



**M.S. Position in Marine Population Ecology  
at California Polytechnic State University, San Luis Obispo**

**DESCRIPTION**

A M.S. position is available in Dr. [Crow White's Lab](#) at California Polytechnic State University (Cal Poly) to participate in a NSF-funded marine ecology research project entitled, "Combined spatial and temporal analyses of population connectivity during a northern range expansion." This collaborative project (see here for [abstract](#)) among Cal Poly, Purdue University, and the Hawaii Institute of Marine Biology will use field research, laboratory experiments, and genetic methods to identify range-wide patterns of larval dispersal and population connectivity in the kelp forest gastropod Kellet's Whelk (*Kelletia kelletii*).

The graduate student will participate and lead in various activities, including:

- Scientific SCUBA diving, conducting Kellet's whelk population surveys and collecting samples at kelp forest research sites along the California (Monterey to San Diego) and Mexico (Baja) coasts.
- Conduct cross-breeding experiments at the Cal Poly [pier](#) sea water system of Kellet's whelk collected in the wild for identifying DNA loci associated with different geographic regions across the species' range.
- Statistical analysis and modeling of marine biogeographic and Kellet's whelk population ecology data.
- Write M.S. thesis with multiple chapters for publication in peer-reviewed journals.
- Mentor Cal Poly undergraduate students in research methods.

The graduate student also will have opportunities to:

- Participate in Kellet's whelk DNA extraction, sequencing and related genetic research in collaboration with Dr. [Jean Davidson](#) in Cal Poly's [Center for Applications in Biotechnology](#).
- Engage with project collaborators Drs. [Mark Christie at Purdue](#) and [Rob Toonen at HIMB](#) in genomic and transcriptomics (gene expression) research.
- Conduct a marine science education program to K-12 students using SCUBA diving and underwater videography.
- Train and become certified in Cal Poly's [scientific boating program](#).
- Attend and present at national and international scientific workshops and conferences.

Cal Poly is located in [San Luis Obispo](#) on the Central Coast of California. SCUBA diving field work will occur summer 2020 and 2021, and coursework in the [Biological Sciences Department](#) will begin September 2020. A Research Assistant position with full tuition support, and possibly a Teaching Assistant position for select quarters, will support the selected applicant.

**QUALIFICATIONS:**

Strong candidates will be self-motivated, have a bachelor's degree in Biology or related field, have a strong interest in quantitative analyses and field and lab research, and must demonstrate in her/his application strong writing skills. The candidate must at least be open water SCUBA certified (in that case, you would get scientific diver certified August 2020 at Cal Poly so can join in the summer 2021 field season). Individuals that are certified scientific SCUBA divers and with experience conducting quantitative analyses using R or Matlab, and that have evidence of success in previous projects, including publications and professional presentations, will be given priority.

**HOW TO APPLY:**

Interested applicants should email the following items to Dr. White ([cwhite31@calpoly.edu](mailto:cwhite31@calpoly.edu)) as soon as possible for guidance on whether to formally apply: 1) A [brief](#) statement detailing your interest in obtaining a graduate degree focused on marine population ecology and/or genetics, your past research experience, and your professional goals; 2) CV or resume (including GRE scores); and 3) unofficial transcripts. Formal applications to [Cal Poly's MS program](#) are due on Feb. 1, 2020.

