



Advt. No.: IITJMU/R&C/RP00104/A-07

Dated: 21/04/2022

### **Advertisement for the Position of JRF**

Applications are invited from the interested candidates for the post of **Junior Research Fellow (JRF)** to work on the project titled “**Energy generation at sub-freezing temperatures through microfluidics**” sanctioned by Science and Engineering Research Board (SERB), India.

No. of Positions	Position	Area of Specialization	Duration	Consolidated Salary per Month	Number of Positions
1	Junior Research Fellow	Knowledge in energy storage materials and battery characterization.	01 year (Extendable up to 3 years)	Rs. 31000/- (Per month plus HRA as per GoI norms)	01

#### **\*Minimum Qualification:**

- Essential Qualification:
  1. M. Tech in Chemical Engineering/ Material Engineering/Energy Technology or equivalent with at least 60% marks in aggregate from a recognized technical institute/university as a full-time program.
  2. Preference may be given to the candidate having appropriate knowledge of experiment/simulation work in the domain and scientific writing.
- Upper age limit: 30 years

#### **Brief Objective of Project:**

The primary objective of this proposal is to develop a microfluidic battery capable to function at sub-freezing temperature conditions. The battery would be fabricated using Ni/C nanocomposite as anode and Carbon as cathode material. The electrochemical performance of this material will be investigated by using it in Nickel-Carbon microfluidic battery in sub-freezing conditions (below 0 °C).

The following specific objectives will be addressed through this proposal:

- I. To synthesize and characterize Ni@Paper as negative electrode (cathode).
- II. To fabricate the positive electrode using carbon@Paper and conduct electrochemical performance determination at low temperature.
- III. To develop of ~ 1 Watt prototype microfluidic battery appropriate to function at sub-freezing conditions using the synthesized Ni@Paper anode and C@Paper cathode and investigate its overall electrochemical performance. The battery would be manufactured at the commercial standards in collaboration with industry.

### **Application Process:**

Duly filled application form along with the requested details, scanned copies of certificates, other supporting documents, should be uploaded through the online portal (<https://apply.iitjammu.ac.in/#/home>) latest by 30<sup>th</sup> April, 2022. Please apply through the [contract/project staff/JRF/SRF] tab on the referred application portal. Candidates who are already employed should produce a relieving certificate from their employers if selected. The interview will be conducted for all shortlisted candidates.

### **Attention:**

1. The applicant will be responsible for the authenticity of the information, other documents, and photographs submitted.
2. Merely possessing the prescribed qualification does not ensure that the candidate would be called for an Interview. The candidates may be shortlisted based on merit and need for the project.
3. Shortlisted candidates will be informed by e-mail about the interview. So, the candidate must provide valid e-mail IDs, phone number information in their applications.
4. Shortlisted candidates must present themselves for the interview on the interview date with an updated CV and original and attested photocopies of mark sheets/certificates in support of their academic qualifications. Only shortlisted candidates will be called for the interview. The time of the interview will be informed to the shortlisted candidates by e-mail. The interview will be held by using the online platform.
5. Candidates who are already employed should produce a relieving certificate from their employers if selected.
6. The last date for receiving the duly filled in application is 30<sup>th</sup> April, 2022, through an online portal.
7. The date of interview will be informed to the shortlisted candidates through email.
8. The selected JRF may get an opportunity to peruse PhD at IIT Jammu as per institute norms.
9. **Candidate must upload all the documents with respect to educational qualification, Experience etc.**

### **Address for Correspondence:**

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