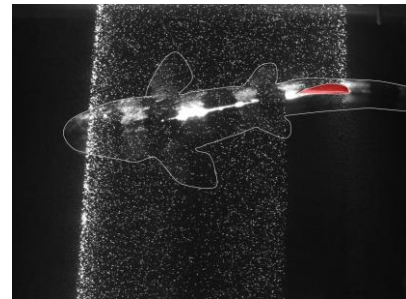
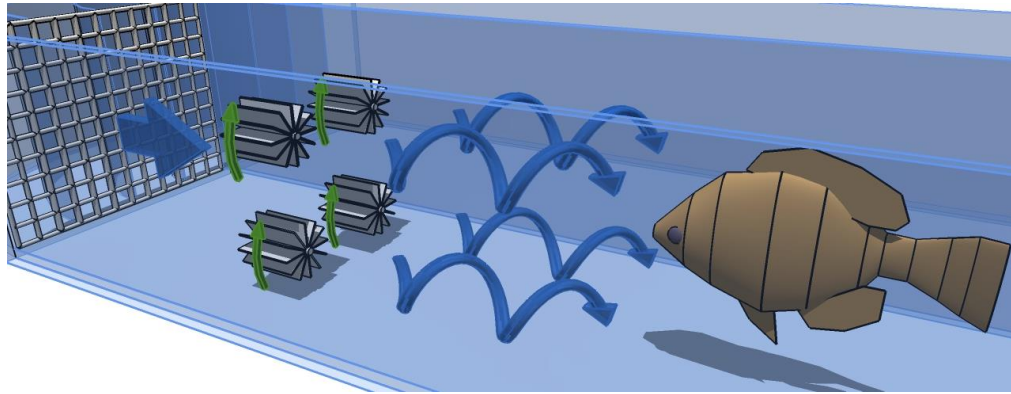


"Shake my fin: interactions between fish fins and flow"



Dr. Anabela Resende da Maia, Eastern Illinois University

Monday, November 28, 2016

4:00 – 5:00 PM

Science 2, room 109

For further information: www.csufresno.edu/biology

Fish locomotion is essential to the vast majority of fish behaviors. Foraging for food, escaping predators, migrations, and finding suitable mates all depend on the efficient use of fins to propel fish. Fish fins display an incredible diversity in shape and size and have increased in complexity with fish radiations. How do relatively simple shark fins compare to the more complex fins of derived bony fishes? I explore steady swimming and maneuvering in sharks, swimming in diverse types of turbulence in sunfishes and creative ways of using fins in food capture. How do fish sense their environment? What happens when fins lose their sensory capabilities? By blocking sensory or motor commands, I investigate how swimming stability is affected. Lastly, I explore new ways in which measuring energy consumption in the laboratory can inform and aid habitat restoration practices and ecotoxicology monitoring. Through a combination of biomechanical and physiological techniques and morphological analyses we can uncover how adaptations to the local habitat have shaped the evolution of fish appendages.

Dr. Anabela Maia specializes in ecophysiology and biomechanics of fish locomotion. She has a B.Sc. in Marine Biology from the University of Lisbon, Portugal and a Ph.D. in Biological Sciences from the University of Rhode Island. Her doctoral research focused on muscle mechanics and fluid dynamics in shark dorsal fins. As a postdoctoral fellow at Ghent University in Belgium she worked on seahorse tails and as a postdoctoral associate at Tufts University in Boston she looked at the metabolic demands of fish that encounter turbulence. For the last three years Dr. Maia has held a faculty position at Eastern Illinois University. Her lab focus on locomotion of fishes, including dorsal fin function in Centrarchids, the effects of turbulence and contaminants on metabolic demands and the evolution of fin function in basal bony fishes. Dr. Maia is a Fulbright Scholar and has received funding from the Portuguese Science and Technology Foundation, the Flanders Research Foundation, the American Philosophical Society, the Illinois Environmental Protection Agency and the Illinois Water Resources Center.