

Summer opportunity for
undergraduates – SURF!
Deadline is Jan 30th 2017!

Seasonal dynamics in Atlantic Silverside abundance, spawning, and offspring sensitivity to low pH and oxygen

Project background and goals: Man-made climate change and eutrophication both exacerbate pH and oxygen conditions in coastal marine habitats, but the combined effects of these co-occurring stressors on fish eggs and larvae in nearshore habitats are still poorly understood. Our project studies the seasonal changes in spawning and offspring sensitivity in the Atlantic Silverside (*Menidia menidia*), an inconspicuously looking but actually very important fish spawning in saltwater marshes and comprising one of the most abundant food sources for striped bass, bluefish, yellowtail flounder and others. We are primarily interested in obtaining embryos from fish caught in the wild in order to study the sensitivity of these very young fish to low pH and low oxygen.

Field and Lab components: The field component of the project consists of bi-weekly beach seine collections in Mumford Cove between the end of April and early July, quantification of silversides in catches, subsampling and live transport to our laboratory facility (Rankin Lab, DMS, Avery Point). The laboratory component of the project consists of spawning events, i.e., when we produce offspring by strip-spawning males and females and then count the eggs, in addition to experiment maintenance such cleaning container, feeding, record measurements and other routine tasks.

Qualified and motivated undergraduate students will be able to choose from a range of smaller projects that include – but are not limited to:

- How does the size of mature silverside adults change over the course of the spawning season?
- How does the sex ratio of spawners change over the course of the spawning season?
- Are there seasonal changes in egg size, oil globule size?
- Do different mothers make offspring with different sensitivity to acidification?
- How many eggs does a female silverside spawn and how does this change with size and season?

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The Summer Undergraduate Research Fund (SURF) offers a summer stipend up to \$3,500 + \$500 research

<http://ugradresearch.uconn.edu/surf/#apply>