

# Hyung Taek Ahn

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## Research Interests

Fluid/structure interaction  
Multi-phase/multi-material flow  
Unstructured hybrid mesh application for CFD  
Compressible/Incompressible flow solvers

## Education

Ph.D. in Aerospace Engineering,	The University of Texas at Austin	May 2005
M.S. in Mechanical Engineering,	Korea Advanced Institute of Science and Technology, Korea	Feb. 1999
B.Eng. in Mechanical Engineering,	Yeungnam University, Korea	Feb. 1996

## Publications (published)

1. H. T. Ahn, M. Shashkov, and M. A. Christon, The Moment-of-Fluid Method in Action, LA-UR-07-6854, Los Alamos National Laboratory, 2007, submitted to the Communications in Numerical Methods in Engineering.
2. H. T. Ahn and M. Shashkov, Multi-material interface reconstruction on generalized polyhedral meshes, Journal of Computational Physics, Volume 226, Issue 2, 1 October 2007, Pages 2096-2132
3. H. T. Ahn and M. Shashkov, Geometric algorithms for 3D interface reconstruction, Proceedings of the 16th International Meshing Roundtable, Springer.
4. H. T. Ahn and M. Shashkov, Multi-material interface reconstruction on generalized polyhedral meshes, LA-UR-07-0656, Los Alamos National Laboratory, 2007
5. H. T. Ahn and G. F. Carey, An enhanced polygonal finite-volume method for unstructured hybrid meshes, International Journal for Numerical Methods in Fluids, Volume 54, Pages 29-46, 10 May 2007
6. H. T. Ahn and Y. Kallinderis, Strongly coupled flow/structure interactions with a geometrically conservative ALE scheme on general hybrid meshes, Journal of Computational Physics, Volume 219, Pages 671-696, 2006
7. Y. Kallinderis and H. T. Ahn, Incompressible Navier-Stokes method with general hybrid meshes, Journal of Computational Physics, Volume 210, Pages 75-108, 2005, *Ranked 5th in the Top 25 Hottest Articles, Journal of Computational Physics, Jul.-Sep. 2005*
8. H. T. Ahn, A new incompressible Navier-Stokes method with general hybrid meshes and its application to flow/structure interactions, Ph.D. Thesis, The University of Texas at Austin, TX, 2005
9. H. T. Ahn and Y. Kallinderis, CFD Investigation of the Effect of Current Turbulence on the Hydrodynamic Forces on a Cylinder, 24th International Conference on Offshore Mechanics and Arctic Engineering (OMAE 2005), June 2005, Halkidiki, Greece
10. Y. Kallinderis and H. T. Ahn, Strongly Coupled Fluid-Structure Interactions via a New Navier-Stokes Method for Prediction of Vortex-Induced Vibrations, 24th International Conference on Offshore Mechanics and Arctic Engineering (OMAE 2005), June 2005, Halkidiki, Greece

## Activities and Services

- Reviewer for the International Journal for Numerical Methods in Fluids
- Reviewer for the Communications in Numerical Methods in Engineering
- Reviewer for the International Meshing Roundtable, sponsored by Sandia National Laboratories
- Organizer for Mini-symposium on Modeling and simulation of multi-phase and multi-material flows, USNCCM9, San Francisco, CA, July 23-26, 2007
- Member of USACM, SIAM, AIAA, ASME, APS