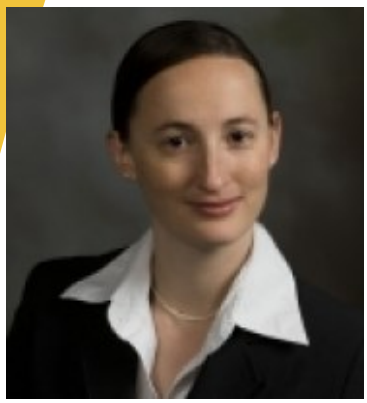
College of Engineering
Department of
Mechanical & Industrial Engineering

The Sidney E. Fuchs Seminar Series

3:30-4:20pm, Friday, November 22, 2013
Frank H. Walk Design Presentation Room



Making the Catch a Little Less Deadly

by Leigh McCue*

Associate Professor
Aerospace and Ocean Engineering, Virginia Tech

As highlighted by the popular television show The Deadliest Catch, commercial fishing is consistently one of the most dangerous occupations in the United States. Given that the end-goal of vessel dynamics research is to save lives, how does one encourage the use of potentially life-saving technologies into a cash-strapped fleet? The aim of this talk is to discuss both the cutting edge of vessel dynamics research, and how we can capitalize upon hardware developments of recent years to package this work into accessible, easily disseminated tools for a broad audience. To serve this end, the seminar will begin with an overview of research being conducted by the Virginia Tech vessel dynamics research group including analytical, experimental, and numerical work on topics ranging from exploration of Europa, to prediction of dynamic instabilities such as capsizing, to air cushion vehicle skirt dynamics. The talk will then discuss the importance of identifying and implementing mechanisms to transition research into the hands of the end-user. I will discuss in some depth how analytical formulations can be derived for use in a regulatory framework as well as providing an example for how occupational safety interventions can be deployed in a cost-efficient manner.

* Leigh McCue is an Associate Professor in Virginia Tech's Department of Aerospace and Ocean Engineering and a core faculty member of the Virginia Center for Autonomous Systems. Her research interests are in nonlinear and chaotic vessel dynamics and her work has been supported by ONR, NSF, NASA, CSC, and QinetiQ. Dr. McCue has twice participated in the ASEE-ONR Summer Faculty Research Program to continue her work in collaboration with researchers at the Carderock Division of the Naval Surface Warfare Center and was on sabbatical for the 2011-2012 academic year with the Combatant Craft Division of the Naval Surface Warfare Center, Carderock. Dr. McCue received her BSE degree in Mechanical and Aerospace Engineering in 2000 from Princeton University. She earned her graduate degrees from the University of Michigan in Aerospace Engineering (MSE 2001) and Naval Architecture and Marine Engineering (MSE 2002, PhD 2004). In 2008 Dr. McCue received both an NSF Faculty Early Career Development (CAREER) grant and an ONR Young Investigator Program (YIP) grant. McCue is the recipient of a Presidential Early Career Award for Scientists and Engineers (PECASE).