



INDIAN INSTITUTE OF TECHNOLOGY GANDHINAGAR

Research & Development Office

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Applications are invited for a temporary position of **Post-Doctoral Fellow** at IIT Gandhinagar.
The details are as below:

Name of PI	Prof. Shubhangi Bansude	Department	Mechanical Engineering
Project title	Physics-guided machine learning for turbulent combustion		
Designation	Post-Doctoral Fellow		
Number of positions	01		
Application Link	http://recruitment.iitgn.ac.in/projectstaff/		
Last date of application submission	4th October 2026		
Consolidated Monthly Remuneration	₹72,000/- to ₹84,000/- per month		
Duration of appointment	1 year		
Eligibility Norms ¹	☒ Institute norms	☐ Funding Agency norms	
Essential Qualification/Experience as per the norms	PhD in Mechanical/Aerospace/Chemical or any other relevant department from a recognized university/institute, with experience in machine learning and CFD. Candidates who have submitted their thesis may also apply. Applicants must have secured a minimum of 60% marks (or equivalent grade) from the undergraduate level onwards, and at least 55% marks (or equivalent grade) in both Class 10 and 12.		
Desirable Qualification/Experience	• Strong CFD background and experience with CFD tools, OpenFOAM proficiency preferred • Good understanding of fluid mechanics, turbulence, and combustion • Experience with high-performance computing (HPC) • Proficient in basic machine-learning model development • Expertise in at least one programming language and proficiency in Python • Good communication skills		
Job Description	At the Computational Combustion and ML (CCML) Lab , we are seeking a postdoctoral researcher to work on fundamental problems in turbulent combustion modeling, with a focus on flamelet-based combustion models for Large-eddy Simulation (LES), and physics-guided machine learning. The research will involve developing and implementing flamelet-based models for turbulent flames in OpenFOAM, performing DNS/LES of canonical reacting flows to generate and analyze high-fidelity datasets, and developing machine-learning closures for subgrid-scale turbulence–chemistry interaction. Particular emphasis will be placed on physics-guided neural networks and mixture-of-experts architectures that incorporate relevant physical constraints, combustion dynamics, and flow information. The developed models will be coupled with		



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	CFD solvers and evaluated a posteriori for accuracy, robustness, numerical stability, and generalizability across different reacting-flow conditions. Additionally, you will co-mentor graduate and undergraduate students at the lab. Success in this fast-changing, growth-focused environment requires a strong willingness to learn, the ability to adapt, and the confidence to work independently while also collaborating with the principal investigator and the research team. Opportunities to engage in teaching activities are also encouraged for those wishing to enrich their portfolios. Application Procedure: Applicants can apply at http://recruitment.iitgn.ac.in/projectstaff/. Please make sure to fill in all details and submit the necessary documents. Incomplete applications won't be considered.
Contact	For queries, Please Contact Prof. Shubhangi Bansude shubhangi.bansude@iitgn.ac.in

"Merely meeting the minimum eligibility criteria will not guarantee the shortlisting and/or appointment. A higher cutoff level may be used. The Institute reserves all rights not to call an applicant for a selection test or not to fill up a position through this round of the selection process without assigning any reason."