

Graduate Research Assistant (PhD Position/Postdoc)
Cleveland State University

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Posted Aug. 14, 2025, set to expire Dec. 14, 2025

Job Title	Graduate Research Assistant (PhD Position/Postdoc)
Department	Mechanical Engineering
Institution	Cleveland State University Cleveland, Ohio
Date Posted	Aug. 14, 2025
Application Deadline	Dec. 31, 2025
Position Start Date	Oct. 1, 2025
Job Categories	Research Scientist/Associate Post-Doc Graduate Student
Academic Field(s)	Mechanical Engineering Aerospace/Aeronautical/Astronautics
Apply By Email	n.goudarzi@csuohio.edu

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 or Permanent Resident only**) will contribute to numerical modeling and simulation of advanced thermal systems relevant to next-generation aerospace applications.

Key Responsibilities:

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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.
- Experience with CFD tools such as ANSYS Fluent or OpenFOAM.
- Familiarity with high-temperature materials or coatings is a plus.
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Strong background in heat transfer, especially conduction and radiation modeling.

- Prior experience with mesh generation, boundary condition formulation, and HPC simulations is desirable.
- This position **does not** accept international researchers.

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

Contact Information

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

Contact Dr. Navid Goudarzi
Mechanical Engineering
Cleveland State University
1960 East 24th Street
Fenn Hall 245

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