

AMY APPRILL

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Education

- B.A. University of San Diego, Marine Science, Biology, 2001.
M.S. University of Hawaii, Biological Oceanography, 2004. Advisors: Robert R. Bidigare and Ruth D. Gates.
Ph.D. University of Hawaii, Biological Oceanography, 2009. Advisor: Michael S. Rappé.

Professional Experience

- Associate Scientist with tenure, Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA. 2020 - present.
Scientist in Residence, Mystic Aquarium, Mystic, CT. 2017 – present.
Associate Scientist without tenure, Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA. 2016 - 2020.
Assistant Scientist, Woods Hole Oceanographic Institution, Woods Hole, MA. December, 2011 - 2016.
Post-doctoral Scholar, Woods Hole Oceanographic Institution, Woods Hole, MA. September 2009 – 2011. Advisors: Drs. Tracy Mincer & Konrad Huguen.

Research Interests

- Marine microbial ecology: coral reef microbiology, marine mammal microbiomes, marine animal-microbe symbiosis, marine infectious diseases
- Interdisciplinary science & technology-based solutions for coral reef ecosystems

Awards and Honors

- 2020 Award for Early Career Environmental Research, American Society for Microbiology.
2018 Early Career Scientist Award, WHOI.
2017 Alumni Hall of Fame, Raytown, Missouri.
2015 XX Files: Extraordinary Science - Extraordinary Women, *Science* magazine.
2009 – 2011 Post-doctoral scholar fellowship, WHOI Ocean Life Institute.
2007 Best doctoral student poster presentation, Society of Marine Mammalogy.
2004 – 2007 National Science Foundation Graduate Research Fellowship Award.
2006 Hiatt Student Education Scholarship, Hawaii Institute of Marine Biology.
2004 Watanabe Scholarship for Academic Achievement, University of Hawaii.
2000 Outstanding Research in Marine Science, University of San Diego.
1999 Outstanding Oral Research Presentation, University of San Diego.

Professional Affiliations

Member: American Society of Limnology and Oceanography, American Society of Microbiology, International Society of Microbial Ecology, International Coral Reef Society, Society for Marine Mammalogy.

Professional Activities

WHOI –

Reef Solutions Initiative, Team Lead, 2020 – present.
Diving Safety Board member, 2018 – present.
General Counsel Hiring Committee member, 2023.
MIT-WHOI Joint Committee on Chemical Oceanography member, 2023 – present.
Chair of MC&G Scientific Hiring Committee, 2022.
Promotion Committee Chair for Biology Department, 2022
Deep Submergence Laboratory Chief Scientist Search Committee member, 2021.
MC&G Department Chair Selection Committee member, 2020.
VP for Advancement Search Committee member, 2018.
Development and Communications Advisory Committee member, 2017 – present.
Women’s Committee member, 2015.
Marine Chemistry & Geochemistry Hiring Selection Committee, 2015.

Outside WHOI –

Member, US Coral Reef Task Force on Restoration and Intervention Working Group, 2020 – present.
Member, Disease/Disturbance Advisory Council, 2019 – present.
Editorial Board member, *Environmental Microbiology, Journal of Marine Science and Engineering*, 2017 – present.
Editor, *Animal Microbiome, Microbiome*, 2019 – 2021.
Reviewer for the journals *Animal Microbiome, Applied and Environmental Microbiology, Aquatic Biology, Coral Reefs, Biological Conservation, Diseases of Aquatic Organisms, Emerging Infectious Diseases, Environmental Microbiology, FEMS Microbiology Ecology, Frontiers in Marine Science, Frontiers in Microbial Symbiosis, The ISME Journal, Limnology and Oceanography, Marine Biology, Marine Ecology Progress Series, Marine Mammal Science, Microbial Ecology, Molecular Ecology, Journal of Marine Science and Engineering, Nature Communications, PNAS* and *Scientific Reports*.
Grant reviewer for the National Science Foundation, NOAA Sea Grant, Sigma Xi Foundation, EU Science Foundation, National Academy Gulf Research Program, Israeli Science Foundation.
Project node leader for EarthCube CReSCyNT: Coral Reef Science and Cyberinfrastructure Network, 2015 – 2017.

Participation in Education and Mentoring

Teaching –

12.752/12.753 Geodynamics Seminar – Coral Reef Sensing & Solutions. Co-instructor.
WHOI-MIT Field Course in Microbial Oceanography. January 18 – 28, 2020, offered to MIT and WHOI Joint Program in Oceanography graduate students and held at the Bermuda

Institute of Ocean Sciences Co-creator and co-instructor, offered through the Doherty Chair Award (no course number).

12.739: Marine Microbiology and Biogeochemistry. 2013, 2015, 2017, 2019, 2022, 2023. MIT-WHOI Joint Program in Oceanography. Co-creator and co-instructor.

7.431: The Salty Symbiosis. 2019, 2023. MIT-WHOI Joint Program in Oceanography. Creator and instructor.

7.439: Recent Advances in Marine Microbiology and Biogeochemistry, 2018, 2020. MIT-WHOI Joint Program in Oceanography. Co-creator and co-instructor.

Advising –

Chemical Oceanography student class co-advisor, 2018- 2020.

MIT-WHOI PhD students: Mallory Kastner (Biological Oceanography, 2022 – present) Jeanne Bloomberg (Biological Oceanography, 2022 – present), Cynthia Becker (Biological Oceanography, 2018 – 2023), Lei Ma (Biological Oceanography, 2019 – 2022), , Laura Weber (Biological Oceanography, 2014 –2019).

Post-doctoral investigators: Austin Greene (2022 – present), Anya Brown (2020 – 2022), Laura Weber (2019 – 2021), Carolyn Miller (2013 – 2016), Matthew Neave (2012 – 2015).

Guest graduate students: Manon Denux (M.S. student at Aix-Marseille Université, 2023), Natasha Bestrom (M.S. student at University of Virgin Islands, 2021 – 2023), Ana Pereira (Ph.D student at CIBIO-InBIO, Universidade do Porto, 2019 - present), Naomi Huntley (M.S. student at University of Virgin Islands, 2019 – 2021), Kevin Bierlich (M.S. student at Duke University, 2015-2017), Rita Rachmawati (Ph.D. student at UCLA, 2014 – 2017), Areej Alsheikh-Hussain (M.S. student at King Abdullah University of Science and Technology, 2011).

Guest investigators: Sean McNally (Bermuda Institute of Ocean Sciences, 2014 – 2015).

Undergraduate students: Kayla Cayemitte (Ursinus College, 2022), Ella Riccio (Bowdoin College, 2022), Jacob Calka (Cornell University, 2022), Sarai Hutchinson (University of Virgin Islands, 2021), Kinga Sántha (University of Novi Sad, Serbia, 2020), Solange Martin (Montana State University, 2018), Shavonna Bent (Johnston State College, 2017 & 2018), Jordan Wilson (UC Davis, 2017), Cynthia Becker (Ithaca College, 2016 & 2017), Abigail Keller (Havelford College, 2016), Evan Denmark (MIT, 2014 – 2015), Caterina Brighi (Imperial College of London, 2014), Laura Weber (University of Maryland, 2013), Lauren Goodwin (Eckerd College, 2013), Sean McNally (University of Rhode Island, 2013).

High school students: Luci Keleman (2015), Cosette Bardawil (2010 – 2011).

Committees –

MIT-WHOI Student Admissions (2017 – 2019).

Chair of thesis defense: Gabriella Farfan (Chemical Oceanography, 2018), Jesse McNichol (Biological Oceanography, 2016).

Chair of thesis proposal defense: Jesse McNichol (Biological Oceanography, 2014), Winifred Johnson (Chemical Oceanography, 2014).

Member of thesis committee: Natasha Bestrom (University of Virgin Islands, 2021 – 2023), Naomi Huntley (University of Virgin Islands, 2019 – 2020), Kalina Grabb (MIT WHOI JP, Chemical Oceanography, 2019 – present), Andrea Unzueta Martinez (Northeastern University, 2018 – present), Courtney Dunphy (Northeastern University, 2017 – 2020), Gabriella Farfan (MIT WHOI JP, Chemical Oceanography, 2016 – 2018), Laura Weber

(Biological Oceanography, 2016 – 2019), Tyler Tamasi (Chemical Oceanography, 2018 – 2019).

Member of advisory committee: Megan May (MIT WHOI JP, Biological Oceanography, 2013 – 2014).

Outside thesis reviewer: Tess Moriarty (University of Newcastle, 2023), Jessica Bergman (University of New South Wales, Sydney, 2022), Molly Moynihan (Nanyang Technological University, 2021), Joseph Pollock (James Cook University, 2015), Kimberely A. Lema (James Cook University, 2014).

Peer-reviewed publications

student or post-doc in my lab; * co-first authorship; + corresponding author(s)

80. Sun Y, Mazzotta MG, Miller CA, **Apprill A**, Izallalen M, Mazumder S, Perri ST, Edwards B, Reddy CM, Ward CP. 2023. Distinct microbial communities degrade cellulose diacetate bioplastics in the coastal ocean. *Applied and Environmental Microbiology*. e01651-23.
79. Becker CC[#], Weber L[#], Zgliczynski B, Sullivan C, Sandin S, Muller E, Clark AS, Kido Soule MC, Longnecker K, Kujawinski EB, **Apprill A**. 2023. Microorganisms and dissolved metabolites distinguish Florida's coral reef habitats. *PNAS Nexus*. pgad287.
78. Beavers KM, Van Buren EW, Rossin AM, Emery MA, Veglia AJ, Karrick CE, MacKnight NJ, Dimos BA, Meiling SS, Smith TB, **Apprill A**, Muller EM, Holstein DM, Correa AMS, Brandt ME, Mydlarz LD. 2023. Stony coral tissue loss disease induces transcriptional signatures of in situ degradation of dysfuctional Symbiodiniaceae. *Nature Communications*. 14(1):2915.
77. Lillis A, **Apprill A**, Armenteros A, Mooney T. 2023. Small scale variation in the soundscapes of coral reefs. In: *The Effects of Noise on Aquatic Life: Principles and Practical Considerations*. Edited by Arthur N. Popper, Joseph Sisneros, Anthony Hawkins, and Frank Thomsen. Springer.
76. Cayemite K[#], Aoki N, Ferguson SR, Mooney TA, **Apprill A**⁺. 2023. *Ramicrosta* invasive alga causes mortality in Caribbean coral larvae. *Frontiers in Marine Science*. 10:663.
75. **Apprill A**⁺, Girdhar Y, Mooney TA, Hansel CM, Long MH, Liu Y, Zhang WG, Kapit J, Hughen K, Coogan J, Greene A. 2023. Toward a new era of coral reef monitoring. *Environmental Science & Technology*. 57:5117-5124.
74. Rosales SM, Huebner LK, Evans JS, **Apprill A**, Baker AC, Becker CC[#], Bellantuono AJ, Brandt ME, Clark AS, Del Campo J, Dennison CE, Eaton KR, Huntley NE[#], Kellogg CA, Medina M, Meyer JL, Muller EM, Rodriguez-Lanetty M, Salerno JL, Schill WB, Shilling EN, Stewart JM, Voss JD. 2023. A meta-analysis of the stony coral tissue loss disease microbiome finds key bacteria in unaffected and lesion tissue in diseased colonies. *ISME Communications* 3:19.
73. Brown A[#], Sharp K, **Apprill A**. 2022. Reshuffling of the coral microbiome during dormancy. *Applied and Environmental Microbiology*. 88: e01391-22.
72. Weber L[#], Soule MK, Longnecker K, Becker CC[#], Huntley N[#], Kujawinski EB, **Apprill A**⁺. 2022. Benthic exometabolites and their ecological significance on threatened Caribbean coral reefs. *ISME Communications*. 2: 101.
71. Navarro-Martínez ZM, Armenteros M, Espinosa L, González-Díaz P, **Apprill A**. 2022. Coral reef ichthyofauna responses poorly to marine protected areas along the eastern of Los Canarreos archipelago (Cuba, Caribbean Sea). *PeerJ*. 10: 314229.

70. Ferguson SR, Jensen FH, Hyer MD, Nobel A, **Apprill A**, Mooney TA. 2022. Ground-truthing daily and lunar patterns of coral reef fish call rates on a US Virgin Island reef. *Aquatic Biology*. 31: 77-87.
69. Navarro-Martinez ZM, Armenteros M, Espinosa L, Lake JJ, **Apprill A**. 2022. Taxonomic and functional assemblage structure of coral reef fishes from Jardines de la Reina (Caribbean Sea, Cuba). *Marine Ecology Progress Series*. 690:113-132.
68. Huntley N[#], Brandt ME, Becker C[#], Miller CA, Meiling S, Correa AMS, Holstein D, Muller E, Mydlarz A, Smith TB, **Apprill A**⁺. 2022. Coral mucus and tissue microbiome responses to stony coral tissue loss disease exposure. *ISME Communications*. 2: 46.
67. Ma L[#], Becker C[#], Weber L[#], Sullivan C, Zgliczynski B, Sandin S, Brandt M, Smith TB, **Apprill A**⁺. 2022. Biogeography of reef water microbes from within-reef to global scales. *Aquatic Microbial Ecology*. 88:81-94.
66. Veglia AJ, Beavers K, Van Buren EW, Meiling SS, Muller EM, Smith TB, Holstein DM, **Apprill A**, Brandt ME, Mydlarz LD, Correa AMS. 2022. Alphaflexivirus genomes in stony coral tissue loss disease (SCTLD)-affected, disease-exposed and unexposed coral colonies in the U.S. Virgin Islands." *Microbiology Resource Announcements* 11:e01199-21.
65. Pereira A, Soares MC, Santos T, Poças A, Pérez-Losada M, **Apprill A**, Sikkell PC, Xavier R. 2022. Reef Location and Client Diversity Influence the Skin Microbiome of the Caribbean Cleaner Goby *Elacatinus evelynae*. *Microbial Ecology*. pp.1-11.
64. Farfan GA, **Apprill A**, Cohen A, DeCarlo TM, Post JE, Waller RG, Hansel CM. 2022. Crystallographic and chemical signatures in coral skeletal aragonite. *Coral Reefs*. 41: 19-34.
63. Becker CC[#], Brandt M, Miller CA, **Apprill A**⁺. 2021. Microbial bioindicators of Stony Coral Tissue Loss Disease identified in corals and overlying waters using a rapid field-based sequencing approach. *Environmental Microbiology*. 24:1166-1182.
62. Leray M, Wilkins LG, **Apprill A**, Bik HM, Clever F, Connolly SR, De León ME, Duffy JE, Ezzat L, Gignoux-Wolfsohn S, Herre EA, Kaye JZ, Kline DI, Kueneman JG, McCormick MK, McMillian O, O’Dea A, Pereira TJ, Peterson JM, Petticord DF, Torchin ME, Vega Thurber R, Videvall E, Weislo WT, Yuen B, Eisen JA. 2021. Natural experiments and long-term monitoring are critical to understand and predict marine host–microbe ecology and evolution. *PLoS Biology*. 19:e3001322.
61. Meiling SS, Muller EM, Lasseigne D, Rossin A, Veglia AJ, MacKnight N, Dimos B, Huntley N[#], Correa A, Smith TB, Holstein DM, Mydlarz LD, **Apprill A**, Brandt ME. 2021. Variable species responses to experimental stony coral tissue loss disease (SCTLD) exposure. *Frontiers in Marine Science*. 8:464.
60. Bent SM[#], Miller CA, Sharp KH, Hansel CM, **Apprill A**⁺. 2021. Differential patterns of microbiota recovery in symbiotic and aposymbiotic corals following antibiotic disturbance. *mSystems*. e01086-20.
59. **Apprill A**⁺, Holm H[#], Santoro A, Becker CC[#], Neave M[#], Huguen K, Dona A, Aeby G, Work T, Weber L[#], McNally S[#]. 2021. Microbial ecology of coral-dominated reefs in the Federated States of Micronesia. *Aquatic Microbial Ecology*. 86: 115-136.
58. Keller AG[#], **Apprill A**, Lebaron P, Robbins J, Romano TA, Overton E, Rong Y, Yuan R, Pollara S, Whalen KE. 2021. Multi-media approach recovers diverse cultivatable microbes from the surfaces of marine animals. *FEMS Microbiology Ecology*. 97: fiab040.
57. Babbin AR, Tamasi T, Dumit D, Weber L[#], Rodríguez MVI, Schwartz SL, Armenteros M, Wankel SD, **Apprill A**. 2021. Discovery and quantification of anaerobic nitrogen

- metabolisms among oxygenated tropical Cuban stony corals. *The ISME Journal*. 15:1222-1235.
56. Weber L[#], Armenteros M, Soule MK, Longnecker K, Kujawinski EB, **Apprill A⁺**. 2020. Extracellular reef metabolites across the protected Jardines de la Reina, Cuba reef-system. 2020. *Frontiers in Marine Science*. 7:582161.
 55. Van Cise AM[#], Wade PR, Goertz CEC Burek-Huntington K, Parsons K, Clauss T, Hobbs RC, **Apprill A**. 2020. Skin microbiome of beluga whales: spatial, temporal and health-related dynamics. *Animal Microbiome*. 2:39.
 54. Suca JJ, Lillis A, Jones IT, Kaplan MB, Solow AR, Earl AD, Habtes S, **Apprill A**, Llopiz JK, Mooney TA. 2020. Variable and spatially explicit response of fish larvae to the playback of local, continuous reef soundscapes. *Marine Ecology Progress Series*. 653:131-151.
 53. Leslie MS, Perkins-Taylor CM, Durban JW, Moore MJ, Miller CA, Chananat P, Bahamonde P, Chiang G, **Apprill A**. 2020. Body size data collected non-invasively from drone images indicate morphologically distinct Chilean blue whales (*Balaenoptera musculus* Linnaeus 1758). 2020. *Endangered Species Research*. 43:291-304.
 52. Becker C[#], Weber L[#], Suca J, Llopiz JK, Mooney TA, **Apprill A⁺**. 2020. Microbial and nutrient dynamics in mangrove, reef, and seagrass waters over tidal and diurnal time scales. *Aquatic Microbial Ecology*. 85: 101-119.
 51. **Apprill A⁺**, Miller C[#], Van Cise A[#], U'Ren JM, Leslie MS, Weber L[#], Baird RW, Robbins J, Landry S, Niemeyer M, Rose K, Bogomolni A, Waring G. 2020. Marine mammal skin microbiotas are influenced by host phylogeny. *Royal Society of Open Science*. 7:192046.
 50. Weber L[#], **Apprill A⁺**. 2020. Diel, daily and spatial variation of coral reef seawater microbial communities. *PLoS One*. 15(3): e0229442
 49. **Apprill A**. 2020. The role of symbioses in the adaptation and stress responses of marine organisms. *Annual Review of Marine Science*. 12:291-314.
 48. Weber L[#], González-Díaz P, Armenteros M, Ferrer VM, Bretos F, Bartels E, Santoro AE, **Apprill A⁺**. 2020. Microbial signatures of protected and impacted Northern Caribbean reefs: changes from Cuba to the Florida Keys. *Environmental Microbiology*. 22:499-519
 47. Miller CA⁺⁺, Holm HC, Horstmann L, George JC, Fredricks HF, Van Mooy BAS, **Apprill A⁺**. 2020. Coordinated transformation of the gut microbiome and lipidome of bowhead whales provides novel insights into digestion. *The ISME Journal*. 14:688-701
 46. Grabb, K, Kapit J, Wankel S, Manganini K, **Apprill A**, Armenteros M, Hansel C⁺. 2019. Quantifying in situ superoxide associated with corals enabled by the development of a handheld submersible chemiluminescent sensor. *Environmental Science & Technology*. 53:13850-13858.
 45. Hernández-Fernández L, González-De Zayas R, Weber L[#], **Apprill A**, Armenteros M⁺. 2019. Small-scale variability dominates benthic coverage and diversity across the Jardines de la Reina, Cuba coral reef system. *Frontiers in Marine Science*. 6:747.
 44. Weber L[#], Gonzalez-Díaz P, Armenteros M, **Apprill A⁺**. 2019. The coral ecosphere: a unique coral reef microbial habitat that fosters coral-microbial interactions. *Limnology and Oceanography*. 64:2373-2388
 43. Neave MJ, **Apprill A**, Aeby G, Miyake S, Voolstra CR. 2019. Microbial communities of Red Sea coral reefs. In Voolstra & Berumen (Eds.), *Coral Reefs of the Red Sea* (pp. 53). Cham, Switzerland: Springer.
 42. **Apprill A**. 2019. On-site sequencing speeds up and re-directs field-based microbiology. *Environmental Microbiology Reports*. 11:45-47.

41. Huggett M⁺, **Apprill A⁺**. 2019. Coral Microbiome Database: Integration of sequences reveals high diversity and specificity of coral-associated microbes. *Environmental Microbiology Reports*. 11:372-385.
40. Lillis A^{*}, **Apprill A⁺**, Suca J, Becker C[#], Llopiz J, Mooney TA⁺. 2018. Soundscapes influence settlement of the common Caribbean coral *Porites astreoides*, irrespective of light. *Royal Society Open Science*. 81358.
39. Farfan GA, **Apprill A**, Webb SM, Hansel CM⁺. 2018. Coupled x-ray fluorescence and x-ray absorption spectroscopy for microscale imaging and identification of sulfur species within tissues and skeletons of scleractinian corals. *Analytical Chemistry*. 90: 12559–12566.
38. Dinh JP, Suca JJ, Lillis A, **Apprill A**, Llopiz J, Mooney TA⁺. 2018. Multiscale spatio-temporal patterns of boat noise on U.S. Virgin Island coral reefs. *Marine Pollution Bulletin*. 136:292-290.
37. Ulmo-Díaz G⁺, Casane D, Bernatchez L, González-Díaz P, **Apprill A**, Castellanos-Gell J, Hernández-Fernández L, García-Machado E. 2018. Genetic differentiation in the mountainous star coral *Orbicella faveolata* around Cuba. *Coral Reefs*. 37:1217-1227.
36. Bierlich KC[#], Miller CA[#], DeForce E, Friedlaender A, Johnston DW, **Apprill A⁺**. 2018. Seasonal and regional variability in the skin microbiomes of humpback whales along the Western Antarctic Peninsula. *Applied and Environmental Microbiology*. 84:e02574-17.
35. Thompson LR, Sanders JG, McDonald D, Amir A, Ladau J, Locey KJ *et al* (**Apprill A** within The Earth Microbiome Project Consortium). 2017. A communal catalogue reveals Earth's multiscale microbial diversity. *Nature*. 551(7681).
34. **Apprill A⁺**, Miller CA[#], Moore MJ, Durban DW, Fearnbach H, Barrett-Lennard L.G. 2017. Extensive core microbiome in drone-captured whale blow supports a framework for health monitoring. *mSystems*. 5 e00119-17.
33. Becker C[#], Huguen K, Mincer TJ, Ossolinski J, Weber L[#], **Apprill A⁺**. 2017. Impact of prawn farming effluent on coral reef water nutrients and microorganisms. *Aquaculture Environmental Interactions*. 9:331-346.
32. **Apprill A**. 2017. Marine animal microbiomes: toward understanding host-microbiome interactions in a changing ocean. *Frontiers in Marine Science*. 4:222.
31. Weber LG[#], DeForce E, **Apprill A⁺**. 2017. Optimizing DNA extraction for coral microbiota investigations. *Microbiome*. 5:18.
30. Neave MJ[#], Michell CT, **Apprill A⁺**, Voolstra CR⁺. 2017. *Endozoicomonas* genomes reveal functional adaptation and plasticity in bacterial strains symbiotically associated with diverse marine hosts. *Scientific Reports*. 7:40579.
29. McNally SP[#], Parsons RJ, Santoro AE, **Apprill A⁺**. 2017. Multifaceted impacts of the stony coral *Porites astreoides* on picoplankton abundance and community composition. *Limnology and Oceanography*. 62:217-234.
28. Neave MJ[#], Rachmawati R[#], Xun L, Michell CT, Bourne DG, **Apprill A⁺**, Voolstra CR⁺. 2017. Differential specificity between closely related corals and abundant *Endozoicomonas* endosymbionts across global scales. *ISME Journal*. 11:186-200.
27. Rodríguez, VMR, González-Díaz SP, Hernández Fernández L, Siciliano D, Bretos F, **Apprill A**, Huguen K, Santoro A. 2016. Health of the coral's communities on reefs from Jardines de la Reina - golfo de Ana María, south-central region of Cuba. *Revista Investigaciones Marinas*. 36:34-53.

26. Diaz J, Hansel C⁺, **Apprill A⁺**, Brighi C[#], Zhang T, Weber L[#], McNally S[#], Xun L. 2016. Species-specific control of external superoxide levels by the coral holobiont during a natural bleaching event. *Nature Communications*. 7:13801.
25. Zhang T, Diaz J, Brighi C[#], Parsons R, McNally S[#], **Apprill A**, Hansel CM. 2016. Dark production of extracellular superoxide by the coral *Porites astreoides* and representative symbionts. *Frontiers in Marine Science*. 3:232.
24. **Apprill A⁺**, Weber LG[#], Santoro AE. 2016. Distinguishing between microbial habitats unravels ecological complexity in coral microbiomes. *mSystems*. 1 (5) e00143-16.
23. Neave MJ[#], **Apprill A**, Ferrier-Pages C, Voolstra CR⁺. 2016. Diversity and function of prevalent symbiotic marine bacteria in the genus *Endozoicomonas*. *Applied Microbiology and Biotechnology*. 100:8315–8324.
22. Walters W, Hyde E.R., Berg-Lyons D, Ackermann G, Humphrey G, Parada A, Gilbert J, Jansson JK, Caporaso G, Fuhrman JA, **Apprill A**, Knight R. 2015. Improved V4, V4-V5 and ITS marker gene primers for microbial community surveys. *mSystems*. 1(1):e00009-15.
21. **Apprill A⁺**, McNally SP[#], Parsons R & Weber L[#]. 2015. Minor revision to V4 region SSU rRNA 806R gene primer greatly increases detection of SAR11 bacterioplankton. *Aquatic Microbial Ecology*. 75:129-137.
20. Nelson TM, **Apprill A**, Mann J, Rogers TL, Brown MV. 2015. The marine mammal microbiome: current knowledge and future directions. *Microbiology Australia* 36(1):8-13.
19. Neave MJ[#], Michell CT, **Apprill A⁺**, Voolstra CR⁺. 2014. Whole-genome sequencing of three symbiotic *Endozoicomonas* Bacteria. *Genome Announcements*. 2(4):e00802-14.
18. Furby KA^{*}, **Apprill A^{*}**, Cervino JM, Ossolinski, JE, Hughen KA⁺. 2014. Incidence of lesions on Fungiidae corals in the eastern Red Sea related to water temperature and coastal pollution. *Marine Environmental Research*. 98: 29-38.
17. **Apprill A⁺**, Robbins J, Eren, AM, Pack AA, Reveillaud J, Mattila D, Moore M, Niemeyer M, Moore KMT, Mincer TJ⁺. 2014. Humpback whale populations share a core skin bacterial community: towards a health index for marine mammals? *PLoS One*. e90785.
16. Reveillaud J⁺, Maignien L, Eren AM, Huber JA, **Apprill A**, Sogin ML, Vanreusel A. 2014. Host-specificity among abundant and rare taxa in the sponge microbiome. *The ISME Journal*. 8:1198-1209.
15. **Apprill A⁺**, Hughen K, Mincer T. 2013. Major similarities in the bacterial communities associated with lesioned and healthy Fungiidae corals. *Environmental Microbiology*. 15:2063-2072.
14. Bayer T, Neave M[#], Alsheikh-Hussain A[#], Aranda M, Yum L, Mincer T, Hughen K, **Apprill A⁺**, Voolstra CR⁺. 2013. The microbiome of the Red Sea coral *Stylophora pistillata* is dominated by tissue-associated *Endozoicomonas* bacteria. *Applied and Environmental Microbiology*. 79:4759-4762.
13. Measures CI⁺, Brown MT, Selph KE, **Apprill A**, Zhou M, Hatta M, Hiscock MT. 2013. The influence of shelf processes in delivering dissolved iron to the HNLC waters of the Drake Passage, Antarctica. *Deep Sea Research II*. 90:77-88.
12. Selph KE⁺, **Apprill A**, Measures CI, Hatta M, Hiscock WT, Brown MT. 2013. Phytoplankton distributions in the Shackleton Fracture Zone/Elephant Island Region of the Drake Passage in February-March 2004. *Deep Sea Research II*. 90:55-67.
11. **Apprill A**, Marlow HQ, Martindale MQ, Rappé MS⁺. 2012. Specificity of bacteria associated with the coral *Pocillopora meandrina* during early development. *Applied and Environmental Microbiology*. 78(20):7467-7475.

10. Kahng S⁺, Hochberg EJ, **Apprill A**, Wagner D, Luck DG, Perez D, Bidigare RR. 2012. Efficient light harvesting in deep-water, zooxanthellate corals. *Marine Ecology Progress Series*. 455:65 -77.
9. **Apprill A**, and Rappé MS⁺. 2011. Response of the microbial community to coral spawning in lagoon and reef flat environments of Hawaii, USA. *Aquatic Microbial Ecology*. 62:251–266.
8. **Apprill A**⁺, Mooney TA, Lyman E, Stimpert AK, Rappé MS. 2010. Humpback whales harbor a combination of specific and variable skin bacteria. *Environmental Microbiology Reports*. 3(2):223-323.
7. **Apprill A**, Marlow HQ, Martindale MQ, Rappé MS⁺. 2009. The onset of microbial associations in the coral *Pocillopora meandrina*. *The ISME Journal*. 3(6):685-699.
6. Hiscock MR, Lance VP, **Apprill A**, Bidigare RR, Johnson ZI, Mitchell BG, Smith, Jr. WO, Barber RT. 2008. Photosynthetic maximum quantum yield increases are an essential component of the Southern Ocean phytoplankton response to iron. *PNAS*. 105:4775-4780.
5. **Apprill A**⁺, Bidigare RR, Gates RD. 2007. Visibly healthy corals exhibit variable pigment concentrations and symbiont phenotypes. *Coral Reefs*. 26:387-397.
4. **Apprill A**⁺, and Gates RD. 2007. Recognizing diversity in coral symbiotic dinoflagellate communities. *Molecular Ecology*. 16:1127-1134. **Featured article**
3. Hochberg EJ⁺, **Apprill A**, Bidigare RR, Atkinson MJ. 2006. Bio-optical modeling of photosynthetic pigments in corals. *Coral Reefs*. 25:99-109.
2. Hochberg EJ⁺, Atkinson MJ, **Apprill A**, Andréfouët S. 2004. Spectral reflectance of coral. *Coral Reefs*. 23:84-95.
1. **Apprill A**, Lesser MP⁺. 2003. Effects of ultraviolet radiation on *Laminaria saccharina* in relation to depth and tidal height in the Gulf of Maine. *Marine Ecology Progress Series*. 256:75-85.

Other Publications

Apprill A. 2019. Impact of conservation on ocean animal microbiomes. *Microbiology Today*. Feb 2019: 10-13.

Electronic Resources

Coral Microbiome Portal. <https://vamps2.mbl.edu/portals/CMP>

Coral Microbiome Database. <https://www.bco-dmo.org/dataset/724355>

Educational outreach

K-12 Education –

Outreach to pre-school, elementary students and the public on ‘Coral Reef Science’ and ‘Coral Reef Microbiology’, showcasing 3-D videos of coral reefs. Spring 2013 – present.

Organizer of marine science-art partnership projects. North Falmouth Elementary. December 2019 – present.

Faculty advisor for ‘Ocean Exploration Club’ after school activity (3 & 4 grade). North Falmouth Elementary. February – April, 2019.

Outreach to US Virgin Islands minority student summer camps. 2017.

Community educator for the Hawaii Institute of Marine Biology Community Education Program, 2007 – 2009.

Broad audience communications –

[Innovative Techniques Provide New Means to Monitor Coral Reef Health](#). WHOI Press release. September 21, 2023.

[Researchers propose a new technology-centered focus to study and conserve coral reefs](#). WHOI Press release. April 4, 2023.

[Northern star coral study findings could help protect tropical corals](#). NSF Press release. May 20, 2021.

[Northern Star Coral Study Could Help Protect Tropical Corals](#). WHOI Press release. April 13, 2021.

[Corals in Crisis](#). Virtual WHOI Ocean Encounters event with Sylvia Earle, Marilyn Brandt and Amy Apprill. June 3, 2020. *Over 1600 attendees and 600+ questions submitted.*

[Lab shutdowns enable speedier investigation of coral disease](#). WHOI feature article by Evan Lubofsky. May 20, 2020.

[Combating a coral disease disaster with in-the-field DNA sequencing](#). WHOI Broader Impacts Group article by Cynthia Becker. April 3, 2020.

[Experts from outside the territory help fight stony coral tissue loss disease](#). USVI CBS produced video. March 9, 2020.

[Reefs on fire: the strange disease spreading through Florida's corals](#). OceanX produced video. February 1, 2020.

[How microbes reflect the health of coral reefs](#). WHOI Press release. December 19, 2019.

[My team uses crossbows and drones to collect bacteria from whales – and the results are teaching us how to keep whales healthy](#). Amy Apprill, *The Conversation*. December 17, 2019.

[WHOI-engineered DISCO allows scientists to measure highly reactive superoxide on coral reefs](#). December 12, 2019.

[Whales may owe their efficient digestion to millions of tiny microbes](#). WHOI Press release. December 4, 2019.

[Mystery disease is killing Caribbean corals](#). Cassie Martin, ScienceNews. August 29, 2019.

[New study finds distinct microbes living next to corals](#). WHOI Press release. May 21, 2019.

[Virgin Islands corals in crisis](#). WHOI press release. May 7, 2019.

[Coral larvae use sound to find a home on the reef](#). WHOI Press release. December 12, 2019.

[The unseen world on coral reefs. A hidden microbiome underlies health of reef ecosystems](#). Laura Castañón, *Oceanus* magazine. September 18, 2018.

[World Ocean Day: 10 things to know about coral reefs and their microbiomes](#). Cheryl Dybas, National Science Foundation. June 5, 2018.

[Coral reefs last stand: Cuba](#). Project Earth video. April 23, 2018.

[Humpback whale microbiome changes with the seasons](#). Ben Libberton, Nature Microbiology Journal Club. February 15, 2018.

[Monitoring bacteria on whale skin](#). WHOI Press release. February 14, 2018.

[On a Cuban reef, a precarious partnership on scientific research](#). Diane Toomey, Yale Environment 360. December 20, 2017.

[Like nothing else in the Caribbean: A rare look at Cuba's coral reefs](#). NPR radio interview with Amy Apprill. December 7, 2017.

[In the Gardens of the Queen: Joint U.S.-Cuban expedition explores pristine Cuban coral reefs](#). Lonny Lippsett, *Oceanus* magazine. November 22, 2017.

[Study identifies whale blow microbiome](#). WHOI Press release. October 10, 2017.

[Study reveals corals' influence on reef microbes.](#) WHOI Press release. October 12, 2016.
[New studies take a second look at coral bleaching culprit.](#) WHOI Press release. December 7, 2016.

Outreach to WHOI Ocean Science Journalism Fellow program. 2013, 2015 & 2017.

Field Work and Cruises

>450 Career Scientific SCUBA dives

R/V Pelican, Flower Garden Banks National Marine Sanctuary, March 5 – 10, 2023.

Little Cayman, November 27 – December 4, 2022.

St. John, USVI, November 1 – 7, 2022.

St. John, USVI, June 19- July 1, 2022. Chief Scientist and Lead Diver.

Little Cayman, June 1 – 6, 2022.

St John, USVI, April 3-14, 2022.

St. Croix, USVI, March 29-April 3, 2022.

St Croix, USVI, January 18 – 24, 2022. Chief Scientist and Lead Diver.

Florida Keys, FL coral reefs, January 4-11, 2022.

St. John, USVI coral reefs, January 14 – 29, 2021, Chief Scientist and Lead Diver.

Florida Keys, FL coral reefs, December 3 – 18, 2020.

St. Thomas, USVI coral reefs, February 9 – 14, 2020, Chief Scientist and Lead Diver.

R/V Walton Smith, St. John, USVI coral reefs, November 1 – 20, 2018, Chief Scientist and Lead Diver.

R/V Walton Smith, St. John, USVI coral reefs, April 5 – 13, 2018, Chief Scientist and Lead Diver.

R/V Walton Smith, St. John, USVI coral reefs, November 26 – December 1, 2017.

M/V Alucia, Jardines de la Reina, Cuba, October 31 – November 24, 2017, Chief Scientist and Lead Diver.

St. John, USVI coral reefs, July 17 – 29, 2017.

M/V Rosita, Cape Cod Bay, 5 days over March-April 2017.

M/V Centinela, Gulf of Corcovado, Chile, February 14 – March 2, 2017, Chief Scientist and Lead Diver.

M/V Big Fun Too, coastal Florida and Georgia, January 7 – 14, 2017.

St. John, USVI coral reefs, October 23 – November 3, 2016.

St. John, USVI coral reefs, August 7 – 13, 2016.

St. John, USVI coral reefs, June 4 – 12, 2016.

St. John, USVI coral reefs, November 16 – 24, 2015.

R/V Eugenie Clark, Florida Keys, Florida, May 10 – 14, 2015, Chief Scientist and Lead Diver.

R/V Felipe Poey, Gulf of Batabano coral reefs, Cuba, April 22 – May 2, 2015, Chief Scientist and Lead Diver.

La Reina, Gulf of Ana Maria, Jardines de la Reina coral reefs, Cuba, February 7 – 13, 2015, Chief Scientist and Lead Diver.

Kaneohe Bay, Hawaii coral reefs, October 21 – 30, 2014, Co-Chief Scientist.

Curacao coral reefs (CARMABI laboratory), September 9 – 24, 2014, Co-Chief Scientist and Lead Diver.

Vavvaru Island coral reefs (Korallion laboratory), Maldives, January 12 – 21, 2014, Co-Chief Scientist and Lead Diver.

Tutuila Island coral reefs, American Samoa, November 21-23, 2013, Co-Chief Scientist and Lead Diver.

Ningaloo coral reefs, Western Australia, November 15-17, 2013, Co-Chief Scientist and Lead Diver.

Magnetic Island coral reefs, Eastern Australia, November 11, 2013.

R/V *Eugenie Clark*, Florida Keys coral reefs, FL, April 27 – May 4, 2013. Chief Scientist and Lead Diver.

M/V *Alucia*, Micronesian coral reefs, October 18 – November 15, 2012.

Small boats (100+ hours), Kaneohe Bay coral reefs, Hawaii, 2002 – 2009.

R/V *Revelle*, South Pacific, CLIVAR Program, January 9 – February 20, 2005.

R/V *Gould*, Drake Passage, February 12 – March 24, 2004.

R/V *Melville*, Southern Ocean, Southern Ocean Iron Fertilization Experiment (SOFEX) January 15 – February 28, 2002.

R/V *Endeavor*, Sargasso Sea, October 1 – 16, 2001.

R/V *Sproul*, Southern California, October, 2000.

R/V *Weatherbird*, Sargasso Sea, Hydrostation S, November, 1999.

Invited Presentations

Microorganisms and Metabolites as Diagnostic Indicators for Coral Reefs. NOAA ‘omics seminar series. March 15, 2023. Virtual talk.

Whale Microbiomes. Marine Biological Laboratory, February 1, 2023. Woods Hole, MA.

Whale Microbiomes: Lessons from the Giants of the Ocean. 11th Microbiome Interactions in Health and Disease Conference, Wellcome Genome Campus, UK. October 17, 2022.

Coral reef-microbial interactions. University of Hawaii, Hawaii Institute of Marine Biology. February 24, 2021. Virtual talk.

Coral reef-microbial interactions. University of Miami, Biology Department. March 22, 2021. Virtual talk.

Coral Reef Microorganisms. University of Hawaii, Coral Reef Biology course. April 12, 2021. Virtual talk.

Insights into host-microbe specificity, co-evolution and interactions from marine mammals. Marine Chemistry and Geochemistry Department, Woods Hole Oceanographic Institution. Woods Hole, MA. July 13, 2020.

Insights into host-microbe specificity, interactions and co-evolution from marine mammals. Graduate School of Oceanography, University of Rhode Island. Narragansett, RI. December 18, 2019.

Insights into host-microbe specificity, interactions and co-evolution from marine mammals. Moore Foundation/Smithsonian Tropical Institute workshop on Microbial Symbioses. Bocas del Toro, Panama. December 4, 2019.

The (less) secret life of coral microbes. Department of Earth and Environmental Sciences, Boston College. Boston, MA. October 22, 2019.

The (less) secret life of coral microbes. Gordon Research Conference on Animal-Microbe Symbioses. West Dover, VT. June 17, 2019.

Insights into host-microbe specificity, interactions and co-evolution from marine mammals. School for Marine Science and Technology, University of Massachusetts, Dartmouth. Dartmouth, MA. April 24, 2019.

Insights into host-microbe specificity, interactions and co-evolution from marine mammals. CMI International Microbiome Meeting. San Diego, CA. February 28, 2019.

The (less) secret life of coral microbes. Pennsylvania State University, State College, PA. September 21, 2018.

Unraveling the complexity of the coral reef microbiome. Department of Biology, California State University Northridge, Los Angeles, CA, March 16, 2018.

Unraveling the complexity of the coral reef microbiome. Reef Microbiome workshop, Bellairs Research Institute, Barbados. January 28, 2018.

Unraveling the complexity of the coral reef microbiome. Center for Marine and Environmental Studies, University of the Virgin Islands, St. Thomas, USVI. June 3, 2016.

Unraveling the complexity of the coral reef microbiome. Oceanography Department, Texas A&M, College Station, TX. February 1, 2016.

Insights into coral-microbial symbioses. Aquatic Models of Human Disease conference. Marine Biological Laboratory, Woods Hole MA. October 3, 2018.

Towards the use of microbiomes to diagnose health and promote conservation of marine animals. Mystic Aquarium, Mystic, CT. February 15, 2018.

Coral Microbiomes. International Year of the Reef kick-off event. Bellairs Research Institute, Barbados. January 31, 2018.

Microbiology in Cuban coral reefs. Seminario Científico “Biodiversidad de los Arrecifes de Coral en Cuba” Expedición Científica a bordo del Buque Alucia. Hotel Palacio O’Farrill, Havana Vieja Cuba. November 23, 2017.

Microbiomes as health diagnostic tools for marine animals & ecosystems. Meeting of the NOAA Ecosystem Sciences and Management Working Group. May 12, 2016.

Coral reef microbiology. Sippican Philosophical Society. Marion, MA. May 6, 2013.

Humpback whale skin associated bacteria: freeloaders or friends? Marine Biological Laboratory, Bay Paul Center Seminar. Woods Hole, MA. March 3, 2013.

The microbiomes of reef-building corals. University of North Carolina, Wilmington. Wilmington, NC. January 25, 2013.

What microorganisms can tell us about the health and ecology of corals and whales. 46th Annual Northeast Regional I Meeting of the American Society for Microbiology. Randolph, MA. Oct. 26, 2011.

The microbiomes of reef-building corals. Woods Hole Oceanographic Institution, Woods Hole, MA. February 22, 2010.

Reef water microbiology, coral-associated microbes and the health of corals. North Carolina State University, Raleigh, NC. January 24, 2011.

What microorganisms can tell us about the health and ecology of corals and whales. University of Rhode Island, Narragansett, RI. November 17, 2010.

What microorganisms can tell us about the health and ecology of corals and whales, University of Massachusetts, Dartmouth, Dartmouth, MA. March 29, 2010.

National and International Presentations

denotes student or post-doc in my laboratory

Bloomberg J[#], Hutchinson S[#], Becker C[#], Meiling S, Brandt M, **Apprill A**. Within colony changes in coral microbiomes through time and disease progression. ASLO Aquatic Sciences Meeting, Palma de Mallorca, Spain. June 4 – 9, 2023.

- Becker CC[#], Gray L[#], Mooney TA, Llopez J, **Apprill A**. Microorganisms uniquely capture stony coral tissue loss disease and hurricane disturbances on US Virgin Island reefs. ASLO Aquatic Sciences Meeting, Palma de Mallorca, Spain. June 4 – 9, 2023.
- Cayemitte K[#], Aoki N, Ferguson S, Mooney TA, **Apprill A**. *Ramicrosta* invasive alga causes mortality in Caribbean coral larvae. ASLO Aquatic Sciences Meeting, Palma de Mallorca, Spain. June 4 – 9, 2023.
- Miller C, Kastner M[#], Fredricks H, Horstmann L, Stimmelmayer R, Van Mooy B, **Apprill A**. Who is responsible for digesting wax esters: the whale or the gut microbiome? Gordon Conference on Animal-Microbe Symbiosis. Tuscany, Italy. June 18 – 22, 2023.
- Reigel AM, Easson CG, **Apprill A**, Freeman CJ, Bartley MM, Fiore CF. Variable incorporation of sponge-derived matter by host and symbiotic microalgal (Symbiodiniaceae) fractions of three Caribbean coral species. Gordon Conference on Animal-Microbe Symbiosis. Tuscany, Italy. June 18 – 22, 2023.
- Bergmann O, Fiore CL, **Apprill A**, Reigel AM, Easson CG. Dietary Selectivity in Picoplankton Capture by the Sponges *Niphates digitalis* and *Xestospongia muta*. 51st Annual Benthic Ecology Meeting. Miami, FL, April 26-29, 2023.
- Bartley MM, Crump N, Reigel AM, Easson CG, **Apprill A**, Fiore CL (2023). Impact of coral reef benthic community assemblage on seawater nutrient profile. 51st Annual Benthic Ecology Meeting. Miami, FL. April 26-29, 2023.
- Acuna LZ, Fiore CL, Reigel AM, Freeman CJ, **Apprill A**, Rhacker RW, Easson CG. Metagenomic profiling of nitrogen cycling potential in Caribbean sponges. 51st Annual Benthic Ecology Meeting. Miami, FL. April 26-29, 2023.
- Sikkel PC, Pereira A, Xavier, R, Soares MC, Brown A[#], **Apprill A**. Impacts of cleaning gobies *Elacantinus* spp. on microbial communities in Caribbean coral reefs. Association of Marine Laboratories of the Caribbean, St. Kitts, May 25, 2023.
- Apprill A**, Becker C[#], Weber L[#]. Microorganisms as sensitive indicators of coral reef health. Association of Marine Laboratories of the Caribbean, St. Kitts. May 25, 2023.
- Miller C, Kastner M[#], Fredricks H, Horstmann L, Stimmelmayer R, Van Mooy B, **Apprill A**. Who is responsible for digesting wax esters: the whale or the gut microbiome? Alaska Marine Science Symposium, Anchorage, AK. January 23 – 27, 2023.
- Kastner K[#], Miller C, Van Mooy B, Fredricks H, Horstmann L, Stimmelmayer R, **Apprill A**. Into the belly of the beast: Cultivation of bowhead whale gut gastrointestinal microorganisms and insights into prey lipid metabolism. Alaska Marine Science Symposium, Anchorage, AK. January 23 – 27, 2023.
- Apprill A**, Weber L[#], Becker C[#], Kujawinski EB, Longnecker K, Kido Soule M. Benthic organism composition impacts metabolite exudates and microbial growth on reefs: implications for restoring reefs. Oral presentation at Reef Futures, Sept 26-30 2022, Key Largo, FL.
- Brown A[#], Sharp K, Grace S, Schickle A, McGovern M, **Apprill A**. Temporal dynamics of *Astrangia* microbiomes through quiescence. Oral presentation at Annual Benthic Ecology Meeting, March 29-April 2, 2022, Portsmouth, NH.
- Bestrom N, Becker C, Cobleigh K, Dade L, Bloomberg J, Trotz M, **Apprill A**, Brandt M. Evaluating the impacts of water quality on critical coral reef habitats and disease in the endangered coral species, *Acropora palmata*, in the northern U.S. Virgin Islands. Oral presentation at the 15th International Coral Reef Symposium, Bremen, Germany. 3-8 July 2022,

- Huntley N[#], Brandt ME, Becker C[#], Miller CA, Meiling S, Correa AMS, Holstein D, Muller E, Mydlarz A, Smith TB, **Apprill A**. Experimental transmission of Stony Coral Tissue Loss Disease results in differential microbial responses within coral mucus and tissue. Oral presentation at the 15th International Coral Reef Society Meeting. Bremen, Germany. July 3-8, 2022.
- Reigel A, Easson CG, **Apprill A**, Freeman CJ, Fiore CF. Sponge-derived DOM is assimilated by coral holobionts. 15th International Coral Reef Society Meeting. Bremen, Germany. July 3-8, 2022.
- Brown AL[#], McGovern M, Schickle A, Sharp K, **Apprill A**. Temporal dynamics of *Astrangia poculata* during quiescence. 50th Benthic Ecology Meeting. Oral Presentation. Portsmouth, NH. Mar 29-Apr 2, 2022.
- Bloomberg J[#], Brown A, Sikkil PC, Hendrick G, Nicholson M, **Apprill A**. Cleaning stations as drivers of microbial assemblages on Caribbean coral reefs. 50th Benthic Ecology Meeting, Portsmouth, NH, 29 March–2 April 2022.
- Becker CC[#], Weber L[#], Zgliczynski B, Sullivan C, Sandin S, Clark AS, Muller E, Kido Soule M, Longnecker K, Kujawinski EB, **Apprill A**. Multi-'omics as a tool to understand invisible signatures of reef quality and disease stress in Florida's Coral Reef. Ocean Sciences Meeting. Virtual. March 1-8 2022.
- Ma L[#], Karchner SI, Hahn ME, Clark BW, Nacci DE, **Apprill A**. Genotype-Environment-Microbiome Interactions in the Atlantic Killifish. Ocean Sciences Meeting. Virtual. March 1-8 2022.
- Weber L[#], Becker C[#], Kido Soule M, Longnecker K, Kujawinski E, **Apprill A**. Investigations into the metabolite compositions of exudates released by stony and soft corals as well as an encrusting algae in the Caribbean. International Coral Reef Symposium. July 20, 2021. Virtual Meeting.
- Becker C[#], Weber L[#], Miller C, Muller E, Brandt M, **Apprill A**. Development of rapid and portable microbiome sequencing and its application to the recent outbreak of Stony Coral Tissue Loss Disease. International Coral Reef Symposium. July 19, 2021. Virtual Meeting.
- Santha K[#], Weber L[#], Becker C[#], Armenteros M, Gonzalez P, **Apprill A**. Fish, coral and microbial diversity and ecology at Jardines de la Reina National Park, a pristine coral reef system in the Caribbean. International Coral Reef Symposium. July 19, 2021. Virtual Meeting.
- Grabb KC, Kapit J, Wankel SD, **Apprill A**, Roberson L, Sanchez-Garcia M, Hansel C. Investigating the role of extracellular superoxide in coral health and immunity through sensor development and comparative genomics. International Coral Reef Symposium. July 22, 2021. Virtual Meeting.
- Ma L[#], Becker C[#], Weber L[#], Sullivan C, Zgliczynski B, Sandin S, Brandt M, Smith T, **Apprill A**. Biogeography of reef associated microbial communities at multiple spatial scales. ASLO Aquatic Sciences Meeting, Virtual Meeting. June 22-27, 2021.
- Apprill, A**. *Astrangia* Microbiome. *Astrangia* Working Group Conference, Roger Williams University. Virtual talk. May 18, 2021.
- Twyman K, Hauff MJ, Suca JJ, Lillis A, Randall J, **Apprill A**, Mooney TA, Llopiz J. Small-scale spatial variability in coral reef fish settlement. ASLO Ocean Sciences Meeting. San Diego, CA. February 21, 2020.
- Grabb KC, Kapit J, Wankel SD, Manganini K, Pardis W, **Apprill A**, Sanchez-Garcia M, Roberson L, Armenteros M, Hansel C. Developing techniques to investigate superoxide

- dynamics with the coral holobiont. ASLO Ocean Sciences Meeting. San Diego, CA. February 20, 2020.
- Van Cise AM[#], Wade PR, Goertz CEC, Burek-Huntington K, Parsons K, Hobbs R, **Apprill A**. Through the looking glass: Using epidermal microbiomes to peer into the health of Bristol Bay and Cook Inlet beluga whales. ASLO Ocean Sciences Meeting. San Diego, CA. February 20, 2020.
- Mooney TA, **Apprill A**, Lillis A[#], Jones I, Rajagopal S, Suca JJ, Becker C[#], Llopiz J. Coral chorus: reef soundscape conditions influence corals of diverse life stages. 5th International Conference on the Effects of Noise on Aquatic Life. Den Haag, Netherlands. July 8, 2019.
- Van Cise AM[#], Wade PR, Goertz CEC, Burek-Huntington K, Parsons K, Hobbs R, **Apprill A**. Through the looking glass: Using epidermal microbiomes to peer into beluga health. Workshop on Beluga Whale Research and Conservation. Mystic, CT. March 12 – 14, 2019.
- Parsons K, Ylitalo G, Kellar N, **Apprill A**, Romano T, Baker S, Robertson K, McGuire T, Michaud R, Rowles T, Wade P. A holistic approach to examining factors limiting the health and recovery of beluga whales (*Delphinapterus leucas*) in Cook Inlet, AK. 2nd International Workshop on Beluga Whale Research and Conservation. Mystic, CT. March 12 – 14, 2019.
- Apprill A**, Armenteros M, Weber L[#], Lillis A[#], Mooney TA, Gonzalez P, Hernández-Delgado F, Ferrer Rodríguez VM, Ramos Romero A, Barragán JLL, Pantoja LE, Fernández MC, Iglesias MV, Hansel C, Grabb K, Babbín A, Tamasi T, García Menéndez S. ‘Invisible to seen’ biodiversity in Jardines de la Reina coral reefs: Results from 2017 *Alucia* expedition. MARCUBA. Havana, Cuba. October 16, 2019.
- Weber L[#], Santoro AE, González-Díaz P, Armenteros M, Rodríguez V, Bretos F, **Apprill A**. Microbial signatures of coral reefs along a gradient of human impact. MARCUBA. Havana, Cuba. October 16, 2019.
- Navarro-Martinez ZM, Espinosa L, Lake JJ, **Apprill A**, Armenteros M. Diversity and assemblage structure of coral reef fishes in the reef system Jardines de la Reina (Cuba). MARCUBA. Havana, Cuba. October 16, 2019.
- Lillis A[#], Mooney TA, **Apprill A**, Armenteros M. Listening to the Jardines de la Reina: what can variation in reef sounds tell us? MARCUBA. Havana, Cuba. October 16, 2019.
- Mooney TA, Lillis A[#], **Apprill A**, Armenteros M. Local bioacoustics soundscapes of coral reef communities. MARCUBA. Havana, Cuba. October 16, 2019.
- Apprill A**, Bent S[#], Hansel C, Sharp K. Impacts of antibiotic disturbance on the microbiome of *Astrangia poculata*. *Astrangia* workshop at Roger Williams University, Bristol RI. August 1, 2018.
- Weber L[#], Gonzalez-Diaz P, Armenteros M, **Apprill A**. Genomic investigations into coral-picoplankton interactions within the coral ecosystem. Gordon Research Conference on Marine Microbes. July 1-6, 2018.
- Apprill A**. Evaluating and mapping coral reef health using microbial data. Schmidt Ocean Institute workshop, San Diego, CA. June 21, 2018.
- Moore M, Durban J, **Apprill A**, Miller C, Fearnbach H, Avila B, Lynn M, Pettis H, Perryman W. Aerial perspectives of large whale health. International Association for Aquatic Animal Medicine, Long Beach, CA. May 19-23, 2018.
- Suca J, Lillis A, Jones I, **Apprill A**, Llopiz J, Mooney TA. The response of reef fish settlement to coral reef soundscapes: A field experiment. ASLO Ocean Sciences, Portland OR. February 13, 2018.

- Bent S[#], **Apprill A**, Hansel C. Reactive oxygen species production by the northern star coral (*Astrangia poculata*). ASLO Ocean Sciences, Portland, OR. February 12, 2018.
- Apprill A**, Miller CA, Moore MJ, Durban JW, Fearnbach H, Barrett-Lennard L. Thar she blows: Drone-enabled breath microbiomes of large whales. Society for Marine Mammalogy. Halifax, Nova Scotia, Canada. October 23 – 27, 2017.
- Miller CA[#], Horstmann-Dehn, George JC, Holm H, Fredricks H, Van Mooy B, **Apprill A**. Microbes, lipids, and digesta: biogeography of the gut microbiome and lipidome of bowhead whales *Balaena mysticetus*. Society for Marine Mammalogy. Halifax, Nova Scotia, Canada. October 23 – 27, 2017.
- Bierlich KC[#], Miller CA[#], DeForce E, Friedlaender A, Johnston DW, **Apprill A**. Seasonal and regional variability in the skin microbiomes of humpback whales along the Western Antarctic Peninsula. Society for Marine Mammalogy. Halifax, Nova Scotia, Canada. October 23 – 27, 2017.
- Apprill A**, Miller CA[#], Moore MJ, Durban JW, Leslie M, Chiang G, Bahamonde P. Remote sensing of Patagonian large whale health using drones. IMPAC4, La Serena, Chile. September 4 – 8, 2017.
- Apprill A**, Miller CA[#], Moore MJ, Durban JW, Fearnbach H, Barrett-Lennard LG. Extensive core microbiome in drone-captured whale blow supports a framework for health monitoring. Gordon Research Conference on Animal-Microbial Symbioses, West Dover, Vermont. June 11 – 16, 2017.
- Keller A[#], **Apprill A**, Lebaron P, Robbins J, Whalen K. Isolating diverse microorganisms via targeted cultivation of marine animal microbiomes. ASLO Aquatic Sciences, Honolulu, HI. February 26 – March 3, 2017.
- Weber LG[#], Santoro S, Gonzalez P, Armenteros M, **Apprill A**. Do coral ecospheres exist?: Species specific influences of corals on planktonic microbial assemblages in their immediate surroundings. ASLO Aquatic Sciences, Honolulu, HI. February 26 – March 3, 2017.
- Apprill A**, Weber LG[#], Xun L, Santoro AE, Neave M[#], Voolstra CR, Gonzalez P, Armenteros M. Unraveling the complexity of the coral microbiome: descriptions of putative and confirmed endosymbionts. International Coral Reef Symposium, Honolulu, HI. June 19 – 24, 2016.
- Diaz JM, Hansel CM, **Apprill A**, Brighi C[#], Zhang T, Weber L[#], McNally S[#], Xun L. Species-level variability in superoxide production by symbiotic corals. International Coral Reef Symposium, Honolulu, HI. June 19 – 24, 2016.
- Hansel CM, Diaz JM, **Apprill A**, Zhang T, Weber L[#], Parsons R. Decoupling of photosynthesis and extracellular superoxide by corals and their symbionts. International Coral Reef Symposium, Honolulu, HI. June 19 – 24, 2016.
- McNally SP[#], Parsons RJ, Santoro AE, **Apprill A**. Multifaceted impacts of the stony coral *Porites astreoides* on picoplankton abundance and community composition. International Coral Reef Symposium, Honolulu, HI. June 19 – 24, 2016.
- Rachmawati R[#], **Apprill A**, Barber PH. Variations in coral microbiomes among Indonesian reefs with differential levels of bleaching. International Coral Reef Symposium, Honolulu, HI. June 19 – 24, 2016.
- Weber LG[#], DeForce E, **Apprill A**. Optimization of DNA extraction for characterizing the coral microbiome. International Coral Reef Symposium, Honolulu, HI. June 19 – 24, 2016.

- Farfan G, **Apprill A**, Webb S, Hansel C. Zinc and sulfur distributions and bonding environments in scleractinian corals. ASLO Ocean Sciences Meeting, New Orleans, LA. February 21 - 26, 2016.
- Apprill A**, Miller CA[#], Baird R, Robbins J, Niemeyer M, Waring G, Bogolomoni A, Landry S. Comparison of skin microbiomes across 16 marine mammal species. Society for Marine Mammalogy, San Francisco, CA. December 13 - 18, 2015.
- Miller CA[#], Horstmann-Dehn L, George JC, Baumgartner MF, Van Mooy B, **Apprill A**. It is not just about the poop: biogeography of the gut microbiota in bowhead whales provides novel insights into digestion. Society for Marine Mammalogy, San Francisco, CA. December 13 - 18, 2015.
- Moore M, Durban J, Chiang G, Hickmott L, Bocconcelli A, Howes G, Bahamonde P, Gilpatrick J, LeRoi D, Perryman W, **Apprill A**, Miller CA[#]. Photogrammetric and respiratory assessment of blue whales using small drones. Society for Marine Mammalogy, San Francisco, CA. December 13 - 18, 2015.
- Apprill A**. The marine mammal skin microbiome: a ‘non-model’ symbiotic system that may advance our knowledge of animal health. Gordon Research Conference on Animal-Microbe Symbiosis, Waterville, NH. June 21 – 26, 2015.
- Rachmawati R[#], **Apprill A**, Barber P. Coral symbionts and the host susceptibility to bleaching. Yosemite Symbiosis Workshop, Yosemite National Park, CA. May 2 - 3, 2015. **Oral presentation**
- Brighi C[#], Diaz JM, **Apprill A**, Hansel CM. Temperature and light effects on extracellular superoxide production by algal and bacterial symbionts in corals: Implications for coral bleaching. ASLO Aquatic Sciences Meeting, Granada, Spain. February 22 – 27, 2015.
- Farfan G, Webb SM, **Apprill A**, Hansel CM. Elucidating the Composition and Distribution of Trace Metals in Corals. AGU Fall Meeting, San Francisco, CA. December 15 – 19, 2014.
- Brighi C[#], Diaz JM, **Apprill A**, Hansel CM. Temperature and light effects on extracellular superoxide production by algal and bacterial symbionts in corals: Implications for coral bleaching. AGU Fall Meeting, San Francisco, CA. December 14 – 19, 2014.
- Neave M[#], **Apprill A**, Voolstra CR. An integrated approach to examining a globally abundant coral symbiont. ISME-15 Meeting, Seoul, Korea. August 25 – 29, 2014.
- Neave MJ[#], **Apprill A**, Voolstra CR. Comparative Genomics of *Endozoicomonas*, a dominant coral-associated bacteria. ASLO Ocean Sciences Meeting, Honolulu, HI. February 23 – 28, 2014.
- Weber LG[#], **Apprill A**, Repeta, D. Coral Snot: Exploring the chemical interplay between coral mucus and microbes. ASLO Ocean Sciences Meeting, Honolulu, HI. February 23 – 28, 2014.
- Apprill A**, Weber LG[#], Santoro AE. Constraining microbial communities to micro-niches within the coral holobiont. ASLO Ocean Sciences Meeting, Honolulu, HI. February 23 – 28, 2014.
- McNally S[#], Parsons RJ, **Apprill A**. *Porites astreoides* corals influence reef water bacterioplankton communities. ASLO Ocean Sciences Meeting, Honolulu, HI. February 23 – 28, 2014.
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