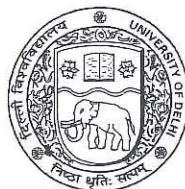


Proposal to establish

**“Centre for Innovation in Infectious Disease Research,
Education and Training”
(CIIDRET)**

as per the Ordinance XV-A of the Delhi University



SUBMITTED BY

**Prof. Vijay K. Chaudhary (Core member)
Prof. Anil K. Tyagi (Core member)
Dr. Amita Gupta (Core member)**

**Department of Biochemistry and Microbiology
University of Delhi South Campus
Benito Juarez Road
New Delhi – 110021**

Summary:

While the incidence of lifestyle disorders, such as Hypertension, Diabetes, Obesity, Cardiovascular diseases is increasingly posing threat to the economy of our country, the Infectious diseases, such as Tuberculosis, Malaria and new emerging infections such as Dengue, Chikungunya, Influenza A H1N1 virus etc. are jeopardizing the healthcare system of our country. If on one hand, the control of the life style disorders can be attempted by catching them young and making right choices of food and physical activity, on the other hand, infectious diseases especially Tuberculosis can be controlled by maintaining sanitation and hygiene (as was done in the West). However, in the current times, although these social measures are valuable, one has to depend on other means, which include timely diagnosis to provide correct and early treatment (Therapeutics). At the same time, for a country of size and spread like India, prevention through vaccine is an equally rational approach. At the University of Delhi, several teachers are involved in research on different aspects of infectious diseases. Amongst them, a group of three teachers namely, Professor Anil K. Tyagi, Professor Vijay K. Chaudhary and Dr. Amita Gupta have proposed to pool their available resources to consolidate their research activities by establishing a Virtual Centre named "**Centre for Innovation in Infectious Disease Research, Education and Training**" (CIIDRET). The proposers have a background of publishing nearly 200 research papers, mostly in International journals, dozens of national and International patents, several technologies transferred successfully to Indian and global companies, all of which has been recognized by prestigious awards and honors to each participating member.

Aims and objectives of CIIDRET

- a. One of the aims and objectives of CIIDRET will be to carry out basic and translational research addressing diagnostics, therapeutics and prophylactics aspects of infectious diseases concerning India. For the initial phase, programs relating to tuberculosis, chikungunya and malaria will be undertaken. The proposers of CIIDRET also plan to undertake a big program on recombinant antibodies with funding from Government agencies.
- b. Another important objective of the center will be to establish a state-of-the-art facility with instruments and platform technologies for-
 - i. Providing and organising training to UG and PG students, research scholars and even teachers and scientists from Delhi University and other institutions through short-term courses spanning 2-6 weeks covering theory and practical exercises to enable them to acquire expertise which would improve quality of their ongoing work and could enable them to move into new areas of research.
 - ii. Imparting training (including Hands-On) to college teachers for enabling them to undertake teaching of modern techniques and technologies included in different undergraduate (UG) courses.
 - iii. To initiate a 6-12 months long Finishing school type training course for enabling post-graduate students in life science to acquire specific expertise to enhance their suitability in high quality research and employability in the industry.
 - iv. To initiate M.Sc./M.Tech - Ph.D integrated program in the area of infectious disease research in collaboration with the Cluster Innovation Centre (CIC).

- c. Another objective of the center will be to provide services to academia and industry for available infrastructure and technologies including DNA sequencing, Microarray technology, Next-generation sequencing (NGS) and SPR, and production of recombinant proteins and antibodies. The proposers of CIIDRET have been providing services related to DNA sequencing for the last 17 years to academic users throughout the country (DBT-Supported DNA Sequencing Facility). The same has been initiated for Microarrays for the last 2 years and will soon be started for NGS and SPR. These activities will provide a platform for interaction with other researchers in academia and industry, and generate funds for sustenance of the center. An incubator will be setup for germinating new ideas and furthering Entrepreneurship.

While research groups involved in the CIIDRET would continue and expand their research activities to carry out basic and translational research addressing diagnostics, therapeutics and prophylactics aspects of infectious diseases concerning India, one unique initiative among many would be to have very strong **programme on "Skill Enhancement"**, which will focus on training for skill enhancement in the area of Biotechnology. Through this programme, it is expected that the Center will provide training to UG and PG students through short-term courses spanning 2-6 weeks covering theory and laboratory exercises to enable them to acquire expertise, which would improve quality of their ongoing research and enable them to venture into new areas of research. The center will also impart training (including Hands-On) to college teachers of science departments for enabling them to undertake teaching of modern techniques and technologies. The center will conduct 3-6 month long Finishing school type training courses to enable post-graduate students of life sciences and incumbent workers to acquire specific expertise to enhance their suitability in high quality research and employability in the industry. (The approval and accreditation for such courses will be sought later by following due process).

In this endeavor, several teachers/scientists from Delhi University and other academic institutions, and Diagnostic, Bio-pharmaceutical and Bioinformatics-based industries have shown interest to participate. It is expected that once this Centre is formally established, more teachers / scientists from the University of Delhi and other neighboring institutions will join the endeavor.

Initially, the research activities will continue to be supported by funds available in the ongoing projects. For the future (within the 12 months of establishment), large research programmes of translational nature will be written and submitted for funding to Government funding agencies in the form of Centre of Excellence on themes aligning with the objectives of the proposed centre. The funds will also be generated by undertaking consultancy assignments for helping the Biotechnology industry, and providing services as per the University rules.

It is important to note that **Establishment of the CIIDRET does not change the teaching responsibility of the participating core faculty members, who will remain part of the respective department for teaching-related and administrative activities as per the University rules.** Further, the CIIDRET shall operate under the

administrative control of the Director UDSC, who will be the final approving authority or as guided by him. The activities will be coordinated by a participating Professor to be nominated by the Director/Vice-Chancellor and may be designated as the Director/Coordinator, CIIDRET.