

SONIA J. ROWLEY PH.D.

CURRICULUM VITAE

Assistant Researcher, Department of Earth Sciences, SOEST, University of Hawai'i at Mānoa, USA
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My research is on gorgonian (sea fan) octocorals. I seek to understand the biological success of this group, in particular their dominance at the mesophotic depths of the Indo and West Pacific. As an evolutionary ecologist I conduct experimental field ecology, systematics, and phylogeographic research to investigate patterns of diversity. I ask what factors drive such diversification and adaptive evolution, particularly across steep environmental gradients. In pursuit of this knowledge, I have led or participated in more than 50 expeditions and have more than 8000 fully curated gorgonians and associated taxa in my laboratory. I am the recipient of the **Sir David Attenborough Award for Fieldwork**, NSF, and the Ocean Census for my work. The most powerful tool for change, however, is to share these findings. I have conducted 89 international presentations and session leader for the Gordon Research Conference, 39 peer-reviewed publications and reports with 8 in progress; mentor and supervisor to 43 graduate and undergraduate students, and lectured in marine biology, marine geology, evolution, reef ecology, statistics, and designed the 'methods in mesophotic research' series for technical divers, Scuba, and freedivers.

APPOINTMENTS

2020 – Present: **Assistant Researcher, Dept. Earth Sciences, University of Hawai'i at Mānoa, Hawai'i, USA**
2023 – Present: **Scientific Associate, Dept. Life Sciences, NHM, London, UK**
2022 – 2025: **Research Associate, Invertebrate Zoology, NMNH, Smithsonian, Washington, DC, USA**
2019 – 2020: **Research Biologist, SOEST, University of Hawai'i at Mānoa, Hawai'i, USA**
2017 – 2020: **Research Affiliate, SOEST, University of Hawai'i at Mānoa, Hawai'i, USA**

HIGHER EDUCATION

2015 – 2019: **University of Hawai'i at Mānoa, Honolulu, Hawai'i. Post-Doctoral Fellow.**
- Ecology & evolution: Gorgonians of the Indo-Pacific, SOEST. Supervisor: Prof. S.M. Stanley.
2009 – 2015: **Victoria University Wellington, New Zealand. VUW Ph.D.**
- Gorgonian Responses to environmental change on Indo-Pacific Coral Reefs. Co-supervisors: Prof L. Watling, Prof. S. Davy.
2004 – 2008: **University of Plymouth, BSc (Hons) Marine Biology. 1st class honours & industrial placement.**
- Dissertation thesis conducted in SE Sulawesi on *Spirobranchus corniculatus* complex *s.l.* Supervisor: Prof. M Attrill
2003 – 2004: **University of Plymouth, Extended Science. GPA 4+**

PROFESSIONAL SERVICE

2025 – Present: **Panellist: UNESCO Global Ocean Observing System Biology and Ecosystems Expert Panel (GOOS BioEco Panel). Paris, France**
2024 – 2027: **Advisor: Pacific Island Deep-Sea Coral Science Planning – NOAA, Hawai'i, USA**
2024 – Present: **Elected Member, Explorers Club Hawai'i Chapter, USA.**
2022 – 2023: **Steering Committee Member, International Symposium for Deep-Sea Corals, UK**
2020 – 2024: **Ambassador, Divesoft Closed Circuit Rebreather technology, CZ.**
2018 – Present: **Elected Fellow National (FN'18), Explorers Club, USA.**
2017 – Present: **Elected Fellow (FLS), Linnean Society of London, UK.**
2016 – 2019: **NOAA *Okeanos Explorer* Shore Based Scientist, University of Hawai'i, USA.**
2015 – 2018: **Association for Marine Exploration (AME), USA. CSO (Chief Science Officer).**
2013 – 2019: **Bernice Pauahi Bishop Museum (BPBM), USA. Research Affiliate.**
2008 – Present: **Academic Reviewer: Coral Reefs, Diversity, Estuarine, Coastal & Shelf Science, Frontier in Marine, Science, Genes, J. Biogeography, Marine Biology, Marine Pollution Bulletin, Molecular Phylogenetics & Evolution, Nature Scientific Reports, Oceans, *PeerJ*, PloS ONE, Rec. Australian Museum, Science, TREE.**
2007 – Present: **Royal Society of Biology (FRSB), UK.**

INSTRUCTION

2024 – Present: **Co-Instructor: EARTH423/OCN622 Marine Geology/Geological Oceanography w/ Prof. K. Ruttenberg. Graduate & undergraduate, University of Hawai'i, USA.**

- 2023 – Present: **Instructor: Methods in Mesophotic Series, SJR LLC., USA**
- 2023 – Present: **Instructor: Methods in Mesophotic Research.** Technical Diving International (TDI).
- 2015 – 2019: **Assistant to Prof. SM Stanley: GG611 Introduction to Geology & The Origin of Life.**
- Undergraduate, University of Hawai'i, USA.
- 2007 – 2011: **Instructor: Coral Reef Ecology.**
- Undergraduate, Operation Wallacea, Indonesia.
- 2007 – 2011: **Instructor: Evolution & Marine Biology.**
- Undergraduate, Operation Wallacea, Indonesia.
- 2007 – 2011: **Instructor: Multivariate statistics, & methodological design.**
- Graduate & undergraduate, Operation Wallacea, Indonesia.
- 1988 – 1992: **Boat handling & Navigation, BSAC, UK.**

BUSINESS

- 2024 – Present: **Owner – SJR LLC, Hawai'i, USA.**
- 2024 – Present: Photography platform to support my research: **Fine Art America & Pixels, USA.**

GRANTS & AWARDS

PROFESSIONAL AWARDS

- 2016 – **Recipient: Sir David Attenborough Award for Field Work**, Systematics Association & Linnean Society of London, UK. Pioneering field research at mesophotic depths of Senyavin Islands, FSM.
- 2017 – **USA Green Card**, National Interest Waiver (EB1 NIW: USCIS# 207-858-574)
- 2023 – **USA Citizenship**, dual citizenship USA & UK

GRANTS PENDING (\$1,673,658.85)

- 2025 – **PI: Biomechanics Drives Symbiosis in Hawaiian Deep-Water Corals. W. M. Keck Foundation, USA. \$1,596,182.15**
- 2025 – **PI: "Gorgonacea from the Indian Ocean."** A Systematic Revision of the Unpublished Manuscript by Dr. Isabella Gordon, 1924. **Natural History Museum, London, UK. \$16,000**
- 2025 – **PI: Rapid biodiversity assessment of Octocorallia at Mesophotic depths of the Western Pacific. OBON-SAIge Microgrants, UK. \$61,476.70**

GRANTS AWARDED (53: \$2,735,444.92)

- 2025 – **Workshop Presenter.** Dent Collaboration Weekend: Maui. **DENT The Future**, Hawai'i, USA.
- 2025 – **Taxonomy Workshop:** Species discovery of Gorgonian Octocorals (Cnidaria: Octocorallia) from the mesophotic depths of the Indian Ocean. **Ocean Census, UK & South Africa.**
- 2024 – **PI: Species discovery of Gorgonian Octocorals (Cnidaria: Octocorallia) from the mesophotic depths of the Indo-Pacific. Ocean Census, UK. \$9022**
- 2024 – 2026: OVPRS Faculty Research Support, **University of Hawai'i at Mānoa, USA \$132,000.00**
- 2024 – Website Design assistant with PI Dr. B. Bruno, Brooks Bays: **NSF Catalyst Awards for Science Advancement (CASA), University of Hawai'i at Mānoa, USA \$5200**
- 2024 – **Instructor. NSF GP-IMPACT: Project EP'IK - Earth, Planets, Ike, and Kuleana - Preparing the next generation of diverse geoscientists in Hawai'i. University of Hawai'i at Mānoa. USA \$5200**
- 2024 – **PI: Deep Learning: Determining Environmental Drivers of Indo-Pacific Mesophotic Gorgonian Diversity. CASA Type B SOEST Wā'hēnē, University of Hawai'i at Mānoa. USA \$3000**
- 2023 – **Presenter.** Gordon Research Conference, OVPRS Faculty Research Travel Fund, **University of Hawai'i, USA \$2000**
- 2023 – **Session Leader.** Gordon Research Conference, Mesophotic Coral Ecosystems, Ventura, USA **\$5000**
- 2023 – **Presenter.** Gordon Research Conference, Origins of Solar Systems, Massachusetts, USA **\$2500**
- 2022 – Present: **PI: Novel target-enriched genomic approaches to assess the diversity of Gorgonian Octocorals on Indo-Pacific Mesophotic Coral Reefs. NSF EPSCoR RII Track-4, Grant # 2132235, \$215,035.00**
- 2022 – 2023: **Dept. Earth Sciences, University of Hawai'i at Mānoa, Hawai'i.** With Dr. H. Dulai: Modelling multi-trait anthropogenic influences on the shallow reefs of Micronesia: **Dept. S-Funds \$11,880**
- 2021 – **Co-PI: Post-COVID-19 Recovery Program: Continuation of Compact Color Biofinder "CoCoBi" project standoff, sensitive "Search for Life" instrument. NASA (Picasso) Grant # 80NSSC17K0127: \$195,719**
- 2021 – **Co-PI: An Ecological and Ethnographic Assessment of the Marine Biodiversity of Chuuk Lagoon,**

- FSM to establish a marine protected area. **UNESCO Participation Program: 1290114222: \$25,922**
- 2021 – **PI:** Using Collections for Mesophotic Research: A Systematic Investigation of Indo-Pacific Gorgonians within the Acanthogorgiidae Gray, 1859 (Cnidaria: Octocorallia). **SYNTHESIS GB-TAF-8146: \$30,000**
- 2021 – **Session Leader.** Gordon Research Conference, Mesophotic Coral Ecosystems, Ventura, USA **\$4500**
- 2020 – **Co-PI:** Revealing the Biodiversity of Corals and Associated Organisms in the Twilight Zone in the West Pacific. **National Geographic Society: NGS-73985R-20: \$40,985.00**
- 2020 – **Department investment Fund,** British Natural History Museum, UK **\$5600**
- 2019 – **PI:** Anonymous Private Donor: Mesophotic Ecosystems of Pohnpei, Micronesia **\$43,426**
- 2019 – **Speaker.** Oztek19, Advanced Dive Conference & Exhibition, Sydney, Australia **\$4850**
- 2018 – **Speaker.** Gordon Research Conference, Mesophotic Coral Ecosystems, Maine, USA **\$4500**
- 2018 – **Short Term Visitor Fellowship,** Invertebrate Department, Smithsonian Institution (USNM), USA **\$3900**
- 2018 – **Speaker.** Manta Mania. Micronesian Conservation Coalition, Yap, Micronesia. **\$7000**
- 2017 – 2018: **Post Doctoral Fellow:** Department of Biology, University of Hawai'i, USA OER (NSF) **\$260,377**
- 2016 – **Speaker.** Marine Aquarium Conference of North America® XXVIII. San Diego, USA **\$5000**
- 2015 – **Co-PI:** Understanding the Bathyal Biogeography, Western North Pacific. Schmidt Institute [Ship time].
- 2015 – 2019: **Post Doctoral Fellow.** Dept. of Geology & Geophysics. University of Hawai'i, USA **\$240,500**
- 2015 – **Participant.** Methods in Ecological Genomics Analyses Workshop, Mote TRL, Florida, USA **\$5300**
- 2015 – **Speaker.** Marine Aquarium Conference of North America® XXVII. Washington, DC, USA **\$5000**
- 2015 – **Presenter.** Gordon Research Conference, Speciation. SOEST, University of Hawai'i **\$3222**
- 2015 – **PI:** Twilight reef Exploration, Pohnpei, FSM. Systematics Research Fund: Systematics Society **\$3000**
- 2015 – **PI.** Exploration of twilight coral reef diversity at Pakin Atoll, Pohnpei, FSM. Ocean Classrooms **\$8200**
- 2015 – **PI.** Exploration of twilight coral reef diversity at Pakin Atoll, Pohnpei, FSM. Edmondson Trust **\$7500**
- 2014 – **Contract.** Department of Biology. University of Hawai'i, USA **\$7000**
- 2014 – **Participant.** Deep ocean exploration, Louisville seamount chain. NIWA, New Zealand **\$5000**
- 2014 – **Young Taxonomist Fund.** Deep Sea Coral Taxonomy Workshop, NOAA-JCM, NIWA, NZ **\$2000**
- 2014 – **Young Taxonomist Fund.** Deep Sea Coral Genomics Workshop, NOAA-JCM, Seattle, USA **\$4000**
- 2014 – **PI:** Exploration of twilight coral reef diversity at Ant Atoll, Pohnpei, FSM. Edmondson Trust **\$6000**
- 2013 – **Participant:** Exploration of twilight coral reef diversity, Philippines. Edmondson Trust & Seaver Foundation **\$7500**
- 2013 – **Doctoral Submission Scholarship.** Victoria University of Wellington, NZ **\$6000**
- 2013 – **Octocoral taxonomy.** Department of Biology. University of Hawai'i, USA **\$3000**
- 2012 – **Doctoral Research Award.** Victoria University of Wellington, NZ **\$4000**
- 2012 – **Short Term Visitor Fellowship:** Invertebrate Department, Smithsonian Institution (USNM), USA **\$3000**
- 2012 – **Martin Fellowship.** Netherlands Centre for Biodiversity (NCB) Naturalis, Netherlands **\$4000**
- 2012 – **Learner Grey Award.** American Museum of Natural History (AMNH), USA **\$1500**
- 2011 – **Young Taxonomist Fund.** National Institute of Water & Atmospheric Research (NIWA), NZ **\$3000**
- 2010 – 2012: **Extraordinary Student Achievement Award.** Victoria University of Wellington, NZ **\$10,000**
- 2009 – 2013: **Doctoral Scholarship (full).** Victoria University of Wellington, NZ **\$50,000**
- 2007 – 2009: **Student Microbiologist.** Nuffield Research Bursary, General Society of Microbiology, UK **\$2350**
- 2007 – 2011: **Contract.** Scientific researcher & senior project supervisor Operation Wallacea, Indonesia. **\$23,200**
- 2007 – **Participant.** Stazione Zoologica Anton Dohrn, Ischia, Italy. Royal Society London, UK **\$3500**
- 2007 – Present: **Member.** Royal Society of Biology (MRSB), UK
- 2004 – 2008: **Contract.** MarLIN, The Marine Biological Association, Plymouth, UK. NERC & JNCC **\$3100**

PUBLICATIONS (28)

Rowley SJ, Melbourne-Thomas J, Kornel R, Attrill MJ (**in review: MABI-D-25-00678**). Coral-host morphology structures the distribution of *Spirobranchus corniculatus* (Grube, 1862) on Indonesian coral reefs. *Marine Biology*.

Núñez J, **Rowley SJ (Accepted)** Range expansion of the serpulid annelid *Spirobranchus giganteus* complex *sensu lato* to the waters of the Canary Islands. *Scientia Insularum*.

Onouye TC, Dubord A, Chan Y, Hill E, Cotham P, Nishida M, Miller J, **Rowley SJ,** Prescott RD, Miller M, Sadones M, Donachie SP. (**Accepted**) *Luteimonas aureus*, sp. nov., from *Porites lobata* mucus, O'ahu, Hawai'i, and emended description of *Luteimonas dalianensis*. *Genome Announcement*.

- Versteegen E, Macher JM, **Rowley SJ**, Renema W (2024) Depth associated changes in the community composition of symbionts and prokaryotes associated with *Cycloclypeus* (Foraminifera, Nummulitidae). *J. Foraminiferal Research*. 54(1): 65-74 doi.org/10.2113/gsjfr.54.1.65
- Boll, P, Cao W, Zhoy J, Misra AK, **Rowley SJ**, Acosta-Maeda TE, Trimble AZ (2023) Unmanned Surface Vehicle Based Sensor Platform for Remote Marine Monitoring. *IEEE- 2022JOE003606*
- Misra AK, **Rowley SJ**, Zhou J, Acosta-Maeda TE, Dasiveira L, Ravizza G, Ohtaki K, Weatherby TM, Trimble AZ, Boll P, Porter JN, McKay CP (2022) Biofinder detects biological remains in Green River fish fossils from Eocene epoch at video speed. *Scientific Reports*. 12:10164, doi.org/10.1038/s41598-022-14410-8
- Lupi F, **Rowley SJ**, Chyba M, Lanzetta M (2022) Reconstruction of tubular structures from 2.5D point clouds: A mesophotic gorgonian coral case study. *ANZIAM J*. 63 (EMAC2021): C1-C14.
DOI: <https://doi.org/10.21914/anziamj.v63.17151>.
- Misra AK, Acosta-Maeda TE, Zhoy J, Egan MJ, Dasilveira L, Porter JN, **Rowley SJ**, Trimble AZ, Boll P, Sandford MW, McKay CP, Abedin MN (2021) Compact Color Biofinder” (CoCoBi) for fast, standoff, sensitive detection of biomolecules and polyaromatic hydrocarbons for search for life explorations. *Applied Spectroscopy*, DOI.org/10.1177/00037028211033911.
- Salinas-de-León P, Martí -Puig P, Buglass S, Arnés-Urgellés C, Rastoin-Laplane E, Creemers M, Cairns S, Fisher C, O'Hara T, Ott B, Raineault NA, Reiswig H, Rouse G, **Rowley SJ**, Shank TM, Suarez J, Watling L, Wicksten MK, Marsh L (2020) Characterization of deep-sea benthic invertebrate megafauna of the Galapagos Islands. *Scientific Reports*. 10:13894, doi.org/10.1038/s41598-020-70744-1
- Schramek TA, Cornuelle BD, Gopalakrishnan G, Colin PL, **Rowley SJ**, Merrifield MA, Terrill EJ (2019) Tropical Western Pacific thermal structure and its relationship to ocean surface variables: a numerical state estimate and forereef temperature records. *Oceanography*. 32(4):156–163, [DOI:org/10.5670/oceanog.2019.421](https://doi.org/10.5670/oceanog.2019.421).
- Freeman L, Freeman S, Gader P, Fick R, Kroeger N, Thode A, Thilges K, Van Uffelen LJ, **Rowley SJ**, Schindall J, Johnson A (2019) Combined passive acoustic and video monitoring of coral reefs to better understand reef soundscapes and multi-species interactions. *The Journal of the Acoustical Society of America*. 146(4):2938
- Rowley SJ**, Roberts TE, Coleman RR, Joseph E, Spalding HL, Dorricott MKI (2019) *Pohnpei, Federated States of Micronesia*. In Loya Y, Puglise K, Bridge T (Ed.), *Mesophotic Coral Ecosystems. Coral Reefs of the World*, vol 12. Springer, Cham. DOI: [10.1007/978-3-319-92735-0_17](https://doi.org/10.1007/978-3-319-92735-0_17)
- Sánchez JA, Dueñas LF, **Rowley SJ**, González FL, Vergara DC, Montaña-Salazar SM, Calixto-Botia I, Gómez CE, Abeytia R, Colin PL, Cordeiro RTS, Pérez CD (2019) *Gorgonian Corals*. In Loya Y, Puglise K, Bridge T (Ed.), *Mesophotic Coral Ecosystems. Coral Reefs of the World*, vol 12. Springer, Cham. DOI: [10.1007/978-3-319-92735-0_39](https://doi.org/10.1007/978-3-319-92735-0_39)
- Spalding HL, Bowen B, Copus J, Kosaki R, Longenecker K, Montgomery A, Padillo-Gamino J, Parrish F, Roth M, **Rowley SJ**, Toonen R, Pyle R (2019) *The Hawaiian Archipelago*. In Loya Y, Puglise K, Bridge T (Ed.), *Mesophotic Coral Ecosystems. Coral Reefs of the World*, vol 12. Springer, Cham. DOI: [10.1007/978-3-319-92735-0_25](https://doi.org/10.1007/978-3-319-92735-0_25)
- Roberts TE, Bridge TCL, Caley MJ, **Rowley SJ**, Sinniger F, Harii S, Lesser M, Slattery M, Baird AH (2018) The challenge of the deep should not preclude robust ecological analysis. *Science*. [sciencemag.org/content/361/6399/281/tab-e-letters](https://www.sciencemag.org/content/361/6399/281/tab-e-letters)
- Rowley SJ** (2018) Acclimatory capacity of the Gorgonian *Isis hippuris* Linnaeus, 1758 to environmental change in SE Sulawesi, Indonesia. *Journal of Experimental Marine Biology & Ecology*. 500: 73 – 88.
- Rowley SJ** (2018) Environmental gradients structure gorgonian assemblages on coral reefs in SE Sulawesi, Indonesia. *Coral Reefs*. 37: 609-630.

- Ekins M, Willis B, Bridge T, Srinivasan M, **Rowley SJ**, Hooper J (2017) The coral killing sponge *Terpios hoshinota* in Kimbe Bay, Papua New Guinea. *Memoirs of the Queensland Museum, Nature* 60: 174 – 175.
- Wan X, Miller JM, **Rowley SJ**, Hou S, Donachie SP (2016) Draft genome sequence of a novel *Luteimonas* sp. strain from Coral Mucus, Hawai'i. *Genome Announcement*. 4(6): e01228-16. doi:10.1128/genomeA.01228-16.
- Rowley SJ**, Pochon X, Watling L (2015) Environmental influences on the Indo-Pacific gorgonian *Isis hippuris* Linnaeus, 1758 (Alcyonacea: Isididae): genetic fixation or phenotypic plasticity? *PeerJ* 3:e1128; DOI 10.7717/peerj.1128
- Beaton J, Cowan H, Davies T, Pyle RL, **Rowley SJ**, Rowley MR, Woombs M (2015) *Closed circuit rebreather course: Poseidon Se7en addendum instructor manual*. British Sub-Aqua Club, London, UK. pp. 149.
- Rowley SJ** (2014) *Gorgonian responses to environmental change on coral reefs in SE Sulawesi, Indonesia*. Doctoral thesis, Victoria University Wellington, New Zealand, pp. 213.
- Rowley SJ** (2014) Refugia in the twilight zone: discoveries from the Philippines. *The Marine Biologist*. 2: 16-17.
- Ransome E, **Rowley SJ**, Thomas S, Tait K, Munn CB (2014) Disturbance to conserved bacterial communities in the cold-water gorgonian coral *Eunicella verrucosa*. *FEMS Microbial Ecology*. 90(2): 404-416.
- Watling L, **Rowley SJ**, Guinotte SJ (2013) The world's largest known gorgonian. *Zootaxa*. 3630(1):198–199.
- Hall-Spencer JM, Rodolfo-Metalpa R, Martin S, Ransome E, Fine M, Turner SM, **Rowley SJ**, Tedesco D, Buia MC (2008) Volcanic carbon dioxide vents show ecosystem effects of ocean acidification. *Nature*. 454: 96-99.
- Martin S, Rodolfo-Metalpa R, Ransome E, **Rowley SJ**, Gattuso JP, Hall-Spencer JM (2008) Effects of naturally acidified seawater on seagrass calcareous epibionts. *Biology Letters*. doi:10.1098/rsbl.2008.0412.
- Rowley SJ** (2008) A critical evaluation of the symbiotic association between tropical tubicolour Polychaetes and their Hermatypic coral hosts, with a focus on *Spirobranchus giganteus* (Pallas, 1766). *Plymouth Student Scientist*. 1(2): 335-353.
- PUBLICATIONS IN REVIEW/PREPARATION (8)**
- Rowley SJ**, McFadden CS, Roberts TE, Stanley SM. (in prep.). Phylogenetic diversity of the mesophotic gorgonians of the Senyavin Islands, FSM. *Scientific Reports*.
- Rowley SJ**, Palmer E, Tevena L, Girard F, Smith JR, Stone GS (in prep.) Geologist Seamounts of Hawai'i: Diverse Deep-Sea Communities at Oxygen Minimum Depths. *Deep Sea Research*.
- Rowley SJ**, Misra AK, Acosta-Maeda TE, Boll P, Carvalho TM, Selph KE, Trimble AZ, Zhoy J (in prep.). Compact Color Biofinder (CoCoBi): Laser-Based Detection of Microbial Communities on Igneous Rock. *Scientific Reports*.
- Rowley SJ**, Quattrini AM, Cabrera FC (in prep.). Novel genomic approaches reveal phylogeographic differentiation through current walls across bathymetry within Indo-Pacific Octocorallia Haeckel, 1866. *PNAS*
- Rowley SJ**, Quattrini AM, Cabrera FC (in prep.). Hybridization & Introgression characterise adaptive strategies for survival in octocoral *Annella* Gray, 1858, in the FSM. *Scientific Reports*.
- Rowley SJ**, Briggs R, Padillo-Gamino J, Kornel R (in prep.). Adaptive Capacity through coprophagy of the zooxanthellate gorgonian *Isis hippuris* Linnaeus, 1758 (Alcyonacea: Isididae) on degraded reefs of Indonesia. *Coral Reefs*.

Rowley SJ, Mokuahi AC (in prep.). New methods in gorgonian octocoral curation: effective preservation and storage for a research laboratory. *PeerJ*

Rowley SJ, Thomas S, Ransome E, Munn CB (in prep.) Environmental and temporal variability on *Eunicella verrucosa* and associate microbial communities. *Marine Ecology Progress Series*.

TECHNICAL REPORTS & PATENTS (11)

Misra AK, Trimble AZ, Acosta-Maeda TE, Zhou J, **Rowley SJ (Pending)** Eye-safe large area ocean surface and subsurface imaging using active and passive methods. Patent disclosure, University of Hawai'i.

Misra AK, **Rowley SJ**, Zhou J, Trimble AZ (2022) Wide area ocean surface and subsurface imaging (using passive sensing). *ONR-Semiannual Report*. pp. 10.

Misra AK, **Rowley SJ**, Zhou J, Boll P, Trimble AZ (2022) Real time detection of sea mines and plastics in ocean waters. *ONR-Annual Report*. pp. 19.

Misra AK, **Rowley SJ**, Acosta-Maeda TE, Zhou J, Dasilveira LA (2022) "Compact Colour Biofinder" (CoCoBi) for fast, non-contact detection of biomarkers, biomolecules, and polyaromatic hydrocarbons in Ocean Worlds. *NASA PICASSO Final Report*. pp. 32.

Baird A, Arrigoni R, Benzoni F, Bridge T, Hoogenboom M, Hoeksema B, Huang D, Lindfield S, Schmidt-Roach S, Roberts TE, **Rowley SJ**, Terraneo T. (2020) A field guide to the mesophotic corals of Balls Pyramid. *Project Phoenix*: pp.1-26.

Misra AK, Acosta-Maeda TE, **Rowley SJ**, Zhou J, Dasilveira LA (2019) "Compact Colour Biofinder" (CoCoBi) for fast, non-contact detection of biomarkers, biomolecules, and polyaromatic hydrocarbons in Ocean Worlds. *NASA PICASSO Semiannual Report*. pp. 20.

Rowley SJ, Roberts TE, Coleman RR, Spalding HL, Joseph E, Dorricott MK (2018) Mesophotic Coral Ecosystems of Pohnpei, Federated States of Micronesia. Conservation Society of Pohnpei Technical Report. pp. 38. DOI: 10.13140/RG.2.2.16217.16480

Rowley SJ, Roberts TE, Coleman RR, Spalding HL, Joseph E, Dorricott MK (2018) Lay-Summary: Mesophotic Coral Ecosystems of Pohnpei, Federated States of Micronesia. Conservation Society of Pohnpei Technical Report. pp. 15. DOI: 10.13140/RG.2.2.29638.93763

Rowley SJ (2017) Voyage Report: Rapid Assessment of the Geologist and Lō'īhi Seamounts. *Conservation International & HURL Technical Report*. pp. 27. DOI:10.13140/RG.2.2.28815.59044

Rowley SJ (2016) Exploration and Systematics of Deep-Reef Gorgonian Corals at Pakin Atoll, Micronesia. *LinnéSys: Systematic Research Fund. Technical Report*. pp. 9. DOI:10.13140/RG.2.2.21953.86886

Clark M, Anderson O, Bowden O, Chin C, George S, Glasgow D, Guinotte J, Herrera S, Osterhage D, Pallentin A, Parker S, **Rowley SJ**, Stewart R, Tracey D, Wood S, Zeng C (2014) Vulnerable Marine Ecosystems of the Louisville Seamount Chain: voyage report of a survey to evaluate the efficacy of preliminary habitat suitability models. *NIWA Technical Report*. pp.83.

RELEVANT EXPERIENCE

CRUISE AND FIELD EXPERIENCE

2025: **PI: SJR LLC, University of Hawai'i at Manoa, W.M. Keck Observatory, USA.**

- Mesophotic research expedition to the Pohnpei Island, Ant & Pakin Atolls, FSM as the PI, gorgonian coral scientist, and conservation research.

2023: **PI: Collaborating with PT. Wasage Organic, Indonesia. Wakatobi, 2023.**

- Mesophotic reef expedition: Exploring the deep and shallow reefs of the Wakatobi Marine National Park, SE Sulawesi, Indonesia.
- 2023: **Natural History Museum, London, UK, Gili Trawangan Dive, Lombok, Universitas Hasanuddin, Makassar, Indonesia. Methods in Mesophotic Research.**
- I designed & co-instructed with host Samuel A. Mason; this highly specialized course is to train a team of skilled technical divers research techniques that I have designed & conducted for years at deep depths.
- 2022: **National Geographic Society, USA, Sesoko Station: Tropical Biosphere Center University of the Ryukyus, Japan, British Sub-Aqua Club (BSAC), UK, Trawangan Dive, Indonesia. Co-PI**
- Revealing the biodiversity of the corals and associated organisms in the twilight zone in West Pacific.
- 2021: **Marine Applied Research & Exploration (MARE), USA. PI: Dirk Rosen**
- Mesophotic reef expedition using the ROV BATFish supporting the Hawai'i 30 x 30 initiative. Field biologist working with E. Chiu, S. Parker, and DAR (Division of Aquatic Resources), Maui, HI.
- 2019: **PI: University of Hawai'i at Manoa, USA, British Sub-Aqua Club (BSAC), UK, Naturalis Biodiversity Center, Netherlands, University of the Azores, Portugal.**
- Mesophotic reef expedition to the Pohnpei Island, Ant & Pakin Atolls, FSM as the PI, gorgonian coral scientist, and conservation research. Collaborators include Prof. M. Chyba (Mathematics, VR & UAV), Prof. H. Dulai (Geochemist), Dr. M. de Frietas Prazeres, Dr. W. Renema (Foraminifera), 5 students.
- 2019: **Naval Undersea Warfare Center (NUWC), US Navy, Applied Research Laboratory (ARL), University of Hawai'i at Manoa, Scripps College, California, University of Florida, USA**
- Passive Acoustic Detection of Reef Ecological Soundscapes (PADRES): DARPA reef acoustic experimentation (CCR and freediving) on the Island of Hawai'i with Drs. L & S. Freeman, Prof. P. Gader, Dr. A. Thode.
- 2018: **PI: University of Hawai'i at Manoa, USA, British Sub-Aqua Club (BSAC), UK, University of the Azores, Portugal.**
- Mesophotic reef expedition to the Pohnpei Island, Ant & Pakin Atolls, FSM as the PI, gorgonian coral scientist, supervisor, Mr. F. Butschek (UA), graduate student, coral scientist.
- 2018: **Micronesian Conservation Coalition. PI: J. Hartup MSc.**
- Event speaker & instructor in Yap & Ulithi Atoll, Federated States of Micronesia. Mesophotic exploration, characterisation, & octocoral research.
- 2018: **ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia.**
- Mesophotic exploration, Scleractinian coral, & Octocoral research with PI: Prof. A. Baird, Dr. T. Bridge, Dr. F. Benzoni. Balls Pyramid, Lord Howe Island, followed by the Coral Sea, Australia.
- 2017: **PI: Association for Marine Exploration, University of Hawai'i at Manoa, Bishop Museum, Honolulu, Old Dominion University, USA, James Cook University, Queensland Museum, Australia, Coral Reef Research Foundation, Palau, Rolex, Europe, Stone Aerospace, USA**
- Mesophotic reef expedition to the Pohnpei Island and Pakin Atoll, FSM as the PI, gorgonian coral scientist, & Poseidon MKVIII test pilot with Dr. R. Pyle, Mr. B. Greene, (AME, BPBM), Dr. D. Barshis (ODU), Prof. A. Baird, Mr. TE. Roberts (JCU), Dr. T. Bridge (JCU, QM), Dr. S. Lindfield (CRRF), Ms. M. Dorricott, Mr. F. Butschek (Rolex), Mr. J. Brown (SA).
- 2016: **James Cook University, Queensland Museum, Australia, Mahonia Na Dari & Walindi Nature Centre, PNG.**

- Mesophotic reef expedition to Kimbe Bay, Papua New Guinea. Gorgonian coral scientist, & Poseidon MKVIII test pilot with Prof. A. Baird, Mr. TE. Roberts (JCU), Dr. T. Bridge (JCU, QM), Dr. M. Ekins (QM).
- 2016: **Conservation International, Hawai'i Undersea Research Laboratory (HURL), USA**
- First submersible dives on the 'Geologist Seamounts' as the Octocoral & benthic marine organism scientist, with Dr. G. Stone, Dr. M. Sanjayan, Dr. A. Eustace, & Dr. L. Teneva.
- 2016: **PI: Association for Marine Exploration, Bishop Museum, California Academy of Sciences, USA**
- Mesophotic reef expedition to the Pohnpei Island and Pakin Atoll, FSM as the PI, gorgonian coral scientist, & Poseidon MKVIII test pilot with Dr. R. Pyle, Mr. B. Greene, Dr. K. Longenecker (BPBM), Dr. L. Rocha (CAS).
- 2016 – Present: **NOAA *Okeanos Explorer* Shore Based Scientist, University of Hawai'i, USA**
- Deep-sea shore based Octocoral scientist, taxonomic identification of benthic marine organisms.
- 2015: **PI: Association for Marine Exploration, Bishop Museum, Honolulu, University of Hawai'i, USA**
- Mesophotic reef expedition to the Pohnpei Island and Pakin Atoll, FSM as the PI, gorgonian coral scientist, & Poseidon MKVIII test pilot with Dr. R. Pyle, Mr. B. Greene.
- 2015 - 2019: **Post Doctoral Fellow: Association for Marine Exploration, University of Hawai'i, USA**
- Geology & evolution: Bivalvia of O'ahu, Hawai'i, with Prof. S. M. Stanley.
- 2014: **Bishop Museum, Honolulu, HIMB & the Seaver Foundation, USA**
- Mesophotic reef expedition to the Pohnpei, FSM as the gorgonian coral scientist & Poseidon MKVIII test pilot with Dr. R. Pyle, Mr. B. Greene.
- 2014: **National Institute of Water & Atmospheric Research (NIWA), New Zealand**
- Deep Ocean expedition to the Louisville seamount Chain for 5 weeks, assessing VME (Vulnerable Marine Ecosystems) for fisheries management using multibeam sonar, DTIS videography, CTD & benthic sleds with Dr. M. Clark & Dr. A. Rowden.
- 2013 & 2014: **Bishop Museum, Honolulu, HIMB & the Seaver Foundation, USA**
- Two mesophotic reef expeditions to the Philippines as the gorgonian coral scientist & Poseidon MKVIII test pilot with Dr. R. Pyle, B. Bowen (HIMB) & L. Rocha (California Academy).
- 2013: **Bishop Museum, Honolulu, and Hawai'i Undersea Research Laboratory (HURL), USA**
- Mesophotic reef benthic invertebrate scientist principally working on Cnidaria in the Pisces V submersible with Dr. R. Pyle & K. Longenecker.
- 2009: **Papahānaumokuākea Marine National Monument, NWHI, Hawai'i Undersea Research Laboratory (HURL).**
- Deep-sea research scientist principally working on cnidaria and both their associate & microbial communities from Pisces IV submersible and ROV dives on the NOAA ship Kaimikai-o-Kanaloa (KOK).
- 2007 – 2009: **Nuffield Research Bursary, General Society of Microbiology and University of Plymouth, UK.**
- Ecological videographic survey, study on the CITES protected gorgonian *Eunicella verrucosa*.
- 2007: **Stazione Zoologica Anton Dohrn, Ischia, Naples, Italy. Research, project design and taxonomist.**
- Pioneer research expedition led by Dr J Hall-Spencer on natural CO₂ vents. Funded by the Royal Society London.
- 2007 – 2011: **Operation Wallacea, Indonesia. Scientific researcher and senior project supervisor.**
- Independent research (to PhD) on gorgonian ecology, morphological complexity and physiological responses to environmental variables with taxonomic descriptions of host and associate taxa.

- Scientific supervisor of graduate and undergraduate students in cnidarian, invertebrate and fish ecology, physiology & disease from subtidal, intertidal and marginal habitats. Main focus Cnidaria.
- Lecturer in Coral Reef Ecology, statistics, methodological design and research assistant coordinator

2006: **Operation Wallacea, Indonesia. Expedition research volunteer; BSc(hon) project.**

- Field and taxonomic dissertation project on the serpulid *Spirobranchus corniculatus* complex *s.l.* and coral-host.

2005 – 2006: **National Marine Aquarium, Plymouth. Volunteer tank diver. Public presentations.**

2004 – 2008: **MarLIN, The Marine Biological Association, Plymouth. Information Research Assistant.**

- Initially voluntary, subsequent bursary funding (NERC, JNCC), involving temperate marine organism and habitat research, report and review writing for the MBA database and MarLIN website. Public and in house presentation. Research focus on Cnidaria.

2004: **Oonas Dive Centre, Egypt. Dive master and assistant instructor.**

1988 – 1994, 2002 – 2008: **Maureen of Dart Diving Charters.** Extensive experience in charter boat diving, shipwreck exploration (particularly WWII D-Day landings, Bay de Seine), dive guiding, soft and hard boat handling & navigational skills (see below), compressor operation and NITROX/TRIMIX gas mixing.

LABORATORY EXPERIENCE

2024: **Friday Harbor Laboratories, University of Washington, USA.**

- Micro-CT Scan analysis & CFD modelling assessing the functional morphology & biomechanics of Octocoral microstructures with Prof. A. Summers.

2022 – 2025: **Smithsonian Institution (NMNH), USA. Research Associate.**

- Research includes Novel target-enriched genomic approaches to assess the diversity of Gorgonian Octocorals on Indo-Pacific Mesophotic Coral Reefs. NSF EPSCoR RII Track-4, Grant Number: 21-557, \$215,031.92

2022 – 2023: **Dept. Earth Sciences, University of Hawai'i at Mānoa, Hawai'i, USA.**

- Research includes Modelling multi-trait anthropogenic influences on the shallow reefs of Micronesia.

2019 – 2020: **Hawai'i Institute of Geophysics and Planetology, University of Hawai'i at Mānoa, Hawai'i.**

- Research includes spectroscopy, microscopy, flow cytometry, metagenomics, and bioinformatics in the PICASSO “Search for Life” project, NASA #80NSSC17k0127.

2017 – Present: **PI: Rowley laboratory at the University of Hawai'i at Manoa, USA.**

- Research includes Molecular and classical systematics, phylogenetics, microbiology, microscopy, and geochemistry.

2017: **Friday Harbor Laboratories, University of Washington, USA.**

- Micro-CT Scan analysis & CFD modelling assessing the functional morphology & biomechanics of Octocoral microstructures with Prof. A. Summers.

2017 – Present: **University of Hawai'i at Mānoa, Hawai'i, USA.**

- Metagenomic sequencing of deep-sea & MCE gorgonian coral & sediment microbial communities using Illumina MiSeq technology with Dr. X Wan, Dr. S. Hou & Prof. S. Donachie.

2016: **Harvey Mudd College, Claremont, California, USA.**

- Molecular genotyping of Mesophotic Octocoral taxa with Prof. C. McFadden.

2015 – 2017: **Waikīkī Aquarium, University of Hawai'i at Mānoa, Hawai'i, USA.**

- Mesophotic octocoral husbandry and research.

- 2015: **Mote Tropical Research Laboratory, Florida, & University of Texas at Austin, Texas, USA.**
- Ecological Genomics Analyses: 2b RAD & RNAseq genomic analyses with Dr. M. Matz.
- 2010 – 2011: **Hawaiian Institute of Marine Biology, USA. Visiting Scientist.**
- Molecular characterization of gorgonian *Isis hippuris* endosymbionts with Dr. R Gates & Dr. X Pochon.
- 2009 – 2017: **University of Hawai'i at Mānoa, Hawai'i, USA. Research Affiliate.**
- Deep-sea & MCE gorgonian coral associated microbial communities with Prof. S Donachie.
 - *Porites lobata* associate bacterial single cell transcriptome analysis with Prof. S Donachie.
 - Octocoral & associate taxonomy (incl. SEM) with Prof. L Watling.
 - Octocoral, sediment & plankton Stable isotope analyses with Associate Prof. J Drazen.
- 2008 – 2009: **Plymouth Marine Laboratory & University of Plymouth, UK. Visiting Scientist.**
- Associate microbial community analyses from diseased and healthy colonies of the CITES listed gorgonian *Eunicella verrucosa* Pallas 1766 using molecular and quorum sensing techniques.
- 2007 – 2009: **Nuffield Research Bursary, General Society of Microbiology & University of Plymouth, UK.**
- Ecological videographic survey, molecular and culture-based study on the CITES protected gorgonian *E. verrucosa* with Dr. C Munn & Dr. J Hall-Spencer.

CORAL TAXONOMY

- 2025 – Florida Museum of **Natural History, Gainesville, Florida, USA: with Dr. G. Paulay.**
- Mesophotic & shallow reef octocoral taxonomy with Dr. G. Paulay.
- 2023 – **Natural History Museum, London, UK: SYNTHESIS Scholar with Dr. P. Clark & M. Lowe.**
- Using Collections for Mesophotic Research: A Systematic Investigation of Indo-Pacific Gorgonians within the Acanthogorgiidae Gray, 1859 (Cnidaria: Octocorallia).
- 2022 – 2025: **Smithsonian Institution (NMNH), USA. Research Associate.**
- Novel target-enriched genomic approaches to assess the diversity of Gorgonian Octocorals on Indo-Pacific Mesophotic Coral Reefs. NSF EPSCoR RII Track-4, Grant Number: 21-557, \$215,031.92
- 2018 – **Queensland Museum Network, Australia. Visiting Scientist**
- Mesophotic & shallow reef octocoral taxonomy with Dr. T. Bridge.
- 2014 & 2015 **California Academy of Sciences (CAS), USA. Visiting Scientist.**
- Deep & shallow reef octocoral taxonomy with Dr. G. Williams.
- 2014 – **National Institute of Water and Atmospheric Research (NIWA), NZ. Young Taxonomist Fund.**
- Deep ocean coral workshop Speaker & participant with Dr. G. Williams & Dr. P. Alderslade.
- 2012 – 2018: **Bishop Museum (BPBM), USA. Research Affiliate.**
- Deep, mesophotic & shallow water octocoral taxonomist & field researcher.
 - Taxonomist & Zoobank database contributor.
- 2012 & 2018 **Smithsonian Institution (NMNH), USA. Short Term Visitor Fellowship.**
- Deep, mesophotic, & shallow water octocoral taxonomy working with Dr. S. Cairns.
- 2012 – **Netherlands Centre for Biodiversity (NCB) Naturalis, Netherlands. Martin Fellowship.**
- Shallow water octocoral taxonomy working with Dr L. van Ofwegen & B. Hoeksema.
- 2012 – **American Museum of Natural History (AMNH), USA. Learner Grey Grant.**
- Deep & shallow water octocoral taxonomy working with Dr. E. Rodríguez.
- 2011 – **National Institute of Water and Atmospheric Research (NIWA), NZ. Visiting Scientist.**
- Deep & shallow water octocoral identification working with Prof. L. Watling, S. Cairns & G. Williams.

2011 – **Raffles Museum of Biodiversity Research (RMBR), Singapore. Visiting Scientist.**

- Deep & shallow water octocoral identification.

2011 – **Indonesian Institute for Sciences (LIPI), Indonesia. Visiting Scientist.**

- Deep & shallow water octocoral identification working with Y. Tuti Hermanlimianto.

2009 – 2017 [6 visits]: **British Natural History Museum (BNHM), UK. Visiting Scientist.**

- Deep & shallow water octocoral identification.

PRESENTATIONS (90)

Rowley SJ 2025. Exploring the Ocean’s Twilight Zone. **DENT The Future, Sheraton, Ka’anapali**, Maui, Hawai’i, USA. (Invited Presentation)

Rowley SJ 2025. Gorgonian Octocorals at the Mesophotic Depths of the Pacific Islands. **Ocean Talk, Waikīkī Aquarium**, Hawai’i, USA. (Invited Presentation)

Rowley SJ, Taylor E, Smith M, Waikiki Aquarium (2025) *Webling Elementary STEM* Night on behalf of SOEST, **University of Hawai’i at Mānoa**, Hawai’i, USA. (Invited Exhibitor).

Rowley SJ 2025. Gorgonian Octocorals of the Senyavin Islands: Shallow to Mesophotic Depths. **FSM Government, Dept. Resource & Development**, Pohnpei, Federated States of Micronesia (Invited Presentation).

Rowley SJ 2025. Endemic Coral Species at the Mesophotic depths of Ant Atoll, FSM. **Chief Rohsa, Rosepain, and community, Seven Stars Inn, Pohnpei, Federated States of Micronesia** (Invited Presentation).

Rowley SJ 2025. Gorgonian Octocorals of the Indo-West Pacific: Mesophotic Endemism in the Wakatobi, SE Sulawesi, Indonesia. **University of Hawai’i at Mānoa**, Hawai’i, USA. (Invited Presentation to **Universitas Hassanuddin, Indonesia**).

Rowley SJ 2025. Gorgonian Corals at Mesophotic Depths with Dr. Sonia J. Rowley. **The Explorers Club, World Ocean Day, Exploration by the Seat of your Pants!** (Invited Presentation).

Rowley SJ 2025. Gorgonian Octocorals of the Indo-Pacific: SOEST Preview Day. **University of Hawai’i at Mānoa**, Hawai’i, USA. (Invited Presentation).

Rowley SJ 2025. Exploration of Gorgonian Octocorals at Mesophotic Depths of the Indo-Pacific. **Explorers Club Hawai’i Chapter**, Hawai’i, USA. (Invited Presentation).

Smith-Konter BR, et al. 2024. ED51D-2541 Earth-Planets-‘Ike-Kuleana (EP‘IK): Diversifying the geosciences and empowering Hawai’i’s emerging Earth scientists through educational pathways. **American Geophysical Union (AGU)**. USA

Rowley SJ 2024. Gorgonian Octocorals of the Indo-Pacific: Kapolei School. **University of Hawai’i at Mānoa**, Hawai’i, USA. (Invited Presentation).

Rowley SJ 2024. Gorgonian Octocorals of the Indo-Pacific: EP‘IK Careers. **University of Hawai’i at Mānoa**, Hawai’i, USA. (Invited Presentation).

Rowley SJ 2024. TAPD Into STEM. **Kapi‘olani Community College**, Hawai’i USA. (Invited Presentation).

Stoner-Osborne B., **Rowley SJ** 2024. Marine Science: Deep-Sea Lancetfish. Farrington High School, Hawai’i USA. (SOEST Outreach Presentation).

Rowley SJ 2024. Gorgonian Octocorals of the Indo-Pacific: Testing Responses to Environmental Change. **Kapi‘olani Community College**, Hawai’i USA. (Invited Presentation).

Rowley SJ 2024. Gorgonian Octocorals of the Indo-Pacific: Testing Responses to Environmental Change. *Leeward Community College*, Hawai'i USA. (Invited Presentation).

Rowley SJ 2023. Exploration of Gorgonian Corals at Mesophotic Depths with Dr. Sonia J. Rowley. *The Explorers Club, World Ocean Day, Exploration by the Seat of your Pants!* (Invited Presentation).

Rowley SJ. 2023. Using Collections for Mesophotic Research: A Systematic Investigation of Indo-Pacific Gorgonian Corals. *British Natural History Museum*, UK (Invited Presentation funded by SYNTHEsys+).

Rowley SJ, Roa-Varon A, Hepner L 2023. Wired to the Abyss: Sharing Deep-Sea Science Communication Experiences for Non-Scientists. *Universidad de los Andes, Columbia*. (Invited Guest Speaker).

Quattrini AM, Rowley SJ 2023. Expedition Planning. *Zoology Dept. of the Smithsonian Natural History Museum*. (Invited Presentation).

Rowley SJ 2023. **Session Leader**. MCE Processes - Biotic. *Gordon Research Conference, Mesophotic Coral Ecosystems*, Ventura, USA.

Rowley SJ, Misra AK, Zhou J, Acosta-Maeda TE, Ravizza G, Ohtaki K, Weatherby TM, Trimble AT, Porter JN, McKay CP 2023. Compact Color Biofinder (CoCoBi) detects biological remains in Green River fish fossils from Eocene epoch and Microbial Communities on Igneous Rock. *Gordon Research Conference, Origins of Solar Systems*, Massachusetts, USA.

Rowley SJ 2023. Genomic approaches to assess the diversity of Gorgonian Octocorals on Indo-Pacific Mesophotic Coral Reefs. *Zoology Dept. of the Smithsonian Natural History Museum*. (Invited Presentation).

Rowley SJ 2022. Novel target-enriched genomic approaches to assess the diversity of Gorgonian Octocorals on Indo-Pacific Mesophotic Coral Reefs. *Zoology Dept. of the Smithsonian Natural History Museum*. (Invited Presentation).

Rowley SJ 2022. Mesophotic Gorgonian Corals of the Indo-Pacific. *Sesoko Station: Tropical Biosphere Center University of the Ryukyus*, Japan. (Invited Presentation).

Rowley SJ 2022. Deep-Sea Corals Deep Dive. *NOAA Ocean Exploration Education: HIMB/Waikiki Aquarium*, Hawai'i USA. (Invited Presentation).

Fryer, P, **Rowley SJ**, Wright R 2021. Picture A Scientist - Panel Discussion led by Dr. J. Engels. *Konawaena Middle School, University of Hawai'i at Manoa*, USA. (Invited Presentation).

Rowley SJ 2021. Gorgonian Octocorals of the Indo-Pacific: Deep Sea and Mesophotic Ecosystems. *Konawaena Middle School*, Hawai'i USA. (Invited Presentation).

Rowley SJ, Misra AK, Acosta-Maeda TE, Zhou J, Dasilveira LA 2020. The Biofinder: Detection of Biological Material on Igneous Rock. *The 51st Lunar and Planetary Science Conference (LPSC)*. Houston, Texas. (Abstract)

Acosta-Maeda TE, Misra AK, **Rowley SJ**, Zhou J, Dasilveira LA, Porter JN, McKay CP 2020. Compact Colour Micro-Biofinder (CoCoMBi) for high-resolution non-contact detection of biological cells, fossil cells and colonies on rocks and soils. *The 51st Lunar and Planetary Science Conference (LPSC)*. Houston, Texas. (Abstract)

Rowley SJ 2019. Shallow & Deep-Reef Research: Pohnpei, Ant & Pakin. *Australian Embassy Pohnpei*, FSM. (Invited Presentation).

Rowley SJ 2019. Using CCR for Mesophotic Ecosystem Research & Exploration. *Oztek19, Advanced Dive Conference & Exhibition, Sydney* (Invited Presentation).

- Rowley SJ** 2019. Applying Advanced Closed-Circuit Rebreather (CCR) Technology for Passive Acoustic Detection of Reef Ecological Soundscapes. *MANTAS III, Applied Research Lab, University of Hawai'i at Manoa, USA.*
- Rowley SJ** 2019. Mesophotic Gorgonian Corals of the Indo-Pacific. *Exploration by the Seat of your Pants!* (Invited Presentation).
- Rowley SJ** 2018. Mesophotic Gorgonian Corals of the Indo-Pacific. *Zoology Dept. of the Smithsonian Natural History Museum.* (Invited Presentation).
- Rowley SJ** 2018. Exploring the Deep Coral Reefs of Pohnpei: Narrated Video Presentation. *Invertebrate Zoology Dept. of the Smithsonian Natural History Museum.* (Invited Presentation).
- Rowley SJ** 2018. Advanced Closed-Circuit Rebreather (CCR) Technology. *MANTAS II, Applied Research Lab, University of Hawai'i at Manoa, USA.* (Invited Presentation).
- Rowley SJ** 2018. Mesophotic Research in the Senyavin Islands: 2014-2018. *Australian Embassy Pohnpei, FSM.* (Invited Presentation).
- Rowley SJ** 2018. Mesophotic Research in the Senyavin Islands: 2014-2018. *Cross-View Event, Conservation Society of Pohnpei, FSM.* (Invited Presentation).
- Rowley SJ** 2018. Mesophotic Research in the Senyavin Islands: 2014-2018. *Conservation Society of Pohnpei, FSM.* (Invited Presentation).
- Rowley SJ** 2018. Exploring the Deep Coral Reefs of Pohnpei. *College of Micronesia-FSM, Palikir Campus, FSM.* (Invited Presentation).
- Rowley SJ** 2018. Mesophotic gorgonian corals: case study in Micronesia. *Centre of Excellence, James Cook University, Australia.* (Invited Presentation).
- Baird A, Benzoni F, **Rowley SJ** 2018. Deep-water coral research in Lord Howe Island Marine Park. *Lord Howe Island Museum & Visitor Centre, Australia.* (Invited Presentation).
- Rowley SJ** 2018. Mesophotic Coral Ecosystems (MCEs): Gorgonian Corals. *Kalaheo High School, Hawai'i USA.* (Two Invited Presentations).
- Rowley SJ** 2017. Exploring the Deep Coral Reefs of Pohnpei. *College of Micronesia-FSM, Kolonia Campus, FSM.* (Invited Presentation).
- Rowley SJ**, Baird A, Hartup J, Lindfield S. 2017. Exploring the Deep Coral Reefs of Pohnpei. *College of Micronesia-FSM, Palikir Campus, FSM.* (Invited Presentation).
- Rowley SJ.** 2017. Exploration into the Biodiversity & Evolutionary Mechanisms of Deep-Reef Gorgonian Corals. *British Natural History Museum, UK* (Invited Presentation).
- Colin PL, Schramek T, Powell B, Terrill E, Rudnick D, **Rowley SJ.** 2017. Why Palau Did Not Have Coral Bleaching in 2015-2016: A preliminary Assessment. *AAAS Pacific Division, USA.*
- Rowley SJ.** 2016. Unveiling the Mysteries of Twilight Reefs. *Distinguished Lecture Series, Waikiki Aquarium & Punahou School, USA* (Invited Presentation).
- Rowley SJ.** 2016. Gorgonian Responses to Environmental Change. *Dept. Biology. Harvey Mudd College, CA, USA* (Two Invited Presentations).

- Rowley SJ.** 2016. Hitchhikers Guide to the Twilight Zone: Sea-Fans & Selection. *Marine Aquarium Conference of North America® XXVIII*, USA (Invited Presentation).
- Rowley SJ.** 2016. Acclimatory Capacity of the Gorgonian *Isis hippuris* Linnaeus, 1758 to Environmental change in SE. Sulawesi, Indonesia. *13th International Coral Reef Symposium*, Hawai'i, USA.
- Rowley SJ.** 2016. Gorgonian corals in the Twilight Zone: exploration and environmental change. *Dept. Biology, University of Hawai'i at Mānoa*, Hawai'i, USA (Invited Presentation).
- Dituri J, **Rowley SJ**, Robertson J. 2015. Rebreather Night at Kauai Rebreather & Technical. *Kaua'i Marriott*, Hawai'i, USA (Invited Presentation).
- Rowley SJ.** 2015. Gorgonian corals in the Twilight Zone: exploration and environmental change. *Dept. Geology & Geophysics, University of Hawai'i at Mānoa*, Hawai'i, USA (Invited Presentation).
- Rowley SJ.** 2015. Gorgonian corals in the Twilight Zone: exploration and discovery. *Interdepartmental UH Faculty, University of Hawai'i at Mānoa*, Hawai'i, USA (Invited Presentation).
- Rowley SJ.** 2015. Gorgonian Responses to Environmental change: Bathymetry and Biogeography. *Dept. of Biology, University of Hawai'i at Mānoa*, Hawai'i, USA (Invited Presentation).
- Rowley SJ.** 2015. Gorgonian corals in the Twilight Zone: exploration and discovery. *Marine Aquarium Conference of North America® XXVII*, USA. (Invited Presentation).
- Rowley SJ.** 2015. Advanced Rebreather Technology in deep coral Discovery, *Applied Research Lab, University of Hawai'i at Manoa*, USA. (Invited Presentation).
- Rowley SJ**, Pyle RL, Greene BD. 2015. Twilight Zone of Pakin, Ant and Pohnpei. *US Embassy Consulate*, FSM. (Invited Presentation).
- Rowley SJ**, Pyle RL, Greene BD. 2015. Twilight Zone of Pakin, Ant and Pohnpei. *Conservation Society of Pohnpei*, FSM. (Invited Presentation).
- Rowley SJ**, Pyle RL, Greene BD. 2015. Twilight Zone of Pakin, Ant and Pohnpei. *Micronesian Islands Conservation Inc. (MICI), College of Micronesia-FSM, National Campus*, FSM. (Invited Presentation).
- Rowley SJ.** 2015. Gorgonian Responses to Environmental change: Bathymetry and Biogeography. *MEGA 2015 Genomics Workshop, Mote Tropical Research Laboratory*, Florida, USA. (Two Invited Presentations).
- Rowley SJ.** 2015. Where Science Can Take You! *Snorkelling Assessments and New Discoveries (SAND), NOAA, Pacific Islands Region Office*, Hilo, Hawai'i, USA (Invited Speaker)
- Rowley SJ.** 2015. Deep Coral Discovery in the Twilight Zone. *Waikīkī Aquarium*, Hawai'i, USA (Invited Presentation).
- Rowley SJ.** 2015. Gorgonian Responses to Environmental Change on Coral Reefs in SE Sulawesi, Indonesia. *University of Hawai'i at Mānoa*, Hawai'i, USA (Invited Presentation).
- Rowley SJ.** 2015. Environmental Influences on the Indo-Pacific Octocoral *Isis hippuris* Linnaeus 1758: Genetic Fixation or Phenotypic Plasticity? *Gordon Research Conference: Speciation*, LA, USA.
- Pyle RL, **Rowley SJ.** 2015. Exploring Deep Coral Reefs. *Bernice P. Bishop Museum Hawaiian Hall Atrium*. Hawai'i, USA (Invited Joint Presentation).
- Rowley SJ.** 2015. Aqua Explorers: Exploration into the Twilight Zone: sea fans & fishes. *Waikīkī Aquarium*, Hawai'i, USA. (Invited Presentation).

- Pyle RL, **Rowley SJ**. 2014. Exploring Deep Coral Reefs. *Bernice P. Bishop Museum Hawaiian Hall Atrium*. Hawai'i, USA (Invited Joint Presentation).
- Rowley SJ**, Pyle RL. 2014. Gorgonian Bathymetry and Biogeography. *1st Deep-Sea Coral Genomics Workshop*. Seattle, USA. (Invited Presentation).
- Rowley SJ**, Watling L. 2014. Gorgonian (sea fan) Corals: the basics & Chrysogorgiidae. *2nd Deep-Sea Coral Workshop*. Wellington, New Zealand (Invited Presentation).
- Rowley SJ**. 2014. Science Alive: Natural history of Pacific reef coral biodiversity. *Bernice P. Bishop Museum*, Hawai'i, USA (Invited Presentation).
- Rowley SJ**. 2014. US Army: Natural history of Pacific coral reef biodiversity. *Bernice P. Bishop Museum*, Hawai'i, USA (Invited Presentation).
- Bowen BW, Rocha LA, Pyle RL, **Rowley SJ**, Whitton R. 2013. Coral Reef Diversity and Exploration. *Bureau of Fisheries and Aquatic Resources*. Philippines (Invited Presentation).
- Rowley SJ**, Pochon X, Gates RM, Watling L. 2012. Characterising Gorgonian Responses to Environmental Change on Coral Reefs in SE Sulawesi, Indonesia. *37th Tester Symposium*. Hawai'i, USA (Presentation).
- Rowley SJ**, Pochon X, Gates RM, Watling L. 2012. Gorgonian Responses to Environmental Change on Coral Reefs in SE Sulawesi, Indonesia. *Hawaiian Institute of Marine Biology*. Hawai'i, USA (Invited Presentation).
- Rowley SJ**. 2012. Gorgonian Responses to Environmental Change on Coral Reefs in SE Sulawesi, Indonesia. *Netherlands Centre for Biodiversity, Naturalis*, Leiden, Netherlands (Invited Presentation).
- Burns S, **Rowley SJ**, Saw, J, Watling L, Donachie S. 2012. Bacterial Communities Associated with Deep-Sea Corals. *ARCS* Hawai'i, USA (Poster)
- Watling L, France SC, **Rowley SJ**, Heestand E. 2012. When is a bamboo coral not a bamboo coral? A revision of the octocoral family Isididae. *Proc. 5th Int. Deep Sea Coral Symposium*. Amsterdam, Netherlands (Presentation).
- Watling L, **Rowley SJ**, Lapointe A. 2012. Deep coral stories from the Northwestern Hawaiian Islands. *5th Annual Hawaiian Islands Symposium*. Hawai'i, USA (Presentation).
- Rowley MR, **Rowley SJ**. 2012. Exploration of the HMS Victoria, A Deep Wreck off Lebanon. *23rd Annual Symposium on the Maritime Archaeology and History of Hawai'i and the Pacific*. Hawai'i, USA (Invited Presentation).
- Rowley SJ**, Watling L, Pochon X, Gates RM, Smith DJ, Bell JJ. 2011. Gorgonian Responses to Environmental Change on Coral Reefs in SE Sulawesi, Indonesia. *22nd Pacific Science Conference*. Kuala Lumpur, Malaysia (Presentation).
- Barker J, **Rowley SJ**, Speight MR. 2009. Host specificity and environmental parameters structure the distribution of *Spirobranchus corniculatus* complex *s.l.* on coral reefs in SE Sulawesi, Indonesia. *12th Annual Meeting RCUK*, London, UK (Presentation & Poster).
- Norman-Walker O, **Rowley SJ**, Weaver R. 2009. Morphological variability of the gorgonian (Cnidaria: Octocorallia) *Isis hippuris* (L 1758) across habitat gradients in SE Sulawesi, Indonesia. *12th Annual Meeting RCUK*, London, UK (Poster).
- Rowley SJ**. 2009. Morphological diversity and abundance in the tube-dwelling polychaete *Spirobranchus giganteus* (Pallas, 1766) in the Indo-Pacific: adaptations to its coral host? *Operation Wallacea*. SE. Sulawesi, Indonesia (Invited Presentation).

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Rowley SJ. 2007. Volunteering for the MarLIN – Marine Life Information Network. *My Future Exhibition, Marine Biological Association*, Plymouth, UK (Invited Presentation).

Rowley SJ et al., 2004-2008. Seashore Safari: Public outreach of UK shores. *MarLIN, Marine Biological Association*, UK

PUBLIC & EDUCATION OUTREACH

POPULAR ARTICLES, BOOK CHAPTERS, & BLOGS

Rowley SJ, 2024-Ongoing: [Fine Art America & Pixels](#). Biodiversity research awareness via passive income.

Rowley SJ, 2023. Gorg Grok. [InDepth, GUE](#), Ed. M. Menduno, SJ. Bennett.

Rowley SJ, 2020. Ant Atoll, Federated States of Micronesia, [In Close Calls](#), Ed. Kas, Pavia, Menduno.

Rowley SJ & Chyba M. 2019. [Pohnpei 360°: Aerial to the Mesophotic](#). National Geographic Open Explorer.

Bridge TL, **Rowley SJ**, Roberts TE. 2017. *Twilight Reefs of Kimbe Bay*. Karai Bilong Solwara, Mahonia Na Dari, 2-3

Rowley SJ. 2016. *Twilight Times: An Age of Discovery*. Kilo i'a, Waikīkī Aquarium, 7-9.

Rowley SJ. 2015. *Land of the Holy Places*. 20th August 2015.

Rowley SJ. 2015. *Pohnpei & Pakin 2015*. Association for Marine Exploration. 22nd June 2015.

Rowley SJ, Pyle RL. 2014. *Notes From the Field: SE7EN Rebreathers in Pohnpei*. Poseidon. 8th August 2014.

Rowley SJ. 2014. *The Greene Green Grass of Pohnpei!* Bernice P. Bishop Museum. 27th July 2014.

Rowley SJ. 2014. *Rings and Branches*. Bernice P. Bishop Museum. 17th July 2014.

Rowley SJ. 2014. *SE7ENth Heaven at Ant Atoll*. Bernice P. Bishop Museum. 14th July 2014.

Rowley SJ. 2014. *Gorgonians élixir de vie!!* Bernice P. Bishop Museum. 8th July 2014.

Rowley SJ. 2014. *Stealth, Strength & Deep Phototrophic Gorgonians*. Bernice P. Bishop Museum. 2nd July 2014.

Rowley SJ. 2014. *Atolls & Islands*. Bernice P. Bishop Museum. 2nd July 2014.

Rowley SJ, Pyle RL. 2014. *Anilao: Searching for New Species on Deep Philippine Reefs*. Poseidon. 6th June.

Pyle RL, **Rowley SJ.** 2014. *Notes From the Field: Into the Twilight Zone*. Poseidon. 2nd May 2014.

Pyle RL, **Rowley SJ.** 2014. *Notes From the Field: Welcome*. Poseidon. 16th April 2014.

INTERVIEWEE

[Perfect Diver: Strength Grows in Twilight. Lessons I learned from the Coral](#). Issue 40: 27th August 2025

[SEVENSEAS Media: Dr. Sonia J. Rowley Evolutionary Marine Biologist... Women in Conservation](#), Issue 116: January 2025

[SOEST News: The mysterious world of deep, Gorgonian corals, By Marcie Grabowski](#), 27th August 2024

[She Changes Climate: "The Deeper We Go, The Less We Know"](#) By Andi Cross, 23rd August 2024

[InDepth Talks: Scientific Technical Diving with Dr. Sonia J. Rowley, Phil Short, & Edd Stockdale](#). By Stratis Kas, Sept. 2024

[Dive In: The Podcast. #44 Dr. Sonia J. Rowley, 25.01.2021](#), Canada.

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[Divesoft DIVETALKS LIVE. #11 Dr. Sonia J. Rowley](#). 2020. Florida, USA

[Mesophotic Reefs of Pohnpei, FSM](#). 2017. Likable Science, ThinkTech Hawai'i, USA

[An In-Depth Look at Corals](#). 2017. All Things Marine, Schmidt Ocean Institute. Hawai'i, USA

[Gorgonian Coral Discoveries](#). 2016. Likable Science, ThinkTech Hawai'i, USA

[Into the Twilight Zone](#). 2016 – Present with L. Rocha, B. Shepherd, Steinhart Aquarium, California Academy Sciences, USA.

[Diving into the Twilight Zone \(Episode 313\)](#). 2014. With RL. Pyle. Bytemarks Cafe, Hawai'i Public Radio, USA.

RELEVANT COURSES & QUALIFICATIONS

- 2025 **Divesoft LLC Expedition service technician speciality**, Divesoft LLC, Florida, USA
2025 **PSI-PCI Valve Repair Technician. VRT #4389**. Divesoft LLC, Florida, USA
2025 **PSI-PCI Oxygen Cylinder Cleaning Technician. OCCT #3096**. Divesoft LLC, Florida, USA
2025 **PSI-PCI Visual Cylinder Inspection®. Inspector® #36441**. Divesoft LLC, Florida, USA
2022 **Full Driver's License**, Hawai'i, USA
2020 **APEKS Regulator service technician**, Keoki's Scuba Hawai'i, USA
2020 **F.I.I, L.2 Freediver**, Freediving Instructors International, Hawai'i, USA
2018 **IANTD CCR Liberty crossover extended range**, D. Sammons, Hawai'i, USA
2017 **F.I.I, L.1 Freediver**, Freediving Instructors International, Hawai'i, USA
2017 **USA Green Card**, National Interest Waiver (EB2)
2017 **Introduction to Programming & Statistics in R**, University of Hawai'i at Mānoa, USA
2016 **Poseidon, Regulator & Rebreather Service Technician Course**, Hawai'i, USA
2015 **Coral Corer Operations**, NOAA & Lawrence Livermore Lab., USA
2015 **Methods in Ecological Genomics Analyses Workshop**, Mote TRL, Florida, USA
2014 **Deep Sea Coral Genomics Workshop**, NOAA-JCM, Seattle, USA.
2013 - 2018 **Piedra-Sombra Corporation, Inc., Poseidon MKVIII Rebreather Test Pilot**.
2012 **JEOL JSM-648OLV Scanning Electron Microscope**, Naturalis, Netherlands.
2012 **JEOL JSM-7600F Scanning Electron Microscope**, Naturalis, Netherlands.
2012 **Philips XL-30 Environmental Scanning Electron Microscope**, Smithsonian Institute, USA.
2012 **BSAC, IANTD, AAUS, TDI Close Circuit Rebreather Inspiration & Evolution, TRIMIX**.
2011 **Geneious bioinformatic software operation incl. PAUP, MrBayes, PHYML**.
2011 **DAN Oxygen Administration**, University of Hawai'i at Mānoa, USA.
2009 **Hitachi S4800-I Field Emission Scanning Electron Microscope**, University of Hawai'i at Mānoa, USA.

2009 **PRIMER-E, PERMANOVA workshop**, MBA, Plymouth, UK; Massey University, Albany, NZ.
2008 **Deep Sea Coral Symposium, Coral Taxonomy Workshop**, NIWA, Wellington, New Zealand.
2007 **UK Marine Protected Areas Centre Workshop**, York, UK
2005 **HSE 4 Professional SCUBA: Diving & Sailing Centre Plymouth**.
HSE First Aid at Work, RYA Sea Survival, RYA VHF/GMDSS, HSE B.6.5 Oxygen Administration.

2005 **BSAC & IANTD Advanced NITROX: Maureen of Dart**, UK.
2004 **Motor Cycle License**, DVLA, UK.
2004 **PADI Divemaster, Rescue Diver, PADI EFR**. Oonas Dive Centre, Egypt.
2004 **Marine Mammal Medic: Diving & Sailing Centre**, Plymouth, UK.
1992 **BSAC Dive leader**, Maureen of Dart, UK.
1992 - 1994 **RYA/D.O.T Coastal skipper, Yachtmaster Offshore Ocean, RYA Astronavigation & Sat. Navigation: Dartmouth Community College**, UK.
1990 **Full Driver's License**, DVLA, UK (*Renewed: 08.04.2022).
1987 **BSAC Boat handling**, Anglesey, UK.
1987 **BSAC Sports Diver**, Burntwood, UK
1984 **BSAC Dive snorkeler**, Scotland, UK.

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