

**DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science and Technology
Government of India**

Indo-U.S.A Collaborative Program:

CALL FOR INDO-U.S. JOINT PROPOSALS IN THE AREA OF LOW-COST MEDICAL DEVICES

The Department of Biotechnology (DBT) invites Indo-U.S., joint project proposals from interested scientists, engineers and scientific organizations to develop low-cost medical devices.

Background

The Indo-U.S. Collaborative Program on Low-Cost Medical Devices was established by a Joint Statement between the Department of Biotechnology of the Ministry of Science and Technology of the Republic of India and the National Institute of Biomedical Imaging and Bioengineering on 4 October 2007. The goal of the present initiative is to 1) foster joint activities between U.S. and Indian scientists for

- the development of low-cost, medical devices,
- address medical needs in low-resource settings, and
- take advantage of opportunities and technological advances through the development of appropriate, low-cost medical devices.

The initiative is administered by the Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India; and the National Institute of Biomedical Imaging and Bioengineering (NIBIB) (<http://www.nibib.nih.gov>) and the Eunice Kennedy Shriver National Institute of Child Health and Human Development (<http://www.nichd.nih.gov>), National Institutes of Health (NIH), Department of Health and Human Services, United States of America.

Investigators are invited to propose collaborative projects that are enhanced by the inclusion of both U.S. and India components. Low-cost medical device development that could have an impact on low-resource settings may be proposed. Funding for the U.S. component of collaborative projects will be through NIH research grant award mechanism (R03). Funding for the Indian component will be in accordance with DBT terms and conditions regarding the release of research and development grants.

Collaborative Technology Development Project

A Collaborative Technology Development Project involves the preparation of collaborative grant applications for both India (DBT) and U.S. (NIH) funding. Accordingly, it is essential that the DBT application and the separate NIH application contain an integrated Research and Development Plan with complete technical details, including a description of the connectivity and relative roles of the Indian and U.S. investigators. The Research Plan should include a full description of the proposed project.

Scope

Medical technologies developed through Indo-U.S. collaboration will benefit low-resource settings globally. Emphasis will be placed on technologies that increase healthcare access, address global health disparities and/or address the diagnosis and treatment of diseases of the poor. Some illustrative examples of areas that include devices that address chronic disease and conditions are listed below:

- Cardiovascular diseases
 - Immediate needs include detection and monitoring of cardiovascular diseases in low-resource settings.
 - New devices for the treatment of cardiovascular disease are also needed.
- Cancer Screening
 - New technologies need to be developed as collaboration between engineers, clinicians, technologists and global health experts.
 - Screening technologies need to be simple enough to be operated by people with minimal education (10th grade).
 - Quantitative tools for monitoring therapy
- Endocrine Disorders
 - Diagnostic and therapeutic technologies for endocrine disorders, and specifically diabetes, are needed
- New or reengineered low-cost technologies for the diagnosis and treatment of gastrointestinal (GI) tract diseases
- Maternal/Neonatal/Infant Health
 - There is a need to focus on a high-priority problem and implement technologies that will have a significant impact.
 - There is a need to screen newborns for treatable conditions with high morbidity and mortality such as hemoglobinopathies, hypothyroidism, and other metabolic or inherited disorders

- For example, technologies are needed to help prevent hypothyroidism.
- Trauma and Injury needs include:
 - Low-cost prostheses and prosthetic materials
 - Low-cost imaging for tertiary care hospitals
 - Mobile or portable imaging devices
 - Low-cost EMS technologies such as a “trauma backpack”
 - Improved, low-cost telemedicine technologies
 - Low-cost hemostats, surgifoam, gelfoam, implants, sutures, pre-loaded syringes, fixative
 - Low-cost C-arm, ultrasound, and CT
 - Rehabilitation technologies, particularly for children who have been injured
 - Low-cost wheelchairs
 - Technologies for airway clearing
 - Technologies for CNS assessment
- Diagnostic technologies
 - Glucose monitoring for diabetics
 - Low-cost platform technologies for multiple (multivalent) diagnostic tests
 - A multiplex, lab-on-a-chip technologies
 - Point-of-care diagnostics for screening infant diseases
 - Technology and assay development related specifically to screening newborns for heritable disorders
 - Appropriate, low-cost diagnostic imaging devices for low-resource settings
- Translational Research
 - Technologies developed in the West need to be re-engineered to suit local needs in India. For example, technologies such as the flow cytometers, insulin pumps could be made using readily available standard components.

The examples identified above are intended to be illustrative only and not restrictive. Applicants are encouraged to submit proposals for any collaborative technology development or device that would be appropriate in a low-resource setting. Furthermore, applicants are expected to describe the impact of their technology in low-resource settings.

How to Apply:

- Investigators in India should use the DBT "R&D proposal format" available at <http://dbtindia.nic.in> and submit 5 hardcopies of full length proposals duly forwarded by competent authority, by post to **Dr. Rajesh Kapur, Advisor, Department of Biotechnology, Room No. 723, Block-2, CGO Complex, Lodhi Road, New Delhi - 110003.**
- Corresponding online application should also be made at www.dbtepromis.nic.in, under the area "**Medical Biotechnology-Vaccine Research and Diagnosis**" which would be mandatory.
- Further an electronic copy of the proposal be sent by email to vk.addanki@nic.in.
- DBT support would be for eligible R&D institutions only which includes public institutions and private not for profit & DSIR recognised R&D centres.
- Investigators in USA should follow RO3 application guidelines and applications should be submitted to NIBIB/NIH directly, with reference to their Funding Opportunity Announcement (FOA) by referring to the weblink: <http://grants.nih.gov/grants/guide/pa-files/PAR-11-044.html>
- DBT will support research activities within India, salaries of Indian research personnel, and other expenses.
- NIH funding will similarly support salaries of U.S. personnel and research activities within the U.S.A.
- All applications are competitive and will be considered on merit as per the standing policy of NIBIB/NIH and DBT.

Last Date for receiving Application: 22nd January, 2016