

EDUCATION

- Ph.D. **University of Hawaii at Manoa** Dec 2016
Specialization: *Biological Oceanography*
Dissertation: *Copepod nauplii and their roles in marine planktonic food webs*
Academic advisor: Dr. Erica Goetze
- M.S. **University of Hawaii at Manoa** Dec 2012
Specialization: *Biological Oceanography*
Thesis: *Development and demonstration of a quantitative PCR based method to enumerate copepod nauplii in field samples*
Academic advisor: Dr. Erica Goetze
- B.S. **University of Wisconsin Madison** May 2007
Specialization: *Biology; emphasis on animal behavior, terrestrial ecology*

RESEARCH EXPERIENCE

- Postdoctoral Research Fellow, San Francisco State University, Romberg Tiburon Center for Environmental Sciences* 2017-Present
Project: Revealing the invisible contributors to the diets of the larval longfin smelt and striped bass in the San Francisco Estuary
- Responsibilities: Investigate the diet of the threatened species, longfin smelt, and the introduced striped bass, using high throughput next generation sequencing techniques, for comparison to traditional methods of diet investigation.
- Funding: California Sea Grant - Delta Science Fellowship, funded by the State and Federal Contractors Water Agency
- Postdoctoral Researcher, Hawaii Pacific University* 2016
Project: Collaborative biological baseline study, Abyssline, studies of abyssal fauna at Clarion Clipperton fracture zone in central-eastern Pacific Ocean
- Responsibilities: Describe the molecular taxonomic diversity of larval stages of marine plankton through voucher photography and genetic barcoding of individual animals
- Funding: UK Seabed Resources Ltd.
- Graduate research assistant, UH Manoa – toward Ph.D.* 2013-2016
Project: Grazing rates and population dynamics of copepod nauplii in a subtropical marine ecosystem
- Responsibilities: Planning and executing research objectives, performing field work on a small boat and on large research vessels, laboratory bench work,

collaboration with peers, publication and presentation of results to peers and the public, manage and mentor undergraduates

Funding: NOAA Sea Grant, NSF-EAGER grant

Graduate research assistant, UH Manoa – M.S. 2010-2012

Project: Development of a DNA-based method to quantify and identify larval crustaceans in mixed plankton samples

- Responsibilities: Plan, test, and modify genetic methods for quantification of DNA in marine plankton. Complete coursework, publication and presentation of results, manage and mentor undergraduates

Funding: NOAA Sea Grant

SKILLS AND EXPERTISE:

Molecular Biology: DNA extraction, PCR, qPCR, RFLP, gel electrophoresis, primer design, DNA sequence analysis, barcoding

Biology and Ecology: Crustacean zooplankton taxonomy, general zooplankton identification and ecology, culturing zooplankton and algae, light microscopy and imaging, epifluorescence microscopy, coulter counter analysis

Field Operations: Small boat operation, plankton tows, Niskin water sampling, CTD operation (handheld and shipboard rosette), microscopy at sea

PUBLICATIONS:

- 8 Jungbluth, M.J., Hanson, K.H., Lenz, P.H., and Goetze, E. Early life history responses of *Parvocalanus crassirostris*, *Bestiolina similis*, *Oithona attenuata*, and *O. simplex* to ecosystem perturbations in a subtropical embayment. *In Prep.*
- 7 Jungbluth, M.J., Selph, K., Lenz, P.H., and Goetze, E. Species-specific grazing and significant trophic impacts by two species of copepod nauplii. *In Press. Marine Ecology Progress Series*
- 6 Jungbluth, M.J., Selph, K., Lenz, P.H., and Goetze, E. Measuring copepod naupliar grazing in subtropical environments. *In Press: Journal of Experimental Marine Biology and Ecology.*
- 5 Roncalli, V., Jungbluth, M.J., Lenz, P.H., 2016. Glutathione S-Transferase regulation in *Calanus finmarchicus* feeding on the toxic dinoflagellate *Alexandrium fundyense*. PLoS ONE 11, e0159563.
- 4 Goetze, E., & Jungbluth, M. J. (2013). Acetone preservation for zooplankton molecular studies. *Journal of Plankton Research*, 35(5), 972-981. doi: 10.1093/plankt/fbt035
- 3 Jungbluth, M.J, Goetze, E, & Lenz, P.H. (2013). Measuring copepod naupliar abundance in a subtropical bay using quantitative PCR. *Marine Biology*, 1-17. doi:

10.1007/s00227-013-2300-y

- 2 **Jungbluth, M.J.**, & Lenz, P.H. (2013). Copepod diversity in a subtropical bay based on a fragment of the mitochondrial COI gene. *Journal of Plankton Research*, 35(3), 630-643. doi: 10.1093/plankt/fbt015
- 1 **Jungbluth, M.J.** (2012). *Development and demonstration of a quantitative PCR based method to enumerate copepod nauplii in field samples.* (MS Thesis), UH Manoa, Honolulu, Hawaii.

ARTICLES & PRESENTATIONS:

- 19 **Jungbluth, M.**, Lenz, P.H., Hanson, K.M., Selph, K.E. and Goetze, E. *Copepod Early-life History Responses to Event-scale Perturbations in the Coastal Zone.* ASLO Ocean Sciences Meeting, Honolulu, HI.
Poster, Feb 2017
- 18 **Jungbluth, M.** *Copepod nauplii and their roles in planktonic marine food webs.* Doctoral dissertation defense, University of Hawaii at Manoa, Honolulu, HI.
Oral Presentation, Nov 2016
- 17 **Jungbluth, M.**, Selph, K., Lenz, P.H., and Goetze, E. *Copepod nauplii in subtropical environments.* Stazione Zoological di Napoli. Naples, Italy.
Oral Presentation, May 2016
- 16 **Jungbluth, M.**, Selph, K., Lenz, P.H., and Goetze, E. *Species-specific grazing impacts of copepod nauplii.* ICES/PICES 6th Zooplankton Production Symposium, Bergen, Norway.
Oral Presentation, May 2016
- 15 **Jungbluth, M.** *Grazing by copepod nauplii on natural prey.* Conference of Biological Oceanography Graduate Students, Honolulu, HI.
Oral Presentation, April 2016
- 14 **Jungbluth, M.** *Are plankton life history stages important to marine food webs?* University of Milwaukee, invited seminar.
Oral Presentation, Sept 2015
- 13 **Jungbluth, M.** *Grazing impact of copepod nauplii on natural prey assemblages.* Conference of Biological Oceanography Graduate Students, Honolulu, HI.
Oral Presentation, May 2014
- 12 **Jungbluth, M.**, Lenz, P.H., and Goetze, E. *Naupliar responses to ecosystem perturbations in a subtropical embayment.* Ocean Sciences Meeting, Honolulu, HI.
Oral Presentation, Feb 2014
- 11 **Jungbluth, M.** *Connections between plankton and people in Kane'ohē Bay, Hawai'i: Effects of coastal storm runoff on copepod populations.* Sea Grant graduate

- trainee presentations, Hanauma Bay, Honolulu, HI.
Oral Presentation, Dec 2013
- 10 **Jungbluth, M.** *A novel qPCR-based approach to studying copepod nauplii in field populations.* Conference of Biological Oceanography Graduate Students, Honolulu, HI.
Oral Presentation, Apr 2013
- 9 **Jungbluth, M.,** Goetze, E., and Lenz, P. H. *A new qPCR-based approach to studying copepod nauplii in the field.* ASLO Aquatic Sciences Meeting, New Orleans, LA.
Oral Presentation, Feb 2013
- 8 **Jungbluth, M,** Lenz, PH, and E Goetze. *What genetic methods can tell us about copepod populations in Kane'ohu Bay.* Sea Grant graduate trainee presentations, Hanauma Bay, Honolulu, HI.
Oral Presentation, Nov 2012
- 7 **Jungbluth, M.** *Development and demonstration of a quantitative PCR based method to enumerate copepod nauplii in field samples.* Master's thesis defense, UH Manoa, Honolulu, HI.
Oral Presentation, Aug 2012
- 6 **Jungbluth, M.** *Toward the use of quantitative real-time PCR as a method to study copepod population dynamics.* UH Manoa 35th Annual Tester Symposium, Honolulu, HI.
Oral Presentation, Mar 2012
- 5 **Jungbluth, M,** Lenz, PH, Goetze, E. *A novel molecular method to enumerate copepod nauplii in field populations.* Ocean Sciences Meeting, Salt Lake City, UT.
Poster, Feb 2012
- 4 **Jungbluth, M,** Lenz, PH, and E Goetze. *Tiny crustaceans in a large sea: How storms affect copepods in Kane'ohu Bay, Hawaii.* Sea Grant Graduate Trainee Presentations, Hanauma Bay, Honolulu, HI.
Oral Presentation, Nov 2011
- 3 **Jungbluth, M,** Goetze, E, Lenz, PH. *Development of a quantitative method to enumerate copepod nauplii in field samples.* The Crustacean Society Summer Conference, Honolulu, HI.
Poster, June 2011
- 2 **Jungbluth, M.** *Use of molecular techniques to study local zooplankton populations.* Ka Pili Kai, Sea Grant Hawaii, Vol. 33(1) 6-7.
Article, May 2011
- 1 **Jungbluth, M,** Lenz, PH, and E Goetze. *Copepods of Kane'ohu Bay, Hawai'i.* Sea Grant Graduate Trainee Presentations, Hanauma Bay, Honolulu, Hawaii.
Oral Presentation, Nov 2010

FIELD EXPERIENCE:

- NOAA Oscar Elton Sette* – Cruise SE17-03, Leeward Oahu Pelagic Ecosystem Characterization (LOPEC) cruise participant – D. Kobayashi (NOAA) chief scientist. (10 days) 2017
- Field Sampling*, San Francisco Bay – Longfin smelt targeted, small boat sampling in North Bay regions. (2 days) 2017
- RRS James Clark Ross* – Atlantic Meridional Transect cruise 24, Basin-Scale Genetics of Marine Zooplankton, cruise participant, NSF RAPID funded – T. Smyth (PML) chief scientist. (46 days) 2014
- R/V Falkor* – Student cruise 3 participant, Station ALOHA and Molokai Channel, MOCNESS zooplankton tows, microzooplankton grazing experiments, and seafloor mapping. E. Goetze (UH) chief scientist. (6 days) 2014
- R/V Kilo Moana* -cruise participant, Station ALOHA, NSF- Mesopelagic Micronekton, B. Popp & J. Drazen chief scientists. (6 days) 2011
- R/V Kilo Moana* - cruise participant, West Coast of Oahu, Hawaii, University of Hawaii School of Ocean and Earth Science and Technology funded student cruise, J. Drazen (UH) chief scientist. (2 days) 2011
- R/V Atlantis* – *ROV JASON-II* cruise participant, Juan de Fuca Ridge, NSF-Microbial Observatory, J. Cowen (UH) & A. Fisher (UCSC) chief scientists. (18 days) 2010
- Field sampling time series*, Kaneohe Bay, HI, M.S. and Ph.D. research. Monthly plankton and environmental samples, four sets of 2 week daily sampling, other miscellaneous sampling events. (>75 days) 2010-2016

TEACHING

Lead Teaching Assistant

Oceanography 201 -Science of the Sea, Lecture and Lab Course
University of Hawai'i at Manoa

Course Description: A two-section lecture course with over 200 undergraduate students per semester, and a corresponding laboratory course with six 3-hour sections (up to 20 students per section) each week focused on the following introductory oceanography themes:

- Topic: Geological, Chemical, Physical, and Biological Oceanography
 - Including - The origin of the earth and oceans, plate tectonics, nutrients, thermohaline ocean circulation, ocean waves, the origin of life and evolution in the sea, ocean life and marine food webs, traditional Polynesian Navigation techniques (culturally relevant), and climate change impacts on the sea.

Duties - Lecture course:

- Led and managed all course teaching assistants (5 graduate level peers).
- Assisted lecture instructors (3, one for each Oceanography theme) with administering course materials.
- Acted as course liaison for student questions.
- Organized, proctored, and graded lecture examinations.
- Distributed student grades.

Duties - Lab course:

- Organized and managed all course teaching assistants, each of which including myself was assigned to teach and individually manage one 3-hour laboratory section each week and hold weekly office hours.
- Weekly preparation for a 20-minute lecture and quiz, followed by worksheet-based group laboratory activities for the remaining session.
- Assessed student writing and oral presentations on a research topic of the student's choice.
- Organized and led group field trips related to the course material.
- Tutored students whenever necessary.

Fall semester, 2015

Teaching Assistant

Oceanography 201 -Science of the Sea, Lecture and Lab Course

University of Hawai'i at Manoa

Course Description: same as above

Duties:

- Proctored and graded lecture examinations.
- Taught and individually managed one 3-hour laboratory section each week
- Held weekly office hours to answer student questions and tutor whenever necessary.
- Weekly preparation for a 20-minute lecture and quiz, followed by worksheet-based group laboratory activities for the remaining session.
- Assessed student writing and oral presentations on a research topic of the student's choice.
- Organized and led group field trips related to the course material.

Spring semester, 2015

MENTORING:

Mentor undergraduate student through a senior thesis project (C-MORE Scholar) 2012
Teacher and mentor, many undergraduate laboratory assistants 2011-2015

AWARDS

Delta Science Postdoctoral Fellowship awarded. California Sea Grant program. Feb 2017
Graduate Student Organization award recipient to attend international symposium Sept 2016
ICES/PICES 6th Zooplankton Production Symposium, invited speaker to represent early career views during closing ceremony of symposium May 2016
ICES/PICES 6th Zooplankton Production Symposium, Travel Award May 2016
Graduate Student Organization award recipient to attend an international workshop May 2015
Student Activity and Program Fee Board, organization awarded funding for a professional development event on using improvisation for improving science communication; awarded to the Science Communicators 'Ohana April 2015
Outstanding Student Presentation Award, 2014 Ocean Sciences Meeting, Honolulu, Hawaii Feb 2014
Sea Grant Travel Award, Association for the Sciences of Limnology and Oceanography 2013 Aquatic Science Meeting, New Orleans, Louisiana Feb 2013
Sea Grant Travel Award, Association for the Sciences of Limnology and Oceanography 2012 Ocean Sciences Meeting, Salt Lake City, Utah Feb 2012

PROFESSIONAL DEVELOPMENT

LEADERSHIP EXPERIENCE:

Exhibit Leader, 2013 & 2015 SOEST Open House outreach event- *Zooplankton: Microscopic Ocean Drifters*
Duties: Organize and develop outreach materials, schedule volunteer shifts, set up exhibit, teach volunteers talking points, and speak with a range of age groups, as

well as school administrators and university employees about the importance of plankton in marine ecosystems.

2013, 2015

Officer, Professional Development and Training Program

Duties: Help plan and organize professional development opportunities for graduate students and post-docs in SOEST

2015-2016

Chair, Science Communicators 'Ohana, an organization I co-founded that aims to promote effective methods of science communication to increase science literacy in society

Duties: Organize and lead group meetings, organize and facilitate workshops, advertise, recruit members, coordinate events with like-minded organizations

2014-2015

President, Na Kama Kai Oceanography graduate student organization

Duties: Represent the Oceanography graduate students at faculty meetings, organize and lead group meetings, coordinate between subcommittees, act as liaison between department and graduate students

2014-2015

Member, Mentoring Network. A group of mentors and mentees of all levels who talk about how to be better mentors.

2014-2015

Organizer, student committee member representative of The Oceanography Society, for the 2014 Ocean Sciences Meeting in Honolulu, HI

2013-2014

Vice President, Na Kama Kai Oceanography graduate student organization

2013- 2014

Founder and regular contributor, Real Science at SOEST Blog: the first blog for graduate students in the School of Ocean Earth Science and Technology (UH Manoa) to share experiences with each other and the public

Duties: Brainstorm new topics and recruit writers to contribute, coordinate edits with faculty reviewers, publish and advertise articles online.

2013-present

CONFERENCES, WORKSHOPS, & SHORT-COURSES ATTENDED:

ICES/PICES 6th Zooplankton Production Symposium, Bergen Norway

2016

Professional Website Workshop, Science Communicators 'Ohana, Honolulu, HI

2016

Improvisation for Scientists workshop, Science Communicators 'Ohana, Honolulu, HI	2015
<i>Early career leadership workshop</i> , Science and Technology Center meeting, Honolulu, HI	2015
<i>Sir Alister Hardy Foundation for Ocean Sciences Marine Crustacean Zooplankton Workshop</i> , 1 of 20 international attendees, Plymouth, United Kingdom	2015
<i>Negotiating the Next Career Move: A Leadership Summit with COACH</i> , Honolulu, HI	2015
Pub Speech Workshop, Science Communicators 'Ohana, Honolulu, HI	2015
Blog Basics Workshop, Science Communicators 'Ohana, Honolulu, HI	2015
<i>Ocean Sciences Conference</i> , Honolulu, HI	2014
<i>Teaching Science as Inquiry (TSI): Communicating Ocean Science</i> workshop, Honolulu, HI	2013
<i>Publishing and Reviewing Manuscripts</i> workshop, New Orleans, LA	2013
<i>SCINTILLATION: A Workshop to Make Your Science Communication Scintillate through "Critical Storytelling"</i> , New Orleans, LA	2013
<i>ASLO Aquatic Sciences Conference</i> , New Orleans, LA	2013
<i>C-MORE Virtual Workshop on Science Writing</i> , Honolulu, HI	2012
<i>Clustering in Bioinformatics and Medical Informatics</i> workshop, Honolulu, HI	2012
<i>Ocean Sciences Meeting</i> , Salt Lake City, UT	2012
<i>Science: Becoming the Messenger</i> workshop, NSF, Honolulu, HI	2012
<i>R/V Kilo Moana- 1 m² MOCNESS (Multiple Opening and Closing Net and Environmental Sensing System)</i> training for deployment and recovery, Honolulu, HI	2011
<i>The Crustacean Society Summer Conference</i> , Honolulu, HI	2011

PROFESSIONAL MEMBERSHIPS:

Association for the Sciences of Limnology and Oceanography (ASLO)
The Oceanography Society (TOS)
World Association of Copepodologists (WAC)
American Microscopical Society (AMS)
The Crustacean Society (TCS)
Graduate Women in Science (GWIS)
Marine Technology Society (MTS)
Surfrider Foundation
American Association for the Advancement of Science (AAAS)

SERVICE

Reviewer for Journal of Plankton Research, Bioinvasions Records
Community Service: Beach cleanup with Sustainable Coastlines Hawaii
Outreach: School of Ocean Science Engineering and Technology Open House,
Organized and led the Kaneohe Bay Plankton and Food Webs exhibit, worked the
exhibit for two full days of visiting K-12 students and general public.
Volunteer: Zooplankton expert, Kapolei Middle School trips to Hawaii Institute of
Marine Biology: plankton tows, talk to students about zooplankton and my research
Community Service: Hawaii State Science and Engineering Fair, Judge, Junior &
Senior divisions
Volunteer: Plankton expert, biannual UH Manoa Biology Plankton Party
Outreach: Interviewee on the *All Things Marine* radio show, via COSEE Island Earth
on Hawaii's Tomorrow 760 AM radio, live from the R/V Falkor
Volunteer: Expanding Your Horizons event, to motivate young women in science,
mathematics, and technology, Honolulu, Hawaii
Volunteer: Expert in identification of plankton, CDEBI & CMORE Marine Science
Workshop for outer island teachers, Sacred Hearts Academy, Lahaina, Maui
Volunteer: CDEBI & CMORE visit to Kalama Middle School, discuss careers in Marine
Science with 8th grade students, Makawao, Maui HI
Community Service: Hawaii Association of Independent Schools District Science Fair,
Judge
Community Service: Hawaiian Humane Society volunteer
Outreach: School of Ocean Science Engineering and Technology Open House, Kids
activity tent with *Gyotaku*, density, and wave activities
Outreach: Provided frequent field sampling opportunities for undergraduates