

EDUCATION

Doctor of Philosophy in Aeronautics and Astronautics	May 2011
Purdue University, Major: Aerodynamics, GPA: 3.82/4.0	West Lafayette, IN
Master of Science in Aeronautics and Astronautics	May 2008
Specialization: Computational Science and Engineering, GPA: 3.86/4.0	West Lafayette, IN
Bachelor of Technology in Aerospace Engineering	June 2006
Indian Institute of Technology Madras, Minor: Material Science, GPA: 8.49/10.0	Chennai, India

RESEARCH INTERESTS Fluid Dynamics, Numerical Methods, Heat transfer, Parallel Computing, MEMS

RESEARCH EXPERIENCE

Research Assistant, Purdue University, School of AAE June 07 – Current
Developed a 2D parallel solver using a discrete ordinate method on the Boltzmann model equations (BGK and ESBGK) using third order WENO flux scheme. I am working on an ESBGK/Navier Stokes hybrid solver as part of NNSA Center for Prediction of Reliability, Integrity and Survivability of Microsystems (PRISM) project at Purdue .

Department of Aerospace Engineering, IIT Madras Aug.05 – May 06
Experimentally investigated the structure of a low density free jet by glow discharge visualization and compared the normal pressure with the results from DS2V, a visual DSMC software.

CONFERENCES AND PUBLICATIONS

- "Non-Equilibrium Flow Modeling Using High-Order Schemes for the Boltzmann Model Equations", S.Chigullapalli, V.Ayyaswamy, A.Alexeenko and M.S.Ivanov, AIAA Paper 2008-3929, 40th Thermophysics Conference, Seattle, Washington, June 2008
- "Modeling of Viscous of Viscous Shock Tube Using ES-BGK Model Kinetic Equations", S.Chigullapalli, V.Ayyaswamy and A.Alexeenko, AIAA Paper 2009-1317, 47th AIAA Aerospace Sciences Meeting and Aerospace Exposition, Orlando, Florida, Jan 2009
- "Investigations on simulating winter inversions causing poor air quality in Fairbanks, Alaska", Nicole Mölders, S. Chigullapalli and G. Kramm, 11th Conference on Atmospheric Chemistry, Jan 2009

AWARDS AND HONORS

- JEOM Summer Intern Fellow 2008, Arctic Region Supercomputing Center, UAF, Alaska.
- Young Engineers Fellowship Program 2005, Indian Institute of Science, Bagalore, India.
- Got selected for the Indian National Mathematics Olympiad 2002, Second place in State.

RELEVANT COURSES

Aerodynamics: Introduction to Fluid Mechanics, Computational Fluid Dynamics, Computational Aerodynamics, Molecular Gas Dynamics, Turbulent Flows and Their Prediction, Laminar- turbulence transition.

CS&E: Introduction to Computational Science, High Performance Computing and Grid Computing, Numerical Methods in Mechanical Engineering.

Design: Aircraft Design, Design Project, Detailed Design and Manufacture, Finite Element Analysis, Matrix Methods in Structural Analysis, Multidisciplinary Design Optimization

Nano systems: Computational methods for Nanoscale Thermal Transport.

PROGRAMMING SKILLS

Languages: C, C++, Fortran, Python, Matlab, MPI & Open MP
Software: Mathematica, Fluent, Gambit, Gridgen, Autocad, Tecplot, DS2V, Latex, Paraview

EXTRA CURRICULAR

- Vice-President of CompSEM, a student chapter of SIAM at Purdue Aug 08 – Current
- Represented College in vocal music competitions 2004-2006