IDENTIFYING EXCELLENCE

MECHANICAL AND AEROSPACE FACULTY RECOGNIZED FOR SCHOLARLY EXCELLENCE
Abani Patra was named a Fellow of the U.S. Association for Computational Mechanics for his accomplishments in developing methods and tools for parallel and adaptive finite element methods, simulations of geophysical mass flows and service to the society in different capacities. Patra’s group develops tools to visualize probabilistic mass flow simulations for use in volcanic hazard analysis.

Iman Borazjani received a 2015 National Science Foundation CAREER award to further the development of advanced computational tools for fluid-structure interaction problems. Inspired by aquatic locomotion, Borazjani investigates if thrust enhancement mechanisms observed in nature can be applied to wind turbines and other energy harvesting devices.

Ehsan Esfahani received a grant from the National Science Foundation to develop cognitive haptic based rehabilitation systems. The research investigates the use of home centered cognitive haptic therapy by monitoring the patient’s brain activity, empowering physicians to monitor performance during in-home therapy and adjust the simulation in real-time. The project is being carried out in collaboration with researchers at the University of Illinois Urbana-Champaign.

Mostafa Nouh joined the department in the Fall of 2015. He is developing theoretical models and experimental setups to study wave dispersion and propagation in elastic mechanical systems. Nouh’s research focus is on tunable structural and acoustic metamaterials with applications in cloaking, energy harvesting, directional filtering, noise reduction, and efficient vibration attenuation.

FRONT COVER: (l to r), Mostafa Nouh, Ehsan Esfahani, Abani Patra and Iman Borazjani