



23rd June 2025

INDIAN INSTITUTE OF TECHNOLOGY ROPAR

Nangal Road, Rupnagar, Punjab-140001

ADVERTISEMENT FOR THE POST OF Junior Research Fellow (JRF)

Applications are invited from interested and motivated candidates for the post of Junior Research Fellow (JRF) in a time bound research project for a temporary period, purely on contractual basis as per the following details.	
Position	Junior Research Fellow (JRF)
Number of Vacancy	1 (to join immediately)
Project Title	Design and Development of Gold Nanobipyramids and Dye Based Nano-hybrids for Enhanced Sensing Applications: Theoretical and Experimental Investigation
Department	Chemical Engineering, IIT Ropar, Punjab.
Project Tenure	1 Year (extendible on an annual basis upto 2 more years or till the completion of the project, whichever is earlier)
Job Description	<p>Nano-hybrids composed of metal nanoparticles (inorganic part) and photoactive dyes (organic part) are very promising for molecular sensing, photo-energy conversion, and photo-catalysis applications. Controlling nano-hybrid design variables for optimum photo-physical properties of gold nanobipyramids-dye based nano-hybrids during the synthesis and surface modification is a challenging task. Therefore, we aim to develop molecular dynamics simulation models for various interfaces of nanobipyramids, focusing on ligand exchange of CTAB surfactants with Tween80 and subsequent functionalization with dye molecules. Such models will be validated with structural characterization and dynamic properties obtained experimentally.</p> <p>Desirable skills:</p> <ul style="list-style-type: none">• Basic understanding of statistical thermodynamics and molecular dynamics simulations.• Molecular dynamics simulation packages such as GROMACS, LAMMPS, DL POLY etc.• Programming interest in MATLAB, PYTHON, FORTRAN etc..

Essential Qualification	<ul style="list-style-type: none"> • M.Tech/MSc in Chemical engineering, Material science and engineering, Physics, Chemistry or related field from a recognized University or equivalent. • National Eligibility Tests – CSIR-UGC NET including lectureship (Assistant Professorship) or GATE • A selection process through National level examinations for MTech/PhD conducted by Central Government Departments and their Agencies and Institutions such as DST, DBT, DAE, DOS, DRDO, MoE, ICAR, ICMR, IIT, IISc, NISER etc.
Emoluments	37000 + HRA

The engagement will be initially for a period of 12 months which may be extended or curtailed depending on the duration of the tenure of the sponsored project/satisfactory performance or conduct of the appointee; as the case may be. The engagement will be purely on temporary basis and shall not be an IIT Ropar appointment, temporary or otherwise and shall not entitle the appointee to any right/claim whatsoever, implicit or explicit, for his/her consideration against any IIT Ropar post/fellowship.

How to Apply:

1. Eligible candidates are required to apply ONLINE only through the below given application form.
2. Completely filled application form (as given below) along with biodata/CV, and testimonials (marksheets, transcripts, experience certificates, valid category certificate, if applicable) may be emailed together as a single PDF document to skmeena@iitrpr.ac.in
3. The subject line for the email may be written as follows: **JRF-Application-FirstName-LastName**
4. Candidate should have a valid email before applying online.
5. Readable scanned copies of Mark sheet (SSC, HSC, Graduation, Master, etc.) should be submitted along with the application (as stated above)

Other details:

The application should be received before **5 PM, 22/07/2025**. Late applications will not be considered.

The prescribed educational qualifications are a bare minimum and mere possession of the same will not entitle candidates to be called for interview. Where the number of applications received in response to this notice of engagement is large, it may not be convenient or possible to interview all the candidates. Based on the recommendations of the Screening Committee, the Project Leader may restrict the number of candidates to be called for interview to reasonable limits after taking into consideration qualifications and experience over and above the minimum qualifications prescribed in the Notice. Therefore, it will be in the interest of the candidates to mention all qualifications and experience in the relevant field as on the date of advertisement.

All shortlisted candidates will be required to appear before the Selection Committee for an online interview. The URL link for online interview will be provided to shortlisted candidates. No interview call letter will be issued separately.

Selected candidates will have to join duty immediately on receipt of the offer of engagement.

For any queries please contact:

Dr. Santosh Kumar Meena

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Lab: <https://sites.google.com/iitrpr.ac.in/dr-s-k-meena-research-group>

APPLICATION FORM

Personal Details

Full Name (in capital letters)	
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Date of Birth (DD/MM/YYYY)		GENDER		Affix a recent passport size photograph
Category (attach valid certificate, if applicable)		Martial status: (Single/ Married)		
Permanent Address		Address for communication		
Mobile No.		Email:		

Details of School/College/Institute/University studied (from Matriculation onwards)

Degree	Discipline	School/College/Institute/University	Regular/Part-time	Year graduated	% Marks/CGPA

Qualifying Examination (GATE/NET or other as applicable) *

Qualifying examination	Branch	Year	All India Rank	Score	Valid upto (DD/MM/YYYY)

*Essential for the position of PA-1 (i)

Professional Experiences (Teaching /Research/Industrial), if any

Name of the organization	Designation	Nature of work/ Responsibilities	Start date (DD/MM/YY)	End date (DD/MM/YY)

Research Publication(s), if any (Please use the IEEE style for the bibliography)

1.

2.

3.

Other relevant information (such as details of project/experience/awards/patents, if any)

1.

2.

3.

Referees (Please provide details of at least 2 referees)

Name	Current position and Affiliation	Email ID	Mobile number	Relation with the applicant

DECLARATION

I hereby declare that I have carefully read the instructions and particulars supplied to me and that the entries made in this applications form are correct to the best of my knowledge and belief. If selected for the position, I promise to abide by the rules and discipline of the Institute/laboratory. I note that the decision of the Institute is final regarding the selection. The Institute shall have the right to expel me from institute at any time after my admission, provided it is satisfied that I was admitted on false particulars furnished by me or my antecedents prove that my continuation in the Institute is not desirable. I agree that I shall abide by the decision of the Institute, which shall be final.

Signature of Applicant

Date:

Name: