Postdoctoral Fellow in Numerical Modeling of Aerospace Propulsion Systems
University of Connecticut

Job Title	Postdoctoral Fellow in Numerical Modeling of Aerospace Propulsion Systems
Department	School of Mechanical, Aerospace and Manufacturing Engineering
	https://me.engr.uconn.edu/blog/faculty/poludnenko-alexei/
Institution	University of Connecticut
	Storrs, Connecticut
Date Posted	Feb. 6, 2024
Application Deadline	Open until filled
Position Start Date	Jul. 1, 2024
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering
	Aerospace/Aeronautical/Astronautics
Apply By Email	
Job Description	

Postdoctoral Fellow in Numerical Modeling of Aerospace Propulsion Systems

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School of Mechanical, Aerospace and Manufacturing Engineering

Center for Clean Energy Engineering

There is an immediate opening for **a postdoctoral fellow position** in the School of Mechanical, Aerospace and Manufacturing Engineering / Center of Clean Energy Engineering (C2E2) at the

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The selected candidate will join efforts with the group of Prof. Alexei Poludnenko in pursuing leading edge research in numerical modeling of turbulence and high-speed, reacting and non-reacting flows for aerospace systems. Research will involve all aspects of modern scientific high-performance computing including development and implementation of novel numerical methods, design and execution of large-scale, massively parallel simulations, and theoretical analysis of the obtained datasets. The selected candidate will join, and will be encouraged to collaborate with, a vibrant and growing community of researchers at the University of Connecticut in the fields of theoretical and experimental combustion, propulsion, and aerodynamics.

Required qualifications:

PhD in aerospace or mechanical engineering, or a related area.

- Experience with numerical methods for computational fluid dynamics (CFD).
- Experience with high-performance computing and parallel algorithms for CFD.
- Experience in theoretical and numerical combustion modeling in the context of either direct numerical simulations (DNS) or large-eddy simulations (LES).
- Evidence of research achievements in relevant technical areas as demonstrated in the form of technical publications, presentations, and/or software tools.

Desired qualifications:

- Understanding of detonations and supersonic/high-speed reacting flows.
- Experience with finite-volume methods for compressible flows on massively parallel architectures.
- Understanding of the novel accelerator hardware, such as GPUs, in the context of CFD.
- Experience with computational methods for embedded boundaries, liquid spray modeling, and complex reaction kinetics.
- Strong proficiency with C/C++ and/or Fortran.
- Excellent communication and writing skills.

Application package must include:

1. Cover letter with the statement of previous research experience and future research interests.
2. Curriculum vitae.
3. Names and contact information of three references.

Position duration can be up to three years, depending on the performance and the availability of

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funding. Base salary is $56,484 with the possibility of an increase depending on the candidate's years of experience and qualifications. Position is full-time and is eligible for benefits. The review of applications is ongoing and will continue until the position is filled.

Application materials, as well as any relevant inquiries, must be directed to Prof. Alexei Poludnenko at:alexei.poludnenko@uconn.edu

EEO/AA Policy

The University of Connecticut is an equal employment opportunity/affirmative action employer.

Contact Information

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

Contact	Prof. Alexei Poludnenko
	School of Mechanical, Aerospace and Manufacturing Engineering
	University of Connecticut
	Storrs, CT 06269
Contact E-mail	alexei.poludnenko@uconn.edu