

**D’Arcy Renee Meyer-Dombard**  
Department of Earth and Environmental Sciences  
University of Illinois at Chicago  
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**EDUCATION:**

- Ph.D. – Earth and Planetary Sciences, Washington University in St. Louis Oct., 2004  
Advisors: Jan P. Amend  
Thesis: *Geochemical Constraints on Microbial Diversity of Hydrothermal Ecosystems in Yellowstone National Park*
- M.A. - Earth and Planetary Sciences, Washington University in St. Louis May, 2000  
Advisors: Everett L. Shock  
Thesis: *Investigating Thermophilic Habitats in Yellowstone National Park Using Geochemical Growth Media*
- B.S. – Environmental Studies, Washington University in St. Louis May, 1998  
Advisor: Robert E. Criss  
Thesis:  $\delta^{18}\text{O}$  Variations in St. Louis, MO Precipitation with Climatic Variables  
Graduated with Honors, *Cum Laude*

**APPOINTMENTS:**

- Appointed member of the Planetary Advisory Committee, NASA’s Planetary Science Division, Science Mission Directorate Sept 2021 - Sept 2024
- Associate Professor, Dept. of Earth and Environmental Sciences, Univ. of Illinois at Chicago May 2014 - present
- Assistant Professor, Dept. of Earth and Environmental Sciences, Univ. of Illinois at Chicago Aug. 2007 - May 2014
- Affiliate Professor, Dept. of Biological Sciences, Univ. of Illinois at Chicago May 2011 - present
- Postdoctoral Research Associate, Massachusetts Institute of Technology Aug. 2005-2007  
Advisor: Roger E. Summons
- Postdoctoral Research Associate, Washington Univ. in St. Louis Dec. 2004 - Aug. 2005  
Advisor: Jan P. Amend

**RESEARCH INTERESTS:**

- Geomicrobiology/Microbial Ecology
- Nitrogen and Carbon cycling in “extreme environments”, with focus on hydrothermal systems (terrestrial and submarine) and deep subsurface ecosystems
- Astrobiology
- Geochemistry of hydrothermal systems
- Biofilm and microbialite diversity and function
- Ecosystem evolution and colonization strategies of extremophiles

**HONORS AND AWARDS:**

- UIC Women In Science And Engineering System Transformation WISER Fellowship March, 2011
- Recipient of NASA NAI International Collaboration Fund Fellowship May 2010

- UIC Women In Science And Engineering System Transformation  
WISER Fellowship Dec., 2008
- Recipient of MIT School of Sciences Postdoctoral Fellowship Sept., 2005-2007
- NASA Graduate Student Researchers Program Fellow 2001 – 2004
- Zonta International Amelia Earhart Fellowship Award for Women  
in Science and Engineering 2003 – 2004
- Recipient of the Washington University Association of Women  
Faculty Graduate Student Award for leadership and scholarly achievement  
in the Graduate School of Arts and Sciences (one of two awards given) April, 2003
- Recipient of Dean's Award, April, 2001
- Recipient of the Outstanding Achievement in Natural Science and  
Environmental Studies Award, EPSc Dept., Washington Univ. in St. Louis (only recipient) May, 1998

**INVITED LECTURES AND COLLOQUIA:**

- June 2022, Keynote speaker, Chicago Science Fest, Illinois Science Council
- April 2018, University of Rhode Island, Department of Geosciences
- November, 2017, ESCONI public lecture, Naperville, IL
- April 2015, Northern Illinois University, Geology and Environmental Sciences
- September 2013, University of the Philippines, Diliman, National Institute of Geology
- September 2013, University of the Philippines, Diliman, Institute of Biology
- February 2013, Arizona State University, School of Earth and Space Exploration
- April 2012, Western Michigan University, Geosciences Department
- February 2012, McMaster University, Origins Colloquia
- April 2011, University of Illinois at Urbana-Champaign, Department of Geology
- March 2011, Univ. of Illinois at Chicago, Earth and Environmental Sciences
- October 2010, Northern Illinois University, Geology and Environmental Geosciences
- September 2010, University of Illinois at Chicago, Biological Sciences
- May 2010, University of Chicago, Geophysical Sciences
- April 2010, Northwestern University, Earth and Planetary Sciences
- September 2009, Argonne National Laboratory, Biosciences Group
- March 2006, Massachusetts Institute of Technology, Department of Earth, Atmospheric and  
Planetary Sciences
- January 2006, Univ. of Illinois at Chicago, Earth and Environmental Sciences
- February 2005, Dartmouth College, Earth Sciences Department
- May 2004, Massachusetts Institute of Technology, Department of Earth, Atmospheric and  
Planetary Sciences
- Keynote speaker, Amelia Earhart Luncheon for the St. Louis chapter of Zonta International,  
Missouri History Museum, 17 January, 2004

**SPACECRAFT MISSION EXPERIENCE**

- NASA Europa Tunnelbot Concept Study, 2018  
Duties: Study Scientist, Astrobiology

## **PUBLICATIONS**

### **REFEREED JOURNALS [STUDENTS UNDERLINED]:**

- **Meyer-Dombard, D.R.**, and Malas, J. (2022) Advances in defining ecosystem functions of the terrestrial subsurface biosphere. *Frontiers in Extreme Microbiology*, 13:891528. doi: 10.3389/fmicb.2022.891528
- Amend, J.P., **Meyer-Dombard, D.R.** (2021) The shallow-sea hydrothermal system at Vulcano Island (Italy): The 'type locality' for several transformative discoveries in geobiology. *Italian Journal of Geosciences*, 140:7-15.
- **Meyer-Dombard, D.R.**, Bogner, J.E., Malas, J. (2020) A review of landfill microbiology and ecology: A call for modernization with 'next generation' technology. *Frontiers in Terrestrial Microbiology*, 11: Article 1127.
- **Meyer-Dombard, D.R.**, Osburn, M.R., Cardace, D., Arcilla, C.A. (2019) The effect of a tropical climate on available nutrient resources to springs in ophiolite-hosted, deep biosphere ecosystems in the Philippines. *Frontiers in Extreme Microbiology*, <https://doi.org/10.3389/fmicb.2019.00761>
- Vallalar, B., **Meyer-Dombard D.R.**, Cardace, D., Arcilla, C.A. (2019) Multimetal Resistant, Alkalitolerant Bacteria Isolated from Serpentinizing Fluid-Associated Sediments and Acid Mine Drainage in the Zambales Ophiolite, the Philippines. *Geomicrobiology Journal* 36:792-809.
- Boblitt, C.M., Plotnick, R.E., Kenig, F., **Meyer-Dombard, D.** (2018). Determining taphonomic controls and rates of decay in cave environments using microcosms. *Palaios*, 33:141-153.
- **Meyer-Dombard, D.R.**, Casar, C.P., Simon, A., Cardace, D., Schrenk, M.O., Arcilla, C.A., (2018). Biofilm formation and potential for iron cycling in serpentinization-influenced groundwater of the Zambales and Coast Range Ophiolites. *Extremophiles*, 22: 407-431.
- Woycheese, K.M., **Meyer-Dombard, D.R.**, Cardace, D., Argayosa, A., Arcilla, C. (2015). Out of the dark: Transitional subsurface-to-surface microbial diversity in a terrestrial serpentinizing seep (Manleluag, Pangasinan, the Philippines). *Frontiers in Extreme Microbiology*. 6: Article 44. doi: 10.3389/fmicb.2015.00044.
- Schubotz, F., Hays, L.E., **Meyer-Dombard, D.R.**, Gillespie, A., Shock, E.L., Summons, R.E. (2015). Stable isotope labeling confirms heterotrophy is a major metabolic pathway in streamer biofilm communities from alkaline hot springs. *Frontiers in Extreme Microbiology*. 6: Article 42. doi: 10.3389/fmicb.2015.00042.
- Cardace, D., **Meyer-Dombard, D.R.**, Woycheese, K.M., Arcilla, C.A. (2015). Feasible metabolic schema associated with high pH springs in the Philippines. *Frontiers in Extreme Microbiology*. 6: Article 10. doi: 10.3389/fmicb.2015.00010
- **Meyer-Dombard, D.R.**, Woycheese, K.M., Yargıçoğlu, E.N., Cardace, D., Shock, E.L., Güleçal-Pektas, Y., Temel, M. (2015). High pH microbial ecosystems in a newly discovered, ephemeral, serpentinizing fluid seep at Yanartaş (Chimaera), Turkey. *Frontiers in Extreme Microbiology*. 5: Article 723. doi: 10.3389/fmicb.2014.00723.
- **Meyer-Dombard, D.R.**, Amend, J.P. (2014). Geochemistry and Microbial Ecology in Alkaline Hot Springs of Ambitle Island, Papua New Guinea. *Extremophiles*. 18:763-778.
- Schubotz, F., **Meyer-Dombard, D.R.**, Bradley, A.S., Fredricks, H.F., Hinrichs, K.-U., Shock, E.L., Summons, R.E. (2013). Spatial and temporal variability of biomarkers and microbial diversity reveal metabolic and community flexibility in Streamer Biofilm Communities in the Lower Geyser Basin, Yellowstone National Park, *Geobiology*. 11:549-569.
- **Meyer-Dombard, D.R.**, Amend, J.P., Osburn, M.R. (2013). Microbial diversity and potential for arsenic and iron biogeochemical cycling at an arsenic-rich, shallow-sea hydrothermal vent (Tutum Bay, Papua New Guinea). *Chemical Geology*, 348:37-47. doi.org/10.1016/j.chemgeo.2012.02.024.

- Swingley, W.D., **Meyer-Dombard, D.R.**, Shock, E.L., Alsop, E.B., Falenski, H.D., et al. (2012) Coordinating Environmental Genomics and Geochemistry Reveals Metabolic Transitions in a Hot Spring Ecosystem. *PLoS ONE* 7(6): e38108. doi:10.1371/journal.pone.0038108
- Loiacono, S., **Meyer-Dombard, D.R.**, Havig, J.R., Poret-Peterson, A., Hartnett, H., Shock, E.L. (2012). Evidence for high-temperature *in situ nifH* transcription in an alkaline hot spring of Lower Geyser Basin, Yellowstone National Park. *Environmental Microbiology*, **14**:1272-1283, doi:10.1111/j.1462-2920.2012.02710.x, 14:1272-1283.
- **Meyer-Dombard, D.R.**, Shock, E.L., Amend, J.P. (2012) Effects of Trace Element Concentrations on Culturing Thermophiles. *Extremophiles*, 16:317-331.
- **Meyer-Dombard, D.R.**, Price, R., Pichler, T., Amend, J.P. (2012). Prokaryotic populations in heated, arsenic-rich sediments of a shallow-sea hydrothermal system, Ambitle Island, Papua New Guinea. *Geomicrobiology Journal*, 29:1-17.
- **Meyer-Dombard, D.R.**, Swingley, W., Raymond, J., Havig, J., Shock, E.L., Summons, R.E. (2011). Hydrothermal Ecotones and Silica-Rich Biofilm Communities in the Lower Geyser Basin, Yellowstone National Park. *Environmental Microbiology*; 13: 2216-2231.
- Havig, J.R., Raymond, J., **Meyer-Dombard, D.R.**, Zolotova, N., and Shock, E.L. (2011). Merging Isotopes and Community Genomics in a Siliceous Sinter-Depositing Hot Spring. vol. 116, G01005, doi:10.1029/2010JG001415, *JGR Biogeosciences*.
- Shock, E.L., Holland, M., **Meyer-Dombard, D.R.**, Amend, J.P., Osburn, G.R., Fischer, T.P., (2010), Quantifying Inorganic Sources of Geochemical Energy in Hydrothermal Ecosystems, Yellowstone National Park, USA, *Geochimica et Cosmochimica Acta*, **74**: 4005-4043.
- **Meyer-Dombard, D.R.**, Shock, E.L., Amend, J.P. (2005), Archaeal and Bacterial Communities in Geochemically Diverse Hot Springs of Yellowstone National Park, USA. *Geobiology*, **3**, 211-227.
- Amend, J.P., **Meyer-Dombard, D.R.**, Sheth, S.N., Zolotova, N., and Amend, A.C. (2003), *Palaeococcus helgesonii*, sp. nov., a facultatively anaerobic, hyperthermophilic Archaeon from a geothermal well on Vulcano Island, Italy. *Archives of Microbiology*, 179: 394-401.

#### **REFEREED BOOKS AND SERIES**

- Cardace, D., **Meyer-Dombard, D.R.**, Olsen, A.A., Parenteau, M.N. (2014) Bedrock and geochemical controls on extremophile habitats. In: *Plant Ecology and evolution in harsh environments*, Rajakaruna, N., Boyd, R.S., Haris, T.B. eds. Nova Science Publishers, New York.
- Shock, E.L. Holland, M. **Meyer-Dombard, D.R.** and Amend J.P. (2005) Geochemical sources of energy for microbial metabolism in hydrothermal ecosystems: Obsidian Pool, Yellowstone National Park, USA. *Geothermal Biology and Geochemistry in Yellowstone National Park*. (W. Inskeep, T. McDermott, eds.), Thermal Biology Institute, Montana State University (pp. 95-112).
- Amend, J.P., Rogers, K.L., and **Meyer-Dombard, D.R.**, (2004), Microbially mediated sulfur-redox: Energetics in marine hydrothermal vent systems. IN: *Sulfur Biogeochemistry-Past and Present*. GSA Special Paper 379 (Eds., Amend, J.P, Edwards, K.J., and Lyons, T.W.), p.17-34.

#### **TECHNICAL REPORTS/PUBLICATIONS**

- Oleson, S., Newman, J.M., Dombard, A.J., Meyer-Dombard, D., Craft, K., Sterbentz, J., Colozza, A., Faller, B., Fittje, J. and Gyekenyesi, J. Compass Final Report: Europa Tunnelbot, *NASA Technical Publication*, Report Number 2019-220054, Document ID 20190026714, 2019.

**CONFERENCE ABSTRACTS [PRESENTER IN BOLD, MEYER-DOMBARD STUDENTS UNDERLINED]:**

**INVITED ORAL PRESENTATIONS:**

- 7] **Meyer-Dombard, D.R.**, Osburn, M.R., Cardace, D., Arcilla, A., Woycheese, K.M., Shock, E.L. (2018) (*invited*) Potential sources of carbon in terrestrial, energy limited environments. Gordon Research Conference on Geobiology, Galveston, TX.
- 6] **Woycheese, K.M.**, Meyer-Dombard, D.R., Cardace, D., Argayosa, A.M., Arcilla, C.A. (2014) (*invited*) Deep Subsurface Microbes in Terrestrial Serpentinizing Seeps. 3<sup>rd</sup> Annual Midwest Geobiology Symposium, Chicago.
- 5] **Meyer-Dombard, D.R.**, Cardace, D., Swingley, W.D., Woycheese, K., Schubotz, F., Shock, E.L. (2013) (*invited*) Inferring deep biosphere function and diversity through (near) surface biosphere portals. American Geophysical Union, Fall Meeting, 2013.
- 4] **Meyer-Dombard, D.R.**, Swingley, W., Raymond, J., Shock, E.L. (2012) (*invited*) Parallel geochemical and metagenomic datasets reveal biogeochemical cycling in a hot spring ecosystem. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B44B-02, American Geophysical Union, Fall Meeting, 2012.
- 3] **Woycheese, K.M.**, Yargıçoğlu, E.N., Cardace, D., and Meyer-Dombard, D.R. (2012). [*invited*] Biogeochemistry of a newly discovered fluid seep at Chimaera [Yanartaş], Turkey. Midwest Geobiology Symposium, September 22, 2012, Washington University in St. Louis. Oral presentation.
- 2] **Meyer-Dombard, D.R.**, Swingley, W., Raymond, J., Shock, E. (2012). [*invited keynote*]. Coordination of parallel datasets reveals geochemical, energetic, and genomic support for biogeochemical cycling in a hot spring ecosystem. AbSciCon 2012, Atlanta, GA. Abstract # 4051.
- 1] **Meyer-Dombard, D.R.**, Burton, M., Havig, J., Shock, E. (2010). (*invited*). Nitrogen cycling in Hot Spring Sediments and Biofilms. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B23J-06, American Geophysical Union, Fall Meeting, 2010.

**CONTRIBUTED ORAL PRESENTATIONS:**

- 20] **Meyer-Dombard, D.R.**, Kenig, F., Malas, J., Russo, D., Kane, W. (2022). High Pressure Astrobiology Research. NASA HBCU/MSI Spring Technology Infusion Road Tour. May 20<sup>th</sup> 2022.
- 21] **Tanzillo, M.**, Meyer-Dombard, D.R., Bogner, J.E. (2020). Influence of elevated temperature on the microbiome of a municipal solid waste landfill. Geological Society of America annual meeting, 2020. Abstract#356851.
- 20] **Malas, J.**, Khoury, S., Tanzillo, M., Fischer, G.A., Bogner, J., Meyer-Dombard, D.R. (2020). Impact of changing waste streams on microbial ecology and biogeochemical cycling in landfill ecosystems. Geological Society of America annual meeting, 2020. Abstract#358928.
- 19] **Meyer-Dombard, D.R.**, Cardace, D., Woycheese, K., Vallalar, B., Casar, C., Simon, A., Arcilla, C. (2016). Exploring the Deep Biosphere in Ophiolite-hosted Systems: What Can Metabolic Processes in Surface Seeps Tell Us About Subsurface Ecosystems in Serpentinizing Fluids? *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B33I-08, American Geophysical Union, Fall Meeting, 2016.
- 18] **Meyer-Dombard, D.R.**, Loiacono, S.T., Shock, E. (2012). Community Response to a Heavy Precipitation Event in High Temperature, Chemosynthetic Biofilms and Sediments. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B43L-06, American Geophysical Union, Fall Meeting, 2012.

- 17] **Loiacono, S.T.**, Havig, J.R., Shock, E.L., Meyer-Dombard, D.R. (2012). High-temperature nitrogen cycling: merging genomics, transcriptomics, and geochemistry to evaluate nitrogen-cycling in terrestrial hydrothermal systems. AbSciCon 2012, Atlanta, GA. Abstract # 4053.
- 16] **Havig, J.R.**, Hamilton, T.L., Boyd, E., Meyer-Dombard, D.R., Peters, J.W., Shock, E. (2012). Effects of geochemical environmental drivers on microbial community size and structure in a hot spring ecosystem. AbSciCon 2012, Atlanta, GA. Abstract # 2023.
- 15] **Havig, J.R.**, Hamilton, T.L., Boyd, E.S., Meyer-Dombard, D.R., Shock, E. (2011). Effects of geochemical changes on microbial community structure in a hot spring ecosystem. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B31K-01, American Geophysical Union, Fall Meeting, 2011.
- 14] **Hamilton, T.L.**, Havig, J.R., Boyd, E.S., Meyer-Dombard, D.R., Shock, E., Peters, J. (2011) A shift in microbial community composition as a result of a natural temporal change in a hot spring ecosystem. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B31K-02, American Geophysical Union, Fall Meeting, 2011.
- 13] Raymond, J., **Meyer-Dombard, D.R.**, Shock, E.L. (2008). Phototrophs vs. chemotrophs: surprising diversity at the intersection of hot springs communities. *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract B14A-03, American Geophysical Union, Fall Meeting, 2008.
- 12] **Meyer-Dombard, D.R.**, Raymond, J., Shock, E.L. (2008). Insights into Biofilm Function and Variability from Environmental Genomes and Geochemistry. YNP Research Coordination Network Workshop, Yellowstone National Park, MT.
- 11] **Meyer-Dombard, D.R.**, Dibbell, A., Bradley, A.S., Shock, E.L., Summons, R.E. (2007). Microbial Diversity and SIP Investigations of Streamer Biofilm Communities in Yellowstone National Park. Goldschmidt Geochemical Conference. <http://www.goldschmidt2007.org/index.php>.
- 10] **Amend, J.P.**, Meyer-Dombard, D.R., Akerman, N.H., Osburn, M.R., Herndon, E.M., Garey, J.R., Rubelman, H., Wu., T. (2007). Archaea and Bacteria in an arsenic-rich shallow-sea hydrothermal system, Papua New Guinea. <http://www.goldschmidt2007.org/index.php>.
- 9] **Meyer-Dombard, D.R.**, Bradley, A.S., Havig, J.R., Raymond, J., Amend, J.P., Shock, E.L., Summons, R.E. (2006). Biogeochemistry of Siliceous Biofilms in Geothermal Ecosystems. Goldschmidt Geochemical Conference. <http://goldschmidt2006.org>. [http://www.goldschmidt2006.org/cd/goldschmidt/pdf/0608025\\_meyerdombard01485.pdf](http://www.goldschmidt2006.org/cd/goldschmidt/pdf/0608025_meyerdombard01485.pdf)
- 8] **Amend, J.P.**, Akerman, N.H., Meyer-Dombard, D.R., Osburn, M.R., Pichler, T., Price, R.E. (2006). Microbial communities and geochemical energy in an arsenic-rich marine hydrothermal system. Goldschmidt Geochemical Conference. <http://goldschmidt2006.org>
- 7] **Summons, R.E.**, Meyer-Dombard, D.R., Bradley, A.S., Dibbell, A.K., Fredricks, H.F., Hinrichs, K.-U., Jahnke, L.L., Shock, E.L., and Amend, J.P. (2005). Molecular Studies of Filamentous and Biofilm-Forming Hyperthermophilic Communities in Yellowstone National Park. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B14A-01, American Geophysical Union, Fall Meeting, 2005.
- 6] **Amend, J.P.**, Meyer-Dombard, D.R., Rogers, K., Rusch, A. (2004). Thermophiles and vent geochemistry at Vulcano (Italy) and Ambitle (Papua New Guinea). Goldschmidt Geochemical Conference. <http://www.goldschmidt2004.dk/>.
- 5] **Meyer-Dombard, D.R.**, Shock, E.L., Amend, J.P. (2003). Ecosystem Diversity in Yellowstone National Park. NASA Astrobiology Institute General Meeting, February 10-12, 2003. abstract # 12921. [http://nai.arc.nasa.gov/institute/general\\_meeting\\_2003/AbstractBook.pdf](http://nai.arc.nasa.gov/institute/general_meeting_2003/AbstractBook.pdf) (page 342)
- 4] **Shock, E.L.**, Meyer-Dombard, D.R., Amend, J.P., Fisher, T., Reysenbach, A.-L. (2003). Geochemical Habitats of Deeply Branched Lineages. NASA Astrobiology Institute General Meeting, February 10-12, 2003. Abstract # 12922. [http://nai.arc.nasa.gov/institute/general\\_meeting\\_2003/AbstractBook.pdf](http://nai.arc.nasa.gov/institute/general_meeting_2003/AbstractBook.pdf) (page 342)

- 3] Shock, E.L., **Meyer-Dombard, D.R.**, Amend, J.P. (2002). Energetics of Nitrogen Biogeochemistry in Hot Spring Habitats. *Eos Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract F294, American Geophysical Union, Fall Meeting, 2002.
- 2] **Meyer-Dombard, D.R.**, Shock, E.L., Amend, J.P. (2002). Geochemical Culturing Methods Link Hydrothermal Environments with Thermophilic Communities. Second Astrobiology Science Conference. <http://www.astrobiology.com/asc2002/abstract.html?ascid=106>
- 1] **Meyer, D.R.**, Shock, E.L., Amend, J.P. (2000). Geochemical Microenvironments in Hydrothermal Ecosystems. Goldschmidt Geochemical Conference. <http://www.campublic.co.uk/science/publications/JConfAbs/5/705.pdf>

#### **CONTRIBUTED POSTER PRESENTATIONS:**

- 76] Kenig, F., Bollengier, O., Meyer-Dombard, D., Russo, D., Malas, J., Malaska, M., Lopes, R. (2022). High Pressure Culturing Chamber for Experimentation at Pressure and Temperature Relevant to Titan's Ocean and Other Ocean Worlds. AbSciCon, 2022.
- 75] Malas, J., Russo, D., Malaska, M., Kenig, F., Meyer-Dombard, D. (2022). Competition, Recovery, and Habitability under Ocean World Relevant Pressures. AbSciCon, 2022. Abstract # 137-039.
- 74] Russo, D., Malas, J., Meyer-Dombard, D.R., Kenig, F.P.H. (2022). Under Pressure: Impacts of Titan-like Conditions on Lipids of Piezophiles. AbSciCon 2022.
- 73] Russo, D., Malas, J., Kenig, F., Meyer-Dombard, D.R. (2021). Putative Lipidomics of Titan's Subsurface Ocean. American Geophysical Union, Fall Meeting, 2021. Abstract # P45D-2461.
- 72] Malas, J., Russo, D., Kenig, F., Meyer-Dombard, D.R. (2021). Predicting Biomarkers for Astrobiology using Laboratory Adaptation. Midwest Geobiology Symposium, Indianapolis, Indiana.
- 71] Khoury, S., Meyer-Dombard, D.R., Bogner, J., Malas, J., Fischer, G.A. (2021). Microplastics: Abundance and Effect on Microbial Life in Landfills, Wetlands, and Grassland. Midwest Geobiology Symposium, Indianapolis, Indiana.
- 70] Malas, J., Khoury, S., Tanzillo, M., Fischer, G.A., Bogner, J., Meyer-Dombard, D.R. (2020) Impact of changing waste streams on microbial ecology and biogeochemical cycling in deep landfill ecosystems. American Geophysical Union, Fall Meeting, 2020.
- 69] Tanzillo, M., Meyer-Dombard, D.R., Bogner, J.E. (2020) Influence of Elevated Temperatures on the Microbiome of a Municipal Solid Waste Landfill. American Geophysical Union, Fall Meeting, 2020.
- 68] Tanzillo, M., Meyer-Dombard, D.R., Bogner, J. (2020). Influence of elevated temperatures on the microbiome of a municipal solid waste landfill. Geological Society of America annual meeting, 2020. Abstract#358951.
- 67] Khoury, S., Malas, J., Tanzillo, M., Fischer, G.A., Bogner, J., Meyer-Dombard, D.R. (2020). Abundance of microplastics in landfills and their effects on microbial processes. Geological Society of America annual meeting, 2020. Abstract#358929.
- 66] Malas, J., Khoury, S., Tanzillo, M., Fischer, G.A., Bogner, J., Meyer-Dombard, D.R. (2020) Impact of changing waste streams on microbial ecology and biogeochemical cycling in landfill ecosystems. Geological Society of America annual meeting, 2020. Abstract#358928.
- 65] Malaska, M.J., Lopes, R., Melwani-Daswani, M., Vance, S.D., Meyer-Dombard, D.R., Kenig, F., Bollengier, O., Malas, J. (2020). The deep subsurface of Saturn's moon Titan as a habitable abode for life. 43<sup>rd</sup> annual COSPAR meeting, 2020. Abstract#26810.
- 64] Malas, J., Khoury, S., Tanzillo, M., Fischer, G.A., Patete, I.D., Bogner, J.E., Meyer-Dombard, D.R. (2019). Trash or treasure? Biogeochemical cycling in landfill ecosystems. Abstract B76-546328 (poster presentation). American Geophysical Union, Fall Meeting, 2019.

- 63]** Craft, K.L., Meyer-Dombard, D.R., Dombard, A.J., Oleson, S.R., Newman, J.M., and the NASA Glenn Compass Team. (2019) Dive! Dive! Dive! To Europa's ocean a tunnelbot concept study. *Ocean Worlds* 4, Abstract# 6012. Columbia, MD.
- 62]** Malas, J., Khoury, S., Tanzillo, M., Fischer, G.A., Patete, I.D., Bogner, J.E., Meyer-Dombard, D.R. (2019). Trash or treasure? Biogeochemical cycling in landfill ecosystems. 8<sup>th</sup> Annual Midwest Geobiology Symposium, St. Louis, MO.
- 61]** Dombard, A.J., Meyer-Dombard, Craft, K., Oleson, S.R., Newman, J.M., and NASA Glenn Compass Team. (2019) Unlocking Europa's Ocean. *Astrobiology Science Conference 2019*, Abstract #118-015.
- 60]** Kenig, F.P.H., Meyer-Dombard, Vance, S. (2019) What would biosignatures on Titan look like? *Astrobiology Science Conference 2019*, Abstract #129-070.
- 59]** Meyer-Dombard, D.R., Cardace, D., Osburn, M.R. (2019) Following carbon in subsurface, alkaline spring environments: analogs for icy worlds in the Philippines. *Astrobiology Science Conference 2019*, Abstract #129-077.
- 58]** Dombard, A.J., Meyer-Dombard, D.R., Craft, K., Oleson, S.R., Newman, J.M., and NASA Glenn Compass Team. (2018) [P52C-05 Gone Fishing: A Concept Study of a Tunneling Probe Mission to Europa](#) *Eos Trans. AGU*, Fall Meet. Suppl., Abstract P52C-05, American Geophysical Union, Fall Meeting, 2018.
- 57]** Meyer-Dombard, D.R., Cardace, D., Osburn, M.R. (2018). The deep biosphere in the jungle: following carbon in serpentinizing springs in a tropical surface biome. 7<sup>th</sup> Annual Midwest Geobiology Symposium, Chicago, IL.
- 56]** Meyer-Dombard, D.R., Cardace, C., Osburn, M.R., Arcilla, C. (2018) Considering surface influence on nutrient availability when examining deep subsurface ecosystems via terrestrial springs. *Gordon Research Conference on Deep Carbon Science*, Smithfield, RI.
- 55]** Meyer-Dombard, D.R., Cardace, C., Woycheese, K., Vallalar, B., Arcilla, C. (2017) Can surface seeps elucidate carbon cycling in terrestrial subsurface ecosystems in ophiolite-hosted serpentinizing fluids? *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B11G-0243, American Geophysical Union, Fall Meeting, 2017.
- 54]** Woycheese, K., Meyer-Dombard, D., Cardace, D., Arcilla, C., Ono S. (2017) Clumped isotope signatures of serpentinization-associated methane from the Philippines. *Goldschmidt 2017*, Paris.
- 53]** Pellejera-Oruga, N., Arcilla, C., Cardace, D., Woycheese, K., Meyer-Dombard, D., Cordillo, E., Samosa, R., Iringan, T., (2017). Hydrogeology And Geochemistry Of The Hyperalkaline Springs In Palawan, Philippines, Abstract SE25-A041, AOGS 2017, Singapore.
- 52]** Iringan, T., Arcilla, C., Cardace, D., Meyer-Dombard, D., Pellejera-Oruga, N., Woycheese, K. (2017). Trace Element And Microbial Studies In Hydrothermal Spring Fluids And Their Genetic Implications in Manleluag, Pangasinan, Philippines. Abstract SE25-A044, AOGS 2017, Singapore.
- 51]** Meyer-Dombard, D., Cardace, D., Woycheese, K., Cordillo, E., Iringan, T., Pellejera-Oruga, N., Cabria, G.L., Arcilla, C. (2017). Geochemical Settings Of Microbial Biomes In Serpentinizing Springs Of The Philippines. Abstract BG04-A013, AOGS 2017, Singapore.
- 50]** Cardace, D., Meyer-Dombard, D., Arcilla, C., Woycheese, K., Cordillo, E. (2017). Serpentinites And Associated Phases Showcase Water-rock Reactions In The Mount Beaufort Ultramafics, Narra, Palawan. Abstract BG04-A012, AOGS 2017, Singapore.
- 49]** Woycheese, K., Meyer-Dombard, D., Cardace, D., Cordillo, E., Cabria, G.L., Iringan, T., Arcilla, C., Ono, S. (2017). Serpentinizing Springs In The Philippines As Astrobiology Analogs For Mars And Beyond. Abstract BG04-A016, AOGS 2017, Singapore.
- 48]** Woycheese, K.M., Meyer-Dombard, D.R., Cardace, D., Arcilla, C.A., Ono, S. (2016). Metagenomic analysis of carbon cycling and biogenic methane formation in terrestrial serpentinizing fluid springs. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B31A-0458, American Geophysical Union, Fall Meeting, 2016.



- 47] Vallalar, B., Meyer-Dombard, D.R., Cardace, C., Arcilla, C.A. (2016). Heavy Metal Resistant, Alkalitolerant Bacteria Isolated From Serpentinizing Springs in the Zambales Ophiolite, Philippines. *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract B31A-0459, American Geophysical Union, Fall Meeting, 2016.
- 46] Meyer-Dombard, D.R., Cardace, D., Woycheese, K.M., Arcilla, C.A. (2015). Habitats in serpentinizing fluids of the Philippines: complex interactions between the surface and subsurface biospheres. Astrobiology Science Conference 2015, Abstract #7406.
- 44] Cardace, D., Meyer-Dombard, D.R., Arcilla, C. (2015). Mineralogical diversity in ultramafic host rock and travertines associated with high pH, actively serpentinizing springs in the Philippines. Astrobiology Science Conference 2015, Abstract #7514.
- 43] Vallalar, B., Meyer-Dombard, D., (2015). Isolation of Cellulolytic Bacteria from high pH serpentinizing springs in the Philippines. Astrobiology Science Conference 2015, Abstract #7673.
- 42] Casar, C.P., Meyer-Dombard, D.R., Cardace, D., Simon, A. (2015). Characterizing subsurface microbial Fe-reduction in a Martian analog serpentinizing system: Zambales Ophiolite, Philippines. Astrobiology Science Conference 2015, Abstract #7365.
- 41] Woycheese, K.M., Yargicoglu, E.N., Gulecal-Pektas, Y., Cardace, D., Meyer-Dombard, D.R. (2015). Comparative phylogenetic and metagenomic analysis of an ultrabasic continental serpentinizing fluid seep at Yanartas (Turkey). Astrobiology Science Conference 2015, Abstract #7634.
- 40] Casar, C., Meyer-Dombard, D.R., Simon, A., Cardace, C., Arcilla, C. (2014) Microbially-influenced Fe-Cycling within high pH serpentinizing springs of the Zambales Ophiolite, Philippines. American Geophysical Union, Fall Meeting, 2014. Abstract # V53A-4819.
- 39] Woycheese, K.M., Meyer-Dombard, D.R., Cardace, C., Arcilla, C. (2014) Genetic legacy of the deep subsurface recorded in the outflow channel of a terrestrial serpentinizing seep (Luzon, the Philippines). American Geophysical Union, Fall Meeting, 2014. Abstract # B11H-0131.
- 38] Meyer-Dombard, D.R., Woycheese, K.M., Cardace, C., Arcilla, C. (2014) Microbial Ecology of Terrestrial Serpentinizing Springs. 3<sup>rd</sup> Annual Midwest Geobiology Symposium, Chicago.
- 37] Vallalar, B., Meyer-Dombard, D.R. (2014) Culturing Cellulolytic Bacteria from High pH Serpentinizing Springs. 3<sup>rd</sup> Annual Midwest Geobiology Symposium, Chicago.
- 36] Meyer-Dombard, D.R., Cardace, D., Woycheese, K., Vallalar, B., Arcilla, C. (2013) Exploring the deep biosphere through ophiolite-associated surface springs. American Geophysical Union, Fall Meeting, 2013.
- 35] Woycheese, K., Meyer-Dombard, D.R., Cardace, D., Gulecal, Y., Arcilla, C. (2013) Ecology of two terrestrial serpentinizing fluid seeps: a glimpse of the deep biosphere. American Geophysical Union, Fall Meeting, 2013.
- 34] Cardace, D., Meyer-Dombard, D.R., Arcilla, C. (2013) Microbial metabolic landscape derived from complementary mineralogical, aqueous geochemical, and gas data associated with high pH, actively serpentinizing springs in the Philippines. American Geophysical Union, Fall Meeting, 2013.
- 33] Meyer-Dombard, D.R., Cardace, D., Woycheese, K., Casar, C., Vallalar, B., Arcilla, C., (2013) Geochemistry of microbial environments in serpentinizing springs of the Philippines. 2<sup>nd</sup> Annual Midwest Geobiology Symposium, Indianapolis.
- 32] Woycheese, K., Meyer-Dombard, D.R., Cardace, D., Arcilla, C. (2013) Phylogeny and niche partitioning in two serpentinizing fluid seeps. 2<sup>nd</sup> Annual Midwest Geobiology Symposium, Indianapolis.
- 31] Vallalar, B., Meyer-Dombard, D.R., Woycheese, K., Casar, C., Cardace, D., Argayosa, L., Argayosa, V., Arcilla, C. (2013) Microorganisms cultured from highly alkaline serpentinizing springs in the Philippines. 2<sup>nd</sup> Annual Midwest Geobiology Symposium, Indianapolis.

- 30] Meyer-Dombard, D.R., Woycheese, K.M., Cardace, D., Arcilla, C. (2013). Geochemistry of Microbial Environments in Serpentinizing Springs of the Philippines. AOGS 2013, Brisbane. Abstract # IG19-D2-PM2-P-007.
- 29] Meyer-Dombard, D.R., Vallalar, B., Cardace, D., Argayosa, A., Argayosa, V., Arcilla, C. (2013). Microorganisms cultured from serpentinizing and hydrothermal fluids in Philippines springs. AOGS 2013, Brisbane. Abstract # IG19-D2-PM2-P-008.
- 28] Cardace, D., Meyer-Dombard, D.R., Arcilla, C. (2013). Mineralogical diversity in ultramafic host rock and travertines associated with high pH, actively serpentinizing springs in the Philippines. AOGS 2013, Brisbane. Abstract # IG19-D2-PM2-P-011.
- 27] Walther, K.M., Oiler, J., Meyer-Dombard, D.R. (2012). Small Scale Biodiversity of an Alkaline Hot Spring in Yellowstone National Park. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51D-0597, American Geophysical Union, Fall Meeting, 2012.
- 26] Woycheese, K.M., Yargicoglu, E.N., Cardace, D., Meyer-Dombard, D.R. (2012). From the Belly of the Beast: Biogeochemistry and geomicrobiology of a fluid seep at Chimaera [Yanartas], Turkey. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B43G-0510, American Geophysical Union, Fall Meeting, 2012.
- 25] Havig, J.R., Hamilton, T.L, Boyd, E.S., Meyer-Dombard, D.R., Shock, E. (2012). Geochemical and physical drivers of microbial community structure in hot spring ecosystems. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51D-0590, American Geophysical Union, Fall Meeting, 2012.
- 24] Meyer-Dombard, D.R., Loiacono, D.R., Vassiliev, V., Shock, E.L., (2012). Parallel Datasets Reveal Carbon and Nitrogen Cycling in an Alkaline Hot Spring Ecosystem. Midwest Geobiology Symposium, September 22, 2012, Washington University in St. Louis.
- 23] Meyer-Dombard, D.R., Yargicoglu, E.N., Cardace, D., Gulecal, Y., Temel, M. (2012). Biogeochemical Cycling in Fault-Associated and Ophiolite-Hosted Springs. AbSciCon 2012, Atlanta, GA. Abstract # 4494.
- 22] Woycheese, K.M., Meyer-Dombard, D.R. (2012) Integrated analyses of microbialites from Laguna Bacalar, Mexico and Salda Golu, Turkey: insights into astrobiological and paleoecological applications. AbSciCon 2012, Atlanta, GA. Abstract # 2227.
- 21] Meyer-Dombard, D.R., Gulecal, Y., Loiacono, S.T., Cardace, D., Uzunlar, N., Temel, M. (2011). Nitrogen cycling in ophiolite-hosted and fault-associated hydrothermal systems; spatial and temporal variations. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract 51B-0399, American Geophysical Union, Fall Meeting, 2011.
- 20] Cardace, D., Meyer-Dombard, D.R. (2011). Bioenergetics of continental serpentinites. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51B-0400, American Geophysical Union, Fall Meeting, 2011.
- 19] Loiacono, S.T., Meyer-Dombard, D.R. (2011). In situ expression of functional genes reveals nitrogen cycling at high temperatures in terrestrial hydrothermal systems. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51G-0492, American Geophysical Union, Fall Meeting, 2011.
- 18] Meyer-Dombard, D.R., Cardace, D., Loiacono, S., Güleçal, Y., Woycheese, K., Amend, J.P. (2011). Biogeochemical Cycling in Shallow-Sea and Terrestrial Hydrothermal Systems Goldschmidt Geochemical Conference, Prague. <http://goldschmidt2011.org/program/programIndex?letter=M>
- 17] Meyer-Dombard, D.R., Cardace, D., Uzunlar, N., Güleçal, Y., Yargıçoğlu, E.N., Carbone, J.N. (2010). Microbial Community Diversity in Fault-Associated and Ophiolite-Hosted Springs. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51A-0334, American Geophysical Union, Fall Meeting, 2010.
- 16] Cardace, D., Meyer-Dombard, D.R., Hoehler, T., Uzunlar, N. (2010). Complex serpentinizing systems and the deep biosphere: metabolic opportunities depend on the

- geochemistry of mixing waters. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51A-0333, American Geophysical Union, Fall Meeting, 2010.
- 15] LaFree, S., Burton, M., **Meyer-Dombard, D.R.** (2010). Nitrogen cycling in Yellowstone National Park thermal features: using gene expression to reveal ecological function. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B21B-0324, American Geophysical Union, Fall Meeting, 2010.
  - 14] **Meyer-Dombard, D.R.**, Burton, M., Vennelakanti, S., Havig, J., Shock, E.L. (2009). Carbon and nitrogen cycling in thermally heated sediments. *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract B23C-0390, American Geophysical Union, Fall Meeting, 2009.
  - 13] Kepp, J., **Meyer-Dombard, D.R.**, Cardace, D. (2009). Microbial Communities in Serpentinizing and Ultramafic Environments. Dark Energy Biosphere Institute [DEBI] RCN meeting, Mauna Lani, HI.
  - 12] **Meyer-Dombard, D.R.**, Raymond, J., Shock, E.L. (2007). Biofilm function and variability in a hydrothermal ecosystem: insights from environmental genomes. *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract B11C-0626, American Geophysical Union, Fall Meeting, 2007.
  - 11] **Meyer-Dombard, D.R.**, Summons, R.E., Shock, E.L., Raymond, J., Amend, J.P., Havig, J.R., Bradley, A.S. (2006). Silicious Biofilms in Alkaline Geyser Basins of Yellowstone National Park. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B14-9826, American Geophysical Union, Fall Meeting, 2006.
  - 10] Akerman, N.H., Amend, J.P., **Meyer-Dombard, D.R.**, Osburn, M.R. (2006). Archaeal Communities in an Arsenic-Rich Shallow-Sea Hydrothermal System. *AGU*, 87(52), Fall Meet. Suppl., Abstract B32-12727, American Geophysical Union, Fall Meeting, 2006.
  - 9] **Meyer-Dombard, D.R.**, Bradley, A.S., Havig, J.R., Amend, J.P., Shock, E.L., Summons, R.E. (2006). Physiochemical parameters of streamer-forming biofilms communities (SBCs) in terrestrial hydrothermal environments. Fourth Astrobiology Science Conference. March 26-30, 2006. Abstract #422.
  - 8] **Meyer-Dombard, D.R.**, Osburn, M.R., Amend, J.P. (2005). Archaeal and Bacterial Variation Across Geochemical Gradients in an Arsenic-Rich, Shallow Submarine Vent, Papua New Guinea. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B21A-1015, American Geophysical Union, Fall Meeting, 2005.
  - 7] Amend, J.P., **Meyer-Dombard, D.R.**, Pichler, T., Price, R., Herndon, E., Hsia, N. (2005) Microbial Arsenic Oxidation in a Shallow Marine Hydrothermal Vent System. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B31A-0955, American Geophysical Union, Fall Meeting, 2005.
  - 6] **Meyer-Dombard, D.R.**, Price, R., Pichler, T., Amend, J.P. (2004). Geochemical-microbial Processes in Hydrothermal Sediments, Ambitle Island, Papua New Guinea. Goldschmidt Geochemical Conference. <http://www.goldschmidt2004.dk/>.
  - 5] Holland, M.E, Shock, E.L., **Meyer-Dombard, D.R.**, Amend, J.P. (2004). Ranking geochemical energy availability in hydrothermal ecosystems, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract B53C-1009.
  - 4] Shock, E.L., Holland, M.E., **Meyer-Dombard, D.R.**, Amend, J.P. (2004). Predictive microbiology in hydrothermal ecosystems, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract B21B-0891.
  - 3] **Meyer, D.R.**, Shock, E.L., Amend, J.P. (2001). Hydrothermal Habitats in Astrobiology. NASA Astrobiology Institute General Meeting. <http://nai.arc.nasa.gov>
  - 2] **Meyer, D.R.**, Shock, E.L., Amend, J.P. and Reysenbach, A.-L., (2000). Hydrothermal Ecosystems as Models for Astrobiological Habitats. First Astrobiology Science Conference (AbSciCon). <http://www.astrobiology.com/asc2000/abstract.html?ascid=357>
  - 1] **Meyer, D.R.**, Shock, E.L., Amend, J.P. and Reysenbach, A.-L. (2000). Using Geochemistry to Isolate Thermophiles. RIDGE Theoretical Institute. [http://ridge.oce.orst.edu/meetings/biosphereRTI/RTIabs/#\\_Toc486243195](http://ridge.oce.orst.edu/meetings/biosphereRTI/RTIabs/#_Toc486243195)

**FUNDING:**

**Current Support**

Title: **Titan and Beyond**

Principal Investigator: Rosaly Lopes (JPL)  
Sponsoring Agency: NASA Astrobiology Institute, CAN 8  
Performance Period: Aug. 2018- Aug. 2023  
Total Budget: \$8,265,278.00 (\$1,142,450 to UIC)  
Commitment Level: Year 1-5: 0.5 months, salaried

**Past Support**

Title: **Comparative Microbiology of Typical and Elevated Temperature Landfills**

Principal Investigator: D'Arcy R Meyer-Dombard (UIC)  
Sponsoring Agency: EREF  
Performance Period: Jan. 2017- Jan. 2019  
Total Budget: \$150,000  
Commitment Level: Year 1-2: 0 months, salaried

Title: **Geobiology of high pH springs in the Philippines – probing the deep biosphere (EAR1147334)**

Principal Investigator: Meyer-Dombard (UIC); Co-PI Dawn Cardace (URI)  
Sponsoring Agency: NSF: EAR Low Temperature Geochemistry and Geobiology  
Performance Period: March 2012 to March 2014  
Total Budget: \$142,878 (\$76,471 to UIC)  
Commitment Level: Year 1-2: 0.5 summer months [PI]

Title: **Follow the elements**

Principal Investigator: Ariel Anbar, ASU  
Sponsoring Agency: NASA Astrobiology Institute (NAI)  
Performance Period: January, 2009 to December, 2011  
Total Budget: \$126,212 total to Meyer-Dombard  
Commitment Level: Year 1-5: Collaborator

Title: **Comparative analysis of serpentinizing fluids in Turkey and the Philippines: Insights and the “genetic legacy” of deep subsurface microbes**

Principal Investigator: D'Arcy R Meyer-Dombard (UIC); grad. fellowship to KM Woycheese  
Sponsoring Agency: C-DEBI: graduate research fellowship  
Performance Period: May 2013- May 2014  
Total Budget: \$32,000  
Commitment Level: Year 1: 0 [Meyer-Dombard Co-I]; 12 months KM Woycheese

Title: **Uncovering seasonal and climatic controls on nitrogen cycle processes in chemosynthetic zones of hydrothermal systems**

Principal Investigator: D'Arcy R Meyer-Dombard (UIC)  
Sponsoring Agency: NASA Illinois Space Grant Consortium  
Performance Period: Feb. 2013-Feb. 2014  
Total Budget: \$6,000

**Title: Development of a stable isotope probing-metagenomic approach to elucidate physiological traits associated with thermophilic chemolithoautotrophy**

Principal Investigator: Matt Schrenk (East Carolina Univ.)  
Sponsoring Agency: C-DEBI  
Performance Period: July 2011- June 2012  
Total Budget: \$49,883  
Commitment Level: Year 1: 0 [Meyer-Dombard Co-I]

**Title: Astrobiological interpretations of Martian surface seep features and mineralogy**

Principal Investigator: D'Arcy R Meyer-Dombard (UIC)  
Sponsoring Agency: NASA Illinois Space Grant Consortium  
Performance Period: Feb. 2012-Feb. 2013  
Total Budget: \$10,000

**Title: Deeply sourced springs of the Northern Anatolian Fault Zone: An opportunity to constrain astrobiological interpretations of Martian surface seep features and mineralogy**

Principal Investigator: D'Arcy R Meyer-Dombard (UIC)  
Sponsoring Agency: NASA Illinois Space Grant Consortium  
Performance Period: Feb. 2010-Feb. 2012  
Total Budget: \$20,000

**Title: Carbon and nitrogen cycling in a hydrothermal System**

Principal Investigator: D'Arcy R Meyer-Dombard (UIC)  
Sponsoring Agency: NASA Illinois Space Grant Consortium  
Performance Period: Feb. 2009-Feb. 2010  
Total Budget: \$10,000

**TEACHNG AND MENTORING EXPERIENCE**

**TEACHING EXPERIENCE**

- EaES 518: Geobiology (graduate course)
- EaES 494: Special Topics in EaES (graduate/undergraduate topic for course)
- EaES 473: Soils and the Environment (graduate/undergraduate course)
- EaES 418: Introduction to Biogeochemistry (graduate/undergraduate course)
- EaES 290: Current Topics (undergraduate course - communication in the sciences)
- EaES 101: Global Environmental Change (undergraduate)

**STUDENTS (CURRENT)**

- **Judy Malas, Ph.D., expected defense fall 2023**
- **Michael Tanzillo, M.S., expected defense spring 2021**
- **Sarah Khoury, M.S., expected defense fall 2022**

**STUDENTS (PAST)**

- **Udayabharathi Vallalar, Ph.D., defended July 2017**  
"Geomicrobiology of terrestrial subsurface fluids and potential applications in biotechnology"  
Awards: Bodmer International Travel Award, 2013 (\$750)
- **Caitlin Casar, M.S., defended October 2015**  
Tentative Thesis title: "Enrichment of Iron and Sulfur Reducers Relevant to the Deep Biosphere in Actively Serpentinizing Springs and Seeps"  
Awards: Knourek Environmental Field Scholarship, 2013 (\$2,000)

- **Kristin M. Woycheese, Ph.D., defended November 2015**  
Thesis title: "Genomic and Functional Diversity of Biofilms and Microbialites in High pH Fluids Associated with Deep-Biosphere Habitats"  
Awards:  
NASA NAI Postdoctoral Fellowship  
C-DEBI Graduate Fellowship, 2012 (Full Stipend)  
NASA Illinois Space Grant Consortium Graduate Fellowship, both 2011&2012 (\$10,000)  
UIC Institute for Environmental Science and Policy Fellowship, 2012 (\$10,000)  
American Philosophical Society Lewis and Clark fellowship for Field Research in Astrobiology, 2013 (\$2,850)
- **Katherine M. Walther, M.S. defended August 2013**  
Thesis title: "Ecology of Alkaline Hot Springs; Measuring Diversity and Structure of Chemosynthetic Communities over Time and on Multiple Spatial Scales"  
Awards: NASA Illinois Space Grant Consortium Graduate Fellowship, 2012 (\$10,000)
- **Erin N. Yargıçoğlu, M.S. defended October 2012**  
Thesis title: "Experimental Verifications of Metabolic Potential in Deeply-sourced Springs of Western Turkey"  
Awards:  
NASA Illinois Space Grant Consortium Graduate Fellowship, 2011 (\$10,000)  
NASA Astrobiology Program Travel Award, 2010 (\$3,735)
- **Sara T. Loiacono, M.S. defended October 2012**  
Thesis title: "Merging Genomics, Transcriptomics, and Geochemistry to Assess Nitrogen Cycling in Terrestrial Hot Springs"  
Awards: NASA Illinois Space Grant Consortium Graduate Fellowship, 2010 (\$10,000)
- **Yasemin Güleçal, Ph.D. [Istanbul University] defended Feb 2012**  
Thesis title: "Jeotermal Sulardaki Mikroorganizmaların Azot Döngüsündeki Rollerinin Genetik Olarak Araştırılması" (Genetic Investigations Into the Roles of Microorganisms in Nitrogen Cycling in Hot Springs)

**MENTORING EXPERIENCE (UIC DEPT OF EAES STUDENTS UNLESS OTHERWISE NOTED):**

- **UIC Honors College Faculty Advisor** (2010-present); 20+ Undergraduates
  - Mentor for Honors Capstone Project (Varvara Vassiliev, 2014; Sasha Simon, 2017)
  - Honors Fellowship student recipients (Varvara Vassiliev, 2013; Sasha Simon, 2015, 2016, 2017)
- **Faculty Advisor** (2009-present); 35 Undergraduates in Independent Study and Lab Work
  - Laboratory experience in Meyer-Dombard lab (35 students)
  - Enrolled independent studies (48 total, 5BIOS, 43EAES - 26 individual students)
  - LASURI granted students (Jennifer Kepp, 2009; Sarah Khoury 2019; Gracie Fischer 2021; Mariah Morales 2022)
  - CURA granted student (Gracie Fischer, 2021)
  - UIC Goldwater Award nominee (Varvara Vassiliev, 2012)
- **Faculty Advisory Ph.D. Committee Member** [16 students]  
Francesco Belluci (2008-2011), JiaJia Lin (2010-2015), Yasemin Güleçal (Istanbul University, Faculty Advisor and Committee Member, 2010-2012), Saman Karimi (2014-2016), Erika Callagon (2015-2016), Michael Ricketts (UIC Biology, 2012-present), Jon Kay (2014-2016), Sean O'Hara (2015-2019), Luoth Chou (2015-2019), Francois Ritter (2017-2019), Joey Pasterski (2018- present), Cynthia Garcia (2020-present), Martina Caussi (2020-present), Jamal Sheriff (UIC Biology, 2021-present), Frances Crable (UIC Biology, 2021-present), Jillian Cillini (2016-present), Francis Crable (UIC Biology, 2021-present), Jamal Sheriff (UIC Biology, 2021-present), Samira Umar (UIC Biology, 2022 – present),

- **Faculty Advisory M.S. Committee Member** [16 students]  
Amy Singer (2008), Alex Haldeman (2008-2010), Genevieve Nano (2011-2012), Ken Kearney (2011-2012), Kim Stallings (2011-2012), Ellen Maley (2013-2014), Amanda Dampitz (2013), Caitlin Boblitt (2013-2015), Qianyi Wu (2014-2015), Yingpeng Wang (2014-2017), Jackie Kowalik (2015-2021), Benjamin Alsip (2016-2017), Trudy Bolin (2016-2017), Muna Zabarmawi (2016-2017), Victor Schultz (2020-2021), Kevin Yu (UIC Biology, 2018-present), Dan Russo (2020-present), Otto Briner (2022-present), Junior Francois (2022-present), Charissa Landquist (2022-present)
- **International Student Interns/Visiting Scholars** [2 students]  
Gamaliel Lysander Cabria (summer 2013), University of the Philippines at Diliman, NASA Planetary Biology Internship  
Yasemin Güleçal (2010-2011), Istanbul University, J-1 Exchange Visitor

## **PROFESSIONAL ACTIVITIES AND SERVICE**

### **ADVISORY BOARDS**

- Appointed as a member of the Planetary Advisory Committee, reporting directly to the Director of NASA's Planetary Science Division, Science Mission Directorate (2021-2024)

### **CONFERENCE AND WORKSHOP ORGANIZATION**

- Member of the Science Organizing Committee of the Modern Brines Conference; October 25-28, 2021 (virtual)
- Member of the Organizing Committee for the Astrobiology Science Conference June 15-19, Chicago IL, 2015 (800 attendees)
- Co-organized the 3<sup>rd</sup> Midwest Geobiology Symposium, Chicago IL, 2014

### **CONFERENCE SESSION ORGANIZATION**

- Co-organized "Life at High Pressure: The Astrobiology of Deep Subsurface Environments" Session 137, 2022 Astrobiology Science Conference (AbSciCon)
- Co-organized two sessions in honor of the recipient of the 2019 ACS Geochemistry Division Medal, Everett L. Shock, March 2019.
- Co-organized "Fighting for Science: Methods to Engage the Public in Productive Discussion about Science" Session ED033B, Fall 2017 meeting of the American Geophysical Union (AGU)
- Co-organized "Evidence of metabolic potential in the terrestrial deep subsurface biosphere" (merged with section B11G/B14D, "Unearthing the Functional Roles of Microorganisms in Deep Biosphere Environments"), Fall 2017 meeting of the American Geophysical Union (AGU)
- Co-organized "Earth's Deep Biosphere and the Astrobiosphere: New Connections Made Through Advanced Instrumentation and Field Approaches" 2017 Astrobiology Science Conference (AbSciCon)
- Co-organized "Plenary Session: The Origin and Subsequent Evolution of Life" 2015 Astrobiology Science Conference (AbSciCon)
- Co-organized "Metabolic Engines in Ecosystems Influenced by Serpentinization", section B43 (merged with section B66, "The Deep Biosphere - Recent progress in life in the deep subsurface"), Fall 2012 meeting of the American Geophysical Union (AGU)
- Co-organized "Serpentinization in Astrobiology: from Molecular to Cosmic Scales" 2012 Astrobiology Science Conference (AbSciCon)
- Co-organized and Chaired "Biogeochemical Cycling in Deep Subsurface Ecosystems" Fall 2011 meeting of the American Geophysical Union

- Co-organized and Chaired “Biofilms in the Environment” Fall 2006 meeting of the American Geophysical Union (partial funding by the NASA Astrobiology Institute? (NAI)

#### **EDITING [UPDATED 220611]**

- Associate Editor for Frontiers in Extreme Microbiology (March 2019-present)
- Invited Associate Guest Editor for a special edition “Space Microbiology,” part of a high-profile series of Research Topics “Rising Stars in ...” Frontiers Journals (2021 collection).
- Associate Guest Editor for a special issue in Frontiers in Extreme Microbiology, titled “Evidence of metabolism and metabolic potential in the terrestrial deep subsurface biosphere” containing 15 publications. 2017.
- Associate guest editor for a special issue in Frontiers in Extreme Microbiology, titled “Terrestrial Portals into the Deep Biosphere” containing 17 publications. 2013.

#### **DEPARTMENTAL SERVICE ACTIVITIES [UPDATED 211125]**

- EaES Faculty Search Committee, Committee Member (fall 2021-Feb 2022)
- EaES Advancing Racial Equity action plan Committee, Chair (Nov-Dec 2021)
- EaES Bridge to the Faculty Postdoctoral Search Committee, Committee Chair (Oct 2020)
- EaES Quorum Committee Member (Aug 2020 – present)
- “Pod” Leader for the EaES participation in the NSF funded “Unlearning Racism in the Geosciences” (URGE) initiative (spring 2020, 16 week workshop)
- EaES Faculty Search Committee, Committee Member (2017- 2018)
- EaES Interim Director of Undergraduate Studies (spring 2017)
- EaES Laboratory Facilitator Search Committee, Committee Chair (Feb 2017)
- EaES Clinical Faculty Search Committee, Committee Member (Aug 2012- Feb 2013)
- Biology (Ecol. & Evol.) Faculty Search, Committee Member (Sept 2011- May 2012)
- EaES EcoRep (Office of Sustainability), Task Force Member (2010- present)
- EaES Undergraduate Curriculum Revision Committee, Committee Member (2007)

#### **COLLEGE SERVICE ACTIVITIES [UPDATED 220801]**

- UIC, LAS Quorum Committee member (Sept 2020 – present)
- UIC, LAS Executive Committee member (Aug 2019 – present)
  - Participation on committee for review of Chem Dept. Head (2021-2022)
- UIC, LAS Diversity/DEI Committee member (Aug 2020 - present)
- UIC, LAS Diversity Council member (Aug 2018 – Aug 2020)

#### **UNIVERSITY SERVICE ACTIVITIES [UPDATED 201125]**

- UIC Honors College Fellow, Faculty Mentor (2010-present)
  - UIC Honors College Riddle Prize Committee, Member (April 2017)
  - UIC Honors College Tuition Waiver Review Committee, Member (July 2017)
  - UIC Honors College Transfer Merit Review Committee, Member (July 2017)
  - UIC Honors College Riddle Prize Committee, Member (April 2016)
  - UIC Honors College Summer Tuition Waiver Committee, Member (June 2013)
  - UIC Honors College Scholarship Committee, Member (Nov 2011)
  - UIC Honors College Tuition Waiver Committee, Member (Jan 2011)
- UIC Provost’s Graduate Research Award Reviewer (Nov 2019)
- UIC Researcher of the Year Award Review Committee, Member (Dec 2017-Jan 2020)
- UIC WISEST Facilitator (Aug 2015 - 2017)
  - Chair of the WISEST SUCCEED subcommittee (Aug 2016- 2017)



- Chair of the WISEST Climate Change Analysis Team (Aug 2015 - 2016)
- UIC Chancellor's Graduate Res. Fellowship Reviewer (Nov 2017)
- UIC Chancellor's Graduate Res. Fellowship Reviewer (Oct 2015)
- UIC Chancellor's Graduate Res. Fellowship Reviewer (Nov 2012)
- UIC Child Care R&R Pilot Subcommittee, Committee Member (July 2009)

#### **PROFESSIONAL SOCIETY MEMBERSHIP**

- Geochemical Society (2000-present)
- American Geophysical Union (2002-present)
- American Society of Microbiology (2006-2007)

#### **DIVERSITY, EQUITY, JUSTICE, AND INCLUSION (DEJI) ACTIVITIES**

- EaES Advancing Racial Equity action plan Committee, Chair (Nov-Dec 2021)
- "Pod" Leader for the EaES participation in the NSF funded "Unlearning Racism in the Geosciences" (URGE) initiative (spring 2020, 16 week workshop)
- UIC, LAS Diversity/DEI Committee member (Aug 2020 - present)
- UIC, LAS Diversity Council member (Aug 2018 – Aug 2020)
- Participation in workshops for inclusivity in the classroom and equity in admissions policies
  - Course: Creating an Inclusive Syllabus. Center for the Advancement of Teaching Excellence at UIC. Jan 6<sup>th</sup>, 2022
  - Course: Equitable Discussions in the classroom. Center for the Advancement of Teaching Excellence at UIC. Dec 3<sup>rd</sup>, 2021
  - Course: Equitable Review of Graduate Applications. Inclusive Graduate Education Network. Nov 17<sup>th</sup>, 2021
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#### **EDUCATION AND PUBLIC OUTREACH ACTIVITIES**

- Keynote speaker at the Chicago Science Fest (Illinois Science Council) (June, 2022)
- Science Content Consultant, Incredible Nature Textbook, Red Line Editorial Pubs. (2017)
- Outreach lecture for the Chicago chapter of ESCONI (Nov., 2017)
- Lecturer with Project Exploration, a non-profit science education program that serves underrepresented youth and girls in the Chicago area (2010-2014).
- Outreach lecture for "Science Pub" (April, 2014)
- Designed and implemented with Co-PI Dawn Cardace (Univ. of RI) "deep biosphere" teaching activities for Rhode Island high school science teachers as part of NSF award EAR1147334. Activities to be posed on project website; <http://serpentinization.weebly.com>.
- Designed a workshop on "Serpentinization and Life in the Deep Biosphere", aimed at undergraduate Earth Science students to be implemented at the University of the Philippines, Diliman in Sept. 2013. Module can be revised and implemented in a variety of future higher education outreach venues and will be made public on the project website associated with NSF award EAR1147334; <http://serpentinization.weebly.com>.
- Public outreach in rural areas of the Philippines, specifically to the members of the Council for Protected Area Management for the Manleluag Park Preserve (Philippines Dept. of Environment and Natural Resources). Associated with NSF award EAR1147334.
- Preschool/PreK/K outreach includes teaching at "Science Week" at a Chicago area Preschool-K school, and designing publicly available Preschool-K teaching materials being posted on the Meyer-Dombard lab webpage; <http://meyerdombardgeobiology.weebly.com>.

D'Arcy R. Meyer-Dombard

- Lecturer to the St. Louis Chapter of Zonta International, a non-for-profit organization dedicated to advancing the status of women worldwide, which focused on the roles of women in science and the practical application of Earth Science in today's society (2003).