

Curriculum Vitae

Rebecca D. Prescott

Assistant Professor, University of Mississippi, Department of Biology
Research Associate, University of Hawai'i at Mānoa, School of Life Sciences
becks@olemiss.edu; rebeccap@hawaii.edu

EDUCATION AND TRAINING

NASA Postdoctoral Fellowship, NASA Johnson Space Center (USA) & University of Hawai'i at Mānoa (4/2021-8/2023)

National Science Foundation (NSF) Postdoctoral Fellow in Biology, University of South Carolina & University of Edinburgh (2017-2021)

Genomics and Bioinformatics workshop Certification, Los Alamos National Lab (2017)

Ph.D. Microbiology, (Ecology, Evolutionary Biology, & Conservation Biology)

University of Hawai'i at Mānoa (2015)

M.Sc Natural Resources, University of Arizona (2006)

BA Ecology and Evolutionary Biology, University of Arizona (2000)

SCUBA certification and Water Safety training, University of Arizona (1997)

RESEARCH INTERESTS

Ecology & evolution of *quorum sensing* (QS) in extreme environments; development of sustainable systems for Earth and space exploration; systems-based biology approaches (multi-omics) to understand microbial interactions; discovery of new QS systems from Mars analog sites; development and inclusion of indigenous culture-based science in genomic data science, microbial ecology, astrobiology, sustainability science.

SKILLS/EXPERIENCES

- 15 years teaching experience at University level: environmental & general microbiology, biology, applied bioinformatics, marine biology/ecology, astrobiology, space biology, community-based resource management, indigenous science.
- Multiple fellowship awards: NASA & NSF postdoc fellowships, NSF IGERT PhD Fellow, NSF CATTs Fellow (Masters).
- Omics-based research: metagenomic, RNAseq analysis; whole genome, amplicon sequencing (pyrosequencing, Illumina, MinION); lipidomics, metabolomics
- Bioinformatic pipelines: (EDGE, Kbase, QIIME2, ROcker, HMM, and others).
- Experience with extraterrestrial materials (meteorites, moon rocks, asteroid samples).
- Data Analysis: Strong background in ecology, univariate/multivariate statistics (PRIMER-e, JMP, R), network analyses (Cytoscape, CoNet, SPEC-EASI).
- Experimental design using flow-through sea-water systems, plant growth & Mars simulation chambers; scanning electron microscopy (SEM), confocal microscopy, Raman, Wavelength-Dispersive X-Ray Spectroscopy (WDS) for geo-microbial and astromaterial studies.
- Professional skills: development of international collaborations, laboratory management, writing reports to funding and government agencies, stakeholders, review of proposals.
- Other skills: teaching & working in diverse cultural communities (Hawai'i, México, Indonesia, Australia, Scotland), development of experiential learning programs for K-12; swim team coach, scuba diving for research.

PROFESSIONAL EXPERIENCE

Assistant Professor Microbial Interactions

University of Mississippi, Department of Biology (August 2023-present)

Principal Investigator of the Microbial Interactions in Sustainability and Astrobiology (MISA Lab). Research focus: diversity, ecology and evolution of quorum sensing (QS) in volcanic rock and soils, other extreme environments, with emphasis on microbes in sustainable systems such as in-situ 3D printing materials, sustainable agricultural practices for volcanic island nations (Hawai'i, Açores), and design of sustainable systems for upcoming space missions.

NASA Postdoctoral Fellow, NASA Johnson Space Center (April 2021-August 2023)

Research fellowship award: *The role of quorum sensing in microbial-fungal interactions on the colonization and degradation of meteorite surfaces*. Study focuses on role of cross-domain quorum sensing in the bio-weathering of basalts, meteorites and asteroid materials relevant to early life, and space missions OSIRIS-REx, Hayabusa2, and Mars 2020 Perseverance.

NSF Biology Postdoctoral Fellow (7/2017-2021); Joint with:

University of South Carolina (Dr. Alan Decho's Microbial interactions lab)

University of Edinburgh (Dr. Charles Cockell, UK Centre for Astrobiology)

Research and STEM education fellowship award: *Survival in extreme environments through cooperation: biofilms and looking for life on Mars*. Research into diversity of quorum sensing systems in extreme environments and under Mars simulated conditions; Development of indigenous, culture-based science education programs in island communities in Hawai'i and internationally; community and teacher training programs in astrobiology and genomics.

Biology Teaching faculty (8/2016-8/2017)

Hawaii Pacific University, College of Natural and Computational Sciences

Teaching faculty, Biology Department. Course taught include: Microbiology, Environmental Microbiology (upper-division level course), General Biology I and II (Biology and Marine Biology majors), General Biology lab. Duties included: supervising graduate students in teaching assistantship positions, undergraduate advising and teaching, lecture and class-room activity development, field trips, grading, attending departmental meetings, coordinating 7 sections of general biology lab with adjunct instructors, developing lab materials, and working with lab staff to provide materials and organization for general biology labs.

Research Scientist (10/2014-12/2015)

Pacific American Foundation

WIRED Program (Watershed Investigation: Research, Education, and Design)

Researcher and liaison for WIRED program and University of Hawai'i at Mānoa researchers. Program created experiential learning opportunities for K-12 students with researchers in Hawai'i's watersheds, Native Hawaiian farming traditions, coastal resources; developed teacher training opportunities in Genomic Data Science.

Graduate Research Associate (1/2/2015 - 6/30/2015)

University of Hawai'i at Mānoa

Center for Microbial Oceanography: Research and Education (C-MORE)

Outreach education; facilitated educational goals of C-MORE; NSF proposal development for

undergraduate course transformation using science-based teaching methods.

NSF IGERT PhD Fellow (2007-2012)

(Interdisciplinary Graduate Education and Research Training)

University of Hawai'i at Mānoa

Interdisciplinary training in marine ecosystem health; water quality impacts to biofilm-coral settlement interactions on the Great Barrier Reef (collaboration with Australian Institute of Marine Science); experimental design, high-throughput sequencing, and microscopy techniques (SEM and Confocal), QIIME pipeline/bioinformatics, multivariate statistical analyses (JMP, PRIMER-E, SPSS), network analyses (Cytoscape, CoNet), proposal development, international collaborations.

Research Technician (8/2006 - 6/2007)

University of Arizona

Ecology and Evolutionary Biology Department

Biodiversity of endangered winter annuals in a semi-arid grassland ecosystem; experimental plot removal of invasive species. Assisted with design of all lab and field experiments with plant growth chamber experiments and air pollution detection, set-up of all lab equipment, organization of lab and field materials, assisting with proposals, supervising undergraduates, leading field trips and field and lab experiments.

University Instructor (1/2003-7/2006)

University of Arizona

Ecology and Evolutionary Biology Department

Sole instructor, 400 level marine ecology/outreach education course with biostatistics and writing emphasis; developed and presented lectures on intertidal ecology, biostatistics, field ecology data collection; developed curriculum; essay and field exams, course budgets, delegated tasks to teaching staff, organized and led field trips to Mexico; provided instruction to undergraduates on teaching K-8th grade students using inquiry-based learning.

Principal Investigator (Masters of Science) (5/2003 - 5/2006)

University of Arizona

Department of Natural Resources

Community-lead resource management program on their benthic fisheries, Puerto Punta Peñasco, México; research focus on biodiversity and spatial ecology study of marine invertebrate community associated with Black Murex snails (*Hexaplex nigritus*) and Pacific Calico Scallop (*Argopecten ventricosus*), both commercial species, in the Gulf of California, México. Designed and managed project logistics and experiments in México and US, coordinated with fishermen, institutions in México and US, completed marine larval culture, wrote grant proposals, budgets, collected data using SCUBA, identified marine invertebrates and fish, managed large database, completed all statistical analyses, and supervised several undergraduate students' research; products included peer-reviewed scientific papers, presentations, posters, progress reports to funding agencies, fishermen and other stakeholders.

Research Associate (6/2003-12/2004)

Intercultural Center for the Study of Deserts and Oceans (CEDO)

Assisted with community-based resource management of benthic fisheries, northern Gulf of California, worked with local fishermen (La Sociedad de Los Buzos de Puerto Punta Peñasco), sampling resources and designing marine reserves. Fishermen awarded the National Conservation Award, Mexico in 2004 for this project.

Environmental Consulting (May-June, 2005-2007)

USA Forest Service

Surveys of endangered cactus (*Pediocactus* sp.) along the North Rim of the Grand Canyon, Kaibab National Forest, Arizona. Work included long hikes in warm temperatures, rocky terrain, camping in remote locations, questionable road conditions and forest fires, and analysis of the long-term projections of population.

Environmental Consulting (May-June 2005-2007)

Bureau of Land Management, USA

Watershed invertebrate biodiversity surveys of the Gila River, Gila Box Conservation area, Arizona. Duties included camping in desert environment, hiking and working in extreme heat, collecting quantitative and qualitative freshwater invertebrates samples from 8 different sites to assess water quality conditions in the region.

NSF CATTs Fellow (2002-2004)

(Collaboration for the Advancement of Teaching Technology and Science)

University of Arizona

Assisted high school teachers in multicultural community with curriculum development in Oceanography and marine biology; developed new lessons using remote sensing and GIS technology, developed a marine invertebrates teaching kit, re-designed college lessons for high school students, and assisted two students with diverse cultural backgrounds with science fair projects which won at science fair.

Conservation Biology Intern (1998-1999)

Arizona-Sonora Desert Museum, Herpetology Department

Study of climate change impacts to various lizard populations in Seri territory, working in indigenous communities. Examined impact of introduced population of Spiny-tailed Iguanas on the grounds of the museum to Sonoran Desert Region and identified their origins. Designed field surveys for biodiversity estimates of lizard species in Sonora, Mexico, captured and tagged Iguanas. Study resulted in a publication and a long-term monitoring program.

SELECTED PEER-REVIEWED PUBLICATIONS

- **Prescott, Rebecca D.**, Tong, Eric 'Iwakeli'i, Chan, Yvonne, Handel, Christy, Lo, Chien-Chi, Davenport, Karen, Johnson, Shannon, Flynn, Mark, Saito, Jennifer, Chain, Patrick, S.G., Lee, Herb Jr., Decho, Alan W., Donchie Stuart P. (2023). Bridging Place-Based Astrobiology Education with Genomics, Including Descriptions of Three Novel Bacterial Species Isolated from Mars Analog Sites of Cultural Relevance. *Astrobiology*. Vol 23(12):1348-1367.

- Balbay MG, Shlafstein M, Cockell C, Cady S, **Prescott R**, Chain PSG, Donachie SP, Decho, AP Saw JH. (2023). *Metabolic potential and phylogenomic placement of novel Aigarchaeota from geothermal features of Hawai'i and Chile*. *Front. Microbiol.* 14:1216591. doi: 10.3389/fmicb.2023.1216591.
- **Prescott, Rebecca D.**, Zamkovaya, Tatyana, Donachie, Stuart. P., Medley, Joesph J., Saw, Jimmy, Northrup, Diana, Decho, Alan W., Chain, Patrick SG., Boston, Penelope. (2022) Islands within islands: phylogenetic structure and consortia in lava caves and fumaroles of Hawai'i. *Front. Microbiol.* 13:Article 934708 <https://www.frontiersin.org/articles/10.3389/fmicb.2022.934708/full>).
- Waajen, Annemiek, **Prescott, R.**, Cockell, Charles S., (2022). Meteorites as Food Source on Early Earth: Growth, Selection, and Inhibition of a Microbial Community on a Carbonaceous Chondrite. *Astrobiology* 22(6):1-14. <https://doi.org/10.1089/ast.2021.0089>
- **Prescott, R.**, Decho, AW. (2020) Flexibility and adaptability of quorum sensing in nature. *Trends in Microbiology.* 28(6), 436-444. <https://doi.org/10.1016/j.tim.2019.12.004>
- Cockell, Charles, Stevens, Adam, **Prescott, R.** (2019). Habitability is a binary property. *Nature Astronomy.* 3:956–957 <https://doi.org/10.1038/s41550-019-0916-7>.
- Hayashi, Kazukuni, Busse, Hans-Jürgen, Golke, Jan, Anderson, James, Wan, Xuehua, Hou, Shaobin, Chain, Patrick SG., **Prescott, Rebecca D.**, Donachie, Stuart P. *Rheinheimera salexigens* sp. nov., isolated from a fishing hook, and emended description of the genus Rheinheimera.(2017). *Inter J Syst Evol Micro* 68(1): 35-41. <https://doi.org/10.1099/ijsem.0.002412>
- **Prescott, R.**, Cudney-Bueno R. (2008) Mobile “reefs” in the northeastern Gulf of California: aggregations of Black murex snails (*Hexaplex nigritus*) as habitat for invertebrates. *Marine Ecology Progress Series* 367: 185-192. <https://www.jstor.org/stable/24872895>
- Cudney-Bueno R., **Prescott, R.**, Hinojosa-Huerta, O. (2008) Reproductive Ecology and Breeding Aggregations of the Black Murex Snail, *Hexaplex nigritus* (Mollusca, Muricidae) in the Gulf of California, Mexico. *Bulletin of Marine Science* 83:285-292.
- **Prescott, R.**, Koch, Volker, Yingling, Chesley, Vedugo, Cesar Ruiz. (2007) Larval settlement of Pacific Calico scallops (*Argopecten ventricosus*) on their predator, the Black Murex snail (*Hexaplex nigritus*). *Journal of Shellfish Research*, 26 (4): 1065-1070. [https://doi.org/10.2983/0730-8000\(2007\)26\[1065:SOPCSL\]2.0.CO;2](https://doi.org/10.2983/0730-8000(2007)26[1065:SOPCSL]2.0.CO;2)
- Edwards, Taylor, Bonine, Kevin E., Ivanyi, Craig, **Prescott, Rebecca**. (2005) The Molecular Origins of *Ctenosaura* on the Grounds of the Arizona-Sonora Desert Museum. *Sonoran Herpetologist*:18(11) 122-125.

OTHER SELECTED PUBLICATIONS

- **Prescott, Rebecca D.** (2015). Water quality influences on declining coral settlement from the Great Barrier Reef region: Biofilms as key players. *Ph.D dissertation, University of Hawai'i at Mānoa.*
- Smith, Craig R., Gaines, Steven, Friedlander, Alan, Morgan, Charles, Thurnherr, Andreas, Watling, Les, Rogers, Alex, Clark, Malcolm, Baco-Taylor, Amy, Bernardino, Angelo, De Leo, Fabio, Dutrieux, Pierre, Rieser, Alison, Kittinger, Jack, Padilla-Gamino, Jacqueline, **Prescott, Rebecca**, Srsen, Pavica. (2008). Preservation reference areas for nodule mining in the clarion-clipperton zone: rationale and recommendations to the International Seabed Authority. *University of Hawai'i at Mānoa publication.*
- **Prescott, Rebecca D.** (2006). An epifaunal community associated with aggregations of black murex snails (*Hexaplex nigritus*): living reefs in the northeastern Gulf of California. *Masters thesis, University of Arizona.*

SELECTED PUBLICATIONS (in prep)

- *Message in a bottle: Preservation of bacterial-community signaling capabilities are preserved by organic-glass formation during desiccation.* AW Decho, KP Miller, L Wang, YP Chen, **R Prescott**, C Cockell, RL Frey, JL Ferry, P Pellechia, BC Benicewicz (in prep to Nature Communications).
- *Bacterial 'talking' in extreme environments: diversity of AHL-based quorum sensing from Mars analogue sites.* **RD Prescott**, Chien-Chi Lo, PSG Chain, JH Saw, MD Shlafstein, K Davenport, SP Donachie, S Tectmann, Viggó Pór Marteinsson, S Cady, DE Northrup, AZ Miller, A Stockton, C Cockell, AW Decho (in prep to ISME)
- *Eavesdropping on the conversation: AHL-based quorum sensing in Cyanobacteria.* **RD Prescott**, C Handel, Chien-Chi Lo, PSG Chain, P Williams, SP Donachie, AW Decho (in prep Front. Microbiol.).
- *Transcriptomic and community composition response of complex microbial communities from Hawaiian steam vents to MgSO₄ brines and high CO₂: the potential of microbial life on Mars.* **R. Prescott**, Chien-Chi Lo, Patrick S.G. Chain, Christy Handel, Jimmy Saw, Stuart P. Donachie, Charles Cockell, and Alan W. Decho.
- *A bigger picture: N-acyl homoserine lactone production by diverse environmental bacteria.* C Handel, **RD Prescott**, CC Lo, PSG Chain, SP Donachie, AW Decho (in prep to FEMS).

GRANTS/FELLOWSHIPS

- **Large Scale EMSL User project (Pacific Northwest National Laboratory):** *Bacterial 'cell-cell talk' in complex microbial communities: identifying diverse and novel quorum sensing signals in extreme environments;* October 2021-October 2023. (**Co-PI: Rebecca Prescott**).

- **NASA Postdoctoral Fellowship** (4/2021-present). *The role of quorum sensing in microbial-fungal interactions on the colonization and degradation of meteorite surfaces.* **PI: Rebecca Prescott.**
- **NASA Exobiology grant** (2018-2021): *Cooperation and adaptability in microbial mats from extreme environments: Quorum sensing and its relation to early life on Earth and elsewhere.* 17-EXO17_2-0120 80NSSC18K1064 (**Science PI: Rebecca Prescott**)
- **NSF Postdoctoral Research Fellowship in Biology** (2017-2020): *Biofilms in extreme environments: cooperation and looking for life on Mars.* #1711856 (**PI: Rebecca Prescott**).
- **NOAA B-WET Grant** (7/2014-12/2015): *WIRED Program: Watershed Investigations, Research, Education, and Design for Students in 6th through 12th Grades* (Funded through the Pacific American Foundation, (PI: Derek Esibill).
- **NSF IGERT Ph.D Fellow Award** (2007-2012): *IGERT: Integrative Training in Ecology, Conservation and Pathogen Biology, University of Hawai'i at Mānoa, Tropical Medicine, Medical Microbiology and Pharmacology.*
- **PADI Foundation Grant** (2008): *An Investigation of water quality on biofilms and effects on juvenile spatial distribution and recruitment of a shallow water coral, Pocillopora damicornis.* Grant # 359 (**PI: Rebecca Prescott**).
- **NSF CATTs Fellowship Award** (2002-2004): *Collaboration for the Advancement of Teaching Technology and Science, University of Arizona.*
- **T&E Inc. research grant** (2004): *A Living Reef in the Upper Gulf of California: Black Murex (Hexaplex muricanthus nigritus) Breeding Aggregations as Habitat for Juvenile Fish and Invertebrates.* (**PI: Rebecca Prescott**).
- **PADI Foundation Grant** (2003): *A Living Reef in the Upper Gulf of California: Black and Pink Murex (Hexaplex muricanthus nigritus and Phyllonotus erthrostomus) Breeding Aggregations as Critical Habitat for Juvenile Fish and Invertebrates.* Grant # 202 (**PI: Rebecca Prescott**).

INVITED SPEAKER

- *'O nā Hōkū nō nā Kiu o ka Lani: Bridging Genomics and Culture-based Science Education through Astrobiology in Hawai'i.* **Rebecca D. Prescott**, Derek Esibill, Eric 'Iwakeli'i Tong, Yvonne Chan, Stuart P. Donachie, Karen Davenport, Shannon Johnson, and Herb Lee. Oxford Nanopore's London Calling 2019 (May 22nd-24th, 2019, London <https://www.youtube.com/watch?v=bVPO7RcxwJ4>)

PRESENTATIONS AND WORKSHOPS

- *Survival in extreme environments through cross-domain cooperation: is quorum sensing essential to bacterial-fungal interactions in lava caves and beyond?* Rebecca D. Prescott, Penelope J. Boston, Diana E. Northup, Michael N. Spilde, and Alan W. Decho. European Astrobiology Institute (EAI) conference: Life in the Sub-Surface: Habitats, Species, Metabolism and

Survival Strategies: October 25th-27th, 2023, Angra do Heroismo, Terceira, Açores, Portugal.

- Two teaching presentations in *Genomic Data Science (GDS): Next Generation Sequencing Technology and Data Analysis*. European Astrobiology Institute (EAI) course: Volcanism, Plate Tectonics, Hydrothermal Vents and Life: October 10th-22nd, 2023, Angra do Heroismo, in the Azores Portugal.
- *The role of quorum sensing in bacterial-fungal interactions on the colonization and degradation of meteorites*. **Rebecca D. Prescott**, Richard Davis, Joseph R. Boro, William Nelson, Peng Jiang, Christy R. Handel, Patrick S.G. Chain, Stuart P. Donachie, Aaron Regberg. LPI-ARES Mini-symposium, NASA Johnson Space Center, Houston TX, July 6th, 2023.
- *Biofilms: the ultimate analog for life on other planets*. **Rebecca D. Prescott**. Analog Field Sites Mini Symposium Virtual; Lunar and Planetary Institute, Open University Astrobiology, and NASA Johnson Space Center. September 9-10, 2020; hosted from Houston, TX.
- *‘O nā Hōkū nō nā Kiu o ka Lani: Bridging Genomics and Culture-based Science Education through Astrobiology in Hawai‘i*. **Rebecca D. Prescott**, Derek Esibill, Eric ‘Iwakeli‘i Tong, Yvonne Chan, Stuart P. Donachie, Karen Davenport, Shannon Johnson, and Herb Lee. **Given at following two meetings**: AbSciCon 2019, Seattle, Washington, June 24-28, 2019; Astrobiology Society of Britain 8th Conference, April 24th-26th, 2019, Newcastle, UK.
- *Bacterial ‘Talking’ in Extreme Environments: A Study of Cooperative Behavior of Among Microbes*. **Rebecca D. Prescott**, Chien-Chi Lo, Patrick S. G. Chain, Alan Decho, Stuart P. Donachie, Christy Handel, and Charles Cockell. **Given at following two meetings**: AbSciCon 2019, Seattle, Washington, June 24-28, 2019; Astrobiology Society of Britain 8th Conference, April 24th-26th, 2019, Newcastle, UK.
- *Discovering Genomic Data Science through Astrobiology: looking for life in the Universe (designed and lead workshop)*. Pacific American Foundation, Iolani School, and University of Hawai‘i at Mānoa, teacher training workshop. Honolulu, Hawai‘i, USA, January 13th, 14th, and 15th 2018.
- *Genomic Data Science: Its importance to Society and Environmental Science (designed and lead workshop)*. Pacific American Foundation (Kulia Program), Teacher Professional Development Workshop (PD-3 credit). Windward Community College, Kaneohe, Hawai‘i, USA, September 18th-19th, 2015.
- *Water Quality Influences on Declining Coral Settlement from the Great Barrier Reef Region: Biofilms as Key Players*. **Rebecca Prescott**. Departmental Seminar, University of Hawai‘i at Mānoa, Department of Microbiology, Honolulu, Hawai‘i, USA, March 9, 2015.
- *Understanding the role of biofilms in coral settlement and coral symbiosis*, **Prescott, R.** and Negri, A. Ecology, Evolutionary Biology, and Conservation Biology Seminar, University of Hawai‘i at Mānoa, Honolulu, Hawai‘i, April 9, 2010.

- *Linking benthic microbial populations, coral settlement and water quality.* **Prescott, R.** Uthicke, S., and Negri, A. 39th Benthic Ecology Meeting, Wilmington, North Carolina, March 10-13, 2010.
- *Symbiosis, Sex, and Coral Reef Communities.* **Prescott, R.** UH@SEA course, aboard the Robert C. Seamans sailing vessel, French Frigate Shoals, June 10, 2010.
- *Diet, Health, and Cultural Links with Coral Reef Ecosystems: Dietary Change over the Last 40 years in a Hawaiian Community.* **Rebecca Prescott** and Bruce Wilcox. 11th International Coral Reef Symposium, Ft. Lauderdale, Florida, 7-11 July 2008.

POSTERS (* indicates presenter)

- *Meteorites: beneficial or toxic for life on Early Earth? Growth of an anaerobic microbial community on a carbonaceous chondrite.* Annemiek C. Waajen*, **R. Prescott**, Charles S. Cockell. Microbiological Society, 2022 (online) <https://doi.org/10.1099/acmi.ac2021.po0128>
- *Microbial diversity in Hawaiian lava caves: the search for life on Mars.* Brittney Lawson*, **Rebecca Prescott**, Stuart Donachie. Undergraduate Research Experiences (REU) conference, Honolulu, HI., August 2017.
- *Microbial Diversity in Ulupō Lo’i and Kawainui Marsh: connecting pathogenicity and environment.* **Rebecca Prescott**, Derek Esibill, Kayla Hiura, Kaleo Wong, Stuart Donachie*. ASM meeting, Boston, MA., June 16-20, 2016.
- *Is Coral Reef Health and Resilience determined by Microbes? Linking biofilms, coastal water quality, and coral reef persistence.* **Prescott, Rebecca***. NSF IGERT Annual Meeting, Washington D.C., May 23– May 25, 2010.
- *Linking Coral Reef Integrity and Human Well-being in the Pacific Islands.* John Pandolfi, Alan Friedlander, Jennifer Schultz*, Jack Kittinger, Thomas Brewer, **Rebecca Prescott**, Josh Cinner, Marimar Berzunza, Chris Bird, Durrell Kapan, Robert Toonen, Bruce Wilcox. 11th Pacific Science Inter-Congress at Sheraton, Tahiti, 2-6 March 2009. (Presented by Jennifer Schultz)
- *Coral Reefs in Oahu Hawai’i: Relationships Among Watersheds, Chemical Pollutants and Coral Disease.* **Prescott, R.***, Aeby, G., and Richmond, R.H. Ocean Science Meeting, Orlando, Florida, 2-7 March 2008.

STUDENT MENTORING

- *Christy Handel (2018-2023):* Undergraduate directed research and Masters research, Donachie lab, University of Hawai’i at Mānoa
- *Jingjing Wang (2021-2022):* ‘Iolani School. Kay Foundation Scholar (now at Princeton in Basilar lab).
- *Seth Honda (2018-2020):* ‘Iolani School. 1st Place in Bioinformatics division, Hawai’i State Science Fair, March 2019.
- *Rosie Cane, Annemiek Waajen (2018-2021):* Ph.D students, Cockell lab, University of Edinburgh.

- *Dean Vik* (2008-2012): Undergraduate research assistant, University of Hawai'i at Mānoa
- *Chelsey Yingling* (2004-2005): Tucson High School. 1st place, Regional Science Fair, Tucson AZ, 2005; 2nd place, International Science Fair 2005.
- *Catie Rhodes-Redhouse* (2003-2004): Tucson High School. 1st place and 4 year scholarship awarded, Regional Science Fair, Tucson, AZ.
- *Frank Edwards* (2003-2005): Undergraduate research assistant, University of Arizona
- *Bridget Maloney* (2003-2006): Undergraduate research assistant, University of Arizona

COURSES AND WORKSHOPS TAUGHT/ORGANIZED

- *Knowing our Stars, Seas, and Lands: Scotland - Hawai'i Cultural Exchange* (mentor training retreat, Isle of Skye, Scotland, July 2022)
- *'O nā Hōkū nō nā Kiu o ka Lani: Bridging genomics and culture through Hawai'i ecosystems* (Teacher Training workshop, 2019)
- *Discovering Genomic Data Science through Astrobiology: looking for life in the Universe* (Teacher Training workshop, 2018; University of Hawai'i at Manoa, 'Iolani School)
- Environmental Microbiology (Fall 2017; full instructor, Hawai'i Pacific University)
- General Biology I and II (2016-2017; full instructor, Hawai'i Pacific University)
- General Biology lab coordinator (2016; full instructor, Hawai'i Pacific University)
- *Genomic Data Science: Its Importance to Society and Environmental Science* (Teacher Training workshop 2015; Windward Community College)
- Natural History of the Hawaiian Islands (2013; graduate teaching assistant; UH Manoa)
- Marine Ecology and Coastal Resources (2013 full instructor; NREM UH Manoa)
- Marine Ecology (2003-2006; instructor; University of Arizona)
- Evolutionary Biology (2001; graduate teaching assistant; University of Arizona)

PUBLIC OUTREACH & PRESS

- KITV Island News: *Hawaii Baptist Academy students discover new bacteria from lava tube* (December 1st, 2022); <https://www.youtube.com/watch?v=uKgMPArm9eE>
- Natural History Magazine: *Life in a Lava Tube*, by Brittany Steff (interview, 2022); October 2022 issue.
- BBC Science Focus Magazine: *What a mysterious green sludge discovered in lava caves tells us about life on other planets*, by Sara Rigby (interview, 2022); <https://www.sciencefocus.com/news/microbes-found-in-volcanic-environments-could-help-reveal-more-about-life-on-other-planets>
- Big Island News Now: *Microbes From Hawai'i Volcanic Environments Could Offer Insights Into Ancient Life on Earth, Mars*; <https://bigislandnow.com/2022/07/31/microbes-from-hawaii-volcanic-environments-could-offer-insights-into-ancient-life-on-earth-mars/>
- Many Worlds: *If Bacteria Could Talk*, by Marc Kaufman (interview at AbSciCon 2019); <https://manyworlds.space/2019/07/29/if-bacteria-could-talk/>
- Hika'alani, Ulupō: *Soil Science Tailgating*: <http://hikaalani.website/activities-blog/soil-science-tailgating>, 5/18/2017.
- 'Iolani School, Āina Informatics Network (2017-present).
- *Castle High School*, (Pacific American Foundation), Bioinformatics, 10/26/2015.
- *Ocean Feast*, Turtle Bay Resort, Hawai'i (C-MORE), 6/5/2015
- *Highland Middle School* (C-MORE), Microbes and Marine Debris, 3/25/2015, 4/2/2015

- *Coral Reef Festival*, Windward Community College (C-MORE), 3/2015
- *NALU Studies Program* for high-risk youth, October 2012
- *UH@SEA*, Month cruise aboard Robert C. Seamans, 6/2010
- *Tide Walks*, Mililani Elementary (EECB, UH Manoa), 3/2010
- *Benton Shell Teaching Kit Development*, University of Arizona, 2005

EDITORIAL BOARDS

- Frontiers in Microbiology - Extreme Microbiology
- Astrobiology (starting 2024)

JOURNAL AND GRANT REVIEW PANELS

- NASA Graduate Student Fellowships
- Astrobiology
- FEMS Microbial Ecology
- Frontiers in Microbiology
- Molecular Biology and Evolution
- Biofilm

REFERENCES

Alan Decho (NSF Biology Postdoc fellowship sponsor)
University of South Carolina
Department Environmental Health Sciences (ENHS)
Public Health Res. Center (PHRC), Rm. 512, ASPH
+001 803 777-3908
awdecho@mailbox.sc.edu

Stuart Donachie (PhD advisor)
University of Hawai'i at Mānoa
School of Life Sciences
1800 East-West Rd.
Honolulu, HI 96822
+001 808 256-5775
donachie@hawaii.edu

Patrick S.G. Chain (collaborator, postdoc advisor)
Los Alamos National Laboratory
Biosciences Division
Los Alamos, NM
+001(505) 665-4019
pchain@lanl.gov

Charles Cockell
University of Edinburgh (NSF Biology Postdoc fellowship sponsor)
School of Physics and Astronomy
James Clerk Maxwell Building, Room 1502
Peter Guthrie Tait Road
Edinburgh
EH9 3FD
+44 131 650 2961
c.s.cockell@ed.ac.uk

Christy Handel (Masters student)
University of Hawai'i at Mānoa
School of Life Sciences
1800 East-West Rd.
Honolulu, HI 96822
christyh@hawaii.edu