Design Innovation Centre

Nanobiotechnology Based Therapy & Bio-Entrepreneurship

Background

Nanotechnology based targeted therapy will improve efficacy by reducing drug dose, toxicity attributed by non-targeted approaches for life threatening diseases. Government of India is currently focusing on the development of a new therapy and technology which can be directly employed in industry to manufacture those new therapeutics molecules which can be used for the treatment of diseases such as cancer, diabetes, infectious disease. There is a great demand of trained manpower which can be directly employed in the industry to manufacture nanoparticles based targeted therapy, which has great potential and market in India and worldwide. So there is a great demand to develop a new targeted therapy, scale up process and trained man power which can help to bring a product in the market in a very short time.

Objective:

- To provide awareness in the society through seminars, short time training, workshops and conferences.
- To provide a place where students bring their innovative idea from the classroom to lab and pursue with great enthusiasm.
- Making candidates aware of major sources of intellectual property for technology development and manufacturing ventures.
- Providing knowledge about basic as well as advance in nanobiotechnology innovations.
- To facilitate partnerships and interdisciplinary collaborations with industry as well as academic institutes and research laboratories worldwide working on the same problem with diverse field expertise.
- To offer consultancy services to the industry institutes/organizations/other stakeholders. Learning and developing a step-by-step advanced technology for therapy development based on nanoparticles and microparticles according to industry requirement and opportunities for innovation.
- To provide a platform for interaction of academia-industry to work together on interest of industry focused project.

- To offer best-in-class research facility to investigators from the University of Allahabad as well as researchers from the other institutes.

Course Offered:

- Small Project work in targeted drug delivery based on nanotechnology for Post Graduate/B.Tech./M.Tech students.
    - Targeted drug/protein, siRNA delivery system using nanotechnology approach
    - Nebulizer/inhaler fabrication
    - Biosensor fabrication
- Short term summer and winter training programme for M.Sc. and PhD students.
    - 2-3 Week training programme lecture come hands on for preparation and characterisation of drug, protein or siRNA loaded micro and nanoparticles
- Technology development for manufacturing drug, protein and siRNA loaded microparticles and nanoparticles in bulk.
    - For technology development of a promising drug loaded, protein or siRNA loaded Nano or Micro carrier will be selected for bulk production technology development.

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