

Focus

My work focuses on how humans use technology to interact with and experience the ocean. This is expressed through three separate tracts: Understanding the environmental consequences of deep-sea mining and developing policy and management frameworks to mitigate those impacts; building low-cost, open-source tools for underwater exploration, including remotely operated vehicles and sensor platforms; and developing educational curricula and conservation technology platforms to empower ocean knowledge seekers to develop their own research tools.

Education

| | |
|--|-----------|
| Ph.D. Marine Science and Conservation: Duke University, Nicholas School of the Environment | 2007-2012 |
| B.Sc. Biology (honors): Duke University, Trinity School of Arts and Sciences | 2003-2007 |

Professional Experience

| | |
|---|--------------|
| CEO, Blackbeard Biologic: Science and Environmental Advisors | 2014-present |
| Founder. An environmental consulting firm specializing in high seas policy, conservation technology, and ocean education | |
| Editor-in-Chief, Deep-sea Mining Observer | 2018-2023 |
| Ecology Consultant, Sofar Ocean (né OpenROV) | 2016-2019 |

Research Positions

| | |
|---|--------------|
| Adjunct Professor: Center for Environmental Science, University of Maryland Horn Point Lab | 2017-present |
| Affiliated Faculty: School of Marine Science and Policy, University of Delaware | 2017-present |
| Visiting Scientist, Virginia Institute of Marine Science | 2015-2016 |
| Post-Doctoral Fellow, Duke University Marine Lab (CL Van Dover) | 2012-2013 |
| PhD Student, Duke University Marine Lab (CL Van Dover) | 2007-2012 |
| Research Assistant, Duke University (R Vilgalys) | 2006 |
| Aquarist Assistant, Seahorse Breeding Program: National Aquarium in Baltimore (J Gomezjurado) | 2001-2004 |

Scientific Publications: Lead Author

Thaler AD and Collazo Pagán LA (2026) Preliminary report of microplastic accumulation in shrimp (*Rimicaris hybisiae*) and snails (*Itheyaspira* spp. and *Provanna* spp.) from the deepest hydrothermal vents. In Review.

Thaler AD, Sturdivant SK, Neches RY, Levenson JJ. (2024) The OpenCTD: A low-cost, open-source CTD for collecting baseline oceanographic data in coastal waters. *Oceanography*, <https://doi.org/10.5670/oceanog.2024.602>.

Thaler AD, Amon D (2019) 262 Voyages Beneath the Sea: a global assessment of macro- and megafaunal biodiversity and research effort at deep-sea hydrothermal vents. *PeerJ*, 7: e7397.

Thaler AD, Parsons ECM, de Vos A, Rose NA, Smith C, Fretz D (2019) Bot meets Whale: Best practices for mitigating negative interactions between marine mammals and microROVs. *Frontiers in Marine Science*, 6:506.

Thaler AD, Saleu W, Carlsson J, Schultz TF, Van Dover, CL (2017) Population structure of *Bathymodiolus manusensis*, a deep-sea hydrothermal vent-dependent mussel from Manus Basin, Papua New Guinea. *PeerJ*, 21: e3655.

Thaler AD, Rose NA, Cosentino AM, Wright A (2017) Lions, Whales, and the Web: Transforming Moment Inertia into Conservation Action. *Frontiers in Marine Science*, 4: 292.

Thaler AD, Freitag A, Bergman E, Fretz D, Saleu W (2015) Robots as vectors for marine invasions: best practices for minimizing transmission of invasive species via observation-class ROVs. *Tropical Conservation Science*, 8(3): 711-717

Thaler AD and Shiffman D (2015) Fish tales: Combating fake science in popular media. *Ocean and Coastal Management*, doi:10.1016/j.ocecoaman.2015.04.005.

Thaler AD, Plouviez S, Saleu W, Alei F, Jacobson A, Boyle EA, Schultz TF, Carlsson J, Van Dover CL (2014) Comparative population structure of two deep-sea hydrothermal-vent-associated decapods (*Chorocaris* sp. 2 and *Munidopsis lauensis*) from southwestern Pacific back-arc basins. *PLoS ONE*, 9: e101345.

Thaler AD, Zelnio K, Saleu W, Schultz TF, Carlsson J, Cunningham C, Vrijenhoek R, Van Dover CL (2011) The effects of spatial scale on the population dynamics of *Ifremeria nautilei*, a hydrothermal vent endemic gastropod from the southwest Pacific. *BMC Evolutionary Biology*, 11(1): 372.

Thaler AD, Vilgalys R, Van Dover CL (2011) Ascomycete phylotypes recovered from a Gulf of Mexico methane seep are identical to an uncultured deep-sea fungal clade from the Pacific. *Fungal Ecology*. doi:10.1016/j.funeco.2011.07.002.

Thaler AD, Zelnio KA, Jones R, Carlsson J, Van Dover CL, Schultz T (2010) Characterization of 12 polymorphic microsatellite loci in *Ifremeria nautilei*, a chemoautotrophic gastropod from deep-sea hydrothermal vents. *Conservation Genetics Resources*. doi:10.1007/s12686-010-9174-9.

Scientific Publications: Co-authored (*indicates lead author is an undergraduate advisee)

Yahagi T, **Thaler AD**, Van Dover CL, Kano Y (2020) Population connectivity of the hydrothermal-vent limpet *Shinkaillepas tollmanni* in the Southwest Pacific (Gastropoda: Neritimorpha: Phenacolepadidae). *PLoS ONE*, 15(9): e0239784.

Turner PJ, **Thaler AD**, Freitag A, Collins PC (2019) Deep-sea hydrothermal vent ecosystem principles: identification of ecosystem processes, services and communication of value. *Marine Policy*, 101: 118-124.

McClain C, Balk MA, Benfield MC, Branch TA, Chen C, Cosgrove J, Dove ADM, Helm RR, Hochberg FGE, Gaskins LC, Lee FB, Marshall A, McMurray SE, Schanche C, Stone SN, **Thaler AD** (2015) Sizing Ocean Giants: Patterns of Intraspecific Size Variation in Marine Megafauna. *PeerJ*, 2: e715.

Shiffman DS, Gallagher AJ, Wester J, Macdonald C, **Thaler AD**, Cooke SJ, Hammerschlag N (2015) A letter of clarification from the authors of “trophy fishing for species threatened with extinction”. *Marine Policy*. 53: 213-214.

Shiffman DS, Gallagher AJ, Wester J, Macdonald C, **Thaler AD**, Cooke SJ, Hammerschlag N (2014) Trophy fishing for species threatened with extinction: a way forward building on a history of conservation. *Marine Policy*. 50: 318-322.

*Boyle EA, **Thaler AD**, Jacobson A, Plouviez P, Van Dover CL (2013) Characterization of 10 polymorphic microsatellite loci in *Munidopsis lauensis*, a squat-lobster from the southwestern Pacific. *Conservation Genetics Resources*, 5: 647-649.

*Jacobson A, Plouviez S, **Thaler AD**, Van Dover CL (2013) Characterization of 9 polymorphic microsatellite loci in *Lamellibrachia* sp. 2, a tubeworm found at deep-sea hydrothermal vents and cold seeps. *Conservation Genetics Resources*, 5: 1005-1007.

Collins PC, Copley J, Boschen R, Forde J, Se-Jong J, Kennedy B, Lindsay D, Marsh L, Nye V, Patterson A, Watanabe H, Yamamoto H, Carlsson J, **Thaler AD** (2013) VentBase: Developing a consensus among stakeholders in the deep-sea regarding environmental impact assessment for deep-sea mining—A workshop report. *Marine Policy*, 42: 334-336.

*Jacobson A, Plouviez S, **Thaler AD**, Van Dover CL (2013) Characterization of 13 polymorphic microsatellite loci in *Rimicaris hybisae*, a shrimp from deep-sea hydrothermal vents. *Conservation Genetics Resources*. DOI 10.1007/s12686-012-9825-0.

Schultz TF, Hsing P-Y, Eng A, Zelnio KA, **Thaler AD**, Carlsson J, Van Dover CL (2011) Characterization of 18 polymorphic microsatellite loci from *Bathymodiolus manusensis* (Bivalvia, Mytilidae) from deep-sea hydrothermal vents. *Conservation Genetics Resources*. doi: 10.1007/s12686-010-9272-8

Zelnio KA, **Thaler AD**, Jones RE, Saleu W, Schultz TF, Van Dover CL, Carlsson J (2010) Characterization of nine polymorphic microsatellite loci in *Chorocaris* sp. (Crustacea: Caridea: Alvinocarididae) from deep-sea hydrothermal vents. *Conservation Genetics Resources*. doi:10.1007/s12686-010-9243-0.

Forward RB, **Thaler AD**, Singer R (2007) Entrainment of the activity rhythm of the mole crab *Emerita talpoida*. *Journal of Experimental Marine Biology and Ecology*, 341(1): 10–15.

Publications: Technical Reports, Gray Literature, Chapters, Other

- Thaler AD** (2025) Impacts of Deep-sea Mining on Migratory Species: Review and Knowledge Gaps. CMS Secretariat, Bonn, Germany.
- Rose NA, Barreto AS, Parsons ECM, Porter L, Simmonds MP, Smith, CR, **Thaler AD**, Thompson K, Walloe L, Williams R, Zerbini A (2024) Report of the Intersessional Correspondence Group on Deep-Sea Mining. Paper presented to the Scientific Committee of the 69th meeting of the International Whaling Commission, May 2024, Bled, Slovenia. SC/69B/E/08.
- JJ Levenson, A Martinez, E Uribe, S Ben-Maor, J Cortez, J Contreras, **A Thaler**, J Bosyk (2021) Developing the next generation of animal telemetry. US Department of the Interior, Bureau of Ocean Energy Management. OCS Study.
- Thaler A**, Sturdivant SK, Neches R, Black I (2019) OpenCTD: Construction and Operation. *MarXiv*. Oceanography for Everyone. Available at: <https://osf.io/preprints/marxiv/8evsq/>
- Thaler A**, Amon D (2019) Mining the Deep: A global assessment of biodiversity and research effort at deep-sea hydrothermal vents in relation to mining of seafloor massive sulphides. *MarXiv*. Pew Charitable Trusts. Available at: <https://osf.io/preprints/marxiv/5dc8a/>
- Cabrera I, Amon D, **Thaler AD**, Peterka L, MacPherson R, Kerr J (2016) National Marine Sanctuary Designation for the Marianas Trench Marine National Monument: Completing an Environmental Legacy. *MarXiv*. Pew Global Ocean Legacy. Available at: <https://zenodo.org/record/3271768>
- Thaler AD** (2016) Blogging for beginners. *Science*. 351(6279): 1270.
- Van Dover CL, Arnaud-Haond S, Clark MR, Smith S, **Thaler AD**, Van den Hove S (2016) Application of Biological Studies to Deep-Sea Governance and Management of Deep-Sea Resources. Clark MR, Consalvey M, Rowden AA (Eds.), *Biological Sampling in the Deep Sea*. Wiley-Blackwell.
- Thaler AD** (2015) Marine Mining. In Wohl E (Ed.), *Environmental Science*. Oxford Bibliographies. DOI: 10.1093/OBO/9780199363445-0047.
- Thaler AD** (2014) Book Review: Prager, Ellen. Sex, Drugs, and Sea Slime: The Ocean's Oddest Creatures and Why They Matter. *Biological Conservation*. 169: 344.
- Thaler AD**, Zelnio KA, Freitag A, MacPherson R, Shiffman D, Bik H, Goldstein M, McClain C (2012) Digital Environmentalism: Tools and strategies for the evolving online ecosystem. In D. Gallagher (Ed.), *Environmental Leadership: A Reference Handbook*. SAGE Reference.
- Thaler AD** (2011) Legacy of Rebirth: Lessons from Monterey Bay. *Trends in Ecology and Evolution*. DOI: 10.1016/j.tree.2011.02.002

Publication: General Audience

- Thaler AD** (2025) *The Abyss in Ocean: From the Shore to the Abyss*. de Vos A (ed) Thames & Hudson USA. <https://www.thamesandhudsonusa.com/books/ocean-from-the-shore-to-the-abyss-hardcover>

Invited Talks, Public Talks, Panels, and Seminars

- Sierra Club: *The Science, Policy, and Cultural Impacts of Deep-sea Mining*, Honolulu, Hawai'i and online (November 2025)
- University of Maryland Center for Environmental Sciences: *Deep-sea Mining: Environmental Impacts and State of the Industry*, Horn Point, MD (October 2025)
- United States Congress: *More the Minerals: Discussing Deep-sea Mining*, Washington DC (September 2025)
- International Seabed Authority: *Nodules Documentary Science Panel*, Kingston, Jamaica (July 2025)
- Talbot Country Free Library: *Exploring the deep-sea mini-museum*, St. Michaels, MD (November 2023)
- Gathering of Open Science Hardware Community Call: *The OpenCTD: Open-source Oceanography for Everyone, Online* (October 2023)
- Nerd Nite DC: *The Glomar Explorer: What we can confirm and deny about "vast government conspiracies" from Project Azorian*, Washington D.C. (September 2023)

Talbot County Free Library: *St. Michaels Floodwatch: Understanding Nuisance Flooding and Sea Level Rise in St. Michaels*, Easton, MD (March 2023)

Talbot County Free Library: *St. Michaels Floodwatch: Understanding Nuisance Flooding and Sea Level Rise in St. Michaels*, St. Michaels, MD (January 2023)

25th Session of the International Seabed Authority: *262 Voyages Beneath the Sea: A global assessment of biodiversity and research effort at active Seafloor Massive Sulphides*, Kingston, Jamaica (July 2019)

Nerd Nite DC: *#TeamKaiju: Why We're Fighting Giant Robots in the Marianas Trench*, Washington, DC (June 2018)

Baltimore Underground Science Space: *Open-source Oceanography: New tools for community-driven marine science and conservation*, Baltimore, Maryland (February 2018)

Bureau of Ocean Energy Management: *Open-source Oceanography: New tools for community-driven marine science and conservation*, Washington D.C. (June 2017)

NOAA Cooperative Oxford Lab: *Open-source Oceanography: New tools for community-driven marine science and conservation*, Oxford, Maryland (June 2017)

University of Delaware: *Open-source Oceanography: New tools for community-driven marine science and conservation*, Lewes, Delaware (March 2017)

T. Stell Newman Visitor's Center: *From Surface to Abyss: Science and Exploration in the Marianas Trench Marine National Monument*, Commonwealth of the Northern Mariana Islands (December 2016)

University of Maryland Horn Point Marine Lab: *Open-source Oceanography: New tools for marine science and conservation*, Cambridge, Maryland (November 2016)

National Aquarium in Baltimore: *Marine science and conservation via low-cost robotics*, Baltimore, Maryland (August 2015)

University of Miami: *Marine Ecology via Remote Observation in Papua New Guinea*, Miami, Florida (March 2015)

Metcalf Institute for Marine and Environmental Reporting: *Blogging Your Scientific Research*, Rhode Island (July 2014)

Monterey Bay Aquarium Research Institute: *Building a low-cost, open-source CTD for science and research*, Moss Landing, California (April 2014)

California State University, Sacramento: *DrownYourTown: Lessons in Climate Change Outreach through Real-time Sea Level Rise Modeling*, Sacramento, California (March 2014)

Mount Desert Island Biological Laboratory: *Diversity and Connectivity in Deep-sea Hydrothermal Vent Communities from the Caribbean and Western Pacific*, Mount Desert Island, Maine (September 2013)

University of Papua New Guinea: *Biology and Diversity at Deep-sea Hydrothermal Vents*, Port Moresby, Papua New Guinea (June 2008)

Conference presentations *indicates keynote talk

Ocean Life Conference (May 2024)—TALK The OpenCTD: Creating a Low-Cost, Open-Source CTD for Science, Education, and Exploration. **AD Thaler.**

Ocean Sciences Meeting (February 2024)—TALK The OpenCTD: Creating a Low-Cost, Open-Source CTD for Science, Education, and Exploration. **AD Thaler**, SK Sturdivant, RY Neches, JJ Levenson.

Whale Watch Naturalist Workshop (April 2020)—TALK The OpenCTD: creating a low-cost open-source oceanographic instrument for everyone. **AD Thaler.**

Minerals Under Water Symposium (August 2019)—TALK Emerging technologies for exploration and independent monitoring of seafloor extraction in Areas Beyond National Jurisdiction. **AD Thaler.**

National Marine Educators Association (July 2019)—PANEL Empowering a Community of Ocean Explorers through Accessible Tools and Technology. **AD Thaler**, J Levenson, S Kelly, G Hawkes.

Ocean Exploration Forum (November 2018)—TALK Open-source technologies for ocean exploration. **AD Thaler.**

Deep Sea Biology Society (September 2018)—TALK The effect of research effort on global biodiversity and anthropogenic risk at deep-sea hydrothermal vents. **AD Thaler.**

Fifth International Marine Conservation Congress (June 2018)—SYMPOSIUM Human Impacts in the Deep Sea. D Amon and **AD Thaler**. TALK The effect of research effort on global biodiversity and anthropogenic risk at deep-sea hydrothermal vents. **AD Thaler**. WORKSHOP Tapping into the Global Iconographic Lexicon: Making Ocean Emoji. **AD Thaler**.

Capitol Hill Ocean Week (June 2018)—PANEL Open Innovation to Drive a Sea Change. A Deghan, S Beh, T Berger-Wolf, **AD Thaler**.

*Gathering of Open-source Science Hardware (March 2017)—TALK Open Source for an Open Ocean: New tools for community-driven marine science, conservation, and exploration. **AD Thaler**.

*Fourth International Marine Conservation Congress (August 2016)—TALK Ocean Outreach in an Evolving Online Ecosystem. **AD Thaler**.

Focus Group on Biodiversity in Areas Beyond National Jurisdiction, IMCC4 (August 2016)—TALK 10,000 Eyes in the Ocean: Leveraging Open Science to Increase Research Capacity. **AD Thaler**, SK Sturdivant, R Neches.

WeRobot (April 2016) Democratizing Exploration, Conservation, and Marine Science through Low-Cost Open-Source Underwater Robots. **AD Thaler** and J Maier. University of Miami School of Law.

National Ocean Exploration Forum (November 2015)—TALK Social Media and the Sea. **AD Thaler**.

Third International Marine Conservation Congress (August 2014)—TALK Toward deep-sea conservation: Defining natural population structure in hydrothermal-vent-associated species. **AD Thaler**, S Plouviez, TF Schultz, J Carlsson, CL Van Dover.

Maker Faire (May 2014)—TALK Nerding for Nature: Bringing together technologists and environmental professionals, students and citizen scientists to help understand, protect, and revive the natural world. McGary K, Headrick S, **Thaler AD**.

American Geophysical Union (December 2013)—POSTER Developing a low-cost open-source CTD for research and outreach. **AD Thaler** and K. Sturdivant.

Science Online Oceans (October 2013)—SESSION Hacking the Ocean, developing novel tools for marine science and outreach. **AD Thaler**.

13th International Deep-Sea Biology Symposium (December 2012)—SESSION High-throughput sequencing approaches in the Deep-Sea. S Plouviez and **AD Thaler**; POSTER Comparative population genetics of two hydrothermal-vent-endemic species, *Chorocaris* spp. and *Olgasolaris tollmanni* from southwest Pacific back-arc basins. **AD Thaler**, S Plouviez, KA Zelnio, A Jacobson, D Jollivet, J Carlsson, T Schultz, CL Van Dover

VentBase (April 2012)—TALK Beyond blogging—using new media tools to reach stakeholders. **AD Thaler**

Ocean Sciences Meeting (February 2012)—POSTER An assessment of microsatellite markers for conservation and management. **AD Thaler** and KA Zelnio

Duke University Marine Lab Graduate Student Mini-Symposium (September 2011)—TALK A pragmatic assessment of microsatellite markers for conservation and management. **AD Thaler**

Benthic Ecology (March 2011)—TALK Gene flow among populations of hydrothermal vent-endemic species from Manus Basin. **AD Thaler**, KA Zelnio, TF Schultz, C Cunningham, CL Van Dover

Benthic Ecology (March 2010)—TALK Gene Flow and Population Structure of *Ifremeria nautilei*, a deep-sea hydrothermal-vent-endemic gastropod, from three Western Pacific Back-Arc Basins. **AD Thaler**, W Saleu, K Zelnio, R Jones, P Jo, PY Hsing, J Carlsson, T Schultz, R Vrijenhoek, CL Van Dover

International Meeting on Chemosynthetically-based Ecosystems (June 2009)—POSTER Genetic variation and population structure of *Ifremeria nautilei* from Manus Basin. **AD Thaler**, J Carlsson, PY Hsing, P Jo, R Jones, T Schultz, CL Van Dover

Duke University Marine Lab Graduate Student Mini-Symposium (November 2008)—TALK Dominant Fungi from Gulf of Mexico methane seep represent a previously undescribed clade. **AD Thaler**, T Schultz, CL Van Dover, R Vilgalys

Mid-Atlantic States Mycology Conference (April 2008)—POSTER Dominant Fungi from Gulf of Mexico methane seep represent a previously undescribed clade. **AD Thaler**, T Schultz, CL Van Dover, R Vilgalys

Ridge 2000: From mantle to microbe (March 2008)—POSTER Dominant Fungi from Gulf of Mexico methane seep represent a previously undescribed clade. **AD Thaler**, T Schultz, CL Van Dover, R Vilgalys

OpenCTD Workshops Led

OpenCTD Student Workshop (Fall 2024) Road Town, BVI, H Lavity Stoutt Community College
OpenCTD Student Workshop (Fall 2024) Fairbanks, AK, University of Alaska Fairbanks
OpenCTD Train the Trainers Workshop (Fall 2024) Homer, AK, Center for Alaskan Coastal Studies
OpenCTD Instrumentation Workshop (Summer 2024) Wanchese, NC, Coastal Science Institute, ECU
OpenCTD Train the Trainers Workshop (Spring 2024) Boston, MA, Courageous Sailing
OpenCTD Documentation Workshop (Summer 2023) Horn Point, MD, UMD Center for Marine and Environmental Sciences
OpenCTD Student Workshops (Summer 2022) Homer, Alaska, Chapman High School and Homer Flex School
Introduction to the OpenCTD (January 2020) Bermuda Institute of Ocean Science, Bermuda
OpenCTD Construction and Operation (May 2019) Stellwagen Bank Marine National Sanctuary, MA, USA

Other Workshops *designed and led by AD Thaler

*Blueprint: Oceans + Innovation (February 2019) Duke University, Durham, NC, USA
Deep-Sea Mining: Resolving Risk (November 2018) MIT, Boston, Massachusetts, USA
*Make for the Planet Borneo (June 2018) Fifth International Marine Conservation Congress, Kuching, Malaysia
Oceandotcomm (March 2018) Louisiana Universities' Marine Science Consortium, Terrebonne Parrish, LA, USA
*Earth Optimism Summit Make-for-the-Planet Hackathon (April 2017) Washington DC, USA
OpenROV Lake Tahoe Expedition (June 2016) Lake Tahoe, California, USA
OpenROV Lake Tahoe Haxpedition (April 2015) Lake Tahoe, California, USA
Flight for Nature (April 2014) Mare Island, California, USA
Vulcan Ocean Startup Weekend (March 2014) Seattle, Washington, USA
DeSSC Early Career Scientist Training Workshop (December 2013) San Francisco, California, USA
Neptune Minerals Environmental Workshop (June 2012) San Diego, California, USA
Nautilus Minerals Environmental Impact Assessment planning meeting (February 2012) Salt Lake City, Utah, USA
ConGen–Population Genetics Data Analysis Course (August 2009) Flathead Lake Biological Station, Montana, USA

Research Cruises (*indicates Thaler was chief scientist)

| | |
|--|---------------|
| * <i>Okeanos Marianas</i> (1 day)—MEVRO Facilitator Training Cruise, Saipan | April 2018 |
| <i>RV Blue Heron</i> (4 days)—UNOLS Chief Scientist Training Cruise, Lake Superior | August 2015 |
| <i>RRS James Cook/ROV Isis</i> (9 days)—sediment coring near Montserrat | March 2013 |
| <i>RRS James Cook/ROV Isis</i> (21 days)—population sampling at Cayman Rise hydrothermal vents | February 2013 |
| <i>R/V Cape Hatteras</i> (1 day)—sediment sampling off Cape Hatteras | March 2011 |
| <i>R/V Point Lobos/ROV Ventana</i> (1 day)—whale bone survey in Monterey Bay | October 2009 |
| <i>M/V NorSky/ROV ST212</i> (30 days)—population sampling at Manus Basin hydrothermal vents | July 2008 |
| <i>SSV Corwith Cramer</i> (6 days)—educational cruise for Invertebrate Zoology | January 2008 |
| <i>R/V Cape Hatteras</i> (23 days)—pelagic and benthic Gulf of Mexico methane seep sampling | August 2007 |
| <i>R/V Nancy Foster</i> (8 days)—SONAR mapping of Atlantic deep-sea coral sites | October 2006 |

Key Grants

| | | |
|---|----------|-----------|
| ONR Arctic Fellows Award: Building low-cost temperature monitoring sensors for remote Arctic deployments | \$9,950 | 2024 |
| NCREP: Salinity, Temperature, and Pressure Observations in the Outer Banks Sounds: Community-Driven Marine Energy Characterization through a Low-Cost, Open-Source CTD | \$39,003 | 2024-2025 |
| OSHF: OpenCTD Workshop, Documentation, and Validation Event | \$6,470 | 2023 |
| Experiment Foundation: Establishing a baseline for microplastic | \$11,346 | 2023-2024 |

accumulation in deep-sea animals using an historical sample archive

| | | |
|--|--------------|-----------|
| NOAA SeaGrant: Benthic Microbial Fuel Cells | \$51,818 | 2022-2024 |
| Pew Charitable Trusts: Deep-sea Mining Observer | \$16,061 | 2021-2022 |
| Pew Charitable Trusts: Deep-Sea Mining Observer | \$53,094 | 2020-2021 |
| Pew Charitable Trusts: Deep-Sea Mining Observer | \$53,094 | 2019-2020 |
| NOAA: Ocean Exploration Fellow | \$350 | 2018 |
| Pew Charitable Trusts: Deep-Sea Mining Observer | \$61,026 | 2018-2019 |
| NOAA/Pew Charitable Trusts: Marine Ecology via Remote Observation: Capacity Building in Saipan through Low-Cost Underwater Robotics. | \$32,505 | 2017-2018 |
| UNOLS: Chief Scientist Training Cruise | \$1,500.00 | 2015 |
| Ocean Classrooms Foundation: #BayBots: Connecting technology and marine conservation through low-cost robotics | \$9,996.00 | 2015 |
| Nautilus Minerals: Capacity Building in Papua New Guinea: Marine Ecology and Biodiversity through Remote Observation | \$77,798.56 | 2014 |
| Crowdfunding: Oceanography for Everyone–The OpenCTD | \$5,805.00 | 2013 |
| InterRidge/ISA: Training and professional development for a visiting scholar from Papua New Guinea | \$5,000.00 | 2012 |
| Duke University: Halsted Fellowship | Full Stipend | 2011-2012 |
| Oak Foundation: Independent Study Advisor Fellowship | Full Stipend | 2010-2011 |

Courses, Short Courses, and Training Programs Taught

| | |
|--|--------------|
| Social Media for Environmental Communications (Duke University) | Fall 2022 |
| Environmental Impacts of Deep-sea Mining (University of Delaware) | Summer 2022 |
| Social Media for Environmental Communications (Duke University) | Fall 2021 |
| Social Media for Environmental Communications (Duke University) | Fall 2020 |
| Environmental Impact of Deep-sea Mining (University of Delaware) | Summer 2020 |
| Social Media for Environmental Communications (Duke University) | Fall 2019 |
| Social Media for Environmental Communications (Duke University) | Fall 2018 |
| Marine Ecology via Remote Observation Facilitator Training (Northern Marianas Trade Institute) | April 2018 |
| Social Media for Environmental Communications (Duke University) | Fall 2017 |
| OpenROV construction, operation, and maintenance (Louisiana Universities' Marine Consortium) | October 2016 |
| Social Media for Environmental Communications (Duke University) | Spring 2016 |
| Social Media for Environmental Communications (Duke University) | Spring 2015 |
| BayBots: OpenROV building and operation (Virginia Institute of Marine Science) | Fall 2015 |
| Marine Ecology via Remote Observation (University of Papua New Guinea) | October 2014 |
| Social Media for Environmental Communications (Duke University) | Spring 2014 |
| Social Media for Environmental Communications (Duke University) | Spring 2013 |
| Research Methods (Duke University) | Summer 2011 |
| Undergraduate Independent Study Adviser (Duke University) | 2010–2011 |

Students Advised

| | |
|---|-----------|
| Emily Boyle (Undergraduate)–Microsatellite marker development | 2012–2013 |
| Freddie Alei (Visiting scholar, Papua New Guinea)–Population structure of squat lobster | 2012 |
| Alixandra Jacobson (Undergraduate)–Population structure of limpets | 2010–2012 |
| William Saleu (Visiting scholar, Papua New Guinea)–Population and conservation genetics | 2009–2010 |

Professional Service

Community Service: Talbot County Free Library Board of Trustees, Town of St. Michaels Climate Change/Sea Level Rise Commission, National Aquarium in Baltimore Conservation Committee, Maryland Coast Smart Council (Governor Appointed)

Reviewer for: Science, FACET, Frontiers In, Molecular Ecology, PLoS, BMC Evolutionary Theory, PeerJ, Journal of Fish Biology, Journal of Environmental Studies and Sciences, Annual Research & Review in Biology, NOAA, NSF, DOI

Working Groups: DOSI Minerals Working Group, DOSI Biodiversity Working Group, SCB Conservation Marketing, Advisory Board of the International Engagement Hub for JPI Oceans MiningImpact III, International Whaling Commission ICG on Deep-sea Mining

Professional Societies: Deep Sea Biology Society, Society for Conservation Biology, Society of American Naturalists, The Oceanography Society

Outreach: Southern Fried Science and related properties (<http://www.southernfriedscience.com/>: 5,000,000+ total unique visitors), Oceanography for Everyone (<http://oceanographyforeveryone.com/>: developing low-cost, open-source oceanographic instruments)