

GLEN R. WHITEHOUSE

Dr. Glen R. Whitehouse received his BS degree in Aeronautical Engineering and Mathematics from Clarkson University in 2000 and his PhD and DIC in Aeronautics from Imperial College London in 2004. While at Imperial College he gained extensive experience modeling rotor aeromechanics and wake dynamics with both traditional inflow based analysis codes and high fidelity grid based CFD techniques, and the UK government's Engineering and Physical Sciences Research Council described his doctoral work as "... internationally leading". Dr. Whitehouse's research has focused on predicting rotor performance in and out of ground effect and during wake interactions, and he has given several seminars on helicopter wake evolution in ground effect. Since starting at CDI in 2003 he has worked on numerous projects including the simulation of multiple aircraft interactions in various terminal environments, the modeling of fixed, flapping and rotary-wing wakes in both real-time helicopter flight and CFD analyses and the design of unmanned micro-rotorcraft. He is the principal developer of VorTran-M and is the PI of an ongoing Air Force STTR Phase II to develop both unsteady aeromechanical modeling tools and a prototype unconventional flapping wing MAV. Dr. Whitehouse is the recipient of the Hafner VTOL Prize from the Royal Aeronautical Society for the best VTOL technology paper of 2004, and is a co-recipient of the American Helicopter Society's best flight simulation paper award of 2004 and the 2009 Alfred Gessow Forum Best Paper award. Dr. Whitehouse has been a member of the Aerodynamics Committee of the American Helicopter Society since 2005, and is an Associate Editor of the Journal of the American Helicopter Society. He is the aerodynamics technical committee Session Chair for the 2011 Annual Forum of the American Helicopter Society.

Selected Publications

1. "Investigation of Mixed Element Hybrid Grid-Based CFD Methods for Rotorcraft Flow Analysis", AHS 66th Annual Forum, Phoenix, AZ, 2010 (with A.H. Boschitsch, M.J. Smith, C.E. Lynch and R.E. Brown)
2. "Investigation of Hybrid Grid-Based CFD Methods for Rotorcraft Flow Analysis" AHS Specialist's Conference on Aeromechanics, San Francisco, CA, 2010 (with H. Tadghighi)
3. "High Fidelity Rotor Aerodynamic Module for Real-Time Rotorcraft Flight Simulation", AHS 64th Annual Forum, Montreal Canada, 2008, (with D.A. Wachspress, J.D. Keller, T.R. Quackenbush and K. Yu)
4. "Computational Fluid Dynamics for Flight Simulator Ship Airwake Modeling", I/ITSEC 2007 (with J.D. Keller, A.H. Boschitsch, J. Nadal, J. Jeffords and M. Quire)
5. "Novel Eulerian Vorticity Transport Wake Module for Rotorcraft Flow Analysis" AHS 63rd Annual Forum, Virginia Beach, VA., 2007 (with A.H. Boschitsch, T.R. Quackenbush, D.A. Wachspress, and R.E. Brown)
6. "A Physics-Based Model of Rotorcraft Brownout for Flight Simulation Applications" AHS 62nd Annual Forum, Phoenix, AZ., 2006 (with J. D. Keller, D. A. Wachspress, M.E. Teske and T.R. Quackenbush)

7. "Modelling Rotor Wakes in Ground Effect", Journal of the AHS, Vol. 49, No. 3, July 2004 (with R.E. Brown)
8. "Distributed Multi-Vehicle Simulation Including High-Order Airwake Representation" AHS 60th Annual Forum, Baltimore, MD., 2004 (with R.M. McKillip, Jr., D.A. Wachspress, J. D. Keller, T.R. Quackenbush, and A.H. Boschitsch)
9. "Modeling the Mutual Distortions of Interacting Helicopter and Aircraft Wakes," Journal of Aircraft, Vol. 40, (3), May-June, 2003, pp. 440-449 (with R.E. Brown)