



Date: 08 April 2021

Advertisement for JRF Position

Applications are invited from eligible candidates for the position of Junior Research Fellow (JRF) in a Science and Engineering Research Board (SERB) sponsored project “**Design and Evaluation of a Multi-objective Controller for a Continuous Biocrude Reactor**”. Candidates are strongly advised to visit the profile of [Prof. Ganti S. Murthy](#) before applying against this advertisement.

This project requires a multitalented Junior research fellow who can work on designing and building the equipment, perform mathematical modelling of differential equations and is familiar with computer programming, and process control systems.

There is a strong possibility that the JRF employed in this project can convert it this project into a Dissertation research project for Ph.D. at IIT Indore. Depending on the success of the concept during the project, there is a possibility of setting up a start-up company at the end of this project.

Objectives of the Project

The **goal** of this exciting research project is *to develop and demonstrate a continuous hydrothermal liquefaction system for wet biomass with real time control to optimize bio-oil production using the energetic, economic and environmental goals*. New methods of analysis for complex biochemical systems using tools from control theory will be developed. These analytical methods will have wide ranging application in bioprocessing and biofuels production.

Eligibility

Essential Qualification:

Chemical/Mechanical/Agricultural/Electrical Engineering or equivalent degree with first division as defined by the awarding Institute/University with valid GATE or UGC-CSIR (JRF). Students with M.Tech will be given preference.

Required Technical Skills:

- Knowledge of heat and mass transfer, chemical reaction kinetics and classic process control methods.
- Knowledge and ability to solder and build small test circuits using Arduinos/Raspberry PIs.
- Ability to handle hand tools and work in machine shop without supervision.
- Demonstrated laboratory and computer modeling experience.

Desirable Technical Skills:

- Ability to model differential equations in any programming language (MATLAB, C preferred)
- Knowledge of Machine learning methods and advanced process control.

Desirable Soft Skills:

- Ability to work independently.
- Ability to solve problems with innovative multidisciplinary approaches.
- Team player and collaborative mindset.
- Passionate about environment and engineering



Indian Institute of Technology Indore

Simrol Campus, Khandwa Road, Indore Pin: 453552

Monthly Stipend: The salary will be as per the DST norms. As an example, JRF may get about Rs. 30,000/month+16% HRA or campus accommodation in lieu of HRA.

Duration: Initial appointment will be for 6-12 months, which is extendable up to a maximum of 30 months solely based on performance.

How to Apply

Interested candidates are requested to submit a detailed CV along with a cover letter (one page maximum) explaining why they should be considered for this position. Complete information of year of passing, experience, marks, etc. should be mentioned in the CV. ***Incomplete applications will be rejected without review.***

Please submit your response online here: <https://forms.gle/VpnQuREYHAnqnmBi6>

Last Date of Application: 30th April 2021

Note:

1. CV should include details of academic grades starting from X standard onwards with details of year of passing, university or college, etc. and also work experience and nature of work if applicable. Complete details of NET/GATE such as year of passing/validity, discipline, marks, and All India Rank.
2. Only shortlisted candidates will be called for the interview. Selected candidates will be intimated by email. NO TA/DA will be paid for appearing for the interview, if conducted in person.