

## **CANCER NANO-THERAPEUTIC RESEARCH LABORATORY**

Cancer Nano-therapeutic Research Laboratory is a sponsored research lab established in 2014 in the Department of Biotechnology with a vision to find solution for the challenges existing in the field of chemotherapy for various cancer types. The lab was established initially with the research grant (Rs. 23.7 Lakh) obtained from DST-SERB, Government of India under the scheme of 'Young Scientist-Start-Up Grant'. The lab facility was then extended with the Extramural research grant (Rs. 30.86 Lakhs) obtained from DBT, Government of India under the special scheme of 'Nanoscience and Nanotechnology Application in Biology Task Force for funding'. The focus of this research lab is advancements in the molecular targeted therapy specifically for life threatening lung cancer using liposome nano-formulated retinoid drug. Intense research is going on in this lab by inducing lung cancer in mice using chemicals as well as established and treating with cancer tissue targeted liposome encapsulated ATRA drug of nanometre size. The treatment efficacy and molecular response to such targeted molecular therapy for lung cancer cell in mice are assessed using reliable research methods and hi-tech. equipment available in the lab such as nano-formulation extruder, Leica microscope with image analysis tools, Gradient PCR, Gel documentation system and so on.

Over 30 quality research publications in reputed International Journals having impact factor have been produced using this research and development facility. These publications have attracted the IAESTE interns from other countries and they have been trained in this research lab as interdisciplinary research work. Several M.Phil and Ph.D scholars have been given chance to work in the lab to get their degrees. Many undergraduate (B.Tech. Biotechnology) and post graduate (M.Tech. Biotechnology, M.Sc. Microbiology) students have been given hands on trainings in the techniques developed and established in the lab. Few of my Undergraduate and post graduate students have worked in the lab for their projects and published research articles.

In future, this sponsored research lab may emanate as centre of excellence for interdisciplinary therapeutic research to find solutions for cancer therapies.

## Work flow

