

# KID AMBI SREENIVAS

701 E. ML King Blvd., Chattanooga TN 37403  
(423) 425 - 5506 (Office) • (423) 425- 5517 (Fax)  
Kidambi-Sreenivas@utc.edu

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## EDUCATION

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<b>Ph. D., General Engineering (Computational Fluid Dynamics); Minor: Math</b> Mississippi State University	December 1996
<b>M.S., Aerospace Engineering</b> Mississippi State University	August 1993
<b>B. Tech., Aerospace Engineering</b> Indian Institute of Technology, Madras	June 1991

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## EMPLOYMENT

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<b>Affiliate Faculty Appointment</b> Institute of Biomedical Engineering, University of Tennessee, Knoxville	05/2014 - Present
<b>Joint Faculty Appointment</b> Department of Energy, Oak Ridge National Laboratory, Oak Ridge, TN	04/2014 - Present
<b>Research Professor</b> SimCenter: National Center for Computational Engineering, University of Tennessee at Chattanooga	07/2011 - Present
<b>Associate Research Professor</b> SimCenter: National Center for Computational Engineering, University of Tennessee at Chattanooga	09/2002 - 06/2011
<b>Associate Research Professor</b> Computational Simulation & Design Center, Mississippi State University	07/2002 - 09/2002
<b>Assistant Research Professor</b> Computational Simulation & Design Center, Mississippi State University	07/1999 - 06/2002
<b>Visiting Researcher</b> Computational Fluid Dynamics Laboratory, Mississippi State University	07/1998 - 06/1999
<b>Post-Doctoral Fellow</b> Computational Fluid Dynamics Laboratory, Mississippi State University	01/1997 - 06/1998
<b>Graduate Research Assistant</b> Computational Fluid Dynamics Laboratory, Mississippi State University	08/1993 - 12/1996
<b>Graduate Research Assistant</b> MSU/NSF Engineering Research Center, Mississippi State University	08/1991 - 07/1993

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## RESEARCH AREAS

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Dr. Sreenivas has been active in the area of unstructured, multi-physics flow solvers since 1996. Prior to this, his focus was in the area of structured flow solver development with applications to acoustics and stability of turbomachines. Dr. Sreenivas pioneered the capability to enable rotating machinery simulations using unstructured meshes. Additionally, he has developed pre-conditioners that enable simulations of fluids with non-ideal equations of state. Dr. Sreenivas has applied these advanced capabilities to solve real-world problems involving complex geometry and complex physics. The range of applications include maneuvering submarines and surface ships, simulations of wind farms, multi-stage turbomachinery, improvement in aerodynamic efficiency of Class 8 trucks, particle deposition within the human respiratory system, contaminant dispersal through urban environments, and embedded propulsion systems. Dr. Sreenivas has worked closely with researchers from NASA, Navy, Department of Energy and various private companies and has transitioned the latest developments to provide them with advanced flow simulation capabilities.

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## PROFESSIONAL MEMBERSHIPS

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American Institute of Aeronautics and Astronautics (AIAA)  
American Society of Mechanical Engineers (ASME)  
Phi Kappa Phi

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## REVIEWER

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### Archival Journals

AIAA Journal  
Computers & Fluids  
International Journal of Aerodynamics  
International Journal of Computational Fluid Dynamics  
Journal of Aircraft  
Journal of Computational Physics  
Journal of Fluids Engineering  
Journal of Propulsion and Power  
Journal of Turbomachinery

### Proposal Reviews

National Science Foundation Review Panel for Wind Energy

### Post Award Reviews

National Science Foundation Partnerships for International Research and Education (PIRE) Reverse Site Visit

### Conference Proceedings

ASME Turbo Expo  
AIAA Propulsion Conference  
ASME IMECE Conference

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## UNIVERSITY SERVICE

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Office of Research and Sponsored Programs Assistant Director Search Committee  
National Science Foundation Major Research Instrumentation Internal Review Panel  
University of Tennessee at Chattanooga Review Panel for Innovative Centers or Institutes

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## PROFESSIONAL SERVICE

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Session Chair, AIAA Aviation 2014, Atlanta, GA  
Session Chair, SHARP 2014, Chattanooga, TN

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## PUBLICATIONS

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1. **Sreenivas, K.**, Mittal, A., Hereth, L., Taylor, L.K., and Hilbert, C.B., "Numerical Simulation of the Interaction Between Wind Turbines," Submitted to *Journal of Wind Engineering and Industrial Aerodynamics*, 2016.
2. Azarnoosh, J., **Sreenivas, K.**, Arabshahi, A., "CFD Investigation of Human Tidal Breathing through Human Airway Geometry," Submitted to International Conference on Computational Science (ICCS) 2016, San Diego.
3. Mittal, A., Briley, W.R., **Sreenivas, K.**, and Taylor, L.K., "A Parabolic Velocity-Decomposition Method for Wind Turbines," submitted to *Journal of Computational Physics* (under review), 2015.
4. **Sreenivas, K.**, Webster, R.S., Hereth, E., Key, N.L., and Berdanier, R.A., "Computational Simulations of a Multi-Stage Subsonic Research Compressor," AIAA Paper 2016-0395, 54<sup>th</sup> AIAA Aerospace Sciences Meeting, January, 2016.
5. Mittal, A., **Sreenivas, K.**, Briley, W.R., Taylor, L.K., "Towards Wind Farm Layout Design Using Sensitivity Derivatives Obtained from a Parabolic Method," AIAA Paper 2016-2198, 34<sup>th</sup> Wind Energy Symposium, January, 2016.
6. **Sreenivas, K.**, Mittal, A., Taylor, L.K., and Hereth, L., "Higher-Order Accurate Simulations of Wind Turbine Flow Fields: A Poor Man's Approach," AIAA Paper 2016-0749, 34<sup>th</sup> Wind Energy Symposium, January, 2016.
7. Mittal, A., Briley, W.R., Taylor, L.K., and **Sreenivas, K.**, "A Parabolic Method without Pressure Approximations for a Wind Farm," EWEA Offshore 2015, Copenhagen, Denmark.
8. Mittal, A., **Sreenivas, K.**, Taylor, L., Hereth, L., Hilbert, C.B., "Blade-Resolved Simulations of a Model Wind Turbine: Effect of Temporal Convergence," *Wind Energy*, Available online: Dec 22, 2015.
9. Hassan, W.E., **Sreenivas, K.**, Mittal, A., Taylor, L.K., and Hereth, L. "Blade Resolved Simulation for a Wind Farm," AIAA Paper 2015-2269, 33<sup>rd</sup> AIAA Applied Aerodynamics Conference, Dallas, TX, June 2015.

10. Mittal, A., **Sreenivas, K.**, Briley, W.R., and Taylor, L.K., "A Parabolic Method for Accurate and Efficient Wind Farm Simulation," AIAA Paper 2015-2268, 33<sup>rd</sup> AIAA Applied Aerodynamics Conference, Dallas, TX, June 2015.
11. Mittal, A., Taylor, L.K., **Sreenivas, K.**, Briley, W.R., and Nichols, D.S., "Extension of a Parabolic Method without Pressure Approximations for Wind Turbines in ABL Flows," AIAA Paper 2015-3391, 33<sup>rd</sup> AIAA Applied Aerodynamics Conference, Dallas, TX, June 2015.
12. Kamali, S., Ahrabi, B.R., Webster, R.S., and **Sreenivas, K.**, "Numerical Simulation of Compressible Flow in a Diffusing S-duct with and without Vortex Generators," AIAA Paper 2015-2715, 33<sup>rd</sup> AIAA Applied Aerodynamics Conference, Dallas, TX, June 2015.
13. Webster, R. S., **Sreenivas, K.**, and Hilbert, C. B., "Computational Simulation of the Fan and Low-pressure Compressor Stages of the Energy Efficient Engine," AIAA Paper 2015-1344, January, 2015.
14. **Sreenivas, K.**, Mittal, A., Hereth, L., and Taylor, L.K., "Computational Simulation of the Interaction Between Tandem Wind Turbines with Offset," AIAA Paper 2015-0224, 33<sup>rd</sup> Wind Energy Symposium, AIAA SciTech 2015, January 2015.
15. Mittal, A., Briley, W.R., Taylor, L.K., and **Sreenivas, K.**, "A Parabolic Method without Pressure Approximations for Wind Turbines," AIAA Paper 2015-0728, 33<sup>rd</sup> Wind Energy Symposium, AIAA SciTech 2015, January 2015.
16. Mittal, A., **Sreenivas, K.**, Taylor, L.K., and Hereth, L., "Improvements to the Actuator Line Modeling for Wind Turbines," AIAA Paper 2015-0216, 33<sup>rd</sup> Wind Energy Symposium, AIAA SciTech 2015, January 2015.
17. Gruetzemacher, R., Arabshahi, A., and **Sreenivas, K.**, "Numerical Simulation of Airflow in a CT-based Human Airway Model with Physiologically Appropriate Boundary Conditions," Poster Presentation within the Respiratory Bioengineering Track, Biomedical Engineering Society Annual Meeting, San Antonio, Texas, October 2014.
18. **Sreenivas, K.**, Mittal, A., Hereth, L., Taylor, L.K., and Hilbert, C.B., "High-Fidelity Computational Simulation of the Interaction between Tandem Wind Turbines," 32<sup>nd</sup> AIAA Applied Aerodynamics Conference, June 2014, AIAA Paper 2014-2278
19. Mittal, A., **Sreenivas, K.**, Taylor, L.K., Hereth, L., Hilbert, C.B., and Hyams, D.G., "Investigation of Rotor Models for Wind Turbine Simulations," 32<sup>nd</sup> AIAA Applied Aerodynamics Conference, Atlanta, GA, June 2014, AIAA Paper 2014-2280
20. Gupta, A., **Sreenivas, K.**, and Taylor, L.K., "Preconditioning Methods for Multiphase Flows," 11<sup>th</sup> AIAA/ASME Joint Thermophysics and Heat Transfer Conference, Atlanta, GA, June 2014, AIAA Paper 2014-2824
21. Currier, N., and **Sreenivas, K.**, "A Preconditioned Non-Singular Eigensystem for the Navier-Stokes Equations with Finite-Rate Chemistry," 7<sup>th</sup> AIAA Theoretical Fluids Mechanics Conference, Atlanta, GA, June 2013, AIAA Paper 2014-3084.
22. Mittal, A., **Sreenivas, K.**, and Taylor, L.K., "Exploration of Modal Decomposition Techniques for Wind Turbines," AIAA Paper 2014-1398, SciTech 2014, National Harbor, MD, January 2014.
23. Ahrabi, B.R., **Sreenivas, K.**, and Webster, R.S., "Computational Investigation of Compressible Flow in a Diffusing S-duct," 49<sup>th</sup> AIAA/ASME/SAE/ASEE Joint Propulsion Conference. San Jose, CA, July 2013, AIAA Paper 2013-3601.
24. Flynt, G.A., Webster, R.S., and **Sreenivas, K.**, "Computation of Heat Transfer In Turbine Rotor Blade Cooling Channels with Angled Rib Turbulators," 49<sup>th</sup> AIAA/ASME/SAE/ASEE Joint Propulsion Conference. San Jose, CA, July 2013, AIAA Paper 2013-3621.
25. Lin, W., **Sreenivas, K.**, Webster, R.S., and Hyams, D.G., "Effect of Casing Groove Locations on the Performance of an Axial Flow Stage," 49<sup>th</sup> AIAA/ASME/SAE/ASEE Joint Propulsion Conference. San Jose, CA, July 2013, AIAA Paper 2013-3632.
26. **Sreenivas, K.**, Hilbert, C.B., Mittal, A., Hereth, L., and Taylor, L.K., "High-Fidelity Computational Simulation of the Wake Characteristics of a Model Wind Turbine," 31<sup>st</sup> AIAA Applied Aerodynamics Conference, San Diego, CA, June 2013, AIAA Paper 2013-2416.
27. Taylor, L.K., **Sreenivas, K.**, Webster, R.S., and Kress, J., "An Artificial Compressibility Algorithm for Convective Heat Transfer," 44<sup>th</sup> AIAA Thermophysics Conference. June 2013, San Diego, CA, AIAA Paper 2013-2894.
28. Webster, R., Whitfield, D., Hilbert, B., **Sreenivas, K.**, Hyams, D. and Briley, W., "Demonstration of Sub-system Level Simulations: A Coupled Inlet and Turbofan Stage," AIAA Paper 2012-4282, 48<sup>th</sup> AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Atlanta, GA, 2012.
29. Ghasemi, A., **Sreenivas, K.**, and Taylor, L.K., "Unconditionally Stable High-order Picard Iteration Algorithm for Computational Electromagnetics," IEEE Antennas and Propagation Society International Symposium (APSURSI), 8 - 14 July 2012, Chicago, IL.
30. Lin, W., **Sreenivas, K.**, Webster, R., Hyams, D.G., "Effect of Casing and Tip Modifications on the Performance of an Axial Flow Stage," AIAA Paper 2012-0475, 50th AIAA Aerospace Sciences Meeting, 9 - 12 January 2012, Nashville, TN.
31. Mittal, A., Taylor, L.K., **Sreenivas, K.**, and Arabshahi, A., "Investigation of Two Analytical Wake Models Using Data from Wind Farms," Proceedings of the ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, Co., November 11-17, 2011.

32. Ghasemi, A., and **Sreenivas, K.**, "On the Theory of a Novel High-Order Time-Marching Algorithm Based on Picard Iteration," UTC-CECS-SimCenter-2011-02, September 2011.
33. Hyams, D., **Sreenivas, K.**, Webster, R., Currier, N., "A Generalized, Unstructured Interpolative Interface method for Rotor-Stator Interactions," AIAA-2011-3700, 20<sup>th</sup> AIAA Computational Fluid Dynamics Conference, Honolulu, Hawaii, June 27-30, 2011.
34. Hyams, D.G., **Sreenivas, K.**, Pankajakshan, R., Nichols, III, D.S., Briley, W.R., and Whitfield, D.L., "Computational simulation of model and full scale Class 8 trucks with drag reduction devices," *Computers & Fluids*, Volume 41, Issue 1, February 2011, Pages 27-40.
35. Ji, L., **Sreenivas, K.**, Hyams, D., and Wilson, R., "A Parallel Universal Mesh Deformation Scheme for Hydrodynamic Applications," Proceedings of the 28<sup>th</sup> ONR Symposium on Naval Hydrodynamics, Pasadena, CA, 12-17 Sep. 2010.
36. Hyams, D. G., Webster, R. W., and **Sreenivas, K.**, "A Generalized Interpolative Interface for Parallel Unstructured Flow Solvers," 40<sup>th</sup> Fluid Dynamics Conference and Exhibit, Chicago, Illinois, June, 2010. Paper No. 2010-5097.
37. Hyams, D. G., Webster, R. W., and **Sreenivas, K.**, "A Generalized Axisymmetric Boundary Condition Method for Parallel Unstructured Field Solvers," Proceedings of ASME Gas Turbine Technical Congress and Exposition 2010, Glasgow, UK, June 14-18, 2010. *Paper GT 2010-23414*.
38. Ji, L., Wilson, R., **Sreenivas, K.**, and Hyams, D., "A Parallel Universal Mesh Deformation Scheme," 28<sup>th</sup> AIAA Applied Aerodynamics Conference, June 2010, Chicago, AIAA Paper 2010-4938.
39. Johnson, B. C., Webster, R. S., and **Sreenivas, K.**, "A Numerical Investigation of S-Duct Flows with Boundary-Layer Ingestion," 48<sup>th</sup> AIAA Aerospace Science Meeting, January, 2010, Orlando, Florida, AIAA Paper 2010-841.
40. Webster, R., Hyams, D., **Sreenivas, K.**, "Unstructured Grid Technology Applied to Axial-flow Compressors," AIAA Paper 2010-1605, 48<sup>th</sup> AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition, Orlando, Florida, January, 2010.
41. **Sreenivas, K.**, Mitchell, B., Nichols, D.S., Hyams, D.G., and Whitfield, D.L., "Computational Simulation of the GCM Tractor-Trailer Configuration," *Aerodynamics of Heavy Vehicles II: Trucks, Buses, and Trains*, Lecture Notes in Applied and Computational Mechanics. Springer Berlin/Heidelberg. 2009.
42. Arabshahi, A., Webster, R., **Sreenivas, K.**, Hyams, D.G., and Whitfield, D.L., "Numerical Simulation of Reacting and Non-Reacting Nozzle Flows," AIAA-2009-4858, 45<sup>th</sup> AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Denver Colorado, August 2009.
43. **Sreenivas, K.**, Taylor, Lafayette K., Briley, W. Roger, "Unsteady Flow Simulations for an Aeroonomy-Designed Synthetic-Jet Airfoil," UTC-CECS-SimCenter-2009-02-R, June 2009.
44. Wilson, R., Lei, J., Karman, Jr., S., Hyams, D., **Sreenivas, K.**, Taylor, L., and Whitfield D., 2008, "Simulation of Large Amplitude Ship Motions for Prediction of Fluid-Structure Interaction," Proceedings of the 27<sup>th</sup> ONR Symposium on Naval Hydrodynamics, Seoul, Korea, 5-10 Oct. 2008.
45. Whitfield, D.L., Pankajakshan, R., **Sreenivas, K.**, and Taylor, L.K. "Numerical Derivatives, Matrix-Vector Product, and Richardson Extrapolation Using Complex Variables," UTC-CECS-SimCenter-2008-01, March 2008.
46. Pankajakshan, R., **Sreenivas, K.**, Mitchell, B., and Whitfield, D.L., "CFD Simulations of Class 8 Trucks," SAE 2007-01-4293, SAE 2007 Commercial Vehicle Engineering Congress & Exhibition, October 2007.
47. Wilson, R., Nichols, S., Mitchell, B., Karman, S., Betro, V., Hyams, D., **Sreenivas, K.**, Taylor, L., Briley, R., and Whitfield D., "Simulation of a Surface Combatant with Dynamic Ship Maneuvers," 9<sup>th</sup> Int. Conf. in Num. Ship Hydro., University of Michigan, 5-8 Aug. 2007.
48. Arabshahi, A., **Sreenivas, K.**, Nichols, D.S., Mitchell, B., Taylor, L.K., and Whitfield, D.L., "Computational Analysis of Turbulent Internal Flow in Ballistic Rocket Motors," AIAA Paper 2007-1449, 45<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, Jan. 8-11, 2007.
49. **Sreenivas, K.**, Nichols, D.S., Hyams, D.G., Mitchell, B., Sawyer, S., and Whitfield, D.L., "Computational Simulation of Heavy Trucks," AIAA Paper 2007-1087, 45<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, January 2007.
50. **Sreenivas, K.**, Mitchell, B., Sawyer, S., Karman, S., Nichols, D.S., and Hyams, D.G., "Computational Prediction of Forces and Moments for Transport Aircraft," AIAA Paper 2007-1088, 45<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, Jan. 8-11, 2007.
51. Nichols, D.S., **Sreenivas, K.**, Karman, S., and Mitchell, B., "Turbulence Modeling for Highly Separated Flows," AIAA Paper 2007-1407, 45<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, Jan. 8-11, 2007.
52. Wilson, R.V., Nichols, D.S., Mitchell, B., Karman, S.L., Hyams, D.G., **Sreenivas, K.**, Taylor, L.K., Briley, W.R., and Whitfield, D.L., "Application of an Unstructured Free Surface Flow Solver for High Speed Transom Stern Ships," 26<sup>th</sup> Symposium on Naval Hydrodynamics, Rome, Italy, September. 17-22, 2006.
53. **Sreenivas, K.**, Taylor, L.K., and Briley, W.R., "A Global Preconditioner for Viscous Flow Simulations at All Mach Numbers," AIAA Paper 2006-3852, June 2006.
54. Hyams, D.G., **Sreenivas, K.**, and Whitfield, D.L., "Parallel FAS Multigrid for Arbitrary Mach Number, High Reynolds Number Unstructured Flow Solvers," AIAA Paper 2006-2821, June 2006
55. Nichols, S., Mitchell, B., **Sreenivas, K.**, Taylor, L.K., Whitfield D.L., and Briley, W.R., "Aerosol Propagation in an Urban Environment," AIAA Paper 2006-3726, June 2006.
56. Nichols, D.S., Hyams, D.G., **Sreenivas, K.**, Mitchell, B., Taylor, L.K., and Whitfield, D.L., "An Unstructured

- Incompressible Multi-Phase Solution Algorithm", AIAA Paper 2006-1290, 44<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, January 2006.
57. **Sreenivas, K.**, Pankajakshan, R., Nichols, D.S., Mitchell, B., Taylor, L.K., and Whitfield, D.L., "Aerodynamic Simulation of Heavy Trucks with Rotating Wheels", AIAA Paper 2006-1394, 44<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, January 2006.
  58. McCallen, R., Salari, K., Ortega, J., Castellucci, P., Paschkewitz, J., Eastwood, C., Dechant, L., Hassan, B., Pointer, W. D., Browand, F., Leonard A., Rubel, M., Ross, J., Heineck, J.T., Walker, S., Storms, B., Roy, C., Whitfield, D.L., Pankajakshan, R., Taylor, L., **Sreenivas, K.**, Englar, R., "DOE's Effort to Reduce Truck Aerodynamic Drag through Joint Experiments and Computations Leading to Intelligent Design," SAE International, 2005.
  59. **Sreenivas, K.**, Hyams, D. G., Nichols, D. S., Mitchell, B., Taylor, L. K., Briley, W. R., and Whitfield, D. L., "Development of an Unstructured Parallel Flow Solver for Arbitrary Mach Numbers," AIAA Paper 2005-0325, 43<sup>rd</sup> Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2005.
  60. **Sreenivas, K.**, Cash, A.N., Hyams, D.G., and Taylor, L.K., "Computational Study of Propulsor-Hull Interactions," AIAA Paper 2003-1262, 41<sup>st</sup> Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2003.
  61. Blades, E., **Sreenivas, K.**, and Hyams, D.G., "Arbitrary Overlapping Interfaces for Unsteady Unstructured Parallel Flow Simulations," AIAA Paper 2003-0276, 41<sup>st</sup> Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2003.
  62. Burg, C.O.E., **Sreenivas, K.**, and Hyams, D.G., "Unstructured Nonlinear Free Surface Simulations for the Fully-Appended DTMB Model 5415 Series Hull Including Rotating Propulsors," 24<sup>th</sup> Symposium on Naval Hydrodynamics, Fukaoka, Japan, July 2002.
  63. **Sreenivas, K.**, Hyams, D.G., Mitchell, B., Taylor, L.K., Marcum, D.L., and Whitfield, D.L., "Computation of Vortex-Intensive Incompressible Flow Fields," AIAA Paper 2002-3306, 32<sup>nd</sup> AIAA Fluid Dynamics Conference and Exhibit, St. Louis, MO, June 2002.
  64. Burg, C.O.E., **Sreenivas, K.**, and Hyams, D.G., "Unstructured Nonlinear Free Surface Flow Solutions: Validation and Verification", AIAA Paper 2002-2977, 32<sup>nd</sup> AIAA Fluid Dynamics Conference and Exhibit, St. Louis, MO, June 2002.
  65. **Sreenivas, K.**, Hyams, D.G., Sheng, C., Jayaraman, B., Wang, X., Mitchell, B., Jiang, M.Y., Pankajakshan, R., Taylor, L.K., Gaither, K.P., Gaither, A., Beeland, H., Marcum, D.L., Briley, W.R., and D. L. Whitfield, "Physics-Based Maneuvering Simulations for Tiltrotor Aircraft," MSU Report No. MSSU-COE-ERC-02-06 (NASA-ARC Grant NAG2-1232), April 2002.
  66. **Sreenivas, K.**, Hyams, D. G., Burg, C.O.E., Mitchell, B.J., Sheng, C., Jayaraman, B., Pankajakshan, R., Brewer, W.H., Nichols, D.S., Taylor, L.K., Remotigue, M.G., Wang, X., Jiang, M.Y., Gaither, K.P., Gaither, A., Beeland, H.L., Newman III, J.C., Marcum, D.L., Briley, W.R., and Whitfield, D.L., "Computational Engineering Research Supporting the Analysis and Design of Marine and Aerospace Vehicles," *MSSU-COE-ERC-02-09*, Mississippi State University, May 2002.
  67. Marcum, D., Mitchell, B., **Sreenivas, K.**, and Hyams, D., "Unstructured Grid Generation for Large-Scale CFD Applications," ECCOMAS Computational Fluid Dynamics Conference 2001, University of Wales, Swansea, Wales, UK, September 2001 (**Invited**).
  68. Donatello, D., **Sreenivas, K.**, and Taylor, L.K., "Computations of Unsteady Forces and Moments for SUBOFF Undergoing Prescribed Maneuvers Using U<sup>2</sup>NCLE," MSSU-COE-ERC-01-12, Mississippi State University, October 2001.
  69. Lorenzo, L., **Sreenivas, K.**, Mitchell, B., and Taylor, L.K., "Computation of Forces and Moments for the Airship AKRON and SUBOFF Using U<sup>2</sup>NCLE," MSSU-COE-ERC-01-11, Mississippi State University, October 2001.
  70. Hyams, D.G., **Sreenivas, K.**, Taylor, L.K., and Whitfield, D.L., "Incompressible Unstructured RANS Simulations for a Low Speed Centrifugal Compressor using U<sup>2</sup>NCLE," MSSU-COE-ERC-01-10, Mississippi State University, October 2001.
  71. Marcum, D., Mitchell, B., **Sreenivas, K.**, and Hyams, D., "Unstructured Grid Generation for Large-Scale CFD Applications," 1st MIT Conference on Computational Fluid and Solid Mechanics, Massachusetts Institute of Technology, Cambridge, MA, June 2001 (**Invited**).
  72. **Sreenivas, K.**, Hyams, D., Mitchell, B., Taylor, L., Briley, W. R., and Whitfield, D., "Physics Based Simulations of Reynolds Number Effects in Vortex Intensive Incompressible Flows," NATO/RTO Symposium on Advanced Flow Management, Norway, May 2001.
  73. Hyams, D.G., **Sreenivas, K.**, Sheng, C., Nichols, S., Taylor, L.K., Briley, W.R., and Whitfield, D.L., "An Unstructured Multielement Solution Algorithm for Complex Geometry Hydrodynamic Simulations," 23<sup>rd</sup> Symposium on Naval Hydrodynamics, Val de Reuil, France, September 2000.
  74. Sheng, C., Hyams, D., **Sreenivas, K.**, Gaither, A., Marcum, D., and Whitfield, D., "Three-Dimensional Incompressible Navier-Stokes Flow Computations About Complete Configurations Using a Multiblock Unstructured Grid Approach," MSSU-COE-ERC-00-07, July, 2000.
  75. Hyams, D.G., **Sreenivas, K.**, Sheng, C., Briley, W.R., Marcum, D.L., and Whitfield, D.L., "An Investigation of Parallel Implicit Solution Algorithms for Incompressible Flows on Multielement Unstructured Topologies," Proc., 38<sup>th</sup> Aerospace Sciences Meeting & Exhibit, AIAA Paper 2000-0271, Reno, NV, January 2000.
  76. Sheng, C., Hyams, D., **Sreenivas, K.**, Gaither, J.A., Marcum, D. L., Whitfield, D.L. and Anderson, W.K., "Three-

- Dimensional Incompressible Navier-Stokes Flow Computations About Complete Configurations Using a Multi-Block Unstructured Grid Approach," AIAA 1999-0778, 37<sup>th</sup> AIAA Aerospace Sciences Meeting, Reno, NV, January 1999.
77. Arabshahi, A., Beddhu, M., Briley, W.R., Chen, J.P., Gaither, A., Gaither, K., Janus, J.M., Jiang, M., Marcum, D., McGinley, J., Pankajakshan, R., Remotigue, M., Sheng, C., **Sreenivas, K.**, Taylor, L.K., and Whitfield, D.L., "A Perspective on Naval Hydrodynamic Flow Simulations," 22<sup>nd</sup> Symposium on Naval Hydrodynamics, Washington, D.C., August 9-14, 1998.
78. **Sreenivas, K.** and Whitfield, D.L., "Time-and Frequency-domain Numerical Simulation of Linearized Euler Equations," *AIAA Journal*, Vol. 36, No. 6, June 1998, pp. 968-975.
79. Chen, J. P., Ghosh, A. R., **Sreenivas, K.**, and Whitfield, D. L., "Comparison of Computations Using Navier-Stokes Equations in Rotating and Fixed Coordinates for Flow Through Turbomachinery," AIAA Paper 1997-0878, AIAA 35<sup>th</sup> Aerospace Sciences Meeting and Exhibit, Reno, NV, January, 1997.
80. **Sreenivas, K.**, Whitfield, D.L., and Huff, D.L., "High Resolution Numerical Simulation of the Linearized Euler Equations in Conservation Law Form," AIAA Paper 1993-2934, AIAA 24<sup>th</sup> Fluids Dynamics Conference, Orlando, FL, July, 1993.

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## COURSES TAUGHT

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ENCM 5500 - Practicum in Structured and Unstructured Flow Solver Development  
ENCM 5100 - Computational Fluid Dynamics I

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## GRADUATE STUDENTS ADVISED

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### University of Tennessee at Chattanooga

#### *Major Professor*

Anshul Mittal (PhD; 2015)  
Ashish Gupta (PhD; 2013)  
Jhiin Joo (PhD)  
Walied E. Hassan (MS; 2015)  
Weiyang Lin (MS; 2013)  
Guy Austin Flynt (MS; 2013)  
Adam Lee Cofer (MS; 2013)  
Arash Ghasemi (MS; 2013)  
Shane Edmund Sawyer (MS; 2012)  
Jamasp Azarnoosh (MS)

#### *Committee Member*

Nicholas Currier (PhD; 2014)  
Srijith Rajamohan (PhD; 2014)  
Erwin Taylor (PhD; 2013)  
Chao Liu (PhD)  
Arash Ghasemi (PhD)  
Weiyang Lin (PhD)  
Ethan Hereth (PhD)  
Max David Callao (PhD)  
Tony McDaniel (MS; 2014)  
Mary A. Barker (MS; 2015)  
Richard R. Gruetzemacher III (MS; 2014)  
Brent Mitchell (MS; 2007)

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### Mississippi State University

#### *Major Professor*

Vishwas Shringi (MS; 2001)  
Bhanu Bandaru (MS; 2004)

#### *Committee Member*

Dudley Stephen Nichols (PhD; 2002)  
Sunil S. Nandihalli (MS; 2004)  
Kishore Satya Majety (MS; 2003)  
Vasanth Kumar Murali (MS; 2002)  
Ravishankar Balasubramanian (MS; 2002)

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## DISSERTATION/THESIS

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### **Linearized Euler Analysis of Turbomachinery**, PhD Dissertation

Major Professor: David L. Whitfield, Mississippi State University, Mississippi State, MS

### **High Resolution Numerical Simulation of the Linearized Euler Equations in Conservation Law Form**, MS Thesis

Major Professor: David L. Whitfield, Mississippi State University, Mississippi State, MS