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INSTITUTE OF LIFE SCIENCES

Application for Research Associate – Formulation

About the job

The Formulation Scientist is responsible for the development and optimization of new and existing formulations for a variety of products. This includes conducting research, designing experiments, and analyzing data to identify and implement improvements in product performance. The candidate will help to conduct hypothesis testing, designing and developing novel formulations using various materials for diverse applications, including development of Liposomal formulations, Nano- and submicron particulate formulations, Polymeric-Based Formulations, *etc*. The Formulation Scientist also works closely with other departments to ensure that products meet all necessary specifications.

Education Qualification

- M. Pharm/ M. Sc. in Chemistry/ Biochemistry/Pharmaceutical sciences/a relevant branch of Engineering or Life Sciences, or evidence of exceptional ability, preferable with experience in formulation research and development. **Candidates with a minimum of one year of industrial experience in the Formulation Department of a pharmaceutical company will be given preference.**
- Minimum industrial experience in product development and scale-up of products is welcomed.
- Understanding of formulation principles and techniques, and chemical and physical properties of materials used in Pharmaceutical Formulations.
- Knowledge in various formulation techniques and analytical methodologies.
- An ability to read and understand diverse literature across the many disciplines relevant to drugs/nucleic acid delivery to distill the best new ideas in the field and apply them to your work.
- An ability to identify the challenges associated, bottle necks in development and suggest mitigation proposals during development at various stages.
- Excellent verbal and written communication skills, the ability to present scientific findings clearly and concisely.
- A collaborative mindset and the ability to work effectively within a team environment.
- Strong analytical and problem-solving abilities, with a demonstrated track record of independently interpreting experimental data and troubleshooting technical challenges.
- A willingness to shoulder substantial and often repetitive formulation and characterization workloads on a daily basis when needed.
- A desire to rapidly learn, troubleshoot, and master new experimental techniques.

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Areas of Relevant Experience

Note that you don't need experience in all of this, just a subset, but the more experience you have across these areas, the better.

- Lipid (Liposomes, LNPs, solid-lipid nanoparticles) or polymer-based (Polymeric nanoparticles/ microparticles) Drug Delivery Systems;
- Polymer chemistry (mol. wt, degradation behavior, synthesis);
- Peptide and proteins (basic understanding, handling, do's and don't, stability, drug loading in DDS etc.)
- Sustained and controlled drug delivery systems (Implants, depot, in situ depot);
- Microfluidics, preferably for lipid or polymeric nanoparticle synthesis, encapsulation, and characterization;
- Formulation or nanoparticle downstream purification methods such as ultrafiltration and TFF.
- Formulation or nanoparticle characterization, including particle size and zeta potential measurements, pKa determination, and viscosity;
- Microscopy techniques (TEM, SEM, Confocal), Spectroscopy, Spectrometry and Thermal techniques (UV, Fluorescence, FTIR, Circular Dichroism, Raman, PXRD, DLS, DSC, MS, NMR), Size exclusion chromatography and other techniques used for characterization of biopharmaceuticals;
- Analytical techniques to characterize polimeric DDS (Particle size, drug content by UPLC/HPLC, drug loading, drug release);
- Analysis and characterization of higher order structures or conformations;
- Biophysical characterization (size, aggregates, mechanisms of instability, thermal denaturation, ligand binding);
- Nucleic acid quantification techniques such as RiboGreen-style assays and NanoDrop-style spectrophotometry;
- *In vitro* cell evaluation of DDS (cells/cell lines handling, culture, DDS evaluation on various cell models);
- *In vivo* evaluation of DDS (Animal handling, dosing, disease model development and evaluation of DDS).

Qualified and interested candidates may send their curriculum vitae by e-mail to hr@drils.org on or before **30th April 2026** with "**Formulation Lab"** as the subject line of the email. There will be two rounds of interview. Shortlisted candidates will be first interviewed through the phone followed by a personal interview at Dr. Reddy's Institute of Life Sciences, University of Hyderabad Campus, Gachibowli, Hyderabad (optional is a skype/telecon interview if candidate is unable to present personally).