

JEFFREY D. KELLER

Dr. Jeffrey D. Keller is an Associate with Continuum Dynamics, Inc. in Ewing, New Jersey, where he has been since 1997. Dr. Keller received his Ph.D. from the Department of Mechanical and Aerospace Engineering at Princeton University in 1998, where his dissertation entitled “The Effect of Rotor Motion on the Induced Velocity in Predicting the Response of Rotorcraft” examined low order inflow models for capturing the off-axis response of helicopters. He also received M.A. degree from Princeton University in 1993, and B.A. (Summa Cum Laude) and M.Eng. degrees in Aeronautical Engineering from Rensselaer Polytechnic Institute in 1990 and 1991, respectively.

Dr. Keller’s professional interests and expertise include air vehicle aerodynamics and flight dynamics modeling, and aircraft flight controls development. He has led several flight dynamics and simulation projects ranging from rotorcraft shipboard modeling and simulation to tactile cueing methods for optimal autorotation guidance. He is the recipient of several engineering awards, most notably the American Helicopter Society Lichten Award for best paper by a new author, for his work on rotor induced wake coupling effects. Dr. Keller has served as lecturer for the “Helicopter Stability and Control” session of the Rotary Wing Technology Short Course at Pennsylvania State University. He is a member of the American Helicopter Society and a senior member of the AIAA.

Selected Publications

1. “An Investigation of Helicopter Dynamic Coupling Using an Analytical Model,” *Journal of the American Helicopter Society*, Vol. 41, (4), October 1996.
2. “The Effect of Inflow Models on the Predicted Response of Helicopters,” *Journal of the American Helicopter Society*, Vol. 43, (1), January 1998 (with U. Arnold, H.C. Curtiss, Jr., and G. Reichert).
3. “Full Vehicle Flight Simulation with Real Time Free Wake Methods,” *Proceedings of the American Helicopter Society Aeromechanics Specialists Meeting*, San Francisco, CA, January 2002 (with T. Quackenbush, D. Wachspress, and A. Boschitsch).
4. “Rotor Wake Evolution and Vortex Wake Encounter Analysis Methods for Terminal Area Operations,” presented at the American Helicopter Society 58th Annual Forum, June 2002 (with D. Wachspress and T. Quackenbush).
5. “Algorithmic Icing Detection for the V-22 Osprey,” presented at the American Helicopter Society Flight Controls and Crew Systems Design Specialists’ Meeting, Philadelphia, PA, October 2002 (with R.M. McKillip, Jr.).
6. “Computational Fluid Dynamics for Flight Simulator Ship Airwake Modeling,” presented at the Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC) Orlando, FL, 2007 (with J. Nadal, G. Whitehouse, A. Boschitsch, J. Jeffords, and M. Quire).
7. “Physical Modeling of Aircraft Upsets for Real-Time Simulation Applications,” presented at the AIAA Atmospheric Flight Mechanics Conference, Honolulu, HI, August 2008 (with R.M. McKillip, Jr. and D.A. Wachspress).
8. “Aircraft Flight Envelope Determination using Upset Detection and Physical Modeling Methods,” presented at the AIAA Guidance, Navigation, and Control Conference, Chicago, IL, August 2009 (with R.M. McKillip, Jr. and S. Kim).