Robert L. Meakin

U.S. Army Research, Development, and Engineering Command
Aviation and Missile Research, Development, and Engineering Center
Aeroflightdynamics Directorate
NASA Ames Research Center, M/S N219-1
Moffett Field, CA 94035-1000

Tel: (650) 604-3969 Email: Bob.Meakin@us.army.mil

Present Positions

- Director, HPC Institute for Advanced Rotorcraft Modeling and Simulation
- Computational Technology Area Leader for CFD, DoD HPC Modernization Office
- Senior Staff Scientist,
  U.S. Army Research, Development, and Engineering Command
  Aeroflightdynamics Directorate, Aviation and Missile RDEC,
  Ames Research Center
  Moffett Field, CA 94035-1000

Education

- Ph.D., Stanford University, 1987
- M.S., Stanford University, 1982
- B.S., Brigham Young University, 1980

Practical Experience and Research Activities

Member of the DoD HPC Modernization Office Distributed Computing Center Technical Evaluation Panel (2004).

Founder and President of Overset Methods, Inc. (1991 to 1996). Established this small non-profit public benefit corporation to carry out basic and applied research in the computational sciences for the purpose of expanding the spectrum of fluid and aerodynamic problems solvable via computational means.

Primary author and developer of a number of software modules now in common use that address the following research topics.

- Unsteady, compressible, viscous flow
- Complex geometry, multiple-body simulation methods
- Solution adaptation
- Contact detection and collision response within multiple-body aerodynamic systems
- Domain connectivity among systems of overset grids
- Auto load balancing and parallel, scalable computing
- Efficient Chimera hole-cutting methods for overset systems of grids
- 6-degrees-of-freedom modeling

Papers and Publications (selected from more than 40)

- Meakin, R., "Multiple-Body Proximate-Flight Simulation Methods," AIAA Paper 2005-4621, 17th AIAA CFD Conference, Toronto, Ontario, Canada, June 2005.
- Meakin, R., "Automatic Off-Body Grid Generation for Domains of Arbitrary Size," AIAA Paper 2001-2536, 15th AIAA CFD Conference, Anaheim, CA, June 2001.
- Meakin, R., "Adaptive Spatial Partitioning and Refinement for Overset Structured Grids," Comput. Methods Appl. Mech. Engrg. Vol. 189, No. 4, Sept. 2000, pp. 1077-1117.