

Coastal Trophic Ecology Lab

REU project ideas

Mentors: Aaron Galloway and Julie Schram

1. **The effects of ocean acidification on newly settled juvenile Dungeness crab.** We'll be investigating crab behavior, predator-prey sensing (i.e., "smell"), and other responses under OA conditions in the lab. Please see this project summary for more information (<https://seagrant.oregonstate.edu/research/current-research/effects-ocean-acidification-newly-recruited-coastal-dungeness-crab>). The REU student will help with the overall project (chemistry, experiment maintenance, behavior trials) but will also be able to develop their own complimentary project. This is a complex team effort, with Dr. Schram as the lead mentor, with close involvement from a MJ Murdock Fellow, and our lab technician (who was a previous OIMB REU student).
2. **Red urchins, drift algae, and fecal subsidies.** Urchins capture sinking drift algae, and transform the algae into gonad (in the urchin) and waste (feces). We have photographs and video of urchins (collected by divers, remote operated vehicles, and submersibles), and we want to quantify what proportion of these animals are in possession of drift algae. There is also a need to do experimental feeding trials in the lab to quantify algal consumption rates and nutritional value (caloric content, lipids, protein, carbohydrate) of urchin feces. This project will have Dr. Galloway as the lead mentor and could combine or focus on either photograph analysis, wet-lab feeding trials, and lab analyses.

Both of these projects will be based on computer image analysis and/or the chemistry or wet labs; neither project has a field data collection component or any option for scuba diving. For more information about the people in the lab: <https://www.aaron-galloway.com/coastal-trophic-ecology-lab/people/>.