Coastal Trophic Ecology Lab

REU project ideas, summer 2022

Mentor: Galloway (and possibly some work with CTELab grad students)

**Using underwater videos and photos to understand kelp forest community dynamics**. My lab is working on several projects where we collect underwater video data while we perform our SCUBA survey dives. We also have underwater drop cameras and a small remote operated vehicle (ROV). We therefore have a treasure-trove of underwater videos and stills which can be used by students to ask questions about density and sizes of many large invertebrates and seaweeds. In addition, these videos can be used to analyze community composition. For example we are analyzing abundance of sea urchins, are important herbivores/omnivores in NE Pacific kelp forests; they actively graze seaweeds, capture sinking drift detritus, or graze upon sessile encrusting algae or invertebrates. Depending on their interests, the REU students may help with new local coastal boat-based drop camera and ROV surveys, and focus their projects on photograph/video analysis from new surveys, and/or analysis of existing video/photo data from 2021. Students can choose to investigate any large macro-invertebrates or seaweeds (including sea cucumbers, anemones, seastars, sea urchins, kelps, red algae, and more) which show up well with video/photo surveys. NOTE: Unfortunately, REU students will probably not be able to do any SCUBA diving field work (even if they are SCUBA divers) because only AAUS certified divers can do diving work.