

DUANE P. MOSER, M.S., Ph.D.

Associate Professor
*Microbiology, Environmental
Genomics, eDNA, Astrobiology*
Division of Hydrologic Sciences
Desert Research Institute

Desert Research Institute
Division of Hydrologic Sciences
755 E. Flamingo Road
Las Vegas, NV 89119
702-862-5534
duane.moser@dri.edu

<https://www.dri.edu/directory/duane-moser/>

EDUCATION AND FELLOWSHIPS

- Postdoctoral Fellow**, Pacific Northwest National Laboratory, Environmental Microbiology Group, 2001–2004
Responsibility: *Witwatersrand Deep Microbiology Project (Cont.)*, etc.
Mentor: Jim Fredrickson
- Postdoctoral Fellow**, Princeton University, Geosciences, 1998–2001
Responsibility: *Witwatersrand Deep Microbiology Project*
Mentor: Tullis C. Onstott
- Ph.D.** (With Distinction), Biological Sciences, University of Wisconsin Milwaukee, 1997
Dissertation title: *Elemental sulfur reduction in Shewanella putrefaciens*
Major advisor: Kenneth H. Nealson
- M.S.** Microbiology, University of Wisconsin Oshkosh, 1992
Thesis title: *Characterization of a restriction barrier and electrotransformation of the cyanobacterium, Nostoc PCC 7121*
Major advisor: Toivo Kallas
- B.S.** Microbiology, University of Wisconsin Oshkosh, 1989

PROFESSIONAL APPOINTMENTS

- Associate Professor**, Desert Research Institute, Division of Hydrologic Sciences, Las Vegas, Nevada, 2017–present
- Associate Professor**, Desert Research Institute, Division of Earth and Ecosystems Sciences, Las Vegas, Nevada, 2008–2017
- Adjunct Professor**, School of Life Sciences (SOLS), Univ. of Nevada, Las Vegas, Nevada, 2005–present
- Assistant Professor**, Desert Research Institute, Division of Earth and Ecosystems Sciences, Las Vegas, Nevada, 2004–2008
- Graduate Teaching Assistantship**, University of Wisconsin Milwaukee, Limnology, 1996
- Chief scientist**, University of Wisconsin Milwaukee, RV Neeskay, monthly monitoring cruises and sediment biogeochemistry on Lake Michigan, 1994–1996
- Guest Instructor**, Woods Hole Microbial Diversity Course, Marine Biology Lab, Woods Hole, Massachusetts, 1996
- Radiation Safety Officer**, University of Wisconsin Oshkosh, 1989
- Graduate Teaching Assistantship**, University of Wisconsin Oshkosh, Biotechnology Course, 1991
- Undergraduate Teaching Assistantship**, University of Wisconsin Oshkosh, Virology, 1990

Undergraduate Teaching Assistantship, University of Wisconsin Oshkosh, Medical Microbiology, 1989

Undergraduate Teaching Assistantships, University of Wisconsin Oshkosh, Bacteriology, 1986 - 1988

COURSES, INTERNSHIPS, RESEARCH EXPEDITIONS

R/V Atlantis + ROV Jason Expedition AT42-11, NSF, Slow life in the fast lane: Microbial activity in the crustal deep biosphere, Juan de Fuca Ridge, Beth Orcutt, PI. 05/2019

ARB Workshop, DRI, Reno, Nevada, 7/2007

Flow Cytometry Training, Advanced Analytical Inc. Ames, Iowa, 02/2006

Microbial Diversity Course, Marine Biology Laboratory, Woods Hole, Massachusetts, 6/1995

Biology Training Course in Antarctica, NSF, McMurdo, Antarctica, 1-2/1994

Undergraduate Intern, Wisconsin Dept. of Natural Resources, Madison, Wisconsin, summer/1988

Undergraduate Intern, DIFCO/BD, Detroit, Michigan, summer/1987

PUBLICATIONS

Statistics: 6,139 citations (Google Scholar – Accessed, 4/4/23)

h-index 35

i10-index 50

Peer-reviewed

1. `D'Angelo, T., Goordial, J., Lindsay, M.R., McGonigle, J., Booker, A., **Moser, D.P.**, Orcutt, B.N. 2023. Replicated life-history patterns and subsurface origins of the bacterial sister-phyla Nitrospirota and Nitrospinota. *ISME Journal*. <https://doi.org/10.1038/s41396-023-01397-x>.
2. Seymour, C.O., Palmer, M., Becraft, E.D., Stepanauskas, R., Friel, A.D., Schulz, F., Woyke, T., Eloë-Fadrosh, E., Lai, D., Jiao, J.-Y., Hua, Z.S., Liu, L., Zheng-Han Lian, Z.-H., Li, W.-J., Chuvochina, M., Finley, B.K., Koch, B.J., Schwartz, E., Dijkstra, P., **Moser, D.P.**, Hungate, B.A., and Hedlund, B.P., 2023. Hyperactive nanobacteria with host-dependent traits pervade Omnitrophota. *Nature Microbiology*. pp.1-18.
3. Soares, A., Edwards, A., An, D., Bagnoud, A., Bradley, J., Barnhart, E., Bomberg, M., Budwill, K., Caffrey, S.M., Fields, M., Gralnick, J., Osburn, M., Mu, A., Moreau, J. W., **Moser, D.**, Purkamo, L., Rassner, S.M., Sheik, C.S., Sherwood Lollar, B., Toner, B.M., Voordouw, G., Wouters, K., and Mitchell, A.C., 2023. A global perspective on bacterial diversity in the terrestrial deep subsurface. *Microbiology*, 169(1), p.001172.
4. Merino, N., Jackson, T.R., Campbell, J.H., Kersting, A.B., Sackett, J., Fisher, J.C., Bruckner, J.C., Zavarin, M., Hamilton-Brehm, S.D. and **Moser, D.P.**, 2022. Subsurface microbial communities as a tool for characterizing regional-scale groundwater flow. *Science of The Total Environment*, 842:156768.
5. **Sushenko, N.S., Singh, N.K., Vellone, D.L., Tighe, S.W., Hedlund, B.P.**,

- Venkateswaran, K. and Moser, D.P.**, 2022. Complete genome sequence of *Klebsiella quasipneumoniae* subsp. *similipneumoniae* Strain IF3SW-P1 isolated from the International Space Station. *Microbiology Resource Announcements*, **11(7)**:e00476-22.
6. **Becraft, E.D., Lau Vetter, M.C.Y., Bezuidt, O.K.I., Brown, J.M., Labonté, J.M., Kauneckaite-Griguole, K., Salkauskaite, R., Alzbutas, G., Sackett, J.D., Kruger, B.R., Kadnikov, V., van Heerden, E., Moser, D., Ravin, N., Onstott, T. and Stepanauskas, R.**, 2021. Evolutionary stasis of a deep subsurface microbial lineage. *The ISME Journal*. **2021 Apr 6**:1-3. **ISME J - Best Paper Award for 2021**
 7. **Hathaway, J.J., Moser, D.P., Blank, J.G., and Northup, D.E.** 2021. A comparison of primers in 16S rRNA gene surveys of Bacteria and Archaea from volcanic caves. *Geomicrobiology Journal*, **38(9)**:741-754.
 8. **Nayfach, S., Roux, S., Seshadri, R., Udvary, D., Varghese, N., Schulz, F., Wu, D., David Paez-Espino, D., Chen, I-M, Huntemann1, Krishna, Palaniappan, K., Ladau, J., Mukherjee, S., Reddy, T.B.K., Nielsen, T., Kirton, E., Faria, J.P., Edirisinghe, J.N., Henry, C.S., Jungbluth, S.P., Chivian, D., Dehal, P., Wood-Charlson, E.M., Arkin, A.P., Tringe, S., Visel, A., IMG/M Data Consortium, Woyke, T., Mouncey, N.J., Ivanova, N.N., Kyrpides, N.C., and Elie-Fadrosh, E.A.** 2021. Author Correction: A genomic catalog of Earth's microbiomes. *Nature biotechnology*, **39(4)**:521-521.
 9. **Beam, J.P., Becraft, E.D., Brown, J.M., Schulz, F., Jarett, J.K. Bezuidt, O. Poulton, N.J., Clark, K., Dunfield, P.F., Ravin, N.V., Spear, J.R., Hedlund, B.P. Kormas, K.A., Sievert, S.M., Elshahed, M.S., Barton, H.A., Stott, M.B., Eisen, J.A., Moser, D.P., Onstott, T.C., Woyke, T., and Stepanauskas, R.** 2020. Ancestral absence of electron transport chains in Patescibacteria and DPANN. *Frontiers in Microbiology* **11(2020)**. doi: 10.3389/fmicb.2020.01.
 10. **Chen, M.L., Becraft, E.D., Pachiadak, M., Brown, J.D., Jarett, J.K., Gasol, J.M., Ravin, N., Moser, D., Nunoura, T., Herndl, G.J., Woyke, T., and Stepanauskas, R.** 2020. Hiding in plain sight: the globally distributed bacterial candidate phylum PAUC34f. *Frontiers in Microbiology*. **11**:376.
 11. **Edmonds, J.W., Sackett, J.D., Lompfrey, H., Hudson, H.L. and Moser, D.P.** 2020. The aeroponic rhizosphere microbiome: community dynamics in early succession suggest strong selectional forces. *Antonie van Leeuwenhoek*, **113(1)**:83–99.
 12. **Miller, J.J., Etyemezian, V.R., Adams, K.D., Berli, M., Kruger, B.R., Stillman, S., Cablk, M.E., Heintz, K.M., Nikolich, G., and Moser, D.P.** 2020. Lakebed health and feasibility of use study, including inundation frequency analysis of Rogers and Rosamond dry lakes, Edwards Air Force Base, California. *Desert Research Institute, Division of Hydrologic Sciences Publication #11694*.
 13. **Mullin, S.W., Wanger, G., Kruger, B.R., Sackett, J.D., Hamilton-Brehm, S.D., Bhartia, R., Amend, J.P., Moser, D.P., and Orphan, V.J.** 2020. Patterns of in situ mineral colonization by microorganisms in a ~60° C deep continental subsurface aquifer. *Frontiers in microbiology*, **11**:2573.
 14. **Murray, A.E., Freudenstein, J., Gribaldo, S., Hatzenpichler, R., Hugenholtz, P., Kämpfer, P., Konstantinidis, K.T., Lane, C.E., Papke, R.T., Parks, D.H., Rossello-Mora, R., Stott, M.B., Sutcliffe, I.C., Thrash, J.C., Venter, S.N., Whitman, W.B., Acinas, S.G., Amann, R.I., Anantharaman, K., Armengaud, J., Baker, B.J., Barco, R.A., Bode, H.B., Boyd, E.S., Brady, C.L., Carini, P., Chain, P.S., Colman, D.R., DeAngelis, K.M., Asuncion de los Rios, M., Estrada de los Santos, P., Dunlap, C.A., Eisen, J.A., Emerson, D., Ettema, T. J., Eveillard, D.,**

- Girguis, P.R., Hentschel, U., Hollibaugh, J.T., Hug, L.A., Inskip, W.P., Ivanova, E.P., Klenk, H., Li, W., Lloyd, K.G., Löffler, F.E., Makhalanyane, T., Moser, D.P., Nunoura, T., Palmer, M., Parro, V., Pedrós-Alió, C., Probst, A.J., Smits, T.H., Steen, A.D., Steenkamp, E.T., Spang, A., Stewart, F.J., Tiedje, J. M., Vandamme, P., Wagner, M., Wang, F., Hedlund, B.P., and Reysenbach, A. 2020. A roadmap for naming uncultivated Archaea and Bacteria, *Nature Microbiology*, 5:987-994, 10.1038/s41564-020-0733
15. Nayfach, S., Roux, S., Seshadri, R., Udvary, D., Varghese, N., Schulz, F., Wu, D., David Paez-Espino, D., Chen, I-M, Huntemann¹, Krishna, Palaniappan, K., Ladau, J., Mukherjee, S., Reddy, T.B.K., Nielsen, T., Kirton, E., Faria, J.P., Edirisinghe, J.N., Henry, C.S., Jungbluth, S.P., Chivian, D., Dehal, P., Wood-Charlson, E.M., Arkin, A.P., Tringe, S., Visel, A., IMG/M Data Consortium, Woyke, T., Mouncey, N.J., Ivanova, N.N., Kyrpides, N.C., and Eloë-Fadrosch, E.A. 2020. A genomic catalogue of Earth's microbiomes. *Nature biotechnology* (2020):1-11.
 16. Hamilton-Brehm, S.D., Onstott, T., Sherwood-Lollar, B., Zavarin, M., Grzymiski, J., Russel, C., Caldwell, M., Lawson, P.A., Neveux, I., Moser, D.P., and Stewart, L. 2019. *Thermoanaerobacterium fracticalcis* gen. nov. sp. nov., a novel fumarate-fermenting microorganism from a deep fractured carbonate aquifer of the US Great Basin. *Frontiers in microbiology*, 10:2224.
 17. Papp, K., Moser, D., and Gerrity, D. 2019. Viral surrogates in potable reuse applications: evaluation of a membrane bioreactor and full advanced treatment. *Journal of Environmental Engineering*, 146(2):04019103.
 18. Sackett, J.D., Shope, C.L., Bruckner, J.C., Wallace, J., Cooper, C.A., and Moser, D.P. 2019. Microbial community structure and Metabolic potential of the hyporheic zone of a large mid-stream channel Bar. *Geomicrobiology Journal*, 36(9):1-12.
 19. Sackett, J.D., Kruger, B.R., Becraft, E.D., Jarett, J.K., Stepanauskas, R., Woyke, T., and Moser, D.P. 2019. Four draft single-cell genome sequences of novel, nearly identical Kiritimatiellaeota strains isolated from the continental deep subsurface. *Microbiological Resource Announcements*, 8(11):e01249-18.
 20. Stamenković, V., Beegle, L.W., Zacny, K., Arumugam, D.D., Baglioni, P., Barba, N., Baross, J., Bell, M.S., Bhartia, R., Blank, J.G., Boston, P.J., Breuer, D., Brinckerhoff, W., Burgin, M., Cooper, I., Cormarkovic, V., Davila, A., Edwards, C., Fischer, W.W., Glavin, D.P., Grimm, R.E., Inagaki, F., Kirschvink, L., Kobayashi, A., Komarek, T., Malaska, J., Michalski, B., Ménez, M., Mischna, B., M., Moser, D., Mustard, J., Onstott, T.C., Orphan, V. J., Osburn, M.R., Plaut, J., Plesa, A.C., Putzig, N., Rogers, K.L., Rothschild, L., Russell, M., Sapers, H., Sherwood Lollar, B., Spohn, T., Tarnas, J.D., Tuite, M., Viola, D., Ward, L.M., Wilcox, B., and Woolley, R. 2019. The next frontier for planetary and human exploration. Comment. *Nature Astronomy* 3:116-120.
 21. Blunt, S.M., Sackett, J.D., Rosen, M.R., Benotti, M.J., Trenholm, R.A., Vanderford, B.J., Hedlund, B.P., and Moser, D.P. 2018. Association between degradation of pharmaceuticals and endocrine-disrupting compounds and microbial communities along a treated wastewater effluent gradient in Lake Mead. *Science of the Total Environment*, 622:1640-1648.
 22. Gerrity, D., Arnold, M., Dickenson, E., Moser, D., Sackett, J.D., and Wert, E.C. 2018. Microbial community characterization of ozone-biofiltration systems in drinking water and potable reuse applications. *Water research*, 135:207-219.
 23. Hamilton-Brehm, S.D., Hristova, L.T., Edwards, S.R., Wedding, J.R., Snow, M.,

- Kruger, B.R., and Moser, D.P.** 2018. Ancient human mitochondrial DNA and radiocarbon analysis of archived quids from the Mule Spring Rockshelter, Nevada, USA. *PLoS one*, **13(3)**:e0194223.
24. **Moser, D.P., Kruger, B., Thomas, N., Sackett, J., and Chapman, J.** 2018. Analog study to constrain potential microbial degradation of diesel range organics from Amchitka site drilling mud pits. U.S. Department of Energy, Office of Legacy Management. Under Cooperative Agreement DE-LM0000432. 41p. *Desert Research Institute, Division of Hydrologic Sciences Publication #41237*.
 25. **Sackett, J.D., Huerta, D.C., Kruger, B.R., Hamilton-Brehm, S.D., and Moser, D.P.** 2018. A comparative study of prokaryotic diversity and physicochemical characteristics of Devils Hole and the Ash Meadows Fish Conservation Facility, a constructed analog. *PLoS one*, **13(3)**:e0194404.
 26. **Becraft, E.D., Woyke, T., Jarett, J., Ivanova, N., Godoy-Vitorino, F., Poulton, N., Brown, J.M., Brown, J., Lau, M.C.Y., Onstott, T., Eisen, J.A., Moser, D., and Stepanauskas, R.** 2017. Rokubacteria: genomic giants among the uncultured bacterial phyla. *Frontiers in Microbiology*, **8**:226.
 27. **Blunt, S.M., Benotti, M.J., Rosen, M.R., Hedlund, B.P., and Moser, D.P.** 2017. Reversible reduction of estrone to 17 β -estradiol by Rhizobium, Sphingopyxis, and Pseudomonas isolates from the Las Vegas Wash. *Journal of Environmental Quality*, **46(2)**:281-287.
 28. **Momper, L., Kiel Reese, B., Zinke, L., Wanger, G., Osburn, M.R., Moser, D., and Amend, J.P.** 2017. Major phylum-level differences between porefluid and host rock bacterial communities in the terrestrial deep subsurface. *Environmental Microbiology Reports*, **9(5)**:501-511.
 29. **Jangir, Y., French, S., Momper, L.M., Moser, D.P., Amend, J.P., and El-Naggar, M.Y.** 2016. Isolation and characterization of electrochemically active subsurface *Delftia* and *Azonexus* species. *Frontiers in Microbiology*, **7**:756.
 30. **Kieft, T., Onstott, T., Ahonen, L., Aloisi, V., Colwell, F., Engelen, B., Fendrihan, S., Gaidos, E., Harms, U., Head, I., Kallmeyer, J., Kiel Reese, B., Lin, L-H., Long, P., Moser, D.P., Mills, H., Sar, P., Schulze-Makuch, D., Stan-Lotter, H., Wagner, D., Wang, P.L., F., Westall, M., Wilkins, M.** 2015. Workshop to develop deep-life continental scientific drilling projects. *Scientific Drilling*, **19**:43-53.
 31. **Sun, H.J., Nienow, J., Zhang, G., Moser, D.P., and McKay, C.P.** 2015. Endolithic cyanobacteria in the Mojave Desert: a cold habitat in a hot desert? *National Park Service Science Newsletter*. April 2015:18-20.
 32. **Kminek, G., Conley, C., Allen, C.C., Bartlett, D. H., Beaty, D.W., Benning, L.G., Bhatia, R., Boston, P.J., Duchaine, C., Farmer, J.D., Flynn, G.J., Glavin, D.P., Gorby, Y., Hallsworth, J.E., Mogul, R., Moser, D.P., Pricep, B.P., Pukall, R., Fernandez-Remolar, R., Smith, C.L., Stedman, K., Steele, A., Stepanauskas, R., Sun, H., Vago, J.L., Voytek, M.A., Weiss, P.S., and Westfall, F.** 2014. Report of the workshop for life detection in samples from Mars. *Life Sciences in Space Research*. **2**:1-5.
 33. **Moser, D.P., Hamilton-Brehm, S.D., Fisher, J.C., Bruckner, J.C., Kruger, B., Sackett, J., Russell, C.E., Onstott, T.C., Czerwinski, K., Zavarin, M., Campbell, J.H.** 2014. Radiochemically-supported microbial communities: a potential mechanism for biocolloid production of importance to actinide transport. Final Report. Desert Research Institute, Nevada University, Reno, NV (United States). 81 p. <http://www.osti.gov/scitech/biblio/1176791>.
 34. **Thomas, J.M., Moser, D.P., Fisher, J.C., Reihle, J., Wheatley, A., Hershey, R.L., Baldino, C., and Weissenfluh, D.** 2013. Using water chemistry, isotopes and microbiology to evaluate groundwater sources, flow paths and geochemical

- reactions in the Death Valley flow system, USA. *Procedia Earth and Planetary Science*, **7**:842-845.
35. **Peacock, J.P., Cole, J.K., Murugapiran, S.K., Dodsworth, J.A., Fisher, J.C., Moser, D.P., and Hedlund, B.P.** 2013. Pyrosequencing reveals high-temperature cellulolytic microbial consortia in Great Boiling Spring after in situ lignocellulose enrichment. *PLoS One*, **8(3)**:e59927.
 36. **Wanger, G., Moser, D., Hay, M., Myneni, S., Onstott, T.C., and Southam, G.** 2012. Mobile hydrocarbon microspheres from > 2-billion-year-old carbon-bearing seams in the South African deep subsurface. *Geobiology*, **10(6)**:496-505.
 37. **Davidson, M.M., Silver, B.J., Onstott, T.C., Moser, D.P., Gihring, T.M., Pratt, L.M., Boice, E.A., Lollar, B.S., Lippmann-Pipke, J., Pfiffner, S.M., and Kieft, T.L.** 2011. Capture of planktonic microbial diversity in fractures by long-term monitoring of flowing boreholes, Evander Basin, South Africa. *Geomicrobiology Journal*, **28(4)**:275-300.
 38. **Labahn, S.K., Fisher, J.C., Robleto, E.A., Young, M.H., and Moser, D.P.** 2010. Microbially mediated aerobic and anaerobic degradation of acrylamide in a western United States irrigation canal. *Journal of Environmental Quality*, **39(5)**:1563-1569.
 39. **Kersting, A.B., Zavarin, M., Dai, Z., Felmy, A., Kips, R.A., Moser, D., Powell, B.A., Tinnacher, R., and Zhao, P.** 2010, June. Subsurface transport of Pu on nanominerals: Teasing out biogeochemical controls in field environments. *Geochimica et Cosmochimica Acta* **74(12)**:A508-A508.
 40. **Lippmann, M. S., Torgersen, T., Moser, D. P., Hall, J., Lihung, L., Borcsik, M., Bellamy, R. E., Onstott, T. C.** 2010. Dating ultra-deep mine waters with noble gases and Cl-36, Witwatersrand Basin, South Africa, *Geochimica et Cosmochimica Acta*, **55**, A458
 41. **Moser, D.P., Bruckner, J., Fisher, J., Czerwinski, K., Russell, C.E., and Zavarin, M.** 2010. Characterization of microbial communities in subsurface nuclear blast cavities of the Nevada Test Site. United States. <https://doi.org/10.2172/1010281>. <https://www.osti.gov/servlets/purl/1010281>.
 42. **Chivian, D., Brodie, E. L., Alm, E.J., Culley, D.E., Dehal, P. S., DeSantis, T.Z., Gihring, T.M., Lapidus, A., Lin, L.H., Lowry, S.R., Moser, D.P., Richardson, P. M., Southam, G., Wanger, G., Pratt, L.M., Andersen, G.L., Hazen, T.C., Brockman, F.J., Arkin, A.P., Dandie, C.E., Burton, D.L., Zebarth, B.J., Henderson, S.L., Trevors, J.R., Goyer, C., De Maria Guillén-Jiménez, F., Morales-Barrera, L., Morales-Jiménez, J.** 2009. Further readings in geomicrobiology, *Geomicrobiol. J.*, **26**, 161-162
 43. **Navarro, J.B., Moser, D.P., Flores, A., Ross, C., Rosen, M.R., Dong, H., Zhang, G., and Hedlund, B.P.** 2009. Bacterial succession within an ephemeral hypereutrophic Mojave Desert playa Lake. *Microbial Ecology*, **57(2)**:307-320.
 44. **Chivian, D., Brodie, E.L., Alm, E.J., Culley, D.E., Dehal, P.S., DeSantis, T.Z., Gihring, T.M., Lapidus, A., Lin, L.H., Lowry, S.R. and Moser, D.P., Richardson, P.M., Southam, G., Wanger, G., Pratt, L.M., Andersen, G.L., Hazen, T.C., Brockman, F.J., Arkin, A.P., and Onstott, T.C.** 2008. Environmental genomics reveals a single-species ecosystem deep within Earth. *Science*. **322**:275-278.
 45. **Costa, K.C., Hallmark, J., Navarro, J.B., Hedlund, B.P., Moser, D.P., Labahn, S., and Soukup, D.** 2008. Geomicrobiological changes in two ephemeral desert playa lakes in the Western United States. *Geomicrobiology Journal*, **25(5)**:250-259.
 46. **Young, M.H., Woodrow, J., Moser, D.P., Zhu, J., Chen, L., Susfalk, R.B., Miller, G.C., Labahn, S.K., Moran, E.A., and Arrowood, T.** 2007. Technical Report: Results of Laboratory Experiments in Support of PAM-Related Research. *Desert Research Institute, Division of Hydrologic Sciences Publication #41237*.

47. **Gihring, T.M., Moser, D.P., Lin, L.H., Davidson, M., Onstott, T.C., Morgan, L., Milleson, M., Kieft, T.L., Trimarco, E., Balkwill, D.L., and Dollhopf, M.E.** 2006. The distribution of microbial taxa in the subsurface water of the Kalahari Shield, South Africa. *Geomicrobiology Journal*, **23(6)**:415-430.
48. **Kieft, T.L., Moser, D.P.** 2006. Preface for Special Issue (Deep Biosphere), *Geomicrobiol. J.*, 23
49. **Lin, L.H., Wang, P.L., Rumble, D., Lippmann-Pipke, J., Boice, E., Pratt, L.M., Lollar, B.S., Brodie, E.L., Hazen, T.C., Andersen, G.L., DeSantis, T.Z., Moser, D.P., Kershaw, D., and Onstott, T.C.** 2006. Long-term sustainability of a high-energy, low-diversity crustal biome. *Science* **314**:479-482.
50. **Onstott, T.C., Lin, L.H., Davidson, M., Mislouack, B., Borcsik, M., Hall, J., Slater, G., Ward, J., Lollar, B.S., Lippmann-Pipke, J., Boice, E., Pratt, L.M., Pfiffner, S., Moser, D., Gihring, T., Kieft, T.L., Phelps, T.J., Vanheerden, E., Litthaur, D., Deflaun, M., Rothmel, R., Wanger, G., and Southam, G.** 2006. The origin and age of biogeochemical trends in deep fracture water of the Witwatersrand Basin, South Africa. *Geomicrobiology Journal* **23**:369-414.
51. **Pfiffner, S.M., Cantu, J.M., Smithgall, A., Peacock, A.D., White, D.C., Moser, D.P., Onstott, T.C., and van Heerden, E.** 2006. Deep subsurface microbial biomass and community structure in Witwatersrand Basin mines. *Geomicrobiology Journal*, **23(6)**:431-442.
52. **Slater, G.F., Lippmann-Pipke, J., Moser, D.P., Reddy, C.M., Onstott, T.C., Lacrampe-Couloume, G., and Lollar, B.S.** 2006. ¹⁴C in methane and DIC in the deep terrestrial subsurface: Implications for microbial methanogenesis. *Geomicrobiology Journal*, **23(6)**:453-462.
53. **Lollar, B.S., Lacrampe-Couloume, G., Slater, G.F., Ward, J., Moser, D.P., Gihring, T.M., Lin, L.H., and Onstott, T.C.** 2006. Unravelling abiogenic and biogenic sources of methane in the Earth's deep subsurface. *Chemical Geology*, **226(3-4)**:328-339.
54. **Verusub, K.** 2006. Workshops: Scientific Coring in the Lake Tahoe Basin. *Eos. Trans.* **87**:3 (unnamed co-author as printed).
55. **Lin, L.H., Hall, J., Lippmann-Pipke, J., Ward, J.A., Sherwood Lollar, B., DeFlaun, M., Rothmel, R., Moser, D., Gihring, T.M., Mislouack, B., and Onstott, T.C.** 2005. Radiolytic H₂ in continental crust: nuclear power for deep subsurface microbial communities. *Geochemistry, Geophysics, Geosystems*, **6(7)**: doi/abs/10.1029/2004GC000907.
56. **Kieft, T.L., McCuddy, S.M., Onstott, T.C., Davidson, M., Lin, L.-H., Mislouack, B., Pratt, L., Boice, E., Sherwood Lollar, B., Lippmann-Pipke, J., Pfiffner, S.M., Phelps, T.J., Gihring, T., Moser, D., and van Heerden, E.,** 2005. Geochemically generated, energy-rich substrates and indigenous microorganisms in deep, ancient groundwater. *Geomicrobiology Journal*, **22(6)**:325-335.
57. **Moser, D.P., Gihring, T.M., Brockman, F.J., Fredrickson, J.K., Balkwill, D.L., Dollhopf, M.E., Lollar, B.S., Pratt, L.M., Boice, E., Southam, G., and Wanger, G.** 2005. *Desulfotomaculum* and *Methanobacterium* spp. dominate a 4-to 5-kilometer-deep fault. *Applied and Environmental Microbiology*, **71(12)**:8773-8783.
58. **Lollar, B.S., Slater, G., Moser, D.P., Gihring, T.M., Telling, J., Lacrampe-Couloume, G., Lin, L.H., and Onstott, T.C.** 2005. Abiogenic gases, H₂ autotrophy and methanogenesis in the deep subsurface. In *Abstracts of Papers of the American Chemical Society*, **229**:U888-U888.
59. **Ward, J.A., Slater, G.F., Moser, D.P., Lin, L.H., Lacrampe-Couloume, G., Bonin, A.S., Davidson, M., Hall, J.A., Mislouack, B., Bellamy, R.E.S., and Onstott, T.C.** 2004. Microbial hydrocarbon gases in the Witwatersrand Basin, South Africa:

- implications for the deep biosphere. *Geochimica et Cosmochimica Acta*, **68(15)**:3239-3250.
60. **Baker, B.J., Moser, D.P., MacGregor, B.J., Fishbain, S., Wagner, M., Fry, N.K., Jackson, B., Speolstra, N., Loos, S., Takai, K., and Lollar, B.S.** 2003. Related assemblages of sulphate-reducing bacteria associated with ultradeep gold mines of South Africa and deep basalt aquifers of Washington State. *Environmental Microbiology*, **5(4)**:267-277.
 61. **Lippmann, J., Stute, M., Torgersen, T., Moser, D.P., Hall, J.A., Lin, L., Borcsik, M., Bellamy, R.E.S., and Onstott, T.C.** 2003. Dating ultra-deep mine waters with noble gases and ³⁶Cl, Witwatersrand Basin, South Africa. *Geochimica et Cosmochimica Acta*, **67(23)**:4597-4619.
 62. **Moser, D.P., Fredrickson, J.K., Geist, D.R., Arntzen, E.V., Peacock, A.D., Li, S.M.W., Spadoni, T., and McKinley, J.P.** 2003. Biogeochemical processes and microbial characteristics across groundwater– surface water boundaries of the Hanford Reach of the Columbia River. *Environmental Science & Technology*, **37(22)**:5127-5134.
 63. **Moser, D.P., Onstott, T.C., Fredrickson, J.K., Brockman, F.J., Balkwill, D.L., Drake, G.R., Pfiffner, S.M., White, D.C., Takai, K., Pratt, L.M., and Fong, J.** 2003. Temporal shifts in the geochemistry and microbial community structure of an ultradeep mine borehole following isolation. *Geomicrobiology Journal*, **20(6)**:517-548.
 64. **Onstott, T.C., Moser, D.P., Pfiffner, S.M., Fredrickson, J.K., Brockman, F.J., Phelps, T.J., White, D.C., Peacock, A., Balkwill, D., Hoover, R., and Krumholz, L.R.** 2003. Indigenous and contaminant microbes in ultradeep mines. *Environmental Microbiology*, **5(11)**:1168-1191.
 65. **Lollar, B.S., Ward, J., Slater, G., Lacrampe-Couloume, G., Hall, J., Lin, L.H., Moser, D., and Onstott, T.C.** 2002, August. Hydrogen and hydrocarbon gases in crystalline rock: Implications for the deep biosphere *Geochimica et Cosmochimica Acta*, **66**:A706-A706).
 66. **Barbieri, E., Paster, B.J., Hughes, D., Zurek, L., Moser, D.P., Teske, A., and Sogin, M.L.** 2001. Phylogenetic characterization of epibiotic bacteria in the accessory nidamental gland and egg capsules of the squid *Loligo pealei* (Cephalopoda: Loliginidae). *Environmental Microbiology*, **3(3)**:151-167.
 67. **MacGregor, B.J., Moser, D.P., Baker, B.J., Alm, E.W., Maurer, M., Nealson, K.H., and Stahl, D.A.** 2001. Seasonal and spatial variability in Lake Michigan sediment small-subunit rRNA concentrations. *Applied and Environmental Microbiology*, **67(9)**:3908-3922.
 68. **Takai, K., Moser, D.P., DeFlaun, M., Onstott, T.C., and Fredrickson, J.K.** 2001. Archaeal diversity in waters from deep South African gold mines. *Applied and Environmental Microbiology*, **67(12)**:5750-5760.
 69. **Takai, K., Moser, D.P., Onstott, T.C., Spoelstra, N., Pfiffner, S.M., Dohnalkova, A., and Fredrickson, J.K.** 2001. *Alkaliphilus transvaalensis* gen. nov., sp. nov., an extremely alkaliphilic bacterium isolated from a deep South African gold mine. *International Journal of Systematic and Evolutionary Microbiology*, **51(4)**:245-256.
 70. **Teske, A., Brinkhoff, T., Muyzer, G., Moser, D.P., Rethmeier, J., and Jannasch, H.W.** 2000. Diversity of thiosulfate-oxidizing bacteria from marine sediments and hydrothermal vents. *Applied and Environmental Microbiology* **66(8)**:3125-3133.
 71. **Leonardo, M.R., Moser, D.P., Barbieri, E., Brantner, C.A., MacGregor, B.J., Paster, B.J., Stackebrandt, E., and Nealson, K.H.** 1999. *Shewanella pealeana* sp. nov., a member of the microbial community associated with the accessory

- nidamental gland of the squid *Loligo pealei*. *International Journal of Systematic and Evolutionary Microbiology*, **49(4)**:1341-1351.
72. **Onstott, T.C., Moser, D.P., Dong, H., Fredrickson, J.K., Brockman, F.J., Phelps, T.J., Pfiffner, S.M., Peacock, A., White, D.C., MacNaughton, S., and Colwell, F.S.** 1999. The Witwatersrand Deep Microbiology Project: a window into the extreme environment of deep subsurface microbial communities. *EOS*, **80**:79.
 73. **Venkateswaran, K., Moser, D.P., Dollhopf, M.E., Lies, D.P., Saffarini, D.A., MacGregor, B.J., Ringelberg, D.B., White, D.C., Nishijima, M., Sano, H., and Burghardt, J.** 1999. Polyphasic taxonomy of the genus *Shewanella* and description of *Shewanella oneidensis* sp. nov. *International Journal of Systematic and Evolutionary Microbiology*, **49(2)**:705-724.
 74. **MacGregor, B.J., Moser, D.P., Alm, E.W., Nealson, K.H., and Stahl, D.A.** 1997. Crenarchaeota in Lake Michigan sediment. *Applied and Environmental Microbiology* **63(3)**:1178-1181.
 75. **Barbieri, E., Gulledege, J., Moser, D., and Chien, C.C.** 1996. New evidence for bacterial diversity in the accessory nidamental gland of the squid (*Loligo pealei*). *The Biological Bulletin*, **191(2)**:316-317.
 76. **Moser, D.P., and Nealson, K.H.** 1996. Growth of the facultative anaerobe *Shewanella putrefaciens* by elemental sulfur reduction. *Applied and Environmental Microbiology*, **62(6)**:2100-2105.
 77. **Moser, D.P.** 1997. Elemental sulfur reduction in *Shewanella putrefaciens*. Ph.D. Dissertation. University of Wisconsin, Milwaukee.
 78. **Moser, D.P., Brozowski, J.R., and Nealson, K.H.** 1996. Elemental analysis for biomass determination in the presence of insoluble substrates. *Journal of Microbiological Methods*, **26(3)**:271-278.
 79. **Moser, D.P., and Nealson, K.H.** 1996. Growth of the facultative anaerobe *Shewanella putrefaciens* by elemental sulfur reduction. *Applied and Environmental Microbiology* **62(6)**:2100-2105.
 80. **Moser, D., Zarka, D., Hedman, C., and Kallas, T.** 1995. Plasmid and chromosomal DNA recovery by electroextraction of cyanobacteria. *FEMS Microbiology Letters*, **128(3)**:307-313.
 81. **Nealson, K.H., Moser, D.P., and Saffarini, D.A.** 1995. Anaerobic electron acceptor chemotaxis in *Shewanella putrefaciens*. *Applied and Environmental Microbiology* **61(4)**:1551-1554.
 82. **Nishiguchi, M.K., Duval, B., and Moser, D.P.** 1994. Analysis of dimethylsulfoniopropionate from *Phaeocystis pouchetii* in the waters of McMurdo Sound, Antarctica. *Antarctic Journal of the United States*, **29**:102-105.
 83. **Nealson, K., Saffarini, D., Moser, D., and Smith, M.J.** 1994. A spectrophotometric method for monitoring tactic responses of bacteria under anaerobic conditions. *Journal of Microbiological Methods*, **20(3)**:211-218.
 84. **Moser, D.P., Zarka, D., and Kallas, T.** 1993. Characterization of a restriction barrier and electrotransformation of the cyanobacterium *Nostoc* PCC 7121. *Archives of microbiology*, **160(3)**:229-237.
 85. **Moser, D.P.** 1992. Characterization of a restriction barrier and electrotransformation of the cyanobacterium, *Nostoc* PCC 7121. Masters' Thesis. University of Wisconsin Oshkosh.

Book Chapters and Technical Reports

1. **Moser, D.P., and Willever, K.**, 2015. Biogeochemistry of Walker Lake. Close-out report for the United States Fish and Wildlife Service. USFWS Contract Number: 84240-B-J112 / F11AC01287. 38p.
2. **Moser, D.P., Fisher, J.C., Bruckner, J.C., Reihle, J., Edmiston, P., Wheatley, A., Jacovides, C., Hamilton-Brehm, S., Dodsworth, J., and Hedlund, B.** 2014. Microbial biogeochemistry of Ash Meadows springs. Close-out report for the United States Fish and Wildlife Service. Great Basin Cooperative Ecosystem Studies Unit, Cooperative Agreement CESU 84320-5-J306, DRI Project ID: 10031 and 10937. 101 p.
3. **Hedlund, B.P., and Moser, D.P.** 2013. Novel thermophilic microorganisms and cellulases for improving second-generation biofuel technologies. Nevada Renewable Energy Consortium. Closeout report. 01/04/13.
http://digitalscholarship.unlv.edu/hrc_lectures_events/5/.
4. **Slater, G.F., Moser, D.P., and Sherwood Lollar, B.** 2013. Development of microbial characterization techniques for low-permeability sedimentary rock. Canadian Nuclear Waste Management Organization special report. NWMO TR-2013-17. 50 p.
5. **Kersting, A.B., Zavarin, M., Powell, B.A., Moser, D., Carroll, S.A., Maxwell, R., Dai, Z., Williams, R., Tumey, S., Zhao, P., Tinnacher, R., Huang, P. Kips, R. Mason, H., Begg, J., Fisher, J., Simpkins, L., Zimmerman, T., Jablonski, J., and Snow, M.** 2011. LLNL SFA FY11 program management and performance report: environmental transport of plutonium. Lawrence Livermore National Laboratory (LLNL), Livermore, CA. LLNL-TR-490259.
6. **Moser, D.P., Bruckner, J.C., Ehram, M.C., Fisher, J., and Newburn, J.** 2009. Limnological analyses of Devils Hole and Point of Rocks Refugium, Ash Meadows Wildlife Refuge, Nye County, Nevada - Part II: Microbiology. Closeout Report. Great Basin Cooperative Ecosystem Studies Unit Contract No. H8R07060001.
7. **Young, M.H., Moser, D., Sada, D., Zhu, J., Woodrow, J.E., Stone, M., Shanafield, M., Schulman, C., and Fitzgerald, B.** 2009. PAM IV Final Report: Evaluation of the effectiveness of linear anionic polyacrylamide (LA-PAM) when used to reduce seepage in unlined irrigation canals within the 17 Western States. 2009. R.B. Susfalk, Ed., Report to USBR.
8. **Stone, M.C., Heyvaert, A.C., Chandler, C., Fritsen, C.H., Hershey, R.L., Moser, D.P., Bruckner, J., Lutz, A.D., Memmott, J.C., and Acharya, K.** 2009. Ecological model for Walker Lake, Nevada. In Restoration of a Desert Lake in an agriculturally dominated watershed: The Walker Lake Basin. <https://www.dri.edu/cwes/walker-lake-basin>.
9. **Susfalk, R.B., Sada, D., Moser, D., Zhu, J., Chen, L., Epstein, B.J., Schmidt, M., Labhan, S., Rosamond, C., Woodrow, J., Fitzgerald, B., Goreham, J., and Smith, D.** 2009. PAM III Final Report: Evaluation of the effectiveness of linear anionic polyacrylamide (LA-PAM) when used to reduce seepage in unlined irrigation canals within the 17 Western States. R.B. Susfalk, Ed., Report to USBR.
10. **Heyvaert, A., Chandra, S., Fritzen, C., Hershey, R., Moser, D., Stone, M., Bruckner, J., Lutz, A., Memmott, J., Umek, J., and Thomas, J.** 2009. Contemporary Limnology of Walker Lake, Nevada. Final Report submitted to the Walker Basin Project. In: Restoration of a Desert Lake in an Agriculturally Dominated Watershed: The Walker Lake Basin. (Eds) M.W. Collopy and J.M. Thomas.
11. **Kieft, T.L., and Moser, D.P.** 2006. Preface for Special Issue (DeepBiosphere). *Geomicrobiology Journal*. **23**:343.
12. **Moser, D.P., Boston, P.J., and Martin, H.W.** 2003. Caves and Mines Microbiological Sampling. Encyclopedia of Environmental Microbiology. Wiley. New York.

White Papers, Preprints, and Other Works

1. Seymour, C.O., Palmer, M., Becraft, E.D., Stepanauskas, R., Friel, A.D., Schulz, F., Woyke, T., Eloe-Fadrosh, E., Lai, D., Jiao, J.-Y., Hua, Z.S., Liu, L., Zheng-Han Lian, Z.-H., Li, W.-J., Chuvochina, M., Finley, B.K., Koch, B.J., Schwartz, E., Dijkstra, P., Moser, D.P., Hungate, B.A., and Hedlund, B.P. 2022. Omnitrophota encompasses diverse and hyperactive nanobacteria: potential metabolisms and host-dependent lifestyles Research Square DOI: <https://doi.org/10.21203/rs.3.rs-1352086/v1>
2. Beam, J.P. Becraft, E.D., Brown, J.M., Schulz, F.P., Jarett, J.K., Bezuidt, O., Poulton, N., Clark, K., Dunfield, P.F., Ravin, N.V., Spear, J.R., Hedlund, B.P., Kormas, K.A., Sievert, S.M., Elshahed, M.S., Barton, H.A., Stott, M.B., Eisen, J.A., Moser, D.P., Onstott, T.C., Woyke, T., and Stepanauskas, R. 2020. Ancestral absence of electron transport chains in Patescibacteria and DPANN. *bioRxiv*, <https://www.biorxiv.org/content/10.1101/2020.04.07.029462v1>
3. Soares, A., Edwards, A., An, D., Bagnoud, A., Bomberg, M., Budwill, K., Caffrey, S., Fields, M., Toner, B., Gralnick, J., Kadnikov, V., Momper, L., Osburn, M., Mu, A., Moreau, J., Moser, D., Purkamo, L., Rassner, S., Sheik, C., Voordouw, G., Wouters, K., Sherwood Lollar, B., Toner, B.M., Voordouw, G., Wouters, K., and Mitchell, A. 2019. A global perspective on microbial diversity in the terrestrial deep subsurface. *bioRxiv*, p.602672.
4. Becraft, E.D., Woyke, T., Jarett, J., Ivanova, N., Godoy Vitorino, F., Poulton, N., Brown, J.M., Brown, J., Lau, M.C.Y., Onstott, T., Eisen, J.A., Moser, D., and Stepanauskas, R. 2017. Solagigasbacteria: Lone genomic giants among the uncultured bacterial phyla. *bioRxiv*, p.176263.
5. Stamenković, V., Barross, J., Beaty, D., Beegle, L., Bell, M.S., Breuer, D., Cooper, I., Davila, A., Fischer, W.W., Glavin, D., Graham, H., Kirschvink, J., Mischna, M., Moser, D., Mustard, J., Onstott, T.C., Osburn, M., Orphan, V., Russell, M., Sapers H., Spohn T., Templeton, A., Ward, L., and Zacny, K. 2017. Mars Subsurface Access: From Sounding to Drilling. White Paper Submitted to The National Academies of Sciences, Engineering and Medicine's Astrobiology Science Strategy for the Search for Life in the Universe Meeting January 2018.
6. Moser, D.P. 2016. Invited endorsement for *Deep Life: The Hunt for the Hidden Biology of Earth, Mars, and Beyond*. 2016. T.C. Onstott, Princeton University Press. 512 P. ISBN 0691096449.
7. Onstott, T.C., and T. Kieft. 2015. Meeting report: Developing deep-life continental drilling project. *Eos* **26-Feb**, 2015. (contributor)
8. Schultz, A., and Moser, D.P. 2006. Flight to nowhere. *Quiet Birdmen Beam*. **63**:3-4.

SELECT CONFERENCE ABSTRACTS (since 2010) (*Presenter)

1. *Moser, D., Wuest, V., and Schwemm, M. 2022. Environmental DNA (eDNA) for early detection of invasive aquatic species & endemic fish surveillance in desert spring systems. Desert Fishes Council, St. George, UT, 11/19/22. Talk.
2. *Lindsay, M.R., D'Angelo, T., Munson-McGee, J., Saidi-Mehrabad, A., Devlin, M., McGonigle, J., Lubelczyk, L.C., Goodell, E., Herring, M., Yousavich, D.J., Liu, J., Hamilton-Brehm, S.D., Treude, T., Poulton, N., Stepanauskas, R., Moser, D., Emerson, D., and Orcutt, B. 2022. Single cell rates of microbial sulfate reduction in a deep subsurface terrestrial aquifer. AbSciCon, Atlanta, GA, 05/17/22.
3. *Devlin, M., Moser, D.P., Northup, D., Hathaway, J.J.M., Briggs, W.C., and Blank,

- J.G.** 2022. Life in lava tubes: prokaryotic and eukaryotic communities in a Mars analog environment. Geological Society of America, Las Vegas, NV, 03/16/22, Abstract 15-08. Talk.
4. ***Hedlund, B.P., Nou, N., Covington, J., Cook, A., Torosian, N., Palmer, M., Sushenko, N.S., Singh, N.K., Moser, D.P., and Venkateswaran, K.** 2022. Biomass recycling using novel thermophilic enzymes and importance for sustainable space exploration. 2022. Nevada NASA Programs EPSCoR Statewide Meeting, Las Vegas, NV, 04/29/22, Talk.
 5. ***Moser, D.P., Sushenko, N.S., Devlin, M., Saidi-Mehrabad, A., Northup, D., Hedlund, B.P., Singh, N.K., Blank, J., and Venkateswaran, K.** 2022. Deep biosphere to deep space: microbiome insights for life on rocky planets and human health during long-duration space-flight. 2022 Nevada NASA Programs EPSCoR Statewide Meeting, Las Vegas, NV, 04/29/22, Talk.
 6. ***Sushenko, N.S., Saidi-Mehrabad, A., Hedlund, B.P., Singh, N.K., Venkateswaran, K., and Moser, D.P.** 2022. Resistance of *Klebsiella* strains from the International Space Station to quaternary ammonium compound disinfectants. 2022 Nevada NASA Programs EPSCoR Statewide Meeting, Las Vegas, NV, 04/29/22, Poster.
 7. ***Moser, D., Devlin, M., Saidi-Mehrabad, A., Stepanauskas, Ramunas, Sackett, Joshua, Munson-McGee, J., Lindsay, Melody, D'Angelo, Tim, Orcutt, B., Becraft, E., and McGonigle, J.** 2022. The Death Valley Regional Flow System: an analog for subsurface rock-hosted ecosystems of rocky planets. Geological Society of America. Las Vegas. NV. 03/16/22. Abstract I4-07. Talk.
 8. ***Munson McGee, J.H., M. Lindsay, J. Brown, J. Brown, K. Dykens, D. Moser, L. Lubelczyk, T. D'Angelo K. Ziervogel, D. Emerson, B. Orcutt, N. Poulton, R. Stepanauskas.** 2020. Linking microbial genomes to phenomes, one cell at a time. *15th Annual DOE Joint Genome Institute, Genomics of Energy and the Environment Meeting*, March 22 – 26, 2020. Oakland, CA. Poster.
 9. ***Sushenko, N., Gans, J., Arambula-Quintero, C.A., Singh, N.K., Venkateswaran, K., and Moser, D.P.** 2020. Disinfectant resistance of *Klebsiella Pneumoniae* strains isolated from the International Space Station. American Society for Gravitational and Space Research (ASGSR) Virtual Meeting, 11/06/20. Talk.
 10. ***Blank, J.G., Colaprete, A., Cohen, T., Datta, S., Moser, D., Nefian, A., Northup, D., Osburn, M., Roush, T., Stoker, C., Wong, U., and the BRAILLE Team.** 2019. NASA's BRAILLE Project: results from the 2018 field campaign at Lava Beds National Monument (N. CA, USA). *Astrobiology Science Conference - Abiscicon 2019*, Seattle WA, 06/25/2019. Talk.
 11. ***Devlin, M.G., Bergman, D., Becraft, E., Sackett, J., and Moser, D.P.** 2019. Microbial communities of the Sanford Underground Research Facility (SURF) with special reference to mine wastewater treatment systems. *Fourth Microbial Single Cell Genomics Workshop*, Boothbay Harbor, Maine, September 22-26, 2019. Poster.
 12. ***Ford, J.A., Kulkarni, H.V., Blank, J.G., and Moser, D.** 2019. Lava tube speleothems as putative analog extraterrestrial biomarker targets. *GSA Joint 53rd South-Central/53rd North-Central/71st Rocky Mtn Section Meeting*. Abstract 327464. 03/27/2019. Manhattan, KS. Poster.
 13. ***Horton, A.C., Hummer, D., Moser, D.P., Wanger, G., Hamilton-Brehm, S.** 2019. Characterization and geochemistry of novel bacterium, Gen. Nov., Sp. Nov., *Anaeropaleothermus hephaestusseraphensis* strain SIUC-3, isolated 3.2 kilometers underground from the Driefontein Goldmine, South Africa. Southern Illinois University Carbondale, *Graduate School Research Symposium*, Carbondale, IL, 04/01/2019. Poster.

14. ***Kruger, B.R., Sackett, J., Moser, D.P., Blank, J.** 2019. Constraining the age of microbial organic carbon within lava tube caves to inform life detection targets. *Astrobiology Science Conference - Abcicon 2019*, Seattle WA, 06/25/19. Poster.
15. ***Milshteyn, D., D.P. Moser, D.E. Northup, J.G. Blank.** 2019. ATP bioluminescence assay as a proxy for life detection methods in subsurface analog sites. *Astrobiology Science Conference - Abcicon 2019*, Seattle WA, 06/25/19. Talk.
16. ***Munson-McGee, J.H., Lindsay, M., Brown, J., Brown, J., Dykens, K., Lubelczyk, L., D'Angelo, T., Ziervogel, K., Moser, D., Emerson, D., Orcutt, B., Poulton, N., and Stepanauskas, R.** 2019. Linking microbial genomes to phenomes, one cell at a time. *Fourth Microbial Single Cell Genomics Workshop*, Boothbay Harbor, Maine, September 22-26, 2019. Poster.
17. ***Northup, D.E., Hathaway, J.J.M., Spilde, M.N., Moser, D.P., and J.G. Blank.** 2019. Investigating the mineral:microbe continuum in lava caves to enhance the selection of life detection targets. *Mars Extant Life: What's Next?* Carlsbad, NM., November 5, 2019
18. ***Northup, D.E., Hathaway, J.J.M., Briggs, W.C., Spilde, M.N., Moser, D.P., and Blank, J.G.** 2019. Characterization of the mineral-microbe continuum in Earth's lava caves to identify best astrobiology targets on extraterrestrial bodies. *Astrobiology Science Conference - Abcicon 2019*, Seattle WA, 06/25/19. Talk.
19. ***Northup, D.E., Hathaway, J.J.M., Spilde, M.N., Moser, D.P., Blank, J.G.** 2019. Investigating the mineral:microbe continuum in lava caves to enhance selection of life detection targets. *Mars Extant Life: What's Next?* 01/29/19. Lunar and Planetary Institute, Houston. (<https://www.hou.usra.edu/meetings/lifeonmars2019/pdf/5037.pdf>).
20. ***Becraft, E.D., Lau, M.C.Y., El-Kebir, M., Brown, J.M., Kruger, B., Sackett, J., Moser, D., Ravin, N., Onstott, T., and R. Stepanauskas.** 2018. Bacterial relics from the Pangaea Super-continent? *17th International Symposium on Microbial Ecology (ISME)*. Leipzig, Germany. 08/12/18. Poster.
21. **Blank, G.J., Battazzo, S.J., Bieler, B.B., Cohen, T.E., Colaprete, A., Datta, S., Deans, M., Hathaway, J., Ingham, K., Moser, D., Nefian, A.V., Northup, D.E., Osburn, M., Rogg, A., Roush, T.L., Stoker, C.L., Tardy, A., White, B., and Wong, U.** 2018. BRAILLE Field Campaign I: Astrobiology Instrument Testing and Science Sampling at Lava Beds National Monument (N. CA, USA) 49th Annual Lunar and Planetary Science Conference. Woodland, TX. 3/2018.
22. ***Gerrity, D., Acharya, K., Moser, D., Bai, X., and Edmonds, J.** 2018. Plant uptake of contaminants of emerging concern in agroecosystems irrigated with reclaimed water. *USDA PI Meeting*, Washington, D.C. Talk.
23. ***Hamilton-Brehm, S.D., Horton, A., Blocker, A., Xiao, R., Baharlouei, A., and D.P. Moser.** 2018. Fastidious thermophiles and where to find them: cultivation and genomics of deep subsurface bacteria. *12th International Congress of Extremophiles*. Ischia, Italy, 09/16/18. Poster.
24. ***Hathaway, J.M., Moser, D.P., Papp, K., Blank, J.G., and Northup, D.E.** 2018. The importance of choosing your primer well: a comparison of bacterial and archaeal primers for sequencing cave microorganisms. *2018 American Society for Microbiology (ASM) TriBranch Meeting (Intermountain, Rio Grande, and Rocky Mountain branches)*. Durango, CO. 04/06/18. Poster.
25. **Kruger, B., Moser, D.P., Northup, D.E., Osburn, M.R., Hathaway, J.J.M., Spilde, M., Blank, J., and Papp, K.** 2018. An assessment of microbial mat and microbially influenced mineral age, carbon biogeochemistry, lipid profiles, and eukaryotic and prokaryotic community structure in lava caves to inform life detection targets. B53E-2124 *American Geophysical Union*. Washington D.C. 12/14/18. Poster.
26. ***Milshteyn, D., Moser, D.P., Chen, J.Z., Naness, G.R., Nguyen, C.N., Ditzler, M.A., and Blank, J.** 2018. Variations of microbial metabolic activity in lava caves as

- determined by bioluminescence assay. B53E-2120. American Geophysical Union. Washington D.C. 12/14/18. Poster.
27. ***Moser, D.P.** 2018. Microbial degradation of pharmaceuticals, endocrine-disrupting compounds and acrylamide in treated wastewater and agricultural irrigation systems. *Global Water Reuse, Food, and Health Workshop*, University of MD. 10/8/2018.
 28. ***Moser, D.P.** 2018. Life-inspired drilling in the Death Valley Extensional Zone. *Continental Scientific Drilling and Coring Science Planning Workshop*. Crowne Plaza Old Town, Alexandria, Virginia. 6/4/18. Talk.
 29. ***Moser, D.P., Sackett, J., Kruger, B., Hamilton-Brehm, S., and Huerta, D.** 2018. Thinking big by looking small: The Death Valley Regional Flow System as a regional-scale deep biosphere observatory. *Devils Hole Workshop*. Beatty, NV. 05/2018. Talk.
 30. ***Moser, D.P., Sackett, J., Kruger, B., and Hamilton-Brehm, S.** 2018. Deep biosphere windows into the Death Valley Regional Flow System. *57th Meeting of the Arizona/Nevada American Society for Microbiology*. Las Vegas, NV 04/2018. Talk.
 31. ***D.P. Moser, Sackett, J.D., Huerta, D.C., Kruger, B.R., and Hamilton-Brehm, S.D.** 2018. Comparative study of microbial biogeochemistry of Devils Hole and Ash Meadows Fish Conservation Facility. Lee Simons: Advocate for Desert Fishes Symposium. *50th Annual Desert Fishes Council Conference*, Furnace Creek, CA 11/14/18. Talk.
 32. ***Osburn, M.R., Datta, S., Hathaway, J.J.M., Moser, D., Northup, D.E., Papp, K., and Blank, J.G.** 2018. Astrobiological characterization of biosignatures from a planetary lava tube analog. *Goldschmidt Conference*, Boston, MA, 08/12/18. Talk.
 33. **Oswal, H., Bai, X., Gerrity, D., Acharya, K., Devitt, D., Moser, D., and Edmonds, J.** 2018. Role of ozone in agricultural water reuse applications. *International Ozone Association*. Las Vegas, NV, 08/22/18. Talk.
 34. ***Papp, K., Bacaro, F., Gerrity, D., and Moser, D.** 2018. Using quantitative stable isotope probing to identify carcinogen-degrading bacteria in wastewater. *57th Meeting of the Arizona/Nevada American Society for Microbiology*. Las Vegas, NV 04/2018. Poster.
 35. ***Sackett, J., Huerta, D., Kruger, B., Hamilton-Brehm, S., and D. Moser.** 2018. A comparative study of prokaryotic diversity and physicochemical characteristics of Devils Hole and the Ash Meadows Fish Conservation Facility, a constructed analog. *Devils Hole Workshop*. Beatty, NV. 05/2018. Poster.
 36. ***Sackett, J.D., Kruger, B.R., Becraft, E.D., Stepanauskas, R., and D.P. Moser.** 2018. *Kiritimatiellaeota* in the deep biosphere: Insights from single-cell genomics. *17th International Symposium on Microbial Ecology (ISME)*. Leipzig, Germany. 08/12/18. Poster.
 37. ***Sackett, J.D., and D.P. Moser.** 2018. Prokaryotic biogeochemistry of the Truckee River hyporheic zone. *57th Meeting of the Arizona/Nevada American Society for Microbiology*. Las Vegas, NV 04/2018. Poster.
 38. ***Stepanauskas, R., Moser, D.P., Orcutt, B., Poulton, N.J., Ziervogel, K.** 2018. Single cell genome-to-phenome: Integrating genome and phenome analyses of individual microbial cells in complex microbiomes. EPSCoR RII Track-2 2018 Kickoff Meeting, National Science Foundation, Alexandria VA 11/06/2018.
 39. ***Summers, R., Snow, M., Sackett, J., and Moser, D.** 2018. Microbial communities from soil and coprolites. 83rd Annual Meeting, *Society for American Archaeology*. Washington D.C. 04/2018. Talk.
 40. ***Hicks, M.L., Ruggiero, M.J., Willever, K., Hamilton-Brehm, S.D., Moser, D.P., and Campbell, J.H.** 2017. Characterization of potentially novel Rhodobacteraceae from Walker Lake, Nevada. *Missouri Academy of Science Annual Conference*, Lindenwood University, 22 April 2017. Poster
 41. ***Horton, A.C., Jones, B.M., Campbell, J.H., Campbell, A., Moser, D.P., and Hamilton-Brehm, S.D.** 2017. Sequenced genomes of subsurface microorganisms

- suggest cultivation strategies and reveal environmental adaptations. *Devils Hole Workshop*, Beatty, NV 05/2017. Poster
42. ***Kruger, B.R., Moser, D.P., Hershey, R.L.** 2017. Constraining the age of water in Southern Nevada aquifers: Investigating microbial controls on radiocarbon signatures of dissolved organic carbon. *Devils Hole Workshop*, Beatty, NV 05/2017. Poster.
 43. ***Moser, D.P., Sackett, J., and Kruger, B.** 2017. The Death Valley Regional Flow System: a fault-controlled oasis for deep life beneath the Mojave Desert. NeLLi 2017: *New Lineages of Life to New Functions*. DOE Joint Genome Institute, Walnut Creek, CA. 04/2017.
 44. ***Moser, D., S. Hamilton-Brehm, D. Huerta, B. Kruger, and J. Sackett.** 2017. Deep biosphere Windows of the Death Valley Regional Flow System. *Devils Hole Workshop*, Beatty, NV 05/2017. Talk.
 45. ***Sackett, J.D., Huerta, D.C., Kruger, B.R., Hamilton-Brehm, S.D., and D.P. Moser.** 2017. Comparative analysis of the microbiology and aqueous geochemistry of Devils Hole and the Ash Meadows Fish Conservation Facility. *Devils Hole Workshop*, Beatty, NV 05/2017. Talk.
 46. ***Sackett, J.D., Hamilton-Brehm, S.D., Kruger, B.R., Mullin, S.W., Wanger, G.P., Orphan, V.J, and. D.P. Moser.** 2017. Planktonic vs. attached deep subsurface microbial communities of the Death Valley Regional Flow System, with special reference to microbial dark matter lineages. *Devils Hole Workshop*, Beatty, NV 05/2017. Poster.
 47. ***Datta, S., Blank, J., Leveille, R.J., and D.P. Moser.** Basaltic caves and potential for biosignature development and preservation. *GSA Annual Meeting*, Denver, Colorado, USA, 01/2016. Talk.
 48. ***Hamilton-Brehm, S.D., Hristova, L., Edwards, S., Wedding, J., and Moser, D.** 2016. Ancient human mtDNA sequence and radiocarbon analysis of quids from the Mule Springs Rockshelter, Southwestern Nevada. June 2016. *Society of American Archeology (SAA) Meeting*, Orlando, FL. 05/2016. Talk.
 49. ***Huerta D., Sackett, J.D., Hamilton-Brehm, S.D., Kruger, B.R., and Moser D.P.** 2016. Comparative microbial analysis of an endangered fish habitat, Devils Hole, and a manmade replica. *ASM Microbe 2016*, Boston MA. 06/2016. Poster
 50. ***Kruger, B.K., Werne, J.P., Branstrator, D.K., Hrabik, T.R., Chikaraishi, Y., Ohkouchi, N., Hershey, R., Moser, D., and Minor, E.C.** 2016. Applying natural abundance radiocarbon analysis to understand ecosystem dynamics in surface and groundwater: Insights and precautions. *American Society for Limnology and Oceanography (ASLO) Annual Meeting*. Salt Lake City, UT. 04/2016. Talk.
 51. ***Moser, D.P., Willever, K.L., Fisher, J.C., Sackett, J.D., Kruger, B., Bruckner, J.C., Hershey, R.L., Fritsen, C.H., Memmot, J., and Bloomquist, D.** 2016. Linkages between limnology, biogeochemistry, and microbial communities of a threatened terminal lake ecosystem: Walker Lake, Nevada, USA. *Terminus Lakes Workshop*. University of NV Reno, Reno, NV. 08/2016. Poster.
 52. ***Sackett J.D., Huerta, D., Hamilton-Brehm, S.D., Kruger, B.R., and Moser D.P.** 2016. Microbiological diversity of Devils Hole and the Ash Meadows Fish Conservation Facility, a manmade analog. Nevada-NASA 2016 *Statewide Meeting for NASA EPSCoR/NASA Space Grant*, Reno, NV. 04/2016. Poster.
 53. ***Hamilton-Brehm, S.D., Stewart, L.E., Sackett, J., Kruger, B., Wanger, G., Fisher, J., and Moser, D.P.** 2015. Thermophilic microbial populations of the Lower Carbonate

- Aquifer of the Death Valley Regional Flow System. *Devils Hole Workshop*, Ash Meadows National Wildlife Refuge, NV, 05/07/2015. Talk.
54. ***Hristova, L., Hamilton-Brehm, S.D., and Moser, D.P.** 2015. Molecular archaeology: human mitochondrial DNA from 'ancient' samples. *Nevada Archaeological Association*. Wendover, NV, 03/28/2015
 55. ***Kruger, B.R., Moser, D.P., and Hershey, R.L.** 2015. Constraining the age of water in Southern Nevada aquifers: Investigating microbial controls on radiocarbon signatures of dissolved organic carbon. *Devils Hole Workshop*, Ash Meadows National Wildlife Refuge, NV, 05/07/2015. Poster.
 56. ***Moser, D., Amend, J., Bhartia, R., Eisen, J., El-Naggar, M., Hamilton-Brehm, S., Huerta, H., Jangir, Y., Kruger, B., Momper, L., Onstott, T.C., Sackett, J., Stepanauskas, R., Waddle, A., Wager, G., and Woyke, T.** 2015. The Natural and Manmade Windows into the Deep Biosphere from around the Death Valley Regional Flow System. *Devils Hole Workshop*, Ash Meadows National Wildlife Refuge, NV, 05/07/2015. Talk.
 57. ***Moser, D.P., Amend, J., Hamilton-Brehm, S.D., Kruger, B., Momper, L., Mullin, S., Orphan, V., Sackett, J., and Wanger, G.** 2015. Fault-controlled deep ecosystems of the Death Valley Extensional Zone. *AbSciCon*. Chicago, IL 06/18/2015. Talk.
 58. ***Osburn, J.P., Amend, J., LaRowe, D.E., Wanger, G., Momper, L.M., Kiel-Reese, B., El-Naggar, M., Bhartia, R., Orphan, V., Jangir, Y., and Moser, D.** 2015. Habitability of the terrestrial deep subsurface: Homestake Mine, SD, USA. *AbSciCon*. Chicago, IL 06/18/2015. Talk.
 59. ***Sackett, J.D., Eisen, J., Hamilton-Brehm, S.D., Hedlund, B.P., Kruger, B., Onstott, T.C., Stepanauskas, R., Woyke, T., and Moser, D.P.** 2015. Microbial dark matter hotspots and their role in deciphering the deep genealogy of life. *SURF Science Meeting*, South Dakota School of Mines and Technology. Rapid City, SD. 05/15/2015. Poster.
 60. ***Sackett, J.D., Kruger, B., Hamilton-Brehm, S., Fisher, J.C., Bruckner, J.C., Reihle, J., Edmiston, P., Wheatley, A., Jacovides, C., Eisen, J., Onstott, T.C., Hedlund, B.P., Woyke, T., Stepanauskas, R., Moser, D.P.** 2015. Searching for microbial dark matter in the Death Valley Regional Flow System. *Devils Hole Workshop*, Ash Meadows National Wildlife Refuge, NV, 05/07/2015. Talk.
 61. **Wanger, G., Mullin, S., Kruger, B., Hamilton-Brehm, S., Sackett, J., Momper, L., Moser, D., Orphan, V., Bhartia, R., and Amend, J.** 2015. Microscopic and spectroscopic analysis of microbes colonizing mineral coupons incubated at ~750 m depth within a fractured rock aquifer near Death Valley, CA, USA. *AbSciCon*. Chicago, IL 06/18/2015. Talk.
 62. ***Willever, K., Khan, M., Hamilton-Brehm, S.D., and Moser, D.P.** 2014. Microbial biogeochemistry of a transitioning terminal lake ecosystem; Walker Lake, NV. *Ecological Society of America*, Sacramento, CA. Invited Talk. 07/2014.
 63. ***Moser, D.P., Hamilton-Brehm, S., Zhang, G., Fisher, J., Kruger, B., Thomas, J., Wheatley, A., Stewart, L., and Onstott, T.C.** 2014. Natural and manmade windows into deep microbial communities of the Death Valley Regional Flow System, USA. *International Society for Subsurface Microbiology (ISSM)*. Asilomar, CA. 10/07/2014. Talk.
 64. ***Grim, S., Boetius, A., Briggs, B., Brazelton, W., D'Hondt, S., Edwards, K., Fisk, M., Gaidos, E., Gralnick, J., Hinrichs, K.-U., Lazar, C., Lavalleur, H., Marteinson, V., Moser, D., Orcutt, B., Pedersen, K., Popp, R., Ramette, A., Schrenk, M., Sylvan, J., Smith, A., Walsh, E., Sogin, M., and Colwell, F.** 2013. The deep cool terrestrial

- biosphere: habitability of ancient fracture waters of the Canadian Shield. *American Geophysical Union*. San Francisco, CA. 12/08/2013. Invited Talk.
65. ***Hamilton-Brehm, S.D., Fisher, J., Zhang, G., and D.P. Moser**. 2013. Cultivation of cosmopolitan deep subsurface microbial lineages from the southern Great Basin and ultra-deep African gold mines. *Devils Hole Workshop*. Furnace Creek, CA, 05/02/2013. Poster.
 66. **Kieft, T.L., Onstott, T.C., Lau, M., Sherwood Lollar, B., Moser, D.P., Stepanauskas, R., Pullin, M. and van Heerden, E.** 2013. Probing the deep biosphere via mines: lessons for deep drilling projects. *DOSECC/International Continental Drilling Program Annual Meeting*. Arrowhead, CA. Talk.
 67. **Moser, DP., Hamilton-Brehm, S., Zhang, G., Fisher, J., Hughes, K., Wheatley, A., Thomas, J., Zavarin, M., Robert, S.K., Kryder, L., McRae, M., Howard, W., Walker, J., Federwisch, R., King, M., Friese, R., Grim, S., Amend, J., Momper, L., Sherwood Lollar, B., Onstott, T.C.** 2013. Microbial ecology of a regional flow system: deep, aerobic, fractured rock aquifers of the US Basin and Range. H31G-1269 12/2013
 68. ***Onstott, T.C., Boyd, E., Kieft, T., Murdoch, L., and D.P. Moser**. 2013. Project Summary for Water-Enthalpy-Life (WEL). Deep Carbon Observatory. *High-pressure Sand Pit Workshop*, Veyrier-du-Lac, France. Contributor. Talk.
 69. ***Sherwood Lollar, B., Ballentine, C.J., Holland, G., Slater, G.F., and D.P. Moser**. 2013. The Deep Cool Terrestrial Biosphere: Habitability of ancient fracture waters of the Canadian Shield. *American Geophysical Union*. San Francisco, CA. 12/08/2013. Invited Talk
 70. **Sherwood Lollar, B., Slater, *G. F., and Moser, D.** 2013. Development of microbial characterization techniques for low-permeability sedimentary rocks. *Nuclear Waste Management Organization (of Canada) Annual Science Meeting*. 05/24/2013. Talk
 71. ***Thomas, J.M., Moser, D.P., Fisher, J.C., Reihle, J., Wheatley, A., Hershey, R.L., Baldino, C., and Weissenfluh, D.** 2013. Using Water Chemistry, Isotopes and Microbiology to Evaluate Groundwater Sources, Flow Paths and Geochemical Reactions in the Death Valley Flow System, USA. *WRI Conference*. Grenoble, France. 2013. Invited Talk.
 72. ***Zhang, G., Edmiston, P., Fisher, J., Hamilton-Brehm, S.D., Kryder, L., Walker, J., Lacy, D., and Moser, D.P.** 2013. Microbial community dynamics during a long-term deep well pump test in Amargosa Valley, NV. *Devils Hole Workshop*. Furnace Creek, CA, 05/02/2013. Poster.
 73. ***Blunt, S.M., Rosen, M.R., Fisher, J.C., and D.P. Moser**. 2012. Microbial transformation of 17 β -estradiol by bacterial isolates from the Las Vegas Wash. *Lake Mead Workshop*, Las Vegas, NV, 06/2012. Talk.
 74. ***Escobar, A., Hamilton-Brehm, S., Chu, K., Sherwood Lollar, B., and Moser, D.** 2012. Microbiological Characterization of 720m Hypersaline Silurian/Devonian Sedimentary Chronosequence. *REU Program Poster Session*, UNLV, Las Vegas, NV. 08/06/2012. Poster.
 75. ***Knue, J., Fisher, J., and Moser, D.P.** 2012. Responses of Devils Hole cyanobacterial populations to historic shifts in nutrient chemistry: A potential explanation for the catastrophic declines in the endangered Devils Hole Pupfish. *Southern Nevada Regional Science and Engineering Fair*, UNLV, 03/2012. Poster.
 76. ***Lawson, M., Hamilton-Brehm, S., Rhode, D., and Moser, D.** 2012. Isolation and Characterization of Microorganisms from 3,000 to 8,000 year-old Human Coprolites. *REU Program Poster Session*, UNLV, Las Vegas, NV. 08/06/2012. Poster.
 77. ***Moser, D., Fisher, J., Bruckner, J., Zavarin, M., Russell, C., Czerwinski, K., Lindvall, R.E., Roberts, S., Onstott, T., and Sherwood-Lollar, B.** 2012. Radiochemically-supported microbial communities: a potential mechanism for biocolloid

production of importance to actinide transport. *DOE Subsurface Biogeochemical Research (SBR) Annual PI Meeting*. Washington, DC. Poster.

78. ***Moser, D.P., Sherwood Lollar, B., Slater, G., Onstott, T.C., Bruckner, J.C., Fisher, J.C., and Reihle, J.** 2012. Finding the biotic fringe in the continental deep subsurface. *American Society for Microbiology*. San Francisco, CA. 969B. 06/2012. Poster.

TEACHING and STUDENTS

Teaching

BIOL 451 – Microbial Ecology. Guest lecture, University of New Mexico, Fall, 2022. 10/17/22.

BIOL 418/618 - Microbial Ecology. Guest lectures, UNLV, 2011, 2013, 2015, 2016, 2017, 2018, 2021, 2022.

BIOL 702 - Success in Graduate School and Beyond. Guest lecturer, two lectures. UNLV, Fall 2018.

BIOL 450/NRES 485 - Special Topics: Plant-Microbe Interactions in Aquaponics. Co-Instructor with Jennifer Edmonds, Nevada State College, Spring 2016.

BIOL 444/644 – Astrobiology. new course (with C. Fritsen, B. Hedlund, H. Sun,) UNLV/UNR, Fall 2005.

BIOL 418/618 - Microbial Ecology (with lab). new course (co-taught with B. Hedlund) UNLV, Spring 2005, 2006.

BIO SCI 512 - Limnology Lab. University of Wisconsin Milwaukee, Graduate Teaching Assistantship, Fall 1996.

BIO 390 - Biotechnology Lab. University of Wisconsin Oshkosh, Graduate Teaching Assistantship, Fall 1991.

BIO 312/3133 - Medical Bacteriology Lab. Undergraduate Teaching Assistantship, University of Wisconsin Oshkosh, Fall 1989.

BIO 315 – Virology Lab. Undergraduate Teaching Assistantship, University of Wisconsin Oshkosh, Spring 1988.

BIO 309 - Bacteriology Laboratory, Undergraduate Teaching Assistantships, University of Wisconsin Oshkosh, Teaching Assistantship, Fall 1986, 1987, 1988.

Undergraduate Honors Theses Mentored

Memona Khan, 2014, UNLV Honors College, *Characterization of metal-reducing microorganisms in Walker Lake: a terminal saline desert lake.*

https://digitalscholarship.unlv.edu/honors_theses/25/

Michael Hochman, 1998-2000, *Case for biotic speleogenesis in a dolomite aquifer.* Princeton University, Geosciences.

Postgraduate Hourly Employees

Chelsea Black, UNLV, 2023 - present

Joe Medley, University of New Mexico, 2021

Andrew Miller, UNR, hourly, 2019

Jonathan Gans, University of MD, 2019 - 2020

Daniel Walsh, Nevada State College, 2016-2017

Mary Devita, University of Hawaii, 2013–2014

Kaitlyn Hughes, University of New Mexico, 2013

Monica Lawson, UNLV, 2012–2013
Patty Edmiston, University of Arizona, 2009–2012

Undergraduate Students Hosted

Robertson, Miriam, UNLV, Volunteer, 2022 – present
Alisha Blanc, UCSD, Volunteer, 2021
Devon O’Sullivan, NSC, Volunteer, 2021
Carlos Arambula-Quinterra, NSC, Hourly employee, 2019 - 2020
Penelope Borg, UNLV, SOLS, Hourly employee, 2018–2019
Dana Carrison Stone, UNLV, Volunteer, 2018
Rudolph Dagher, UNLV, SOLS, Volunteer, 2015–2016
Sabrina Han, UNLV, SOLS, Volunteer, 2015–2016
Nicole Thomas, UNLV, SOLS, Hourly employee, 2015–Present
Desiree Huerta, UNLV, SOLS, ASM Fellowship, 2014–2016
Anthony Waddle, UNLV, SOLS, Hourly employee, 2014–2015
Wallace, Sabrina, UNLV, SOLS, Volunteer, 2014–2015
Lidia Hristova, UNLV, Anthropology, Hourly employee, 2014–2016
Waddle, Anthony, UNLV, SOLS, Hourly employee, 2014–2015
Mary Devita, UNLV, SOLS, Hourly employee, 2013
Memona Kahn, UNLV, SOLS, Volunteer /Scholarships/Honors thesis, 2012–2015
Austin McKenna, UNLV, SOLS, Volunteer, 2012–2013
Joseph Peacock, UNLV, SOLS, Hourly employee, summer 2012
Adrian Escobar, CSN, Hourly employee 2011–2013
Monica Lawson, UNLV, SOLS, NSF EPSCoR Fellow, 2011–2013
Alexandra Wheatley, UNLV, SOLS, Hourly employee, 2009–2013
Jon Tran, UNLV SOLS, NSF EPSCoR Fellow, 2009–2011
Bradley Davey, UNLV, SOLS, NSF EPSCoR Fellow, 2008
Jessica Newburn, UNLV, SOLS, NSF EPSCoR Fellow, 2008–2012
Mary Ehrsam, UNLV, SOLS, multiple fellowships (American Society for Microbiology, NSF EPSCoR), 2007–2009
Karen Levy, UNLV, SOLS, NSF EPSCoR Undergrad Fellow, 2006
Juan Plata, UNLV, Engineering, multiple fellowships, NSF EPSCoR, McNair, 2007–2009
Stephanie Georges, UNLV, SOLS, Independent Study Credits, 2008
Brett Walters, UNLV, SOLS, Hourly employee, 2007
Leah Sherman, UNLV, SOLS, Volunteer and Hourly, 2006–2007
Julius DeLeon, UNLV, SOLS, Hourly employee, 2006–2007
Adelbert Viloso, UNLV, SOLS, Hourly employee, 2006–2007
Candi, Schulman, UNLV, SOLS, Hourly employee, 2006
Journet Wallace, UNLV, SOLS, Hourly employee, Lab manager, 2005–2008
Stephanie Kay, UNLV, SOLS, Hourly employee, 2005

Interns

Dahiana Pimentel (M.S. program), Bronx Community College, Spring, 2022
Briahna Carrera, NSC, Summer Intern, 2021
Maira Franco Hernandez, NSC, Summer Intern, 2021
Elizabeth Mast, NSC, Summer Intern, 2020
Laura Stewart, Madison Area Technical College, *REU, 2013
Monica Lawson, UNLV, REU, 2012

Adrian Escobar, UNLV, REU, 2012
Chelsey VanDrisse, University of Minnesota, REU, 2011
Eric Hughes, Arizona State University, REU, 2010
Alex Michaud, Coe College, Cedar Rapids, IA, REU, 2009
Christina Jacovides, Yale University, REU, 2008

*REU = NSF Research Experience for Undergraduates

Post-docs, Professionals, and Visting Scholars Hosted

Dr. Alireza Saidi-Mehrabad, Ph.D. U of Alberta, 2021
Dr. Leena Cyclic, Ph.D. U of Maryland, 2020
Dr. Joshua Sackett, Ph.D. UNLV, 2019
Dr. Katerina Papp, Ph.D. Northern Arizona University; co-advised with Daniel Gerrity, UNLV. 2017 – 2019
Dr. Brittany Kruger, Ph.D. University of Minnesota; *Staff Scientist, Lab/NASA Astrobiology Institute Project Manager*, 2013 – Present
Dr. Scott Hamilton-Brehm, postdoc from ORNL, 2012–2015; *Rank I Assistant Professor*, 2015; *Rank II Assistant Professor*, 2015
Dr. Michael Leonardo, *Paid as project consultant* – Coe College, IA, 2010
Dr. Gaosen Zhang, postdoc from CAREERI, China, 2009–2013; *Rank I Assistant Professor*, 2014; *Rank II Assistant Professor*, 2014
Dr. Jenny C. Fisher, postdoc, from University of Georgia, 2008–2012
Dr. James C. Bruckner, postdoc, from JPL, 2007–2011; *Rank I Assistant Professor*, 2012; *Rank II Assistant Professor*, 2013

Graduate Student Committee Service (not including my own students)

Cale Seymour, UNLV, SOLS, 2019–2022
Jonathan Covington, UNLV, SOLS, 2021–2022
Dengxun Lai, UNLV, SOLS, 2018–present
Nancy Nou, UNLV, SOLS, 2018–2022
Rachel Garth, University of Kansas, Department of Geology, 2015
Ariel Friel, UNLV, SOLS, 2015–present
Amanda Prsbry, UNLV, SOLS, 2014–2016
Scott Thomas, UNLV, SOLS, 2012–2020
Tim Alba, UNLV, SOLS, 2012–2013
John Perry, UNLV, SOLS, 2011
Trista Vick, UNLV, SOLS, 2007–2008
Linh Nguyen, UNLV, SOLS, 2006–2007
Ryan McDonald, UNLV, SOLS, 2005

Graduate Students (Service as Research/Major Advisor)

Natasha Sushenko, UNLV SOLS, M.S. Program. *Microbiome of the International Space Station*. 2020 – present
Jonathan Gans, UNLV SOLS, M.S. Program. *Microbiome of the International Space Station*. 2020 – moved to MD due to family commitments related to Covid.
Victoria Wuest, UNLV SOLS, M.S. Program. *Environmental DNA*. 2019 - present
Molly Devlin, UNLV SOLS, Ph.D. Program. *Microbial Biomineralization in Lava Caves*. 2019 - present

Daniel Walsh, UNLV SOLS, Ph.D. Program. *Perchlorate metabolism for Mars analog study*. 2017–2018

Joshua Sackett, UNLV SOLS, Ph.D. Program. *Exploration of microbial dark matter using single cell genomics*. 2012–2019

Katherine Willever, UNLV SOLS, M.S. Program. *Microbial ecology of a desert terminal Lake: Walker Lake, Nevada*. 2012–2016

Susanna Blunt, UNLV, SOLS, M.S. Program. *Microbial impacts on endocrine disrupting contaminants: Las Vegas Wash and Lake Mead, Nevada*. 2007–2012

Stephanie Labahn, UNLV, SOLS, M.S. Program. *Microbially-mediated removal of acrylamide from canal systems*. 2005–2008

High School Students

Simran Shah, The Meadows High School, Las Vegas, Nevada, Summer 2015

Shalini Shah, The Meadows High School, Las Vegas, Nevada, Summer 2015

Sabrina Han, Northwest Technical Academy, Las Vegas, Nevada, 2015-2016.

David Lynn, Adelson High School, Las Vegas, Nevada, 2013

Chance Creigh, Bishop Gorman High School, Las Vegas, Nevada, 2013

Joseph Knue, Northwest Technical Academy, Las Vegas, Nevada, 2011–2012

Alexandra Wheatley, Northwest Technical Academy, Las Vegas, Nevada, 2010

Stephen Gibson, Meadows Upper School, Las Vegas, Nevada, summer 2010

SELECT INVITED LECTURES (Since 2010)

1. **Moser, D.P., and Wuest, V.** 2022. Environmental DNA (eDNA) for tracking endangered and invasive species in desert aquatic systems. DHS Colloquium. Desert Research Institute, Las Vegas, NV. 07/11/22.
2. **Moser, D.P.** *Life at the edge: from the deep biosphere to deep space*. Science Café, UNLV School of Life Sciences. Virtual. 01/07/20
3. **Moser, D.P.** *Fault-controlled microbial ecosystems of the continental deep subsurface*. Hydrodynamics Group LLC, host. Webinar. 02/20/20
4. **Moser, D.P.** *Opening the microbial black box: new tools for understanding environmental contaminant transformations*. DRI Environmental Contaminants Lunch. 12/18/19
5. **Moser, D.P.** *The last biome: unseen microbial ecosystems of the continental deep subsurface*. UNLV School of Life Sciences Departmental Lecture Series. 11/22/2019
6. **Moser, D.P.** *Molecular ecology as a window into the total Amargosa ecosystem: from microbes to people*. Amargosa Conservancy Annual Meeting – Meet the Amargosa, 10/26/2019
7. **Moser, D.P.** *Life at the edge: from the deep biosphere to deep space*. Biotechnology and Planetary Protection Group, Jet Propulsion Laboratory, Pasadena, CA, 09/10/2019
8. **Moser, D.P.** *Subsurface microbial worlds of the Nevada National Security Site (NNSS) and Death Valley Flow System*. National Nuclear Security Administration Nevada Field Office, USDOE, 06/12/19
9. **Moser, D.P.** *Deep Life and Lessons from the fringes of microbial biology*. Department of Geological Sciences and Engineering Colloquium Speaker Series, University of Nevada Reno, Reno, NV 10/29/18
10. **Moser, D.P.** *The last biome: unseen ecosystems of the continental deep subsurface*. Nevada State College, Henderson, NV, 10/18/18

11. **Moser, D.P.** Microbial degradation of pharmaceuticals, endocrine-disrupting compounds and acrylamide in treated wastewater and agricultural irrigation systems. *Global Water Reuse, Food and Health Workshop*. University of MD., 10/08/18
12. **Moser, D. P.** *DRI's Environmental Microbiology Laboratory: New Tools for Tracking Biological Contamination and Degradation*. Southern Nevada Water Authority. Las Vegas, NV, 02/08/18
13. **Moser, D.P.** *DRI's Microbial Ecology and Astrobiology Labs: Microbiological Biogeochemistry at the Intersection of Biology and Hydrology*. US Geological Survey, Henderson, NV, 09/20/17
14. **Moser, D.P.** *Subsurface microbial worlds of the Nevada National Security Site and the Death Valley Regional Flow System*. Nevada Site Specific Advisory Board, Plenary Talk, Educational Session, 08/16/17
15. **Moser, D.P.** *Lessons from the fringes of microbial biology*. South Dakota School of Mines and Technology. Departmental Lecture. Applied Biological Sciences. Rapid City, SD., 03/17
16. **Plenary Talk - Moser, D.P., J. Amend, R. Bhartia, M. El-Naggar, Y. Gorby, M. Osburn, K. Nealson, V. Orphan, S. Hamilton-Brehm, Y. Jangir, B. Kiel Reese, B. Kruger, L. Momper; J. Sackett, G. Wanger.** *The NASA Astrobiology Institute's Life Underground Node: Spatially-distributed deep life studies at SURF*. Plenary Talk: SURF Science Meeting. South Dakota School of Mines and Technology, Rapid City South Dakota, 05/19/15
17. **Moser, D.P.** *The Death Valley Regional Flow System: a fault controlled deep life oasis of geological, seismic and societal significance*. Deep Carbon Observatory Deep Life Workshop to Develop and ICDP Project. GeoForschungZentrum, Potsdam, Germany, 11/03/2014
18. **Moser, D.P., K. Willever, M. Khan, J.C. Bruckner, J.C. Fisher, S. Hamilton-Brehm.** *Baseline microbial biogeochemistry of a terminal lake in transition, Walker Lake, Nevada*. Ecological Society of America, Sacramento, CA, 10/2014
19. **Keynote Lecture - Moser, D.P., S. Hamilton-Brehm, G. Zhang, A. Wheatley, K. Willever, A. McKenna, M. Khan, M. Devita.** *Discussions with the unseen witness: DRI's Environmental Microbiology and Astrobiology Labs*. Desert Research Institute, Annual Executive Staff Meeting, 11/2013
20. **Keynote Address - Moser, D.** *Underground microbial oases of the Southern Great Basin, USA*, 2013 Devils Hole Workshop. Furnace Creek, CA, 05/03/13
21. **Keynote Address - Moser, D.P.** *Enigmatic deep and atmospheric life*. Air Monitoring Users' Group. Annual Conference. Palace Station Casino, 04/30/13
22. **Plenary Address - Moser, D.P., B. Sherwood Lollar, T. Kieft, J.C. Fisher, J. Bruckner, S. Hamilton-Brehm, A. Wheatley.** *Enigmatic deep life: insights from microbial "sightings" in continental fractured rock habitats*. Alfred P. Sloan Foundation's Deep Carbon Observatory Annual Science Conference. National Academy of Sciences, Washington DC, 03/04/13
23. **Moser, D.P.** *Life Underground*. Microbial Activity in the Deep Biosphere, C-DEBI Activity Theme Workshop, Bigelow Lab, Booth Bay, ME, 09/2013
24. **Keynote Address - Moser, D.P., S. Hamilton-Brehm, J.C. Fisher, J.C. Bruckner, J. Reihle, A. Wheatley, G. Zhang.** *Underground Microbial Oases of the Southern Great Basin, USA*, Devils Hole Workshop. Furnace Creek, CA, 05/2013
25. **Moser, D.P., B. Sherwood Lollar, G.F. Slater, T.C. Onstott, J. Bruckner, J. Fisher, J. Reihle.** *Finding the biotic fringe in the continental deep subsurface*. (Mary Voytek, NASA). Session: The Limits of Microbial Life. American Society for Microbiology, Annual Meeting, San Francisco, CA, 06/2012. Invited Talk – converted to poster

26. **Keynote Lecture - Moser, D.P.** *Looking for life in all the wrong places: radiation-fueled deep life at NNSS and beyond.* Air Monitoring Users Group Annual Meeting, Palace Station, Las Vegas, NV, 04/27/12
27. **Moser, D.P.** *Underground Observatories.* Deep Carbon Observatory Deep Life Mini workshop. Hilton Hotel, San Francisco, CA, 12/2012
28. **Moser, D.P.** *Deep microbial ecosystems of the U.S. Great Basin: a second home for Desulforudis audaxviator?* Session: A Census of Deep Life: Putting a Face on the Subsurface Biosphere. American Geophysical Union, San Francisco, CA, 12/2012
29. **Moser, D.P.** *Some new windows into terrestrial deep subsurface microbial Ecosystems.* American Geophysical Union. San Francisco, CA, December 20/2011
30. **Moser, D.P.** *Microbial ecosystems from the deepest regions of the terrestrial deep biosphere.* American Geophysical Union. B54B Life Under Stress III. Special session in memory of Dr. James H. Scott. San Francisco, CA, 12/2011
31. **Moser, D.P.** *An update on deep Earth life at the NNSS and implications for transport and cleanup scenarios.* Community Environmental Monitoring (CEMP) Workshop, Brian Head, UT, 07/2011
32. **Moser, D.P., J. Bruckner, P. Edmiston, J. Newburn, and J. Fisher.** *Status Report. Desert windows into deep microbial ecosystems of Death Valley, Amargosa Valley, and the Nevada National Security Site.* Devils Hole Workshop, Furnace Creek, CA, 05/2011
33. **IGERT Seminar Series - Moser, D.P.** *The dark planet: explorations of Earth's intraterrestrial biosphere.* Montana State University, Bozeman, MT, 04/2011
34. **Keynote Lecture - Moser, D.P.** *The dark planet: explorations of Earth's intraterrestrial biosphere.* Fancourt Country Club, George, South Africa, 02/2011
35. **Origins Institute Lecture Series - Moser, D.P.** *Earth's deep continental biosphere: a previously unrecognized rock-hosted biome?* McMaster University, Hamilton, ON, Canada, 04/2010
36. **Keynote Lecture - Moser, D.P.** *Earth's deep biosphere and the Nevada Test Site connection.* Lake Mead Chapter, Health Physics Society, 02/2010

AWARDS and HONORS

Awards and Honors to D. Moser

1. **DRI Safety Ambassador Award.** DRI Environmental Health and Safety, 2018
2. **Nominee – State of Nevada, Regents Researcher of the Year.** DRI, 2016
3. **Featured new project presentation (NSF GoLife),** DRI DEES Faculty and Staff Meeting, 04/2015
4. **DRI 10-year Service Award.** 2015
5. **DRI Sabbatical.** 2014
6. **Ansari Medal for Excellence in Science,** DRI, \$2,500. 06/2013
7. **Pupfish Award.** Devils Hole Workshop. Furnace Creek, California, 05/2013
8. **Featured faculty member presentation to the DRI Foundation.** *DRI'S Environmental Microbiology Laboratory.* Merv Griffin Ranch, Carmel Valley, California, 07/2011
9. **Featured faculty member presentation to Nevada System of Higher Education (NSHE) Board of Regents,** *DRI'S Environmental Microbiology Lab.* DRI, Las Vegas, Nevada, 06/2009
10. **Outstanding Performance Award,** Fundamental Science Directorate, Pacific Northwest National Laboratory, Richland, Washington, 05/2003

11. **Graduate Research Fellowships**, NASA/Wisconsin Space Grant Consortium, three-time winner, Milwaukee, Wisconsin, \$5,000, \$4,500, \$4000, 08/1993–05/1996
12. **First Place Presentation**, North Central Branch, American Society for Microbiology, LaCrosse, Wisconsin, \$200, 10/1994
13. **Outstanding Graduate Student**, University of Wisconsin-Oshkosh, Oshkosh, Wisconsin, 04/1992
14. **Student Presentation Award**, American Society for Microbiology, Minneapolis, Minnesota 10/1991
15. **First Place Student Presentation**, Wisconsin Laboratory Association, Oshkosh, Wisconsin, 10/1989
16. **Senior Research Award**, University of Wisconsin-Oshkosh, Oshkosh, Wisconsin, 04/1988
17. **Arthur Overgaard Foundation Scholarship**, Mauston, Wisconsin, \$1,000, 06/1983

Some Awards and Honors to Moser Lab Personnel

1. **Featured graduate student presentation to Nevada System of Higher Education (NSHE) Board of Regents**, *Molly Devlin*. DRI, Las Vegas, Nevada, 08/2021
2. **Outstanding STEM Dissertation Award, UNLV**. *Joshua Sackett*, 01/20 (top dissertation award for all of UNLV)
3. **Outstanding Dissertation Award, UNLV College of Sciences**, *Joshua Sackett*, 12/2019 (top dissertation for the College)
4. **Colin Warden Memorial Endowment Award for Best Student Research Paper**, DRI, *Joshua Sackett*, 2018
5. **Featured post-doc presentation to Nevada System of Higher Education (NSHE) Board of Regents**, *Scott Hamilton-Brehm*. DRI, Las Vegas, Nevada, 06/2015
6. **Nevada Public Radio, KNPR, State of Nevada Program**, interview with post-doc, *Scott Hamilton-Brehm*. Chris Sieroty. <https://knpr.org/knpr/2014-07/desert-research-institute-hosts-scientific-journey>, 07/09/2014
7. **Featured post-doc presentation to Nevada System of Higher Education (NSHE) Board of Regents**, *Jenny Fisher*. DRI, Las Vegas, Nevada, 06/2012
8. **Intel International Science and Engineering Fair presentation by Alexandra Wheatley**. 3rd place in the Life Sciences Division. Los Angeles, California, 05/2011
9. **Intel International Science and Engineering Fair presentation by Alexandra Wheatley**. 1st place American Society for Microbiology Award. Los Angeles, California, 05/2011
10. **Featured K-12 Student presentation by Alexendra Wheatley to Superintendent Dwight Jones and Nevada Board of Regents**, Black History Month Event, DRI, Las Vegas, Nevada, 02/2011
11. **Featured undergraduate researcher presentation by Mary Ehrsam** to NSHE Board of Regents, *Devils Hole Microbiology*. DRI, Las Vegas, Nevada, 06/2009
12. **Featured woman in science presentation by Dr. Jen Fisher** (post-doc) to NSHE Board of Regents, *Microbial Ecology*. DRI, Las Vegas, Nevada, 06/2008
13. **Featured graduate student presentation by Stephanie Labahn** to NSHE Board of Regents, *Microbial degradation of polyacrylamide*. DRI, Las Vegas, Nevada, 06/07

PROFESSIONAL SERVICE

Symposia Convened

1. **International Symposium on Subsurface Microbiology (ISSM).** *Co-chaired two sessions with Rainer Meckenstock, University Duisburg-Essen, Germany, Subsurface Ecosystems Sessions 4 and 9, October 2014*
2. **Town Hall Meeting.** *Intraterrestrial Life.* Co-hosted with K. Edwards and R. Colwell. American Geophysical Union, San Francisco, CA, 12/2010
3. **Division N Symposium.** *Microbial Life in the Deepest Regions of the Earth's Biosphere.* Co-hosted with T. Kieft. 104th American Society for Microbiology, New Orleans, LA, 05/2004
4. **Nevada EPSCoR Undergraduate Research Symposium,** Moderator, Session VIII, DRI, Las Vegas, NV, 04/2007.
5. **Anchor Watch Seminar Series.** One year of service. Center for Great Lakes Studies, Milwaukee, WI, 1996

Select Workshops and PI Meetings (presentations)

1. ***Stepanauskas, R.S., D.P. Moser, B. Orcutt, N. Poulton, K. Ziervogel.** 2018. Single cell genome-to-phenome: Integrating genome and phenome analyses of individual microbial cells in complex microbiomes. EPSCoR RII Track-2 2018 Kickoff Meeting, National Science Foundation, Alexandria, VA.
2. ***Gerrity, D, K. Acharya, D. Moser, X. Bai, J. Edmonds.** 2018. Plant uptake of contaminants of emerging concern in agroecosystems irrigated with reclaimed water. USDA PI Meeting, Washington, D.C. Talk, 11/06/18. Talk
3. **Continental Scientific Drilling and Coring Science Planning Workshop II.** *Deep life drilling in the Death Valley Extensional Zone.* NSF Continental Scientific Drilling Coordination Office. Washington DC. 06/04/18
4. **Continental Scientific Drilling and Coring Science Planning Workshop.** Continental Scientific Drilling Coordination Office. University of Minnesota, 05/18/17
5. **NeLLi 2017: From New Lineages of Life To New Functions.** *Subsurface microbial dark matter repositories of the US Great Basin and the Sanford Underground Research Facility.* DOE Joint Genome Institute. Walnut Creek, CA, 04/17/17
6. **Desert Terminus Lakes Workshop.** *Linkages between limnology, biogeochemistry, and microbial communities of Walker Lake, NV, USA.* University of Nevada Reno, 11/10/16
7. **Continental Scientific Drilling Community Meeting.** University of Minnesota, 04/06/15
8. **Deep Carbon Observatory Deep Life Workshop to Develop an ICDP Project.** GeoForschungszentrum, Potsdam, Germany, 03/11/2014
9. **Co-I meeting of the NSF GoLife project "Untangling the Deep Genealogy of Microbial Dark Matter.** *Field sample and metadata collection.* Desert Research Institute, Las Vegas, NV, 12/13/2014
10. **NASA Astrobiology Institute.** Moser lab overview. All Hands Meeting. Catalina Island, CA, 09/15/14
11. **NASA Astrobiology Institute, Life Underground Node.** Annual PI Meeting, Lead, SD, 11/2013
12. **C-DEBI: Using state-of-the-art molecular biology tools to enable discoveries about microbial activity in the deep biosphere.** Bigelow Lab, Boothbay, ME, 09/2013
13. **DOE Subsurface Biogeochemical Research (SBR) and Terrestrial Ecosystems Sciences (TES) Joint PI Meeting,** Potomac, MD, 05/2013
14. **Deep Carbon Observatory, Annual Science Meeting.** National Academy of Sciences, Washington, DC, 03/2013

15. **NASA Astrobiology Institute, Life Underground Node.** Kickoff meeting, Catalina Island, CA, 11/2012
16. **Walker Basin Ecosystem Research Team Meeting,** Reno NV, USFWS, 09/28/2012
17. **Bioaerosol Effects on Clouds.** Storm Peak Laboratory, Steamboat, CO, 08/2012
18. **DOE Subsurface Biogeochemical Research (SBR) and Terrestrial Ecosystems Sciences (TES) Joint PI Meeting,** Washington, DC, 05/2012
19. **Microbiology of Subsurface and Hydrocarbon Ecosystems.** ExxonMobil Upstream Research Company Workshop Houston, TX, 02/2012
20. **NASA Life Detection Workshop,** San Diego, CA, 02/2012
21. **DOE Subsurface Biogeochemical Research (SBR) 6th Annual Contractor-Grantee Workshop,** Washington, DC, 04/2011
22. **New Horizons for International investigations into Carbon Cycling in the Deep Crustal Biosphere,** Moser, D.P., *Globally-distributed lineages of deep subsurface microorganisms: what are Desulfurudis and SAGMA trying to tell us?* University of the Free State, Bloemfontein South Africa, 01/2011
23. **Deep Carbon Observatory: Deep Life Directorate Workshop,** Group Leader for white paper with Mitchell Sogin and Katrina Edwards, Catalina Island, CA, 03/2010
24. **DOE Subsurface Biogeochemical Research (SBR) 5th Annual PI Meeting,** Washington, DC, 03/2010
25. **DUSEL Ecohydrology Group,** planning session, San Francisco, CA, 12/2009
26. **DUSEL Science Overview,** Berkeley, CA, 12/2009
27. **Deep Energy Biosphere Workshop, Moser, D.P. Finding common ground,** Hilo, HI, 10/2009
28. **C-DEBI (Deep Energy Biosphere Institute) CORK Observatory Workshop,** Mauna Lani Resort, Big Island, HI, 10/2009
29. **Fall Workshop on DUSEL Science and MREFC Development,** Lead, SD, 10/2009
30. **Terminus Lakes Workshop,** Moser D.P. *Microbial biogeochemistry of Walker Lake,* NV, UNR, Reno, NV, 08/2009
31. **DOE Environmental Remediation Sciences Program (ERSP) 4th Annual PI Meeting,** Washington, DC, 04/2009
32. **DUSEL Town Hall Meeting,** National Academy of Sciences, Washington DC, 09/2007. *Deep Life* white paper produced
33. **DUSEL Homestake Meeting.** Moser, D.P. *Deep biosphere drilling opportunities: logistical considerations.* Lead, SD, 04/2008
34. **DUSEL Homestake Meeting.** Moser, D., T. Kieft, T.C. Onstott. *Early deliverables from existing boreholes and long-term sentinel borehole transect.* Deep Underground Science and Engineering Lab (DUSEL) Homestake Meeting, Lead, SD, 04/2008
35. **USCE Urban Flood Workshop,** Moser, D.P. *Microbial processing of nutrients and contaminants in desert aquatic systems.* DRI, Las Vegas, NV, 02/21/2008
36. **HUSEP DUSEL Meeting,** Moser, D.P. *Surface to lower biosphere limit: long-term geobiology reference transect,* SUNY Stony Brook, 05/2006
37. **DOSECC (Drilling, Observations, and Sampling of the Earth's Continental Crust)** Scientific Coring in the Lake Tahoe Basin, Granlibakken Conf. Ctr., Lake Tahoe, NV, 08/2005
38. **HUSEP (Henderson Underground Science and Engineering Program),** Capstone Workshop, SUNY Stony Brook, NY, 05/2005
39. **University of Colorado DUSEL Workshop,** University of Colorado, Boulder, Boulder, CO, 01/2005
40. **Life in the Extreme Workshop,** Idaho Accelerator Center, University of ID, Pocatello, ID, 6/2003

41. **NUSEL (National Science and Engineering Lab) Workshop**, Lead, SD, 10/2001
42. **Extreme Environments Workshop**, University of the Free State, Bloemfontein, South Africa, 12/2000

Recent Journal Editorial Review

1. Astrobiology Journal
2. Extremophiles
3. Geomicrobiology Journal
4. Chemical Geology
5. Environmental Science and Technology
6. Applied and Environmental Microbiology

Proposal Ad hoc Review (select)

1. NASA Post-doc Program, 2014
2. C-DEBI Post-doc Program, 2013
3. NASA Planetary Protection Research Panel 2013
4. NSF Ocean Drilling Program, 2008
5. NSF Microbial Observatories/Microbially Influenced Processes, 2005–2008
6. NSF Marine Geology and Geophysics, 2004
7. NSF Microbial Observatories Program, 2003/2004
8. NSF Division of Ocean Sciences, 2003
9. NSF Biocomplexity, 2002
10. NSF Life in Extreme Environments, 2000–2001

Proposal Review Panel Service (select)

1. Nevada Space Grant Consortium, Research Infrastructure, 2015, 2018, 2021.
2. Nevada NASA EPSCoR, Research Infrastructure Development, 2014, 2018.
3. Deep Carbon Observatory, Census of Deep Life, 2011–2018.
4. Nevada NASA Space Grant Scholarship Program, 2015.
5. Nevada Space Grant Consortium. HOT and Pre-college Programs, 2014.
6. Genomic Applications Partnership Program (GAPP). Genome Canada. 2014, 2015, 2016.
7. International Symposium on Subsurface Microbiology (ISSM), student applications for travel grants, 2014.
8. NASA Exobiology Review Panel, Washington D.C., 2009, 2012.
9. DOE Subsurface Biogeochemical Research, Washington D.C., 08/2010.
10. NASA Exobiology Review Panel, Washington D.C., 02/2010.
11. NASA Exobiology Review Panel, Washington D.C., 01/2008.
12. UNLV, SOLS, Las Vegas, NV, 03/2007. NSF EPSCoR Summer Research Opportunity Panel. Paul Buck chair, 05/2005.
13. Mobile geomicrobiology laboratory construction, Inter-Continental Drilling Program (ICDP) and Carnegie Institute, San Francisco, CA, 12/2003.

Editorial Work

1. DUSEL Newsletter. DuRA Corner. Monthly installment. 2011–2012.

2. Geomicrobiology Journal: Co-editor T.L. Kieft. Special issue. Microbial ecosystems in the Deepest Regions of Earth's Biosphere 12/2006.

DRI Committees

1. DRI Faculty Senate Education Committee, 2019.
2. DRI Lab Tours Committee, 06/2016.
3. DRI VPAA Position Description Review Ad Hoc Committee, 06/2013.
4. DRI Faculty Senate Education Committee, 2013–2014.
5. DRI Faculty Senate 2011 and 2013–2014.
6. DUSEL Research Association (DuRA) Executive committee, Secretary, 07/2010–2012.
7. DRI DEES Advisory Group (DAG), 06/2008–2014.
8. Center for Watersheds and Environmental Sustainability (CWES), Scientific Advisory Group (SAG), 06/2005–2012.
9. DRI Southern Nevada Science Center Phase III Planning Committee, (various dates, 2008).

DRI Search Committees

1. DRI Bioinformatics Postdoc, Chair, 2019.
2. DRI Groundwater Transport Modeling Postdoc, Rishi Parashar, Chair, 2019.
3. DRI VP for Academic and Faculty Affairs. Mark Pitchford Chair, 2013.
4. DRI Maki Post-doc. Jim Thomas Chair, 2013. Result, 4 post-docs hired.
5. DRI DEES/NASA NAI Field Tech. Henry Sun Chair. 2013.
6. DRI Las Vegas Facilities Director. Dr. Jenny Chapman Chair. 2012.
7. DRI Las Vegas Public Information officer (PIO) search #2. D.P. Moser Chair. 2012.
8. DRI Reno Public Information officer (PIO) search. Stephan Ross Chair. 2012.
9. DEES Actinide Microbiology Post-doc search. D.P. Moser Chair. 2012.
10. DRI DEES Division Director search. Ted Hartwell Chair. 2011.
11. DRI Public Information officer (PIO) search. D. Shafer Chair. 2008.
12. DEES Actinide Microbiology Post-doc search. D.P. Moser Chair. 2007.
13. DAS Storm Peak Lab Director search. Douglas Lowenthal Chair. 2005.
14. UNLV School of Life Sciences Microbiologist search (outside evaluator). 2006.
15. DHS Aquatic Ecologist search. Jim Thomas Chair. 2004.
16. DHS Ecological Engineer search. Lambis Papelis Chair. 2004.

OUTREACH (select activities)

1. **Guest lecture.** *Steroid biochemistry: environmental and health contexts.* South Dakota School of Mines and Technology. Biochemistry 465. Applied Biological Sciences. Rapid City, SD., 03/17
2. **Judge,** 3 Minute Thesis Competition. UNLV. 11/2016
3. **DRI Foundation,** Co-host and presentations for DRI Boulder City Campus tour for Foundation membership. 10/2016
4. **Guest lectures,** UNLV SOLS Microbial Ecology class (P. Amy or Brian Hedlund, instructor). *Deep Subsurface Microbial Ecology.* Las Vegas, NV, 02/2010, 08/2011, 04/2012, 04/2013, 04/2014, 04/2015, 11/2017, 09/2018, 09/2019
5. **UNLV School of Life Sciences White Lecture and Open House for Prospective Graduate Students.** DRI Representative and evaluator of applicant pool. Annually, 2010–2017

6. **Invited lunch with NV Medal Winner, Dr. Steven Squires, NASA Mars Exploration Rover Principal Investigator**, Las Vegas, NV, 04/2012
7. **Invited lunch with NV Medal Winner, Dr. Robert Ballard and site visit to Sandy Miller Middle School**, Las Vegas, NV, 04/2010
8. **Judge**, Regional High School Science Fair. UNLV Life Sciences. Las Vegas, NV, 03/2010
9. **A private look inside Nevada's Very Own Environmental Microbiology Laboratory**. Invited speaker for DRI Foundation event at Chairman, Mike Benjamin's home. 02/2010
10. **DRI Day/Open House**, open lab, educational activities, 10/2009
11. **Judge**. Intel Gathering Genius High School Science Fair, Reno, NV, 05/2009
12. **Guest lecture**, UNLV SOLS Microbial Ecology class (B. Hedlund instructor). *Deep subsurface microbiology*. Las Vegas, NV, 03/2009
13. **Extremophiles – A lecture for students of Las Vegas Art Institute**, DRI. Las Vegas NV, 11/2008.
14. **NSF Research Experience for Undergraduates (REU) selection committee**, UNLV, SOLS, Las Vegas, NV, 03/2008
15. **NSF IGERT exploratory committee meeting**, UNLV/SOLS, Las Vegas, NV, 12/2007
16. **Outreach seminar**, *The DRI Environmental Microbiology Laboratory*. Mentoring Summer Research Internship Program (MSRIP) Workshop, John Gardner host, DRI, Las Vegas, NV, 12/2007
17. **Family Science Night**. Bailey Middle School, Shana Baker, host, Las Vegas, NV, 04/2006, 05/2007
18. **Incoming graduate student event at UNLV SOLS**. Talk about DRI, tour of lab, and Saturday hike at Red Rock Canyon. Las Vegas, NV, 03/2007
19. **DRI Day/Open House**, open lab, educational activities, public lecture. *The DRI Environmental Microbiology Lab*, 10/2006, 10/2009
20. **UNLV WRM Student Open House**. *Life in extreme places*, DRI, Las Vegas, NV, 08/2006
21. **DRI Research Foundation, Field Trip**. Megaphone talks at two stops Las Vegas Bay Marina and overlook, 05/2006
22. **UNLV graduate student workshop and DRI tour**. "DRI" with contributions by H. Sun, M. Stone, L. Papelis, M. Young, L. Fenstermaker, 03/2006
23. **2nd Astrobiology Institute**, Guest lecture and field trip, Western Nevada Community College, Carson City, NV, 2005
24. **Host, Careers in Science Workshop for high school students**, Mauston Area High School, Mauston, WI, 1997
25. **Host, Meet a Scientist**, Lake Bluff Elementary School, Shorewood, WI, 1996

PROFESSIONAL SOCIETY MEMBERSHIPS

1. American Geophysical Union
2. American Society for Microbiology
3. American Society for Limnology and Oceanography
4. American Association for the Advancement of Science
5. National Speleological Society

SELCET PRESS and MEDIA (Links verified 01/01/2023)

1. **Southern NV Health District, UNLV and DRI**. Empower Program, Covid 19

- Surveillance Dashboard. 2021 – Present. I organized covid sampling for 10 rural wastewater plants for this project. <https://empower.unlv.edu/>
2. **Vegas PBS.** Covid 19 Snapshot. Season 4, Episode 45. <https://www.vegaspbs.org/blogs/nevada-week-season-4/covid19-snapshot-funds-community-good/>
 3. **Desert Research Institute – Featured Research.** Agencies collaborate to launch wastewater surveillance dashboard. March 23, 2022. <https://www.dri.edu/agencies-collaborate-to-launch-wastewater-surveillance-dashboard/>
 4. **Desert Research Institute – Featured Research.** DRI Scientists Contribute to Breakthrough Study on Microbial Evolution. April, 15th, 2021. <https://www.dri.edu/dri-scientists-contribute-to-breakthrough-study-on-microbial-evolution/>
 5. **Nature – Nature Portfolio.** Becraft, E. Behind the paper: Darwin’s finches in SLOW motion. April 7th, 2021. <https://naturemicrobiologycommunity.nature.com/posts/darwin-s-nches-in-extreme-slow-motion>
 6. **The Economist.** Science and Technology Section. A curious survivor from the age of the dinosaurs. April 24th, 2021 Edition. <https://www.economist.com/science-and-technology/2021/04/22/a-curious-survivor-from-the-age-of-the-dinosaurs>
 7. **MSN.com. Science Alert.** Michelle Starr. These bizarre underground microbes haven't evolved for 175 million years. April 9th, 2021. <https://www.sciencealert.com/these-weird-chthonic-microbes-haven-t-evolved-for-millions-of-years>
 8. **The Guardian.** Discovery of a strange type of bacterium in evolutionary stasis for millions of years. April 20th, 2021. <https://www.guardianmag.press/2021/04/discovery-of-supernatural-bacterium-in.html>
 9. **AAAS EurekAlert.** Living fossils: Microbe discovered in evolutionary stasis for millions of years. News Release 8-Apr-2021. https://www.eurekalert.org/pub_releases/2021-04/blfo-1f040821.php
 10. **Cosmos.** Lauren Fuge. Living fossil discovered below Earth’s surface. April 12th, 2021. <https://cosmosmagazine.com/earth/earth-sciences/living-fossil-discovered-below-earths-surface/>
 11. **Science Daily.** Living fossils: Microbe discovered in evolutionary stasis for millions of years. April 8th, 2021. <https://www.sciencedaily.com/releases/2021/04/210408131423.htm>
 12. **Astrobiology.com.** Microbe discovered that has been In evolutionary stasis For millions of years. <http://astrobiology.com/2021/04/microbe-discovered-that-has-been-in-evolutionary-stasis-for-millions-of-years.html>
 13. **Phys.Org.** Living fossils: Microbe discovered in evolutionary stasis for millions of years April 8th, 2021. by Bigelow Laboratory for Ocean Sciences. <https://phys.org/news/2021-04-fossils-microbe-evolutionary-stasis-millions.html>
 14. **Heritage Daily.** Living fossils: microbe discovered in evolutionary stasis for millions of years. April 8th, 2021. <https://www.heritagedaily.com/2021/04/living-fossils-microbe-discovered-in-evolutionary-stasis-for-millions-of-years/138566>
 15. **Free News.** By John Kessler. Science and the Environment. Bacteria found in Death Valley that have been in evolutionary stagnation for millions of years. April 9th, 2021. <https://freenews.live/bacteria-found-in-death-valley-that-have-been-in-evolutionary-stagnation-for-millions-of-years/>
 17. **ScienceTechDaily.** Anonymous. *Two major microbial groups discovered that can't breathe – may predate the evolution of respiration.* <https://scitechdaily.com/two-major-microbial-groups-discovered-that-cant-breathe-may-predate-the-evolution-of-respiration/> 08/31/2020

18. **Desert Research Institute – Featured Research.** valuation of Antibiotic Resistance Genes (ARGs) in the Urban Wetland Ecosystem: Las Vegas Wash. August 14, 2019. <https://www.dri.edu/evaluation-of-antibiotic-resistance-genes-args-in-the-urban-wetland-ecosystem-las-vegas-wash/>
19. **SIUC Blog.** Tim Crosby. *SIU researcher discovers new bacterium living deep beneath former atomic test site.* <https://blog.news.siu.edu/siu-researcher-discovers-new-bacterium-living-deep-beneath-former-atomic-test-site/> 11/12/2019
20. **DRI Press Release.** *DRI and collaborators awarded 6-million grant for innovative genetic research. Link no longer active.* 11/01/2018
21. **NASA EPSCoR News and Events.** NV NASA EPSCoR Highlight: Duane Moser, DRI. <https://nasa.epscorspo.nevada.edu/nv-nasa-epscor-highlight-duane-moser-dri/> 05/08/2018
22. **Archaeology Wiki.** News Paleogenomics: Ancient quids reveal clues about genetic ancestry of early Great Basin inhabitants. <https://www.archaeology.wiki/blog/2018/05/02/ancient-quids-reveal-clues-about-genetic-ancestry-of-early-great-basin-inhabitants/>. 05/02/2018
23. **Technology Networks.** *Quids answer ancient native american DNA questions.* <https://www.technologynetworks.com/immunology/news/quids-answer-ancient-native-american-dna-questions-300320> 05/01/2018
24. **Science Daily.** *Ancient quids reveal clues about genetic ancestry of early Great Basin inhabitants.* <https://www.sciencedaily.com/releases/2018/04/180430102511.htm> 04/30/2018
25. **Phys.Org.** *Research improves prospects for imperiled Devils Hole Pupfish in captivity.* <https://phys.org/news/2018-04-prospects-imperiled-devils-hole-pupfish.html> 04/30/2018
26. **AAAS - EurekAlert.** *Ancient quids reveal clues about genetic ancestry of early Great Basin inhabitants.* <https://www.eurekalert.org/news-releases/887902> 04/27/2018
27. **Deep Life: The Hunt for the Hidden Biology of Earth, Mars, and Beyond.** T.C. Onstott. Princeton University Press. 512 P. ISBN 0691096449. Trade book which prominently features our work in the deep mines of South Africa – named 129 times
28. **Outdoor Nevada, Las Vegas PBS. Episode 8.** *Standing up for Nature.* <http://www.vegaspbs.org/outdoor-nevada/>
29. **Las Vegas Review Journal.** Henry Beam. *Researchers hopeful Devils Hole pupfish will survive beer-fueled invasion.* <https://www.reviewjournal.com/news/researchers-hopeful-devils-hole-pupfish-will-survive-beer-fueled-invasion/> 06/03/2016
30. **Las Vegas Weekly.** Kristy Totten. *The desert is fertile ground for scientists studying what Mars might be like.* <https://lasvegasweekly.com/as-we-see-it/2015/oct/07/life-mars-water-scientist-study-desert-underground/> 08/07/2015.
31. **Nevada Public Radio, KNPR, State of Nevada Interview with Dave Becker.** *Identifying extraterrestrial life underground.* <http://knpr.org/knpr/2014-01/identifying-extraterrestrial-life-underground> 01/2014
32. **Las Vegas Review Journal, Yesenia Amaro.** *Scientists look underground in preparation for identifying extraterrestrial life* <https://www.reviewjournal.com/news/scientists-look-underground-in-preparation-for-identifying-extraterrestrial-life/> 01/06/2014
33. **NNSS Newsletter, Angela Ramsey.** *NNSS Plays Part in NASA's Search for Extraterrestrial Life: Discussion with Dr. Duane Moser.* 10/2013
34. **SURF Newsletter, Barklay, M.** *NASA Astrobiology Institute Project Launches at SURF.* Cover story, 10/2013

35. **SURF Newsletter, Roggenthen, W.** *Science and the Homestake Mine*. Feature that noted prior work by our group and future work from NAI Life Underground Project. SURF Newsletter, 11/2013
36. **Las Vegas News 3 TV, Merissa Mike,** *Biologists monitor rare pupfish indigenous to Devils Hole*. On camera interview at Devils Hole. Aired 07/2013
37. **Desert Research Institute, Dr. Duane Moser.** Youtube video, http://www.youtube.com/watch?v=aGT3Ledp_sc. 07/12/2013
38. **Desert Research Institute. Earth and Ecosystems News.** *DRI Researcher Named to National Committee*. Link no longer active. 06/2013
39. **EurekaAlert.** *DRI Microbiologist makes his mark in Death Valley*. https://www.eurekaalert.org/pub_releases/2013-05/dri-mat053013.php 05/30/2013
40. **Nature World News, Sarah Miller.** *Isolated microbe in South Africa appears in California's Death Valley*. http://www.newscientist.com/article/dn22612-worlds-loneliest-bug-turns-up-in-death-valley.html#.Uqjl3bQ_S8A 12/16/2012
41. **Live Science, Douglas Main.** *Deep-Earth microbe from South Africa appears in California*. <https://www.livescience.com/25560-deep-dwelling-microbe-found.html> 12/14/12
42. **New Scientist, Colin Barras.** *World's loneliest bug turns up in Death Valley*. <https://www.livescience.com/25560-deep-dwelling-microbe-found.html> 12/13/13
43. **Las Vegas Sun, Pashtana Usufzy,** *DRI researcher embarks on 'Life Underground' project*. <http://www.lasvegassun.com/news/2012/dec/11/dri-researcher-embarks-life-underground-project/> 12/11/2012
44. **Astrobiology Magazine (Staff),** *Seeking Life Underground*. <http://www.astrobio.net/pressreleas.e/5073/seeking-life-underground>. 10/09/2012
45. **Smithsonian Magazine, Laura Helmuth,** *Top ten places life shouldn't exist... but does*. (#8... "entirely alone", referring to **D. audaxviator*). Smithsonian Magazine. <http://www.smithsonianmag.com/science-nature/Top-Ten-Places-Where-Life-Shouldnt-Exist-But-Does.html> 10/13/2009
46. **EurekaAlert (AAAS). Anonymous.** *DRI scientist to co-lead field work, sampling on NASA Astrobiology Institute search for life*. https://www.eurekaalert.org/pub_releases/2012-10/dri-dst100412.php. 10/04/2012
47. **Wired Magazine (by Brandon Keim),** *Extreme life thrives where the livin' ain't easy*. <http://www.wired.com/wiredscience/2009/06/extremophile/>. 06/22/2009
48. **Ripley's Believe it or Not (Staff),** *A species of bacteria living two miles underground in a South African mine feed on radioactive water*. Ripley's Believe It or Not! Special Edition 2008, Scholastic Inc., ISBN-10: 0439920590.
49. **Discover Magazine, Jocelyn Rice.** *20 things you didn't know about bacteria* (#17 refers to *D. audaxviator*). Discover Magazine, P. 80. December 2008 issue. <https://www.discovermagazine.com/health/20-things-you-didnt-know-about-bacteria>
50. **Las Vegas Review Journal, Keith Rogers,** *Discovery of microbes deep inside Earth excites scientists*. <https://www.reviewjournal.com/news/discovery-of-microbes-deep-inside-earth-excites-scientists/> 11/20/2008
51. **San Francisco Union Tribune (by Keith Rogers),** *Vegas scientist finds microbes deep inside Earth*. <http://www.signonsandiego.com/news/2008/nov/08/nv-underground-microbes-110808/>. 11/08/2008.
52. **NSHE Board of Regents (by Christine Haynes),** *DRI: Taking Research to the Extreme*. Regents' Review, October, 2008
53. **Nevada's Center for Entrepreneurship and Technology Staff,** *DRI research featured by Science magazine*, <http://www.ncet.org/dri-research-featured-by-science-magazine/> - dead link 10/29/2008

54. **National Geographic.com, Ed Young**, *An ecosystem of one in the depths of a gold mine*. 10/27/2008. <https://www.nationalgeographic.com/science/article/an-ecosystem-of-one-in-the-depths-of-a-gold-mine>
55. **New Scientist, Debora MacKenzie**, *Gold mine holds life untouched by the sun*. <http://www.newscientist.com/article/dn10336-gold-mine-holds-life-untouched-by-the-sun.html> 10/19/2008
56. **BBC News.com (Staff)**, *Planet's loneliest bug revealed*. Science Daily, <http://www.sciencedaily.com/releases/2008/10/081009143708.htm> 10/10/2008
57. **Nature.com (by Laura Starr)**, *One is the loneliest number for mine-dwelling bacterium*. <https://www.nature.com/articles/news.2008.1160>
58. **Astrobiology Magazine (Staff)**, *Top ten stories of 2008: Life is lonely at the center of the Earth*, 10/10/2008
59. **ABC News/Technology, Catherine Brahic**, *Goldmine bug DNA may be key to alien life*, <http://abcnews.go.com/Technology/story?id=5998582&page=1> 10/10/2008
60. **Discover Magazine (Staff)**, 2008. *Deep in a goldmine, an ecosystem of one*. Discover Magazine blog. <https://www.discovermagazine.com/planet-earth/deep-in-a-goldmine-an-ecosystem-of-one> 10/10/2008
61. **Science Friday, Ira Flatow, Host**, *Deep bacterium goes it alone*, National Public Radio, Co-I Dylan Chivian interviewed. 10/10/2008
62. **Science Daily (Staff)**, *Journey toward the center Of The Earth: One-of-a-Kind Microorganism Lives All Alone*, 10/10/2008.
63. **New York Times, Archibald Randall**, *Devils Hole Pupfish, saved by court in '76, Is at brink in '08*, http://www.nytimes.com/2008/08/23/us/23pupfish.html?_r=1 08/22/2008
64. **Chris McKay and Dennis Matson. NASA Mission Highlights: Cassini, unlocking Saturn's secrets**. http://www.nasa.gov/mission_pages/cassini/media/enceladus-f20080326.html (dead link 01/2020) 03/26/2008
65. **USA Today/AP, Martha Mendoza**, *Water probe prompts Senate hearings* 03/11/2008
66. **The Huffington Post, Jeff Donn, Martha Mendoza, and Justin Prichard**, *Sex hormones, mood stabilizers found in drinking water of 41 M Americans* 03/10/2008
67. **MSNBC.com, Martha Mendoza**, *Pharmaceuticals lurking in U.S. drinking water: AP probe found traces of meds in water supplies of 41 million Americans* 03/10/2008
68. **NBCNEWS.com, Jeff Donn, Martha Mendoza and Justin Pritchard**, *Pharmaceuticals lurking in U.S. drinking water*. <https://www.nbcnews.com/health/health-news/pharmaceuticals-lurking-u-s-drinking-water-flna1c9461352> 03/10/13
69. **National Science Foundation**. *Deep Science: Dark Life*. 2007. Featured on NSF Web Page.
70. **National Science Foundation**. *X-treme Microbes*. https://www.nsf.gov/news/special_reports/microbes/radiationeaters.jsp - Accessed 01/01/23
71. **Washington Post, David Brown**, *Newfound bacteria fueled by radiation*. http://www.washingtonpost.com/wp-dyn/content/article/2006/10/19/AR2006101901671.html?nav=rss_print/asection10/20/2006 - Accessed 01/01/23
72. **Canadian Broadcasting Corporation, David Suzuki**, 2003. *The Sacred Balance: a vision of humanity's place in Nature*. Episode 2, *the matrix of life*. Documentary.
73. **Channel 4 Television, London, Daniel Lee**, 2002. *Origins: the day the Earth was born*. Documentary. First aired October 2002

74. **Time Magazine, Michael Lemonick and Andrea Dorfman**, *How life began*, 07/29/2002
75. **BioScience, Elia Ben-Ari**, 2001. *Intimate connections: geomicrobiologists explore the interactions between biosphere and geosphere*. April, 52:326-331
76. **NPR (the Larry Mantle Show)**. *AirTalk* program live interview, KPCC, Southern CA affiliate, National Public Radio. 2000.
77. **Kim McDonald**, *Life in Outer Space: The Search for Extraterrestrials (Space Explorer)*. Raintree/Steck-Vaughn Publ, Centennial, CO, ISBN: 0739822233 2000
78. **Science Spectra Magazine, Douglas Page**, 2000. *Into the Earth's Abyss*, 19:84-88
79. **Discover Magazine**, Kevin Krajick, 1999. *Journey to the Center of the Earth*. Discover Magazine, July issue, p 76-82.

DRI Moser Lab Awards and Contracts October – Funding History

Role	Project/task	Sponsor	Start Date	End Date	Total Award	Moser Lab Portion
	Increasing Diversity in Science in Nevada, Ring-True II Task 11 Moser Equipment Start-up	NSF-EPSCOR	10/1/04	9/30/05	NA	\$100,000
Co-I	Urban Flood Demonstration Program (UFDP)	USCE	9/20/05	9/31/07	\$1,100,000	\$30,657
Co-I	Evaluating the Effectiveness of Polyacrylamide (PAM) (Experimental Design Models and Predictive Tools) (PAM III)	USBR	9/30/05	9/30/08	\$825,000	\$40,000
Co-I	FY06 Nevada Water Resources Research Institute Base Program	USGS	3/1/06	12/31/09	\$460,000	\$39,455
Co-I	FY06 Nevada Water Resources Research Institute Base Program	USGS	3/1/07	1/1/10	NA	\$10,121
Co-I	Field Evaluation of Polyacrylamide (PAM) Effectiveness and Laboratory Studies to Assess Microbial Degradation (PAM IV)	USBR	4/1/06	9/30/08	\$1,269,376	\$157,162
PI	Field Evaluation of Polyacrylamide (PAM) Effectiveness and Laboratory Studies to Assess Microbial Degradation (PAM IV Supplement)	USBR	4/1/06	9/30/08	\$51,023	\$51,023
PI	Devils Hole Monitoring	DRI	4/1/06	12/31/06	\$9,461	\$9,461
Co-I	Fundamental Surface Reactions Involved in the Sorption and Desorption of Radionuclides	DOE EPSCoR	8/1/06	7/31/10	\$1,257,760	\$531,220
Co-I	Cost Share – Fundamental Surface Reactions Involved in the Sorption and Desorption of Radionuclides	DOE EPSCoR	8/1/06	7/31/09	NA	\$46,516
Co-I	State Match – Fundamental Surface Reactions in the Sorption and Desorption of Radionuclides	DOE EPSCOR	8/1/06	7/31/09	\$605,547	\$78,612
Co-I	Walker Lake Task 2-6 In Stream Health/Aquatic Ecology	USBR UNR	1/2/07	6/30/08	\$1,118,828	\$57,916
PI	Characterizations of Microbial Communities in Subsurface Nuclear Blast Cavities of the Nevada Test Site	DOE ERSP Office of Science	4/15/07	4/14/09	\$199,939	\$199,939
Co-I	State match – Fundamental Surface Reactions Involved in the Sorption and Desorption of Radionuclides	DOE EPSCOR	8/1/07	7/31/09	\$38,885	\$38,885

PI	Moser DNA Sequencing	UCCSN EPSCOR	9/1/07	7/31/08	\$8,745	\$8,745
Co-I	Conduct Physical, Biological, and Limnological Research at Devils Hole, Death Valley National Park	US National Park Service	9/24/07	12/31/08	\$16,681	\$16,681
PI	Microbial Degradation of Ethinylestradiol (EE2) and Estradiol (E2) in Lake Mead and Las Vegas Wash	USGS	10/1/07	9/30/08	\$27,961	\$27,961
Co-I	Biological Accumulation of D-amino acids in Endolithic Microbial Communities	NASA Exobio.	5/5/08	12/31/12	\$437,858	~\$30,000
PI	Indigenous Microorganisms from Deep Wells and Assessment of their Utility as Hydrologic Tracers	Hydrodyn amics Group LLC	6/25/08	12/1/12	\$24,055	\$24,055
Co-I	Microbial Degradation of Ethinylestradiol (EE2) and Estradiol (E2) in Lake Mead and Las Vegas Wash	USGS	10/1/08	9/30/09	\$1,940,800	\$57,000
PI	Microbiology of Ash Meadows Springs	USFWS	10/1/08	9/30/11	\$19,974	\$19,974
PI	Microbial Diversity Assessment Pilot Project: DUSEL	DRI	1/1/09	6/30/15	\$16,198	\$16,198
PI	Microbial Communities of Human Coprolites	Lander Fdn.	1/31/09	06/31/10	\$14,498	\$14,498
Co-I	Microbial Estrogen Degradation	USGS	12/16/09	9/30/10	\$31,703	\$31,703
Co-I	Novel thermophilic microorganisms and cellulases for improving second-generation biofuel technologies	NVREC	1/1/10	12/31/12	\$312,449	\$115,550
Co-I	Environmental Transportation of Plutonium: Geochemical Processes at the Femtomolar Concentration and Nanometer Scale	DOE/SB R	2/23/10	9/30/10	\$1,800,000	\$139,874
PI	Radiochemically-Supported Microbial Communities: A Potential Mechanism for Biocolloid Production of Importance to Actinide Transport	DOE Office of Science SBR	6/15/10	6/14/14	\$1,119,698	\$1,119,698
PI	Characterization of Indigenous Microorganisms from Nye County Wells and Assessment of their Utility as Hydrologic Tracers	Nye County NWRPO	8/17/10	6/30/14	\$121,000	\$121,000

PI	Characterization of Aquatic Chemistry, Physical Parameters, and Indigenous Microorganisms from Wells at Nevares Spring Mound Area, Death Valley, CA	Hydrodynamics Group LLC	8/26/10	8/25/11	\$20,000	\$20,000
Co-I	ARRA – Upgrades Storm Peak Laboratory, a High Elevation Atmospheric Research and Education Station	NSF	9/15/10	8/31/13	\$570,365	-
Co-I	ARRA - Upgrades Storm Peak Laboratory, a High Elevation Atmospheric Research and Education Station	NSF	9/15/10	8/31/13	\$17,401	-
Co-I	LLNL/DOE Subcontract to DRI – PU sorption / desorption	DOE SBR	12/7/10	9/30/11	\$144,539	\$144,539
PI	Ash Meadows Springs	USFWS	2/11/11	5/31/12	\$18,340	\$18,340
PI	Lahontan - Walker Lake	USFWS	8/1/11	4/30/15	\$139,753	\$139,753
PI	U Toronto Analytical Services	UToronto	1/1/13	6/30/13	\$18,666	\$18,666
PI	Life Underground (Supplement - 0.5 FTE for field tech)	NASA NAI	1/16/13	12/31/18	\$270,410	\$270,410
Co-I	Life Underground (Year-1 Performance Supplement-Moser)	NASA NAI	1/17/13	12/31/14	\$21,813	\$21,813
Co-I	Life Underground	NASA NAI	1/17/13	12/31/18	\$6,700,000	\$492,273
PI	Microbial Communities of Human Coprolites	Lander Fdn.	1/1/14	4/17/15	\$30,004	\$30,004
Co-I	Mule Springs Quids	Lander Fdn.	1/1/14	12/31/17	\$12,864	\$4,288
Co-I	Mule Springs Quids Supplement (Phase II)	Lander Fdn.	1/1/14	12/31/17	\$16,489	\$16,489
PI	DEES Postdoc Support Program - Scott Hamilton-Brehm	DRI	3/1/14	12/31/14	\$36,402	\$36,402
Co-I	Characterization of a Novel, Thermophilic, Subsurface Bacterial Genus Related to “ <i>Candidatus Desulforudis audaxviator</i> ”	A.P. Sloan Fdn.	4/1/14	6/30/15	\$19,075	\$19,075
	Moser Sabbatical Support	DRI	7/1/14	6/31/16	\$105,043	\$105,043
Co-I	Collaborative research: Untangling Deep Genealogy of Microbial Dark Matter	NSF GoLife DEB	10/1/14	9/30/18	\$2,495,202	\$204,955
Co-I	DOE NNSA TREDIS- Environmental Management Program - Soils Year-1	DOE	10/1/13	9/30/14	\$1,227,299	\$50,149
Co-I	DOE NNSA TREDIS- Environmental Management Program - Soils Year-2	DOE	10/1/14	9/30/15	\$1,584,979	\$46,527
Co-I	DOE NNSA TREDIS- Environmental Management Program - Soils Year-3	DOE	10/1/15	9/30/16	\$1,290,839	\$46,527

Co-I	Microbial Controls on Dissolved Organic Carbon Carbon-14 Groundwater Ages in Southern Nevada Aquifers	Maki Fdn.	1/1/15	12/31/16	\$85,968	² \$85,968
PI	NASA EPSCOR Proposal workshop	NASA-EPSCOR	4/28/15	6/30/15	\$12,526	\$12,526
PI	NASA EPSCOR workshop SURF	NASA-EPSCoR	5/1/15	6/1/15	\$9,275	\$9,275
PI	A Systematic Attempt to Cultivate Candidatus Desulforudis audaxviator	A.P. Sloan Fdn.	6/1/15	11/30/15	\$24,928	\$24,928
PI	Deep Life Drilling Workshop, Death Valley Extensional Zone: Workshop	ICDP	4/1/16	4/31/16	\$64,780	\$64,780
Co-I	Hydroponic Food Production: a collaborative experiential learning curriculum from NSC, DRI, UNLV and NASA Ames	NASA EPSCOR	9/1/15	10/31/16	\$100,000	\$40,452
PI	Analog Study to Constrain Potential Microbial Degradation of Diesel Range Organics from Amchitka Site Drilling Mud Pits	DOE, Office of Legacy Management	6/31/16	12/31/16	NA	\$50,000
Co-I	Plant Uptake of Contaminants of Emerging Concern in Agroecosystems Irrigated with Reclaimed Water	USEPA	1/01/17	12/31/19	\$781,526	\$63,687
Co-I	Probing Microbial Community Structure and Function in the Context of Trace Organic Compound Mitigation	UNLV DRI	1/01/17	12/31/19	\$217,323	\$108,661
PI	Desert Brine Microorganisms and Abiotic Oxidants: New Analog Research Capacity for Nevada	NASA EPSCOR SEED	7/31/17	6/30/18	\$50,000	\$50,000
Co-I	Biologic and Resource Analog Investigations in Low Light Environments (BRAILLE)	NASA PSTAR	6/01/17	8/14/22	\$4,043,207	\$279,826
Co-I	Rogers Lake Health and Feasibility Study, Edwards Air force Base	USAF	9/01/17	8/31/19	\$220,808	\$76,699
Co-I	Evaluation of Antibiotic Resistance Genes (ARGs) in the Urban Wetland Ecosystem: Las Vegas Wash	USGS NWIR	3/01/18	2/29/19	\$154,797	\$30,000
Co-I	RII Track-2 FEC: Single Cell Genome-to-Phenome: Integrating Genome and Phenome Analyses of Individual Microbial Cells in Complex Microbiomes	NSF EPSCOR OIA 1826734	1/01/19	7/31/23	\$5,989,591	\$920,000

PI	Hybridization Capture and Next-Generation DNA Sequencing to Obtain complete Mitogenomes from Archaeological Materials	Lander Fdn.	1/01/19	2/28/23	\$40,000	\$40,000
PI	Metagenome data mining to elucidate prevalence and virulence potentials of biosafety-level-2 microorganisms from ISS environments	NASA EPSCOR Space Biology Program	8/01/19	7/31/22	\$96,241	\$96,241
PI	Lab Capacity Building Funds	NV State	9/13/19	9/12/20	\$36,270	\$36,270
PI	Early Detection of Aquatic Invasive Species Using Environmental DNA at Ash Meadows National Wildlife Refuge, Nevada	USFWS	4/01/20	12/31/22	\$68,833	\$68,833
PI	Strain-Specific Monitoring of SARS-CoV-2 in Rural Wastewater Systems	USGS NWIR	9/01/21	8/31/22	\$72,991	\$72,991
PI	Bacterial endospores in the continental deep subsurface: dormancy as a lifestyle in a planetary analog.	NASA EPSCOR	9/01/22	07/31/23	\$38,473	\$38,473
Co-I	Viruses of Earth's continental deep subsurface: analog study of a potential biomarker for extraterrestrial life	NASA EPSCOR	9/01/22	07/31/23	\$37,493	\$37,493
PI	Lander - Demonstration: Age-Resolved Mitogenomes by Hybridization Capture and Radiocarbon Analysis Applied to Quids from Mule Spring Rock Shelter, NV	Lander Fdn.	5/14/22	12/14/22	\$25,250	\$25,250
PI	Validation of eDNA tools for tracking endangered and invasive species Southern Nevada aquatic systems.	Maki Fdn.	7/31/19	12/31/20	\$79,996	\$79,996
PI	DHS graduate student support supplement - Devlin	DRI DHS		5/23	\$12,000	\$12,000
PI	DHS graduate student support supplement - Sushenko	DRI DHS		5/23	\$12,000	\$12,000
PI	DHS graduate student support supplement -Wuest	DRI DHS		5/23	\$12,000	\$12,000
PI	FY23 Capacity Building - Field and Lab Equip - DHS CS Environmental Microbiology	NV State	07	03/23	\$62,687	\$62,687

PI	Ph.D. Fellowship -Sponsor-driven research and training: eDNA tools for surveillance of endangered and invasive aquatic species in Southern Nevada	Maki Fdn. DRI DHS	9/01/23	8/31/26	\$94,612	\$94,612
PI	Cooperative Agreement for eDNA Aquatic Invasive Species Monitoring	USFWS AIS	1/30/23	12/30/24	\$139,890	\$139,890
Totals					\$40,160,387	\$7,259,186

¹Active accounts in colored bold type

²Proposal led by lab personnel to support work in our lab

Pending

Role	Project/task	Sponsor	Start	End	Total Award	Moser Lab Portion
PI	Microbial Biogeochemistry of Devils Hole and AMFCF	USFWS	1/30/23	12/30/24	\$20,000	\$20,000
Totals					\$20,000	\$20,000

Other Awards

Role	Project/task	Sponsor	Start	End	Total Award	Moser Lab Portion
Co-I	A Broad View of Environmental Microbiology at UNLV	NSF REU	10/1/06	9/30/09	\$299,318	\$35,000
PI	Fellowship Support-Joshua Sackett (Ph.D. Student in our lab)	NASA EPSCoR	9/1/15	8/31/16	\$21,000	\$21,000
PI	Fellowship Support-Natasha Sushenko (M.S. Student in our lab)	NASA EPSCoR	9/1/21	8/31/22	\$21,000	\$21,000
PI	Fellowship Support-Molly Devlin (Ph.D. Student in our lab)	NASA EPSCoR	9/1/19	8/31/20	\$21,000	\$21,000
PI	Fellowship Support-Molly Devlin (Ph.D. Student in our lab)	NASA EPSCoR	9/1/22	8/31/23	\$21,000	\$21,000
Totals					\$320,318	\$56,000

Co-I	Expanding the Dark Matter Reference Catalog by	DOE Community	7/01/16	12/31/17	Non-financial award – 1,000 single cell
------	--	---------------	---------	----------	---

	Targeting Taxonomic “Blind Spots”	Science Program			genomes + 30 metagenomes for team
--	-----------------------------------	-----------------	--	--	-----------------------------------