SAN DIEGO STATE UNIVERSITY

Mechanical Engineering
Fall Seminar Series

Experimental Fluid Dynamics Methods & Advanced Data Analysis Techniques - Aerodynamics & Bio-fluids Research Applications

Wednesday, December 6th, 2:00 pm-3:00 pm; Room E-201

Abstract: This talk focuses on the applications of experimental fluid dynamics methods and advanced data analysis techniques in diverse fluids research ranging from aerodynamics to biofluids. The first part of this talk focuses on development and implementation of multi-time-delay Linear Stochastic Estimation along with Proper Orthogonal Decomposition (LSE-POD) in the temporal domain. This technique successfully captures the cycle-to-cycle variation in vortex shedding in the wake of a bluff body. The second part of this talk focuses on the application of experimental methods in studying fluid flow in an aneurysm, specifically, the application of Dynamic Mode Decomposition (DMD) in studying complex fluid dynamics in an aneurysm. The objective is to study the impact of inflow and morphology on flow behavior in an aneurysm.

Dr. Vibhav Durgesh

BIO: Dr. Vibhav Durgesh is from India, and holds a Bachelors degree from the Indian Institute of Technology (IIT) Kharagpur, and Masters and Ph.D. degrees from the University of Wyoming, in Mechanical Engineering. Following his doctoral work, he has worked as a post-doctoral researcher at the Michigan State University, and as a research associate at the Pacific Northwest National Laboratory (PNNL), WA. Dr. Durgesh is currently an Assistant Professor in the Department of Mechanical Engineering at California State University, Northridge. His research interests include both fundamental and applied topics, in the field of experimental aerodynamics/fluids and applications of advanced data analysis techniques in studying complex fluid behavior.

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