

## “Formulation/nanoformulations development for drug delivery”, Project Technical Support – III @ Department of Biomedical Engineering, IIT Hyderabad

The project focuses on the design and development of advanced formulation/nanoformulation platforms for controlled and sustained drug delivery in different applications. A key emphasis is on long-acting formulation, including nano-enabled delivery of analgesics to improve efficacy and reduce dosing frequency. The work integrates nanocarrier engineering, drug–excipient interactions, and surface modification strategies to achieve enhanced bioavailability and targeted delivery. In addition, the project explores formulation approaches for antimicrobial, anti-inflammatory, and combination therapies. Comprehensive physicochemical characterisation, in vivo evaluation, and translational optimisation will be carried out. The overall goal is to develop clinically relevant, scalable formulations aligned with regulatory and industrial requirements.

**Essential Qualification:** Graduate in Pharmacy / Chemistry / Pharmaceutical Sciences / Nanotechnology / Biomedical Sciences with Minimum 3 years of research experience  
OR

M Tech, M.S, M.Sc. in Pharmacy/ Material Science/ Biomedical Egg/ Nanotechnology/Biochemistry with first division or equivalent mark from reputed institutes with relevant experience.

### Work Experience:

- Nanoformulation development (e.g., lipid nanoparticles, polymeric systems, nanoemulsions, gels, ointments, pharmaceutical formulations, clinically relevant formulations, commercially relevant formulation)
- Drug delivery systems (topical/transdermal / injectable preferred)
- Physicochemical characterization techniques: Particle size & zeta potential (DLS) Morphology (SEM/TEM), Drug loading & release studies, Stability study, In vitro evaluation (cell-based or antimicrobial assays preferred)
- Basic Knowledge on Physical, Organic Chemistry and solvent chemistry, worked with Biopolymers, Basic organic synthesis,
- Eager to learn new interdisciplinary research and techniques related to the research.
- Experience in in vivo study using small animals (preferred but not mandatory)

**Duration of project:** One year to three years (Based on the funding). The appointment will be on a temporary basis for 6 to 11 months. Based on performance in the initial period, the appointment could be extended till the end of the project.

**Emoluments:** ICMR guidelines for Project Technical Support – III (INR 28,000/- p.m + HRA 30% @ 8,400/- p.m)

**How to Apply:** Eligible candidates should apply with their CV via email to [enarm@bme.iith.ac.in](mailto:enarm@bme.iith.ac.in) on or before 30<sup>th</sup> April, 2026, with the subject marked as “Project Technical Support – III”. The candidate should provide a short justification note to support his/her candidature for this project. Candidates who are short-listed for the interview based on merit and experience will be informed via email.

**Preference** will be given to candidates with relevant experience in the work mentioned **above and capable to perform experiment without further training.**