



Marine Science Research Opportunity



DESCRIPTION

Up to six positions for **SCUBA diving field research in summer 2020** are available in Dr. [Crow White's Lab](#) for Cal Poly students who are certified scientific SCUBA divers. Students will 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 Kellelet's Whelk (*Kelleletia kelleletii*).



The students will be advised by Dr. White and a M.S. graduate student in scientific SCUBA diving kelp forest research sites along the California (Monterey to San Diego) coast and possibly Mexico (Baja) coast. The primary goal will be to conduct Kellelet's whelk population surveys and collect tissue samples for genetic analyses. The team also will have with them a waterproof 360° spherical camera that they will dive with at select sites to generate footage for a marine science education program to K-12 students.



The field work is extremely demanding physically and mentally, and will be full-time from mid-June until early August. It also will be highly rewarding, providing students with critical and difficult-to-obtain skills for a career in marine ecology, including:

1. Extensive scientific SCUBA diving in variable and adverse ocean conditions.
2. Operating, navigating and diving off of research vessels, including Cal Poly's R/V Richards (mainland sites and Catalina Island) and NOAA's live-a-board R/V Shearwater (Northern Channel Islands).
3. First-hand education of the marine biodiversity in kelp forest communities along the west coast of North America. This opportunity is very rare in marine research and valuable for developing skills and intellect in marine ecology.

All travel, lodging, food and research expenses (totaling in the tens of thousands of dollars) will be covered by Dr. White's lab during the field season. Students also can work with Dr. White on proposals to obtain funding for themselves (e.g., Frost, CSU COAST, Baker-Koob, Myers Trust, PADI, WDHOF, etc. scholarships). Students not yet graduated will be encouraged to develop a Thesis using data they collect during the field season.



QUALIFICATIONS:

Strong candidates will be:

- Marine Science or Biology students that are scientific SCUBA diver certified. Priority will be given to students with 60+ feet depth certification.
- Hard-working, self-directed, and able to work with a team in challenging environmental conditions. The diving is the “fun” part of the position. But most of your time will be spent loading/cleaning gear, filling tanks, processing data, traveling to sites, and dealing with an infinite number of on-land logistics. Students will be expected to be self-motivated, smart and enthusiastic in conducting these activities every day while in the field.
- Dedication to accurate data collection, and commitment to safety at all times. A clean driving record.

How to prepare for this position

- Acquire your own SCUBA gear (except tank), go diving, and get your 60+ feet depth certification. While diving, find and take pictures (but don't collect) Kelleys' whelk to demonstrate to Dr. White that you have keen eyes underwater.
- Get checked out to drive the Cal Poly vans (see Biology front office).
- Ask Dr. White how you can assist with a Kelleys' whelk experiment currently being conducted at the pier.
- Ask Dr. White how you can assist getting his lab's research gear organized and ready for the field season.
- Block off your summer schedule June through August 5, 2020.

HOW TO APPLY:

Interested applicants should email Dr. White (cwhite31@calpoly.edu):

- A brief statement detailing your interest in marine ecology and conservation.
- Your scientific SCUBA diving certification depth level, number of dives you have conducted to date, and diving plans this academic year.
- Your major, current GPA and class standing.
- If you have worked in a Cal Poly research lab, name the lab and describe what you did. If not, then provide the name of a Cal Poly professor that knows you (I may contact them for a reference)
- In the subject line of your email write “Research opportunity in White lab”.

