

Aeroelasticity research and technology - from rotorcraft Aeroelasticity to Hypersonic technology by Prof Earl Dowell

Date & Time: May 26th, 2022, 7:00-8:30 pm EST

Registration (Free): https://aiaa.zoom.us/webinar/register/WN_VZn-IHVLT_iHbn0027QITg

SHAPING THE FUTURE OF AEROSPACE

The talk will begin with a summary of the speaker's career from undergraduate days at the University of Illinois to graduate study at MIT and onto a time at Boeing, with the Army Rotorcraft Research Laboratory at NASA Ames, as a faculty member at Princeton, sabbaticals at Stanford and NASA Langley and then to the present day as a faculty member and sometime Dean and Department Chair at Duke. The latter half of the talk will be a presentation on research on the aeroelasticity of hypersonic flight vehicles. This is joint work with recent PhD students, Maxim Freydin and Kevin McHugh, and with colleagues doing experiments at the Air Force Research Laboratory, University of Maryland / NASA Langley, North Carolina State University and the University of New South Wales (Australia).

Join us to hear from Prof Earl Dowell, William Holland Hall Distinguished Professor, Duke University



William Holland Hall
Distinguished Professor
Duke University

<https://engage.aiaa.org/net/work/members/profile?UseKey=762fbc2a-eb43-4f07-b61c-7ae37fe28f2e>

Professor Dowell's principal teaching interest and research activity is in the field of aeroelasticity - which is the study of the dynamic interaction between an aerodynamic flow and an elastic structure, such as aircraft wings in high speed flight, long span bridges and tall buildings responding to wind loadings, or airflow through the mouth and lungs. Dr. Dowell has also done research in acoustics, nonlinear dynamics, structural dynamics, and unsteady aerodynamics.

Professor Dowell's major research accomplishments include the first definitive research monograph on the aeroelasticity of plates and shells, the first derivation and solution of the nonlinear equations of motion for a helicopter rotor blade (the Hodges-Dowell equations), and work with Professor Kenneth Hall and several graduate students and post-doctoral fellows on reducing the dimensions of mathematical models for very complex high-dimensional fluid/structural systems.

Prof Dowell is a recipient of several AIAA awards including the Daniel Guggenheim Medal, the Theodore von Karman Lectureship Award and the Walter J. and Angeline H. Crichlow Trust Prize.

He is also a recipient of the Reed Aeronautics Award. The award is the highest honor an individual can receive for notable achievement in aeronautics. Prof Dowell was elected an NAE member in 1993 and a honorary fellow of the AIAA in 2004