

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE  
Department of Chemistry

Dated: 29-05-2023

**Advertisement for Research Associate Position**  
**Design of stimuli-responsive coacervates for the spatiotemporal control over signaling between artificial micro-compartments**

The department of Chemistry at Indian Institute of Technology (IIT) Roorkee invites applications from outstanding and enthusiastic researchers for Research Associate (RA) position under the mentorship of **Dr. Pavan Kumar B.V.V.S.**, under the project **“Spatiotemporal control over signalling between artificial microcompartments”**

**Overview.** *The aim of this project is to achieve precise manipulation of enzymatically active microcompartments to quantitatively study chemical signaling. Our approach relies on the design of stimuli responsive coacervates produced by “liquid-liquid phase separation” to exert spatiotemporal control over signaling between micro-compartments. The project is highly interdisciplinary. The research associate will join the group of Prof. Pavan Kumar B.V.V.S. at IIT Roorkee, in collaboration with Prof. Nicolas Martin (CNRS, France). Especially welcome are applications from candidates with a background in chemistry, soft matter, or material or colloidal science. The position is for a duration of 1 year starting July 2023 and is extendable upto 2 years based on annual evaluation.*

**Project description.** The design of cell-inspired microcompartments able to communicate with each other via chemical signaling represents a promising step to the synthesis of new materials with life-like properties. The overall aim of this project is to achieve precise manipulation of enzymatically active microcompartments to quantitatively study chemical signaling. The RA will design and characterize new light- and pH-responsive coacervates, and study their interaction with model compartments to achieve spatiotemporal control over their positions and subsequently reaction channeling.

**Perks of the position.** The project involves two visits (1 month each) to the group of Prof. Nicolas Martin in the University of Bordeaux, France. This would provide optimal exposure to the candidate to work in a highly interdisciplinary and international workspace.

**Prospective candidate's profile.** Candidates must hold a PhD, preferentially in the fields of chemistry, soft matter, or material or colloidal science. The ideal candidate should be self-motivated and organized, with the ability to communicate effectively in English. She/he should also show strong interest in working in a team that is part of an interdisciplinary research environment.

**Work environment.** The project is funded by CEFIPRA, the Indo French Centre for the Promotion of Advanced Research, and will take place at the Dynamic Colloidal Systems (DCS) Lab (Department of Chemistry, IIT Roorkee). The lab provides an inspiring and collaborative working environment, together with cutting-edge facilities for synthesis, soft matter characterization and microscopy. The candidate will be supervised by Prof. B.V.V.S. Pavan Kumar in collaboration with Prof. Nicolas Martin (University of Bordeaux).

**Details of the position.**

Start date: July 2023

Duration: 1 year and renewable for 1 more year based on performance

Monthly Fellowship (INR): 49,000 (1st year)+ 8% HRA; 54,000 (2<sup>nd</sup> year) + 8% HRA

**Last date to apply: 30<sup>th</sup> June, 2023**

*Handwritten signature/initials*

**Application.** Candidates can apply with a cover letter, curriculum vitae, soft copy of degree certificate (s) and experience certificate (s), list of publications (highlight the most relevant publications for the advertised post), copies of three most significant publications, a research statement describing past research and future research in-line with project description given above, by email to:

Head

Department of Chemistry

Indian Institute of Technology

Roorkee – 247667

Email: [chemt@iitr.ac.in](mailto:chemt@iitr.ac.in) and [pavan.bosukonda@cy.iitr.ac.in](mailto:pavan.bosukonda@cy.iitr.ac.in)

(All applications must be sent to both email addresses mentioned above)

**Notes:**

1. Only complete applications will be considered for shortlisting candidates.
2. The shortlisted candidates will be notified the date of interview directly by email.
3. The interview for selection of candidates will be conducted online.
4. All the RA's will be registered as IIT Roorkee students for availing the facilities of accommodation, hospital, medical insurance scheme, computer center, library, sports etc. They will also be governed by the leave rules as applicable to the post graduate students.

**About the Department:** <https://cy.iitr.ac.in/>

**About the Laboratory of PI (DCS Lab stands for "Dynamic Colloidal Systems Lab"):** More about the lab in this webpage <https://pbosukonda.wixsite.com/iitr>

APPROVED

*Pavan Bosukonda*  
29/5/2023

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