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Department of Marine Sciences
Presents a Seminar By

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Sensing mechanisms and ecological consequences of flow-induced larval behavior

Many benthic invertebrates have planktonic larval stages that disperse widely and suffer extreme mortality, making population dynamics highly unpredictable. The pathways and energetic costs of dispersal may be affected by behavioral responses to hydrodynamic signals from turbulence and waves. I will discuss recent work exploring how these physical processes affect the behavior, transport, and energetics of oyster larvae (*Crassostrea virginica*). Both turbulence and waves induce larvae to swim faster upward or to actively dive. Unlike many zooplankton that sense flow as fluid deformation, larvae use statocysts to sense acceleration or vorticity-induced rotation. Responses to these signals involve an increase in propulsive force and power output that would carry a high energetic cost. Swimming costs could be offset if larvae reaching surface waters had a higher probability of being transported shoreward by Stokes drift, whereas diving costs could be offset by enhanced settlement or predator avoidance. Energetic estimates imply that the fitness benefits of successful settlement outweigh those of escaping predation. Responses to hydrodynamic signals provide a mechanism for larvae to manage dispersal tradeoffs, spending more energy to raise the probability of successful transport to adult habitats.

Host: Melanie Fewings
Time & Date: 11:00 am, Friday, April 10, 2015
Place: Marine Sciences Building, Seminar Room 103

Please see this page for cancelations and additional seminar information,
email marinesciences@uconn.edu, or call 860-405-9152 or 860-405-9151