SPRING 2020 CEAFM SEMINAR SERIES

"Fluid-Fish Interactions; An Integrative Approach to Aquatic Sensing and Locomotion"

James C. Liao

University of Florida

The ability of animals to sense and navigate complex environments is unrivaled by even the most sophisticated robots. Nowhere is this more challenging to understand than in the three-dimensional environment of water, where animals are often suspended in, and interact with, unsteady flows. Fishes, which comprise over half of all living vertebrates, have exquisite control mechanisms for negotiating turbulence. I will describe advances my lab has made in understanding how fish sense and swim in flow, and how by study nature's designs we can reveal insights into some of the biggest challenges in engineering and robotics .

Associate Professor
Whitney Laboratory for
Marine Bioscience
University of Florida

James C. Liao is an Associate Professor of biology at the University of Florida and the Whitney Laboratory for Marine Bioscience, a UF University Term Professor, and Affiliate Professor in the Clayton Pruitt Family Department of Biomedical Engineering. His research integrates approaches from engineering, neuroscience and physiology to understand the fundamental principles of animal sensing and locomotion. In particular, he is interested in understanding the mechanisms of fish behavior across multiple levels of biological organization, from single neurons to group behavior. James received his B.A. magna cum laude in Biology from Wesleyan University, and his M.A. and Ph.D. in Biomechanics from Harvard University. He was an NIH postdoc and Research Associate in the Department of Neurobiology and Behavior at Cornell University. He has won research awards from The Society for Experimental Biology and the American Society for Ichthyologists and Herpetologists, and has been recognized multiple times by the Derek Bok Center for Excellence in Teaching at Harvard.

Friday, February 21, 2020
3:00 PM, Hodson Hall 213