Multidisciplinary Simulation, Estimation, and Assimilation Systems
Seminar Series

Ibrahim Hoteit

Assistant Professor, Earth Sciences and Engineering

Assistant Professor, Applied Mathematics & Computational Science

KAUST

An Integrated Data-Driven Modeling System to Study and Predict the Circulation, productivity and Climate of the Red Sea

Abstract: The talk will present the integrated data-driven modeling and forecasting system that we have developed to study and understand the physical and biological variability of the Red Sea. I will first describe the modeling system and summarize our key findings on the Red Sea general circulation, including the striking seasonally overturning circulation, the dominant eddy activity, and the occasional northern deep water formation events, and discuss their impact on the Red Sea ecosystem. I will then focus on our efforts to develop an efficient ensemble data assimilation and forecasting system for the Red Sea, presenting recent algorithmic developments and results, and discussing our future plans.

Monday, June 5, 2017
2:00PM; Rm. 5-314
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 02139

Host:
Pierre Lermusiaux
http://mseas.mit.edu