Harry H. Hilton h-hilton@illinois.edu   1-217-333-2653   Cell 1-217-840-1116

Professor Emeritus of Aerospace Engineering in the Grainger College of Engineering

NCSA[1] Senior Academic Lead for Computational Structural/Solid Mechanics

316 Talbot Lab., MC-236, University of Illinois at Urbana-Champaign (UIUC)

BS 47 and MS 49 Aeronautical Eng. (compressible aerodynamics) New York U., Ph. D. Theoretical & Applied Mechanics (solid mechanics major with applied mathematics minor) 51 UIUC. On UIUC AE faculty since 1949. Aeronautical & Astronautical Eng. department head 74 - 85, assistant dean of engineering summers 1989 & 90. Distinguished Visiting Professor of Mechanical Engineering Nanyang Technological University, Singapore (1999-2000). Alfred M. Freudenthal Visiting Professor, Leopold-Franzens-Universität, Austria, 1995. Charles E. Schmidt Distinguished Visiting Professor, Florida Atlantic U., 1997 – 2001, 2007.

Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and of the American Society for Composites (ASC). Past consultant for McDonnell Corp., Hughes Aircraft, Aerojet-General, and Boeing. Expert witness at aerospace accident trials. Served in US Army, 1944-46.

Current member of the following committees: AIAA Structures Technical, AIAA Non-Deterministic Applications Technical, the ASTM D-30 on Composite Materials, UIUC AAUP Policy, UIUC Senate, two archival journal editorial boards and two scientific committees organizing international conferences. He also chairs the AIAA Illinois Section, and is a regional director for Sigma Gamma Tau, the national aerospace engineering honor society and 1959-61, 69-71, 2013-19 president UIUC Chapter American Association University Professors (AAUP). He is a recipient of American Civil Liberties Union's (ACLU) Victor J. Stone Award for Lifetime Commitment to Civil Liberties and the AIAA service award. He has also been active in community affairs as the chair of the Champaign-Urbana Symphony Guild, member of the C-U ACLU steering committee, past 2nd vice-president Champaign County Democratic Central Committee, past chair of the Champaign City Human Relations Commission, and past chair of the C-U Council for Integration.

After his retirement in 1990, he continues to be actively engaged in research with a part time NCSA appointment, teaching one of three graduate AE courses (528, 529, 550) and special research problems AE 497/597, and in public and professional service. Currently he ad-

---

[1] National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign (UIUC)

vises one PhD thesis student. He has published over 500 papers in archival journals or conference proceedings and 11 book chapters. His present active analytical & computational research areas are deterministic and stochastic linear and nonlinear viscoelasticity, composites, aero-thermo-viscoelasticity, aerodynamic noise, computational solid mechanics, structural probabilistic failure criteria and analysis, damping & nonlinear dynamics, linear & nonlinear anisotropic viscoelastic finite element analysis, optimum designer materials and systems of systems, piezoelectric, magnetic, and functionally graded viscoelastic materials, nonlinear creep and delamination column & plate buckling, analytical determination of damping properties, material characterization, stochastic minimum structural weight analysis, probabilistic delamination of composites during service and manufacturing processes, 3D/4D viscoelastic printing, structural control and survivability, engineering education, and structural integrity of dentures.

He is an internationally recognized authority in viscoelasticity and aero-viscoelasticity. Notable research achievements include first papers in the literature on: column creep buckling (1952), aero-viscoelasticity (1956), stochastic minimum weight analysis (1960), viscoelastic Poisson ratios (1998), the importance of initial loading paths in viscoelasticity (1999), optimum viscoelastic designer materials (2003) and on large optimized designer systems of systems (2013), Theodorsen function for variable flight velocities (2011), generalized multi-dimensional material probabilistic constitutive relations and failure conditions based on stress and/or strain invariants (2018).