

WILLIAM DAVIE LEAVITT, PHD.

Assistant Professor of Earth Sciences
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Education

- 2009-2014 Harvard University (Cambridge, MA, USA)
Ph.D., Dept. Earth & Planetary Science, Advisor: David T. Johnston.
- 2007-2009 Harvard University (Cambridge, MA, USA)
M.A., Dept. Organismic & Evolutionary Biology, Advisor: Peter R. Girguis
- 2002-2006 Hampshire College (Amherst, MA, USA)
B.A. Microbial Ecology & Molecular Biology, Advisor: Jason M. Tor
- 2008 Microbial Diversity, Marine Biological Laboratory (Woods Hole, MA, USA)

Professional Experience

- 2016-present Assistant Professor, Department of Earth Sciences, Dartmouth College, Hanover, NH
- 2018-present Adjunct Assistant Professor, Department of Chemistry, Dartmouth College, Hanover, NH
- 2017-2021 Adjunct Assistant Professor, Department of Biological Sciences, Dartmouth College, Hanover, NH
- 2014-2016 Steve Fossett Postdoctoral Fellow, Washington University in St. Louis, St. Louis, MO, Lab of Alexander Bradley.
- 2011-2015 Visiting Scientist, Instituto de Tecnologia Química e Biológica, Bacterial Energy Metabolism Group, Lab of Inês C. Pereira.
- 2014 Postdoctoral Researcher, Harvard University, Department of Earth & Planetary Sciences, Lab of David Johnston.
- 2006-2007 Research Assistant I, Harvard University, Department of Earth & Planetary Sciences, Lab of Ann Pearson.
- 2006 Research Assistant I, Montana State University, Department of Microbiology, Lab of Gill Geesey.

Research Interest

I combine classical and novel experimental techniques from microbiology with high-precision tools from stable isotope geochemistry to address major knowledge gaps in the microbial cycling of life-critical elements (hydrogen, carbon, oxygen, nitrogen, sulfur, phosphorus). I develop and employ long-term continuous cultivation approaches to quantify the environmental constraints on molecular records of past climate, as well as large-scale cultivation of microbes to determine the isotopic signatures they imprint on greenhouse gases. The overarching goal of all my work is to improve our understanding of how microbes have influenced Earths' elemental cycles in the past, how they dictate modern fluxes of matter and energy, and how they may respond in the future.

Awards

2019-2022 Simons Early Career Investigator in Marine Microbial Ecology and Evolution
2017-2019 American Chemical Society Petroleum Research Fund New Investigator
2014-2016 Steven Fossett Postdoctoral Fellowship, Washington University in St. Louis
2008-2011 NSF-BIO & EAR Graduate Research Fellowship

Grants [2016 to 2021: >\$1.3M as PI; >\$2.8M total]

Active:

National Aeronautics and Space Administration Exobiology (**Leavitt, Co-P.I.**; P.I. E. Young UCLA). *Developing methane isotopologues as interplanetary biosignatures*. Leavitt: **\$282,990** of \$927,880. January 2021 to December 2023.

National Science Foundation EAR Low Temperature Geochemistry and Geobiology (**Leavitt lead-PI**; CoPI Kopf, CU Boulder). *Collaborative Proposal: Establishing the hydrogen isotopic window into Archaeal lipid biomarkers*; Leavitt: **\$274,935** (+\$9,691 supplement) of \$564,806. September 2019 - August 2022. Grant#1928309.

Simons Foundation (**Leavitt, sole PI**). *Molecular fingerprinting of microbial surface ocean methane*. **\$644,000**. April 2019 to March 2022.

National Science Foundation Major Research Initiation Grant (**Leavitt Co-PI**; Lead PI C. Hicks-Pries, Co.I J. Strauss, Dartmouth). *Acquisition of an Isotope Ratio Mass Spectrometer (IRMS) to enable interdisciplinary research at Dartmouth and beyond*. **\$483,126**. June 2018 - May 2021.

American Chemical Society Petroleum Research Fund Doctoral New Investigator (**Leavitt, sole P.I.**). *The inner lives of Archaea: the hydrogen isotopic composition of Archaeal lipids may represent a proxy of past metabolic state*. **\$110,000**. July 2017 - June 2019, (no cost extension thru August 2021).

Completed:

Department of Energy Joint Genome Institute Community Sequencing Project (**Leavitt P.I.**). *Identification of genes involved in Archaeal lipid cyclization*. RNAseq award. January 2019 – December 2020.

Sloan Foundation, Deep Carbon Observatory. *The Deep Carbon Cycle through geological time: An interdisciplinary synthesis of the carbon cycle in the Earth's lithosphere-biosphere system*. (Lead: S. Zahirovic & D. Muller; **Co.I Leavitt & 22-** others), \$100,000. January 2018 to September 2019.

Dartmouth College Office of Provost RPF SEED funding. (Leavitt, Sole P.I). *From microbial enzymes to global climate: toward isotopically fingerprinting methane produced in Earths' surface waters*. (**\$49,000**). Active period: June 2017 to May 2018 (no cost extension from thru May 2019).

Prior to 2016:

2014 to 2017: NASA-Exobiology (**Leavitt, Science I.**; Lead P.I.: A. Bradley, Washington Univ. St. Louis). *Coevolution of sulfate reducer biosignatures and the redox state of the early Earth*. \$388,253. Duration: 01 July 2014 to 30 June 2017.

2015 European Molecular Biology Organization International Sulfur Metabolism meeting travel award, Helsingør, Denmark.

2013 Geochemical Society student travel grant, 23rd Goldschmidt. Florence Italy

- 2012 Microbial Sciences Initiative, Harvard University, Travel grant, to ITQB, Portugal.
2012 NASA Travel Grant, to ITQB, Portugal.
2011 NSF-EAR Graduate Research Travel Grant
2008 to 2011 NSF Graduate Research Fellowship
2005 NSF-REU Yellowstone Microbial Observatory, Montana State University.
2004 NSF-REU Dept. of Biology, University of South Carolina.

Peer Reviewed Publications

*Equal contribution; Leavitt lab #graduate or *undergrad student author, ^Leavitt as senior and communicating; ©Leavitt as first & communicating. Other &graduate or %undergrad author.

2020

- [25] Lengger, S.K., Weber, Y., Taylor, K.W., Kopf, S.H., Berstan, R., Bull, I.D., Mayser, J.P., **Leavitt, W.D.**, Blewett, J., Pearson, A. and Pancost, R.D., 2020. Determination of the $\delta^2\text{H}$ values of high molecular weight lipids by high temperature GC coupled to isotope ratio mass spectrometry. *Rapid Communications in Mass Spectrometry*. doi.org/10.1002/rcm.8983.
- [24] Cobban*, A., Zhou#, Y Weber, FJ Elling, A Pearson, **WD Leavitt**^ . 2020. Cyclization of *Sulfolobus acidocaldarius* GDGTs changes in response to temperature and pH. *Environmental Microbiology*. doi.org/10.1111/1462-2920.15194.
- [23] Luxem&, K., **WD Leavitt**, X Zhang. 2020. Large hydrogen isotope fractionation distinguish nitrogenase-derived methane from other sources. *Applied & Environmental Microbiology*. doi.org/10.1128/AEM.00849-20.
- [22] Taenzer#, L, J Labidi, A Masterson, X Feng, Rumble III, E Young, **WD Leavitt**^ . 2020. *Low apparent*. $\Delta^{12}\text{CH}_2\text{D}_2$ in microbialgenic methane result from combinatorial isotope effects. *Geochimica et Cosmochimica Acta*. doi.org/10.1016/j.gca.2020.06.026.
- [21] Bertran&, E, A Waldeck&, BA Wing, I Halevy, **WD Leavitt**, AS Bradley, DT Johnston. 2020. Oxygen isotope effects during microbial sulfate reduction: Applications to sediment cell abundances. *Nature ISME*. doi.org/10.1038/s41396-020-0618-2.
- [20] Taenzer#, L, P Carini, J Gaube*, B Bourque%, A Masterson, **WD Leavitt**^ . 2020. Microbial Methane from Methylphosphonate Isotopically Records Source. *Geophysical Research Letters*. doi.org/10.1029/2019GL085872

2019

- [19] Zhou#, A, Y Weber, B. Chiu, FJ Elling, A. Cobban*, A Pearson, **WD Leavitt**^ . 2019. Energy flux controls tetraether lipid cyclization in *Sulfolobus acidocaldarius*. *Environmental Microbiology*. doi.org/10.1111/1462-2920.14851
- [18] Gomes M., **Leavitt WD**, Smith D. (2019) Sulfate Reduction. In: Gargaud M. et al. (eds) Encyclopedia of Astrobiology. Springer, Berlin, Heidelberg.
- [17] **Leavitt**®, **WD**, S Venceslau, J Waldbauer, D Smith, IAC Pereira, and AS Bradley. 2019. Proteomic and isotopic response of *Desulfovibrio vulgaris* to DsrC perturbation. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2019.00658.

2018

- [16] Bertran&, E, **W.D. Leavitt**, A.Pellerin, GM Zane, JD Wall, I Halevy, B. Wing, D.T. Johnston. 2018. Deconstructing the dissimilatory sulfate reduction pathway: Isotope

fractionation of a mutant unable of growth on sulfate. *Frontiers in Microbiology*. doi.org/10.3389/fmicb.2018.03110

2017

[15] **Leavitt@, W.D.**, S. Jean-Loup Murphy, L. R. Lynd, A.S. Bradley. 2017. Hydrogen isotope composition of *Thermoanaerobacterium saccharolyticum* lipids: comparing wild type to a nfn- transhydrogenase mutant. *Organic Geochemistry*. doi.org/10.1016/j.orggeochem.2017.06.020

2016

[14] **Leavitt@, WD**, S Venceslau, DT Johnston, IAC Pereira and AS Bradley. 2016. Fractionation of sulfur and hydrogen isotopes in *Desulfovibrio vulgaris* with perturbed DsrC expression. *FEMS Microbiology Letters*. 363:20. doi.org/10.1093/femsle/fnw226

From here up, work was generated and/or written at Dartmouth.

[13] **Leavitt@, WD**, Flynn, TM, Suess, MK and Bradley, AS. 2016. Transhydrogenase and Growth Substrate Influence Lipid Hydrogen Isotope Ratios in *Desulfovibrio alaskensis* G20. *Frontiers in Microbiology*. 7:918. doi: 10.3389/fmicb.2016.00918

[12] **Leavitt, WD@***, AS Bradley*, AA Santos, IAC Pereira and DT Johnston. 2015. Sulfur isotope fractionation by dissimilatory sulfite reductase. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2015.01392

[11] Santos*, A.A., S. Venceslau* F. Grein, **WD Leavitt**, C. Dahl, D.T. Johnston and I.A.C Pereira. 2015. A protein trisulfide couples dissimilatory sulfate reduction to energy conservation. *Science*. 350: 1541-45.

[10] Fike, DA, AS Bradley and **WD Leavitt**. Ch. 20: Geomicrobiology of Sulfur. Ed: H.L. Erlich, D.K. Newman and A. Kappler. 2016. *Geomicrobiology*, 6th edition. CRC Press.

[9] Bradley, AS*, **W.D. Leavitt***, M.L. Schmidt, A.H. Knoll, P.R. Girguis and D.T. Johnston. 2016. Patterns of sulfur isotope fractionation during Microbial Sulfate Reduction. *Geobiology* 10.1111/gbi.12149.

[8] **Leavitt@, WD**, R.C. Cummins, M.L. Schmidt, M.S. Sim, S. Ono, A.S. Bradley and D.T. Johnston. 2014. Multiple sulfur isotope signatures of sulfite and thiosulfate reduction by the model dissimilatory sulfate-reducer, *Desulfovibrio alaskensis* str. G20. *Frontiers in Microbiology* 5: 1- 16.

[7] Reardon, C.L., T.S. Magnuson, E.S. Boyd, **W.D. Leavitt**, D.W. Reed and G.G. Geesey. 2014. Hydrogenase Activity of Mineral-Associated and Suspended Populations of *Desulfovibrio desulfuricans* Essex 6. *Microbial Ecology*. 67: 318-326.

[6] **Leavitt@, W.D.**, I. Halevy, A.S. Bradley and D.T. Johnston. 2013. The influence of sulfate reduction rates on the Phanerozoic sulfur isotope record. *Proceedings of the National Academy of Science, USA*. 110: 11244-11249.

[5] Bradley, A.B., **W.D. Leavitt** and D.T. Johnston. 2011. Revisiting the dissimilatory sulfate reduction pathway. *Geobiology*. 9: 446–457.

[4] Pearson, A., **W.D. Leavitt**, J.P. Saenz, R.E. Summons, M.C.-M. Tam and H. Close. 2009. Diversity of hopanoids and squalene-hopene cyclases across a tropical land-sea gradient. *Environmental Microbiology*. 11: 1208-1223

[3] Boyd, E.S., **W.D. Leavitt** and G.G. Geesey. 2009. CO₂ Uptake by a

Thermoacidophilic Microbial Community Attached to Precipitated Sulfur in a Geothermal Spring. *Applied and Environmental Microbiology*. 75: 4289-4296.

[2] Pearson, A., K.S. Kraunz, A.L. Sessions, A.E. Dekas, **W.D. Leavitt** and K.J. Edwards. 2008. Quantifying Microbial Utilization of Petroleum Hydrocarbons in Salt Marsh Sediments by using the ¹³C Content of Bacterial rRNA. *Applied and Environmental Microbiology*. 74: 1157-1166.

[1] Boyd, E.S., R.A. Jackson, G. Encarnacion, J.A. Zahn, T. Beard, **W.D. Leavitt**, Yundan Pi, C.L. Zhang, A. Pearson and G.G. Geesey. 2007. Isolation, Characterization, and Ecology of Sulfur-Respiring Crenarchaea Inhabiting Acid-Sulfate-Chloride-Containing Geothermal Springs in Yellowstone National Park. *Applied & Environmental Microbiology*. 73: 6669-6677.

Manuscripts submitted or in preparation

- i. Weber, Y, S Kopf, B. Chiu, McFarlin, J., Zhou#, FJ Elling, A Pearson, **WD Leavitt**[^]. Controls on the hydrogen isotope composition of archaeal tetraether lipids. *status*: draft with co-authors, submission X' 21.
- ii. **Leavitt**[@], **WD**, J Waldbauer, MS Sim, S Venceslau, F Boidi, I.A.C Pereira, and AS Bradley. Energy availability drives net sulfur isotope fractionation and protein abundance in dissimilatory sulfate reducing bacteria. *status*: submission target X'21.

Active Projects

Projects where experiments & data collection are underway.

- i. Blum[#], Mete^{*}, Colman, Leavitt. Distribution of archaeal lipid synthesis genes across geochemically distinct environments.
- ii. Harris[#], Kopf, Leavitt. Hydrogen isotope systematics of halophilic Archaea.
- iii. Rhim, Kopf, Leavitt. Lipid hydrogen isotope signatures of anaerobic Archaea.
- iv. Piaseki, Li[#], Young, Leavitt. Combinatorial isotope fractionation in microbial CH₄.
- v. Boyd^{*}, C., Leavitt. C & H isotopes systematics of microbial ethylene.
- vi. Chiu, B., Leavitt, Proteomic and lipidomic profiles of *Sulfolobus islandicus* geranylgeranyl overexpression mutants in response to environmental change.
- vii. Leavitt, WD and colleagues. Calibrating the thermal response in the clumped S-O isotopic compositions of synthetic sulfate minerals.

Teaching

*Dartmouth (*new course developed)*

EARS_07*: Life on Mars? (Freshman Seminar). W17, W18, W19, W20, W21.

EARS_34*: Global Biogeochemical Cycles. S18, F18, X20

EARS_72*/172: Geobiology. S17, S20.

EARS_272*: Historical Geobiology (graduate seminar, co-taught), S18, S19, S20

EARS_88: The Earth System (co-taught). F18.

EARS_202: Critical Analysis in Earth Sciences (co-taught). W18, W20.

Synergistic Activities

Conference Session Chair, Co-Chair:

2020: American Chemical Society, Philadelphia, PA.

Microbially-Driven Geochemical Reactions: Kinetics and Communities. *Postponed*.

2018: 28th V.M. Goldschmidt Conference, Boston, MA.

Traditional and Non-Traditional Stable Isotopes in Geobiology & Biogeochemistry

- 2017: American Geophysical Union, New Orleans.
3rd annual (Bio-isotopic) message in a (rock record) bottle.
- 2017: 27th V.M. Goldschmidt Conference, Paris, France.
Microbial metabolic and isotopic processes.
- 2016: American Geophysical Union, San Francisco, CA
2nd annual (Bio-isotopic) message in a (rock record) bottle.
- 2015: American Geophysical Union, San Francisco, CA
1st annual (Bio-isotopic) message in a (rock record) bottle.

Grant review:

NASA-Exobiology (ad-hoc routinely; panel 2019); Austrian Science Foundation; NSF-EAR Low Temperature Geochemistry & Geobiology Postdoc Fellowship (2019 panel; ad-hoc regularly); INACH (Chile, ad-hoc); NSERC (Canada, ad-hoc); NSF-OCE Biological Oceanography (ad-hoc); NSF-OCE Chemical Oceanography (ad-hoc); NSF-EAR Low Temperature Geochemistry and Geobiology (2016 panel; ad-hoc routinely); NSF-OCE Marine Geology & Geophysics (ad-hoc); NASA Planetary Sciences Graduate student fellowship (panel, 2016).

Journal reviewer: (16 journals)

Geology; Science Advances (AAAS); Nature ISME; Nature Microbiology; Nature Communications; Geochimica et Cosmochimica Acta; Geomicrobiology; Limnology & Oceanography Methods; Applied & Environmental Microbiology; Environmental Microbiology; Earth & Planetary Science Letters; Geobiology; Chemical Geology; Frontiers in Microbiology; Frontiers in Earth Science; Marine Environmental Research.

Postdoctoral Scholars & Staff Scientists:

2020-present: Dr. Alison Piasecki, PhD, Earth Science, Dartmouth

2020-present: Dr. Jeemin Rhim, PhD, Society of Fellows, Earth Science, Dartmouth

Graduate Students, Primary Advisor

Jiawen Li, PhD student, Earth Science, Dartmouth, 2021-present

Vinitra Nathan, MSc student, Earth Science, Dartmouth, 2021-present

Carolynn Harris, PhD student, Earth Science, Dartmouth, 2020-present

Laura Blum, MS Student, Earth Science, Dartmouth, 2020-present

Alice Zhou, MS, Earth Science, Dartmouth, 2017-2019

Lina Taenzer, MS, Earth Science, Dartmouth, 2017-2019.

Graduate Student Committee Member

Geniveve Goeble, PhD, Dartmouth EEES, Advisor: C. Hicks-Pries, 2020-present

James Busch, PhD, Dartmouth Earth Science, Advisor: J. Strauss, 2018-present

Anne Farrell, PhD, Dartmouth EEES, Advisor: O. Zhaxybayeva, 2017-present

Virginia Wala, MS, Dartmouth Earth Science, Primary Advisor: J. Strauss, 2017-2019.

Undergraduate Students:

Senior Honors Theses at Dartmouth:

Carter Boyd, Earth Science, 2021

Alec Cobban, Biology, 2019

Janel Gaube, Chemistry, 2018

Emma Rieb, Earth Science, 2018

Presidential Fellows at Dartmouth:

Carter Boyd ('21).

Women in Science Project (WISP) at Dartmouth:

Maria Trevino ('23); Melanie Prakash ('21).

Lab trainees at Dartmouth (UGAR or project-funded):

Oyku Mete ('22); Theo Green ('21); Rachael Rubin ('20); Cameron Buxton ('19).

Other trainees

Beverly Chiu, MS (2017-present), lab manager and research associate;

Alec Cobban, BA (2019-2020), research technician;

Alan Hicking (2018-2020), River Valley Community College & Dartmouth College;

Flavia Boidi (2015-16) PhD Fulbright Fellow, Washington University in St. Louis;

Claire Wallace (2014-15) undergraduate research, WashU. in St. Louis;

Marian Schmidt (2011-12) post-baccalaureate scholar, Harvard University;

Renata Cummins (2009-11) undergraduate thesis, Harvard University.

Outreach

2019 Pathways to STEM, Hanover High School

2017 to present: Faculty Advisor, Dartmouth *ManyMentors*

Professional Development:

2021 URGE: Dartmouth Pod <https://urgeoscience.org/pods/dartmouth-earth-science/>

2020 The Center for the Improvement of Mentored Experiences in Research (CIMER)
Dartmouth "Entering Mentoring" and "Training the Trainor" series.

2017 Sloan Foundation Deep Carbon Observatory Workshop, Catania, Italy.

2016 NSF and National Association of Geoscience Teachers Early Career Geoscience
Faculty workshop,

2016 to present: numerous workshops through DCAL at Dartmouth.

Field Work

2019, 2018, 2016, 2006, 2005 Yellowstone National Park, WY, USA

2017 Deep Carbon Observatory, Mt. Etna, Sicily, Italy

2014 Little Sippewisset Marsh, Cape Cod, MA, USA

2009 F.O.A.M., Long Island Sound, CT, USA

2008 Deep Springs Lake, Death Valley National Park, CA, USA

2007 Panamait Valley, Deep Springs Lake and Hot Creek CA, USA

Professional Affiliations

Geochemical Society (2012- present)

American Geophysical Union (2014 – present)

American Chemical Society (2016 – present)

Geological Society of America (2012 – 2016)

American Society for Microbiology (2006 – 2014)

Sigma Xi (2018 -)

Invited Talks

2021 University of Oklahoma Department of Microbiology (remote).

2020 American Chemical Society Spring Meeting, Philadelphia, PA (cancelled, COVID)

2019 Carnegie Science Laboratory for Earth & Planets, Washington D.C.

2019 Woods Hole Oceanographic Institution, Falmouth, MA

2019 University of Arizona, Tucson, AZ
2019 2nd International Geobiology Conference, Banff, Canada
2019 McGill University, Dept. Earth & Planetary Sciences, Montreal, Canada
2018 Montana State University, Bozeman, MT
2018 American Chemical Society Spring Meeting, San Francisco, CA
2017 COGC³, Massachusetts Institute of Technology, Cambridge, MA
2017 University of Connecticut, Storrs, CT
2017 American Chemical Society Spring Meeting, San Francisco, CA
2016 Williams College, Geology Department, Williams, MA
2016 Dartmouth College, Biology Department, Hanover, MA
2016 Woods Hole Oceanographic Institution, Falmouth, MA
2016 Bigelow Marine Science Labs, Boothbay, ME
2016 Princeton University, Dept. of Geosciences, Princeton, NJ
2015 25th V.M. Goldschmidt Conference, Prague, Czech Republic
2015 Cambridge University, Isotope Coffee, Cambridge, UK
2015 Dartmouth College, Earth Science Dept., Hanover, NH
2014 American Geophysical Union Annual Meeting, San Francisco, CA
2014 Southern Illinois U., Geology Dept., Carbondale, IL
2014 Agouron Institute, Sulfur Cycle Symposium, Rancho Palos Verdes, CA
2014 Cornell University, Microbiology Dept. Seminar, Ithaca, NY
2014 Woods Hole Oceanographic Institution, Marine Chem. & Geochem., Falmouth, MA
2014 Hampshire College, School of Natural Sciences, Amherst, MA
2013 Instituto de Tecnologia Química e Biológica, Oeiras, Portugal
2013 Origins of Life Initiative Chalk Talk series, Harvard University, Cambridge, MA
2013 Microbial Sciences Initiative Chalk Talk series, Harvard University, Cambridge, MA
2012 Washington University in St. Louis, Dept. Earth & Planetary Sciences, MO
2012 Max Planck Institute for Marine Microbiol., Biogeochem. Dept., Bremen, Germany

Conference Talks (Leavitt first author):

2021 ASLO Aquatic Sciences, virtual global conference
2019 Sloan Fdn., Deep Carbon Observatory, Deep Energy Meeting, La Clusaz, France
2017 Sloan Fdn., Deep Carbon Observatory, Early Career Workshop, Catania, Italy
2017 10th Northeast Geobiology Conference, Storrs, CT
2015 4rd Midwest Geobiology Conference, Bloomington, IN
2014 24th V.M. Goldschmidt Conference, Sacramento, CA
2013 23rd V.M. Goldschmidt Conference, Florence, Italy
2012 22nd V.M. Goldschmidt Conference, Montreal, Canada
2012 EMBO Workshop on Microbial Sulfur Metabolism, Noordwijkerhout, Netherlands
2012 Northeast Geobiology Conference, McGill University, Montreal, Canada

Conference Posters (Leavitt first author):

2017 American Geophysical Union Annual Meeting, New Orleans, LA
2017 Archaea Gordon Research Conference, Waterville Valley, NH
2016 American Geophysical Union Annual Meeting, San Francisco, CA
2016 C1-Metabolism Gordon Research Conference, Waterville Valley, NH
2016 Geobiology Gordon Research Conference, Galveston, TX
2015 American Geophysical Union Annual Meeting, San Francisco, CA
2015 EMBO Workshop on Microbial Sulfur Metabolism, Helsingør, Denmark
2014 Plant & Microbial Biosciences Workshop, Tyson Research Center, St. Louis, MO

- 2014 3rd Midwest Geobiology Conference, Chicago, IL
 2014 Northeast Geobiology Conference, Yale University, New Haven, CT
 2013 2nd Midwest Geobiology Conference, IUPUI in Indianapolis, IN
 2012 1st Midwest Geobiology Conference, Washington University, St. Louis, MO
 2008 9th International Conference on Gas in Marine Sediments, Bremen, Germany
 2008 American Society for Microbiology General Meeting, Boston, MA
 2007 American Geophysical Union General Meeting, San Francisco, CA
 2006 American Society for Microbiology General Meeting, Orlando, FL

Conference Proceedings, Leavitt Lab §undergraduate or #graduate student (2016 to present)

2019. 29th V.M. Goldschmidt Conference, Barcelona, Spain. *Abstract.* #Taenzer, L, **WD Leavitt**, J Labidi, E Young. The origin of ¹²CH₂D₂ depletions in microbialgenic methane gases.

2019. Luxem#, K, L Taenzer#, **WD Leavitt**, X Zhang. *Large hydrogen isotope fractionation distinguishes nitrogenase-derived methane from other sources.* Gordon Research Conference in Applied and Environmental Microbiology.

2019. Talk. #Taenzer, L, D. Rumble III, E.D. Young, J Labidi, P Carini, B #Bourguez, S Lincoln, X Feng, J §Gaube, **WD Leavitt**. *Bulk and clumped isotope signature of aerobic methane reveals production pathway.* Northeast Regional Geobiology Conference XIII, Amherst, College.

2019. Poster. #Zhou, A, B Chiu, A §Cobban, Y Weber, F Elling, A Pearson, **WD Leavitt**. *Continuous and batch culture constraints with *Sulfolobus acidocaldarius* on the TEX₈₆ paleo temperature proxy.* Northeast Regional Geobiology Conference XIII, Amherst, College.

2019. Poster. &Cobban, A, A #Zhou, B Chiu, Y Weber, F Elling, A Pearson, **WD Leavitt**. *Quantifying the Effect of Environmental Drivers on Lipid Composition Shifts in *S. acidocaldarius*.* Northeast Regional Geobiology Conference XIII, Amherst, College.

2019. Poster. Chiu, B., A #Zhou, C Zhang, Y Weber, R Whitaker, A Pearson, **WD Leavitt**. *The role of geranylgeranyl reductase in *Sulfolobus islandicus* GDGT lipid cyclization.* Northeast Regional Geobiology Conference XIII, Amherst, College.

2018, 28th V.M. Goldschmidt Conference, Boston, MA, USA. *Talk.* Taenzer#, L, J §Gaube, D Rumble III, ED Young, **WD Leavitt**. *Clumped and bulk isotopic fingerprints of methane produced by C~P lyase.*

2018, 28th V.M. Goldschmidt Conference, Boston, MA, USA. *Talk.* Bertran#, E, **WD Leavitt**, A Pellerin#, GM Zane, JD Wall, I Halevy, B Wing, DT Johnston. *Deconstructing the dissimilatory sulfate reduction pathway: Isotope fractionation of a mutant unable of growth on sulfate.*

2018, 28th V.M. Goldschmidt Conference, Boston, MA, USA. *Poster.* Zhou#, A, M Amenabar, Y Weber, FJ Elling, A Pearson, **WD Leavitt**. *Archaeal GDGT profiles as recorders of free energy availability.* (poster)

2018, January. Geobiology Gordon Research Conference, Galveston, TX. *Talk.* Bertran#, E, A Waldeck#, BA Wing, I Halevy, **WD Leavitt**, AS Bradley, DT Johnston.

2017. *Oxygen isotope trends during microbial sulfate reduction.*

2017, Wetterham Symposium, Dartmouth College. *Poster*. §Gaube, J, A, §Cobban, W.D. Leavitt. Growth of marine bacteria *Pseudomonas stutzeri* HI00D01 on P⁵⁺ and P³⁺ compounds.

2017, 27th V.M. Goldschmidt Conference, Paris, France. *Poster*. Venceslau, SS, Santos, AA, **Leavitt, WD**, Johnston, D, Bradley, AS & Pereira, IAC. Dissimilatory Sulfate Reduction is a Four-Step Pathway.

2017, 27th V.M. Goldschmidt Conference, Paris, France. *Talk*. The Role of Reversibility and S Intermediates in the S Metabolism. Farquhar J, **Leavitt WD**, Guo W, D Eldridge, & D Bojanova.

2016, 26th V.M. Goldschmidt Conference, Yokohama, Japan. *Talk*. Relating Geochemical Signatures to the Metabolic State of Cells. Bradley, A, **Leavitt, WD** & Waldbauer, J.