

Department of Biotechnology
Ministry of Science & Technology
Govt. of India

Call for Pre-proposals on Plant Microbe Interactions

The growing population of India requires a significant increase in agricultural production that leads to food security. Many factors contribute to low agriculture production and phytopathogens are the most important constraints which includes biotrophic, hemibiotrophic and necrotrophic fungi as well as bacterial and viral pathogens. Recent studies on genomics of both plant and phytopathogens are beginning to unravel how these organisms manipulate host immunity to cause diseases and how plants counter them. Therefore, we need to have an integrated view of plant-pathogen interaction rather than looking at the pathogen and host separately. With the recent development in genomic tools, it becomes imperative to have a holistic view of plant microbe interactions. The identified priority areas include:

1. Characterization of host functions that are involved in elaboration of innate immunity
2. Identification of novel elicitors of PTI.
3. Mechanism of host specificity and host jumps.
4. Analysis of pathogen effectors and host responses to them.
5. Mechanistic basis of pathogenesis including tissue specificity.
6. Genetic and epigenetic regulation of systemic acquired resistance.
7. Delineating defence signalling pathways/networks and identification of key regulators.
8. Characterization of plant microbiomes.
9. Understanding the mechanistic basis of endophytic colonization and promotion of plant growth/production of secondary metabolites.
10. Characterization of host functions that are involved in promoting mycorrhizal/rhizobial interactions.
11. Engineering host resistance against pathogens using genome editing technologies
12. Novel strategies for reducing mycotoxin levels in plants

Department of Biotechnology is inviting Pre-proposals/Concept notes from scientists working in Indian research institutes/universities in the above mentioned areas.

The Pre-proposals/Concept notes should be restricted to 4-5 pages defining (a) clear cut objectives, (b) work plan (c) expected outcome (d) biodata of the investigator/s giving details regarding the expertise along-with the list of research papers in the proposed research area and (e) tentative budget estimates

The Concept notes/Pre-proposals will be examined by expert committee and PI's of the shortlisted concepts will be asked to submit their detailed proposals for further consideration.

Interested scientists may submit five hard copies of the Pre-proposal/Concept Note to **Dr. Meenakshi Munshi**, Director, Room No 705, Department of Biotechnology, Block-2, CGO Complex, Lodhi Road, New Delhi 110003 latest by **15th June, 2016**. Soft copy of the same may also be submitted through an email: meenakshi29.dbt@nic.in, Ph 011-24361035.