BUMP SEMINAR
Making Sense of Shark Senses: Multimodal Integration in Feeding Behavior

November 30, 2011, 12:00 – 1:00
LSEB 103

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Jayne received an Honours B.Sc. from McGill University (Montreal, Canada) in Microbiology and Immunology and an M.A. in Biology from Boston University (BUMP), where she worked with Dr. Jelle Atema. Her thesis research examined multimodal integration in odor plume tracking behavior in sharks. Jayne is currently completing her doctorate at the University of South Florida, working with Dr. Philip Motta and Dr. Robert Hueter.

Our understanding of elasmobranch sensory biology is largely due to studies of individual senses rather than multiple senses working together, leading to important advances in our comprehension of the sensory systems in isolation, but not their complementary and alternating roles in difficult behavioral tasks, such as feeding. In this study, three species from different ecological niches were investigated: benthic, suction-feeding nurse sharks hunt nocturnally for fish; ram-biting bonnetheads scoop crustaceans off the bottom of seagrass beds; ram-feeding blacktip sharks rapidly chase down midwater piscivorous prey. We deprived animals of information from the senses (olfaction, vision, mechanoreception, and electroreception), alone and in combination, to elucidate their roles in precisely localizing, striking at, and capturing live prey (capture kinematics).

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