

## Green technologies: DBT explores commercial use of bioprocess engineering

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### Creating green technologies: DBT explores commercial use of bioprocess engineering



As per DBT, it has initiated a new program on Biosystems and Bioprocess engineering to promote integration of fundamental knowledge between engineering and biological science to find innovative and efficient solutions for the development and improvement of sustainable bioprocesses of commercial interest. The current need is to overcome the constraints involved in large scale production processes with focus towards clean and green technology. The endeavor would be to support interdisciplinary approaches for developing translational research oriented projects in this area.

**Proposals:** The research and development proposals have been invited in the various areas of Biotransformation and Enzyme Engineering. These include application of enzyme or whole cell as a biocatalyst for the production of industrially important specialty/ bulk chemicals; Design of enzymes for specific applications such as biotransformation, drug discovery, diagnostic tests, biosensors or any other commercially significant applications; Host and Metabolic Engineering: Manipulation of hosts such as bacteria, fungi, animal and insect cells for the production of small molecules, proteins, enzymes, biosimilars, vaccines, etc. Apart from that the proposals could also be in metabolic engineering of organisms to produce commercially important chemicals and biochemicals. Under Biosystems Engineering, there can be research ideas including model-based design of bioprocesses leading to new sustainable production processes, systems-level approaches to optimization of bioprocess/bioprocess plant with advanced design, analysis and optimization tools, integrated bioprocess development, developing advanced monitoring and control for bioprocesses, process analytical techniques and quality based design of

bioprocesses.

**Eligibility:** Scientists working in the Universities/Academic Institutions/National Laboratories and NonProfit Organizations, with sound scientific backgrounds and relevant publications in proposed area. The proposal should be preferably developed on network mode involving two or more institutes. Inclusion of industrial partner with involvement in the work will be considered as an advantage; Specific role of the industry with possible contribution (financial/ in-kind contribution) must be provided. The proof of concept, preliminary results, available leads and quantifiable targets should be clearly defined (proposals should not include screening and isolation of micro-organisms).

**Selection:** The mode of selection includes the system of sending proposals by the interested researchers which would be received and screened by constituted expert committee for consideration for financial support. Short-listed proposals would be further screened by Task Force. Proposals may be submitted online in the DBT's R & D format through eProMIS (<http://dbtepromis.nic.in/Login.aspx>) under Category of Area-'Biosystems & Bioprocess Engineering' clearly stating 'proposal against Call for Proposal' as mentioned in DBT format. Last Date of submission is May 15, 2015.