SRIC/06

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
(Department of Mechanical and Industrial Engineering)

Dated: 24/02/2023

ADVERTISEMENT TO FILL UP PROJECT POSITIONS*

Applications are invited from Indian nationals only for project position(s) as per the details given below for the consultancy/research project(s) under the Principal investigator (Name: Prof. Bhupendra Kumar Gandhi), Dept. Mechanical & Industrial Engineering, Indian Institute of Technology, Roorkee**.**

1. **Title of project: Experimental and numerical analysis for development of an erosion friendly Francis turbine**
2. **Sponsor of the project:** Council for Scientific and Industrial Research (CSIR)
3. **Project position(s) and number: Senior Research Fellow (SRF)/ Junior Research Fellow (JRF)/, 01 (one)**
4. **Qualifications:**
   B. Tech. in Mechanical Engineering/Production Engineering and M. Tech. degree in Mechanical Engineering Fluid / Thermal Engineering/Turbomachinery/Applied Mechanics. **Candidates must have qualified GATE exam.**
   (a) For SRF, Candidates should have minimum 2 years' experience.
   (b) **For JRF, Candidate awaiting results for 4th semester of Master's program is also eligible to apply. Candidates must have qualified GATE exam.**
   The upper age limit for applying for the award of JRF shall be 28 years and SRF shall be 32 years, which is relaxed upto 5 yr in the case of candidates belonging to Schedule Castes/Schedule Tribes/OBC, Physically Handicapped/Visually Handicapped and female applicants.
   The candidates with exposure and interest in Hydrodynamic machines, Fluid mechanics, modeling and simulation, Numerical simulations, Erosion wear, Ansys CFX and design programing software like PRO-E, CATIA will be given preference.
5. **Emoluments:** Rs. 35,000 per month for SRF and Rs. 31,000 per month for JRF + HRA as applicable
6. **Duration:** 1.25 years
7. **Job description:** The project aims to evaluate the sediment erosion wear of Francis turbine at different operating conditions by measurement of thickness loss through 3D digitization to identify the wear prone zones of the turbine runner. It also requires to numerically analyse for the flow field of the Francis turbine for water performance and two-phase flow using a commercial CFD code. The outcome of the project is to suggest design modification of Francis turbine for better sediment resistive property.
8. Candidates before appearing for the interview shall ensure that they are eligible for the position they intend to apply.
9. Candidates desiring to appear for the interview should submit their applications with the following documents to the office of Principal Investigator through **email only** as a **single pdf file in the following order (failing to which application will not be considered for shortlisting procedure)**.
   - Application with detailed CV including chronological discipline of degree/certificates obtained.
   - Copy of **Gate Score Card** and Attested copies of degree/certificate, mark sheets and relevant experience certificate (research and industrial field).
10. Candidate shall bring along with them the original degree(s)/certificate(s) and other related document(s) at the time of interview/joining for verification.
11. Preference will be given to SC/ST candidates on equal qualifications and experience.
12. Please note that no TA/DA is admissible for attending the interview.

The last date for the submission of the application by email to principal investigator is **10th March 2023, 11 AM**.

The interview will be held at 11.00 am on 17th March 2023 in the committee room of the department of Mechanical and Industrial Engineering.

Reporting Time for Interview: 10:30 AM, 17th March 2023.

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Name and signature of Principal Investigator

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