.L.*, Y. Qi, Z. Huang, W.-J. Li, J. Chen, Z. Song, W. Zhao, B.P. Hedlund, C. Bagwell, W.P. Inskeep, L. Gao, J. Wiegel, and C. Romanek. 2007. Global Occurrence of Archaeal *amoA* Genes in Terrestrial Hot Springs. American Society for Microbiology Annual Meeting, May, 2007, Toronto. (Oral presentation 20 minutes; International meeting)
90. Costa, K.C.*, E.L. Shock, J.B. Navarro, C.L. Zhang, D. Soukup, and B.P. Hedlund. 2007. Thermodynamic Modeling as a Predictive Tool for Determining Energy Availability in Great Basin Hot Springs. American Society for Microbiology Annual Meeting, May, 2007, Toronto. (Poster presentation; International meeting)
91. Vick, T.J.*, K.C. Costa, E.L. Shock, and B.P. Hedlund. 2007. Microbiology and Geochemistry of Little Hot Creek, Long Valley Caldera, California. American Society for Microbiology Annual Meeting Arizona/NV Regional ASM Meeting, Flagstaff, April, 2007. (Oral presentation 20 minutes; Regional meeting)
92. de Leon, J.M.*, J. Wallace, A. Villosio, D.P. Moser, M.J. Marshall, B.P. Hedlund. 2007. Distribution of *Shewanella* species from diverse aquatic habitats of the western United States. American Society for Microbiology Annual Meeting Arizona/NV Regional ASM Meeting, Flagstaff, April, 2007. (Poster presentation; Regional meeting)
93. Costa, K.C.*, E.L. Shock, J.B. Navarro, C.L. Zhang, D. Soukup, and B.P. Hedlund. 2007. Thermodynamic Modeling as a Predictive Tool for Determining Energy Availability in Great Basin Hot Springs. Arizona/NV Regional ASM Meeting, Flagstaff, April, 2007. (**Best student presentation**; poster; Regional meeting)
94. Costa, K.C., E.L. Shock, J.B. Navarro, C.L. Zhang, D. Soukup, and B.P. Hedlund*. 2007. Thermodynamic Modeling as a Predictive Tool for Determining Energy Availability in Great Basin Hot Springs. NSF Microbial Observatories/Microbial Interactions and Processes, March, 2007, Washington, DC. (Poster presentation; national meeting)
95. Hedlund, B.P*. 2007. Great Basin Hot Spring Cafe: Who's The Clientele And What's On The Menu? International Conference on Thermophiles, February 2007, Santa Fe, NM (Oral presentation 20 minutes; International meeting; Invited)
96. Costa, K.C.*, E.L. Shock, J.B. Navarro, C.L. Zhang, D. Soukup, and B.P. Hedlund. 2007. Thermodynamic Modeling as a Predictive Tool for Determining Energy Availability in Great Basin Hot Springs. UNLV Undergraduate Research Symposium, August, 2007. (Local meeting)
97. Ball, C.* and B.P. Hedlund. 2007. Chemostat cultivation of highly thermophilic methanotrophs from a Great Basin hot spring. UNLV Undergraduate Research Symposium, August, 2007. (Local meeting)
98. Hallmark, J.*, J.B. Navarro, A. Flores, D. P. Moser, and B. P. Hedlund and B.P. Hedlund. 2007. Cultivation-intensive study of a Mojave recharge playa during a wet cycle.. UNLV Undergraduate Research Symposium, August, 2007. (Local meeting)
99. Clements, K.* and B.P. Hedlund. 2007. Identification of thermophilic archaea and bacteria in a Nevada hot spring using fluorescent in situ hybridization. UNLV Undergraduate Research Symposium, August, 2007. (Local meeting)
100. Hedlund, B.P.* 2006. Great Basin Hot Spring Cafe: Who's The Clientele And What's On The Menu? Hot Life in the Desert Meeting, February 2006, Tempe, AZ (Oral presentation 20 minutes; Small national meeting)
101. Navarro, J.B.*, A. Flores, D.P. Moser, and B.P. Hedlund. 2006. Cultivation-intensive study of a Mojave recharge playa during a wet cycle. American Society for Microbiology Annual Meeting, May, 2006, Orlando. (Poster presentation; International meeting)

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102. Navarro, J.B.*, C. Vanier, and B.P. Hedlund. 2006. Molecular Census of a Thermophilic Microbial Community in Great Boiling Spring, Nevada, American Society for Microbiology Annual Meeting, May, 2006, Orlando. (Poster presentation; International meeting)
103. Hedlund, B.P.* 2006. Exploring Thermophilic Biodiversity In Great Boiling Spring, NV. A preview to life in Great Basin springs. NSF RIDGE 2000 Meeting, June 2006, Mammoth, CA (Oral presentation 20 minutes; National meeting)
104. Hedlund, B.P.* 2006. Life in Great Boiling Spring, NV. NSF EPSCoR Conference on Life in Extreme Environments, Las Vegas, NV, January, 2006. (Oral presentation 20 minutes; National meeting)
105. Flores, A.*, J.B. Navarro, D.P. Moser and B.P. Hedlund. 2006. Cultivation-intensive study of a Mojave recharge playa during a wet cycle. Arizona/NV Regional ASM Meeting, Las Vegas, February, 2006. (Poster presentation; Regional meeting)
106. Cho, S.* and B.P. Hedlund. 2006. Use of microrespirometry to measure microbial electron donor preference in hot springs. Undergraduate Research Symposium, August, 2006. (Poster presentation; Local meeting)
107. Navarro, J.B.* and B.P. Hedlund. 2006. Thermophilic microbial ecology and biogeochemistry of Great Boiling Spring. Arizona/NV Regional ASM Meeting, Las Vegas, February, 2006. (Poster presentation; Regional meeting)
108. Foley, T.* and B.P. Hedlund. 2006. Evolution of microbial commensals of desert mammals. Arizona/NV Regional ASM Meeting, Las Vegas, February, 2006. (Poster presentation; Regional meeting)
109. Hedlund, B.P.*, E. Murphy, J.B. Navarro. 2005. Microbial Diversity of a White Flocc Microbial Community in Darrough's Spring, a 95.5-81°C Spring in Central Nevada. American Society for Microbiology Annual Meeting, June, 2005. (Poster presentation; International meeting)
110. Navarro, J.B.* and B.P. Hedlund. 2005. Exploring Thermophilic Biodiversity In Great Boiling Spring, NV. Wind River Conference on Prokaryotic Biology, June, 2005. (Poster presentation; National meeting)
111. Flores, A.*, J.B. Navarro, D.P. Moser and B.P. Hedlund. 2005. Microbial community and geochemistry analysis of Silver Lake Playa. Wind River Conference on Prokaryotic Biology, June, 2005. (Poster presentation; National meeting)
112. Foley, T.* and B.P. Hedlund. 2005. Evolution of microbial commensals of desert mammals. Wind River Conference on Prokaryotic Biology, June, 2005. (Poster presentation; National meeting)
113. Flores, A.*, J.B. Navarro, D.P. Moser and B.P. Hedlund. 2005. Cultivation-intensive study of a Mojave recharge playa during a wet cycle. McNair Fellowship Annual Symposium, June, 2005. (Oral presentation 20 minutes; Local meeting)
114. Navarro, J.B. *, and B.P. Hedlund. 2005. Thermophilic microbial ecology and biogeochemistry of Great Boiling Spring. BRIN/NSF EPSCoR Undergraduate Research Symposium, August, 2005. (Poster presentation; Local meeting)
115. Foley, T.* and B.P. Hedlund. 2005. Evolution of microbial commensals of desert mammals. BRIN/NSF EPSCoR Undergraduate Research Symposium, August, 2005. (Poster presentation; Local meeting)
116. Flores, A.* J.B. Navarro, D.P. Moser and B.P. Hedlund. 2005. Microbial community and geochemistry analysis of Silver Lake Playa. BRIN/NSF EPSCoR Undergraduate Research Symposium, August, 2005. (Poster presentation; Local meeting)
117. Hedlund, B.P.* 2004. Extremophiles and astrobiology: Study of hyperthermophiles in Nevada. NASA Ames Academy Meeting. Reno, June 2004. (Oral presentation 20 minutes; Regional meeting)
118. Hedlund, B.P.* 2004. Microbial diversity survey in high temperature hot springs in the basin and range region. UNLV New Investigator Award Open Forum. Las Vegas, December 2004. (Oral presentation 20 minutes; local meeting)

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Lecturer 2000-2001
University of Washington Department of Microbiology Seattle, WA

Course taught: Microbiology 402 (microbiology lab for majors)

Teaching Assistant 1994-1995

University of Washington Department of Microbiology Seattle, WA

Courses taught: Microbiology 402 (microbiology lab for majors)

Microbiology 302 (microbiology lab for non-majors)

Biology 201 (biology lab for majors)

Advising

Postdoctoral Fellows and Lab Managers

Jeremy Dodsworth (2008-2014)

Amanda Williams (2011-2015)

Senthil Murugapiran (2011-present)

Namritha Manoharan (2014- present)

Visiting Domestic Scientists

Mike Leonardo, Coe College (2009-2010)

Visiting International Scientists

Hovik Panosyan, Yerevan State University, Armenia (2012)

Zhenlin Liao, South China Agricultural University, China (2013-2014)

Guangbin Ye, Sichuan University of Science and Engineering, China (2013-2014)

Wen-Jun Li, Sun-Yat Sen University, China (2015)

Enmin Zhou, Yunnan University, China (2013-present)

Rafael Ruiz de la Haba, Spain (2015 - present)

Successful Graduate Students

MS Advisor for Robin Miller-Coleman (2005-2008)

MS Advisor for Caitlin Murphy (2007-2009)

MS Advisor for Susannah Blunt (2007-2011)

MS Advisor for Jessica Cole (2010-2013)

MS Advisor for Tara Edwards (2010-2013)

MS Advisor for Katie Willever (2012-present)

PhD Advisor for Scott Thomas (2011-present)

PhD Advisor for Tim Alba (2012-present)

MS Advisor for Chrisabelle Cempron (2013-present)

Selected Undergraduate Students*

* All of the undergraduate students listed below have presented work at at least one meeting and have earned fellowship support for at least one semester. These are students selected from a total of about 40, ~15 of which are authors on publications.

Jason Navarro (2004-2006)(currently technician medical microbiology lab)

Andrea Flores (2004-2006)(MD student)

Miren Guenechea (2004-2006)(MD, University of Nevada)

Joy Hallmark (2006-2008)

Kyle Costa (2006-2008)(currently postdoc at Caltech)

Cameron Ball (summer 2007)(currently MD-PhD student, University of Washington)

Austin McDonald (2008-2010)(currently MD-PhD student, UCLA)

Jenny Lam (2008-2011)(currently MD student, University of Nevada)

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Jessica Guy (2009-2010)(MS in microbiology UNLV; currently at PNNL)

Tara Edwards (2010)(MS in microbiology UNLV)

Carrie Glenney (2009)(NSF predoc fellow, University of Washington)

Dee Huang (2009)(currently applying for Life Sciences graduate programs)

Joseph Peacock (2010-2012)(currently law student, full scholarship to UNLV)

Nicole Calica (2010-2013)(currently DO student, Touro)

Jonathan Gevorkian (2011-2012)(MS candidate Johns Hopkins)

Brandon Gieler (2012-2013)(currently applying for medical schools)

Fairuz Despujos (2011-2012)(currently MD student, University of Nevada)

Julienne Paraiso (2012-2013)(currently Post-bac student, Nevada State University)

Luis Delgadillo (2012-2014)

Kevin Tamadonfar (2012-2015) (currently MD-PhD, Washington University)

Namritha Manoharan (2012-2014) (currently applying for medical schools)

Daniel Xie (2013-present) (currently applying for medical schools)

PROFESSIONAL SERVICE

Grant Proposal Review

Grant Panel Member for the following programs (off campus):

DOE Environmental Remediation Science Program (ERSP), DOE Joint Genome Institute Community Science Program (CSP), NASA Exobiology (3X), NASA Planetary Protection, NASA Astrobiology Institutes (NAI), NASA Habitable Worlds, NASA Postdoctoral Research Fellowship Program, NSF/USDA Microbial Genome Sequencing, NSF PIRE, NSF Evolutionary Processes DDIG, Agence Nationale de la Recherche (France), DOE Science Focus Area (SFA)

Grant proposal ad hoc reviewer:

National Science Foundation Panels: Genes and Genome Systems panel (MCB), Microbial Observatories/Microbial Interactions and Processes panel (MCB), Advances in Bioinformatics (DBI), Population and Community Ecology Cluster (DEB), Ecosystem Sciences Cluster (DEB), Systematics and Biodiversity Cluster (DEB), Geobiology and Low Temperature Geochemistry (EAR), Environmental Genomics, Office of International Science and Education (OISE)

Murdock Life Sciences, National Geographic

International

The Portuguese Foundation for Science and Technology (FCT), Austrian Science Fund (Der Wissenschaftsfonds), Natural Sciences and Engineering Research Council of Canada (NSERC), United States - Israel Binational Science Foundation (BSF), Biotechnology and Biological Sciences Research Council (BBSRC), The Icelandic Centre for Research (RANNIS), Swiss National Science Foundation, New Zealand Ministry of Science and Innovation

Peer Review of Scientific Writings and Editorial Positions

Publication Peer Reviewer

Reviewed or edited >300 papers for the following journals: *Antonie van Leeuwenhoek*, *Applied and Environmental Microbiology*, *Archaea*, *Archives of Microbiology*, *Astrobiology*, *BMC Biology*, *Bulletin of Bergey's International Society for Microbial Systematics*, *Botanical Studies*, *Biofilms*, *Chemosphere*, *Environmental Microbiology*, *Environmental Microbiology Reports*, *Environmental Monitoring*

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and Assessment, Extremophiles, FEMS Microbiology Ecology, Frontiers of Earth Science, Frontiers in Extreme Microbiology, Frontiers in Evolutionary and Genomic Microbiology, Geobiology, Geochimica et Cosmochimica Acta, Geomicrobiology Journal, Global Ecology and Biogeography, International Journal of Systematic and Evolutionary Microbiology, International Society for Microbial Ecology (ISME) Journal, Journal of Arid Environments, Journal of Bacteriology, Journal of Clinical Microbiology, Journal of Geophysical Research, Journal of Thermal Biology, Journal of Virology, Marine Pollution Bulletin, Microbial Ecology, Microbiology, Microbiology Molecular Biology Reviews, Oikos, PLoS One, Research in Microbiology, Scientific Reports, and Virology.

Editor for Bergey's Manual Trust and member of Bergey's Trust 2014-

Associate Editor for Bergey's Manual Trust 2005-2014

Editor for Volume 4 of the 2nd Edition of Bergey's Manual of Systematic Bacteriology.

Editor for Antonie van Leeuwenhoek 2012-

Section Editor for Manual of Environmental Microbiology 2012-

Editor for the "Extreme Environments" section of the Microbial Ecology section of Volume 4.

Editorial Boards

Applied and Environmental Microbiology 2009-2015

Geobiology 2011-

Frontiers in Microbiology 2011-

Bulletin of Bergey's International Society for Microbial Systematics 2011-

Special Issue Editor for Frontiers in Terrestrial Microbiology 2013

Response of microbial ether lipids in the terrestrial critical zone to environmental and climatic changes

Book Reviewer

- Staley, Gunsalus, Lory, and Perry's *Microbial Life*
- Prokaryotes and the Origin of Metabolic Diversity. In N.A. Campbell (author) *Biology*, 6th Edition, Benjamin Cummings, USA
- Metabolism: Energy Release and Conservation. In Prescott/Harley/Klein (authors) *Microbiology*, 6nd Edition, McGraw Hill, USA
- Archaea, Bacteria, and Viruses. In Rost/Barbour/Stocking/Murphy (authors) *Plant Biology*, 2nd Edition, Brooks/Cole, Belmont, CA, USA
- Intrinsic and Extrinsic Parameters of Foods of Foods that Affect Microbial Growth. In Jay (author) *Modern Food Microbiology*
- Kenneth N. Timmis (ed.) *Microbiology of Hydrocarbons, Oils, Lipids, and Derived Compounds*, Springer Verlag, Heidelberg, Germany.

Service to Professional Societies

- Scientific Advisory Committee, 10th International Congress on Extremophiles (Extremophiles 2014), September 7 - 11, 2014, Saint Petersburg, Russia (2014)
- Session Chair, American Geophysical Union. December 9-13, 2013 San Francisco, CA (2013)
- Session Chair, 2011 International Conference on Microbial Life in Extreme Environments. December

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5-8, 2011 at Beijing Genomics Institute in Shenzhen, China (2011)

- Organizing Committee Member and Chair of Scientific Session at International Thermophiles Meeting in Big Sky, Montana, entitled “China/US collaborations in thermophile research” (2011)
- Scientific Advisory Board for the First International Conference on Geomicrobiological Ecotoxicology in Wuhan, China (2011)
- Co-chair of Scientific Session at Fall AGU Meeting entitled “Geochemistry and Geobiology of Terrestrial Thermal Systems” (with Chair H. Hartnett and Co-Chair C. Zhang) (2010)
- President of Arizona-Southern Nevada Branch of American Society for Microbiology (2006-2007)
- Organizer of annual meeting of the Arizona-Southern Nevada Branch of the American Society for Microbiology, Las Vegas (2006)
- Branch councilor for Arizona-Southern Nevada Branch of American Society for Microbiology (2007-2008)
- Session co-chair: Workshop: US-China Collaborative Research on Geomicrobiological Processes in Extreme Environments. Penn State University, May 18-23, 2010. (International meeting)

Professional Memberships

- American Society for Microbiology
- Sigma Xi
- American Society for Limnology and Oceanography
- American Geophysical Union
- International Society for Extremophiles

Service to University of Nevada System

- NASA EPSCoR Director Search Committee
- Nevada Space Grant Faculty Coordinator
- Reviewer for NASA EPSCoR Proposals
- Panel member for Nevada Space Grant Proposals (3X)
- Panel member for Undergraduate Research Opportunity Proposals (UROP)

Service to UNLV

- Panel member for UNLV Presidential Research Awards
- Committee for Furnishing & Delivering Compressed and Liquid Gases RFP #443-VK
- 2003-present Research Mentor, NSF-EPSCoR, BRIN/INBRE, and NSF Microbial Ecology Summer REU programs
- 2003-present Faculty Marshall for May commencement

Service to College of Sciences

- Math-Science Achievement Award Committee (2004-2005)
- Graduate Student Committee Member (outside Department/School)
 - Ph.D. Thesis committee for Amy Brock, Mike Howell, Swapan Kumar
 - MS Thesis Committee for Cory Patterson, Maureen Yanovitz, Jared Gore, Julie Baumeister, Mike Howell

Service to Department/School (too much to note)

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- Graduate Student Committee Member (Department Biological Sciences/School of Life Sciences)
Ph.D. Thesis committee for Chris Hensley , Linh Nguyen, Rob Bryson, Carmen Vallin
MS Thesis committee for Kameron Entrekin, Janie Sherwood, Eun Hae Kim, Diane Yost, Nikki Williams, Amanda Prisbrey, Anthony Harrington, Theresa Clark, Kate Porter
- Chair of Listening to Departments Committee (2011-present)
- Graduate Admissions Committee (2003-2009)(Chair from 2005-2007)
- Search Committees
 - Chair of the Search Committee for Microbiologist (hired Helen Wing) (2004)
 - Member of the Search Committee for Microbiologist (hired Dennis Bazylnski) (2006)
- Member, Personnel Committee (2005-2006, 2012-present)
- Member, Ad hoc committee on ICBM Graduate Program/Curriculum Committee
- Member, Ad hoc committee on ICBM Undergraduate Program/Curriculum Committee
- Bios Symposium presentation judge (2005)
- Defacto member of the Juanita Greer White Endowed Lecture Committee (2008)
- Microbiology group Graduate Comprehensive Exam Committee Chair (2011)
- Member, Scholarship Committee (2010-present)
- Member, Curriculum Committee (2011-present)