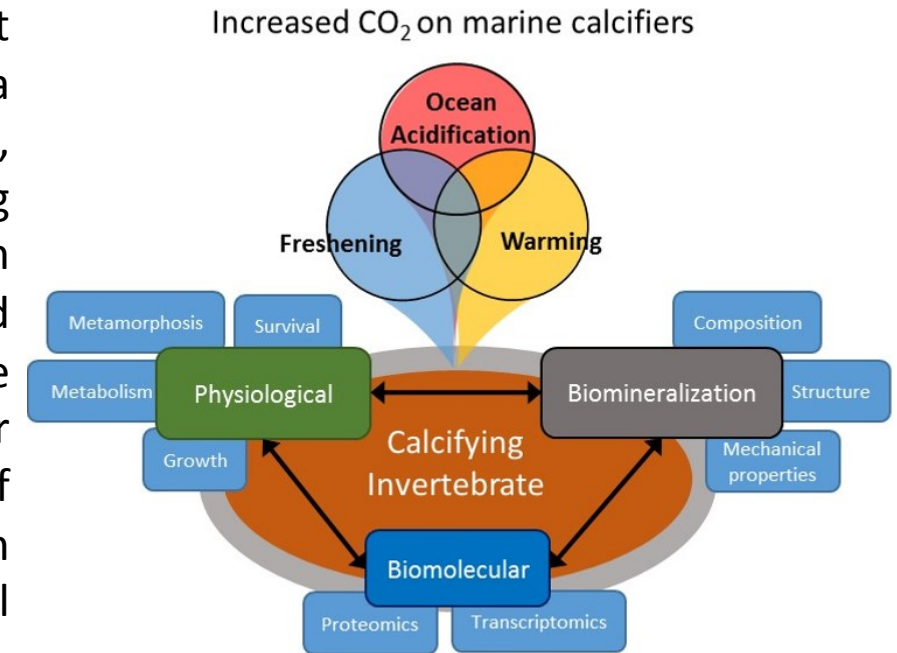


Project 1

Ocean Acidification and Multiple Stressors

Shell forming marine benthic invertebrates such as biofouling and shellfish species, especially their early-life stages, are facing severe threat from a novel stressor called “ocean acidification (OA)”. Almost for a decade, our laboratory has been intensively studying the impact of OA, individually or along with other co-occurring stressors such as warming and freshening, on several commercially important shellfish species such as oysters, barnacles and tubeworms. Importantly, we have developed bioassay system and tools to measure several critical end-points at the time of their critical development, e.g. larval metamorphosis. Our experience suggests that future research should address a cascade of intrinsic reactions in larvae and early-life stages that provide them resistant to multiple stressors including OA. We have proved that this goal could be achieved if we integrate the rapidly advancing molecular, crystallographic and OA perturbation technologies with larval bioassays in this era of multidisciplinary collaboration.



This Multiple Stressors Project is our lab's KEY baseline project that provide samples for all our subsequent physiological, molecular mechanism and biomineralization studies