

Brief Biographical Sketch

Associate Professor Krishnan Mahesh:

Associate Professor Krishnan Mahesh joined the Department of Aerospace Engineering and Mechanics at the University of Minnesota in 2000 as an Assistant Professor. He received his Ph.D. and M.S. from Stanford University in 1996 and 1990, respectively, and his B.Tech from the Indian Institute of Technology in Mumbai, India in 1989. In 2003, Dr. Mahesh received the McKnight Land-Grant Professorship; this professorship is awarded to the University's most promising junior faculty members.

Dr. Mahesh's group is involved in the computation, analysis, and modeling of turbulent flows. The overall focus is on fundamental advances in numerical algorithms, and understanding of flow physics that allow the prediction of engineering turbulent flows. Traditionally high-fidelity simulation methods like direct numerical and large-eddy simulation have been restricted to fairly simple geometries. Dr. Mahesh's research is developing numerical methods and turbulence models that are flexible enough to handle engineering geometries without compromising the accuracy needed to simulate turbulence. Most the group's simulations use unstructured grids on massively parallel computing platforms. Professor Mahesh conducts research into applications ranging from incompressible propeller flows to supersonic shock/turbulence interaction, reacting multiphase flows in combustors, and flows involving plasmas.

Professor Mahesh has received several awards and fellowships in addition to the McKnight Land-Grant Professorship, including the McKnight Presidential Fellowship Award and the Guillermo Borja Award, both from the University in 2005; the CAREER Award in 2002 from the National Science Foundation; the Francois N Frenkiel Award in 1997 from the American Physical Society; and the Institute Silver Medal in 1989 from the Indian Institute of Technology.