

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE  
(Name of Dept./Centre)

Dated: 02 Sep 2024

**ADVERTISEMENT TO FILL UP PROJECT POSITIONS\***

Applications are invited from Indian nationals only for project positions as per the details given below for the research project under the Principal investigator (Name: **Dr. Nikhil Kumar Singh**) Dept. of **Mechanical and Industrial Engineering**, Indian Institute of Technology, Roorkee and co-principal investigator **Dr. Ankit Bansal** (MIED).

1. Title of project: Development of two-phase detonation numerical code for underwater blasts
2. Sponsor of the project: Naval Science and Technological Laboratory, DRDO
3. Project position(s) and number: **Junior Research Fellow (01), Project Fellow (01)**
4. Qualifications: **JRF**: M.Tech./M.S./M.E. in Mechanical/Thermal/Chemical Engg./Fluid Mechanics/ CFD/ FEM/Equivalent with GATE score (Candidates with B.Tech./M.Tech. from IITs and CGPA > 8 are exempted from GATE as per Institute rules)

**Project Fellow**: Ph.D. degree in Mechanical/Applied Mechanics/Chemical Engg. with background in CFD/FEM/computational mechanics

Desirable: Experience with OpenFOAM and code development is highly desirable; experience with FEM/structural solver/FSI libraries and two-phase flow/cavitation is also desirable

5. Emoluments: **JRF**: Rs. 37,000 per month (consolidated); **Project Fellow**: Rs. 70,000 per month (consolidated)
6. Duration: 33 months
7. Job description:
  - 7.1 To work on developing mathematical models and hydrocode (within OpenFOAM framework) involving thermo-chemical effects, two-phase flow and gas dynamics.
  - 7.2 Develop bubble dynamics and cavitation modelling capabilities in the code.
  - 7.3 To interface the hydrocode with structural solver within open-source framework (solidFOAM/others) through FSI libraries, assess target loading and deformation.

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1. Candidates before appearing for the interview shall ensure that they are eligible for the position they intend to apply.
2. Candidates desiring to appear for the Interview should submit their applications with the following documents to the office of Principal Investigator through email or by post as a single PDF file in the following order:
  - Application in plain paper with detailed CV including chronological discipline of degree/certificates obtained.
  - Experience including research, industrial field and others.
  - Attested copies of degree/certificate and experience certificate.
3. Candidate shall bring along with them the original degree(s)/certificate(s) and experience certificate(s) at the time of interview for verification.
4. Preference will be given to SC/ST candidates on equal qualifications and experience.
5. Please note that no TA/DA is admissible for attending the interview.
6. **Note**: The selected candidate (JRF) may get an opportunity for PhD admission subject to institute rules.

The last date for application to be submitted to the Principal Investigator (by e-mail) is **18/Sep/2024** by **5 PM**. The interview shall be held **online**. Shortlisted candidates will be informed through email of the interview date and time.

Tel: 0133228 4963 (O)  
9868973864 (M)

Email: [nikhil.singh@me.iitr.ac.in](mailto:nikhil.singh@me.iitr.ac.in)

(Nikhil Kumar Singh)  
Name and signature  
of Principal Investigator

*Nikhil*  
02/09/2024

\*To be uploaded on IIT Roorkee website and copy may be sent to appropriate addresses by PI for wider circulation.

*Approved*  
*Abhishek*  
4/9/24  
डीन (सिक)/(Dean SRIC)  
भा. पौ. सं. रुड़की/IIT Roorkee  
*Arun*  
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*318104*  
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