

Are developing organisms haunted by their recent pasts?

The lives of most marine organisms are divided into several distinct stages: egg, embryo, larva, juvenile, and adult. At each stage, an organism experiences environmental challenges in new and distinctive ways. For example, in marine animals like snails or sea urchins, adults are large and live on the ocean floor, but their tiny eggs, embryos, and larvae must fend for themselves in a microscopic aquatic world. Even juveniles and adults, which often share the same general habitat, experience the world very differently due to changes in size, diet, and microhabitat. Only recently have scientists begun to recognize that as organisms move from one developmental stage to the next, they do not start each phase with a blank slate; instead, each life stage may be haunted by the “ghosts” of its previous stages. How frequent, and how influential, are these ghosts of the past? How can we understand what happens to microscopic stages in the real world when they are so difficult to observe? For many decades life cycle stages have been studied separately, and often in the laboratory. This will be the first time that scientists who study marine plants, fishes, and invertebrates will meet to better understand the consequences of experience at earlier stages for what happens at later stages of development. This opportunity to share data and ideas may well alter the way we think about development and evolution in marine environments.

Symposium: Integrating function across marine life cycles

Organizers: Dr. Robert Podolsky and Dr. Amy Moran, College of Charleston and Clemson University