

Jingshu Wu

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Objective

Seeking a full time R&D or engineering position in the field of fluid mechanics in which my experience and knowledge will have valuable application.

Education

- **Ph. D** in Mechanical Engineering, expect in Dec. 2008
Georgia Institute of Technology, Atlanta, GA
- **M.S.** in Aerospace Engineering, Dec. 2004. GPA 3.54/4.0
Georgia Institute of Technology, Atlanta, GA
- **M.S.** in Jet Propulsion Engineering, Jul. 2002. GPA 3.8/4.0
Beijing University of Aeronautics and Astronautics (BUAA), Beijing, China
- **B.S.** in Jet Propulsion Engineering, Jul. 2000. GPA 3.71/4.0
Beijing University of Aeronautics and Astronautics, Beijing, China

Research Experience

Graduate Research Assistant

School of Mechanical Engineering, Georgia Institute of Technology Aug. 2004 – present

- Working on project involving lattice Boltzmann method (**LBM**), lattice spring method (**LSM**). Advisor is Professor Cyrus K. Aidun.
- Developed a **new method** to couple the lattice Boltzmann and lattice spring method, wrote and debugged the code. This method can be used to directly simulate fluids with large numbers of deformable suspensions, including **porous medium, fiber, whole blood flow and biotransport**.
- Software skills: Fortran, C/C++, MATLAB, Gridgen, FLUENT, ANSYS, TECPLOT, FieldView, AutoCAD, MS-Office

Graduate Research Assistant

School of Aerospace Engineering, Georgia Institute of Technology Aug. 2002 – Jul. 2004

- Worked on project involving **CFD, Grid generation**. Advisor is Professor Lakshmi Sankar.
- Generated a body-fitted C-grid and assisted in the development of a Reynolds Averaged Navier-Stokes (**RANS**) solver to calculate the modification of aerodynamic characteristics of axisymmetric nacelles with the use of tangential Coanda jets. The results were in a good agreement with the experimental data from GTRI.
- Modified the grid topology and the main program of TURNS to capture the tip vortex of the **helicopter blade**, using 3D interpolation and weight function to redistribute the grid, refine the grid near the vortex and reasonably align it with the tip vortex centerline to predict the tip vortex. Developed a self-adapting algorithm for the grid modification. Investigated the fluid-structure interaction.

Graduate Research Assistant

Beijing University of Aeronautics and Astronautics, Beijing, China Aug. 2000 - Jul. 2002

- Worked on project involving Aerodynamics, **Aeroacoustics** and **experiments**
- Developed a program based on the **discrete vortex model** to solve an unsteady flow field and get the acoustic behavior of orifices with different shapes and thicknesses.
- Based on the two-microphone method, designed the experimental equipment to measure the acoustic impedance of a perforated plate subjected to grazing flow. The experimental results were in a good agreement with the computational results.
- **Network Administrator and Lab Technician**

Relevant Coursework

- **Graduate Courses** in *Georgia Institute of Technology, Aug. 2002 - present*
Unsteady aerodynamics, high speed flows, viscous flows, turbulent flows, helicopter aerodynamics, helicopter stability & control, Thermodynamics, Aeroacoustics (audit).
- **Graduate Courses** in *BUAA, Aug. 2000 - Jul. 2002*
Advanced fluid dynamics, computational fluid dynamics, viscous fluid mechanics, physical acoustics, aerodynamic acoustics, turbo machinery design and unsteady flows, differential equations in physics, methods of numerical analysis.

Publications

- X. Jing, X. Sun, **Jingshu Wu**, K. Meng, “The effect of grazing flow on the acoustic behavior of orifices” *AIAA Journal*, Vol. 39, No. 8, Aug. 2001 pp. 1478-1484
- **Jingshu Wu**, Lakshmi N. Sankar, S. Kondor, “Numerical Modeling of Coanda Jet Controlled Nacelle Configurations” *AIAA 2004-0228*, Reno
- **Jingshu Wu**, Cyrus K. Aidun, “The Immersed Grid-Lattice Boltzmann method to solve fluid-particle interaction problems”, (in press).
- **Jingshu Wu**, Cyrus K. Aidun, “A new Immersed Grid method to couple the lattice Boltzmann method and lattice spring method for computing fluid with deformable particles”, (in press).
- **Jingshu Wu**, Cyrus K. Aidun, “Direct simulation of flexible fibers by lattice Boltzmann-lattice spring method”, (in press).

Extracurricular Activities

- **President** of Georgia Tech Badminton Club (2007-)
- **President** of BUAA Aero-engine association (1998-2000).
- Member of Georgia Tech Chinese Friendship Association (2002-)
- Member of American Physical Society (2005-)

References are available upon request