

## BRANDI KIEL REESE

(<https://orcid.org/0000-0001-9949-9013>)

**ASSOCIATE PROFESSOR**  
University of South Alabama  
Department of Marine Sciences  
Mobile, AL 36688  
Office: 251.460.7699

**SENIOR MARINE SCIENTIST**  
Dauphin Island Sea Lab  
102 Bienville Blvd  
Dauphin Island, AL 36528  
Email: [bkielreese@disl.org](mailto:bkielreese@disl.org)

---

### EDUCATION

- 2011 Ph.D. Oceanography** Texas A&M University College Station, TX  
Dissertation: "Linking Geochemistry to Molecular Microbial Ecology in a Coastal Hypoxic Zone"
- 2007 M.S. Soil & Water Sciences** University of California Riverside, CA  
Thesis: "Sulfur Biogeochemistry of the Salton Sea, California"
- 2001 B.S. Geology** Southern Methodist University Dallas, TX  
Concentration: Biogeochemistry
- 

### RESEARCH FOCUS

Microbial ecology, Geomicrobiology, Microbe-microbe interactions, Genetics/Transcriptomics, Molecular biogeochemistry, Nutrient cycling, Exobiology

---

### PROFESSIONAL APPOINTMENTS

- Associate Professor** 2020 - Present  
School of Marine and Environmental Sciences  
University of South Alabama
- Senior Marine Scientist I** 2020 - Present  
Dauphin Island Sea Lab
- Research Associate** 2020 - Present  
Texas A&M University-Corpus Christi
- Assistant Professor (Received Tenure 5/2020)** 2015 - 2020  
Texas A&M University-Corpus Christi
- Hanse-Wissenschaftskolleg Fellow and Visiting Scholar** 2015 - 2018  
University of Bremen
- Post-Doctoral Fellow**  
NASA Astrobiology Institute, Univ. of Southern California 2013 - 2015  
Center for Dark Energy Biosphere Investigations, Univ. of Southern California 2011 - 2013
- Graduate Assistant Researcher** 2007 - 2011  
Texas A&M University, College Station, TX

**Graduate Student Researcher**  
University of California, Riverside, CA

2005 - 2007

**Project Manager / Project Geologist**  
All Environmental Inc. (AEI) Consultants

2001 - 2007

---

**PUBLICATIONS** (\*Kiel Reese Lab member; H-index: 21; i10-index: 25; citations: 1265)

38. Cunningham, C.G. \* and **B. Kiel Reese**. Genomic Diversity of Methylophilic Bacteria Isolated Using Fluorescent-Activated Cell Sorting. *Genome Research*. Submitted and In Review
37. Sobol, M.S. \*, and **B. Kiel Reese**. Genome characterization of two novel deep-sea sediment fungi, *Penicillium pacificagyrum* sp. nov. and *Penicillium pacificasedimenti* sp. nov., from South Pacific Gyre seafloor sediments, highlights survivability. *BMC Genomics*. Accepted.
36. Strickland, B.A., C.J. Patrick, F.R. Carvalho, S.K. Kinard, A.T. Solis, **B. Kiel Reese**, J.D. Hogan. 2022. Local climate and hydrology shape stream invertebrate community susceptibility to a major storm disturbance. *Freshwater Biology*. Accepted and In Press
35. Mullis, M.M.\* , J.D. Selwyn, R. Kevorkian, E.D. Tague, H.F. Castro, S.R. Campagna, K.G. Lloyd, **B. Kiel Reese**. 2022. Microbial survival mechanisms within serpentinizing Mariana forearc sediments. *FEMS Microbiology Ecology*.  
<https://doi.org/10.1093/femsec/fiad003>
34. Carvalho, F.R, B.A. Strickland, S.K. Kinard, **B. Kiel Reese**, J.D. Hogan, C.J. Patrick. 2022. Structure and functional composition of macroinvertebrate communities in coastal plain streams across a precipitation gradient. *Freshwater Biology*. DOI: 10.1111/fwb.13968
33. Defforey D., B.J. Tully, J.B. Sylvan, B.J. Cade-Menun, **B. Kiel Reese**, L. Zinke, A. Paytan. 2022. Potential Phosphorus Uptake Mechanisms in the Deep Sedimentary Biosphere. *Frontiers in Marine Science*. 9. DOI: 10.3389/fmars.2022.907527
32. Nesbitt, K. \*, J. Bloodgood, M.M. Mullis, A.C. Deming, K. Colegrove, **B. Kiel Reese**. 2022. Draft genome sequences of *Erysipelothrix* sp. isolated from stranded septic bottlenose dolphins in Alabama, USA. *Microbiology Resource Announcements*. DOI: 10.1128/MRA.00273-22
31. **Kiel Reese, B.**, M.S. Sobol\*, M. Bowles, K.-U. Hinrichs. 2021. Redefining the subsurface biosphere: Characterization of fungi isolated from energy-limited marine deep subsurface sediment. *Frontiers in Fungal Biology*. DOI: 10.3389/ffunb.2021.727543
30. Patrick, C., J.S. Kominoski, W.H. McDowell, B. Branoff, D. Lagomasino, M. Leon, E. Hensel, M.J.S. Hensel, B.A. Strickland, T.M. Aide, A. Armitage, M. Campos-Cerqueira, V.M. Congdon, T.A. Crow, D.J. Devlin, S. Douglas, B.E. Erisman, R.A. Feagin, S.J. Geist, N.S. Hall, A.K. Hardison, M.R. Heithaus, J.A. Hogan, J.D. Hogan, S. Kinard, P.A. Montagna, C.S. O'Connell, C.E. Proffitt, **B. Kiel Reese**, J.W. Reustle, K.L. Robinson, S.A. Rush, R.O. Santos, A. Schnetzer, D.L. Smee, R.S. Smith, G. Starr, B.A. Stauffer, L.M. Walker, C.A. Weaver, M.S. Wetz, E.R. Whitman, S.S. Wilson, J. Xue, X. Zou. 2021. A general pattern of trade-offs between ecosystem resistance and resilience to tropical cyclones. *Sciences Advances*. 8(9):eab19155. DOI:10.1126/sciadv.ab19155

29. Akam, S. \*, T.W. Lyons, R.B. Coffin, D. McGee, T.H. Naehr, S.M. Bates, C. Clarkson, **B. Kiel Reese**. 2021. Carbon-sulfur signals of methane versus crude oil diagenetic decomposition and U-Th age relationships for authigenic carbonates from asphalt seeps, southern Gulf of Mexico. *Chemical Geology* 581:120395. DOI: 10.1016/j.chemgeo.2021.120395
28. Mullis M.M. \*, R.E. Weisend\*, **B. Kiel Reese**. 2021. Draft genome sequences of *Idiomarina abyssalis* strain KJE, *Marinobacter salarius* strain NP2017, and *Marinobacter salarius* strain AT3901, isolated from deep-sea sediment near the western flank of the Mid-Atlantic Ridge. *Microbiology Resource Announcements*. DOI:10.1128/MRA.01295-20.
27. Hogan, J.A., R.A. Feagin, G. Starr, M. Ross, T.-C. Lin, C. O'Connell, T.P. Huff, B.A. Stauffer, K. L. Robinson, M. Chapela Lara, J. Xue, **B. Kiel Reese**, S.J. Geist, E.R. Whitman, S. Douglas, V.M. Congdon, J.W. Reustle, R.S. Smith, D. Lagomasino, B.A. Strickland, S.S. Wilson, C.E. Proffitt, J.D. Hogan, Benjamin L Branoff, A.R. Armitage, S.A. Rush, R.O. Santos, M. Campos-Cerqueira, Paul A Montagna, Brad Erisman, Lily Walker, Whendee L Silver, T.A. Crawl, Michael Wetz, Nathan Hall, X. Zou, S.C. Pennings, L.-J. Wang, C.-T. Chang, M. Leon, W.H. McDowell, J.S. Kominoski, C.J. Patrick. 2020. A research framework to integrate cross-ecosystem responses to tropical cyclones. *BioScience*. 70(6): 477–489. DOI:10.1093/biosci/biaa034
26. Patrick, C.J., L. Yeager, F. Carvallo, V. Congdon, K.H. Dutton, M. Fisher, A. Hardison, J.D. Hogan, J. Hosen, X. Hu, **B. Kiel Reese**, S. Kinard, J.S. Kominoski, X. Lin, Z. Liu, P.A. Montagna, S.C. Pennings, L. Walker, C.A. Weaver. M. Wetz. 2019. A systems-level Analysis of coastal ecosystem responses to hurricane impacts. *Estuaries and Coasts*. DOI: 10.1007/s12237-019-00690-3
25. Mullis, M.M. \*, I. Rambo, B.J. Baker, **B. Kiel Reese**. 2019. Ecological roles and diversity of antimicrobials in nature. *Frontiers in Microbiology: Antimicrobials, Resistance and Chemotherapy*. DOI: 10.3389/fmicb.2019.02518
24. Jangir, J., A.A., Karbelkar, N.M. Beedle, L.A. Zinke \*, G. Wanger, C.M. Anderson, **B. Kiel Reese**, J.P. Amend, and M.Y. El-Naggar. 2019. *In situ* electrochemical studies of the terrestrial deep subsurface biosphere at the Sanford Underground Research Facility, South Dakota, USA. *Frontiers in Energy Research: Bioenergy and Biofuels*. DOI: 10.3389/fenrg.2019.00121
23. Sobol, M.S. \*, T. Hoshino, T. Futagami, F. Inagaki, **B. Kiel Reese**. 2019. Draft genome sequences of *Penicillium* spp. from deeply buried oligotrophic sediment. *Microbiology Resource Announcements*. DOI: 10.1128/MRA.01613-18
22. Bird, J.T., E.D. Tague, L.A. Zinke\*, J.M. Schmidy, A.D. Steen, **B. Kiel Reese**, I.P.G. Marshall, G. Webster, A. Weightman, H.F. Castro, S.R. Campagna, K.G. Lloyd. 2019. Uncultured microbial phyla suggest mechanisms for multi-thousand-year subsistence in Baltic Sea sediments. *mBio*. DOI: 10.1128/mBio.02376-18
21. Pohlner, M.\* , L. Dlugosch, B. Wemheuer, H.J. Mills, B. Engelen, **B. Kiel Reese**. 2019. The majority of *Rhodobacteraceae* in marine sediments belong to uncultured genera: A molecular approach to link their distribution to environmental conditions. *Frontiers in Aquatic Microbiology*. DOI: 10.3389/fmicb.2019.00659
20. Zinke, L.A.\* , C. Glombitza, J.T. Bird, H. Røy, B. Barker Jørgensen, K.G. Lloyd, J.A. Amend, **B. Kiel Reese**. 2018. Climate influences microbial organic matter degradation in

---

\*Kiel Reese Lab student

Baltic Sea sediments. *Applied and Environmental Microbiology*. DOI: 10.1128/AEM.02164-18

19. Zinke, L.A.\* , **B. Kiel Reese**, J. McManus, C.G. Wheat, B.N. Orcutt, J. Amend. 2018. Sediment microbial communities influenced by cool hydrothermal fluid migration. *Frontiers in Extreme Microbiology*. 9:1249. DOI: 10.3389/fmicb.2018.01249
18. Sheik, C.S., **B. Kiel Reese (co-first author)**, K.I. Twing, J.B. Sylvan, S.L. Grim, M.O. Schrenk, M.L. Sogin, F. Colwell. 2018. Identification and removal contaminant sequences from genomic databases: Lessons from the Census of Deep Life. *Frontiers in Microbiology*. DOI: 10.3389/fmicb.2018.00840
17. **Kiel Reese, B.K.**, L.A. Zinke\*, M.S. Sobol\*, D.E. LaRowe, B.N. Orcutt, X. Zhang, U. Jaekel, F. Wang, H.J. Mills, T. Dittmar, J.P. Amend, K.J. Edwards, P.R. Girguis. 2018. Nitrogen cycling potential of active bacteria within oligotrophic sediment of the Mid-Atlantic Ridge flank. *Geomicrobiology Journal*. 35(6): 468-483. DOI: 10.1080/01490451.2017.1392649
16. Zinke, L.A.\* , M.M. Mullis\*, J.T. Bird, I.P.G. Marshall, B. Barker Jørgensen, K.G. Lloyd, J.P. Amend, **B. Kiel Reese**. 2017. Thriving or Surviving? Evaluating active microbial guilds in Baltic Sea sediment. *Environmental Microbiology Reports*. 9(5): 528-536. DOI: 10.1111/1758-2229.12578 (**Top 20 most read paper in Environmental Microbiology Reports**)
15. Momper, L.M., **B. Kiel Reese**, L.A. Zinke\*, G. Wanger, M.R. Osburn, D. Moser, and J.P. Amend. 2017. Major phylum-level differences between porefluid and host rock bacterial communities in the terrestrial deep subsurface. *Environmental Microbiology Reports*. DOI: 10.1111/1758-2229.12563
14. **Kiel Reese, B.K.**, J. Koester, J.B. Kirkpatrick, T. Konotchick, L.Z. Allen, and C. Dziallas. How extreme is extreme? A review of life in extreme environments. 2015. *Eco-DAS X Symposium Proceedings*. Waco, TX: Association for the Sciences of Limnology and Oceanography. 5:69–87. DOI: 10.4319/ecodas.2014.978-0-9845591-4-5.69
13. Kieft, T., T. Onstott, L. Ahonen, V. Aloisi, F. Colwell, B. Engelen, S. Fendrihan, E. Gaidos, U. Harms, I. Head, J. Kallmeyer, **B. Kiel Reese**, L. Lin, P. Long, D. Moser, H. Mills, P. Sar, D. Schulze-Makuch, H. Stan-Lotter, D. Wagner, P. Wang, F. Westall and M. Wilkins. 2015. Workshop to develop deep-life continental scientific drilling projects. *Scientific Drilling*. 19: 43-53. DOI:10.5194/sd-19-43-2015
12. Momper, L.M., **B. Kiel Reese (co-first author)**, G. Carvalho, P. Lee, and E.A. Webb. 2014. Characterization of a novel cohabitation between two diazotrophic Cyanobacteria. *ISME Journal*. 9(4):882. DOI:10.1038/ismej.2014.186.
11. Orcutt, B.N., D.E. LaRowe, K.G. Lloyd, H. Mills, W. Orsi, **B. Kiel Reese**, J. Sauvage, J.A. Huber, and J. Amend. 2014. ODP Deep Biosphere Research Workshop report—a synthesis of recent investigations, and discussion of new research questions and drilling targets. *Scientific Drilling*. 17: 61-66
10. **Reese, B.K.**, A.D. Witmer, S. Moller, J.W. Morse, and H.J. Mills. 2013. Molecular assays advance understanding of sulfate reduction despite cryptic cycles. *Biogeochemistry*. 118(1): 307-319. DOI: 10.1007/s10533-013-9933-2

9. Orcutt, B., D. LaRowe, J.F. Biddle, F.S. Colwell, B.T. Glazer, **B. Kiel Reese**, J. Kirkpatrick, H.J. Mills, J.B. Sylvan. 2013. Microbial activity in the deep biosphere: Progress and prospects. *Frontiers in Extreme Microbiology*. 4:189. DOI: 10.3389/fmicb.2013.00189
8. **Reese, B.K.**, H.J. Mills, S.E. Dowd, and J.W. Morse. 2013. Benthic biogeochemistry of microbial iron and sulfate reduction in the Gulf of Mexico hypoxic zone. *Geomicrobiology*. 30:160-172
7. Bianchi, T.S., F. Garcia-Tigreros, S. Yvon-Lewis, M. Shields, H.J. Mills, D. Butman, C. Osburn, P. Raymond, C. Shank, S.F. DiMarco, N. Walker, **B. Kiel Reese**, R. Mullins, A. Quigg, G. R. Aiken, and E.L. Grossman. 2013. Enhanced transfer of terrestrially-derived carbon to the atmosphere in a flooding event. *Geophysical Research Letters*. DOI:10.1029/2012GL054145
6. Mills, H.J., **B. Kiel Reese**, A. Shepard, N. Riedinger, S. Dowd, Y. Morono, and F. Inagaki. 2012. Characterization of metabolically active bacterial populations in subseafloor Nankai Trough sediments above, within and below the sulfate-methane transition zone. *Frontiers in Extreme Microbiology*. 3:113. DOI: 10.3389/fmicb.2012.000113
5. Mills, H.J., **B. Kiel Reese**, and C. St. Peter. Characterization of microbial population shifts during sample storage. 2012. *Frontiers in Extreme Microbiology*. 3:49. DOI: 10.3389/fmicb.2012.00049
4. **Reese, B.K.**, D.W. Finneran, H.J. Mills, M.-X. Zhu, and J.W. Morse. 2011. Examination and refinement of the determination of aqueous hydrogen sulfide by the methylene blue method. *Aquatic Geochemistry*. 17(4):567-582. DOI:10.1007/s10498-011-9128-1
3. **Reese, B.K.** and M.A. Anderson. 2009. Dimethyl sulfide production in a hypersaline eutrophic lake, Salton Sea, California. *Limnology and Oceanography*. 54: 250–261
2. **Reese, B.K.**, M.A. Anderson, and C. Amrhein. 2008. Hydrogen sulfide production and volatilization in a polymictic eutrophic lake, Salton Sea, California. *Science of the Total Environment*. 406:205-218
1. Parker, D.R., A.L. Seyfferth, and **B.K. Reese**. 2008. Synoptic survey of perchlorate in groundwater: A synoptic survey of "pristine" sites in the coterminous United States. *Environmental Science and Technology*. 42:1465-1471

#### **PUBLICATIONS IN PROGRESS**

Weisend, R.E. \*, M.M. Mullis\*, **B. Kiel Reese**. High throughput culturing of microbial communities from Mid-Atlantic Ridge sediment and crustal fluids using Fluorescently Activated Cell Sorting (FACS).

**B. Kiel Reese**, J. Roque Rosell, L.A. Zinke \*, M.S. Sobol\*, T. Aiglsperger. Iron bioavailability in sedimented layers of foraminiferal sand and clayey nannofossil ooze from west of the Mid-Atlantic Ridge.

---

#### **FUNDING**

Collaborative Research: Volatile Sources and Sinks across the Mariana Forearc. PI: Peter Barry, Co-PIs: B. Kiel Reese and Karen Lloyd. National Science Foundation. **\$344,156** (2022, 3 years, Grant No. OCE-21-50719)

Advanced microbial source tracking for community health in Alabama. PI: B. Kiel Reese, Co-

PIs: R. Carmichael, S. Ní Chadhain. Environmental Protection Agency. **\$498,142** (2021, 3 years, Grant No. MX-02D17922)

Coastal Genomes to Ecosystems: How does a small microbe make such a huge impact. PI: B. Kiel Reese. National Academies of Sciences Engineering and Medicine. **\$75,000** (2021, 2 years)

Collaborative Proposal: Gas Hydrate Contribution to the Ross Sea Carbon Budget; Past, Present and Future, PI: Richard Coffin, Co-PIs: B. Kiel Reese, W. Jeffrey, N. Bangs. National Science Foundation. **\$1,082,917** (2021, 3 years, Grant # OPP-20-44453)

Development of High Throughput Culturing Technique to Target Uncultivated Sedimentary Microorganisms. PI: B. Kiel Reese. Texas Reaserch Development Fund. **\$5,000** (2019, 1 year)

MRI: Acquisition of a GC triple quadrupole mass spectrometer for Environmental and Biogeochemical research. PI: J. Conkle (PI), Co-PIs: H.A. Abdulla, B. Kiel Reese, L. Zhang. National Science Foundation. **\$222,141** (2018, 1 year)

Mangrove Expansion Alters Sediment and Water Quality and Affects Biodiversity in Texas Wetlands. PI: B. Kiel Reese. National Academies of Sciences. **\$17,170** (2018, 1 year)

Supplemental Research Experience for Undergraduates (REU) to RAPID: Determining the response of freshwater ecosystems to a punctuated disturbance across a semi-arid to sub-arid ecosystems. PI: C. Patrick (PI), Co-PIs: B. Kiel Reese, D. Hogan. National Science Foundation. **\$16,000** (2018, 1 year)

RAPID: Determining the response of freshwater ecosystems to a punctuated disturbance across a semi-arid to sub-arid ecosystems. PI: C. Patrick (PI), Co-PIs: B. Kiel Reese, D. Hogan. National Science Foundation. **\$199,980** (2017, 1 year)

Linking microbial activity to methane production. PI: B. Kiel Reese. American Chemical Society. **\$150,000** (2017, 2 years)

Dynamics of seasonal and diurnal fluctuations in a wetland mangrove ecosystem. PI: B. Kiel Reese, Co-PI: B. Baker. Department of Energy Joint Genome Institute Community Science Program. **Sequencing costs** (market value \$150,000) (2017, 2 years)

Characterization of the Active Microbial Community within the Mariana Convergent Margin Subsurface. PI: B. Kiel Reese. International Ocean Discovery Program (NSF Sub-Award). **\$14,999** (2017, 1 year)

Effect of South Texas mangrove expansion on sediment and water quality. PI: B. Kiel Reese, Co-PI: L. Smee. Texas General Land Office Coastal Management Program (NOAA Sub-Award). **\$95,817** (2017, 2 years)

Diurnal Fluctuations of Microbial Communities. PI: B. Kiel Reese. TAMU-CC Research Enhancement Grant. **\$5,000** (2017, 1 year)

Intraterrestrial Fungus Grown in Space (iFunGIS): Determining alterations in metabolic processes and products of a subsurface fungus in microgravity. PI: B. Kiel Reese. NASA Center for the Advancement of Science in Space. **\$50,000** (2016, 1.5 years)

Examination of the Baltic Sea Basin carbon cycle through metagenomics. PI: B. Kiel Reese. Sloan Foundation Deep Carbon Observatory Census of Deep Life. **Sequencing costs** (2016, 1 year)

A novel approach to understanding carbon cycling in marine deep subsurface sediments through the integration of metabolomics and transcriptomics. B. Kiel Reese (PI). Texas Research Development Fund. **\$20,000** (2015, 1 year)

Characterization of the Metabolically Active Fraction of the South Pacific Gyre Subsurface Microbial Community. Consortium for Ocean Leadership (NSF Sub-award). **\$11,723** (2015, 1 year)

Microbial Biogeography of a Low-Temperature, Ridge Flank Hydrothermal System at Dorado Outcrop. PI: B. Kiel Reese. Sloan Foundation Deep Carbon Observatory Census of Deep Life. **Sequencing costs** (2015, 1 year)

Tag 16S Sequencing of Deeply Buried Sediments Within the Baltic Sea, IODP Exp. 347. B. Kiel Reese (Co-PI). Sloan Foundation Deep Carbon Observatory Census of Deep Life. **DNA Sequencing** (2014, 1 year)

Investigating microbial community transitions at the sediment-basement interface. B. Kiel Reese (Co-PI). Sloan Foundation Deep Carbon Observatory Census of Deep Life. **DNA Sequencing** (2013, 1 year)

Expedition 329: Expanding Metabolic Potential by Characterizing Anaerobic Lineages in Aerobic Sediments. Center for Dark Energy Biosphere Investigations (NSF sub-award). B. Kiel Reese (Co-PI). **\$49,970** (2012, 2 years)

Consortium for Ocean Leadership (NSF sub-award). B. Kiel Reese (Co-PI). **\$15,000** (2011, 1 year)

Characterization of Chlorinated Aliphatic Hydrocarbon Degrading Lineages within the Camp Stanley Storage Activity Bioreactor. Noblis Consulting. B. Kiel Reese (Co-PI). **\$49,973** (2011, 2 years)

Consortium for Ocean Leadership (NSF sub-award). B. Kiel Reese (Co-PI). **\$5,000** (2010, 1 year)

Bioprospecting novel antimicrobials in the marine deep subsurface biosphere. Center for Dark Energy Biosphere Investigations (NSF sub-award). B. Kiel Reese (PI). **\$5,000** (2010, 1 year)

Philanthropic Educational Organization. B. Kiel Reese (PI). **\$15,000** (2010, 1 year)

---

## MULTI-NATIONAL DRILLING INITIATIVES

Appointed member of science sub-panel of the Science Evaluation Panel (SEP) of the International Ocean Discovery Program (IODP) 2016-2019

Co-PI and member of the international science team “Carbon cycling in methane-charged continental margin sediments: Rio Grande Cone (Brazil)”. Kiel Reese committed to 50% of the geomicrobiology. **Drilling expedition proposal accepted and scheduled 2023**

Co-PI and member of the international science team “Crustal Flow-line across the Western Flank of the Southern Mid-Atlantic Ridge: The South Atlantic Transect”. Kiel Reese committed to 50% of the geomicrobiology. **Drilling expedition complete summer 2022**

Shore-based scientist and mentor of student participant in the 2017 International Ocean Discovery Program Mariana Forearc Expedition 366

Shore-based scientist and mentor of student participant in the 2014 Integrated Ocean Drilling Program Baltic Sea Basin Expedition 347

Shore-based scientist on the 2011 Integrated Ocean Drilling Program North Pond Microbiology Expedition 336

Shore -based scientist on the 2010 Integrated Ocean Drilling Program South Pacific Gyre Expedition 329

---

## TEACHING

## **Graduate**

USA/DISL: Geological Oceanography; Marine Microbial Ecology; Marine Sciences Graduate Seminar; Research Integrity Workshop  
TAMU-CC: Microbial Ecology; Geomicrobiology; Marine Organisms and Processes

## **Undergraduate**

DISL: Oceanography; Marine Geology  
TAMU-CC: Microbial Diversity and Ecology; Environmental Microbiology; Oceanography  
TAMU: Essentials of Oceanography Lab; Marine Microbial Molecular Methods

## **Short Course**

Marine Molecular Methods, Developed and taught course at Shanghai JiaoTong University (Summer 2014)  
“Microbes down below! Exploring life beneath the ocean floor” Online course College of Exploration (Fall 2013)  
Microbial Methods, Developed and taught course at University of São Paulo, Brazil (Spring 2013)  
School of Rock, Integrated Ocean Drilling Program (Spring 2013)

## **Guest Lecturer**

AP Biology, Incarnate Word Academy (Fall 2018)  
Microbiology (TAMU-CC, Fall 2016)  
Microbiology (TAMU-CC, Spring 2016)  
Oceanography (Mount Allison University, New Brunswick, Canada, Fall 2013)  
Microbiology (Long Beach Community College, Spring 2013)  
Global Environmental Microbiology (University of Southern California, Summer 2012)  
Microbiology (Long Beach Community College, Spring 2012)  
Marine Microbial Molecular Methods (Texas A&M University, Spring 2010)  
Introduction to Oceanography (Texas A&M University, Fall 2009)

---

## **MENTORING**

### **COMMITTEE CHAIR**

#### **Ph.D.**

Caleb Boyd (USA/DISL, 2022-Present)  
Lydia Hayes (USA/DISL, 2022-Present)  
Penny Demetriades (USA/DISL, 2022-Present)  
Rachel Weisend (TAMU-CC, 2016-Present)  
Megan Mullis (TAMU-CC, 2016-2021)  
Laura Zinke (USC, 2013-2018)

#### **M.S.**

Christian Cunningham (TAMU-CC, 2018-2021)  
Clay Clarkson (TAMU-CC, 2019-2020)  
Darcia Gonzalez (TAMU-CC, 2017-2018)  
Morgan Sobol (TAMU-CC, 2016-2018)  
Rachel Woodworth (TAMU-CC, 2016-2018)



## **COMMITTEE MEMBER**

### **Ph.D.**

Ania Brown (USA/DISL, 2021-Present)  
Alexandra Smith (USA/DISL, 2020-Present)  
Katherine Campbell (TAMUG MARB, 2018-Present)  
Sarah Tominack (TAMU-CC MARB, 2016-2021)  
Ian Rambo (UTMSI, 2016-2021)  
Sajjad Abdullajintakam (TAMU-CC CMSS, 2016-2020)  
Sean Kinard (TAMU-CC MARB, 2017-2019)  
Kiley Seitz (UTMSI, 2016-2019)  
I-Shuo Huang (TAMU-CC MARB, 2015-2018)

### **M.S.**

Joseph Hansen (USA/DISL; 2021-Present)  
Bryanna McClendon (TAMU-CC FAMA, 2019-2021)  
Lydia Hayes (TAMU-CC MARB, 2018-2020)  
Fernando Carvallo (TAMU-CC BIOL, 2018-2020)  
Catherine Risley (TAMUG MARB, 2018-2020)  
Marguerite Langwig (UTMSI, 2017-2019)  
Eugene Barnes (TAMU-CC, 2016-2018)  
Jennifer Savicky (TAMU-CC, 2015-2016)  
Nicholas Spalt (TAMU-CC, 2015-2016)

## **UNDERGRADUATE RESEARCHERS**

Yasmin Hall (DISL REU, 2022)  
Kahylin Nesbitt (DISL REU, 2021)  
Erica Duncan (TAMU-CC, LSAMP Scholar, 2019-2020)  
John Turman (TAMU-CC, 2019-2020)  
Victor Delgado (TAMU-CC, 2018-2020)  
Clay Clarkson (TAMU-CC, McNair Scholar, 2017-2019)  
Susan McGuire (TAMU-CC, 2018-2019)  
Ryan Cabico (Del Mar Community College, REU, 2018)  
Reesen Caster (TAMU-CC, 2017-2018)  
Brooke Denney (TAMU-CC, LSAMP Scholar, 2017-2018)  
Mayra Rodriguez Gomez (TAMU-CC, LSAMP Scholar, 2016-2017)  
Shalecia Sayles (TAMU-CC, LSAMP Scholar, 2015-2017)  
Reavelyn Pray (Del Mar Community College, 2016)  
Julie Rohl (TAMU-CC, 2015-2016)  
Morgan Sobol (TAMU-CC, LSAMP Scholar, 2015-2016)  
Alexis Ybanez (TAMU-CC, LSAMP Scholar, 2015-2016)  
Gustavo Cavahalo (USC, 2012-2014)  
Jordan Hoese (USC, 2012-2014)  
James Stone (USC, 2013-2014)  
Cruz St. Peter (TAMU, 2009-2011)  
Laura Zinke (TAMU, 2009-2011)  
Stacey Moeller (TAMU, 2009-2010)  
Kristyn Kimball (TAMU, 2008-2009)  
Bianca Romero (TAMU, 2008-2009)

---

## **PRESENTATIONS AND SEMINARS**

### **INVITED INTERNATIONAL**

12. Understanding the Diversity of Life in Marine Deep Subsurface Sediment. B. Kiel Reese. University of Oldenburg, Germany (5/17/17)
11. Wanted Dead or Alive: How do we understand life in the deep subsurface biosphere? B. Kiel Reese. Hanse-Wissenschaftskolleg, Delmenhorst, Germany (4/26/17)
10. Understanding the Diversity of Life in Marine Deep Subsurface Sediment. B. Kiel Reese. University of Barcelona, Spain (4/19/17)
9. Digging deeper: Is the subsurface really alive? B. Kiel Reese. Deep Carbon Observatory, Sicily, Italy (8/29/2017)
8. Microbial community structure within sediment and basalt along the Mid-Atlantic Ridge. B. Kiel Reese. Max Planck Institute, Bremen, Germany (7/4/15)
7. Examining Life Below the Seafloor Through Ocean Drilling. B. Kiel Reese. Hanse-Wissenschaftskolleg Lecture, Delmenhorst, Germany (7/29/15)
6. Global distribution of active subsurface microbes. B. Kiel Reese. University of Aarhus Center for Geomicrobiology, Aarhus, Denmark (7/14/15)
5. Global distribution of active subsurface microbes. B. Kiel Reese. MARUM Center for Marine and Environmental Sciences, Bremen, Germany (6/9/15)
4. Re-Defining the Subsurface Biosphere: Characterization of Fungal Populations from Energy Limited Sediments. B. Kiel Reese. Geobiology in Space Exploration, Sardinia, Italy (5/24-26, 2015)
3. Expanding the Deep Subsurface Biosphere: A case study of fungi in South Pacific Gyre. B. Kiel Reese. International Continental Drilling Program Workshop. Potsdam, Germany (11/2-4/14)
2. Biogeography of geochemical characterizations and microbial communities within shallow and deep subsurface sediments. B. Kiel Reese. Microenergy Workshop, University of Aarhus, Denmark (5/7/12)
1. Microbial Iron and Sulfate Reduction in Anoxic and Hypoxic Environments. B.K. Reese, H.J. Mills, and J.W. Morse. Max Planck Institute for Marine Microbiology, Bremen, Germany (7/09)

### **INVITED DOMESTIC**

32. Hunting for microbial life in the marine subsurface. B. Kiel Reese. University of Southern Mississippi (11/10/22)
30. Outwit, Outlast, Outplay: A Game of Bacterial Survival in the Deep Ocean. B. Kiel Reese. Paleontological Research Institution (3/10/22)
29. Bioprospecting antibiotics from continental and marine subsurface. B. Kiel Reese. MITRE Bioprospecting Workshop (8/17/21)

28. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. University of South Alabama Chemistry Department (3/5/20)
27. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. Indiana University of Pennsylvania Geology Department (11/12/20)
26. Microbiology in the Deep Sea. B. Kiel Reese. American Museum of Natural History (8/13/20)
25. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. California State University, Bakersfield (3/12/20)
24. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. University of Rhode Island Graduate School of Oceanography (3/9/20)
23. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. Willamette University (3/2/20)
22. Biological Recycling Within Gas Hydrate Systems. B. Kiel Reese, B. Briggs, F. Colwell, M. Mullis. Gordon Research Conference (2/25/20)
21. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. University of Minnesota-Duluth (11/22/19)
20. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. B. Kiel Reese. University of South Alabama (7/13/19)
19. Hunting for the Meaning of Life Beneath the Seafloor. B. Kiel Reese. International Geobiology Workshop, Catalina, CA (7/8/19)
18. Wanted Dead or Alive: Hunting for Microbes Below the Seafloor. National Academies of Science - Kavli Frontiers in Science (2/28/19)
17. Just the FACS, Ma'am: A method for culturing microbial dark matter. B. Kiel Reese. Center for Dark Energy Biosphere Investigations national meeting. (11/14/18)
16. Microbes From Deep Sea to Deep Space. Kiel Reese, B. Texas A&M University-Corpus Christi Island Days. Corpus Christi, TX. 4/7/18.
15. Wanted Dead or Alive: Microbes in the Subsurface. B. Kiel Reese. Texas A&M University at Galveston (4/18)
14. Organic matter mineralization pathways in Baltic Sea Basin sediments revealed through genetics. B. Kiel Reese, L.A. Zinke\*, and M.M. Mullis\*. International Methane Hydrate Development Workshop. Corpus Christi, TX (12/7/2017)
13. Unlocking the Diversity of Life in Deep Subsurface Sediment. B. Kiel Reese. Society for the Advancement of Chicanos and Native Americans in Science, Salt Lake City, UT. (10/20/17)
12. What is alive in the deep subsurface and how do we detect it? B. Kiel Reese. Johnson Space Center, National Aeronautics and Space Agency, Houston, TX (11/7/16)
11. Mining for microbes: Exploring life in the deep subsurface. B. Kiel Reese. University of Nevada-Reno (10/17/16)
10. Graduate school personal statements: summarizing your life in 2 pages or less. B. Kiel Reese. Texas A&M University System Louis Stokes Alliance for Minority Participation Symposium (4/22/16)

9. It's ALIVE! Examining Life Below the Seafloor Through Ocean Drilling. B. Kiel Reese. Texas A&M University-Corpus Christi (10/23/15)
8. From the Gulf of Mexico to the deep subsurface: Interdisciplinary approach to geomicrobiology. B. Kiel Reese. University of Delaware, DE (10/16/15)
7. From the Gulf of Mexico to the deep subsurface: Interdisciplinary approach to geomicrobiology. B. Kiel Reese. University of Texas Marine Science Institute (4/17/15)
6. From the Gulf of Mexico to the deep subsurface: Interdisciplinary approach to geomicrobiology. B. Kiel Reese. Rice University, Houston, TX (9/11/14)
5. Microbial community structure as a reflection of the distribution and speciation of iron within North Pond sediments. B.K. Reese, U. Jaekel, E. Carvalho\*\*, P. Girguis, H.J. Mills, B. Orcutt, B. Toner, K.J. Edwards. American Geophysical Union Fall Meeting, San Francisco, CA (12/9-13/13)
4. Microbial Ecology of the Benthic-Pelagic Interface within the Northern Gulf of Mexico Hypoxic Zone. B. Kiel Reese. Coastal Estuarine Research Federation conference, San Diego, CA (11/7/13)
3. Biogeography of geochemical characterizations and microbial communities within shallow and deep subsurface sediments, Center for Dark Energy Biosphere Investigations Networked Speaker Series / University of Southern California, Los Angeles, CA (11/10/11)
2. Geochemical and Molecular of sulfur and iron reducing populations within coastal environments. B. Kiel Reese. University of Texas Marine Sciences Institute, Port Aransas, TX (6/11)

**CONFERENCES OR WORKSHOPS** (§presenter; \*Graduate student researcher, \*\*Undergraduate researcher)

27. Exploring functional diversity and metabolic capabilities of microbial communities across the continental and marine subsurface. B. Kiel Reese §, M. M. Mullis\*, J. P. Payet, P. S. Adam, T. L.V. Bornemann, A. J. Probst, J. A. Bradley, Brandon R. Briggs, Adrienne Hoarfrost, R. Leon-Zayas, K. G. Lloyd, B. Sherwood Lollar, C. Magnabosco, K. L. Rogers, S. E. Ruff, C. S. Sheik, M. Sogin, F. Colwell. American Geophysical Union (12/2021)
26. Active microbial community diversity from seamounts along the Mariana Forearc. B. Kiel Reese §, M.M. Mullis\*, C. Moyer, K.G. Lloyd, R. Kevorkian, and IODP Expedition 366 Scientists. Poster at Gordon Geobiology Research Conference, Galveston, TX (1/21-26, 2018)
25. In situ Electrochemical enrichment of subsurface bacteria at the Sanford Underground Research Facility. Y. Jangir\*§, A. Karbelkar, L. Zinke\*, B. Kiel Reese, G. Wanger, C. Anderson, J.P. Amend, M.Y. El-Nagggar. Poster at Astrobiology Conference, Phoenix, AZ (4/17)
24. Active subsurface cellular function in the Baltic Sea Basin, IODP Exp 347. B. Kiel Reese§, L.A. Zinke\*, J. Bird, I. Marshall, K. Lloyd, J. Amend, B.B. Jorgensen. Poster at American Geophysical Union, San Francisco, CA (12/12-16/16)
23. Total and active microbial community structure within North Pond sediments. B. Kiel Reese§, L. Zinke\*, H. Mills, P. Girguis, B. Orcutt, K. Edwards, J. Amend. Poster at Deep Carbon Observatory Second International Science Meeting, Munich, Germany (3/26-28/15)

22. Microbial community structure as a reflection of the distribution and speciation of iron within North Pond sediments. B. Kiel Reese<sup>§</sup>, U. Jaekel, E. Carvalho<sup>\*\*</sup>, P. Girguis, H.J. Mills, B. Orcutt, B. Toner, K.J. Edwards. Oral at Center for Dark Energy Biosphere Investigations Annual Meeting, Marina, CA (10/7-9/13)
21. Active and Total Microbial Community Structure in relation to Metal Availability within Subsurface Sediments. B. Kiel Reese<sup>§</sup>, L. Zinke<sup>\*</sup>, H. J. Mills, K. Edwards. Poster at Goldschmidt Geochemistry Conference. Florence, Italy (08/13)
20. Expanding the Subsurface Biosphere: Detecting Viable Fungal Populations in the South Pacific Gyre. B. Kiel Reese<sup>§</sup>, M. Ariza, C. St. Peter<sup>\*</sup>, H.J. Mills. Oral at American Society of Limnology and Oceanography Aquatic Sciences Meeting, New Orleans, LA (2/17-22/13)
19. Re-Defining the Subsurface Biosphere: Characterization of Fungal Populations from Energy Limited Deep Marine Subsurface Sediments. B. Kiel Reese<sup>§</sup>, M. Ariza, C. St. Peter, C. Hoffman, K.J. Edwards, H.J. Mills. Poster at American Geophysical Union Fall Meeting, San Francisco, CA (12/2012)
18. Characterization of Fungal Populations from South Pacific Gyre Sediments. B. Kiel Reese<sup>§</sup>, M. Ariza, C. St. Peter<sup>\*\*</sup>, C. Hoffman, K. Edwards, H. J. Mills. Poster at Post-Expedition meeting for IODP Expedition 329 (South Pacific Gyre), Kona, HI (5/2012)
17. Metal Availability and Active Microbial Community Structure within North Pond Subsurface. B. Kiel Reese<sup>§</sup>, L. Zinke<sup>\*</sup>, J. Hoese<sup>\*\*</sup>, C. Hoffman, K.J. Edwards, H.J. Mills. Poster at Post-Expedition meeting for IODP Expedition 336 (North Pond), Catalina, CA (2/2012)
16. Biogeography of Metabolically Active Microbial Populations within the Subseafloor Biosphere. B. Kiel Reese<sup>§</sup>, A.K. Shepard, C. St. Peter<sup>\*\*</sup> and H.J. Mills. Poster at American Geophysical Union Fall Meeting, San Francisco, CA (12/11)
15. Exploring how to characterize the subsurface biosphere by drilling beneath the Great Barrier Reef. H.J. Mills<sup>§</sup>, B.K. Reese, C. St. Peter<sup>\*\*</sup>, A. Shepard, and the IODP Expedition 325 Scientists. Poster at Post-Expedition 325 Meeting, Herron Island, Queensland, Australia (7/3-6/2011)
14. Molecular and Geochemical Characterization of Sulfur and Iron Reducing Populations within an Estuary Salinity Gradient. H.J. Mills<sup>§</sup>, B.K. Reese, and J.W. Morse. Poster at American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, PR (02/11)
13. Linking molecular microbiology and geochemistry to better understand microbial ecology in coastal river-influenced marine sediments. B. Kiel Reese<sup>§</sup>, B. Romero<sup>\*\*</sup>, A. Shepard<sup>\*</sup>, S. Dowd, S. DiMarco, J.W. Morse, H.J. Mills. Oral at American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, Puerto Rico (2/13-18/11)
12. Linking Molecular Microbial Ecology to Geochemistry in a Coastal Hypoxic Zone. B. Kiel Reese<sup>§</sup>, H.J. Mills, X. Li, S. Dowd, A. Shepard<sup>\*</sup>, T. Bianchi, and J.W. Morse. Oral at American Society of Limnology and Oceanography Ocean Sciences Meeting, Portland, OR (2/22-26/10)
11. Benthic Biogeochemistry of Microbial Iron and Sulfate Reduction in the Gulf of Mexico Hypoxic Zone. B.K. Reese<sup>§</sup>, H.J. Mills, and J.W. Morse. Oral at All Hands Meeting for Gulf of Mexico Hypoxic Zone Research, College Station, TX (10/09)

10. Linking Molecular Microbial Ecology to Geochemistry in a Coastal Hypoxic Zone. B.K. Reese<sup>§</sup>, H.J. Mills, X. Li, S. Dowd, A. Shepard, T. Bianchi, and J.W. Morse. Poster Presentation at IODP New Ventures in Exploring Scientific Targets, Bremen, Germany (9/23-25/09)
9. Benthic Biogeochemistry of Microbial Iron and Sulfate Reduction in the Gulf of Mexico Hypoxic Zone. B.K. Reese<sup>§</sup>, H.J. Mills, and J.W. Morse. Poster Presentation at American Society of Microbiology, Philadelphia, PA (5/17-21/09)
8. Benthic Biogeochemistry of Microbial Iron and Sulfate Reduction in the Gulf of Mexico Hypoxic Zone. B.K. Reese<sup>§</sup>, H.J. Mills, and J.W. Morse. Poster Presentation at American Society of Limnology and Oceanography Aquatic Sciences Meeting, Nice, France (02/09)
7. Dimethyl sulfide production in a saline eutrophic lake, Salton Sea, California. B.K. Reese<sup>§</sup> and M.A. Anderson. Oral at Goldschmidt Geochemical Conference, Vancouver, B.C. (7/13-18/08)
6. Sulfide and Other Reduced Chemical Species in the Salton Sea, CA. B.K. Reese<sup>§</sup> and M.A. Anderson. Poster at American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM (2/4-9/07)
5. Volatile Organic Sulfur Compounds of the Salton Sea, CA. B.K. Reese<sup>§</sup> and M.A. Anderson. Poster at North American Lake Management Society Conference, Indianapolis, IN (10/2006)
4. Perchlorate in Groundwater: A Synoptic Survey of Background Levels at “Pristine” Locations in the United States. Parker, D.R. <sup>§</sup>, A.L. Seyfferth, and B.K. Reese. Society of Environmental Toxicology and Chemistry Europe 16th Annual Meeting, The Hague, Netherlands (2006)
3. Sulfate and Nitrate Reduction in the Salton Sea, CA. B.K. Reese<sup>§</sup> and M.A. Anderson. Poster at California Lake Management Society Conference, Lake Tahoe, CA (07/2006)
2. What’s That Smell? Amrhein, C.A. <sup>§</sup>, B.K. Reese and M.A. Anderson. Oral at Salton Sea advisory meeting, Palm Desert, CA (06/2006)
1. Sulfide and Other Reduced Species in the Salton Sea. B.K. Reese<sup>§</sup>, M.A. Anderson, and C.A. Amrhein. Poster at UC Riverside Graduate Student Symposium, Riverside, CA (05/2006)

**STUDENT PRESENTATIONS** (<sup>§</sup>presenter; <sup>\*</sup>Graduate student researcher, <sup>\*\*</sup>Undergraduate researcher)

27. Advanced Microbial Source Tracking for Source-Specific Management of Water Quality. P. Demetriades<sup>§\*</sup>, A. Brown<sup>\*</sup>, D. Bilbrey, R.H. Carmichael, S. Ní Chadhain, and B. Kiel Reese. Poster at Bays and Bayous Symposium, Mobile, Alabama (01/2023)
26. Culturing Microbial Dark Matter with FACS. R. Weisend<sup>§\*</sup> and B. Kiel Reese. R/V Nathaniel B. Palmer Research Series. (01/2023)
25. Characterizing the Bottlenose Dolphin (*Tursiops truncatus*) Skin Microbiome to Inform Future Sampling Efforts. Y. Hall<sup>§\*\*</sup>, M.L. Russell, C. Díaz Clark, J.C.G. Bloodgood, B. Kiel Reese. Poster at Gulf Estuarine Research Society. (10/2022)
24. Source tracking of bacterial sepsis in 2 bottlenose dolphins (*Tursiops truncatus*). K. Nesbitt<sup>§\*\*</sup>, J. Bloodgood, M.M. Mullis, A.C. Deming, K. Colegrove, B. Kiel Reese. Poster at Research Experience for Undergraduates symposium. Dauphin Island, AL (08/2021)
23. Co-location of Oxidizing and Reducing Microbial Communities within Wetland Sediments” R. E. Weisend<sup>§\*</sup>, M. Mullis, J. Selwyn, I. Rambo, B. Baker, B. Kiel Reese. Poster at Coastal

- & Estuarine Research Federation 26th Biennial Conference. (11/2021; Held virtually due to COVID-19)
22. Co-location of Oxidizing and Reducing Microbial Communities within Wetland Sediments. R.E. Weisend, M.M. Mullis, J. Selwyn, I. Rambo B. Baker, B. Kiel Reese. Southeastern Biogeochemical Symposium. (5/2021; Held virtually due to COVID-19) Received 3rd place for best oral presentation.
  21. Metatranscriptome analysis of serpentine mud volcanoes along the Mariana Forearc. Mullis, M.<sup>§\*</sup>, Kiel Reese, B., Mullane, K.K., Kevorkian, R., Bartlett, D., Lloyd, K., Wheat, G., and IODP Expedition 366 Science Party. Poster at Marine Biology IDP Retreat, Galveston, TX (01/2020)
  20. Microbial communities in hydrate-bearing sediments following long-term pressure preservation. Colwell, F.<sup>§</sup>, Kiel Reese, B., Mullis, M.<sup>\*</sup>, Buser-Young, J., Glass, J.B., Waite, W., Jang, J., Dai, S., and Phillips, S. Poster at Gordon Research Conference: Natural Gas Hydrate Systems, Galveston, TX (02/2020)
  19. Extremophilic microbes from serpentinite mud volcanoes. Mullane, K.K. <sup>§</sup>, Mullis, M. <sup>\*</sup>, Shelton, B., Kiel Reese, B., and Bartlett, D. Poster at Ocean Sciences Meeting, San Diego, CA (02/2020)
  18. Active microbial community survival in Mariana Forearc sediments. Mullis, M.M.<sup>\* §</sup>, K. Mullane, R. Kevorkian, C. Moyer, D. Bartlett, K.G. Lloyd, B. Kiel Reese, and IODP Expedition 366 Science Party. Oral at U.S. Advisory Committee for Scientific Ocean Drilling (USAC) Meeting, New York, NY (07/2019)
  17. Transcripts as a Proxy for Quantification of Biogenic Methane. Clarkson, C.C.<sup>\*\*</sup>, B. Kiel Reese. Poster at TriBeta South Central Regional Convention. Corpus Christi, TX (4/5-6/19)
  16. Seasonal and Diurnal Variation of Methane Flux in Mangrove Ecosystems. Weisend, R.E.<sup>\* §</sup>, S. McGuire<sup>\*\*</sup>, B. Denney<sup>\*\*</sup>, L. Zhang, B. Kiel Reese. Oral at ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico (02/2019)
  15. Sorting and Cultivation of Single Cells from Sediment. Weisend, R.E. <sup>§\*</sup>, M. Mullis<sup>\*</sup>, B. Kiel Reese. Poster at American Society for Microbiology Texas Branch Meeting. Corpus Christi, TX (11/9-10/18)
  14. Analysis of two *Penicillium* genomes from the Oligotrophic Marine Subsurface. M.S. Sobol<sup>§</sup>, T. Hoshino, T. Futagami, F. Inagaki, B. Kiel Reese. Oral at Texas Branch ASM Fall Meeting. Corpus Christi, TX (11/8-10/18)
  13. Active microbial community structure along the Mariana Forearc summits. M.M. Mullis<sup>\*</sup>, B. Kiel Reese, R. Kevorkian, K.G. Lloyd, C. Moyer, and IODP Expedition 366 Science Party. Oral at IODP Expedition 366 Post-Cruise Meeting, Honolulu, HI (9/10-12/18)
  12. Effects of Nitrate and Ammonia on Wetland Predation. B.C. Denney<sup>\*\*</sup>, R.E. Weisend<sup>\*</sup>, D.L. Smee, B. Kiel Reese. Poster at Sigma Xi Meeting, Corpus Christi, TX (3/3/18)
  11. Biologically-Mediated Methane Cycling in Texas Wetland Mangroves. Weisend, R.E.<sup>\* §</sup>, B. Kiel Reese. Oral at SACNAS Annual Meeting. Salt Lake City, Utah (10/19-21/17)
  10. Antibiotic Gene Expression in Marine Sediments. Mullis, M.M.<sup>\* §</sup>, B. Kiel Reese. Oral at Marine Science Graduate Student Research Symposium. Corpus Christi, TX (12/2/16)
  9. Characterization of Deep Marine Subsurface Fungi from South Pacific Gyre Sediments. Sobol, M.S. <sup>\*§</sup>, B. Kiel Reese. Oral at Marine Science Graduate Student Research Symposium. Corpus Christi, TX (12/2/16)

8. Microbial and Biogeochemical Fluxes in a Wetland Mangrove Ecosystem. Weisend, R.E. \*§, B. Kiel Reese. Oral at Marine Science Graduate Student Research Symposium. Corpus Christi, TX (12/2/16)
7. Pray, R. \*\*§, B. Kiel Reese. 2016. Influence of Sedimentary Microbial Communities on the Gulf of Mexico Hypoxic Zone. Texas Branch Fall Meeting of the American Society for Microbiology, Dallas, TX. (11/10-12/16)
6. Investigating the Differences in the Total and Active Microbial Community of Mid-Atlantic Ridge Sediments. Sobol, M.S. \*\* §, L.A. Zinke\*, B. Orcutt, H. Mills, K. Edwards, P. Girguis, B. Kiel Reese. Poster at ASLO Ocean Sciences Meeting, New Orleans, LA (2/21-26/16)
5. Zinke, L.A. \* §, M. Sobol\*\*, I. Marshall, J. Bird, J. Amend, K. Lloyd, B. Kiel Reese. Metatranscriptomic insight into active microbial populations in Baltic sediments. Poster at Gordon Research Conference on Geobiology, Galveston, TX (1/31-2/5/16)
4. Microbial communities in near surface sediments on the Dorado Outcrop. L.A. Zinke\*§, B. Kiel Reese, B.N. Orcutt, C.G. Wheat, J.P. Amend. Oral at CDEBI Annual Meeting, Marina, CA (10/2015)
3. Metatranscriptomic insight into active microbial populations in Baltic sediments. L.A. Zinke\*§, M. Sobol\*\*, J. Bird, I.P.G. Marshall, K.G. Lloyd, J.P. Amend, B. Kiel Reese. Poster at IODP Expedition 347 Post-Cruise Meeting, Stockholm, Sweden (9/2015)
2. Bacterial Diversity in Deep Sediments in the Baltic Sea Basin. L.A. Zinke\*§, B.K. Reese, J.P. Amend. Poster at Southern California Regional Geobiology Symposium. (5/2015)
1. Coupling Geochemical cycles to molecular microbial ecology in shallow marine sediments. K. Kimball \*\*§, B.K. Reese, M. McCarthy, B. Romero, W. Gardner, and H.J. Mills. Poster at Student Research Week, College Station, TX (05/10)

---

## **FELLOWSHIPS and AWARDS**

23. University of South Alabama College of Arts and Sciences Early Career Faculty Award for Scholarship and Academic Achievement (2022)
22. Gulf Research Program Fellow of the National Academies of Sciences (2021)
21. Kavli Frontiers in Science Fellow of the National Academies of Sciences (2019)
20. International Ocean Discovery Program Distinguished Lecturer (2019-2020)
19. American Chemical Society New Investigator Award (2017)
18. Hanse-Wissenschaftskolleg (HWK) Institute for Advanced Study Junior Research Fellow at the University of Bremen (2015-2017)
17. Outstanding Islander, TAMU-CC (2015)
16. Texas Water Resources Institute Scholarship (2011)
15. American Chemical Society Graduate Student Award in Environmental Chemistry (2010)
14. National Science Foundation East Asia Pacific Summer Institute Fellowship (2010)
13. Buck Weirus Spirit Award (2010) – awarded to selected students for university service and leadership
12. Texas A&M University Diversity Graduate Fellowship (2007-2010): \$84,000
11. Lighthouse Research and Development Fellowship Achievement Award to the single outstanding graduate student within the Department of Oceanography (2009)
10. Pipes Merit Fellowship – Texas A&M College of Geoscience (2008-2009)



9. Pinnacle Honor Society selected member – Texas A&M Chapter (2008)
  8. American Society of Limnology and Oceanography Travel Grant (2008-2009)
  7. George Bush Library Travel Grant (2008-2009)
  6. Ecological and Evolutionary Biology Travel Grant (2008-2009)
  5. Albert Marsh Scholarship Award – University of California Riverside (2006-2007)
  4. California Lake Management Society Scholarship for research achievement (2006-2007)
  3. College Fellowship Award, Department of Environmental Sciences, University of California Riverside (2005-2007)
  2. Geology Department Scholarship Award – Southern Methodist University (1999-2001)
  1. Mustang Scholarship Award – Southern Methodist University (1997-2001)
- 

#### **STUDENT FELLOWSHIPS AND AWARDS** (\*Graduate, \*\*Undergraduate)

Rachel Weisend\* (MARB Ph.D.):

- ASLO Limnology and Oceanography Research Exchange (LOREx) (2019-2020)
- Texas Branch of the American Society of Microbiology Dr. Millicent and Eugene Goldschmidt Award (\$9,000) (2018-2019)
- Texas Sea Grant Grants-in-Aid Scholarship (\$2,000) (2018-2019)
- Sigma Xi Grants-in-Aid Scholarship (\$1,000) (2018-2019)
- TAMU-CC Student Research Competition Scholarship (\$800) (2018-2019)
- R.N. "Dick" Conolly Endowed Scholarship for academic achievement, (\$1,000) (2017-2018)
- Texas Sea Grant Grants-in-Aid Scholarship, (\$1,972) (2017-2018)

Megan Mullis\* (MARB Ph.D.)

- Texas Branch of the American Society of Microbiology Dr. Millicent and Eugene Goldschmidt Award (\$9,000) (2020-2021)
- Sloan Foundation's Deep Carbon Observatory - Deep Life Cultivation Research Exchange (\$5,000) (2019)
- TAMU-CC Student Research Competition Awardee (\$800) (2018-2019)
- Schlanger International Ocean Discovery Program Fellowship (\$30,000) (2018-2019)
- NSF Science and Technology Center for Dark Energy Biosphere Investigations Research Exchange Grant (\$2,000) (2018)
- Texas Sea Grant Grants-in-Aid of Graduate Research Award (\$1,821) (2017-2018)
- R.N. "Dick" Conolly Endowed Scholarship Recipient (\$500) (2017-2018)

Christian Cunningham\* (MARB M.S.)

- 3-Minute Thesis competition at TAMU-CC 1<sup>st</sup> Place (2018)

Clay Clarkson \*\*

- Tri-Beta Honor Society research award (\$500) (2018)

Susan McGuire \*\*

- Tri-Beta Honor Society research award (\$500) (2018)
- 

#### **ACADEMIC SERVICE**

##### **NATIONAL / INTERNATIONAL**

- United States InterRidge Steering Committee (2021-2024)

D/V JOIDES Resolution Facility Board Working Group-Science Framework Proposal Requirements and Assessments (IODP international committee) (2020-2021)  
International Ocean Discovery Program NEXT national steering committee for ocean drilling beyond 2023 (2019)  
International Ocean Discovery Program Science Evaluation Panel (2016-2019)  
Sloan Foundation's Deep Carbon Observatory – Deep Life Synthesis committee (2015-2019)  
National Visiting Committee for Del Mar College Revising Science Education with Vision project (2016)  
NSF Science & Technology Center Dark Energy Biosphere Investigations Activity theme team (2012-2014)  
NSF Science & Technology Center for Dark Energy Biosphere Investigations Evolution theme team (2012-2013)  
IODP New Ventures in Exploring Scientific Targets (INVEST) contributor (2009)

#### **UNIVERSITY**

Council of Principle Investigators and Research Administrators (2017-2020); Vice-Chair (2019-2020)  
Radiation Safety Committee, TAMU-CC (2015-2020)  
Dive Control Board, University of Southern California (Provost appointed) (2013-2014)  
Legislative Committee, chair, organized delegation to Day on the Hill, Austin, TX (2009)  
University Research Environment Council, Texas A&M University (University President appointed) (2008-2010)  
University Graduate Operations Committee, Texas A&M University (University President appointed) (2008-2010)  
Advisory panel to the President of Texas A&M University for selection of Vice-President of Student Affairs (2008)  
Faculty Senate, Texas A&M University (2008-2009)

#### **COLLEGE**

Diversity, Equity, Inclusion Committee, USA (2021-Present, chair 2022-2023)  
Distinguished Lecture Seminar Series, TAMU-CC (2019-2020)  
Distinguished Lecture Seminar Series Chair, TAMU-CC (2015-2017)

#### **DEPARTMENT / PROGRAM**

Diversity, Equity, Inclusion Committee Chair, USA (2021-Present)  
Unlearning Racism in Geoscience (URGE), Dauphin Island Sea Lab (2021)  
Marine Sciences Tenure-Track Assistant Professor of Instruction Search Committee, USA (2022)  
Faculty search committee for Marine Biology, TAMU-CC (2018)  
Faculty search committee for Biomedical Sciences, TAMU-CC (2018)  
Marine Biology Curriculum Committee, TAMU-CC (2016-2018)  
Library liaison for Coastal and Marine System Science, TAMU-CC (2017-2018)  
Sigma Xi Research Society executive board, Texas A&M chapter (2008-2011)  
Recruitment and Academic Advisory, Texas A&M Oceanography Department (2009-2010)  
Faculty Search Committee, UCR Soil and Water Sciences Department (2006)  
Executive Vice President, Graduate Student Council, Texas A&M University (2008-2009), member (2007-2010)

Co-Director, Environmental Sciences Graduate Student Association, UC Riverside  
(2006-2007)

**CONVENER**

American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, Puerto Rico; “Carbon cycling within coastal wetlands and water bodies” (February 23-28, 2019)

American Society of Microbiology Texas Branch Meeting, Corpus Christi, TX; “Environmental Microbiology” (November 9-10, 2018)

American Geophysical Union Fall 2017 conference, San Francisco, CA; “Serpentinite Materials: From Mantle to Microbes and Everything In Between” (December 11-15, 2017)

American Geophysical Union Fall 2016 conference, San Francisco, CA; “Understanding microbial life in the subsurface through interdisciplinary approaches” (December 12-16, 2016)

International Ocean Discovery Program Workshop, College Station, TX; “Multidisciplinary Transect Drilling During Transits” (November 10-12, 2013)

American Geophysical Union Fall 2012 conference, San Francisco, CA; “The Deep Biosphere - Recent progress in life in the deep subsurface” session

American Geophysical Union Fall 2011 conference, San Francisco, CA; “Novel Microbial Processes in the Deep Biosphere” session

**FACULTY ADVISOR**

Islander Stream Team, TAMU-CC (2015-2017)

**DELEGATE**

Lindau Meeting of Nobel Laureates – Selected as U.S. delegate to attend the 59<sup>th</sup> meeting of Nobel Laureates in Lindau, Germany (2009)

Academic delegate representing Oceanography Department on official visit to Ocean University of China, Qingdao, China (2008)

---

**COMMUNITY OUTREACH**

**ORGANIZER**

Unlearning Racism in Geoscience (URGE) pod at DISL, Co-Chair (2021)

Earth Day Bay Day in Corpus Christi, Texas (2017, 2018, 2019)

Kaffie Middle School STEAM Night (2017, 2018, 2019)

**PRESENTER**

Girls Engaging in Math and Science (GEMS), University of South Alabama (11/2022)

Dauphin Island Sea Lab Boardwalk Talk (01/2022)

Making Waves: Women in the Maritime Industry, GulfQuest National Maritime Museum of the Gulf Coast (3/11/2021)

Scientists at Home: Secrets of the Deep Sea, American Museum of Natural History (8/13/2020)

American Cetacean Society (2018)

STEM Café at Texas State Aquarium, present and lead activity for secondary school students (10/2/2017)

Graduate school personal statements: summarizing your life in 2 pages or less. Texas A&M University System Louis Stokes Alliance for Minority Participation Symposium (4/22/16)

#### **SCIENCE JUDGE**

National Ocean Sciences Bowl for high school students (2008-2016)

QuickScience for high school students (2013)

Harmony Science Academy science fair, all ages (2011)

**SCUBA volunteer** at Aquarium of the Pacific, Long Beach, CA (2012-2015)

**DOCUMENTARY FEATURE:** “Climate Change Two-Degree Target”, Nature Video (August 2009) <http://www.youtube.com/watch?v=Bm2w5OTV3ig>

---

#### **PROFESSIONAL DEVELOPMENT**

Strategic Course Design Mini-Course, University of South Alabama (August 2022)

Association of College and University Educators (ACUE) Promoting Engaged and Active Online Learning credential (April 2021)

New Faculty Scholars at University of South Alabama (2020-2021)

European Consortium for Ocean Drilling Training Course, Bremen, Germany (March 2017)

Early Career Geoscience Faculty workshop sponsored by National Association of Geoscience Teachers, University of Maryland (July 2016)

Deep Carbon Observatory Deep Life Workshop, Redondo Beach, CA (May 2016)

ALVIN New User Workshop, Woods Hole Oceanographic Institute (September 2015)

Certificate of Best Practices for Online Course Design, Corpus Christi, TX (May 2015)

Challenge-Based Instruction Faculty Development Workshop, Corpus Christi, TX (March 2015)

Strategies and Techniques for the Analysis Microbial Populations, Marine Biological Lab (August 2014)

Deep Submergence Science Committee Early Career Workshop, San Francisco, TX (Dec 2013)

Joint Genome Institute Microbial Genomics and Metagenomics Training Workshop, Berkeley, CA (Sept 2013)

Earthcube Deep Sea Processes, workshop on data management – National Science Foundation (May 2013)

Marine Geoscience Leadership Symposium selected participant – Consortium of Ocean Leadership, Washington, D.C. (March 2013)

Ecological Dissertations in the Aquatic Sciences selected participant – Center for Microbial Oceanography: Research and Education, Oahu, Hawaii (Oct 2012)

Ocean Crust Processes and Consequences for Life - Research Coordination Network Workshop, Bremen, Germany (June 2012)

Preparing for a Career in Geoscience Workshop selected participant - National Science Foundation (2008 and 2013)

Engaging Early-Career Scientists in Future Scientific Ocean Drilling - IODP (2011)

---

#### **FIELD EXPERIENCE**

##### **Research Cruises (Over 300 days at sea)**

*R/V IB Nathaniel B. Palmer*, Ross Sea, Antarctica, December/January 2023

*R/V Pelican*, Gulf of Mexico, December 2021  
*R/V Sikuliaq*, Juan de Fuca Ridge, Co-Chief Scientist, August/September 2019  
*R/V Aurora*, Baltic Sea Basin sediment, Hans Roy (Aarhus Univ) Chief scientist, June 2016  
*R/V Endeavor*, Mid-Atlantic Bight, UNOLS Chief Scientist Training Cruise, Oct 2013  
*D/V JOIDES Resolution*, IODP Expedition 341S, Juan de Fuca Ridge, May-June 2013  
*R/V Blazing Seven*, Gulf of Mexico, T. Bianchi (TAMU) chief scientist, June 2011  
*R/V Pelican*, Gulf of Mexico, T. Bianchi (TAMU) chief scientist, Apr 2011  
*R/V Pelican*, Gulf of Mexico, M. Daag (LSU) chief scientist, July 2010  
*R/V Pelican*, Gulf of Mexico, S. DiMarco (TAMU) chief scientist, July 2009  
*R/V Pelican*, Gulf of Mexico, S. DiMarco (TAMU) chief scientist, July 2008  
*R/V Pelican*, Gulf of Mexico, S. DiMarco (TAMU) chief scientist, Apr 2008  
*Royal Caribbean Explorer of the Seas*, Eastern Caribbean Sea (NOAA), Dec 2008  
 Numerous small boat operations and equipment deployment in coastal, lake, and inter-tidal environments

**Field Expeditions**

Dec 2014	Sanford Underground Research Facility (SURF), Homestake Gold Mine
April 2014	Sanford Underground Research Facility (SURF), Homestake Gold Mine
Feb 2014	Sanford Underground Research Facility (SURF), Homestake Gold Mine

**TRAINING**

Child Abuse Mandated Reporters Training (AL Dept of Human Resources, Nov 2022)  
 AAUS Scientific Diver and NAUI Master Diver  
 Radiation Safety (isotopes include C-14 and S-35; Refresher Course Oct 2022)  
 Proficient use of analytical instrumentation including: X-ray Absorption Spectroscopy (XAS), IC, HPLC, GC/MS, fluorescence spectrophotometric instrumentation, flow injection autoanalyzer, and potentiometric instrumentation  
 Proficient in molecular techniques including: nucleic acid extraction from sediment and water, PCR, Reverse Transcription PCR, Quantitative PCR analyses, and culture analyses  
 Trained and proficient in the operation of Roche 454 GS FLX pyrosequencer, IonTorrent sequencer, Illumina MiSeq  
 Field experience (18+ years) with groundwater, surface water, soil and sediment collection following standard QA/QC protocols  
 Collection of in situ water quality parameters using CTD, YSI, and Hach Hydrolab Multiprobe  
 Computer skills: Bioinformatic software including Qiime, mothur, Geneious, Ribosomal Database Project, CLC Bio; Python coding language; Golden Software (Surfer, Grapher, ArcView); Hydrus-1D and 2D Modeling Software; ArcGIS; SigmaPlot, PC-ORD

**GRANT PROPOSAL REVIEWER**

European Research Council (ERC)  
 French National Research Agency (ANR)

U.S. Department of Energy  
National Science Foundation (NSF)  
National Aeronautics and Space Administration (NASA)  
International Ocean Discovery Program  
Center for Dark Energy Biosphere Investigations  
Texas A&M University-Corpus Christi Research, Commercialization, and Outreach

---

## **REFEREED JOURNALS**

Science  
Nature Geosciences  
Journal of Biogeosciences  
Environmental Microbiology  
Estuarine, Shelf, and Coastal Science  
Environmental Science and Technology  
International Society Microbial Ecology  
Geomicrobiology Journal  
Geobiology Journal  
Limnology and Oceanography  
Frontiers

---

## **ADVISORS**

M.S.: Michael Anderson (UCR)  
Ph.D.: John Morse (TAMU, Deceased)  
Post Doctoral: Katrina Edwards (USC, Deceased), Jan Amend (USC)

---

## **MEMBERSHIPS AND ACCREDIDATIONS**

California Registered Environmental Assessor (#7974)  
Sigma Xi (Executive Board Member)  
American Society of Limnology and Oceanography  
American Academy of Underwater Scientists  
American Chemical Society  
Geological Society of America  
American Society for Microbiology

---