THE WILLIAM E. BOEING DEPARTMENT OF

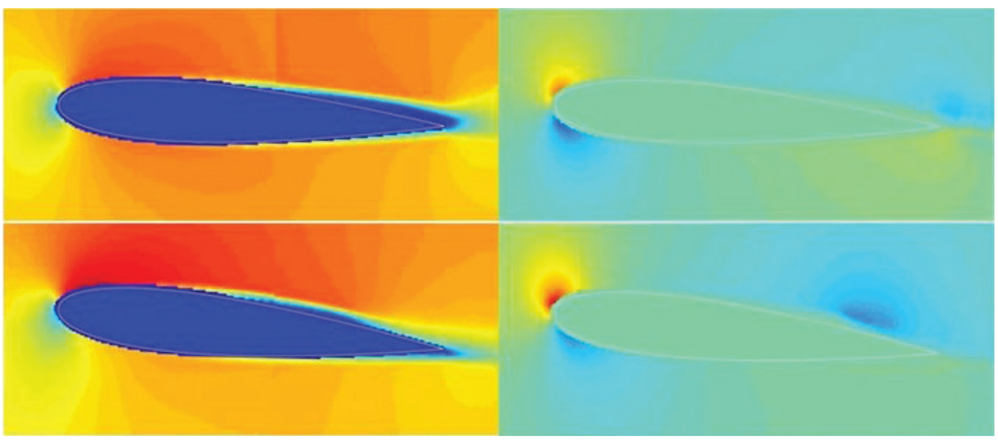
AERONAUTICS & ASTRONAUTICS

... welcomes ...

GEOFFREY SPEDDING

UNIVERSITY OF SOUTHERN CALIFORNIA

Old and New Problems in Low Reynolds Number Aerodynamics



Aeronautics is a mature and powerful discipline, and great success has been achieved in predicting flows and designing aircraft configurations at quite large scales, where the effects of viscosity can be modeled as minor modifications to basically inviscid dynamics. That is not the case at smaller scales, those of the new generation of drones, and of smaller birds and bats. Here the competing inertial and viscous terms lead to a delicate balance in solutions that have extreme sensitivity to variations in boundary and initial conditions. In this talk we will show how, in a Reynolds number regime that is only now becoming of practical interest, nominally simple problems do not necessarily have simple solutions, and how seemingly modest computational and experimental goals remain elusive.

WILLIAM E. BOEING
DEPARTMENT OF AERONAUTICS & ASTRONAUTICS
UNIVERSITY *of* WASHINGTON

Monday, May 1, 2017 @ 4:00pm
Johnson Hall. Rm 102 | UW Seattle

Visitor RSVP:
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THE WILLIAM E. BOEING DEPARTMENT OF
AERONAUTICS & ASTRONAUTICS

... Distinguished Guest Speaker ...

GEOFFREY SPEDDING

UNIVERSITY OF SOUTHERN CALIFORNIA

Professor, Aerospace
& Mechanical Engineering

Geoffrey Spedding received his Ph.D. in 1981 from the University of Bristol, England. He began work as a Research Associate in the Department of Aerospace Engineering at the University of Southern California in the same year, where he worked on models of insect wings and models of atmospheres and oceans. He became a full Professor in 2005, and Chair of the Aerospace and Mechanical Engineering Department in 2010. His current research has three themes: (i) Geophysical Fluids: particularly the evolution of turbulence in oceans and atmospheres, and its relation to the persistence of wakes of islands and submarines; (ii) Advanced imagining and data analysis including accurate particle imagining velocimetry (PIV) techniques and novel 2D wavelet transforms and interpolation routines for scattered data; (iii) Aerodynamics of small flying devices, especially those where birds and bats coexist in engineering design space. In 2010 he was elected Fellow of the American Physical Society. In 2013 he was awarded the Chaire Joliot at ESPCI, Paris.

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