Postdoctoral Researcher: Multifunctional Materials Modeling and Experimental Characterization FAMU-FSU College of Engineering

Job Title	Postdoctoral Researcher: Multifunctional Materials Modeling and Experimental Characterization
Department	Florida Center for Advanced Aero-Propulsion (FCAAP) https://fcaap.fsu.edu/aeromorph/
Institution	FAMU-FSU College of Engineering Tallahassee, Florida
Date Posted	Apr. 7, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering Material/Metallurgy Aerospace/Aeronautical/Astronautics
Apply By Email	

Job Description

Postdoctoral Research Associate Post Doctorate Research Opportunity Multifunctional Materials Modeling and Experimental Characterization

Florida Center for Advanced Aero-Propulsion (FCAAP) Florida A&M—Florida State University (FAMU-FSU) College of Engineering Department of Mechanical Engineering Tallahassee, FL 32310

A post doctorate research opportunity is currently available in the Mechanical Engineering Department and the Florida Center for Advanced Aero Propulsion (FCAAP) at the joint FAMU-FSU College of Engineering. The researcher will work within an interdisciplinary group at FAMU-FSU and the University of Florida through a Center of Excellence on Sense, Assess, Respond for high speed

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aircraft.

The research is focused on the application of information theory and applied mechanics to understand dynamical complexity in multifunctional materials and adaptive structures interacting with high speed fluid flow. It includes applying relationships between multifractal spatial and temporal structure with properties in physical reservoir computers that interact with fluid dynamics. It builds upon applications of the fractal structure of nature to design novel structural and functional materials. The mathematical properties of multifractal spectra are known to exhibit adaptive characteristics leading to novel properties in biological systems. Recent work has shown this metrics are useful for designing high performance physical reservoir computing for aerospace applications. This research will provide many opportunities to advance our understanding of designing novel materials and hierarchical structures with properties tuned by spatial and temporal coupling across scales. This will include experimental validation against various smart materials and 3D printed materials on the bench and in wind tunnel tests.

The position requires a PhD in engineering, applied mathematics or materials science with a background in solid mechanics. The position provides a competitive package, commensurate with experience, and is renewable after the first year. The researcher will be embedded in a highly interdisciplinary group that includes researchers working in materials, energy, aerospace, and robotics; see https://fcaap.fsu.edu/aeromorph/ for details. Interested applicants should contact Prof. Oates at woates@eng.famu.fsu.edu.

Contact Information

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

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