

# DST-NSF PROGRAM OF COOPERATION

FOR SCIENTISTS AND ENGINEERS

## CALL FOR JOINT PROJECT PROPOSALS

### Introduction

The Department of Science and Technology (DST), Government of India and National Science Foundation (NSF) of the USA are collaborating partners through a program of co-operation in the areas of science & technology.

DST and NSF are cooperating primarily through the following three programmes:-

1. DST- NSF Cooperation through **Office of International Science and Engineering (OISE)**.
2. DST-NSF Cooperation on **Materials World Network**.
3. Also, DST-NSF Cooperation may occur through any NSF Research Program.

### Objectives of Cooperation

The cooperation activities between DST and NSF are implemented with the following objectives:

- To facilitate interactions between the scientists and engineers from India and USA for mutual benefit.
- To promote research and development in emerging and front-line areas of science and engineering including multi-disciplinary fields.
- To encourage young scientists and engineers to take up research and development in challenging areas for enhancing their capabilities through international collaborations.

## Opportunities Available

Through this Co-operation, the Scientists and Engineers from India have the following collaborative opportunities with scientists and engineers from USA.

### 1. DST-NSF Joint Workshops/Seminars

The joint Workshops/seminars are supported for facilitating interaction and development of bilateral projects between the scientists and engineers from both sides, which will be submitted to DST& NSF after the Workshop/Seminar. For this, the detailed project proposals are to be submitted in the prescribed format by Indian Scientists & Engineers to DST for which the call for proposals ends on March 15<sup>th</sup> and November 30<sup>th</sup> of each year.

Similar proposals are to be submitted by US researchers to NSF either to OISE or directly to the appropriate NSF Research Program.

## **2. Joint R & D Projects**

The joint R&D Project proposals are to be submitted by Indian Scientist & Engineers to DST. Under this, the participation of young researchers i.e. Ph.D students and postdoctoral researchers on both the sides is encouraged. The researchers from India may submit project proposals (in prescribed format) in emerging and new technological areas such as nano technology, bio-technology, computer simulation and mathematical modeling, life sciences, new materials, seismicity and earth sciences etc. including areas of pure sciences. The call for proposals for the Joint R&D projects ends on September 30<sup>th</sup> and December 31<sup>st</sup> of each year.

Similar proposals for Joint R&D Projects by the US researchers are to be submitted to the appropriate NSF Research Program as a domestic project with Indian Researcher as foreign partner (making suitable provision for 3 years), as per due dates announced by NSF. US researchers may contact Dr. Marjorie Lueck, (Program Manager South Asia) prior to submission to the NSF Research Program. US Researcher are advised to contact Dr. Marjorie Lueck for further information or the respective program directorate.

## **3. Planning Visits**

Under this activity, one visit of the PI from Indian side to USA for a period of maximum 15 days and reciprocal visit from US-PI to India for the same period would be considered to enable them to develop a major joint R&D project for submission at the respective end for consideration of appropriate funding agency.

5 copies of the project proposal in prescribed format (not more than 3-4 pages), outlining briefly the need for cooperation, experience of both PIs in the proposed research area and the usefulness of the proposed research project along with brief CV of PIs from both the sides may be submitted. Indian researcher may submit their project proposals to DST anytime during the year. However, evaluation/assessment of the proposals would be carried out on six monthly basis. Similar proposals are to be submitted by US researchers to the OISE of NSF (Dr. Marjorie Lueck).

## **4. Materials World Network**

### **Program Title:**

Materials World Network (MWN): Cooperative Activity in Material Research between US investigators and their Counterparts Abroad.

### **Synopsis of Program:**

Continued progress in material research is increasingly dependent upon the collaborative efforts among several different disciplines, as well as closer coordination among funding agencies and effective partnership involving universities, industries and national laboratories. In addition, because of the growing interdependence of the world's economies, partnerships are important not only at the national level but from an

international point of view as well. The National Science Foundation (NSF) is working together with counterpart national and multinational funding organizations worldwide to enhance opportunities for collaborative activities in materials research between US investigators and their colleagues abroad. The Department of Science & Technology, Government of India has joined the above activity with NSF as their counterpart abroad.

### **Eligibility Information and due date :**

Proposals from Indian institutions/scientists, engineers addressing collaborations between researchers from India & the US are invited for participating in this program. Joint project proposals may be submitted by Indian researchers to DST in response to this **call for proposal up to November 20, 2006**. The proposals must have clear relevance to fundamental materials phenomena, synthesis, characterization, properties and/or processing. Further, there should be a minimum of two collaborators from India. Grants will cover expenses on the visits for Graduate/Postdoc researchers associated with the project in addition to Project Investigators (PIs), hospitality to US researchers and small expenses on contingency, minor equipment etc.

Similar proposals are to be submitted by US researchers simultaneously to NSF to the Division of Materials Research up to 20<sup>th</sup> November, 2006.

## **GENERAL INFORMATION**

### **1. General Requirement**

In all the above cases, the joint research proposal must establish a need for collaboration and mutuality of benefits. Before planning or submitting a proposal for joint workshop, a consultation with DST is desirable, as allocation for this activity is limited.

### **2. WHO CAN SUBMIT A PROPOSAL**

Scientists and engineers from universities, their affiliated colleges, deemed universities, autonomous research institutions and industrial R&D units can submit a proposal.

### **3. WHEN TO SUBMIT A PROPOSAL**

Ten copies of the proposal in the prescribed format can be submitted as per the schedule given above against respective scheme/activity.

### **4. AREAS OF RESEARCH SUPPORT**

As mentioned above, the research proposal in priority areas are likely to get good response. In other cases, only the very high quality project proposals could get consideration of both sides. Emphasis is given to selected research areas such as materials including nano materials, bio technology, information and communication technologies, life sciences, mathematical modeling and computer simulation, seismicity and Earth Sciences, basic sciences etc. In addition, a collaborative proposal has to fulfill eligibility criteria of both DST and NSF to be acceptable for consideration under this programme.

## **5. COMPONENTS OF GRANT**

Costs related to international travel to the USA and associated domestic travel within India for Indian investigator(s), local hospitality for the visiting USA investigator(s), a small amount for consumable or contingencies and institutional overheads at the prevailing rates are permissible. While computing travel cost please cover entire travel from the participating Indian institution to the participating USA institution by entitled class. Air travel is to be performed using Indian flag carrier to the extent possible. If the participating Indian institution has a guest house of acceptable standards, the visiting USA participant should be accommodated in the guest house and guest house charges debited to the project. Otherwise accommodation should be arranged in a clean and neat, up to a three star hotel. An appropriate provision should be made in the project budget at the time of submission. In addition to accommodation, the visiting USA participant will also receive Rs.500 per day for other expenses. This expense should be reflected in the project budget. The expenses related to visa, medical insurance cover for the Indian participant during his/her visit to USA under an ongoing project can be met from the project budget provided suitable provision as a separate budget item is made at the time of submission. Hosting in the USA will be provided for Indian Researchers on a reciprocal basis by the US investigator.

Joint research project is expected to draw upon strengths of both the collaborators using facilities and expertise available in both the places. Therefore, this mode is normally not available for long-term visits. Normal duration of an exchange visit is expected to be about four weeks. Visits longer than this period will need detailed justification.

## **6. COMPONENTS NOT ALLOWED OUT OF GRANT**

The international collaboration under this programme is expected to complement the ongoing national efforts. Requirements related to manpower, permanent equipment and substantial component of consumable grant is expected to be available from corresponding domestic programme. Thus, DST normally will not provide funds for manpower, permanent equipment, maintenance of equipment, books and periodicals, page charges etc. under this programme. In the same spirit, major requirements for consumable should primarily be derived from the domestic programme and only incremental component required due to international collaboration should be budgeted in the collaboration proposal.

## **7. MECHANISM OF IMPLEMENTATION AND MONITORING**

Proposals, in prescribed format, complete in all respect and submitted through proper channel by the due date will undergo peer review process on the Indian as well as NSF sides. Proposals found suitable by both the sides will be considered for funding. The peer review process normally takes about six months. Proposals selected for support should allow additional one month for financial scrutiny and approvals. To avoid processing delays, simultaneous submission to DST and NSF by respective investigators is strongly recommended. The outcome of DST supported proposals will be monitored through review of Annual Progress Reports and Final Report.

## 8. CONTACT POINTS:

Dr B.K. Jain,  
Scientist "G",  
International Division,  
Department of Science & Technology,  
Technology Bhawan,  
New Mehrauli Road,  
New Delhi - 110 016

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Dr. Marjorie Lueck,  
Program Manager South Asia,  
National Science Foundation,  
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Engineering  
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Web: [www.nsf.gov.oise](http://www.nsf.gov.oise) &  
[www.nsf.gov](http://www.nsf.gov)

OR

Respective Program Directorate at  
National Science Foundation

### FOR MWN

Dr. Carmen Huber

Director Office of Special Programs  
Division of Materials Research  
National Science Foundation  
4201 Wilson Blvd, Arlington, VA 22230.  
Tel: 703-292-4939  
Fax:: 703-292-9036

Web: [www.nsf.gov/div/index](http://www.nsf.gov/div/index)

## **9. INSTRUCTIONS FOR PROPOSAL PREPARATION**

**9.1** Proposals must be securely stapled or bound and have 2.5 cm margins on all the four sides. The type size must be clear and legible. Pages must be of standard size; A-4 size (210 mm x 297 mm) is preferred.

**9.2** Headings for the sections of the proposal are given below. There are page limits to some sections which are given in the brackets. The information should be given under each section and not in the form of annexes. Entire proposal is to be paginated giving consecutive numbers to pages.

- Cover Sheet (format attached)
  - Project summary (one page)
  - Table of contents (one page)
- Project description including results from previous DST support (15 pages, results from previous DST support not to exceed five pages)
  - References cited
  - Biographical sketch (2 pages per investigator)
- Budget, cumulative and annual, under appropriate budget heads along with justification (3 pages)
  - Ongoing and pending research proposals by the investigators (format attached)
  - List of facilities, equipment and other resources available for the project

**9.3** Project description should contain a clear statement of work to be done and should include sub-sections on introduction, objectives, plan of work, experimental methods, specific activities to be undertaken by the Indian and USA collaborator(s), significance of expected outcome and its relation to present state of knowledge in the field. Project description should clearly bring out the need for collaboration and expected tangible gains for the two sides. Collaborations in which contribution of the US collaborator is limited to providing access to specialized facilities will enjoy low priority under this programme.

**9.4** Biographical sketches are to be limited to two pages per senior investigator. The following information must be provided :

- Name, Date of birth, Name of the institution, whether belong to SC/ST, MSc. Onward academic and professional career (with years and names of universities/institutions).
- List of up to 5 publications most closely related to the proposed project and 5 other significant
- Publications, including those accepted for publication.
- Patents, copyrights or software systems developed may be substituted for publication.

**9.5** Along with 10 copies of complete proposal document one copy each of the following documents is required :

- Endorsement from the head of the institution (Format attached)
- A letter from the US collaborator indicating that-

a) The proposal is prepared jointly;

- b) He/she agrees with the technical contents of the proposal; and
- c) He/she undertakes to submit counterpart proposal to NSF.

- List of suggested reviewers from India.
- In case of the proposals involving Recombinant DNA work, a certificate from the Institutional Biosafety Committee
- In case of the proposals involving research with human subjects, a certificate from the Institutional Ethical Committee.

Ten copies of the proposal with other required documents are to be mailed to:

Dr. B.K. Jain, Adviser,  
International Division,  
Department of Science & Technology,  
Technology Bhawan,  
New Mehrauli Road,  
New Delhi - 110 016

- ***THE PROPOSALS NOT CONFORMING TO THE GUIDELINES AND INSTRUCTIONS AS ABOVE ARE LIABLE TO BE REJECTED IN INITIAL SCREENING.***

**COVER SHEET**

**DST-NSF S&T COOPERATION PROGRAMME  
FOR SCIENTISTS AND ENGINEERS  
APPLICATION FOR JOINT RESEARCH PROPOSAL**

**1. Title of the Proposal :**

**2. Duration of the Proposal :**

**Expected date of commencement :  
(Please allow at least 6 months of processing time beyond due date of submission).**

**3. Field of S&T Covered by the proposal :**

**Key words (five) for the proposal.**

**4. Project Investigators (PIs) & Collaborating Institutions**

**INDIAN**

**USA**

**1. Name of the PI :**

**Designation  
Institutional Address**

**Telephone No.  
Fax No.  
E-mail**

**2. Name of the Co-PI**

**Designation  
Institutional Address :**

Telephone No:  
Fax No:  
E-mail:

**Signature of Indian PI**

**Signature of US- PI**

**DST-NSF S&T COOPERATION PROGRAMME  
FOR SCIENTISTS AND ENGINEERS  
FORMAT FOR ENDORSEMENT FROM THE HEAD OF INSTITUTION**

It is certified that:

- i. the Institution agrees to participate in this joint research project
- ii. the Institution shall provide infrastructure and necessary facilities for implementing the joint project.
- iii. the Institution agrees to undertake financial and other administrative responsibilities for part of the project to be carried out at their institution.
- iv. the back up support for manpower, consumable etc. is available to this project.

**Signature and seal of the  
Head of the Institution.**

**DST-NSF S&T COOPERATION PROGRAMME  
FOR SCIENTISTS AND ENGINEERS  
FORMAT FOR LIST OF FACILITIES / EQUIPMENT / OTHER RESOURCES  
List of Facilities to be extended to the Investigator(s) by the Implementing  
Institutions(s) for the Project**

**Infrastructure facilities (Tick the appropriate box)**

Item	Yes	No	NR*	Item	Yes	No	NR*
Workshop				Transportation			
Water & Electricity				Administrative & Secretarial support			
Standby power supply				Library facilities			
Laboratory Space & Furniture				Computational Facilities			
Air-conditioned Room for Equipment				Animal /Glass House			
Telecommunication				Any other			

NR : Not Required.

Available equipment and accessories to be utilized for the project

SL. No.		Name of Equipment and accessories
	(a) Available within Investigators Group	
	(b) Available in the Investigators Department	
	(c) Available elsewhere in the Institution or in the Region	

**DST-NSF S&T COOPERATION PROGRAMME FOR SCIENTISTS AND  
ENGINEERS  
FORMAT FOR PROVIDING INFORMATION ON ONGOING AND PENDING  
PROPOSALS BY THE INVESTIGATORS.**

**A. INVESTIGATOR (S)**

**B. PROJECT TITLE**

**C. PROJECT IDENTIFICATION**

**1. Title of the Project:**

**2. Expected date of commencement:**

**3. Field of S&T covered by the proposal:**

**Key words qualifying the scope of the proposal:**

**4. Project Investigators (PIs) & Collaborating Institutions**

**D. STATUS : Please tick appropriate box**

**D.1 Ongoing**

**Duration : 2. Duration of the Project: From ----- to -----**

**Total cost : Rs. -----**

**D.2. Proposed**

**E. Name of funding agency for ongoing project**

**F. Summary of the Project**

**G. Highlights of the achievements under ongoing project**

## DST-NSF S&T COOPERATION PROGRAMME FOR SCIENTISTS AND ENGINEERS

### Budget

Budget head	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	Total
International travel and related domestic travel				
Accommodation charges for the visiting US scientist (No. of days x Rs.....)				
Per diem charges for the visiting US scientist (No. of days x Rs. 500)				
Contingencies (including medical insurance, visa fees etc.)				
Institutional overhead @ 5%				