Woods Hole Oceanographic Institution

Biology Department Seminar

Thursday, May 22, 2014
Redfield Auditorium – 12:00 Noon

Local Flow Acceleration Triggers Diving Response in Eastern Oyster Larvae (*Crassostrea virginica*)

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Larval supply is crucial to maintaining benthic populations of marine species, and the degree of active control exercised by larvae in selecting seafloor habitats remains an intriguing question. The larval eastern oyster (*Crassotrea virginica*) can descend in the water column via active downward diving: a flick and retraction of the ciliated velum to propel a transient downward burst of speed. Diving may play an important role in active settlement, since diving larvae move rapidly toward the seafloor. In this talk, I will present experimental work observing larvae in turbulent flow to identify potential hydrodynamic triggers to this diving behaviour. I found that diving larvae diving larvae experienced high average flow accelerations in short time intervals prior to dive onset, while accelerations experienced by non-diving larvae were significantly lower. Flow acceleration over rough bottom topography may induce this response, allowing larvae to identify and rapidly approach optimal settlement sites.