

Curriculum Vitae

Matthew Owen Schrenk

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EDUCATION:

Ph.D. Oceanography (Certificate in Astrobiology) <i>University of Washington</i> , Seattle, WA	2005
M.Sc. Oceanography <i>University of Washington</i> , Seattle, WA	2001
B.Sc. Geology & Geophysics; South Asian Studies <i>University of Wisconsin</i> , Madison, WI	1998

PROFESSIONAL EXPERIENCE:

2014-present	Assistant Professor , Joint Appointment in Earth & Environmental Sciences (EES) and Microbiology & Molecular Genetics (MMG), Michigan State University
2008-2013	Assistant Professor of Microbiology; Adjunct Professor of Geological Sciences, East Carolina University
2007-2008	Postdoctoral Associate/Foundational Questions Institute Fellow , Carnegie Institution of Washington
2005-2007	Postdoctoral Fellow , NASA Astrobiology Institute
1998-2005	Research Assistant , University of Washington, School of Oceanography
2003	Teaching Assistant , University of Washington
2000, 2013	Consultant , American Museum of Natural History, New York, NY
1996-1998	Undergraduate Research Assistant , University of Wisconsin-Madison, Department of Geology & Geophysics

HONORS AND AWARDS:

2012-2016	Sloan Research Fellow in Ocean Sciences. Alfred P. Sloan Foundation
2010	Distinguished Lecturer , NSF RIDGE 2000 program
2005-2007	NRC Research Associateship Award , NASA Astrobiology Institute
2005	Postdoctoral Fellowship , Marum, University of Bremen (<i>declined</i>)
2002	Outstanding Student Paper Award . AGU Fall Meeting, Biogeosciences Section

RESEARCH INTERESTS:

Geomicrobiology, Biogeochemistry, Environmental Geoscience

RESEARCH GRANTS AWARDED:

>\$20 million total on 26 grants; >\$4.2 million to Schrenk; \$1,720,607 to MSU

Title	Agency	Dates	Total Grant Award	Award to Institution	Role/Details
Active Grants to Michigan State University (7)					
<i>GP-GO: Building Latinx Pathways into Geoscience Graduate Education through R1-HSI-Nonprofit Collaborations</i>	NSF GEOPATHS Program	10/1/20 – 9/30/22	\$250,000	\$250,000	Lead PI; Co-PIs: J. Libarkin, K. Vogelsonger
<i>Drilling the Ivrea-Verbano Zone (DIVE)</i>	ICDP	Recommended for funding	\$1,000,000 *funding supports drilling logistics, travel, and implementation	n/a	Microbiology team lead
<i>EAGER: Groundwater Microbial Communities as Sentinels of Environmental Change</i>	NSF IM2026 Program	9/1/20 – 8/31/22	\$300,000	\$300,000	Lead/Sole PI
<i>Next Generation Tracers of Septic Field Influence in Surface and Groundwater Ecosystems in the Saginaw Bay Watershed</i>	Michigan Sea Grant (NOAA)	9/1/20 – 8/31/22	\$142,750	\$142,750	Lead PI; Co-PI's Martin and Hancock
<i>Using Digital Evolution to Evaluate Biosignatures and the Potential for Emergent Life in Deep-Sea Hydrothermal Chimneys</i>	Michigan Space Grant (NASA)	5/1/20 – 4/30/21	\$5,000	\$5,000	Lead/Sole PI
<i>Magic Planet</i>	MSU HUB	11/10/19 – 11/9/20	\$10,000	\$10,000	Lead PI; Co-PI's Libarkin and Hardisty
<i>Rock-Powered Life</i>	NASA Astrobiology Institute	1/1/15 – 12/31/20	\$6,952,420	\$497,178	PI at MSU, Lead PI: A. Templeton at CU; Co-PIs E. Boyd, W. Brazelton, D. Cardace, T. Hoehler, L.

					Mayhew, T. McCollom, S. Ono, E. Shock, J. Spear, M. Tominaga
Previous Grants to Michigan State University (8)					
<i>Linking Habitat Filtering, Horizontal Gene Transfer, and Intraspecific Competition at Life's Upper Temperature Extremes</i>	NSF BEACON STC	5/15/18 – 5/14/19	\$75,326	\$51,348	Lead PI; Co-PI J. Zaneveld at UW
<i>IODP Expedition 357, Atlantis Massif Seafloor Processes: Serpentinization and Life</i>	NSF USSSP-IODP	10/15/15 – 2/28/19	\$72,201	\$72,201	Lead/Sole PI
<i>The Deep Life Community</i>	Alfred P. Sloan Foundation	1/1/16 – 12/31/19	\$2,500,000	\$112,239	PI at MSU; Lead PIs: M. Sogin at MBL and K. Hinrichs at Uni. Bremen
<i>Bioenergetic Influences upon Carbon Flow in Alkaliphilic Sulfate-Reducing Microbial Populations</i>	NSF C-DEBI STC	4/1/15 – 3/31/16	\$99,861	\$40,944	PI at MSU; Lead PI: S. Lang at South Carolina
<i>Dissolved Organic Matter in Serpentinization-influenced Groundwater: Fingerprints of Deep and Shallow Sources</i>	DOE EMSL	10/1/15 – 9/30/16	\$46,117 in-kind support	\$46,117 in-kind support	Lead PI; Co-PIs: T. Hoehler, T. McCollom
<i>Sloan Research Fellowship</i>	Alfred P. Sloan Foundation	9/15/12 – 9/15/16	\$50,000	\$50,000 (MSU: \$35,476)	Lead/Sole PI
<i>DCO Deep Life postdoctoral fellowships</i>	Deep Carbon Observatory	7/1/12 – 6/30/14	\$244,653	\$244,653 (MSU: \$97,354)	Lead/Sole PI
<i>Pressure Resuscitation of the Deep Subseafloor Biosphere</i>	NSF C-DEBI STC	12/1/12 – 11/30/14	\$120,000	\$120,000 (MSU: \$60,000)	Lead PI; Co-PI: D. Morgan-Smith
Pre-MSU Grants (11)					
<i>Astrobiological Pathways: From the Interstellar Medium,</i>	NASA Astrobiology Institute	2/1/09 – 1/31/14	\$6,211,196	\$352,944	PI at ECU; Lead PI: G. Cody at CIW;

<i>through Planetary Systems, to the Emergence and Detection of Life</i>	(CAN-5)				Co-PIs: C. Alexander, J. Baross, A. Boss, P. Butler, J. Chambers, J. Farquhar, M. Fogel, A. Goncharov, E. Hauri, R. Hazen, B. Mysen, L. Nittler, D. Rumble, S. Sheppard, S. Shirey, A. Steele, R. Stroud, D. Sverjensky, A. Weinberger
<i>Deep Life I: Microbial Carbon Transformations in Rock-Hosted Subsurface Ecosystems</i>	Alfred P. Sloan Foundation	1/1/12 – 12/31/14	\$1,499,989	\$1,499,989	Lead PI; Co-PIs: D. Bartlett, D. Cardace, I. Daniel, T. Hoehler, J. Huber, M. Itavaara, P. McMillan, T. Onstott, R. Stepanauskas, E. Van Heerden
<i>Metagenome- and Metatranscriptome-enabled Investigations of Carbon and Hydrogen Flux through the Serpentinite-Hosted Subsurface Biosphere</i>	DOE- Joint Genome Institute	11/6/11 – 11/5/14	\$200,000 in-kind support	\$200,000 in-kind support	Lead PI; Co-PI: W. Brazelton
<i>Development of a Stable Isotope Probing-Metagenomics Approach to Elucidate Physiological Traits Associated with Thermophilic Chemolithoautotrophy</i>	NSF C-DEBI STC	7/1/11 – 6/30/13	\$50,000	\$50,000	Lead/Sole PI
<i>Design of Borehole Incubation Chambers</i>	Deep Carbon Observatory	1/1/11 – 12/31/11	\$8,000	\$8,000	Lead/Sole PI

<i>to Observe and Experimentally Study the Serpentinite-hosted Subsurface Biosphere</i>					
<i>Save our Old Wet Wood! Assessing Bio-deterioration During the Storage and Preservation of Waterlogged Nautical Artifacts</i>	ECU Coastal Maritime Council	1/1/10 – 12/31/10	\$4,500	\$4,500	Lead PI; Co-PIs: S. Daniel, S. Watkins-Kenney
<i>Stimulating the Integration of Astrobiologists into Subsurface Biosphere Research</i>	NASA Astrobiology Institute-Conference and Workshop Fund	1/1/11-12/31/11	\$13,000	\$13,000	Lead/Sole PI
<i>Parameterizing Subsurface Habitat in the Serpentinizing Coast Range Ophiolite: a new integrative opportunity for the astrobiology community</i>	NASA Astrobiology Institute-Director's Discretionary Fund	1/1/11 – 12/31/11	\$146,349	n/a	PI at ECU; Lead PI: D. Cardace at URI; Co-PIs: T. Hoehler, T. McCollom
<i>Quantifying Pressure Effects upon Anaerobic Petroleum Biodegradation</i>	Petroleum Research Fund (ACS)	9/1/08 – 8/31/10	\$50,000	\$50,000	Lead/Sole PI
<i>The Characterization and Search for Life on Hot Rocky Exoplanets</i>	Templeton Foundation-Foundational Questions in Physics and Cosmology	9/1/06 – 8/31/08	\$64,434	\$64,434	Co-PI; Lead PI: S. Seager
<i>Eco-physiology of high temperature microbial biofilms: A polyphasic approach using organic geochemistry and high resolution microscopy</i>	National Research Council-NASA Astrobiology Institute	10/10/05 – 10/9/07	\$120,000	\$120,000	Lead/Sole PI
Proposals in Review					
<i>Water Science as a Nexus for Place-Based STEM Learning in Middle School Science Classrooms</i>	NSF DRK-12 Program	sub. 11/14/19	\$449,702	\$449,702	Lead PI; Co-PIs: J. Libarkin
<i>Experimental Constraints on the Habitability of High</i>	NASA Habitable Worlds	sub. 1/17/20	\$480,082	\$408,841	Lead PI; Co-PIs: S Dorfman, A.

<i>Pressure Subseafloor Environments on Ocean Worlds</i>	Program				Picard
<i>Collaborative Research: Geobiochemical Controls on Volatile Recycling Efficiency Across the Andean Convergent Margin</i>	NSF Frontier Research in Earth Systems Program	sub. 2/4/20	\$2,644,591	\$492,852	PI at MSU , Lead PI: P. Barry at WHOI; Co-PIs J. Barnes, K. Lloyd, M de Moor
<i>Seasonal Hydrodynamics and the Flux of Methanogenic Biosignatures from a Serpentinizing Ophiolite</i>	NASA Exobiology Program	sub. 5/22/20	\$363,979	\$363,979	Lead/Sole PI

PUBLICATIONS (H-INDEX- 24; 5,725 CITATIONS):

*student author; †post-doc author; ^member of a multi-author consortium

Peer-reviewed articles and book chapters (42)

- (42) ***Sabuda, MC**, TM McCollom, MD Kubo, ***LI Putman**, W Brazelton, D Cardace, and **MO Schrenk** (2020) A dynamic microbial sulfur cycle in a serpentinizing continental ophiolite. *Environmental Microbiology*. 22(6): 2329-2345. doi:10.1111/1462-2920.15006
- (41) †**Seyler, LM**, WJ Brazelton, C McLean, ***LI Putman**, A Hyer, MDY Kubo, T Hoehler, D Cardace, **MO Schrenk** (2020) Carbon assimilation strategies in ultrabasic groundwater: Clues from the integrated study of a serpentinization-influenced aquifer. *mSystems*. 5:e00607-19. <https://doi.org/10.1128/mSystems.00607-19>
- (40) McGlynn, SE, JB Glass, K Johnson-Finn, F Klein, SA Sanden, **MO Schrenk**, Y Ueno, A Vitale-Brovarone (2020) Hydrogenation reactions of carbon on Earth: Linking methane, margarite, and life. *American Mineralogist*. 105(5): 599-608. <https://doi.org/10.2138/am-2020-6928CCBYNCND>
- (39) Sheik, CS, HJ Cleaves II, K Johnson-Finn, D Giovannelli, TL Kieft, D Papineau, **MO Schrenk**, S Tumati (2020) Abiotic and biotic processes that drive carboxylation and decarboxylation reactions. *American Mineralogist*. 105(5): 609-615. <https://doi.org/10.2138/am-2020-7166CCBYNCND>
- (38) Giovannelli, D, PH Barry, JM de Moor, KG Lloyd, **MO Schrenk** (2020) Microbial influences on subduction zone carbon cycling, *EOS, Trans. Amer. Geophys. Union*. 101(6): 22-27. <https://doi.org/10.1029/2020EO140906>.
- (37) Barry, P, JM de Moor, D Giovannelli, **M Schrenk**, D Hummer, T Lopez, CA Pratt, Y Alpizar Segura, A Battaglia, P Beaudry, G Bini, M Cascante, G d'Errico, M di Carlo, D Fattorini, K Fullerton, E Gazel, G González, SA Halldórsson, K Iacovino, JT Kulongoski, E Manini, M Martinez, ***H Miller**, M Nakagawa, S Ono, S Patwardhan, CJ Ramírez, F Regoli, F Smedile, S Turner, M Yucel, CJ Ballentine, TP Fischer, DR Hilton, KG Lloyd (2019) Forearc carbon sequestration reduces

long-term volatile recycling into the mantle. *Nature*. 568: 487-492. doi: 10.1038/s41586-019-1131-5

**** Web of Science Highly Cited Paper (top 1% of its academic field)**

- (36) Barry, P, Nakagawa, M, D Giovannelli, JM de Moor, **M Schrenk**, E Manini, D Fattorini, M di Carlo, F Regoli, K Fullerton, K Lloyd (2019) Helium, inorganic and organic carbon isotopes of fluids and gases across the Costa Rica convergent margin. *Scientific Data*. 6:284. <https://doi.org/10.1038/s41597-019-0302-4>
- (35) Rouméjon, S, GL Früh-Green, BN Orcutt, and the **^IODP Expedition 357 Science Party** (2018) Alteration heterogeneities in peridotites exhumed on the southern wall of the Atlantis Massif (IODP Expedition 357) *Journal of Petrology*. 59(7): 1329-1358. doi: 10.1093/petrology/egy065
- (34) Früh-Green, GL, BN Orcutt, S Rouméjon, MD Lilley, Y Morono, C Cotterill, SL Green, J Escartin, BE John, AM McCaig, M Cannat, B Ménez, EM Schwarzenbach, MJ Williams, S Morgan, SQ Lang, **MO Schrenk**, WJ Brazelton, N Akizawa, C Boschi, KG Dunkel, M Quéméneur, SA Whattam, L Mayhew, M Harris, G Bayrakci, J-H Behrmann, E Herrero-Bervera, K Hesse, H-Q Liu, AS Ratnayake, K Twing, D Weis, R Zhao, L Bilenker (2018) Magmatism, serpentinization, and life: Insights through drilling the Atlantis Massif (IODP Expedition 357). *Lithos*. <https://doi.org/10.1016/j.lithos.2018.09.012>.
- (33) Meyer-Dombard, DR, CP Casar, AG Simon, D Cardace, **MO Schrenk**, CA Arcilla (2018) Biofilm formation and potential for iron cycling in serpentinizing spring fluids in the Zambales and Coast Range Ophiolites. *Extremophiles*. 22(3): 407-431. DOI:10.1007/s00792-018-1005-z.
- (32) Sheik, C, BK Reese, KI Twing, JB Sylvan, SL Grim, **MO Schrenk**, ML Sogin, F Colwell (2018) Discovering life in the subsurface: A cautionary tale of identifying and removing common extraction-associated microorganisms. *Frontiers in Microbiology*. 9:840. doi:10.3389/fmicb.2018.00840.
- (31) Lang, SQ, GL Früh-Green, SM Bernasconi, WJ Brazelton, **MO Schrenk**, JM McGonigle (2018) Deeply-sourced formate fuels methanogens but not sulfate reducers at the Lost City hydrothermal field. *Scientific Reports*. 8:755. doi:10.1038/s41598-017-19002-5
- (30) Ortiz, E, M Tominaga, D Cardace, **M Schrenk**, T Hoehler, MD Kubo, DF Rucker (2018) Geophysical characterization of serpentinite hosted hydrogeology at the McLaughlin Natural Reserve, Coast Range Ophiolite. *Geochemistry, Geophysics, Geosystems*. 19:114-131. <https://doi.org/10.1002/2017GC007001>
- (29) Thompson, LR, JG Sanders, D McDonald, A Amir, J Ladau, KJ Locey, RJ Prill, A Tripathi, SM Gibbons, G Ackermann, JA Navas-Molina, S Janssen, E Kopylova, Y Vázquez-Baeza, A González, JT Morton, S Mirarab, ZZ Xu, L Jiang, MF Haroon, J Kanbar, Q Zhu, SJ Song, T Kosciulek, NA Bokulich, J Lefler, CJ Brislawn, G Humphrey, SM Owens, J Hampton-Marcell, D Berg-Lyons, V McKenzie, N Fierer, JA Fuhrman, A Clauset, RL Stevens, A Shade, KS Pollard, KD Goodwin, JK Jansson, JA Gilbert, R Knight, & **^The Earth Microbiome Project Consortium** (2017) A Communal catalogue reveals Earth's multiscale microbial diversity. *Nature*. 551: 457-463. doi 10.1038/nature24621

**** Web of Science Highly Cited Paper; Web of Science Hot Paper (top 0.1% of papers in its academic field)**

- (28) *[Twing, KI](#), †[WJ Brazelton](#), MD Kubo, A Hyer, D Cardace, TM Hoehler, TM McCollom, **MO Schrenk** (2017) Serpentinization-influenced groundwater harbors extremely low diversity microbial communities adapted to high pH. *Frontiers in Microbiology*. 8:308. doi: 10.3389/fmicb.2017.00308
- (27) †[Crespo-Medina, M](#), R Sanchez-Murillo, *[KI Twing](#), †[WJ Brazelton](#), T McCollom, **MO Schrenk** (2017) Microbially-mediated methane cycling in a tropical serpentinizing environment. *Frontiers in Microbiology*. 8:916. doi: 10.3389/fmicb.2017.00916
- (26) †[Brazelton, WJ](#), SQ Lang, *[KI Twing](#), G Früh-Green, MD Lilley, **MO Schrenk** (2017) Metagenomic identification of active methanogens and methanotrophs in serpentinite springs of the Voltri Massif, Italy. *PeerJ*. 5:e2945. doi: 10.7717/peerJ.2945
- (25) **Schrenk, M.O.** (2017) Life in Serpentinite-hosted Alkaline Springs. In *Life at Seeps and Springs*. J. Kallmeyer (ed.). DeGruyter. 107-138. <https://doi.org/10.1515/9783110493672-005>
- (24) †[Crespo-Medina, M](#), *[KI Twing](#), MDY Kubo, TM Hoehler, D Cardace, T McCollom, **MO Schrenk** (2014) Insights into environmental controls on microbial communities in a continental serpentinite aquifer using a microcosm-based approach. *Frontiers in Microbiology*. 5:604. doi: 10.3389/fmicb.2014.00604
- (23) Wilkins, MJ, RA Daly, PJ Mouser, R Trexler, S Sharma, DR Cole, KC Wrighton, JF Biddle, EH Denis, JK Fredrickson, TL Kieft, TC Onstott, L Peterson, SM Pfiffner, TJ Phelps, **MO Schrenk** (2014) Trends and future challenges in sampling the deep terrestrial biosphere. *Frontiers in Microbiology*. 5:481. doi: 10.3389/fmicb.2014.00481.
- (22) Morrill PL, †[WJ Brazelton](#), L Kohl, A Rietze, SM Miles, H Kavanagh, **MO Schrenk**, SE Ziegler, SQ Lang (2014) Investigations of potential microbial methanogenic and carbon monoxide utilization pathways in ultra-basic reducing springs associated with present-day continental serpentinization: the Tablelands, NL, CAN. *Frontiers in Microbiology*. 5:613. doi: 10.3389/fmicb.2014.00613
- (21) Sánchez-Murillo, R, E Gazel, E Schwarzenbach, †[M Crespo-Medina](#), **MO Schrenk**, J Boll, BC Gill (2014) Geochemical evidence for active tropical serpentinization in the Santa Elena Ophiolite, Costa Rica: an analogue of a humid early Earth? *Geochemistry, Geophysics, Geosystems*. 15:1783-1800.
- (20) **Schrenk, MO**, †[WJ Brazelton](#), and SQ Lang (2013) Serpentinization, carbon, and deep life. *Reviews in Mineralogy and Geochemistry*. 75:575-606.
**** Web of Science Highly Cited Paper**
- (19) Cardace, D, T Hoehler, T McCollom, **M Schrenk**, D Carnevale, M Kubo, *[K Twing](#) (2013) Establishment of the Coast Range ophiolite microbial observatory (CROMO): Drilling objectives and preliminary outcomes. *Scientific Drilling*. 16: 45-55.
- (18) †[Brazelton, WJ](#), PL Morrill, N Szponar, **MO Schrenk** (2013) Bacterial communities associated with subsurface geochemical processes in continental serpentinite springs. *Appl. Environ. Microbiol.* 79(13):3906-3916.
- (17) Méhay, S, GL Früh-Green, SQ Lang, SM Bernasconi, †[WJ Brazelton](#), **MO Schrenk**, P Schaeffer, P Adam (2013) Record of archaeal activity at the

- serpentinite-hosted Lost City Hydrothermal Field. *Geobiology*.11: 570–592.
doi: 10.1111/gbi.12062
- (16) Szponar, N, [†]WJ Brazelton, **MO Schrenk**, DM Bower, A Steele, P Morrill (2013) Biogeochemistry of a continental site of serpentinization in the Tablelands ophiolite, Gros Morne National Park: A Mars Analogue. *Icarus*. 224(2):286–296. DOI: 10.1016/j.icarus.2012.07.004
 - (15) [†]Brazelton, WJ, *B Nelson, and **MO Schrenk** (2012) Metagenomic evidence of H₂ oxidation and H₂ production by serpentinite-hosted subsurface microbial communities. *Frontiers in Microbiology* 2:268. doi: 10.3389/fmicb.2011.00268
 - (14) Seager, S, W Bains, and **M Schrenk** (2012) An Astrophysical view of Earth metabolism. *Astrobiology*. 12:61-82.
 - (13) Jiao, Y, GD Cody, AK Harding, P Wilmes, **M Schrenk**, KE Wheeler, JF Banfield, MP Thelen (2010) Characterization of extracellular polymeric substances from acidophilic microbial biofilms. *Appl. Environ. Microbiol.* 76:2916-2922.
 - (12) **Schrenk, MO**, JA Huber, KJ Edwards (2010) Microbial provinces in the subseafloor. *Annual Review of Marine Science*. 2:279-304.
 - (11) **Schrenk, MO**, JF Holden, JA Baross (2008) Magma-to-Microbe Networks in Seafloor Sulfide Deposits. In *Magma to Microbe at Mid Ocean Ridges*. AGU Monograph. RP Lowell, JS Seewald, A. Metaxas, MR Perfit (Eds.). American Geophysical Union. 233-258.
 - (10) Baross, JA, JA Huber, and **MO Schrenk** (2006) Limits of Carbon Life on Earth and Elsewhere. In *Planets and Life: The Emerging Science of Astrobiology*. J.A. Baross and W.T. Sullivan (Eds). Cambridge University Press. 275-291
 - (9) Brazelton, WJ, **MO Schrenk**, DS Kelley, JA Baross (2006) Methane and sulfur metabolizing microbial communities dominate in the Lost City Hydrothermal Field ecosystem. *Appl. Environ. Microbiol.* 72(9):6257-6270.
 - (8) Kelley, DS, J. Karson, G Früh-Green, D Yoerger, T Shank, D Butterfield, J Hayes, **MO Schrenk**, E. Olson, G Proskurowski, M Jakuba, A Bradley, B Larson, K Ludwig, D Glickson, K Buckman, AS Bradley, W Brazelton, K Roe, M Elend, A Delacour, S Bernasconi, M Lilley, J Baross, R Summons, S Sylva (2005) A Serpentinite-hosted ecosystem: The Lost City Hydrothermal Field. *Science*. 307:1428-1434.
 - (7) **Schrenk, MO**, SA Bolton, DS Kelley, JA Baross (2004) Low archaeal diversity linked to subseafloor geochemical processes at the Lost City Field, Mid Atlantic Ridge. *Environ. Microbiol.* 6(10):1086-1095.
 - (6) **Schrenk, MO**, DS Kelley, JR Delaney, JA Baross (2003) Incidence and diversity of microorganisms within the walls of an active black smoker hydrothermal chimney. *Appl. Environ. Microbiol.* 69(6): 3580-3592.
 - (5) Kelley, DS, JA Karson, DK Blackman, G Früh-Green, DA Butterfield, MD Lilley, E J. Olson, **MO Schrenk**, KR Roe, G LeBon, P. Rivizzigno, and AT3-60 Shipboard Scientific Party (2001) An off-axis hydrothermal vent field near the Mid-Atlantic Ridge at 30° N. *Nature*. 412:145-149.
 - (4) Delaney, JR, DS Kelley, E. A. Mathez, DR Yoerger, J Baross, **M Schrenk**, MK Tivey, J Kaye, V Robigou (2001) Edifice Rex Sulfide Recovery Project: Analysis of a sulfide-microbial habitat from a submarine hydrothermal system. *EOS, Trans. Amer. Geophys. Union*. 82, 67-73.

- (3) Edwards, KJ, BM Goebel, TM Rodgers, **MO Schrenk**, TM Gihring, MM Cardona, MM Mcguire, RJ Hamers, NR Pace, and JF Banfield (1999) Geomicrobiology of Pyrite (FeS₂) Dissolution: Case Study at Iron Mountain, California. *Geomicro. J.* 16(2):155-179.
- (2) **Schrenk, MO**, KJ Edwards, RM Goodman, RJ Hamers, JF Banfield. (1998) Distribution of *Thiobacillus ferrooxidans* and *Leptospirillum ferrooxidans*: implications for generation of acidic mine drainage. *Science.* 279:1519-1522.
- (1) Edwards, KJ, **MO Schrenk**, RJ Hamers, JF Banfield (1998) Microbial oxidation of pyrite: Experiments using microorganisms from an extreme acidic environment. *American Mineralogist.* 83(12):1444-1453.

Submitted/under review

- (5) Glombitza, C, *LI Putman, KR Rempfert, MD Kubo, **MO Schrenk**, AS Templeton, TM Hoehler. Active microbial sulfate reduction in fluids of serpentinizing mantle rocks. *Proc. Natl. Acad. Sci., USA.* In review.
- (4) Tominaga, M, E Ortiz, JF Einsle, NFR Vento, **MO Schrenk**, I Buisman, D Cardace. Tracking on-going weathering processes in mantle peridotite. *Geophys Res Lett.* Submitted
- (3) Tiago, I, **M Schrenk**, A Verissimo. Metabolic Versatility Reflected in the Metagenome of a carbon-starved subterranean microbial ecosystem. *Front Micro.* In review.
- (2) Fullerton, KM, **MO Schrenk**, M Yücel, E Manini, M Basili, TJ Rogers, D Fattorini, M di Carlo, G d'Errico, F Regoli, M Nakagawa, C Vetriani, F Smedile, C Ramirez, *H Miller, SM Morrison, J Buongiorno, GL Jessen, M Martinez, JM de Moor, PH Barry, D Giovannelli, KG Lloyd. Tectonic processes shape geosphere-biosphere feedbacks across a convergent margin. *Nature Geoscience.* In review.
- (1) Frouin, E, F Armougom, **MO Schrenk**, G Erauso. Comparative metagenomics highlight a pathway involved in the catabolism of phosphonates in multiple serpentinizing ecosystems. *ISME J.* Submitted.

TECHNICAL REPORTS (2):

- (2) Früh-Green, G.L., Orcutt, B.N., Green, S.L., Cotterill, C., and the **Expedition 357 Scientists** (2016) *Atlantis Massif Serpentinization and Life*. Proceedings of the International Ocean Discovery Program, 357: College Station, TX (International Ocean Discovery Program). <http://dx.doi.org/10.14379/iodp.proc.357.2017>
- (1) Esen, B, TH Brisco, B Sherwood Lollar, **MO Schrenk**, SM Hamilton, G Lacrampe-Couloume (2013) Investigation of gases and biota related to serpentinization of kimberlites in the Kirkland Lake area. *Ontario Geol. Survey*, Open File Report 6290, 41-1 to 41-6.

INVITED KEYNOTE, SYMPOSIUM, AND CONFERENCE PRESENTATIONS (29):

- Multi-Well Deep Underground Laboratory (MW-DUL) in eastern Asia: Understanding Earth Interior Processes from Geological to Human Time Scales ICDP Workshop, Virtual, (20-22 July 2020)

- DCO Deep Life Community Meeting, Shanghai, China (1 November 2018)
- NASA Astrobiology Institute Executive Council Meeting, University of Colorado, Boulder, CO (15 May 2018)
- Earth in 5 Reactions Workshop, Carnegie Institution for Science, Washington, DC (22 March 2018)
- National Academy of Sciences Space Studies Board. Extraterrestrial Sample Analysis Meeting. Houston, TX (23 January 2018)
- American Geophysical Union Fall Meeting, New Orleans, LA (15 December 2017)
- Michigan American Chemical Society Symposium. Saginaw, MI (21 October 2017)(**Keynote**)
- Environmental Genomics Symposium. Marseille, France (14 September 2017)(**Keynote**)
- Workshop without Walls. NASA Astrobiology Institute, Videoconference (31 January 2017)
- Blumberg Origins of Life Symposium, John W. Kluge Center, US Library of Congress, Washington, DC (15 September 2016)(**Keynote**)
- NASA Astrobiology Institute, Executive Council Meeting, Videoconference (21 August 2015)
- Indian Ocean Drilling Workshop, Woods Hole Oceanographic Institution, Woods Hole, MA (14 May 2015)
- DCO Data Modeling and Visualization Workshop, Smithsonian Institution, Washington, DC (11 May 2015)
- DCO International Science Meeting, Deutsches Museum, Munich, Germany (27 March 2015)
- NSF BEACON Center for Evolution in Action Seminar, Michigan State University, East Lansing, MI (6 March 2015)
- Deep Carbon Observatory Executive Committee Meeting, Muscat, Oman. (30 January 2015).
- American Geophysical Union Fall Meeting, San Francisco, CA (16 December 2014)
- International Symposium on Subsurface Microbiology, Asilomar, CA (5-7 October 2014)
- Trends and Challenges in Sampling the Deep Subsurface Workshop. Ohio State University, Columbus, OH (20 February 2014)
- Geological Society of America Annual Meeting, Charlotte, NC (November 2012)
- NSF C-DEBI STC All Hands Meeting, Monterey, CA (October 2012)
- ICDP Oman Drilling Workshop. Palisades, NY (13-16 September 2012)
- Serpentine Days Workshop, Porquerolles, France (6 September 2012).
- NC Space Grant Tom Scott Symposium, Chapel Hill, NC (March 2012)
- North Carolina American Society for Microbiology branch meeting, Asheville, NC, (October 2011)(**Keynote**)
- Science at Starlight, Sponsored by the NC Biotech Center, Greenville, NC (March 2011)

- IODP-Mohole/Deep Carbon Observatory Workshop. Carnegie Institution of Washington. Washington, DC (September 10, 2010)
- NASA Astrobiology Institute- Education and Public Outreach Videoconference. (1 February 2010)
- Study of Matter at Extreme Conditions Conference. Miami, FL (April 2007)

INVITED SEMINARS (32):

- Department of Earth Sciences, University of Oxford, Oxford, UK (11 February 2020)
- Department of Microbiology, University of Tennessee, Knoxville, TN (3 December 2019)
- Istituto di Scienze Marine- CNR, Ancona, Italy (26 September 2018)
- Département des Sciences de la Terre, Université Claude Bernard Lyon 1, Lyon, France (6 March 2018)
- Central Michigan University, Department of Earth and Atmospheric Sciences. Mount Pleasant, MI (19 October 2017)
- Kellogg Biological Station. Hickory Corners, MI (17 February 2017)
- University of Michigan, Department of Earth and Environmental Science, Ann Arbor, MI (16 January 2015)
- Department of Microbiology and School of Earth Sciences. Ohio State University, Columbus, OH (19 February 2014)
- Department of Geological Sciences, East Lansing, MI (March 2013)
- Duke University Marine Lab, Beaufort, NC (October 2012)
- U. of North Carolina- Chapel Hill, Department of Marine Sciences, Chapel Hill, NC (September 2012)
- Department of Ocean, Earth, and Atmospheric Sciences, Old Dominion University, Norfolk, VA (September 2011)
- Brody School of Medicine, East Carolina University (October 2010)
- Department of Life Sciences, Texas A & M University- Corpus Christi, TX (September 2010)
- Department of Biology & Marine Biology, UNC Wilmington (5 March 2010)
- Department of Geological and Atmospheric Sciences, Iowa State University (February 2010)
- RIDGE 2000 Public Lecture. Iowa State University (25 February 2010)
- Department of Geological Sciences, East Carolina University (13 November 2010)
- Department of Biology (Advancement Council). East Carolina University (November 2008)
- Department of Earth and Environmental Science. U. of Illinois at Chicago (April 2008)
- Department of Earth and Planetary Science. University of California Santa Cruz. Santa Cruz, CA (March 2007)
- Department of Earth and Planetary Science, Washington University. Saint Louis, MO (February 2007)

- Department of Biology, The Citadel. Charleston, SC (February 2007)
- Department of Biology, East Carolina University. Greenville, NC (December 2006)
- Carnegie Institution of Washington High Pressure Mineral Physics Group. Washington, D.C. (November 2006)
- National Institutes of Health. Bethesda, MD (30 October 2006)
- Woods Hole Oceanographic Institute (June 2006)
- Santa Fe Institute. Santa Fe, NM (May 2006)
- Carnegie Institution of Washington, Geophysical Laboratory (March 2005)
- Research Center for Ocean Margins, Bremen, Germany (March 2005)
- Research Center for Ocean Margins, Bremen, Germany (June 2004)
- University of Washington Astrobiology Program (May 2004)

ORGANIZER FOR SYMPOSIA, WORKSHOPS, AND CONFERENCES:

2020	Organizer , Serpentinization and Deep Life session, Gordon Research Conference on Deep Carbon, Lewiston, ME (postponed to 2022)
2015	Co-Organizer , Deep Life Community workshop, Deep Carbon Observatory, Lisbon, Portugal
2015	Co-Organizer , DCO International Science Meeting, Deep Carbon Observatory, Munich, Germany
2013	Co-Organizer , Special session on “Deep Fluids and Life”. V.M. Goldschmidt Meeting, Florence, Italy
2013	Organizer , DCO Deep Life Community All Hands Meeting, Portland, OR
2012	Co-Organizer , Special session on “Census of Deep Life”. American Geophysical Union Fall Meeting, San Francisco, CA
2012	Co-Organizer , Special session on “Serpentinization in Astrobiology”. Astrobiology Science Conference, Atlanta, GA
2011	Co-Organizer , NSF C-DEBI STC Limits of Life theme team workshop, Redondo Beach, CA
2011	Co-Organizer , NSF DEBI RCN Workshop on Microbial Exploration of the Marine Deep Sediment Biosphere, co-organizer, Chapel Hill, NC
2010	Organizer , “Astrobiology” symposium at ECU Research and Creative Activities Week
2006	Co-Organizer , Special session on “Biofilms in the Environment”. American Geophysical Union Fall Meeting, San Francisco, CA
2006	Co-Organizer , Special sessions on “Extremophiles” and “Molecular Biological Approaches in Astrobiology”. Astrobiology Science Conference, Washington, DC
2000	Co-Organizer , Special session on “Geo-microbiology”. Geological Society of America Annual Meeting, Reno, NV

INVITED PARTICIPANT: WORKSHOPS, ROUNDTABLES, SYNTHESIS GROUPS

2020	ICDP Multi-Well Deep Underground Laboratory Workshop, virtual
2019	Deep Carbon Observatory meeting, Washington, DC

2019	Biotic Fringe workshop, LUMCON, Chauvin, LA
2019	IODP/ICDP New Caledonia Peridotite Amphibious Drilling Workshop, Montpellier, France
2018	Inaugural Symposium, International Center for Deep Life Investigation, Shanghai Jiao Tong University, Shanghai, China
2018	Earth in 5 Reactions workshop, Washington, DC
2017	ASM Microbial Ecology and Evolution Retreat, Washington, DC
2017	DCO International Science Meeting, Deep Carbon Observatory, St.
2017	NAI Workshop without Walls, virtual
2016	Census of Deep Life workshop, Redondo Beach, CA
2015	DCO Modeling and Visualization Workshop, Washington, DC
2015	IODP Indian Ocean Drilling Workshop, Woods Hole, MA
2014	NSF C-DEBI STC Annual Meeting, Marina, CA
2014	Trends and Challenges in Sampling the Deep Biosphere Workshop, Columbus, OH
2013	C-DEBI Microbial Activity Workshop, Boothbay Harbor, ME
2013	DCO International Science Meeting, National Academy of Sciences, Washington, DC
2012	ICDP/DCO workshop of Oman Drilling, Palisades, NY
2012	DCO Deep Energy Directorate workshop, Paris, France
2010	DCO Mohole Drilling workshop, Washington, DC
2010	IODP, Mohole 2010, Kanazawa, Japan
2010	DCO Deep Life Workshop, Catalina Island, CA
2009	DEBI-RCN workshop, Kona, HI
2009	C-DEBI STC NSF site visit, Los Angeles, CA
2009	NASA Astrobiology Institute strategic initiative workshop, Tempe, AZ
2008	Deep Carbon Cycle workshop, Washington, DC
2006	Pale Blue Dot workshop III, Chicago, IL

FIELD EXPEDITIONS

- Biology meets Subduction project, Argentina (2019), Panama and Costa Rica (2018)
- IODP Expedition 357, Atlantis Massif Serpentinization and Life, Mid Atlantic Ridge (2015, 2016)
- Coast Range Ophiolite Microbial Observatory, McLaughlin Natural Reserve, California, USA. (2011, 2012, 2013, 2014, 2017. Drilling program in 2011)
- Kirkland Lake kimberlites, Kirkland Lake, Ontario, Canada (2013)
- Cabeço de Vide Aquifer, Central Portugal (2012)
- Tablelands Ophiolite, Newfoundland, Canada (2009, 2017)
- Shallow-sea hydrothermal vents, Aeolian Islands, Italy (2006, 2007)
- Deep-sea hydrothermal vents, Endeavour Segment, Juan de Fuca Ridge, Pacific Ocean (1998, 1999, 2000, 2003, 2004)
- Ganges River sediments, Varanasi, India (1998-1999)
- Acid mine drainage, Iron Mountain Mine, California, USA (1998)

GRADUATE STUDENTS DIRECTED:

Current

- 2016-present Lindsay I. Putman (*nee* Williams), Ph.D., Environmental Geosciences and Microbiology (Rock-Powered Life)
- 2015-present Heather A. Miller, Ph.D., Microbiology (Biology meets Subduction project; MI Space Grant)
- 2018-present Osama M. Alian, Ph.D., Microbiology (BEACON HGT project, Rock-Powered Life, MI Space Grant)
- 2020-present Maria Berry, B.Sc/M.Sc program, Microbiology (Michigan Sea Grant)

Former

- 2015-2017 Mary C. Sabuda, M.Sc., Geological Sciences (NASA Rock-Powered Life, NASA Early Career Collaboration Award, Pringle Fellowship; Currently Ph.D. student at U. of Minnesota)
- 2011-2015 Katrina I. Twing, Ph.D., Microbiology (DCO Rock-hosted Communities, NASA Rock-Powered Life; Assistant Professor at Weber State University)
- 2012-2014 Crystal George, M.Sc., Molecular Biology & Biotechnology (East Carolina University; Senior Manager, HTG Molecular Diagnostics)
- 2012-2014 Alyssa Kloysuntia, M.Sc., Molecular Biology & Biotechnology (East Carolina University; Senior Research Associate, Novozymes)
- 2009-2011 Heather Lourenco (*nee* Blumenfeld), M.Sc., Molecular Biology & Biotechnology (East Carolina University; Senior Associate Scientist, Glaxo Smith Kline)
- 2008-2010 Quinn Woodruff, M.Sc., Biology (East Carolina University; DDS)

POSTDOCTORAL RESEARCH ASSOCIATES:

Former

- 2015-2017 Lauren Seyler (Ph.D. 2015, Rutgers University) currently, Assistant Professor at Stockton University
- 2013-2015 Dani Morgan-Smith (Ph.D. 2012, Old Dominion University)
- 2012-2014 Melitza Crespo-Medina (Ph.D. 2008, Rutgers University) currently, Investigator, Centro de Educación, Conservación, e Interpretación Ambiental (CECIA), Puerto Rico
- 2011-2013 William Brazelton (Ph.D., 2010, University of Washington) currently, Assistant Professor at University of Utah

TEACHING:

Instruction at Michigan State University

Lead instructor for 13 courses

- Fall 2020 GLG821 Organic Geochemistry (11 students)

Spring 2020	GLG421 Environmental Geochemistry guest lecturer (50 min)
Fall 2019	ISB200 History of Life guest lecturer (80 min)
Spring 2019-2020	ISP203B Natural Hazards and the Environment (157-180 students) Course coordinator, Instructor (30 lectures, 80 min.)
Spring 2015-2018	GLG201 The Dynamic Earth (79-109 students) Course coordinator, Instructor (45 lectures, 50 min.)
Fall 2016-2018	GLG435 Geomicrobiology (25 students in FS2017) Course coordinator, Instructor (30 lectures, 80 min.; 15 labs, 2h)
Spring 2017	MMG991 Volcanoes and Life (6 students)
Spring 2017	GLG440 Planetary Geology (guest lecturer, 1 h)
Spring 2016	MMG892 Groundwater Microbiology (7 students)
Spring 2016-2018	MMG425 Microbial Ecology, guest lecturer (1 h)
Fall 2014-2020	MMG801 Integrative Microbial Biology, guest lecturer (2-6 h)
Fall 2014	ISB200 History of Life (165 students) Instructor (45 lectures, 50 min.)

Instruction at East Carolina University

Lead instructor for 12 courses

Spring 2013	HNRS2014 Life in Space: From inquiry to exploration and back again (honors course; 15 students) Course coordinator, Instructor (30 lectures, 80 min.)
Spring 2009-2013	BIOL3220 Introduction to Microbiology (100-150 students) Course coordinator, Instructor (45 lectures, 50 min.)
Fall 2012	BIOL6992 Microbial Biotechnology (7 students; 15 lectures, 120 mins.)
Fall 2009-2012	BIOL4130 Astrobiology: The Planetary Context of Life (30-35 students). Course coordinator, Instructor (45 lectures, 50 min.)
Spring 2012	BIOL6992 Microbial Biogeography (7 students)
Spring 2010	BIOL3550 The Dark Energy Biosphere (7 students)
Fall 2010	BIOL3550 Viruses- from a Microbial Perspective (9 students)

MMG499/GLG499 Independent study undergraduate research (6)

2020-present	Vivian Werth (GLG)
2017-2020	David Chalmers (best poster award at UURAF 2018)
2018-2020	Miranda Pryde (MMG)
2015-2019	Dominic Aluia (GLG, CNS Professorial Assistant, CNS Research Grant, best poster award at UURAF 2016)
2016-2018	Lydia Hayes (Peabody Undergraduate Student Research Fund Award 2017; currently a M.Sc. student at TAMU-CC)
2016-2017	Courtney Stewart (MI Space Grant Fellowship, Wood Undergraduate Research Award, currently a M.Sc. student at Southern Oregon)

Other MSU undergraduate and high school research assistants (13)

2019-present	Maria Berry (Honors, Microbiology)
2018-2019	Dylan Mankel (Honors, Astrophysics/Biochemistry)
2018-2019	Nandini Valluru (Okemos High School student)

2018 Jeremy Feiner (Microbiology)
 2017-2018 Kati Ford (Microbiology, currently a Ph.D. student at MSU)
 2017 Chad Barry (GLG)
 2015-2017 Pham Nguyen (Astrophysics/Evolutionary Biology)
 2016-2017 Kai Selwa (GLG) (CNS Professorial Assistant)
 2015-2016 Laney Hart (GLG), current a M.Sc. student at Wisconsin)
 2014-2015 Mary Sabuda (GLG, currently a Ph.D. student at Minnesota)
 2014-2015 Jordan Salley (GLG, currently working for WI DNR)
 2014-2015 Megan Hudak (GLG)
 2016-2017 Noah Vriese (GLG, currently a M.Sc. student at Wisconsin)
 2015 Lindsay Williams (U. of Michigan, currently a Ph.D. student at MSU)
 2015-2016 Jacob Roush (GLG, currently a M.Sc. student at MSU)

ECU undergraduate research assistants (31)

Lauren Ashley (Honors)
 Nicole Bermudez
 Caitlin Casar (currently a Ph.D. student at Northwestern University)
 Sarah Chowdhury (ECU Undergraduate Research and Creative Activity Award)
 Shanley Church
 Hilary Conrad
 Nate Creech
 Cody Cutler (Honors)
 Amita Desai (Sigma Xi Grant-in-Aid of Research)
 Victoria Gaines
 Amandeep Gujral (ECU Undergraduate Research and Creative Activity Award)
 Phillip Harrison (ECU Coastal Maritime Council research award)
 Jessica Hall
 Annika Heckmans (summer intern through German DAAD RISE program)
 Alyssa Kloysuntia (Novzymes; MS East Carolina University)
 Jordan Lull
 Kinsey Massey
 Quan Nguyen
 Brigid O'Boyle
 Krizella Ordanes
 Seema Patel
 Ushma Patel
 Jessica Pendegrass
 Lauren Polli (Pathologist's Assistant; MS, PA Drexel University)
 Emilee Quinn (Honors; ECU Undergraduate Research and Creative Activity Award)
 Megan Shaia (ECU Undergraduate Research and Creative Activity Award)
 Brittany Shaw (Physician's Assistant, Raleigh, NC)
 Sarah Thalhamer (ECU Undergraduate Research and Creative Activity Award)
 Kimberly Vinson
 William Watson
 Caroline Zimmerly

MSU BioMolecular Science Gateway laboratory rotations

Osama Alian- Fall 2017
Reid Longley- Fall 2017
Heather A. Miller- Spring 2016
Nkrumah Grant- Spring 2015
Anna Huff- Fall 2014

GRADUATE STUDENT GUIDANCE COMMITTEES:

MSU guidance committee member- Current

Joanna Colovas (Shade Lab)	M.Sc., Microbiology	2020-present
Alexi Schnur (Hardisty Lab)	Ph.D., Env. Geosciences	2020-present
Keyi Cheng (Hardisty Lab)	Ph.D., Env. Geosciences	2020-present
Abby Sulesky (Shade Lab)	Ph.D., Microbiology	2019-present
Oishi Bagchi (Shade Lab)	Ph.D., Microbiology	2019-present
Kati Ford (Ter Avest Lab)	Ph.D., Microbiology	2019-present
Ryan McKeeby (Gottfried Lab)	Ph.D., Env. Geosciences	2018-present
Mingda Lyu (Dorfman Lab)	Ph.D., Geol. Sciences	2017-present
Kayla Deciechi (Long Lab)	M.Sc., Env. Geosciences	2016-present

MSU guidance committee member- Former

Sinchan Chowdhury (Zarnetske Lab)	M.Sc., Env. Geosciences	2016-2018
Matt Karl (Tominaga Lab)	M.Sc., Geol. Sciences	2015-2016
Tim Stadler (Tominaga Lab)	M.Sc., Geol. Sciences	2014-2015

ECU guidance committee member

Khaled Aziz	M.Sc., Mol Biol & Biotech	2008-2009
Jennifer Apger	M.Sc., Mol Biol & Biotech	2009-2010
Brian Sufrinko	M.Sc., Biology	2008-2009
Patrick Korn	M.Sc., Biology	2013-2014
Lia Walker	M.Sc., Biology	2010-2011
Charles Worley	M.Sc., Biology	2009-2011

ADMINISTRATIVE AND LEADERSHIP EXPERIENCE

2018-present **Member**, Advisory Committee, International Center for Deep Life Investigation, Shanghai, China

2017-present **Faculty Advisor**, Graduate Student Organization (EES)

2011-present **Member**, Science Steering Committee, Deep Life Community, Deep Carbon Observatory

2014-present **Member**, Science Steering Committee, Oman Drilling Project

2013-present **Associate Editor**, *Frontiers in Microbiology- Aquatic Microbiology*

2013-present **Associate Editor**, *Frontiers in Microbiology- Extreme Microbiology*

2010-present **Member**, Crustal Steering Committee, NSF C-DEBI STC

DEPARTMENTAL COMMITTEES:

2016-2018 **Member**, Undergraduate Affairs Committee (EES)
2017-2018 **Chair**, Faculty Advisory Committee (EES)
2015-2017 **Member**, Faculty Advisory Committee (EES)
2016-2017 **Member**, Global Environmental Change Search Committee (EES)
2015-2016 **Member**, Quantitative Geoscientist Search Committee (EES)
2015-2016 **Member**, Graduate Affairs Committee (EES)
2012-2013 **Member**, Microbial Ecologist search committee (ECU)
2010 **Member**, Wetlands Ecologist search committee (ECU)
2009-2010 **Chair**, Microbiology Research Tech search committee (ECU)

COLLEGE COMMITTEES:

2016-present **Member**, Council on Diversity and Community, College of Natural Sciences
2016-present **Member**, Muslim Community Subcommittee, Council on Diversity and Community, College of Natural Sciences

UNIVERSITY COMMITTEES:

2016-present **Member**, Graduate Advisory Committee, Environmental Science and Policy Program
2016-2017 **Member**, Operations Manager Search Committee, MSU Core Genomics Facility
2016-2017 **Member**, Facility Director Search Committee, MSU Core Genomics Facility
2016-2017 **Member**, Review and Recommendations Committee, MSU Core Genomics Facility
2010-2014 **Member**, Coordinating Committee, ECU NC Space Grant

DISCIPLINARY SERVICE:

Review Panels

NASA Exobiology Program, NASA ASTEP Program

Ad hoc reviewer

Grants: NASA (ASTEP, NAI-DDF, NASA Postdoctoral Program, NESSF, Planetary Protection), NSF- OCE (Bio. Ocean, RIDGE 2000, IODP, MG & G, and OTIC); EAR (Geobiology & Low Temperature Geochemistry, IES); PIRE program, DEB (Dimensions of Biodiversity), NOAA (Ocean Exploration), European Research Council, Netherlands Organisation for Scientific Research, ORAU Powe Awards Program, Radcliffe Institute for Advanced Study/ Harvard University, Schmidt Ocean Institute, French National Research Agency, Chilean Antarctic Institute, North Carolina Space Grant, Center for Dark Energy Biosphere Investigation- Research

Grants, Portugese National Science Foundation, Petroleum Research Fund, Consortium for Ocean Leadership, Ifremer (France), Israel Science Foundation

Publications: *Journals*: Astrobiology, Archives of Microbiology, Canadian Journal of Earth Science, Canadian Mineralogist, Chemical Geology, Chemistry and Ecology, Deep Sea Research, Gene, Geobiology, Geochimica et Cosmochimica Acta, Geochemical Transactions, Geology, Geomicrobiology Journal, Geophysics Geochemistry Geosystems, Environmental Microbiology, Faculty of 1000, FEMS Microbiology Ecology, Frontiers in Microbiology, the ISME Journal, Journal of the Geological Society, Journal of Geophysical Research-Biogeosciences, Life, mBio, mSystems, Microbial Ecology, Microbiology Open, Molecules, Nature Communications, NPG- Biofilms and Microbiomes, Phil. Trans. Royal Society, Science, Science Advances. *Book Chapters*: Geological Society of America Press, University of California Press, Pearson, Norton Scientific Press

INFORMAL SCIENCE OUTREACH:

2019 Invited Talk, Astronomical Horizons, MSU Planetarium, East Lansing, MI
2018 Invited talk, Michigan Mineralogical Society, Cranbrook Institute, Bloomfield Hills, MI
2018 Presenter, National Fossil Day, MSU Museum, Lansing, MI
2018 Invited talk, Astronomy on Tap, Lansing, MI
2017 Invited talk, Astronomy + Biology on Tap, Lansing, MI
2017 Interview with National Geographic about a forthcoming article by Plümper
2016 Presenter East Lansing School District science night
2016 Interview with AGU press on a forthcoming article by Kohl
2015 Blog on Lost City for the NSF BEACON STC
2014 Invited talk on the Deep Biosphere at MSU SciFest
2013 Interview with BBC “Inside Science” on the Census of Deep Life
2010 Organizer, “Spacetalking with Astronauts” event, Greenville, NC

CONTRIBUTED PRESENTATIONS:

**student author; †post-doc author*

(141) Barry, PH, BS Patel, MJ de Moor, M Nakagawa, D Giovannelli, CJ Ramirez, MO Schrenk, E Gazel, AM Seltzer, SA Halldorsson, JT Kulongoski, SJ Turner, CJ Ballentine, TP Fischer, DR Hilton, C Virrueta, K Blackmon, KG Lloyd (2019) Helium and Carbon Isotopes in Southern Costa Rica and Western Panama. AGU Fall Meeting, San Francisco, CA. 13 December 2019. V51D-0191 [poster]

- (140) Lloyd, KG, KM Fullerton, MO Schrenk, M Yucel, [H Miller](#), MJ de Moor, PH Barry, D Giovannelli. Microbial Community Coupling to Deep Subduction Processes (2019) AGU Fall Meeting, San Francisco, CA. 12 December 2019. D141B-04 [talk]
- (139) [†][Seyler, LM](#), WJ Brazelton, C McLean, [LI Putman](#), T McCollom, MD Kubo, M Schrenk (2019) Carbon Assimilation Strategies in Ultrabasic Groundwater: Clues from the Integrated Study of a Multi-Well Network. Astrobiology Science Conference, Bellevue, WA. 24 June 2019. 141-157 [poster]
- (138) Schrenk, MO (2019) Competition and Cooperation at the Uppermost Temperature Limits to Life. Astrobiology Science Conference, Bellevue, WA. 27 June 2019. 141-157 [talk]
- (137) [Alian, O](#), [D Mankel](#), [M Pryde](#), MO Schrenk (2019) Simulating redox Gradients in an Early Earth Analog: Microenvironmental Implication of Microbial Habitability. Astrobiology Science Conference, Bellevue, WA. 25 June 2019. 141-157 [poster]
- (136) [Putman, LI](#), WJ Brazelton, TM Hoehler, MD Kubo, D Cardace, MO Schrenk (2019) Microbial Community Responses to Drilling Induced Perturbation in a Serpentinization-Influenced Aquifer- Implications for Future Analog Studies. Astrobiology Science Conference, Bellevue, WA. 24 June 2019. 140-150 [poster]
- (135) Fullerton, KM, D Giovannelli, M Nakagawa, M Schrenk, DCO Biology Meets Subduction Science Party, K Lloyd (2018) Multivariate and Network Analysis of Microbe-Environment Interactions Across a Geochemically Active Subduction Zone in Northern Costa Rica. AGU Fall Meeting, Washington, DC. 11 December 2018. V21A-07 [talk]
- (134) de Moor, MJ, PH Barry, KJ Lloyd, D Giovannelli, M Schrenk, M Nakagawa, CJ Ramirez, K Pratt, DR Hummer, TM Lopez (2018) Chemical and Biological Carbon Sinks in the Costa Rican Forearc: First Insights from the Biology Meets Subduction Project. AGU Fall Meeting, Washington D.C. 12 December 2018. D131A-06 [invited talk]
- (133) Cardace, D, MD Kubo, MO Schrenk, TM McCollom, TM Hoehler (2018) Shifting Bioenergetics over the Lifetime of Serpentinizing Systems. AGU Fall Meeting, Washington D.C. 11 December 2018. B23E-2552 [poster]
- (132) [†][Seyler, LM](#), KR Rempfert, EA Kraus, JR Spear, AS Templeton, MO Schrenk (2017) Characterizing Dissolved Organic Matter and Metabolites in an Actively Serpentinizing Ophiolite Using Global Metabolomics Techniques. AGU Fall Meeting, New Orleans, LA. 13 December 2017. B31E-2040 [poster]
- (131) Schrenk, M, [MC Sabuda*](#), WJ Brazelton, KI Twing (2017) Vestiges of Submarine Serpentinization Recorded in the Microbiology of Continental Ophiolite Complexes. AGU Fall Meeting, New Orleans, LA. 15 December 2017. OS52A-05. [invited talk]
- (130) [†][Seyler, LM](#), KR Rempfert, EA Kraus, JR Spear, AS Templeton, MO Schrenk (2017) Characterizing Dissolved Organic Matter and Metabolites in an Actively Serpentinizing Ophiolite Using Global Metabolomics Techniques. AGU Fall Meeting, New Orleans, LA. 13 December 2017. B31E-2040 [poster]

- (129) [*Stewart, CL](#), [M Schrenk](#) (2017) Methane- and Hydrogen- Influenced Microbial Communities in Hydrothermal Plumes above the Atlantis Massif, Mid Atlantic Ridge. AGU Fall Meeting, New Orleans, LA. 15 December 2017. OS53D-1240 [poster]
- (128) [Cardace, D](#), [MO Schrenk](#), [TM McCollom](#), [TM Hoehler](#) (2017) Aqueous Geochemical Dynamics at the Coast Range Ophiolite Microbial Observatory and the Case for Subsurface Mixing of Regional Groundwaters. AGU Fall Meeting, New Orleans, LA. 14 December 2017. V43D-0558 [poster]
- (127) [Vento, NFR](#), [E Ortiz](#), [M Tominaga](#), [A Beinlich](#), [JF Einsle](#), [I Buisman](#), [E Ringe](#), [MO Schrenk](#), [D Cardace](#) (2017) Characterizing and Quantifying Superparamagnetic Magnetite Particles in Serpentinized Mantle Peridotite Observed in Continental Ophiolite Complexes. AGU Fall Meeting, New Orleans, LA. 15 December 2017. OS53D-1241 [poster]
- (126) [*Putman, LI](#), [M Kubo](#), [M Sabuda*](#), [W Brazelton](#), [K Twing](#), [D Cardace](#), [M Schrenk](#) (2017) Effect of Seasonal Variation within a Serpentinite Aquifer on Microbial Community Function and Diversity. International Society for Subsurface Microbiology Conference. Rotrua, New Zealand. 10 November 2017 [talk]
- (125) [*Sabuda, M](#), [T Hoehler](#), [M Kubo](#), [L Putman*](#), [D Cardace](#), [M Schrenk](#) (2017) Insight into Biogenic Methane and Sulfur Cycling within Serpentinite-Hosted Groundwater. Midwest Geobiology Symposium. Indianapolis, IN. 30 September 2017 [talk]
- (124) [*Hayes, L](#), [LM Seyler†](#), [MO Schrenk](#) (2017) Microbial Adaptations to Extremely High pH: Insights from Serpentinization-Associated Ecosystems. Midwest Geobiology Symposium. Indianapolis, IN. 30 September 2017 [poster]
- (123) [Schrenk, MO](#), [S Hamilton](#), [G Lacrampe-Coluloume](#), [B Sherwood Lollar](#) (2017) The Microbiology of Serpentinizing Ultramafic Intrusions: Insights from the Kirkland Lake Kimberlites. Astrobiology Science Conference. Mesa, AZ, 25 April 2017 #3440 [talk]
- (122) [*Sabuda, MC](#), [MD Kubo](#), [TM Hoehler](#), [D Cardace](#), [LI Williams](#), [MO Schrenk](#) (2017) Biogeochemical Interfaces in Serpentinizing Systems: A Case Study from the Coast Range Ophiolite Microbial Observatory. Astrobiology Science Conference. Mesa, AZ, 25 April 2017 #3436 [talk]
- (121) [*Williams, LI](#), [MD Kubo](#), [MC Sabuda*](#), [D Cardace](#), [MO Schrenk](#) (2017) Seasonal and Episodic Microbial Community Dynamics of the Coast Range Microbial Observatory (CROMO), California. Astrobiology Science Conference. Mesa, AZ, 25 April 2017 #3494 [talk]
- (120) [†Seyler, L](#), [T Hoehler](#), [T McCollom](#), [M Kubo](#), [M Sabuda*](#), [L Williams*](#), [M Schrenk](#) (2017) Global Metabolomics as a Means of Linking Microbial Activities and their Biogeochemical Consequences in Serpentinizing Systems. Astrobiology Science Conference. Mesa, AZ, 25 April 2017 #3287 [talk]
- (119) [Twing, KI](#), [M Crespo-Medina](#), [WJ Brazelton](#), [R Sanchez-Murillo](#), [MO Schrenk](#) (2017) Expression of Metabolic Pathways in Microbial Communities from a

- Tropical Serpentinizing Environment. Astrobiology Science Conference. Mesa, AZ, 25 April 2017. #3213 [talk]
- (118) [Schrenk, M](#), S Hamilton, G Lacrampe-Couloume, B Sherwood Lollar (2017) The Microbiology of Serpentinizing Ultramafic Intrusions: Insights from the Kirkland Lake Kimberlites. Third International DCO Science Meeting, St. Andrews, Scotland. 23-25 March 2017 [poster]
- (117) Brazelton, W, KI Twing, [MO Schrenk](#) (2017) Metagenome-enabled Explorations of Ecosystems Supported by Serpentinization. Third International DCO Science Meeting, St. Andrews, Scotland. 23-25 March 2017 [poster]
- (116) Twing, K, M Crespo-Medina, WJ Brazelton, R Sanchez-Murillo, [MO Schrenk](#) (2017) Expression of metabolic pathways in microbial communities from a tropical serpentinizing environment. Third International DCO Science Meeting, St. Andrews, Scotland. 23-25 March 2017 [poster]
- (115) Reese, BK, CS Sheik, JB Sylvan, S Grim, M Lau, S D'Hondt, Y Morono, F Inagaki, BR Briggs, [MO Schrenk](#), MA Lever, TC Onstott, M Sogin (2017) Sampling Microbes in the Subsurface: A Cautionary Tale. Third International DCO Science Meeting, St. Andrews, Scotland. 23-25 March 2017 [poster]
- (114) Ladau, J, SE Ruff, F Colwell, S D'Hondt, E Gaidos, S Grim, T Kieft, R Leon-Zayas, K Lloyd, TC Onstott, BK Reese, K Rogers, [M Schrenk](#), B Sherwood Lollar, A Soares, M Sogin (2017) Exploring Ecological Patterns of Subsurface Life. Third International DCO Science Meeting, St. Andrews, Scotland. 23-25 March 2017 [poster]
- (113) [*Miller, H](#), P Viswanathan, [L Williams*](#), and [M Schrenk](#) (2016) Microbiological Profile of Garden Soils from Flint, Michigan. ESPP Environmental Research Symposium. East Lansing, MI. 11 November 2016 [talk]
- (112) [Schrenk, M](#) (2016) Metagenomic Insights into Active and Ancient Evolutionary Processes in Hydrothermal Vent Microbial Ecosystems BEACON Congress 2016. East Lansing, MI. 10 August 2016 [talk]
- (111) Hoehler, T, S Som, [M Schrenk](#), T McCollom, D Cardace (2016) Metabolic Potential and Activity in Fluids from the Coast Range Ophiolite Microbial Observatory, California, USA. Serpentine Days 2016. Sète France, September 2016 [talk]
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- (109) [*Sabuda, M](#), M Kubo, T Hoehler, D Cardace, and [M Schrenk](#) (2016) Investigations of Methane, Sulfur, and Iron in the Serpentinite Subsurface using Depth-resolved Biogeochemical Analyses, Stable Isotope Geochemistry, and Microcosm Approaches. Serpentine Days 2016. Sète France, September 2016 [poster]
- (108) [†Seyler, L](#), [M Sabuda*](#), [L Williams*](#), and [M Schrenk](#) (2016) Global Metabolomics as a Means of Linking Microbial Activities and their Biogeochemical

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- (106) [†][Seyler, L](#), and [M Schrenk](#) (2016) Using Metabolomics to Characterize Metabolic Processes in Astrobiologically Relevant Model Microbes. Astrobiology Graduate Conference. Boulder, CO. July 2016 [talk]
- (105) *[Miller, H](#), [J Roush*](#), T Lopez, T Fischer, and [M Schrenk](#) (2016) Fire and Life: Microbial Mediation of Deep Carbon Cycling along the “Ring of Fire”, A Subducting Oceanic Lithosphere, Western Aleutian Islands. 9th Biennial Workshop of Japan-Kamchatka-Alaska Subduction Processes. Fairbanks, Alaska, 1 June 2016 [poster]
- (104) *[Roush, J](#), and [M Schrenk](#) (2016) Influence of Volcanic Gas Flux on Extremophile Microbial Communities. UURAF 2016. April 2016 [poster]
- (103) *[Aluia, D](#), and [M Schrenk](#) (2016) Microbial Abundance and Diversity in Groundwaters near Traverse City, Michigan. UURAF 2016. April 2016 [poster]
- (102) [Schrenk, MO](#), D Cardace, [LI Williams*](#), T Hoehler, D Hyndman, M. Kubo, and T McCollom (2016) Effects of Environmental Perturbation and Seasonal Dynamics upon Microbial Populations in Serpentinite-hosted Groundwater. AGU Fall Meeting, San Francisco, CA. B31H-0570 [poster]
- (101) Ortiz, E, M Tominaga, D Cardace, and [M Schrenk](#) (2016) Geophysical characterization of in situ serpentinization processes at the Coast Range Ophiolite Microbial Observatory (CROMO). AGU Fall Meeting, San Francisco, CA. NS41B-1919 [poster]
- (100) *[Sabuda, M](#), MD Kubo, D Cardace, TM Hoehler, TM McCollom, and [MO Schrenk](#) (2016) Iron and Sulfur Geochemistry in Serpentinizing Groundwaters: Relationships to Microbiological Processes. AGU Fall Meeting, San Francisco, CA. BG13-0733 [poster]
- (99) *[Miller, HN](#), TM Lopez, TP Fischer, and [MO Schrenk](#) (2016) Relationships between Microbial Activities and Subduction-related Outgassing and Volatile Flux at Aleutian Arc Volcanoes. AGU Fall Meeting, San Francisco, CA. T11D-2654 [poster]
- (98) [Schrenk, MO](#), M Crespo-Medina, and R Sanchez-Murillo (2016) Linkages between Dynamic recharge, Serpentinization, and Subsurface Microbial Processes in the Santa Elena Ophiolite, Costa Rica. Goldschmidt Conference, Yokohama, Japan. July 2016 [talk]
- (97) *[Nguyen, P](#), [L Williams*](#), and [M Schrenk](#) (2015) Phylogeography of alkaliphilic heterotrophs from high pH subsurface ecosystems. BEACON Congress 2015. East Lansing, MI. August 2015 [poster]

- (96) Brazelton, WJ, [K Twing*](#), A Longino, C Thornton, and [MO Schrenk](#) (2015) Metagenomic Investigations of Serpentinization-Powered Microbial Ecosystems. Astrobiology Science Conference. Chicago, IL June 16, 2015 [talk]
- (95) [*Twing, KI](#), WJ Brazelton, MD Kubo, TM Hoehler, D Cardace, TM McCollom, and [MO Schrenk](#) (2015) Exploration of mineral-microbe interactions in the serpentinite subsurface environment. Astrobiology Science Conference. Chicago, IL June 18, 2015 [talk]
- (94) [†Morgan Smith, D](#), [MO Schrenk](#), and P Narasingarao (2015) Microbial responses to pressure at the Mid-Cayman Spreading Center: Implications for Extraterrestrial Environments. Astrobiology Science Conference. Chicago, IL June 16, 2015 [talk]
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- (92) [*Hudak, M](#), [M Sabuda*](#), [J Salley*](#), and [M Schrenk](#) (2015) A Subsurface Investigation of Microbial Density and Diversity in Proximity to the Red Cedar River at Michigan State University. UURAF 2015. East Lansing, MI. April 2015 [poster]
- (91) [Schrenk, M](#), S Hamilton, B Esen, T Brisco, G Lacrampe Coloume, B Sherwood Lollar (2014) Microbial Carbon Processing in Gas-Rich Ultrabasic Wells from Groundwaters Hosted in Serpentinizing Diamondiferous Kimberlite Pipes. American Geophysical Union Fall Meeting. San Francisco, CA December, 2014 [invited talk]
- (90) Morrill, PL, WJ Brazelton, L Kohl, SQ Lang, S Miles, KH Neelson, A Rietze, [MO Schrenk](#), B Sherwood Lollar, S Suzuki, and S Ziegler (2014) Microbial Substrate Utilization at Sites of Continental Serpentinization: The Tablelands, NL, CAN and the Cedars, CA, USA. American Geophysical Union Fall Meeting. San Francisco, CA December, 2014
- (89) [Schrenk, M](#) (2014). Springs and Wells and Cores; What do these diverse access points tell us about microbial processes in the serpentinizing subsurface? International Symposium on Subsurface Microbiology. Asilomar, CA. October, 2014 [invited talk]
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- (86) [*Twing, K](#), [W Brazelton†](#), D Cardace, T Hoehler, and [M Schrenk](#) (2013) Rock-hosted serpentinite microbiome. Goldschmidt, Florence, Italy. August 2013 [poster]

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- (82) [Schrenk, MO](#), [C George*](#), KI Twing, and WJ Brazelton (2012) Alkaliphilic Clostridia and the serpentinite-hosted deep biosphere. Abstract B51A-474 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 December 2012 [poster]
- (81) ^{*}[Twing, KI](#), [WJ Brazelton[†]](#), [A Kloysuntia*](#), D Cardace, TM Hoehler, TM McCollom, and [MO Schrenk](#) (2012) Identity and metabolic potential of the serpentinite subsurface microbiome. Abstract B51A-480 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 December 2012 [poster]
- (80) Cardace, D, D Carnevale, [MO Schrenk](#), [KI Twing*](#), TM McCollom, and TM Hoehler (2012) Mineral controls on microbial niche space in subsurface serpentinites of the Coast Range Ophiolite, northern California. 2012. Abstract B43G-0511 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 December 2012 [poster]
- (79) ^{*}[Twing, KI](#), [WJ Brazelton[†]](#), and [MO Schrenk](#) (2012) Biogeography of functional genes in serpentinitization-driven ecosystems [poster]. Gordon Research Conference on Marine Microbial Genomics, Lucca, Italy. June 2012. [poster]
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- (75) ^{*}[Chowdhury, S](#), [W Brazelton[†]](#), [M Schrenk](#) (2012) Metabolic Capabilities of Microbial Communities in the Serpentinite Subsurface Biosphere. Astrobiology Science Conference, Atlanta, Georgia. 16-20 April 2012 [poster]
- (74) Morrill, PL, N Szponar, H Missing, H Kavanagh, A Rietze, [W Brazelton[†]](#), [M Schrenk](#), DM Bower, A Steele, JG Kuenen, S Suzuki-Ishii, and KH Nealson (2012) Sourcing methane at two continental sites of present-day serpentinitization:

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- (72) [Schrenk, MO](#), [WJ Brazelton[†]](#), and SQ Lang (2012) Serpentinization, Carbon, and Deep Life. Astrobiology Science Conference, Atlanta, Georgia. 16-20 April 2012. [poster]
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- (70) Szponar, N, [WJ Brazelton[†]](#), [MO Schrenk](#), A Rietze, DM Bower, A Steele, and PL Morrill (2012) Biogeochemical analysis of ultra-basic reducing springs in the Tablelands Ophiolite, in Gros Morne National Park, Newfoundland. GAC-MAC, St. John's, Newfoundland.
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- (68) Hoehler, TM, T McCollom, [MO Schrenk](#), M Kubo, and D Cardace (2011) One-carbon (bio?)geochemistry in subsurface waters of the serpentinizing Coast Range Ophiolite. Abstract B22A-04 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 December 2011 [invited talk]
- (67) [†][Brazelton, WJ](#), [B Nelson*](#), and [MO Schrenk](#) (2011) Investigating the Potential for Subsurface Primary Production Fueled by Serpentinization. Abstract B44B-02 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 December 2011 [invited talk]
- (66) *[Nelson, B](#), [S Chowdhury*](#), [W Brazelton[†]](#), and [M Schrenk](#) (2011) Metabolic and Physiological Characteristics of Novel Cultivars from Serpentinite Seep Fluids. Abstract B51K-0562 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 December 2011 [poster]
- (65) Amend, J, D Meyer-Dombard, [M Schrenk](#) (2011) Microbial Community Structures in Shallow-sea, Deep-sea, and Terrestrial Hydrothermal Systems. Goldschmidt 2011. Prague, Czech Republic. August 2011 [talk]
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- (63) *[Blumenfeld, HN](#), DS Kelley, PR Girguis, and [MO Schrenk](#) (2010) Abundance and Distribution of Diagnostic Carbon Fixation Genes in a Deep-Sea Hydrothermal Gradient Ecosystem. American Geophysical Union Meeting: San Francisco, CA. 14 December 2010 [poster]

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- (61) [Morrill, PL](#), [N Szponar](#), [WJ Brazelton[†]](#), [Q Woodruff*](#), [MO Schrenk](#), [DM Bower](#), and [A Steele](#) (2010) Life detection at a Mars analogue site of present-day serpentinization in the Tablelands Ophiolite of Newfoundland. American Geophysical Union Meeting: San Francisco, CA. 13 December 2010 [talk]
- (60) [Szponar, N](#), [PL Morrill](#), [WJ Brazelton[†]](#), [MO Schrenk](#), [DM Bower](#), and [A Steele](#). (2010) Present-day serpentinization in the Tablelands, Gros Morne National Park, Newfoundland: a Mars Analogue Site. American Geophysical Union Meeting: San Francisco, CA. 13 December 2010 [poster]
- (59) [Schrenk, MO](#), [WJ Brazelton[†]](#), [Q Woodruff*](#), [N Szponar](#), and [PL Morrill](#) (2010) Mapping Microbial Populations Relative to Sites of Ongoing Serpentinization: Results from the Tablelands Ophiolite Complex, Canada. American Geophysical Union Meeting: San Francisco, CA. 13 December 2010 [poster]
- (58) [Schrenk, MO](#), [QS Woodruff*](#), [LP Polli*](#), [WJ Brazelton](#), and [PL Morrill](#) (2010). Delineating the Serpentinite-Hosted Microbial Biosphere. International Society for Microbial Ecology Meeting: Seattle, WA. August 2010.
- (57) [*Polli, LP](#), [QS Woodruff*](#), [PL Morrill](#), and [MO Schrenk](#) (2010) Geochemical Energy, Microbial Growth, and Decay: Insights from Ultrabasic Springs of the Tablelands Serpentinite, Newfoundland, Canada. Astrobiology Science Conference: Houston, TX. 26 April 2010 [poster]
- (56) [Schrenk, MO](#) (2010) Relating Life to Planetary Scale Processes: A Case Study of Training Undergraduate Biology Majors to Think Astrobiologically. Astrobiology Science Conference: Houston, TX. 26 April 2010 [talk]
- (55) [*Polli, LP](#), [QS Woodruff*](#), [PL Morrill](#), and [MO Schrenk](#) (2010) Comparison of Culture Dependent and Culture Independent Analyses of Microbial Populations at Extremely High pH. ECU Research and Creative Activities Week: Greenville, NC. 6 April 2010. [poster]
- (54) [*Ashley, LB](#), [LP Polli*](#), and [MO Schrenk](#) (2010) How to Grow Extremophiles in an Ordinary Microbiology Lab. ECU Research and Creative Activities Week: Greenville, NC. 6 April 2010. [poster]
- (53) [*Gujral, A](#), [C Goodwillie](#), and [MO Schrenk](#) (2010) Diversity and Morphology of Soil Microorganisms from the West Research Campus Site, Greenville, NC. ECU Research and Creative Activities Week: Greenville, NC. 6 April 2010. [poster]
- (52) [*Woodruff, Q](#), [M Schmidt](#), and [M Schrenk](#) (2010) Microbial Diversity and Biogeography in a Serpentinite Hosted Ecosystem. ECU Research and Creative Activities Week: Greenville, NC. 5 April 2010. [poster]
- (51) [*Thalhamer, SE](#), and [M Schrenk](#) (2010) Optimization of Fluorescent Staining Methods to Quantify Microbial Communities in Black Smoker Hydrothermal

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- (43) [Schrenk, M](#), and D Meyer-Dombard (2008) Structural and compositional elements of biofilms in hot, hydrothermal environments [*Astrobiology*. 8:475 (Suppl. To AbSciCon 2008: Santa Clara, CA. 14-17 April 2008. [invited talk]
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- (41) [Schrenk, M](#) (2007) Peering at the subsurface biosphere through a diamond window: Improving our ability to observe and quantify microbial activities in rock-hosted environments. Goldschmidt 2007, Cologne, Germany
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