

**RFA No:DBT/01/COE/2005**  
**Last date for receipt: 25<sup>th</sup> July, 2005**

**Department of Biotechnology**  
**Ministry of Science and Technology**  
**Government of India**

**Call for Proposals for Centres of Excellence in areas of**  
**Biotechnology**

**Request for Applications**

**1. PURPOSE OF THIS RFA**

The purpose of this **Request for Applications** (RFA) is to augment and strengthen institutional research capacity in areas of Biotechnology through support for establishment of Centres of Excellence. These objectives are proposed to be achieved by providing flexible support (i) to expand and develop faculty research capability and (ii) to **enhance research infrastructure**. The support will be provided to a Centre of Excellence with a specific thematic focus but having a multi-disciplinary approach for research in the specific theme. The centre is expected to be led by a peer-reviewed investigator with expertise central to the research theme of the proposal. The application must have a thematic scientific focus in a specific research area and may use basic, applied or both research approaches to attain the goals of the proposed centre. The scientific leadership provided by one or more established research faculty is critical to the success of this initiative, especially for the mentoring of promising junior investigators. The centre is intended to support investigators from several complementary disciplines. A critical mass of young scientists around a leader will be expected to be developed either through involvement of existing scientists or by infusion of fresh talent. Development of a critical mass of investigators is envisaged to enhance their competitiveness in a specific research area that accelerates the rate at which those investigators compete for other complementary external peer-reviewed research grant support. It is also anticipated that, in some instances, the support through this initiative will facilitate the development of new research centres or augment the capability of existing centres.

**2. RESEARCH FOCUS**

The Department of Biotechnology endeavors to support centres that promote and strengthen institutional capacity in specific thematic areas of biotechnology with a multi-disciplinary research effort by expanding and developing capabilities in biotechnology research, establishment of core facilities and enhancing infrastructure needed to carry out objectives of the programmes. Collaborative interactive efforts would be promoted amongst researchers with complementary background skills and expertise.

The Centres of Excellence are expected to be goal-oriented; use a mix of product relevant discovery science and aim at product and process development, with the hope to create interventions in the health, agriculture, animal, environmental or industrial sectors. Addressing emerging technologies to realize their full potential would be an important priority. The creation of centres of excellence is intended to help achieve interdisciplinary cross talk. The centres of excellence may work at a single site or in a virtual model. Openness to collaborate with industry would be viewed positively.

**Some examples of priority areas are:**

1. Stem Cell Research
2. Chronic disease including cancer
3. Major infectious diseases
  - Vaccine, diagnostic, microbiocides, antiviral
  - Vaccine & drug delivery
  - Relevant & platform technologies
  - Genomics & proteomics
4. RNAi and RNAi therapy including novel delivery systems
5. Nanobiotechnology
6. Abiotic and biotic stress tolerance
7. Bioremediation
8. Animal biotechnology: transgenics, animal feed, vaccine
9. Bioprospecting
10. Plant based Biopharmaceuticals
11. Other related areas

The objectives of this programme are (1) to strengthen an institution's research infrastructure through the establishment of a thematic research centre with multi-disciplinary research effort and (2) to enhance the ability of investigators to compete independently for complementary individual research grant or other external peer-reviewed support. Although the individual career development of the junior investigators is an important and significant part of this programme, the primary objective is to build and develop thematic research centres with multi-disciplinary collaboration in research. These centres are expected to engage in future growth through the promotion of collaborative interactive efforts among researchers with complementary backgrounds, skills and expertise and to compete independently for external peer-reviewed centre or programme project grant support.

To promote above areas, the Department of Biotechnology (DBT) invites concept papers for establishment of Centres of Excellence in these areas. In the scheme, the intent is to support a team of young researchers under

coordination of a group leader who is an established scientist with a proven track record in a defined research field and involving investigators from several complementary disciplines of relevance. The support may include reimbursement of salaries of additional faculty recruited by the institute (5 or 10 years) specifically for the research programme of the centre of excellence, equipment, doctoral and post doctoral positions, travel and some core research funds. The Centre may facilitate the development of new research groups or augment the capability of existing groups or may create a critical mass to fill gaps in inter-disciplinary skills. Support would be considered for **augmentation of a single centre or a virtual centre**. Investigators at life sciences research institutions that award doctoral degrees or independent research institutes would be considered for development of the centres.

This goal of the centre is accomplished through the direction provided by a Team Leader, who provides leadership to junior investigators and has the primary responsibility for administering the programme and for overseeing the development of the centre and its associated core facilities.

### 3. OVERALL RESEARCH PLAN

Each application must describe an overall research plan to justify support of a thematic programme with multi-disciplinary research effort **for five years**. Ideally, it is recommended that the research plan contain the descriptions of at least three and up to five individual research projects.

In addition, the establishment of core facilities necessary to carry out the objectives of a multi-disciplinary, collaborative programme may be proposed. With respect to the overall programme, the Team Leader should describe the unique research opportunities that will be provided to the junior investigators and to the institution. If the proposed research is closely related to ongoing research or an existing centre, an explanation how the research activities will complement but not overlap with existing research should be described. In addition, the PI should describe how the efforts of each junior investigator will assist in the establishment of multi-disciplinary collaborative research.

The institutional environment and resources that are available to investigators must be briefly described. Available resources (e.g., laboratory facilities, details of space and personnel) and collaborative resources should be described. If core facilities are included for support, the relationship of each component of the research project to the core(s) should be described.

### 4. INDIVIDUAL RESEARCH PROJECTS

Each programme should ideally **include three to five individual research projects** that stand alone, but share a **common thematic scientific focus**. Each research project should be supervised by a single junior investigator who is responsible for ensuring that the Specific Aims of that

project are met. An initial minimum commitment of 50-percent time is expected from for this individual.

## 5. RESOURCES

The application must describe the equipment and facilities available to the proposed Centre. Funds may be requested to establish core facilities. The applicant must demonstrate that each proposed core will serve the scientific needs of the individual research projects and must show how each core will impact the development of the centre. The details of infrastructure, which would be made available by the Institute, should also be highlighted.

## 6. MECHANISM OF SUPPORT

A core grant would be provided for equipment, and other infrastructure related facilities. Operational cost for different thematic projects would also be made available. The salaries of the scientists and research students associated in the Centre would be defrayed for the project duration only. **A letter of undertaking is essential that the financial liability for the faculty positions would be borne by the Host Institutes at the end of the project support.** Such commitment would be given by the Head of the Host Institute or by a competent authority as authorized by him. These faculty positions would be regular appointments made by the host Institute and they would devote 100% time to the Centre. The grant-in-aid would be initially for **five years** and may be extended for another five years as per the recommendations of the review Committee.

The cohesiveness of different research projects and their relatability to the main identified theme area is essential. In areas of complementary research, collaboration would be encouraged. In multi-institutional programmes it is imperative that the technical administrative and financial details for each institute are clearly spelt out and there is a clear synergy in the integration of different projects.

## 7. CRITERIA FOR INSTITUTE ELIGIBILITY

Research Institutes, Universities, Medical Schools, IIT's and other recognized Research Laboratories in the public sector and not for profit, DSIR recognized Laboratories would be eligible for such grant. The Institute should have a core faculty with expertise in the relevant area.

## 8. CRITERIA FOR ELIGIBILITY AS TEAM LEADER

The Team Leader must be an established research scientist who will ensure that high-quality research be performed and who has the experience to effectively administer and integrate all components of the programme. The Team Leader must have an active research programme that receives support in the scientific area of the centre and should also have the requisite administrative experience to direct the programme. A

minimum research time commitment of 50-percent is required from the Team Leader for research including the effort put in for mentoring and administrative oversight of the programme. The Team Leader should be a competent scientist in the relevant area, as evident from the publications in the last five years in world class refereed journals. The Team Leader's biodata should also include details of research projects handled and number of Ph.D students registered. The Team Leader will give an undertaking to continue to be involved in the programme for the entire duration.

## **9. CRITERIA FOR ELIGIBILITY OF JUNIOR INVESTIGATORS**

For the purpose of eligibility a junior investigator is defined either as (1) an individual who does not have or has not previously had an external, peer-reviewed Research Project Grant or (2) an established investigator who is making a significant change to his/her career.

A junior investigator must hold a faculty appointment (or equivalent at a research institute) at the time that the award is made. Moreover, a clear commitment to support this appointment independent of the outcome of this application must be demonstrated from the institution by a letter(s) from the appropriate senior institutional official(s). Postdoctoral fellows or other positions that do not carry independent faculty status are not eligible.

With respect to sub-item (2), support may be provided to an established investigator who is making a significant change to his/her career goals by initiating a new line of research that is distinctly and significantly different than his/her current investigative programme. The current or previous history of independent peer-reviewed research support, which may be indicated in the Biographical Sketch, in a different investigative area than that proposed in this application does not disqualify the investigator. Furthermore, this individual can be of any faculty rank. Please note that the intent of this initiative is to allow established investigators the opportunity to initiate and develop a new line of research. However, investigators whose current research is already supported by a Project Grant and who are not changing their current research programme are not eligible.

This initiative is not intended to replace support for ongoing investigator-initiated research programmes of established investigators. Instead, established investigators should serve as mentors to advance the junior investigators' careers in their chosen field of research.

## **10. BIODATA**

The Team Leader must provide a brief bio-data focusing on scientific accomplishment. The biographical sketch should indicate the current area of research, papers published in the indicated areas during last 3 to 5 years and the current and previous history of peer-reviewed support. This section must not exceed three pages.

## 11. LETTER OF INTENT

Prospective applicants are required to submit a letter of intent (LI) of not more than four pages that includes the following information:

- Number and title of this RFA
- Descriptive title of the proposed Centre;
- Name, address, and telephone number of the Team Leader;
- Research focus, short-term and long-term goals and scientific strategies to achieve this;
- Existing facilities / infrastructure;
- List of inputs / changes required to enhance the centres productivity and goal orientation – infrastructure, equipment, human resource and others;
- How the proposal would augment the applicant's capacity / capability;
- How the proposal would expand and develop faculty research capability and enhance research infrastructure;
- Description of the groups to be involved in the research;
- Participating institutions;
- Existing networks/collaborations;
- Details of young scientists working in the area (Ph.D., Post-Docs, technical staff);

**The main strength(s) which merit(s) this support should be described in less than 200 words.**

The letter of intent is to be sent on or before 25-07-2005 to:

**Dr. S. Natesh**, Senior Advisor  
Department of Biotechnology  
Ministry of Science and Technology  
Govt. of India  
Block –2, 6-8<sup>th</sup> Floor, CGO Complex  
Lodhi Road, New Delhi – 110 003  
India, Tel: 2436 4064  
Email: [natesh@dbt.nic.in](mailto:natesh@dbt.nic.in)

- Letters of Intent will be reviewed **within two weeks**, and the selected groups would be invited to submit full proposals.

## 12. SUBMISSION OF FULL PROPOSALS

Team Leaders who are invited to submit full proposals after consideration of their Letter of Intent must submit their applications using the prescribed DBT format downloadable from DBT website <http://www.dbtindia.nic.in/proforma/proformamain.htm>. Twenty copies of the complete format with enclosures duly signed and forwarded by the institute may be submitted within **four weeks** of a response by DBT on the letter of intent to the above address.

### 13. SUPPLEMENTARY INSTRUCTIONS

An application for an award must include the following:

- A clear definition of the nature and extent of research collaboration, including a full explanation of the necessary administrative, fiscal, and scientific aspects of the proposed Programme
- A research plan for **five years** that includes the proposed organization and component functions of the programme. The plan should demonstrate the applicant's knowledge, ingenuity, practicality, and commitment to developing a significant and productive research programme.
- A description of and justification for the proposed individual research projects and core service facilities that collectively will contribute to the centre. Applicants should ideally propose at least three and up to five meritorious individual research projects and must describe the nature and scope of any scientific research collaborations.
- A description of the research and research training or career development goals and capabilities of the proposed centre. The PI must establish a time line indicating the plans for each centre supported junior investigator to prepare and submit proposals for traditional research grant review during the performance period of the award.
- A description of the infrastructure for conducting studies aimed at developing a nationally competitive research programme.

### 14. APPLICATION PROCESSING

Applications must be received on or before the application receipt date listed in the heading of this RFA. If an application is received after that date, it will not be considered. A response to the letter of intent would be conveyed within **two weeks** and decision on the project conveyed within **six months** of receipt of the detailed proposal.

### 15. PEER REVIEW PROCESS

Upon receipt, applications will be reviewed for completeness by the Internal Screening Committee. Incomplete applications and those which do not fulfill eligibility criteria will not be considered. Applications that are

complete and responsive to the RFA will be evaluated for scientific and technical merit by an appropriate peer-review group convened by the department in accordance with the established review criteria. As part of the initial merit review, all applications will:

- Undergo a selection process in which only those applications deemed to have high scientific merit, will be processed further.
- Thereafter a written review will be obtained from external experts
- A second-level review would be conducted by the Task Force/expert committee

#### **16. RECEIPT AND REVIEW SCHEDULE**

- Letter of Intent Receipt Date: **Three weeks** from date of Advertisement
- Receipt Date for full proposals: **Four weeks** from date of response by DBT
- Peer Review Date: To be completed within **three months** from date of receipt of proposal.
- Earliest Anticipated Start Date: **six months** from date of submission of proposal

#### **17. AWARD CRITERIA**

Award decisions will be based on scientific and technical merit as determined by peer-review, the Task Force/ Expert Committee recommendations, the prospect of enhancement of the research capability of the institution, and the availability of funds.