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Downloaded On: Oct. 30, 2025 12:45pm Posted Aug. 14, 2025, set to expire Dec. 14, 2025

Job Title Graduate Research Assistant (PhD

Position/Postdoc) - US Citizen

Department Mechanical Engineering

Institution Cleveland State University

Cleveland, Ohio

Date Posted Aug. 14, 2025

Application Deadline Open until filled **Position Start Date** Nov. 1, 2025

Job Categories Graduate Student

Post-Doc

Research Scientist/Associate

Academic Field(s) Mechanical Engineering

Engineering Physics

Civil Engineering

Aerospace/Aeronautical/Astronautics

Engineering - Other

Apply By Email

Job Description

The Multiscale Multiphysics Modeling and Data-Driven Analysis of Thermofluids (M3TFluiD) Lab at Cleveland State University is seeking a highly motivated Research Assistant or Research Associate (postdoctoral) to support a multi-year, federally funded, multidisciplinary project in the area of high-temperature thermal analysis and computational fluid dynamics (CFD). The successful candidate (U.S. Citizen only) will contribute to numerical modeling and simulation of advanced thermal systems relevant to next-generation aerospace applications.



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Key Responsibilities:

- Develop simplified 2D/quasi-3D computational domains for thermal simulations of coated composites.
- Perform CFD simulations using ANSYS Fluent (or comparable tools) to evaluate conduction, convection, and radiative heat transfer behavior under extreme thermal conditions.
- Map temperature-dependent thermophysical properties and define relevant boundary conditions representative of high-temperature environments.
- Conduct parametric analyses to assess sensitivity to coating thickness, heat flux, and exposure time using a design-of-experiments (DOE) approach.
- Collaborate with experimental teams to compare simulation results with test data and refine modeling assumptions.
- Generate reports, figures, and documentation supporting proposal submissions and final project deliverables.

Preferred Qualifications:

M.S. or Ph.D. (or currently pursuing) in Mechanical Engineering, Aerospace Engineering, or related field.



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Experience with CFD tools such as ANSYS Fluent or OpenFOAM.

- Familiarity with high-temperature materials or coatings is a plus.
- Strong background in heat transfer, especially conduction and radiation modeling.
- Prior experience with mesh generation, boundary condition formulation, and HPC simulations is desirable.
- This positiondoes not accept international researchers or permanent resident cardholders.

Duration:

This is an 18-month, grant-funded position with potential for extension depending on project outcomes and funding.

Application Materials:

- CV (2 pages max)
- Cover letter (1 page; research interests, qualifications)
- Unofficial transcripts, sample publications, and relevant certifications
- Please send application materials to Dr. Navid Goudarzi (n.goudarzi@csuohio.edu)

Contact Information



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

Contact Dr. Navid Goudarzi

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