

Postdoc in computational fluid-structure interaction at  
Vanderbilt University  
Vanderbilt University

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Posted Apr. 4, 2025, set to expire Aug. 4, 2025

**Job Title** Postdoc in computational fluid-structure interaction at  
Vanderbilt University

**Department** Mechanical Engineering, Biomedical Engineering, or  
computer science  
<https://engineering.vanderbilt.edu/departments/mechanical-engineering/>

**Institution** Vanderbilt University  
Nashville, Tennessee

**Date Posted** Apr. 4, 2025

**Application Deadline** Open until filled

**Position Start Date** Available Immediately

**Job Categories** Post-Doc

**Academic Field(s)** Structural Engineering  
Mechanical Engineering  
Computer Science  
Bioengineering (all Bio-related fields)  
Engineering - Other

**Job Website** <https://www.vanderbilt.edu/postdoc/prospective-postdocs/current-opportunities/>

**Apply By Email** [haoxiang.luo@Vanderbilt.Edu](mailto:haoxiang.luo@Vanderbilt.Edu)

**Job Description**

Postdoc in computational fluid-structure interaction at Vanderbilt University  
The Computational Flow Physics and Engineering (CFPE) lab under the supervision of Dr. Haoxiang Luo (<https://my.vanderbilt.edu/haoxiang/>) is seeking a post-doctoral scholar on

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computational modeling of fluid-structure interaction (FSI). The position is open for immediate hire. We are looking for a highly motivated candidate with expertise in developing high-fidelity and efficient numerical FSI solvers and parallel computing algorithms. To qualify for the position, the candidate should have:

- A recent Ph.D. in Mechanical Engineering or Aerospace Engineering or related fields
- Strong experience in numerical methods, programming, and CFD code development
- Strong experience in parallel computing and algorithm development

Additionally, the successful candidate should preferably have

- Sufficient knowledge of finite-element methods and solid mechanics
- Experience in developing large-eddy simulation (LES) code
- Experience in immersed-boundary method and FSI modeling
- Strong verbal and written communication skills

The initial appointment will be for one year, with the possibility of renewal based on satisfactory performance. The expectation is for the successful candidate to remain for a minimum of 2 years.

Institutional Information: Vanderbilt University is a private, internationally recognized research university located in Nashville, Tennessee, which has a metro population of 1.9 million people.

The School of Engineering is located adjacent to the Vanderbilt University Medical Center, creating a rich environment for interdisciplinary and translational research.

To Apply: Please provide (1) a cover letter (<2 pages) summarizing your research interests and relevant background, (2) a full CV, (3) contact information for 3 references. Please direct emails and inquiries to Prof. Haoxiang Luo ([haoxiang.luo@vanderbilt.edu](mailto:haoxiang.luo@vanderbilt.edu)). Applicants will be reviewed on a rolling basis until the position is filled.

**EEO/AA Policy**

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Vanderbilt University is committed to the principle of equal opportunity. Vanderbilt does not discriminate against individuals on the basis of their race, sex, sexual orientation, gender identity, religion, color, national or ethnic origin, age, disability, military service, or genetic information in employment. Please note, all candidates selected for an offer of employment are subject to pre-employment background checks, which may include but are not limited to, based on the role for which they have been selected: criminal history, education verification, social media review, motor vehicle records, credit history, and professional license verification.

### Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

**Contact** Haoxiang Luo  
Mechanical Engineering  
Vanderbilt University  
2400 Highland Ave  
Nashville, TN 37203

**Phone Number** (615)322-2079

**Contact E-mail** haoxiang.luo@vanderbilt.edu