

UNIVERSITY of HOUSTON

Department of Mathematics

Scientific Computing Seminar

Professor L. Ridgway Scott
University of Chicago, Emeritus

Advances in Flight Simulation and Flow Instability

Thursday, Feb. 2, 2023
1 PM- 2 PM
Room 646 PGH

Abstract:

A new era in flight is emerging that requires a more effective simulation strategy. Many modes are being developed industrially, including air-taxi drones and ground-effect transport. We describe an approach to simulating flight that is based on instabilities in flow and provides a new view of turbulence. The method we use is the Reynolds-Orr definition of instability that is more general than what is commonly used to define flow instability. We show that our results correlate well with what can be observed by both experiment and direct numerical simulation.