
PROFESSIONAL EXPERIENCE

2014 - present *Research Faculty*, Hawai'i Institute of Marine Biology, SOEST, University of Hawai'i at Mānoa
2013 - 2016 *Coral Specialist*, State of Hawai'i, Division of Aquatic Resources
2012 *Consultant*, SeaGrant/Department of Land and Natural resources
2011 - 2018 *Affiliate Graduate Faculty*, Hawai'i Pacific University
2009 - 2014 *Postdoctoral Fellow*, Hawai'i Institute of Marine Biology
2007 - 2008 *Consultant*, US Fish and Wildlife Pacific Islands office
2005 - 2007 *Postdoctoral Fellow*, Kewalo Marine Laboratory, Honolulu HI
2003 - 2005 *Postdoctoral Fellow*, Waikiki Aquarium, Honolulu HI

EDUCATION

2003 PhD Biology (Ecology and Evolutionary Biology), University of Houston, Houston TX;
Dissertation: Phylogeny and phylogeography of *Porites* & *Siderastrea* (Scleractinia:Cnidaria) species in the Caribbean and Eastern Pacific based on the nuclear ribosomal ITS region
1996 BA East Asian Studies (Japanese Language), University of Arizona, Tucson AZ
1995 BSc Ecology and Evolutionary Biology, University of Arizona, Tucson AZ

PUBLICATIONS [Google Scholar](#), June 2020: h-index 20, i10-index 29, 1,347 citations

*=*mentored student*

Peer reviewed (n=55)

Terraneo T*, Benzoni F, Arrigoni R, Baird A, Mariappan K, **Forsman ZH**, Wooster M, Bouwmeester J, Marshall A, Berumen M (*in press*) Phylogenomics and phylogeography of *Porites* from the Arabian Peninsula. *Systematic Biology*
Wada N, Yuasa H, Kajitani R, Gotoh Y, Ogura Y, Yoshimura D, Toyoda A, Tang S, Higashimura Y, Sweatman H, **Forsman ZH**, Bronstien O, Eyal G, Thongtham N, Hayashi T, Itoh T, Yasuda N (*in press*). Predominant subcuticular bacteria (*Spirochaetia* sp.) in the Indo-Pacific crown-of-thorns starfish and its whole genome sequence. *Microbiome*
Brown N*, **Forsman ZH**, Tisthammer KT*, Richmond RH (2020) A resilient brooding coral in the broadcast spawning *Porites lobata* species complex: a new endemic, introduced species, mutant, or new adaptive potential? *Coral Reefs*.
Tisthammer KH*, **Forsman ZH**, Toonen RJ, Richmond RH (2020) Genetic structure is stronger across human-impacted habitats than among islands in the coral *Porites lobata*. *PeerJ*
Bowen BW, **Forsman ZH**, Whitney JL, Faucci A, Hoban M, Canfield SJ, Johnston EC*, Coleman RC, Copus JM*, Vicente J, Toonen RJ (2020) Synthesis: Adaptive Radiations in the Sea: What the Flock? *Journal of Heredity*
Capel K*, Lopez C, Molto-Martin I, Zilberberg C, Creed JC, Knapp ISS, Hernandez M, **Forsman ZH**, Toonen RJ, Kitahara M, (2020) Atlantia, a new Dendrophylliidae genus (Cnidaria, Anthozoa, Scleractinia) from Eastern Atlantic *PeerJ*.
Greene A*, **Forsman ZH**, Toonen RJ, Donahue M (2019) CoralCam: a flexible, low-cost ecological monitoring platform. *HardwareX*7:E00089
Iguchi A, Yoshioka Y, **Forsman ZH**, Knapp ISS, Toonen RJ, Hongo Y, Nagai S, Yasuda N (2019) RADseq population genomics confirms divergence across closely related species in blue coral (*Heliopora coerulea*). *BMC Evolutionary Biology*. 19:187
Cunha RL, **Forsman ZH**, Belderok R*, Knapp ISS, Castilho R, Toonen RJ, (2019) Rare coral under the genomic microscope: timing and relationships among Hawaiian *Montipora*. *BMC Evolutionary Biology*. 19: 153
Terraneo TI*, Fusi M, Hume BCC, Arrigoni R, Voolstra CR, Benzoni F, **Forsman ZH**, Berumen ML (2019) Environmental latitudinal gradients and host specificity shape Symbiodiniaceae distribution

- in Red Sea *Porites* corals. *Journal of Biogeography*. 46: 2323– 2335
- Copus JM*, Montgomery WL, **Forsman ZH**, Bowen BW, Toonen RJ (2018) Geopolitical species revisited: Genomic and morphological data indicate three threatened and endangered species in the Roundtail Chub *Gila robusta* species complex (Teleostei, Cyprinidae) is a single species. *PeerJ* 6:e5605 <https://doi.org/10.7717/peerj.5605>
- Forsman ZH**, Maurin P, Parry M, Chung A*, Sartor C*, Hixon M, Hughes K, Rodgers K, Knapp I, Gulko D, Franklin E, Torres L, Chan N, Wolke C, Gates R, Toonen RJ (2018) The First Hawai'i Workshop For Coral Restoration & Nurseries. *Marine Policy*. 96, 133-135
- Johnston EC*, **Forsman ZH**, Toonen RJ. (2018) Plasticity or chimerism? Color variation in *Montipora verrilli* / *M. patula*. *Galaxea*, 19:1 33-34
- Price MR, **Forsman ZH**, Knapp ISS, Hadfield MG (2018) A comparison of mitochondrial genomes from five species in three genera suggests polyphyly in the subfamily Achatinellinae (Gastropoda: Pulmonata: Stylommatophora: Achatinellidae) Mitochondrial DNA Part B: Resources. 3:2, 611-612
- Terraneo TI*, Arrigoni R, Benzoni F, **Forsman ZH**, Berumen ML (2018) The complete mitochondrial genome of *Porites harrisoni* (Cnidaria: Scleractinia) obtained using Next Generation Sequencing. Mitochondrial DNA Part B: Resources. 3:1, 286-287
- Terraneo TI*, Arrigoni R, Benzoni F, **Forsman ZH**, Berumen ML (2018) Using ezRAD to reconstruct the complete mitochondrial genome of *Porites fontanesii* (Cnidaria: Scleractinia). Mitochondrial DNA Part B: Resources 3:1, 173-174
- Johnston EC*, **Forsman ZH**, Toonen RJ (2018) A simple molecular technique for distinguishing species reveals frequent misidentification of Hawaiian corals in the genus *Pocillopora*. *PeerJ* 6:e4355
- Capel K*, Toonen RJ, Rachid CT, Creed JL, Kitahara M, **Forsman ZH**, Zilberberg C (2017) Clone wars: asexual reproduction may be key to the invasion success of *Tubastraea* spp. (Anthozoa: Scleractinia) in the South-Atlantic Ocean. *PeerJ* vol. 5 pp: e3873
- Johnston E*, **Forsman ZH**, Schmidt-Roach S, Pinzon J, Flot JF, Toonen RJ (2017) A genomic glance through the fog of plasticity and diversification in *Pocillopora*. *Nature Scientific Reports*. 7:5991
- McFadden C, Haverkort-Yeh R*, Reynolds A, Halasz A, Quattrini A, **Forsman ZH**, Benayahu Y, Toonen RJ (2017) Species boundaries in the absence of morphological, ecological or geographical differentiation in the Red Sea octocoral genus *Ovabunda* (Alcyonacea: Xeniidae). *Molecular Phylogenetics and Evolution*. 112; 174-184.
- Forsman ZH**, Knapp ISS, Tisthammer KH*, Eaton DAR, Belcaid M, Toonen RJ (2017) Coral hybridization or polymorphism? Genomic data reveal gene flow between *Porites lobata* and *P. compressa*. *Molecular Phylogenetics and Evolution* 111: 132-148.
- García NAC, Campos JE, Tello Mussi JL, **Forsman ZH**, Montero Muñoz JL, Reyes AM, Arias González JE. (2017) Comparative molecular and morphological variation of *Siderastrea stellata* in the Gulf of Mexico. *Biological Bulletin*. 232: 58-70.
- Price MR, **Forsman ZH**, Knapp I, Toonen RJ, Hadfield MG (2016a) The complete mitochondrial genome of *Achatinella sowerbyana* (Gastropoda: Pulmonata: Stylommatophora) Mitochondrial DNA Part B 1.1 (2016): 666-668.
- Hellberg ME, Prada C, Tan M, **Forsman ZH**, Baums IB (2016) Getting a grip at the edge: recolonization and introgression in eastern Pacific *Porites* corals. *Journal of Biogeography* 43: 2147 – 2159.
- Capel KCC*, Migotto AE, Zilberberg C, Lin MF, Chen CA, **Forsman ZH**, Miller DJ, Kitahara MV (2016) The mitochondrial genomes from the Atlantic invasive coral species, *Tubastraea coccinea* and *T. tagusensis* (Scleractinia, Dendrophylliidae). *Gene*-41359
- Knapp ISS, Puritz J, Bird C, Whitney J, Sudek M, **Forsman ZH**, Toonen RJ (2016) ezRAD- an accessible next-generation RAD sequencing protocol suitable for non-model organisms_v3.2. [protocols.io/doi.org/10.17504/protocols.io.e9pbh5n](https://doi.org/10.17504/protocols.io.e9pbh5n)
- Tisthammer KH*, **Forsman ZH**, Sindorf V, Massey T, Bielecki C, Toonen RJ (2016) The complete mitochondrial genome of the lobe coral *Porites lobata* (Anthozoa:Scleractinia) sequenced using ezRAD. Mitochondrial DNA part B; Resources 1.1 (2016): 247-249.

- Price MR, **Forsman ZH**, Knapp ISS, Hadfield MG, Toonen RJ (2016b) The complete mitochondrial genome of *Achatinella mustelina* (Gastropoda: Pulmonata: Stylommatophora). Mitochondrial DNA part B; Resources. 1(1), 175-177.
- LaJeunesse T, **Forsman ZH**, Wham D (2015) The occurrence of an invasive ‘zooxanthella’ further indicates that “*Siderastrea glynni*” is *Siderastrea siderea* introduced from the Caribbean to the Tropical Eastern Pacific. Coral Reefs 35.2: 577-582.
- Forsman ZH**, Vaughan D, Page CA, Toonen R (2015a) Growing coral larger and faster: accelerating coral cover by colony fusion; PeerJ 3:e1313
- Knapp IS*, **Forsman ZH**, Williams GJ, Toonen RJ, Bell JJ (2015) Evidence of cryptic speciation in *Haliclona (Gellius) caerulea*, family: Haplosclerida; PeerJ; 3:e1170.
- Pochon X, **Forsman ZH**, Spalding HL, Padilla-Gamino J, Smith C, Gates RD (2015) Depth zonation and sympatric cryptic diversity in a Hawaiian deep water coral (*Leptoseris* spp.) and associated algal symbionts. Royal Society of Open Science vol. 2 (2) p. 140351
- Forsman ZH**, Wellington GM, Fox GE, Toonen RJ (2015b) Clues to the species problem: Genetic and morphological variation in *Porites* across the Pacific. PeerJ vol. 3 p. e751
- Forsman ZH**, Knapp ISS, Szabo Z, Toonen RJ (2014) Intraspecific fluorescent phenotypes in *Montipora capitata*. Galaxea 16: 17-18
- Schmidt-Roach S, Johnston E*, Fontana S, Jury C, **Forsman ZH** (2014) Daytime spawning of *Pocillopora* species in Kāneʻohe Bay, Hawaiʻi. Galaxia 16:11-12
- Prada C, Neigel JE, Yednock B, Stake J, **Forsman ZH**, Baums IB, Hellberg ME (2014) Genetic testing of three Caribbean coral morpho-species: to lump or to split the branching *Porites*? Coral Reefs 33(4): 1019-1030
- Toonen RJ, Puritz JB, **Forsman ZH**, Whitney J, Bird CE, Fernandez-Silva I, Andrews K. (2013). ezRAD: a simplified method for genomic genotyping in non-model organisms. PeerJ 1:e203; DOI 10.7717/peerj.203
- Forsman ZH**, Marti-Puig P*, Haverkort RD*, Maragos JE, Toonen RJ (2013a) Extreme phenotypic polymorphism in *Pocillopora* (Anthozoa: Scleractinia); corallite morphology corresponds to mitochondrial groups, while taxonomy based on colony morphology does not. Bulletin of Marine Science 03/2013; 90(1).
- Forsman ZH**, Johnston EC*, Brooks AJ, Adam TC, Toonen RJ (2013b) Genetic evidence for regional isolation of *Pocillopora* corals from Moorea. Oceanography 26(3):153–155
- Luck DG*, **Forsman ZH**, Toonen RJ, Leicht SJ*, Kahng SE (2013) Polyphyly, cryptic species and depth zonation in Hawaiian *Leptoseris* (Scleractinia: Agariciidae), a dominant mesophotic coral genus. PeerJ. 1:e132; DOI 10.7717/peerj.132
- Farrar CE, **Forsman ZH**, Gates RD, Leong JC, Toonen RJ (2013) Observing the Coral Symbiome Using Laser Scanning Confocal Microscopy. Science Vol. 399 (6119) pp. 518-519
- Stat M, Baker A, Correa A, **Forsman ZH**, Huggett M, Pochon X, Skillings D, Starger C, van Oppen M, Gates RD (2012) Molecular delineation of species in the coral holobiont. Advances in Marine Biology vol. 63 p. 1-65
- Forsman ZH**, Kimokeo BK*, Hunter CL, Toonen RJ (2012) Coral farming: species specific effects of light, water motion and artificial foods. Journal of the Marine Biological Association of the United Kingdom 92: pp 721-729
- Work TM, **Forsman ZH**, Szabo Z, Lewis TD, Aeby GS, Toonen RJ (2011) Inter-specific coral chimerism: genetically distinct multicellular structures associated with tissue loss in *Montipora capitata*. PLoS One 6(7) e22869
- Baranets V*, **Forsman ZH**, Karl SA (2011) Microsatellite loci for the plate-and-pillar coral, *Porites rus*. Conservation Genetic Resources 3: 519 – 521.
- Forsman ZH**, Concepcion GT*, Haverkort RD*, Shaw RW, Maragos JE, Toonen RJ (2010a) Ecomorph or endangered coral? DNA and microstructure reveal Hawaiian species complexes: *Montipora dilatata/flabellata/turgescens* & *M. patula/verilli*. PLoS One 5(12):e15021

- Forsman ZH**, Martinez JA*, Maragos JE, Toonen RJ (2010b) Resurrection of *Porites hawaiiensis* Vaughan 1907; a Hawaiian coral obscured by small size, cryptic habitat and confused taxonomy. *Zootaxa* 2624:67-68
- Forsman ZH**, Birkeland C (2009) *Porites randalli*: a new coral species (Scleractinia, Poritidae) from Samoa. *Zootaxa* 2244:51-59
- Brown DP, Basch L, Barshis D*, **Forsman ZH**, D Fenner D, Goldberg J (2009) American Samoa's island of giants: Massive *Porites* colonies at Ta'u Island. *Coral Reefs* 28:735
- Forsman ZH**, Barshis D*, Hunter CL, Toonen RJ (2009) Shape-shifting corals: Molecular markers show morphology is evolutionarily plastic in *Porites*. *BMC Evolutionary Biology* 9:45
- Keeley S, **Forsman ZH**, Chan R (2007) A phylogeny of the "Evil Tribe" (Vernonieae: Compositae) reveals old/new world long distance dispersal: support from separate and combined congruent datasets (trnL-F, ndhF, ITS). *Molecular Phylogenetics and Evolution* 89-103
- Forsman ZH**, Rinkevich B, Hunter CL (2006a) Investigating fragment size for culturing reef-building corals (*Porites lobata* and *P. compressa*) in *ex situ* nurseries. *Aquaculture* 261: 89-97
- Forsman ZH**, Wellington GM, Hunter CL G.E. Fox (2006b) Is the ITS region the solution to the 'species problem' in corals? Intragenomic variation and alignment permutation in *Porites*, *Siderastrea* and outgroup taxa. 10th International Coral Reef Symp 14-23
- Forsman ZH**, Guzman HM, Chen CA, Fox GE, Wellington GM (2005) An ITS region phylogeny of *Siderastrea* (Cnidaria:Anthozoa); is *S. glynni* endangered or introduced? *Coral Reefs* 24: 343-347
- Forsman ZH**, Lednický JA, Fox GE, Willson RC, White Z, Halvorson S, Wong C, Lewis AM, Butel JS (2004) Phylogenetic analysis of polyomavirus simian virus 40 from monkeys and humans reveals genetic variation. *Journal of Virology* 78(17): 9306-9316
- Other publications (n=13)*
- Forsman ZH**, Page C, Vaughan D (*in press*) Coral Fusion: Harnessing coral clonality for reef restoration. in *Active Coral Reef Restoration: New technologies for a changing planet*. Ed. David Vaughan J Ross Publishing.
- Forsman ZH** (2020) Divide and conquer: how the microfragmentation technique can help restore coral impacted by climate change and mass coral bleaching. *The Biologist*, Royal Society of Biology, [vol. 67. No1. London.](#)
- Wada N, Yuasa H, Kajitani R, Gotoh Y, Ogura Y, Yoshimura D, Toyoda A, Tang S, Higashimura Y, Sweatman H, **Forsman ZH**, Bronstien O, Eyal G, Thongtham N, Hayashi T, Itoh T, Yasuda N (2020). Predominant subcuticular bacteria (*Spirochaetia* sp.) in the Indo-Pacific crown-of-thorns starfish and its whole genome sequence. *Biorxiv*; <https://doi.org/10.1101/2020.02.13.947093>
- Tisthammer KH*, **Forsman ZH**, Richmond RH (2019) Genetic structure is stronger across human-impacted habitats than among islands in the coral *Porites lobata*. *Biorxiv*; <http://dx.doi.org/10.1101/574665>
- Miller M. Blackburn H, **Forsman ZH**, Hagerdorn M, Lohr K, Moulding A, O'Neil K, Penfold L, Winders S (2019) *Acropora* recovery implementation team working group report and recommendations on Genetic Banking. National Marine Fisheries Service. p.10
- Forsman ZH**, Concepcion GT*, Haverkort RD*, Shaw RW, Maragos JE, Toonen RJ (2010) Is *Montipora dilatata* an endangered coral species or an ecotype? Genes and skeletal microstructure lump seven Hawaiian species into four groups. NOAA Report. p.20
- Forsman ZH**, Concepcion GT*, Haverkort RD*, Maragos JE, Toonen (2009) Genetic and morphological characterization of a coral Species of Concern, *Montipora dilatata*, in Kane'ohe Bay, O'ahu, Hawai'i. NOAA Fisheries Service Pacific Islands Regional Office FY 2008 Report. p.15
- Forsman ZH**, Parry M, Pelleteri S, Cubit J, Hunter CL, Gulko D, Everson A, Calahan C, Foster K, Ziemann D (2008) Sea urchin (*Tripneustes gratilla*) aquaculture for biocontrol of invasive algae and reef restoration in Hawai'i. U.S. Department of the Interior Fish and Wildlife Service Pacific Islands Office p.10

- Forsman ZH**, Phillips J, Gulko DA, Foster KB (2008) Primary restoration: enhancement of coral recovery at the *M/V Cape Flattery* incident site. U.S. Department of the Interior Fish and Wildlife Service Pacific Islands Office. p.24
- Foster KB, **Forsman ZH**, Sukhraj NC* (2007) Barbers Point (Kalaeloa) Harbor deep draft harbor fish and wildlife coordination act investigation marine assessment and impact analysis. U.S. Department of the Interior Fish and Wildlife Service Pacific Islands Office. p. 82
- Forsman ZH**, Peyton KA, Knapp ISS, Toonen RJ (2012) Benthic surveys for the Waikīkī beach sand replenishment project. State of Hawai‘i Division of Aquatic Resources Report. p. 67
- Forsman ZH**, Hunter CL (2007) Propagation of Hawaiian corals for reef restoration. Hawaiian Coral Reef Initiation/NOAA report. p.18
- Forsman ZH**, Hunter CL (2006) Origins and relationships of the Hawaiian reef coral *Porites*; taxonomy, life history, endemism and population genetics. Hawaiian Coral Reef Initiation/NOAA report, p. 12
- Submitted or Advanced prep (available on request)*
- Rangel M*, Bell S*, Pacini AF, **Forsman ZH**, Knapp ISS, Toonen RJ (*in review*) Screaming at corals: 1-100kHz anthropogenic sounds show little effect on sessile coral reef invertebrates. PeerJ
- Kraft D*, Conklin E*, Barba E*, Hutchinson M, Toonen RJ, **Forsman ZH**, Bowen BW (*in review*) Genomics versus mtDNA for Resolving Stock Structure in the Silky Shark (*Carcharhinus falciformis*). Journal of fish biology
- Price M, **Forsman ZH**, Knapp ISS, Toonen RJ, Hadfield M (*in review*) Phylogenomics of an adaptive radiation in endangered Hawaiian tree snails (Achatinellidae). PeerJ
- Colín-García NA, Campos JE, Tello-Mussi JL, Chiappa-Carrara X, Arena-Ortiz ML, **Forsman ZH**; Arias-González JE (*in review*) Environmental variation is associated with increased morphological and molecular variation in Pseudodiploria corals. Marine Biodiversity
- Forsman ZH**, Ritson-williams R*, Tishammer K, Knapp ISS, R.J. Toonen RJ (*in review*) Host-symbiont coevolution and diversification by habitat in a coral species complex (Scleractinia; Poritidae). Nature Scientific Reports.
- Web M*, **Forsman ZH**, Baker E*, Knapp ISS, Jury C, Toonen RJ (*in prep*) Trade-offs to resilience; combined effects of temperature and increased CO₂ on coral bleaching susceptibility, mortality and growth.

FUNDED PROPOSALS AND INITIATIVES

Competitive grants (total=\$3,638,752)

- 2019-2024 (**\$2,399,737**) Montgomery A, Pyle R, Longenecker K, **Forsman ZH**, Toonen RJ, Kosaki R, Barshis D. Mesophotic Coral Ecosystems of American Samoa. NOAA
- 2019-2021 (**\$306,000**) Madin J, Bowen BW, **Forsman ZH**, Toonen RJ. Assessing New Technologies for Coral Reef Monitoring and Restoration. NOAA Broad Agency Announcement
- 2018-2019 (**\$105,889**) **Forsman ZH**, Knapp ISSK, Toonen RJ. Scaling up production capacity for Hawaiian coral reef restoration: few large or many small? NOAA, CRCP
- 2016-2018 (**\$200,000**) **Forsman ZH** (PI) Developing a standardized deployable coral growth assay: a tool to identify and reduce specific threats to coral reefs. Seaver Institute
- 2014 (**\$163,308**) Marko P, Oliver T, Hunter C, **Forsman ZH**, Seneca F, Gates R. Tracking recovery from the 2014 coral bleaching event in Hawaiian waters: Water quality gradients, ecological factors and reef resilience to climate change. NSF RAPID
- 2014 (**\$30,000**) **Forsman ZH**, Toonen RJ. A sea of genomic data: visualizing, interpreting, and making sense of large genetic datasets. UH Foundation
- 2013 (**\$75,120**) **Forsman ZH**, Toonen RJ. Advancing tools for biodiversity studies: genomics and bioinformatics of Cnidarians with a focus on corals. UH Foundation

2011-2012 (\$50,000)	Forsman ZH , Toonen RJ. Waikīkī beach maintenance project marine environmental monitoring project. State of Hawai‘i DLNR
2010-2011 (\$34,060)	Forsman ZH , Toonen RJ. Genetic isolation and plasticity in <i>Montipora dilatata</i> and Hawaiian congeners: where are the species boundaries? NOAA, SOC
2009-2010 (\$31,307)	Forsman ZH , Toonen RJ. Gene flow and morphological variation in one of the rarest known corals: is <i>Montipora dilatata</i> genetically isolated? NOAA, SOC
2008-2009 (\$33,215)	Forsman ZH , Hunter CL, Toonen RJ. Genetic and morphological characterization of a coral Species of Concern, <i>Montipora dilatata</i> , in Kāne‘ohe Bay, Hawai‘i. NOAA
2006-2007 (\$44,000)	Forsman ZH , Hunter CL. U.S. Fish and Wildlife Fellowship. HCRI
2005-2006 (\$73,161)	Forsman ZH , Hunter CL. Propagation of Hawaiian corals for reef restoration. HCRI
2004-2005 (\$64,340)	Forsman ZH , Hunter CL. Origins and relationships of an important Hawaiian reef building coral: <i>Porites</i> taxonomy, life history, endemism and population genetics. HCRI
2000-2001 (\$14,395)	Forsman ZH , Wellington GM. Ribosomal DNA variation in <i>Porites</i> spp.: The relationship between The Texas Flower Garden Banks National Marine Sanctuary and the Caribbean Province. Environmental Institute of Houston
1999-2000 (\$14,220)	Forsman ZH , Wellington GM. Genetic connectivity to the Texas Flower Garden National Marine Sanctuary. Environmental Institute of Houston

Conservation funding (Total=\$7,446,963)

2008 (\$6,812,853)	Forsman ZH , Phillips J, Gulko DA, Foster KB. Primary restoration: enhancement of coral recovery at the <i>M/V Cape Flattery</i> incident site. U.S. Department of the Interior Fish and Wildlife Service Pacific Islands Office (settlement assessment)
2008 (\$634,110)	Forsman ZH , Parry M, Pelleteri S, Cubit J, Hunter CL, Gulko D, Everson A, Calahan C, Foster K, Ziemann D. Sea urchin (<i>Tripneustes gratilla</i>) aquaculture for biocontrol of invasive algae and reef restoration in Hawai‘i. U.S. Department of the Interior Fish and Wildlife Service Pacific Islands Office (settlement assessment)

AWARDS & HONORS

2013	Science magazine; 2012 NSF visualization challenge: Science Vol. 399 (6119) pp. 518-519
2010	Faculty of 1,000 featured paper: BMC Evolutionary Biology 9:45
2008	Travel award: Hawai‘i Coral Reef Initiative (\$6,000)
2006	Travel award; Hawai‘i Coral Reef Initiative (\$6,000) Best paper; First Asia Pacific Coral Reef Symposium, Hong Kong
2001	Best poster; Sigma Xi campus-wide competition, University of Houston
1999	Teaching Excellence Award ; University of Houston campus-wide competition (\$1,000) Teaching Excellence Award ; University of Houston biology department competition (\$500) Grant-in-aid of research Sigma Xi; University of Houston (\$5,000)
1996	Travel and research award; biomedical research abroad, University of Arizona (\$8,000)
1995	Honorable mention; 4.0 GPA/2 semesters, University of Arizona

FORMAL INSTRUCTION (*guest lectures)

2020	Instructor: HIMB Bioinformatics workshop (20 graduate students) Invited Lecture Series: Coral secrets: data from micro-fragmentation & DNA, Mote Marine
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- Laboratory, Summerland Key FL (~40 participants) & Sarasota FL (~30 participants)
- 2019 *Marine Biology; Speciation (~30 undergraduates, UH Mānoa)
Co-organizer, Moderator & Host: 2019 Coral Bleaching and Restoration Symposium; DAR, NOAA, TNC, HIMB (~100 participants, HIMB)
Co-organizer & participant: NOAA-PIRO and HIMB collaborative workshop (30 participants, HIMB)
*Molecular Ecology (~40 undergraduates, Hawai'i Pacific University)
*Marine Biology; Reef restoration (~20 undergraduates, UH Mānoa)
*Marine Biology; Speciation (~30 undergraduates, UH Mānoa)
- 2018 **Invited Lecture Tour:** Genomics and micro-fragmentation as tools for coral reef restoration and research (~200 participants, Symposium on coral symbiosis and anthropogenic impacts, Hainan, China)
Expert panelist: Identification and propagation of rare and 'super corals'. Aquarium-based protection of climate resilient corals, Aquarium of the Pacific, LA, CA
*Marine Biology; Speciation (~30 undergraduates, UH Mānoa)
*Unexpected genetic structure in corals; implications for conservation and management. (Symposium on science in support of archipelagic management. O'ahu HI)
Expert panelist: Schmidt Ocean Institute workshop on data analytics to restore coral reefs. (~20 participants, San Diego CA)
- 2017 **US Embassy Sponsored Lecture Tour:** Conservation genetics and coral cultivation; (~150 participants, middle school to resource managers, Sabah Marine Parks, Borneo, Malaysia)
Instructor: Natural Resource Compliance Course; (~20 resource managers, Marine Corps Bay Hawai'i)
*Coral secrets revealed by cultivation and DNA (~50 participants general public/youtube, Hanauma Bay Lecture series)
*Marine Biology 604; RAD sequencing non-model organisms (~20 graduate students, UH Mānoa)
*Future Leaders in Marine Science Student Symposium (~20 graduate students, UH Mānoa)
Co-organizer: Conservation genomics workshop; Phylogenetic phylogeographic, and phylogenomic studies: methods, costs, and implications for management. (~30 participants, HIMB)
*Marine Biology; Coral species and speciation (~30 undergraduates, UH Mānoa)
- 2016 **Expert panelist:** IUCN workshop and exhibit on living shorelines (~200 participants. O'ahu HI)
*Molecular Phylogenetics (~15 graduates, UH Mānoa)
*Marine Biology; Speciation (~20 undergraduates, UH Mānoa)
- 2015 *Marine Biology; Coral Speciation (~30 undergraduates, UH Mānoa)
*Bioinformatics (~20 graduates, UH Mānoa)
Sponsored STEM Lecture Series: Reef restoration challenges: a coral module design competition. (~55 high school students 15+ contact hours, Kaimuki High School/Office of Naval Research STEM award)
*Reef Building coral: insights from cultivation, ecology, and DNA. (NOAA IRC Seminar)
- 2014 *Biol 403; Field problems in Marine Biology (~20 undergraduates, UH Mānoa)
- 2013 **Organizer:** Pauley Summer Program; Coral Genomics -symposium, workshops, and 6-week research program; (~40 participants, 15 research projects)
- 2012 **Expert panelist:** Current issues in molecular systematics of corals petitioned to be listed under

- the US Endangered Species Act. (NOAA Biological Review Team 82 petitioned coral species. O‘ahu HI)
- *Marine Research; Coral Systematic Issues (~20 undergraduates, UH Mānoa)
 - *Coral Reef Ecology: Coral Species and Speciation (~20 undergraduates, UH Mānoa)
 - *Advanced Topics in Marine Biology (~20 undergraduates, UH Mānoa)
 - *Barcoding corals in the genus *Pocillopora*: geographically restricted cryptic diversity. (Long Term Ecological Research All Scientists Meeting. Estes Park CO)
 - *Coral conservation genetics; hybridization, phenotypic plasticity and the identification of cryptic biodiversity. (Joint University of Tokyo/University of Hawai‘i Ocean Science Symposium. O‘ahu HI)
- 2011 **Organizer:** Marine Speciation Session, Pacific Science Congress, Kuala Lumpur, Malaysia
- *Marine Research; Coral Ecology (~30 undergraduates, UH Mānoa)
 - *The coral species complex: the exception or the rule? (Pacific Science Congress, Kuala Lumpur, Malaysia)
 - *Hawaiian coral species complexes; ecological variation or endangered species? (Evolution of Life on Pacific Islands and Reefs, O‘ahu HI)
 - *The coral species problem: How unique are the coral in the North-West Hawaiian Islands? (NWHI symposium, O‘ahu HI)
- 2009 *Marine Ecology and Evolution; Speciation (~30 undergraduates, UH Mānoa)
- 2008 *Ecology & Evolution; The Origin of Life (~100 undergraduates, UH Mānoa)
- *Molecular Systematics & Evolution; Phylogenetic Methods (~15 graduates, UH Mānoa)
- 2007 **K-12 Coral Reef Curriculum Development:** Hawai‘i Coral Reef Initiative sponsored workshop (~10 participants, O‘ahu HI)
- *Marine Biology; Phylogenetics; (~20 graduates, UH Mānoa)
 - *Advanced Topics in Marine Biology; Coral Evolution (~20 undergraduates, UH Mānoa)
- 2006 *Molecular Systematics & Evolution; Phylogenetic Methods (~20 graduate students, UH Mānoa)
- Undergraduate Marine Biology Program Mentor** (5 Remote Pacific Islander student research projects)
- 1997-2002 **Genetics Laboratory** (9 semesters ~200 undergraduates); Co-authored a new lab manual; designed new curriculum (DNA extraction, PCR, sub-cloning, sequencing and bioinformatics). –**Awarded Campus-Wide Teaching Excellence Award**
- 1999 **Ecology Laboratory** (2 semesters ~50 undergraduates) –**Awarded Biology Department Teaching Excellence Award**
- 1996-1997 **English as a second language:** National Institute of Animal Industry Tsukuba, Japan

PUBLISHED ABSTRACTS (* = students)

-
- Barba E*, Konklin E*, Kraft D*, **Forsman ZH**, Toonen RJ (2019) Population genetics to population genomics: Revisiting multispecies connectivity of the Hawaiian Archipelago using pooled RADseq approaches. Ocean Sciences Meeting. Japan
- Barba EW*, Konklin EE*, **Forsman ZH**, Toonen RT (2018) Population Genomics at the Archipelago Scale: Applications, (Reduced) Costs, and Value to Conservation of Hawai‘i’s Biodiversity Symposium on science in support of archipelagic management. O‘ahu HI
- Price MR, **Forsman ZH**, Toonen RJ, Sischo D, Kitamura P*, Knapp ISS, Hadfield MG (2018) Predators, genetics, and climate change: prioritizing conservation actions for endangered Hawaiian tree snails. The Wildlife Society

- Ritson-Williams R*, Cuning R, Nunez-Pons L, Sogin M, Nelson C, **Forsman ZH**, Willis S, Gates R, Albright R (2018) Integrating Genomics to Better Understand Coral Resilience to Bleaching, SICB
- Johnston E*, **Forsman ZH**, Toonen RJ (2018) Lab rat or shapeshifter? Genetic identification reveals frequent misidentification of *Pocillopora* corals throughout the Hawaiian archipelago. Symposium on science in support of archipelagic management. O'ahu HI
- Knapp ISS, **Forsman ZH**, Toonen RJ (2018) Nothing ventured nothing gained: establishing an *in-situ* coral nursery at the Hawai'i Institute of Marine Biology. Symposium on science in support of archipelagic management. O'ahu HI
- Kitamura P*, Price MR, **Forsman ZH**, Toonen RJ, Knapp ISS, Hadfield MG (2018) The Genetic Ramifications of Limited Gene Flow Between Fragmented Populations of *Achatinella sowerbyana*, Symposium on science in support of archipelagic management. O'ahu HI
- Price MR, **Forsman ZH**, Toonen RJ, Knapp ISS, Kitamura P*, Hadfield MG (2018) Predators, Genetics, and Climate Change: Prioritizing Conservation Actions for Endangered Hawaiian Tree Snails. Symposium on science in support of archipelagic management. O'ahu HI
- Barba E*, Conklin E*, Kraft D*, **Forsman ZH**, Whitney J, Toonen RJ (2018) Introducing AssessPool: a flexible pipeline for population genetic analysis of pooled sequencing data. Testers Symposium. O'ahu HI
- Price MR, **Forsman ZH**, Toonen RJ, Knapp ISS, Hadfield MG (2018) Predators, genetics, and climate change: prioritizing conservation actions for endangered Hawaiian tree snails SCB Oceania, Wellington NZ
- Takahashi K, Kajitani R, Yuasa H, Thongtham N, Phongsuwan H, **Forsman ZH**, Yasuda N, Itoh T (2017) Comparative genomic analysis of Pacific Ocean COTs and Indian Ocean COTs based on whole genome information. Japanese Coral Reef Society 20th Annual Conference, (In Japanese “全ゲノム情報に基づく太平洋とインド洋オニヒトデの比較解析”) Japanese Coral Reef Society 20th Annual Conference, Tokyo Japan
- Johnston E*, **Forsman ZH**, Schmidt-Roach S, Pinzon J, Flot JFF, Knapp ISS, Toonen RJ (2017) Recent diversification in, and restriction length polymorphism assay for identification of, *Pocillopora* corals. UH-University of Tokyo Joint Symposium.
- Yuasa H, Kajitani R, Takahashi K, Yoshimura D, Ogura Y, Zac **Forsman ZH**, Thongtham N, Phongsuwan N, Taquet C, Taquet M, Hayashi T, Itho T, Yasuda N (2017) Examining genetic divergence of closely related Crown-of-Thorns starfish species between Indian and Pacific Ocean using whole genome data. Asian Marine Biology Symposium, Kumamoto Japan
- Price M, **Forsman ZH**, Toonen RJ, Hadfield M (2017) Hawaiian tree snails in a hot, dry world. Evolution. Portland, OR.
- Wolke CS, Chan NT, Ranson SP, Gulko DA, Del Rio Torres L, **Forsman ZH** (2017) Hawaiian Coral Reef Restoration: A Success Story In The Making. Hawai'i Conservation Conference. O'ahu HI
- Rosinski A*, Lubarski K, Lager D, **Forsman ZH**, Hunter C. (2017) Preliminary Results from an *In-Situ* Coral Nursery at the Hawai'i Institute of Marine Biology: Can Corals of Opportunity be used as a Restoration Tool in Kāne'ohe Bay? Hawai'i Conservation Conference. O'ahu HI
- Johnston E*, **Forsman ZH**, Schmidt-Roach S, Pinzón J, Flot JF, Toonen RJ. (2016) Rooting the tree: Phylogenetic analysis of *Pocillopora* corals provides evolutionary insights into recent diversification. Western Society of Naturalists (WSN), Monterey, CA.
- Kitano Y, Yokochi H, Tisthammer K*, **Forsman ZH**, Yasuda N, Fukami H. (2016) Molecular phylogeny of *Porites* (Poritidae, Scleractinia, Anthozoa) from Japan. International Congress of Zoology.
- Toonen R, Timmers M, Ransome E, Belcaid M, **Forsman ZH**, Knap ISS, Brainard R, Meyer C. (2016) Genomic sequencing approaches to determining species boundaries and monitoring biodiversity. IUCN, O'ahu HI
- Yuasa H*, Yasuda N, Ogura Y, Hayashi T, Yoshimura D, Kajitani R, Yoshimura, Ito T, **Forsman ZH**, Nipponn Phongsuwan N, Thongtham, N (2016) Preliminary result of whole genome sequencing of

- Acanthaster planci* in Japan, Hawai‘i and Thailand. ICRS, O‘ahu HI
- Ranson SP, Chan NT, Wolke CS, **Forsman ZH**, Del Rio Torres L, Gulko DA (2016) The fast-growth protocol: accelerating coral growth for reef restoration in the Hawaiian archipelago. ICRS, O‘ahu HI
- Forsman ZH**, Knap ISS, Belcaid M, Johnston E*, Tisthammer K*, Toonen RJ. (2016) Parsing metagenomic loci from the coral holobiont: new insight into unresolved species complexes in *Porites*, *Pocillopora*, and *Montipora*. ICRS, O‘ahu HI
- Johnston E*, **Forsman ZH**, Schmidt-Roach S, Pinzón J, Flot JF, Rob Toonen RJ (2016) Rooting the tree; phylogenomic analysis of *Pocillopora* corals provides evolutionary insights into recent diversification. ICRS, O‘ahu HI
- Elmer F*, **Forsman ZH**, Brumbaugh B, Bell J, Gardner J (2015) Culture preference of early stage *Pocillopora damicornis* settlers. Hawai‘i Conservation Congress, O‘ahu HI
- Forsman ZH**, Knapp ISS, Belcaid M, Toonen RJ (2014): An Ocean of coral genomic data: status report from the 2013 Pauley Program, Asia Pacific Coral Reef Symposium, Taiwan
- Johnston E*, **Forsman ZH**, Tong E*, Berteaux E, Bonneville C, Toonen R. (2014) Genetic Approaches for Ecological Questions: Which Species of *Pocillopora* Corals are Responsible for Reef Resilience in Mo‘orea, French Polynesia? Asia Pacific Coral Reef Symposium, Taiwan
- Knapp ISS*, **Forsman ZH**, Sudek M, Eggers A, Puritz JB*, Whitney JB*, Fernandez-Silva I, Andrews KA, Bird CE, Toonen RJ (2014) ezRAD: No Species Left Behind! A Flexible Method to Extract Genomic Data from Model and Non-Model Organisms. Asia Pacific Coral Reef Symposium, Taiwan
- Kahng SE, Luck DG*, **Forsman ZH**, Toonen RJ, Wagner D (2014); Recent advances in the ecology of mesophotic ecosystems, Ocean Science Meeting. O‘ahu HI
- Frederic S, Zoccola D, BacoA, Flot JF, Stefani F, Benzoni F, Schmidt-Roach S*, Klueter A, McFadden C, **Forsman ZH** (2012) DNA barcoding in cnidarians: where do we stand? Where do we go? ICRS. Australia.
- Hellberg M, Prada-Montoya C, **Forsman ZH**, Polato N, Baums I (2012) Population isolation and introgression in Eastern Pacific *Porites*. ICRS. Australia.
- Luck D*, **Forsman ZH**, Kahng SE (2012) Taxonomic and phylogenetic re-characterization of Hawaiian *Leptoseris*. ICRS. Australia.
- Hellberg ME, Montoya CP, Baums IB, Polato N, Neigel J, Stake J*, Yednock B, **Forsman ZH** (2011) Population isolation and introgression in eastern pacific *Porites*. AMLC, Costa Rica.
- Kimokeo BK*, **Forsman ZH**, Hunter CL, Toonen RJ (2010) Coral farming: species specific effects of light, water motion and artificial foods. Society for Integrative and Comparative Biology, Seattle WA
- Forsman ZH**, Concepcion GT*, Haverkort RD*, Maragos JE, Toonen RJ (2010) Can endangered species of coral be distinguished from population level variation? Evolution OR
- Concepcion G*, **Forsman ZH**, Haverkort RD*, Maragos JE, Toonen RJ (2009) Evolutionary relationships of Hawaiian *Montipora*. 34th Albert L. Tester Memorial Symposium, O‘ahu HI
- Forsman ZH**, Barshis D*, Hunter CL (2008) Coral Biodiversity is not as it appears: cryptic species and morphospecies flocks in *Porites*, Proceedings of the 11th International Coral Reef Symposium. Orlando FL
- Forsman ZH**, Hunter CL (2008) Optimizing ex-situ nursery culturing conditions for Hawaiian coral. Proceedings of the 11th International Coral Reef Symposium. Orlando FL
- Forsman ZH**, Hunter CL (2006) ITS and mtDNA congruence, corallite-level concordance and rapid phenotypic evolution in *Porites* species. First Asia Pacific Coral Reef Symposium, Hong Kong
- Forsman ZH**, Baker A*, Hunter CL (2006) Fluorescent ITS-SSCP can differentiate *Porites lobata* and *P. lutea*; a useful tool for the coral species problem. First Asia Pacific Coral Reef Symposium, Hong Kong

- Chaung YY, Tseng CC, Fukami H, Claereboudt, Obura MD, **Forsman ZH**, Knowlton N, Chen CA (2005) Does deep divergence apply to the Atlantic and Indo-West Pacific congeneric corals? Insights from the mitogenomics of *Siderastrea*, Barcode of Life workshop, Panama
- Keeley SC, **Forsman ZH** (2004) Phylogenetic signal and congruence in nuclear and chloroplast DNA data in the Vernonieae (Asteraceae). Botanical Society of America 2004
- Forsman ZH**, Fox GE, Nnabuihe N*, Konshak AME*, Wellington GM (2001) Can ribosomal internally transcribed spacers be used to document reticulate evolution and population relationships in corals? Sigma Xi research symposium, Houston TX
- Forsman ZH**, Papaj DR (1995) Shared preferences and resource partitioning in two species of walnut flies *Rhagoletis Boycei* and *R. Juglandis*. Undergraduate Biology Research Program (UBRP) Sixth Annual Conference, Tucson AZ
- Forsman ZH**, Bronstein JL (1995) Growth initiation cohorts of *Yucca schottii*, UBRP Fifth Annual Conference, Tucson AZ

SYNERGISTIC ACTIVITIES

Languages:

English (native), Japanese (fair), Mandarin Chinese (some)

Symposium Organizer:

- 2017, 2018, 2019, 2020 HIMB Scholarship Symposium
- 2017, 2019 Hawai'i Reef Restoration Workshop
- 2016 Conservation Genetics Symposium, HIMB
- 2015 Coral Bleaching symposium, response to the 2014 bleaching event, HIMB
- 2013 Pauley Summer program on coral genomics, HIMB
- 2011 Marine Biodiversity and Speciation; Pacific Science Congress, Kuala Lumpur

Scientific Meeting Chair:

- 2016 ICRS session on reef restoration
- 2009 Phylogenetics and Speciation –Evolution, Moscow, ID
- 2007 Systematics –Evolution, Christchurch, New Zealand

Committee and Advisory Service:

- 2020 Scientific Advisory Board: State of Hawaii Coral Restoration Permitting
Restoration Planning Committee: TNC/NOAA/DAR
HIMB Scholarship Committee
- 2019 Acropora Genetic Banking Working group,
Hawai'i Coral Restoration Advisory Board,
Hawai'i Coral Bleaching Advisory Committee
- 2018 Marine Biology Graduate Program Admissions Committee,
HIMB Scholarship Committee
- 2017 HIMB Scholarship Committee,
Marine Biology Graduate Program Admissions Committee
- 2016 HIMB Webpage Committee,
HIMB Scholarship Committee

Field/Research experience:

- 2016-17 Construction of HIMB coral nursery
- 2013-16 Construction of DAR coral nursery
- 2011-12 Waikiki benthic surveys

2007 Coral reef surveys; Barbers Point (Kalaheo) channel O‘ahu, Hawai‘i
2007 Collection of rare Hawaiian coral for Waikīkī Aquarium Maui, Moloka‘i
2005 Collection of rare Hawaiian coral for Waikīkī Aquarium Hawai‘i, O‘ahu
2003 Construction of coral propagation facilities at Waikīkī Aquarium Hawai‘i, O‘ahu
1999 Fish surveys, *MV Fling* Flower Gardens Banks National Marine Sanctuary
1998 Fish surveys *MV Spree*, Flower Gardens Banks National Sanctuary
1997 El Niño and paleo-climate studies *MV Cook*, Galapagos Archipelago
1997 Coral transplant and bleaching studies Caribbean Marine Research Center, Bahamas
1994 Coral reef ecology field course Discovery Bay, Jamaica

Media exposure:

2020 News and press releases for [Tisthammer et al. 2020](#); [UH News](#), SOEST web page, [Science Daily](#) and [The Garden Island](#), [Eurekalert](#), [National Science Foundation news page](#)
[NPR Student Podcast Challenge](#): Podcast interview from middle school students

2019 Subject of Hawai‘i Pacific University short film project
Featured TV interview (OC 16)
Featured interview in an exhibit at the Waikīkī Aquarium

2017 [All Things Marine Radio interview](#) “An In-Depth Look at Corals”. (radio/podcast audience estimated at ~50,000)
Hanauma Bay Lecture Series (broadcast on YouTube)

2016 Media coverage for [Coral Nursery](#): Cover of Honolulu Star Advertiser, Live coverage KITV, [AP Interview](#), [VOA news](#).

2014 Newspaper interview on Hawai‘i coral bleaching Honolulu Star Advertiser

2013 PBS Interview: <http://www.youtube.com/watch?v=CSCUKSVBhSo>

2012 Science magazine: Visualization challenge:
http://www.nsf.gov/news/special_reports/scivis/winners_2012.jsp
Article featured in [Science Daily](#)

2011 Research featured on University of Hawai‘i at Mānoa SOEST homepage

2010 Hawai‘i Public Radio interview
Associated Press interview
Featured in Honolulu Advertiser

2009 BMC Evolutionary Biology Article featured in: [Science Daily](#), [Physorg.com](#), [esciencenews.com](#), [sciencecentric.com](#), [genref.com](#), [wildshores.blogspot.com](#)

2005, 2006, 2007 YouTube: Hawai‘i Coral Reef Initiative Quarterly Reports

1997 Research expedition featured by National Public Radio (NPR): and National Geographic Galapagos expedition

1993 Undergraduate research featured by Public Broadcasting System (PBS): Arizona Illustrated and Tucson Journal

REVIEWER SERVICE

Aquatic Conservation	Conservation Genetics Resources	Diversity
Atoll Research Bulletin	Coral Reefs (Journal of the	Dutch National Science
Bulletin of Marine Science	International Society for Coral	Foundation
BMC Ecology	Reef Studies)	(Technologiestichting STW)
BMC Evolution	Current Bioinformatics	Ecological Research
Conservation Biology	Current Zoology	Endangered Species Research

Frontiers in Marine Science	Marine Biodiversity	Proceedings of the 11 th ICRS
Hydrobiologia	Marine Biology	Proceedings of the 13 th ICRS
Invertebrate Zoology	Marine Ecology Progress Series	Proceedings of the Royal Society
Journal of Heredity	Marine and Freshwater	B
Journal of Experimental Marine	Ecosystems	PLoS One
Biology and Ecology	Molecular Ecology	PeerJ
Journal of Morphology	Molecular Phylogenetics and	Remote Sensing
Journal of Marine Biology	Evolution	Royal Society Open Science
Journal of the World Aquaculture	The National Science	Reviews in Aquaculture
Society	Foundation	Zoological Studies
King Abdullah University of	Pacific Science	
Science and Technology	Proceedings of the Biological	
Competitive Research Proposals	Society of Washington	

Editorial experience:

Frontiers in Marine Science (Coral Reef Research).

Proceedings of the 13th International Coral Reef Symposium; reef restoration session.

MENTORING

Current Graduate Student Committees:

Clair Lewis (PhD Candidate), UH Mānoa, Phylogeography, genomics and ecology of *Pavona* and *Leptoseris*

Derek Kraft (PhD Candidate), UH Mānoa, Shark population genomics and global stock estimation

Patrick Nichols (PhD Candidate), UH Mānoa, eDNA and coral reefs

Karim Primov (MS Candidate), University of Guam, Coral population genomics and genetics

Past graduate student committee service

Sophie de Wringer, MSc (pending 2020) University of Amsterdam. Exploring photo-analytic tools to monitor coral growth and community composition in experimental climate change scenarios.

Lev Gerstle MSc (pending 2020), UH Mānoa, Growth and transgenerational acclimation of juvenile *Pocillopora damicornis*.

Laura Damiani, MSc (pending 2020) UH Mānoa The effects of the herbicide atrazine on Hawaiian corals.

Erika Johnston, PhD (2019) UH Mānoa. Morphological and reproductive plasticity in *Pocillopora* corals.

Patrick Nichols, MSc (2019) UH Mānoa. Rapid assessment of coral cover from environmental DNA in Hawai'i.

Maggie McGilly, MSc (2019) University of York. *In-situ* floating coral nurseries: a new source of juvenile fish recruitment?

Andrew Thompson, MSc (2019) University of York. Genotypic resilience to sedimentation and its effects on the survivorship of coral micro-fragments during a bleaching event in Kāne'ohe Bay, Hawai'i.

Cristina McIntyre, MSc (2018) University of York. Spatial, temporal and environmental factors relating to the predation of *Porites compressa* coral by the nudibranch *Phestilla sibogae*.

Elizabeth Baker, MSc (2017) Kings College London. Testing coral growth assays under a variety of future climate change scenarios for two Hawaiian, reef-building coral species - *Porites compressa* and *Montipora capitata*.

Roy Belderock, MSc (2015) HAS Hogeschool, Netherlands. Morphological expression of *Montipora capitata* in different environments.

Patricia Marti-Puig, MSc (2012) University of Ghent. Genetic and morphology structure of the coral *Pocillopora* between the Hawaiian Archipelago and surrounding regions.

Andrew Torres, MSc (2019) University of Philippines. Genetic diversity, population structure, and connectivity of the scleractinian *Pocillopora acuta* (*P. damicornis* Type β) in the Bolinao-Anda reef system.

Anne Chung, PhD (2018) UH Mānoa. Translating resilience-based management from theory to practice in Hawai'i.

Katia Capel, PhD (2016) São Paulo Federal University. Phylogenomic analyses of *Tubastraea*, an alien invasive Scleractinian coral.

Sarah Leitch, MSc (2014) Hawai'i Pacific University. Monitoring coral recruitment using florescent pigments during a bleaching event.

Laura Stanley, MSc (2013) Hawai'i Pacific University. The use of *Tripnuestes gratilla* as a biocontrol agent for coral reef restoration in Hawai'i.

Daniel Luck, MSc (2012) Hawai'i Pacific University. Taxonomy and ecology of the mesophotic coral *Leptoseris* (Scleractinia: Agariciidae) in Hawai'i.

Undergraduate student research program supervision

Nnecka Nebeuihe, Anne Konshak, Megan Deagle, Andrea Rivera

Pacific Islander Undergraduate Research Program

Julius Lucky (Coral Cultivation), Nikita Aidachi (Coral Surveys), Pauleen Fredrick (Coral transplantation), Pauleno Blagot (Coral Morphology)

Undergraduate honors thesis supervision

Sonoko Sakurai (Animal science thesis), Yasuhiro Fujiwara (Animal science thesis), Molly Jean Martin (Marine Option Program), Carrie Pederson (Marine Option Program).

Directed research supervision

Madelyn Rangel (BIOL499), Stephanie Bell (BIOL499)

Obtained funding for and supervised (RA, or Lab Technician)

Austin Grene (RA), Erika Johnston (RA), Toby Daly-Engel (RA), Nadiera Sukhraj (RA), Olga Olberu (RA) Pakki Reath (technician), Roxanne Haverkort (technician), Kelsey Fees (work-study), Adam Baker (technician), Lauren Ho (technician), William Misa (technician).

High School student honors/capstone project supervision

Courtney Yoshiyama (STEM capstone project), Cary Colbert (honors thesis), Jaslynn Chang, Kekainani Lucero, Noelle Victoria, Anuheia Lym ~50 students for a STEM engineering challenge; designing coral seedlings.

CERTIFICATIONS

AAUS Scientific diver (master diver, rescue diver), O₂ administration, First Aid, CPR, Radiation and Chemical safety, Small boat operation and safety

GRADUATE ADVISORS

Dr. Garrard M. Wellington (deceased), Dr. George E. Fox, University of Houston, TX

POSTDOCTORAL ADVISORS

Dr. George E. Fox, University of Houston, TX; Dr. Cynthia L. Hunter, University of Hawai'i; Dr. Robert J. Toonen, Hawai'i Institute of Marine Biology
