

DANIEL SETH JONES

Curriculum Vitae

New Mexico Institute of Mining and Technology
801 Leroy Place, Socorro, NM 87801, USA
(575) 835-5049, daniel.s.jones@nmt.edu

<https://www.nmt.edu/academics/ees/faculty/djones.php>
[ORCID: 0000-0003-4556-0418](https://orcid.org/0000-0003-4556-0418), [Google Scholar Profile](#)

Education

University of Minnesota, Geobiology Postdoctoral Fellow	2011-2014
Penn State University, Ph.D. Geosciences and Biogeochemistry	2011
Carleton College, B.A. Geology	2006

Appointments and Professional Preparation

2019-present, Assistant Professor, Department of Earth and Environmental Science, New Mexico Institute of Mining and Technology
2019-present, Academic Director, National Cave and Karst Research Institute (NCKRI)
2015-present, Affiliate Graduate Faculty, University of Minnesota, Department of Earth Sciences
2017-2018, Research Associate and Program Coordinator, MnDRIVE Environment Initiative, University of Minnesota BioTechnology Institute and Department of Earth Sciences
2014-2017, Research Associate and Industry Liaison, MnDRIVE Environment Initiative, University of Minnesota BioTechnology Institute and Department of Earth Sciences
2013-2014, Postdoctoral Researcher and Lecturer, University of Minnesota, Department of Earth Sciences
2011-2013, Agouron Institute Geobiology Postdoctoral Fellow, University of Minnesota
2010, Fall, Intern, ExxonMobil Upstream Research Company, Petroleum Geochemistry section

Publications

*indicates graduate student advisee, **indicates undergraduate advisee/mentee

Google Scholar profile: <https://scholar.google.com/citations?user=5x-aMtsAAAAJ&hl=en&oi=sra>

Peer-Reviewed Publications and Preprints in Review/Revision

1. Havlena ZE*, Hose LD, DuChene HR, Baker GM, Powell D, Labrado AL, Brunner B, Jones DS (*in review at Geobiology*). Origin and modern microbial ecology of secondary mineral deposits in Lehman Caves, Great Basin National Park, NV, USA. (Preprint available on bioRxiv, <https://doi.org/10.1101/2023.08.15.553329>)
2. Hobart KK*, Feinberg JM, Volk MW, Jones DS (*in revision at JGR Solid Earth*). The importance of temperature-dependent diffraction data in understanding magnetic changes across the pyrrhotite λ -transition. (Preprint available at *Earth and Space Science Open Archive* 33, <https://doi.org/10.1002/essoar.10507692.1>)
3. Hobart KK*, Greensky Z**, Hernandez K**, Feinberg JM, Bailey JV, Jones DS (2023) Microbial communities from weathered outcrops of a sulfide-rich ultramafic intrusion, and implications for mine waste management. *Environ Microbiol*, 25(12), 3512–3526. <https://doi.org/10.1111/1462-2920.16489>

4. Jones DS, Schaperdoth I, Northup DE, Gómez-Cruz R, Macalady JL (2023), Convergent community assembly among globally separated acidic cave biofilms. *Appl Environ Microbiol* v.89, e01575-22. <https://doi.org/10.1128/aem.01575-22>
5. Capo E, Peterson BD, Kim M, Jones DS, Acinas SG, Amyot M, Bertilsson S, Björn E, Buck M, Cosio C, Elias DA, Gilmour C, Goñi Urriza MS, Gu B, Lin H, Liu Y-R, McMahon K, Moreau JW, Pinhassi J, Podar M, Puente-Sánchez F, Sánchez P, Storck V, Tada Y, Vigneron A, Walsh D, Vandewalle-Capo M, Bravo AG, Gionfriddo C (2022), A consensus protocol for the recovery of mercury methylation genes from metagenomes. *Mol Ecol Resour.* v.23, 190-204. <https://doi.org/10.1111/1755-0998.13687>
6. Jones DS, Northup DE (2021). Cave decorating with microbes: Geomicrobiology of caves. *Elements* 17(2). <https://doi.org/10.2138/gselements.17.2.107>
7. Hose LD, Duchene HR, Jones DS, Baker G, Havlena ZE*, Sweetkind D, Powell JD (2021) Hypogenic karst of the Great Basin, in Florsheim J, Koeberl C, Riggs N, and McKay MP, eds., GSA Section Meeting Guides: Geological Society of America Field Guide 61, p. 1–38. [https://doi.org/10.1130/2020.0061\(05\)](https://doi.org/10.1130/2020.0061(05))
8. Jones DS, Johnson NW, Mitchell CP, Walker GM**, Bailey JV, Pastor J, Swain EB (2020). Diverse communities of *hgcAB*⁺ microorganisms methylate mercury in freshwater sediments subjected to experimental sulfate loading. *Environ Sci Tech*, 54: 14265. <https://doi.org/10.1021/acs.est.0c02513>
9. Jones DS, Monnier G, Cooper A, Baković M, Pajović G, Borovinić N, Tostevin G (2021). Applying high-throughput rRNA gene sequencing to assess microbial contamination of a 40-year old exposed archaeological profile. *J Archaeol Sci*, v.126, 105308. <https://doi.org/10.1016/j.jas.2020.105308>
10. Kelly H*, Spilde MN, Jones DS, Boston PJ (2021) Insights into the geomicrobiology of biovermiculations from rock billet incubation experiments. *Life* v. 11, 59. <https://doi.org/10.3390/life11010059>
11. Havlena ZE*, Kieft T, Veni G, Horrocks R, Jones DS (2021). Lighting effects on the development and diversity of photosynthetic biofilm communities in Carlsbad Cavern, New Mexico. *Appl Environ Microbiol* 87: e02695-20. <https://doi.org/10.1128/AEM.02695-20>
12. Gionfriddo CM, Wymore AM, Jones DS, Wilpieszski RL, Lynes MM, Christensen GA, Soren A, Gilmour CC, Podar M, Elias DA (2020). An improved *hgcAB* primer set and direct high-throughput sequencing expand hg-methylator diversity in nature. *Front Microbiol* 11, p. 2275. <https://doi.org/10.3389/fmicb.2020.541554>
13. Jones DS, Walker GM**, Johnson NJ, Mitchell CPJ, Coleman Wasik JK, Bailey JV (2019). Molecular evidence for novel mercury methylating microorganisms in sulfate-impacted lakes. *ISME J* 13: 1659-1675. <https://doi.org/10.1038/s41396-019-0376-1>
14. Zoss R, Medina Ferrer F, Flood BE, Jones DS, Louw DC, Bailey JV (2019). Microbial communities associated with phosphogenic sediments and phosphoclast-associated DNA of the Benguela upwelling system. *Geobiology* 17: 76-90. <https://doi.org/10.1111/gbi.12318>
15. Jones DS, Lapakko KA, Wenz ZJ, Olson MC, Roepke EW, Sadowsky MJ, Novak PJ, Bailey JV (2017). Novel microbial assemblages dominate weathered sulfide-bearing rock from copper-nickel deposits in the Duluth Complex, Minnesota, USA. *Appl Environ Microbiol* 83:e00909-17. <https://doi.org/10.1128/AEM.00909-17>
16. Grettenberger CL, Pearce AR, Bibby KJ, Jones DS, Burgos WD, Macalady JL (2017). Efficient low-pH iron removal by a microbial iron oxide mound ecosystem at Scalp Level Run. *Appl Environ Microbiol* 83:e00015-00017. <https://doi.org/10.1128/AEM.00015-17>
17. Sharrar AM, Flood BE, Bailey JV, Jones DS, Biddanda BA, Ruberg SA, Marcus DN, Dick GJ (2017) Novel large sulfur bacteria in the metagenomes of groundwater-fed chemosynthetic

- microbial mats in the Lake Huron basin. *Front Microbiol* 8: 791.
<https://doi.org/10.3389/fmicb.2017.00791>
18. Jones DS, Schaperdoth I, Macalady JL (2016). Biogeography of sulfur-oxidizing *Acidithiobacillus* populations in extremely acidic cave biofilms. *ISME J* 10: 2879
<https://doi.org/10.1038/ismej.2016.74>
 19. Flood BE, Fliss R, Jones DS, Dick GJ, Jain S, Kaster AK, Winkel M, Mußmann M, Bailey JV (2016). Single-cell (meta-)genomics of a dimorphic *Candidatus* *Thiomargarita nelsonii* reveals genomic plasticity. *Front Microbiol* 7: 603. <https://doi.org/10.3389/fmicb.2016.00603>
 20. Jones DS, Flood BE, Bailey JV (2016). Metatranscriptomic insights into polyphosphate metabolism in marine sediments, *ISME J* 10: 1015. <https://doi.org/10.1038/ismej.2015.169>
 21. Jones DS, Polerecky L, Dempsey BA, Galdenzi S, Macalady JL (2015). Fate of sulfide in the Frasassi cave system and implications for sulfuric acid speleogenesis, *Chem Geol* 410: 21.
<https://doi.org/10.1016/j.gca.2015.10.028>
 22. Jones DS, Kohl K**, Grettenberger C, Larson LL, Burgos WD, Macalady JL (2015). Geochemical niches of iron-oxidizing acidophiles in a coal mine discharge, *Appl Environ Microbiol* 81: 1242.
<https://doi.org/10.1128/AEM.02919-14>
 23. Jones DS, Flood BE, Bailey JV (2015). Metatranscriptomic analysis of diminutive *Thiomargarita*-like bacteria (*Candidatus* *Thiopilula* spp.) from abyssal cold seeps of the Barbados Accretionary Prism, *Appl Environ Microbiol* 81: 3142.
<https://doi.org/10.1128/AEM.00039-15>
 24. Zerkle AL, Jones DS, Farquhar J, Macalady JL (2015). Sulfur isotope values in the sulfidic Frasassi cave system, central Italy: A case study of a chemolithotrophic S-based ecosystem, *Geochim Cosmochim Acta* 173: 373. <https://doi.org/10.1016/j.gca.2015.10.028>
 25. Flood BE, Jones DS, Bailey JV (2015). *Sedimenticola thiotaurini* sp. nov., a sulfide-oxidizing bacterium isolated from salt marsh sediments, and emended description of the genus *Sedimenticola* and *Sedimenticola selenatireducens*, *Int J Sys Appl Microbiol* 65: 2522.
<https://doi.org/10.1099/ijs.0.000295>
 26. Hamilton TL, Jones DS, Schaperdoth I, and Macalady JL (2015). Metagenomic insights into S(0) precipitation in a terrestrial subsurface lithoautotrophic ecosystem, *Front Microbiol* 5: 756.
<https://doi.org/10.3389/fmicb.2014.00756>
 27. Stevens ES, Bailey JV, Flood BE, Jones DS, Gilhooly WP, Joye SB, Teske A, Mason OU (2015). Barite encrustation of benthic sulfide-oxidizing bacteria at a marine cold seep, *Geobiology* 13: 588. <https://doi.org/10.1111/gbi.12154>
 28. Jones DS, Schaperdoth I, and Macalady JL, 2014, Metagenomic evidence for sulfide oxidation in extremely acidic cave biofilms. *Geomicrobiol J* 31:194-204.
<https://doi.org/10.1080/01490451.2013.834008>
 29. Macalady JL, Hamilton TL, Grettenberger CL, Jones DS, Tsao LE, Burgos WD, 2013, Energy, ecology, and the distribution of microbial life. *Phil Trans Royal Soc B* 368.
<https://doi.org/10.1098/rstb.2012.0383>
 30. Jones DS, Albrecht HL, Dawson K, Schaperdoth I, Freeman KH, Pi, Y, Pearson A, and Macalady JL, 2012, Community genomic analysis of an extremely acidophilic sulfur-oxidizing biofilm. *ISME J* 6: 158-170. <https://doi.org/10.1038/ismej.2011.75>
 31. Brown JF, Jones DS, Mills DB**, Macalady JL, and Burgos WD, 2011, Application of a depositional *facies* model to an acid mine drainage site. *Appl Environ Microbiol* 77: 545-554.
<https://doi.org/10.1128/AEM.01550-10>
 32. Jones DS, Tobler DJ, Schaperdoth I, Mainiero M, and Macalady JL, 2010, Community structure of subsurface biofilms in the thermal sulfidic caves of Acquasanta Terme, Italy. *Appl Environ Microbiol* 76: 5902-5910. <https://doi.org/10.1128/AEM.00647-10>

33. Jones DS, Lyon EH, Macalady JL (2008). Geomicrobiology of biovermiculations from the Frasassi cave system, Italy. *J Cave Karst Stud* 70: 78-93.
34. Macalady JL, Dattagupta S, Schaperdoth I, Jones DS, Druschel GK, Eastman D (2008). Niche differentiation among sulfur-oxidizing bacterial populations in cave waters. *ISME J* 2: 590-601. <https://doi.org/10.1038/ismej.2008.25>
35. Macalady JL, Jones DS, Lyon EH (2007). Extremely acidic, pendulous microbial biofilms from the Frasassi cave system, Italy. *Environ Microbiol* 9: 1402-1414. <https://doi.org/10.1111/j.1462-2920.2007.01256.x>

Book Chapters

1. Duchene, HR, Palmer AN, Jones DS (2022). Geology and Speleogenesis. In: *Lechuguilla Cave: Discoveries in a Hidden Splendor*. (ISBN 978-3-9821714-2-5). Available: <https://www.lechuguilla-cave.info/book/>
2. Northup DE, Jones DS, Boston PJ, Spilde M, Lavaud MC (2019). Microorganismos de la Cueva de Villa Luz, Tacotalpa. In: *La biodiversidad en Tabasco. Estudio de Estado v II. conabio, México*, pp. 358-361. (ISBN 9786078570195). Available: <https://bioteca.biodiversidad.gob.mx/janium/Documentos/15224.pdf>
3. Galdenzi S and Jones DS, (2017). The Frasassi Caves: A “classical” active hypogenic cave. In Klimchouk A, Palmer A, Waele JD, Auler A, Audra P (ed), *Hypogene Karst Regions and Caves of the World*. Springer. (ISBN 978-3-319-53347-6). https://doi.org/10.1007/978-3-319-53348-3_8
4. Jones DS and Macalady, JL (2016). The snotty and the stringy: energy for subsurface life in caves. in *Advances in Environmental Microbiology: Their World: A Diversity of Microbial Environments*, ed. by C.J. Hurst, Springer DE, Heidelberg, Germany, p. 203-224 https://doi.org/10.1007/978-3-319-28071-4_5
5. Jones DS (2015). Methods for characterizing microbial communities in caves and karst: a review. In: *Microbial Life of Cave Systems*, ed. By A.S. Engel, De Gruyter, Berlin, Germany, p. 23-46. <https://doi.org/10.1515/9783110339888-004>
6. Jones DS, IA Fleming, LK Krentz, and KK Jones, 2008, Feeding ecology of cutthroat trout in the Salmon River estuary, Oregon. In Connolly PJ, Williams TH, Gresswell RE (eds). *The 2005 Coastal Cutthroat Trout Symposium: Status, Management, Biology, and Conservation*. Oregon Chapter, American Fisheries Society, Portland, p. 144-151.

Genome announcements

1. Jones DS, Roepke EW, Hua AA**, Flood BE, Bailey JV (2017). Complete genome sequence of *Sulfuriferula* sp. str. AH1, a sulfur-oxidizing autotroph isolated from weathered mine tailings from the Duluth Complex in Minnesota. *Genome Announc* 5:e00673-17. <https://doi.org/10.1128/genomeA.00673-17>
2. Flood BE, Jones DS, Bailey JV (2015). The complete genome of *Sedimenticola thiotaurini* strain SIP-G1, a polyphosphate and polyhydroxyalkanoate-accumulating sulfur-oxidizing gammaproteobacterium isolated from salt marsh sediments, *Genome Announc* 3:e00671-15. <https://doi.org/10.1128/genomeA.00671-15>

Patents

1. US Patent WO/2013/062640, Nanoparticle probes, methods, and systems for use thereof, A.C. Robinson, R.J. Pottorf, D.S. Jones, S. Dreyfus, Exxonmobil Upstream Research Company

Databases

1. Gionfriddo C, Capo E, Peterson B, Lin H, Jones DS, Bravo AG, Moreau J, McMahon K, Elias D, and Gilmour C. (2021). Hg-MATE-Db.v1.01142021. <https://doi.org/10.25573/serc.13105370>

Other

1. Jones DS, Polyak V, Duchene H, Veni G, (2022). New Mexico's Sulfuric Acid Caves. *Earth Matters*, v. 22 (no. 2), New Mexico Bureau of Geology and Mineral Resources. Available: https://geoinfo.nmt.edu/publications/periodicals/earthmatters/22/n2/em_v22_n2.pdf
2. Schmidt B, et al. (2021). Enabling progress towards life detection on NASA missions: A white paper from the Network for Life Detection. (White paper to the National Academies of Science, Engineering, and Medicine for the Planetary Science and Astrobiology Decadal Survey 2023-2032. Available: <https://tinyurl.com/y4t7wwq2>)
3. Polk JS, Jones DS, Tobin B (2021). Exploring New Frontiers in Cave and Karst Science. *GSA Today*, January 2021, v. 31(1), p. 15. Available: https://www.geosociety.org/GSA/Publications/GSA_Today/GSA/GSAToday/archive/31/1/contents.aspx
4. Jones DS, Novak PJ, and Sadowsky MJ (2015). "Making microbes work for Minnesota." Water Cycle Newsletter, April 2015, Minnesota Department of Employment and Economic Development. Available: <http://content.govdelivery.com/accounts/MNDEED/bulletins/fe32a0>
5. Northup D and Jones DS (2011). Microorganisms at Cueva de Las Sardinas. *AMCS Activities Newsletter* no. 34 p. 142-144.

Teaching

New Mexico Tech

- EARTH/GEOLOGY 206: Earth History (Spring 2020-2023, 3 cr.)
- EARTH 289: Introduction to Caves and Karst (Fall 2021, 3 cr.)
- ST 589: Earth History (Spring or Summer 2021-2023, 2 cr.)
- GEOB 589: Special Topics and Cave and Karst Processes (Spring 2020, 2 cr.)
- EARTH 415/GEOB 515: Geomicrobiology (Fall 2019, 2021, 2022, 3 cr.)
- GEOB 589: Metagenomic Analysis (Spring 2023, 3 cr.)
- GEOLOGY 289: Introduction to Cave Geology (Fall 2023, 3 cr.)

University of Minnesota

- ESCI 4801/8801: Geomicrobiology (Spring 2014 & 2018)
- ESCI 1007: From Microbes to Mammoths: History of Life on Earth (Fall 2012 & 2017)
- ESCI 1006/1106: Oceanography (Fall 2013 & 2016)
- ESCI 2203: Earth Surface Dynamics (Spring 2014)

Penn State

- Guest Instructor, Penn State University, 2011 (Geosc 597G: Environmental Metagenomic Analysis, with Dr. Chris House and Dr. Jennifer Macalady)

And 20+ invited guest lectures at 7 institutions: University of New Mexico Valencia Campus (Geology of New Mexico), University of New Mexico (BIOL 451: Microbial Ecology), New Mexico Tech (BIOL 435/535: Bioinformatics, BIOL 112: General Biology II, BIOL 344: Environmental Microbiology), University of Minnesota (ESCI 4801: Geomicrobiology, 2012 & 2013, ESCI 4471: Geochemistry, 2015, CE 5551: Environmental Microbiology, 2015, ESCI 1901: Caves and Karst: Rocks, Water, and Human Impact, 2016 & 2019, LAAS 5311: Soil Mineralogy and Geochemistry, 2017, and the Environment and BioTech Value Proposition Design Workshop, 2016); Carleton College (Geology 230: Paleobiology, 2013, Geology 110: Intro to Geology, 2012 & 2013, and Geology 370: Geochemistry, 2015); University

of Wisconsin River Falls (ESM 412: Chemical Fate and Transport in the Environment, 2015); Penn State (Geosc 204: Geobiology, 2008-2011, and Geosc 310: Earth History, 2011)

Current Funding

- \$908,945, *CAREER: Do microbes form caves? Sulfide oxidation and limestone corrosion in sulfuric acid caves*, NSF CAREER program/Geobiology and Low Temperature Geochemistry (NSF EAR 2239710), 6/2023-6/2028 (\$850,663 to NMT). Role: sole PI, with Matthew Covington (University of Arkansas) as Senior Personnel.
- \$693,618, *A pilot study on forward contamination in planetary analog environments*, NASA Planetary Protection (80NSSC23K0641), 6/2023-6/2025 (\$446,662 to NMT). Role: PI with Co-Is H. Graham (NASA Goddard), A. Regberg (NASA Johnson), M. Hargather (NMT).
- \$244,370, *Geochemistry of critical minerals in mine wastes in New Mexico*, US Geological Survey Earth MRI program, 9/2022-8/2024. Role: Senior personnel (PI, Virginia McLemore, NMBG). I received student support (1 semester RA, spring 2023), summer support, and materials and services for microbiological analysis of mine wastes in New Mexico.
- \$396,934 (and additional \$170,115 in cost share), *NSF-MRI Acquisition of a high-resolution confocal Raman microscope with capabilities to perform liquid and solid experiments*, NSF Major Research Infrastructure (NSF #2117061), 9/2021-8/2024. Role: Co-PI (PI Nicole Hurtig; other co-PIs Alexander Gysi, Nikolai Kalugin, Gayan Rubasinghege, all at NMT).
- \$47,101, *Developing a Fundamental Understanding of Workplace Backgrounds: Organic and Organismal Basics for Life Evaluation and Contamination Knowledge (OOBLECK)*, unsolicited award from NASA Planetary Protection (80NSSC21M0214), 7/2021-9/2023. Role: PI for the unsolicited award, part of a larger award to PI J. Dworkin.
- \$135,000, award to Z. Havlena, Future Investigators in NASA Earth and Space Science and Technology (FINESST) program (80NSSC21K1547), 8/2021-8/2024. Role: PI (all support to Future Investigator (FI) Zoë Havlena, NMT graduate student).
- \$794,429, *Gypsum-hosted biosignatures in subterranean chemosynthetic ecosystems*, NASA Exobiology (80NSSC20K0619), 3/2020-2/2023, with a NCE to 2/2024 (\$336,025 to NMT). Role: PI, with Co-Is Scott Wankel (WHOI), Jennifer Stern (NASA Goddard), and Heather Graham (NASA Goddard).

Previous funding

- \$2,500, GenoPitch Pilot Project, University of Minnesota Genomics Facility, Nov. 2017
- \$100,000, *Assessing microbial contributions to sulfide mineral oxidation in Cu-Ni ores of the Midcontinent Rift, NE Minnesota*, J. Feinberg and D. Jones (MnDRIVE Environment seed grant, UMN, 9/2016-8/2018). Role: Co-I.
- \$26,626, *Enhanced microbial sulfate removal and recovery through a novel electrode-integrated bioreactor*, C. Chun and D. Jones (Water Resources Center Competitive Grants Program, UMN, USGS, 3/2016-3/2017). Role: Co-I.
- \$36,000, Joint grant from the University of Minnesota Duluth's Natural Resources Research Institute and Swenson College of Science and Engineering, 2016.
- \$4,976, Annual Plan Agreement, MN DNR, Division of Lands and Minerals, 2014.
- \$112,000, *Investigating the role of sulfur bacteria in past and present phosphorite deposition* (The Agouron Institute, Geobiology Postdoctoral Fellowship, 10/2011-10/2013).

Presentations

Invited seminars and panel discussions

- University of New Mexico, Earth and Planetary Sciences (Dec. 2021)

- Panel: The Americas Conference of Universities (ACU), 2021 Annual Virtual STEM Education Conference (November 2021)
- University of Akron, Integrative Bioscience Seminar Series (April 2021)
- University of South Florida, Best of Karst (February 2021)
- University of Texas El Paso, Dept. of Geosciences (Nov. 2019)
- New Mexico Tech, Chemistry Dept. (Sep. 2019)
- University of Minnesota, Dept. of Earth Sciences (Nov. 2018)
- Panel: Governor's Task on Wild Rice: Sulfate Remediation (Nov. 2018, Arden Hills, MN)
- Panel: TME Twin Cities panel on sustainability (Oct. 2018)
- Barr Engineering, Bloomington MN (Sep. 2018)
- Panel: Minerals Coordinating Committee (Cloquet, MN, April, 2018)
- New Mexico Tech, Dept. of Earth and Env't. Science (Feb. 2018)
- University of Cincinnati, Biological Sciences (Apr. 2017)
- University of Massachusetts Amherst, Geosciences (Feb. 2016)
- University of Wisconsin River Falls, Plant and Earth Science (Nov. 2015)
- West Virginia University, Plant and Soil Sciences (Mar. 2015)
- University of Minnesota Duluth, Natural Resources Research Institute (Feb. 2015)
- University of Minnesota Duluth, Large Lakes Observatory (Feb. 2015)
- University of Minnesota, Department of Earth Sciences (Nov. 2014)
- Dartmouth College, Department of Earth Sciences (Jan. 2014)
- Carleton College, Geology Department (Jan. 2013)
- ExxonMobil Corporate Strategic Research, Clinton, NJ (January 2011)

Conference presentation abstracts 2019-present

***indicates graduate student advisee, **indicates undergraduate mentee**

Invited conference presentations

- Jones DS, Best MB*, Mainiero M, Auch BT, Gómez-Cruz R, Boston PJ, Northup DE (2022), Improved genome recovery from cave wall metagenomes provides new insights into microbial sulfide oxidation in sulfuric acid caves, American Chemical Society Spring Meeting, San Diego, CA, March 20-24 2022.
- Jones DS, Northup DE, Boston PJ (2022) Microbe-mineral interactions in caves. New Mexico Geological Society Annual Spring Meeting and Fort Stanton Cave Science Conference, Socorro, NM, April 7-9.

Platform presentations, first author

- Jones DS, Best M*, Mainiero M, Montanari A (2023) Microbial communities and secondary mineral features in an artificial sulfidic cave stream. Geological Society of America 2023, Pittsburgh, PA, October 15-18, 2023.
- Jones DS, Brown A*, Best MB**, Castillo RR, Chee EA, Diongson ANI, Green K*, Hann EL, Havlena ZE*, Hughes WA, Jobe NE, Odumade DM, Ortiz AJ, Ramadan L, Skaar CH (2023) Linking genomes and geochemistry in extreme environments across the greater Valles Caldera ecosystem, New Mexico. New Mexico Geological Society Annual Spring Meeting, Socorro, NM, April 21, 2023, <https://doi.org/10.56577/SM-2023.2936>
- Jones DS (2022) Sulfuric acid speleogenesis in the Frasassi cave system, Italy, and possible implications for guadalupe mountain caves. New Mexico Geological Society Annual Spring Meeting and Fort Stanton Cave Science Conference, Socorro, NM, April 7-9.

- Jones DS, Mainiero M, Auch BT (2020). Metagenome-assembled genomes from cave wall deposits provide new insights into microbial sulfide oxidation in sulfuric acid caves. Geological Society of America Annual Meeting (virtual conference, originally for Montréal, Canada, USA), Oct 25-28, 2020.
- Jones DS, Best MB*, Gómez-Cruz R, Northup DE, Macalady JL (2019). Global biogeography and diversity of extremely acidic cave-dwelling acidophilic communities. Geological Society of America Annual Meeting, Phoenix, Arizona, USA, Sep 22-26, 2019.
- Jones DS, Lenards M**, Auch BT, Badalamenti JP, Improved genome recovery of novel mercury methylating bacteria from a complex metagenome using PacBio long-read sequencing. American Society of Microbiology, Rio Grande Section Meeting. Socorro, NM, USA. April 12-13, 2019.

Poster presentations, first author

- Jones D, Mattaini K, Lenahan M, Gray A, Misra G (2023) Improving student confidence, comprehension, and communication of primary literature with real-world, authentic science communication stakes. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Jones DS, Macalady JL, Gómez-Cruz R, Northup DE (2022) Subterranean islands: Biogeography of cave-hosted extremophiles. Astrobiology Science Conference, Atlanta, GA, May 15-20, 2022.
- Jones DS, Veni G, Havlena ZE, Labrado AL, Brunner B (2021). Origin and significance of sulfate mineral crusts in the Caverns of Sonora, Sutton County, Texas. Geological Society of America Abstracts with Programs. Vol 53, No. 6 (doi: 10.1130/abs/2021AM-368527)
- Jones DS, Monnier G, Cooper A, Baković M, Pajović G, Borovinić N, Tostevin G (2020). Applying high-throughput rRNA gene sequencing to assess microbial contamination of a 40-year old exposed archaeological profile. Geological Society of America, North-Central Section - 54th Annual Meeting (virtual meeting, originally for Duluth, MN), May 18-19, 2020. (doi: 10.1130/abs/2020NC-348061)
- Jones DS, Havlena Z*, Macalady JL, 2019 (2019), Microbial ecology, evolution, and biosignature preservation potential in chemosynthetic cave ecosystems. Lunar and Planetary Institute Conference: Mars Extant Life: What's Next? Carlsbad, NM, November 2019.

Virtual field trips

- Hypogenic Karst of the Great Basin. Hose LD, Duchene HR, Jones DS, Baker G, Havlena ZE*, Sweetkind D, Powell JD. 10 May 2021, GSA Cordilleran Section Meeting

Graduate student-led presentation abstracts

- Best MB*, McLemore, VT, Jones DS (2024; submitted, pending) Molecular assessment of metal-cycling microbial communities associated with critical mineral resources in historic mine waste. 2024 Society for Mining, Metallurgy & Exploration (SME) Annual Conference & EXPO.
- Havlena Z*, Best M*, Mainiero M, Recanatini S, Jones D (2023) Microbial communities inhabiting aging secondary mineral deposits in a former sulfidic stream passage from a moderately thermal cave. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Hoberg J*, Baloun A**, Swift J**, Brown A*, Schneider G, Seiser P, Jones DS (2023) Reconnaissance geobiology survey of a potential mars analogue site, Capulin Volcano National Monument, NM. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Green K*, Best MB*, Jones DS (2023) Using high-throughput *nifH* sequencing to characterize nitrogen-fixing microorganisms in sulfuric acid caves: Implications for nitrogen cycling in subterranean chemosynthetic ecosystems. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.

- Best MB*, Wankel SD, Graham HV, Stern JC, Macalady J, Mainiero M, Atudorei N-V, Jones DS (2023) Isotopic signatures of nitrogen cycling in sulfuric acid caves. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Brown A*, Huff C**, Swift J**, Baloun A**, Hoberg J*, Jones DS (2023) Extremely acidophilic microorganisms across pH and temperature gradients in Valles Caldera National Preserve. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Best MB*, Wankel SD, Graham H, Stern J, Macalady J, Jones DS (2023) Ammonia-supported ecosystems in sulfidic caves. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Havlena ZE*, Graham HV, Stern JC, Chung AH, Wankel SD, Jones DS (2023) Examining microbial communities and biosignatures associated with acidic, Mars analog gypsum. Astrobiology Graduate Conference, May 22-25, La Jolla, CA.
- Odumade DM, Jones DS, Brown A*, Best MB*, Castillo RR, Chee EA, Diongson ANI, Green K*, Hann EL, Havlena ZE*, Hughes WA, Jobe NE, Odumade DM, Ortiz AJ, Ramadan L, Skaar CH (2023) Metagenomic analysis of phototrophic and colorless microbial biofilms from a travertine hot spring near the Valles Caldera volcanic complex, New Mexico. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Brown A*, Best MB*, Castillo RR, Chee EA, Diongson ANI, Green K*, Hann EL, Havlena ZE*, Hughes WA, Jobe NE, Odumade DM, Ortiz AJ, Ramadan L, Skaar CH, Jones DS (2023) Metagenomic insights into extremely acidic, sulfur-cycling microbial communities from Valles Caldera National Preserve, New Mexico. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Green K*, Best MB*, Jones DS (2023) Characterizing nitrogen-fixing microorganisms in caves using high-throughput *nifH* sequencing. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Jobe NE, Skaar CH, Kieft T, Jones DS (2023) Culture-dependent and -independent analysis of deep, ancient viromes from the Moab Khotsong mine in South Africa. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Havlena ZE*, Graham HV, Stern JC, Chung AH, Wankel SD, Jones DS (2023) Exploring biosignature production by acidophilic microbial communities inhabiting secondary mineral deposits from sulfidic cave systems. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Havlena ZE*, Graham HV, Stern J, Chung A, Wankel SD, Jones DS (2022). Microbial colonization and biosignature preservation potential in acidic gypsum deposits from sulfidic caves. Geological Society of America Abstracts with Programs. Vol 54, No. 5 (doi: 10.1130/abs/2022AM-381363)
- Best MB*, Wankel SD, Green K**, Graham HV, Stern J, Macalady JL, Jones DS (2022). Nitrogen sources and signatures in sulfuric acid caves. Geological Society of America Abstracts with Programs. Vol 54, No. 5 (doi: 10.1130/abs/2022AM-380879)
- Hobart KK*, Feinberg JM, Jones DS (2022) Strain-specific genomic differences in pyrrhotite oxidizing bacteria isolated from the Duluth Complex, Minnesota. Geological Society of America Abstracts with Programs. Vol 54, No. 5 (doi: 10.1130/abs/2022AM-383886)
- Hobart KK*, Feinberg JM, Jones DS (2022), Magnets, Minerals, and Microbes: Using Magnetic Techniques to Understand Microbial Pyrrhotite Dissolution. Astrobiology Science Conference, Atlanta, GA, May 15-20, 2022.
- Best MB*, Gómez-Cruz R, Northup DE, Jones DS (2022) New insights into extremely acidophilic communities from cave wall biofilms. Astrobiology Science Conference, Atlanta, GA, May 15-20, 2022.
- Havlena ZE*, Jones DS (2022) Exploring Microbial Colonization of Acidic Gypsum Deposits in Sulfidic Caves. Astrobiology Science Conference, Atlanta, GA, May 15-20, 2022.

- Ulbrich J, Jones DS, Kieft TL (2022) Spelunking into the virosphere: Characterizing viral communities from Carlsbad Caverns National Park. New Mexico Geological Society Annual Spring Meeting and Fort Stanton Cave Science Conference, Socorro, NM, April 7-9.
- Havlena ZE*, Jones DS, Hose LD, Duchene HR, Labrado AL, Brunner B (2022) Gypsum sediments in Lehman caves, Great Basin National Park, NV, USA. New Mexico Geological Society Annual Spring Meeting and Fort Stanton Cave Science Conference, Socorro, NM, April 7-9.
- Best MB*, Jones DS (2022) Geochemical niches of extremophile communities in an ephemeral acid rock drainage. New Mexico Geological Society Annual Spring Meeting and Fort Stanton Cave Science Conference, Socorro, NM, April 7-9.
- Hobart KK*, Feinberg JM, Volk M, Jones DS (2021). Using integrated magnetic and crystallographic techniques to examine the pyrrhotite lambda transition in natural samples. AGU Fall Meeting, New Orleans, LA (and online everywhere), December 13-17, 2021.
- Havlena ZE*, Jones DS, Hose LD, Duchene HR, Labrado AL, Brunner B (2021). Probing the origin and modern microbial colonization of gypsum sediments in Lehman Caves, Great Basin National Park, NV, USA. Geological Society of America Abstracts with Programs. Vol 53, No. 6 (doi: 10.1130/abs/2021AM-371175)
- Best MB*, Jones DS, Northup DE, Gómez-Cruz R (2021). Genomic characterization of extremely acidophilic bacteria in acidic cave wall biofilms. Geological Society of America Abstracts with Programs. Vol 53, No. 6 (doi: 10.1130/abs/2021AM-368949)
- Havlena ZE*, Jones DS (2021). Comparing modern and ancient gypsum as a microbial habitat in sulfuric acid caves. Rocky Mountain Geobiology Conference, September 11th, 2021. Golden, CO.
- Best MB*, Jones DS, Northup DE, Gómez-Cruz R (2021). New genomic and physiological insights into extremely acidophilic bacteria from acidic cave wall biofilms. Rocky Mountain Geobiology Conference, September 11th, 2021. Golden, CO.
- Havlena ZE*, and Jones DS, 2021, Exploring mineralogical and microbiological evidence for a hypogenic origin of Lehman Caves, Great Basin National Park. Geological Society of America Cordilleran Section Meeting (virtual conference), May 10-14, 2021.
- Ulbrich J, Jones DS, Kieft TL (2021). Spelunking into the Virosphere: Characterizing Viral Communities from Carlsbad Caverns National Park. Rocky Mountain Geobiology Conference, September 11th, 2021. Golden, CO.
- Hobart KK*, Feinberg JM, Bailey JV, Jones DS (2020). Determining the rate of microbially-mediated pyrrhotite dissolution using integrated geochemical, magnetic, and genomic analyses. Goldschmidt conference (virtual conference, originally for Honolulu, HI), June 21-26, 2020. (10.46427/gold2020.1040)
- Best MB*, Jones DS, Northup DE, Gómez-Cruz R (2020). New culture-based and genomic characterization of extremely acidophilic *Acidithiobacillus* spp. from sulfidic caves. Geological Society of America Annual Meeting (virtual conference, originally for Montréal, Canada, USA), Oct 25-28, 2019.
- Havlena ZE*, Hose LD, Jones DS (2020). Mineralogy and microbial ecology of sediments from Lehman Caves, Great Basin National Park. Geological Society of America Annual Meeting (virtual conference, originally for Montréal, Canada, USA), Oct 25-28, 2019.
- Hobart KK*, Feinberg JM, Bailey JV, Jones DS (2020). Microbial community composition influences pyrrhotite dissolution rates: Insights from paired mineral magnetic and genomics studies. AGU Fall Meeting (virtual conference), December 1-17, 2020.
- Hobart KK*, Feinberg JM, Jones DS (2019). Integrating geochemical, magnetic, and genomic analyses to understand strain-specific differences in microbially-mediated pyrrhotite dissolution. Geological Society of America Annual Meeting, Phoenix, Arizona, USA, Sep 22-26, 2019.

- Best MB*, Jones DS, Northup DE, Gómez-Cruz R (2019) Comparative metagenomic and culture-based analysis of extremely acidophilic *Acidithiobacillus* spp. from sulfidic cave biofilms. Geological Society of America Annual Meeting, Phoenix, Arizona, USA, Sep 22-26, 2019.
- Best MB*, Northup DE, Gómez-Cruz R, Jones DS (2019) PacBio metagenomic sequencing and culture-based analysis of extremely acidophilic *Acidithiobacillus* spp. from cave biofilms. American Society of Microbiology, Rio Grande Section Meeting. Socorro, NM, USA. April 12-13, 2019.
- Best MB*, Northup DE, Gómez-Cruz R, Jones DS (2019) Genomic and physiological properties of extremely acidophilic *Acidithiobacillus* spp. from hydrogen sulfide-rich caves. Rocky Mountain Geobiology Symposium, Boulder, CO, USA. April 6, 2019.
- Havlena ZE*, Kieft T, Veni G, Horrocks R, Jones DS (2019). Photosynthetic biofilms in Carlsbad Cavern: use of in situ spectrophotometry and DNA analysis to explore influence of lighting and substrate conditions on growth. Lunar and Planetary Institute Conference: Mars Extant Life: What's Next? Carlsbad, NM, November 2019.
- Havlena ZE*, Hose LD, Jones DS (2019). Reconnaissance geomicrobiology survey of Lehman Cave, Great Basin National Park. Geological Society of America Annual Meeting, Phoenix, Arizona, USA, Sep 22-26, 2019.
- Havlena ZE*, Kieft T, Veni G, Horrocks R, Jones DS (2019) Preventing problematic photosynthesis in caves: do lighting methods and substrate affect the development of destructive lampenflora in Carlsbad Cavern? Rocky Mountain Geobiology Symposium, Boulder, CO, USA. April 6, 2019.
- Havlena ZE*, Kieft T, Veni G, Horrocks R, Jones DS (2019) Bacterial, eukaryotic, and archaeal community dynamics in phototrophic cave biofilms. American Society of Microbiology, Rio Grande Section Meeting. Socorro, NM, USA. April 12-13, 2019.

Undergraduate student-led presentation abstracts

- Baloun A**, Hoberg J*, Swift J**, Brown A*, Schneider G, Seiser P, Jones DS (2023) Culture-based analysis of cave wall microbial communities from Capulin Volcano National Monument. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Swift J**, Brown A*, Hoberg J*, Baloun A**, Jones DS (2023) Culture-independent analysis of microbial biofilms from travertine hot springs near the Valles Caldera volcanic complex, New Mexico. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Krizek K**, Havlena ZE*, Jones DS (2023) Microbial inhabitation of relict gypsum deposits from sulfuric acid caves. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Huff CJ**, Green KM*, Regberg AB, Graham HV, Dworkin JP, Lalime EN, Congedo AB, Chung AH, Pugel DE, Jones DS (2023) Microbial bioburden on NASA cleanroom surfaces: Cell counting and fluorescence *in situ* hybridization. Rocky Mountain Geobiology Symposium, April 22nd 2023, Boulder, CO.
- Diongson ANI, Brown A*, Best MB*, Castillo RR, Chee EA, Green K*, Hann EL, Havlena ZE*, Hughes WA, Jobe NE, Odumade DM, Ortiz AJ, Ramadan L, Skaar CH, Jones DS (2023) Metagenome-assembled Genomes from Extremophilic Microbial Communities in and Around Valles Caldera National Preserve, New Mexico. New Mexico Geological Society Annual Spring Meeting, Socorro, NM, April 21, 2023, <https://doi.org/10.56577/SM-2023.2934>
- Phlieger KP*, Green K*, Jones DS (2023) Phylogenetic analysis of ammonia monooxygenase (*amoA*) genes from desert caves. New Mexico Geological Society Annual Spring Meeting, Socorro, NM, April 21, 2023, <https://doi.org/10.56577/SM-2023.2931>
- Brown AR**, Green B**, Jones DS (2022) Extremophilic microorganisms from sulfur-rich springs and fumaroles in the Valles Caldera Volcanic Complex, New Mexico. New Mexico Geological Society Annual Spring Meeting and Fort Stanton Cave Science Conference, Socorro, NM, April 7-9.

- Huff CJ**, Green KM**, Regberg AB, Graham HV, Dworkin JP, Lalime EN, Congedo AB, Chung AH, Pugel DE, Jones DS (2022) Enumeration and Fluorescence In Situ Hybridization of Microbial Bioburden on Cleanroom Surfaces. Planetary Protection in Practice, held virtually, 18-19 October, 2022. LPI Contribution No. 2710, 2022, id.7017 (link: <https://www.hou.usra.edu/meetings/planetprotection2022/pdf/7017.pdf>)
- Brown A**, Green B**, Jones DS (2021). Extremophilic microorganisms in sulfur-rich travertine springs at Soda Dam, Northern New Mexico. Rocky Mountain Geobiology Conference, September 11th, 2021. Golden, CO.
- Green K**, Best MB*, Jones DS (2021). Using high-throughput *nifH* sequencing to characterize nitrogen-fixing microorganisms in caves. Rocky Mountain Geobiology Conference, September 11th, 2021. Golden, CO.

Other co-authored presentation abstracts

- Heyer D, Jones DS (2023) Learn, connect, protect: the National Cave and Karst Research Institute's education and outreach program. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Lugo R, Heyer D, Jones DS, Davis V (2023) Improving accessibility of cave and karst science: communication and outreach activities aimed at reducing jargon and supporting public stakeholders. Geological Society of America 2023, Pittsburg, PA, October 15-18, 2023.
- Graham H, Sherwood Lollar B, Mustard J, Rogers K, Jones DS (2022) Planetary subsurface science and exploration: An integrated approach to understanding subsurface sources of energy and the unique energetics of subsurface life. 44th COSPAR Scientific Assembly. Held 16-24 July, 2022. Online at <https://www.cosparathens2022.org/>. Abstract B4.3-0009-22.
- Graham HV, Stern JC, Chung AH, Wankel SD, Havlena ZE*, Best MB*, Jones DS (2022) Biosignature Preservation in Subterranean Gypsiferous Ecosystems. Astrobiology Science Conference, Atlanta, GA, May 15-20, 2022.
- Sebree J, Peters JP, Sliwinski MK, Cable ML, Barton HA, Blank JG, Jones DS (2022), Wind Cave as a Terrestrial Analog for Subsurface Liquid Reservoirs of Icy Moons. Astrobiology Science Conference, Atlanta, GA, May 15-20, 2022.
- Sarbu S, Brad T, Chauveau C, Flot J, Galdenzi S, Galassi D, Gentile G, Iepure S, Jones DS, Martin P, Montanari A, Stoch F (2022), Biodiversity in the Sulfidic Sections of the Frasassi Caves, Italy, in Proceedings of the 2nd International Electronic Conference on Diversity (IECD 2022)—New Insights into the Biodiversity of Plants, Animals and Microbes, 15–31 March 2022, MDPI: Basel, Switzerland, doi:10.3390/IECD2022-12384
- Capo E, Peterson BD, Jones DS, Storck V, Liu Y-R, Kim M, Lin H, Amyot M, Acinas SG, Bertilsson S, Björn E, Bowman K, Buck M, Cosio C, Elias DA, Gu B, Lamborg C, Pinhassi J, Pachiadaki M, Podar M, Tada Y, Vandewalle-Capo M, Walsh D, Moreau JW, McMahon K, Gilmour C, Bravo AG, Gionfriddo C (2022), Towards building a consensus protocol for the recovery of the genes involved in mercury methylation (*hgcAB*) from environmental genomic data. Ocean Sciences Meeting 2022, February 28-March 4th, 2022.
- Hose LD, DuChene, HR, Jones DS, Havlena ZE*, Baker GM (2022) Proposed speleogenesis of Lehman Caves, Great Basin National Park, Nevada. National Speleological Society Convention June 13 - 17, 2022 Rapid City, South Dakota.
- Schwartz GE, Gionfriddo C, Soren A, Jones DS, Elias D, Gilmour C (2019). Abundance and diversity of *hgcAB*⁺ microbes in Chesapeake salt marsh soils - relationships to MeHg and site biogeochemistry. International Conference on Mercury as a Global Pollutant, September 8-13, 2019, Krakow, Poland.

Other presentations

- Presented at the state Research and Public Service Project Hearings, New Mexico Higher Education Department, 10/6/22, in support of NCKRI funding expansion request.
- Gave brief remarks in support of Senate Bill 72, Establishment of the Center for Dryland Resilience, to the NM State Senate Conservation Committee (SCONC), and helped prepare talking points for Senator Soules.
- Bioinformatics and environmental genomics. EPSCoR Track 1 White Paper Workshop on Data Science, April 8th, 2021
- New Opportunities from the National Cave and Karst Research Institute. April 28th 2021, NMT Research Office Seminar Series.
- Sulfidic caves (and the microbes that make them). May 14th 2021, NFoLD Steering Committee Meeting.
- Science Communication in the Classroom. April 7th, 2021. Teaching Teatime Series, New Mexico Tech
- Caves, karst, and NMT. March 3rd, 2021. New Mexico Tech Spotlight Series
- The Frasassi Caves. February 15th, 2021. Northern Nevada Grotto Meeting
- Old Man's Cave, Nevada. May 17th, 2021. Northern Nevada Grotto Meeting
- The sulfidic Frasassi cave system. September 15th, 2020. Cave Robotics Workshop, I-25 CAVER Initiative, NM/JPL
- Energy, life, and speleogenesis in the sulfidic Frasassi cave system. October 1st, 2019. Sandia Grotto Meeting.

Select first-author and student conference presentation abstracts from 2018 and earlier

***indicates graduate student advisee, ** indicates undergraduate mentee**

- Hobart K, Jones DS, Feinberg JM, 2018, Tracking microbial contributions to pyrrhotite oxidation using integrated geochemical and magnetic techniques. AGU Fall Meeting Abstracts; December 01, 2018. 2018.
- Invited:** Jones DS, Johnson, NJ, Mitchell, CPJ, Walker, GM**, Coleman Wasik, JK, Swain EB, Bailey JV, 2018, Investigating the relationship between mercury methylation and microbial community composition across sulfate gradients in Northern Minnesota, American Chemical Society, New Orleans, LA, April 2018
- Hobart K*, Feinberg JM, Jones DS, 2017, The effect of heat treatment on the crystallography and mineral magnetism of pyrrhotite. AGU Fall Meeting Abstracts; December 01, 2017.
- Jones DS, Johnson, NJ, Mitchell, CPJ, Walker, GM**, Coleman Wasik, JK, Swain EB, Bailey JV, 2017, Mercury methylators and methylation rates in sulfate-impacted freshwater ecosystems downstream from iron mines in Northern Minnesota, 13th International Conference on Mercury as a Global Pollutant, Providence, RI, July 2017
- Jones DS, Roepke EW, Sadowsky MJ Novak PJ, Bailey JV, 2017, Metagenomic and genomic characterization of novel organisms associated with sulfide mineral leaching in ore and waste rock from the Duluth Complex, Minnesota, American Chemical Society, San Francisco, CA, April 2017.
- Hobart K*, Jones DS, Feinberg JM, Bailey JV (2017), Microbial contributions to pyrrhotite oxidation. American Chemical Society, San Francisco, CA, April 2017.
- Jones DS, Hobart KK*, Roepke EW, Novak PJ, Sadowsky MJ, Feinberg, JM, Bailey, JV, 2017, Microbial contributions to pyrrhotite oxidation in the Duluth Complex, Society of Mining, Metallurgy & Exploration Minnesota conference, Duluth MN, April 2017
- Jones DS, Lapakko KA, Olson MC, Hua A**, Roepke EW, Bailey JV, Sadowsky MJ Novak PJ, 2016, Geomicrobiology of moderately acidic, pyrrhotite-bearing ore and waste rock from a new copper nickel mine prospect, Minnesota, USA, 16th International Symposium on Microbial Ecology (ISME), Montreal CA, August 2016.

- Walker G^{**}, Jones DS, Bailey JV, 2016, Unmasking the methylators: Molecular analysis of *hgcA* genes and transcripts from two Northern Minnesota lakes. Poster presented at MnDRIVE Research Symposium, St. Paul, MN. March 2016.
- Jones DS, Chun C, Novak PJ, Sadowsky MJ, 2015, Microbial sulfur cycling on the Iron Range of Minnesota, Society of Mining, Metallurgy & Exploration Minnesota conference, Duluth MN, April 2015
- Invited:** Jones DS, Flood BE, Bailey JV, 2014, Microbial polyphosphate metabolism and phosphorus cycling in hypoxic marine sediments, Joint Aquatic Sciences Meeting 2014, Portland, OR
- Jones DS, Flood BE, and Bailey JV, 2013, *Thiomargarita*-like microorganisms from deep cold seeps of the Barbados accretionary prism, Geological Society of America Fall Meeting 2013, Denver, CO
- Jones DS, Flood BE, and Bailey JV, 2013, Microbial phosphate release from marine sediments: transcriptomics and geochemistry, Goldschmidt Conference 2013, Florence, Italy (abs#6111)
- Invited:** Jones DS, Schaperdoth I, Macalady JL, 2013, Subaerial microbial life in the sulfidic Frasassi cave system, Italy, Conference on Carbon and Boundaries in Karst, National Cave and Karst Research Institute, Carlsbad, NM
- Jones DS, Davis C, Justwan H, and Wenger, L 2011, Effect of PDC-bit platelets on geochemical data quality and hydrocarbon-systems evaluation, 25th International Meeting on Organic Geochemistry, Interlaken, Switzerland.
- Jones DS, Brown J, Larson L, Mills D, Burgos W, Macalady JL, 2011, Ecological niches of Fe-oxidizing acidophiles in a coal mine discharge. Mineralogical Magazine 75 (3): 1123 (Goldschmidt Conference, Prague, Czeck Republic).
- Jones DS, Schaperdoth I, Macalady JL, 2010, Metagenomics reveal structure and function of extremely acidic sulfur oxidizing cave wall biofilms. Geochimica et Cosmochimica Acta 74 (12, Supplement 1 June 2010).
- Jones DS, Tobler DJ, Schaperdoth I, Galdenzi S, Mainiero M, Macalady JL, 2009, Sulfur oxidizing extremophiles from the caves of Acquasanta Terme, Italy. Sulfidic Karst Ecosystems, September 10-14, 2009, Genga, Italy.
- Jones DS, Dattagupta S, Patel J, Macalady JL, 2008, Metagenomic, phylogenetic and culture-based analysis of extremely acidic cave microbial communities. 12th International Society for Microbial Ecology Meeting, Cairns, Australia.
- Jones DS, Macalady JL, Druschel GK, Eastman DE, Albertson LK, 2006, Limestone corrosion and sulfur cycling by biofilms in the Frasassi Caves, Italy. Eos Transactions. AGU, 87 (52), Fall Meeting Supplement, Abstract B14B-547
- Jones DS, Stoffer T, Lyon EH, Macalady JL, 2006. Biogeochemistry and genomics of extremely acidic, limestone-corroding cave wall biofilms. Geological Society of America Annual Meeting, Abstract 114080.

Advising and mentoring:

- Graduate students:
 - Kathryn Hobart (Ph.D., University of Minnesota, co-advised w/ Dr. Joshua Feinberg, Fall 2016-2022)
 - Zoë Havlena (Ph.D., New Mexico Tech, Fall 2018-)
 - Mackenzie Best (Ph.D., New Mexico Tech, Jan 2021-)
 - Mackenzie Best (M.Sc., New Mexico Tech, Jan 2019-2020)
 - Hilary Kelly (Academic advisor) (Ph.D., New Mexico Tech, graduated Dec 2020)
 - Katelyn Green (M.Sc., New Mexico Tech, August 2022-)
 - Abigail Brown (Accelerated M.S., New Mexico Tech, 5th year starts August 2023)
 - Calyssa Huff (Accelerated M.S., New Mexico Tech, 5th year starts August 2024)
 - Cassandra Skaar (Accelerated M.S., New Mexico Tech, 5th year starts August 2024)

- Joseph Hoberg (M.Sc., New Mexico Tech, August 2023-)
- Laboratory technicians: Elizabeth Roepke (2016)
- Faculty mentor for undergraduates:
 - NMT: Katelyn Green (2021-2022), Abigail Brown (2020-), Brianna Green (2019-2020), Calyssa Huff (2022-), Katherine Krizek (2022-2023), Kenyan Phlieger (2022-2023), Anika Baloun (2023), Jimmy Swift (2023-)
 - UMN: ZhaaZhaa Greensky (REU student, summer 2018), Kimberly Hernandez (REU student, summer 2018), Maisie Lenards (summer 2018), Charles Thunder (NorthStar STEM Alliance, summer 2015), An An Hua, Gabriel Walker, and Christian Rosenow (UMN Undergrad Research Opportunities Program, 2014-2015)
- Graduate committee member:
 - NMT Biology (Joseph Ulbrich, M.Sc., Kimberly McNair, M.Sc., Catherine Batchelder, M.Sc., Katherine Persinger, M.Sc., Skye Fischer, M.Sc., Casia Esparza, M.Sc., Raymond Castillo, M.Sc.)
 - NMT Biotechnology (Kathryn Perea, Ph.D.)
 - NMT Chemistry (Rana Biswas, Ph.D.)
 - NMT Masters of Science for Teachers (Jerome Jones, M.Sc.)
 - U of New Mexico (Anastasia Pittis, M.S. Biology)
 - U of Minnesota Earth Sciences (Fernando Medina, Ph.D., Elizabeth Roepke, M.S., Roman Zoss, M.S., Timothy Kiesel, M.S., Chris Mahr, M.S.)
 - U of Minnesota Duluth Civil Engr (Daniel Takaki, M.S.)

Synergistic activities

Activities associated with the National Cave and Karst Research Institute (NCKRI)

- Established and manages the RFP and award process for three NCKRI grant programs:
 - The NCKRI National Seed Grant Program, funds grants up to \$25,000, open to principal investigators at any US academic or research institution.
 - The NCKRI Scholar Fellowship Program, fund awards of \$5,000 and \$2,500, open to graduate and undergraduate students at any US institution.
 - The NCKRI-NMT Internal Seed Grant Program, funds grants up to \$25,000, open to faculty and staff researchers at NMT.
- Established and manages a fellowship program for undergraduate students interested in cave and karst research at NMT (“Undergraduate Research Opportunities in Caves and Karst”)
- Established and manages a seminar series cave and karst seminar (NCKRI seminar series)
- Piloted a NCKRI Science Communication Internship Program in 2021, in partnership with Blue Marble Space Institute of Science (BMSIS)
- Mentored four NMT student summer interns through the National Park Service’s [Scientists in the Parks \(SIP\) program](#), summer 2023. (Two SIP interns worked on research at Valles Caldera National Monument, two at Capulin Volcano National Monument.)

Organizer for multiple MnDRIVE water technology events (industry, state agency, university, and general public) at the University of Minnesota, including:

- Symposia:
 - ‘Frontiers in Water Technology for Agriculture, with a focus on N and P bioremediation, St. Paul, MN, Oct. 23rd, 2018
 - MnDRIVE Mini-symposium at Barr Engineering, Apr. 25, 2017, Minneapolis MN
 - ‘Frontiers in Mine Water Technology, with a focus on bioremediation for Minnesota’s mine waters’ Minneapolis MN, Sep. 26th, 2016
- Water technology listening sessions:

- ‘Technologies for the treatment of urban soil and water, St. Paul, MN, Sep. 7th, 2018
- ‘Technologies for the treatment of agricultural wastewaters’, St. Paul, MN, July 22nd, 2016
- ‘Technologies for the treatment of mine water’, St. Paul, MN, May 13th, 2015
- Workshops (‘Mining, Metals, and Microbes in MN – North,’ Biwabik, MN, Oct. 12-14, 2014).

Other MnDRIVE activities:

- Organized a MnDRIVE summer research program for underrepresented minority undergraduate students, in collaboration with the REU of sustainable land and water resources (summer 2018)
- Managed RFP and award process for MnDRIVE Environment seed grants (2017-2018)
- Managed RFP and award process for MnDRIVE Environment demonstration project grants (2017-2018)
- Contributed to the Water Cycle Newsletter: Jones, Novak, and Sadowsky (2015) "Making microbes work for Minnesota." Water Cycle Newsletter, April 2015, Minnesota Department of Employment and Economic Development (link: <https://content.govdelivery.com/accounts/MNDEED/bulletins/fe32a0>)
- Participation in symposia, strategic meetings and panel discussions for various Minnesota organizations and events, including the Minerals Coordinating Committee, Governor’s Task Force on Wild Rice, Minnesota SME subsections, and the Wild Rice Symposium (Nibi Miinawaa Manoomin symposium).

Conference sessions chaired:

- *Biogeochemical Interactions in Caves and Karst*, GSA Fall Meeting, Phoenix AZ, Sep 22-26, 2019 (with Laura Rosales Lagarde)
- *New Voices in Geobiology*, GSA Fall Meeting, Phoenix AZ, Sep 22-26, 2019 (with several co-chairs)
- *Karst Hydrology and Hydrogeology*, GSA Fall Meeting, Phoenix AZ, Sep 22-26, 2019 (with Rachel Bosch, Angel Garcia, and Angel Acosta-Colón)
- *New Frontiers in Cave and Karst Science*, GSA Fall Meeting, virtual, Oct. 26-30, 2020 (with Ellen Herman, Patricia Kambesis, Rachel Bosch, Benjamin Tobin, and Andrew Luhmann)
 - This session was also the basis for a short writeup by Jason Polk, Ben Tobin, and myself in the January 2021 issue of GSA Today, highlighting the GSA Karst Division and cutting edge research going on the field of cave and karst science
- *New Frontiers in Cave and Karst Research: In Honor of the International Year of Caves and Karst*, GSA Fall Meeting, Portland, OR, Oct. 10-13, 2021 (with Lewis Land, Ellen Herman, Patricia Kambesis, Rachel Bosch, Benjamin Tobin, Jason Polk, and Andrew Luhmann)
- *Acidophiles and Their Mineral Habitats*, Astrobiology Science Conference (AbSciCon) in Atlanta GA, May 15-20 2022 (1 oral and 1 online session, with Muammar Mansor, Margaret Weng, Laura Rosales Lagarde, and Heather Graham)
- *Planetary Caves and Voids as Targets for Astrobiology Science*, Astrobiology Science Conference (AbSciCon) in Atlanta GA, May 15-20 2022 (1 oral, 1 poster, and 1 online session, with Jen Blank, Charity Phillips Lander, and Ceth Parker)
- *New Frontiers in Cave and Karst Research: In Honor of the International Year of Caves and Karst*, GSA Fall Meeting, Denver, CO, Oct. 9-12, 2022 (with Lewis Land, Patricia Kambesis, Rachel Bosch, Jason Polk, Sarah Arpin, Natasha Sekhon, Louise Hose).
- *Emerging Technologies in Water Treatment: Active and Passive Approaches* (2018 SME National Meeting, Feb. 25-28, 2018, Minneapolis, MN)
- *Microbially-Driven Geochemical Reactions: Kinetics and Communities* (253rd ACS National Meeting & Exposition, April 2-6, 2017, San Francisco, CA)

Co-led a virtual field trip in 2021, Hypogenic Karst of the Great Basin, with Hose LD, Duchene HR, Jones DS, Baker G, Havlena ZE, Sweetkind D, Powell JD. 10 May 2021, GSA Cordilleran Section Meeting.

Secretary for the Karst Division of the Geological Society of America (2019-present)

Primary representative to the Joint Technical Program Committee (JTPC) for the Karst Division of the Geological Society of America (2020-present)

Member of the steering committee for the Network for Life Detection (NFoLD, a NASA Astrobiology Research Coordination Network, www.nfold.org), 2019-present

Scientific consultant for two children's books, *All About Earth* (S.L. Latta) and *Living Earth* (S. Garbe), Capstone Press, 2015

NMT representative for the Federal Demonstration Partnership (FDP), 2021-2023, and attended two (virtual) FDP meetings, Sep. 21-24, 2020, and Jan 11-14, 2021.

Participant in the Classroom Observation Project, Geomicrobiology (ESCI 4801, spring 2014). Information at <http://serc.carleton.edu/NAGTWorkshops/certop/index.html>

Participant and presenter for the international workshop *The Frasassi Stygobionts and their Sulfidic Environment*, September 10th-13th 2009, hosted by the Federazione Speleologica Marchigiana, and the Osservatorio Geologico di Coldigioco, Marche Region, Italy

Panelist for the National Science Foundation (Geobiology & Low Temperature Geochemistry) and NASA (Exobiology, FINESST, Planetary Protection Research), Department of Energy (Environmental System Science), Joint Genome Institute (Community Sequencing Program).

External proposal reviewer for the National Science Foundation Division of Earth Sciences (Programs: Geobiology & Low Temperature Geochemistry, Hydrologic Sciences), NASA (Programs: Exobiology, Planetary Protection Research), and New Hampshire Sea Grant.

Ad hoc reviewer for The ISME Journal, Applied and Environmental Microbiology, Environmental Science and Technology, Geobiology, Chemical Geology, Earth and Planetary Science Letters, Environmental Microbiology, MSystems, Genome Biology and Evolution, Molecular Ecology, FEMS Microbiology Ecology, Minerals Engineering, Scientific Reports, Journal of Hydrology, Environmental Science and Pollution Research, Environmental Science: Water Research & Technology, Environmental Science: Processes & Impacts, Geomicrobiology Journal, Journal of Cave and Karst Studies, International Journal of Speleology, Canadian Journal of Microbiology, Science of the Total Environment, Palaios, Antonie van Leeuwenhoek. Review editor for *Frontiers in Microbiology* (2013-2019).