Woods Hole Oceanographic Institution

Biology Department Seminar

Thursday, November 12, 2015
Redfield Auditorium – 12:00 Noon

Flow Sensing in Developing Fishes

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The mechanosensory lateral line system of bony fishes is responsible for the detection of unidirectional or oscillatory water flows at short-range. Such flows may arise from predators, prey, environmental flows and obstacles. The lateral line system goes through dramatic changes in structure during the larval stage and through metamorphosis to the juvenile stage. These changes include the initial establishment of the distribution of neuromast receptor organs on the head and trunk, increases in neuromast size and changes in their shape, proliferation of neuromasts, and enclosure of a subset of neuromasts in pored lateral line canals on the head and trunk. The pattern and timing of these changes coupled with increases in fish size and swimming capabilities have important, but largely unappreciated, implications for flow sensing, which is critical for survival.