Call for Research Proposals

Empowerment and Equity Opportunities for Excellence in Science

The Government of India established the Science and Engineering Research Board (SERB) through an Act of Parliament, viz. the Science and Engineering Research Board Act, 2008. Supporting basic research in emerging areas of Science & Engineering is one of the objectives of the Board.

SERB is expanding its reach across the country through various programmes without diluting the quality of research. In its endeavor of ensuring enhanced participation of weaker sections of the society in research and development, the Board has decided to implement a special scheme titled *Empowerment and Equity Opportunities for Excellence in Science*. **The scheme drives special programs to ensure enhanced participation of SC/ST in the research and development field.**

Application for project based support on a competitive mode is sought from the eligible scientists.

**ELIGIBILITY**

1. The scheme is open to Indian nationals only.
2. Should be an active researcher belonging to the Scheduled Caste and Scheduled Tribe category working in academic institutions/national labs or any other recognized R&D institutions in the field of Science and Engineering.
3. The applicant should have at least four years of service remaining before superannuation as on the date of submission of the proposal.

4. Should be a Researcher/Scientist who has not received support under this scheme earlier.

The format and guidelines and other details of the Scheme are available at www.serb.gov.in and www.dst.gov.in. The last date of receiving the proposal is 15th February, 2014.

Three (3) copies of the proposal, in the prescribed format, neatly typed on A-4 size paper, should be submitted to SERB along with one soft copy to the following address:

Secretary  
(Attn: Dr. Amitava Roy, Programme Coordinator)  
Science and Engineering Research Board  
5 & 5A, Lower Ground Floor  
Vasant Square Mall  
Sector-B, Pocket-5  
Vasant Kunj  
New Delhi-110070

A softcopy of the proposal complete in all respect should also be mailed to: equityserb@gmail.com

The envelope containing the proposal should be superscribed with “Empowerment and Equity Opportunities for Excellence in Science”– (mention broad subject area).
Empowerment and Equity Opportunities for Excellence in Science

Science & Engineering Research Board
Department of Science & Technology
Government of India
New Delhi
The Government of India established the Science and Engineering Research Board (SERB) through an Act of Parliament, viz. the Science and Engineering Research Board Act, 2008. Supporting basic research in emerging areas of Science & Engineering is the primary and distinctive mandate of the Board.

SERB is expanding its reach across the country through various programmes without diluting the quality of research. In its endeavor of ensuring enhanced participation of weaker sections of the society in research and development, the Board has decided to implement a special scheme titled *Empowerment and Equity Opportunities for Excellence in Science*. **The scheme drives special programs to ensure enhanced participation of SC/ST in the research and development field.**

Application for project based support on a competitive mode is sought from the eligible scientists.

**OBJECTIVES**

1. To provide research support to scientists belonging to the Scheduled Caste and Scheduled Tribe in undertaking research in newly emerging and frontier areas of science and engineering including multidisciplinary fields.
2. To involve scientists belonging to the Scheduled Caste and Scheduled Tribe in national S & T development process.

**ELIGIBILITY**

1. The scheme is open to Indian nationals only.
2. Should be an active researcher belonging to the Scheduled Caste and Scheduled Tribe category working in academic institutions/national labs or any other recognized R&D institutions in the field of Science and Engineering.

3. The applicant should have at least four years of service remaining before superannuation as on the date of submission of the proposal.

4. Should be a Researcher/Scientist who has not received support under this scheme earlier.

GUIDELINES

1. The project proposals for consideration under the Empowering Scheme can be submitted only when the call for proposal is made.

2. The Investigators may submit 3 copies of the proposal printed on both the sides of A4 size paper, properly stapled and without spiral binding along with the electronic copy of the proposal on a CD, in MS Word and pdf. A softcopy of the proposal should be send, preferably by e-mail to the Program Coordinator.

3. The proposal should be prepared and submitted strictly according to the formats prescribed in this document (Annexure I).

4. The duration of the project should be of four years normally.

5. The funding is provided up to a maximum of Rs. 50.0 lakhs (excluding overhead charges) for a period not exceeding four years.

6. Funds are provided for major equipments, manpower, consumables, travel, analytical charges and contingency etc.

7. Overhead Charges as per rules will be provided to the implementing institution.

8. Copies of the proposal and other required documents must be sent in one lot through proper channel to Program Coordinator at the address mentioned below.
9. Projects which involve Recombinant DNA work should be examined and certified by Institutional Biosafety Committee. Certificate from this committee should accompany the project proposal.

10. Projects, which are clinically oriented or projects, which involve experiments with human and/or animal material, should be examined and certified by Institutional Ethics Committee. Certificate from this committee should accompany the project proposal.

11. Proposals in the area of Earth Sciences should contain the geological map of the region to be studied.

12. Please contact SERB if the acknowledgement letter mentioning the registration number of the project is not received within one month from the date of dispatch of the proposals.

13. Please make sure to quote the registration number/letter number (given by SERB) and title of the proposals in all your future communications.

14. The information should be given under each section, even if it is Nil.

Note: Research proposals from scientific institutions, research laboratories under various scientific departments, which are in line with the normal research activities of the institutions, may not be considered for support. Only research proposals outside the normal activities of such institutions (i.e. National R&D Programs, Programs in newly emerging and front-line areas of research etc.) will be considered. Further, proposals involving purely survey-oriented work and routine studies will not be normally considered.

GENERAL TERMS AND CONDITIONS

1. The Principal Institution implementing the project assumes financial and other administrative responsibilities of the project.

2. In case of multi-institutional project the Principal Investigator (PI) has to obtain formal agreement from the collaborating institutions/scientists.

3. International travel is not normally permissible under the project.
4. The manpower recruited for the project is temporary and should be paid as per the rules of the institute and guidelines of SERB/DST.

5. It is the policy of SERB to maximize the use of equipment. In this light, Investigator shall permit the use of spare or ideal capacities of equipment procured under the project by bonafide users from the parent or nearby Institutes (research workers in other SERB/DST funded projects or other projects of the institute).

6. The proposals are evaluated by Task Force /Expert Committee constituted for the purpose.

7. No Co-PIs are allowed in the project.

8. Three (3) copies of the proposal, in the format given below, neatly typed on A-4 size paper, should be submitted to SERB along with soft copy to the following address:

   Secretary
   (Attn: Dr. Amitava Roy, Programme Coordinator)
   Science and Engineering Research Board
   5 & 5A, Lower Ground Floor
   Vasant Square Mall
   Sector-B, Pocket-5
   Vasant Kunj
   New Delhi-110070

   A softcopy of the proposal complete in all respect should also be mailed to: equityserb@gmail.com

   The envelope containing the proposal should be superscribed with proposals for Empowerment and Equity Opportunities for Excellence in Science— (mention broad subject area).
**DOCUMENTS/ ENCLOSURES REQUIRED WITH THE PROPOSAL**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Number of copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Details of the proposal (Annexure – I) from Section 1 to 43 (stitched) + one soft copy preferably in MS Word</td>
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</tr>
<tr>
<td>b) Endorsement from the Head of Institution (on letter head)-(Annexure – II)</td>
<td>One</td>
</tr>
<tr>
<td>c) Certificate from Investigator - (Annexure – III)</td>
<td>One</td>
</tr>
<tr>
<td>d) Attested copy of caste certificate issued by competent Authority</td>
<td>One</td>
</tr>
<tr>
<td>e) Name and address of experts/institution interested in the subject/outcome of the project.</td>
<td>One</td>
</tr>
</tbody>
</table>
FORMATS FOR SUBMISSION OF PROJECTS
(To be filled by applicant)

Empowerment and Equity Opportunities for Excellence in Science

Category (Please tick) : [SC] [ST]

1. Project Title

2. Broad Subject:
   - Atmospheric Science
   - Chemical Sciences
   - Earth Sciences
   - Engineering Sciences
   - Life Sciences
   - Mathematical Sciences
   - Physical Sciences
   - Other Interdisciplinary

3. Sub Area: Ref. Annexure A

4. Duration in months:

5. Total cost:

6. FE Component

7. Name of Principal Investigator:

8. Designation:

9. Department:

10. Institute Name:

11. Address:

12. Date of Birth: Sex (M/F):

13. Whether belong to SC/ST:

14. Telephone: Fax: Mobile: e-mail:
15. Project summary (maximum 150 words):

16. Key words (maximum 6):

17. Technical details:

17.1. Introduction (under the following heads)

17.1.1. Origin of the proposal
17.1.2. Definition of the problem
17.1.3. Objective

17.2. Review of status of Research and Development in the subject

17.2.1. International status
17.2.2. National status
17.2.3. Novelty Importance of the proposed project in the context of current status

17.2.4. if the project Is location specific, basis for selection of location.

18. Target beneficiaries of the proposed work

19. Review of expertise available with the PI, the proposed investigating group/institution in the subject of the project

20. Patent details (domestic and international), if applicable

21. Environmental impact assessment and risk analysis

22. Proposed impact assessment

23. Sustainability: Issues relating to sustainability, including stakeholder commitment, operation and maintenance of assets after project completion, and other related issues

24. Work plan
24.1. Methodology
24.2. Organization of work elements
24.3. Time schedule of activities giving milestones
24.4. Physical and financial targets
24.5. Suggested plan of action for utilization of research outcome expected from the project.

25. The development "Outcomes" and "Outputs' of the project

26. Economic implications of the proposed work, if any.

(27.) BUDGET ESTIMATES: SUMMARY

<table>
<thead>
<tr>
<th>Item</th>
<th>BUDGET</th>
<th>(in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Year</td>
<td>2nd Year</td>
</tr>
<tr>
<td>A. Recurring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Salaries/wages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Consumables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Travel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Other costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand total (A+B)</td>
<td></td>
<td></td>
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<tr>
<td>Total FEC*</td>
<td></td>
<td></td>
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</tbody>
</table>

*FEC- Foreign Exchange Component
Foreign Exchange component (in US$) equivalent of rupee amount at the prevailing rates may be furnished.

28. BUDGET FOR SALARIES/WAGES

<table>
<thead>
<tr>
<th></th>
<th>BUDGET</th>
<th>(in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Year (m.m. *)</td>
<td>2nd Year (m.m.)</td>
</tr>
</tbody>
</table>
29. Justification for the manpower requirement.

30. BUDGET FOR CONSUMABLE MATERIALS

<table>
<thead>
<tr>
<th>Item</th>
<th>1st Year</th>
<th>2nd Year</th>
<th>3rd Year</th>
<th>4th Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
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</tbody>
</table>

*Q: Quantity or number, ** Budget

31. Justification for costly consumable

32. BUDGET FOR TRAVEL

<table>
<thead>
<tr>
<th>Items</th>
<th>1st Year</th>
<th>2nd Year</th>
<th>3rd Year</th>
<th>4th Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel (Only inland travel)</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

33. Justification for intensive travel, if any.

34. BUDGET FOR OTHER COSTS/CONTINGENCIES

<table>
<thead>
<tr>
<th>BUDGET</th>
<th>(in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
35. Justification for specific costs under other costs, if any.

36. BUDGET FOR EQUIPMENT

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Generic name of the Equipment along with make &amp; model</th>
<th>Imported/Indigenous</th>
<th>Estimated Costs (in Foreign Currency also)*</th>
<th>Spare time for other users (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

* includes transport, insurance and installation charges.

37. Justification for the proposed equipment.


39. Time Schedule of Activities through BAR Diagram

40. List of facilities being extended by parent institution(s) for the project implementation.

A) Infrastructural Facilities:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Infrastructural Facility</th>
<th>Yes/No/ Not required Full or sharing basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Workshop Facility</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Water &amp; Electricity</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Laboratory Space/ Furniture</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Power Generator</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>AC Room or AC</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Telecommunication including e-mail &amp; fax</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Transportation</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Administrative/ Secretarial support</td>
<td></td>
</tr>
</tbody>
</table>
9. Information facilities like Internet/ Library

10. Computational facilities

11. Animal/ Glass House

12. Any other special facility being provided

B. Equipment available with the Institute/ Group/ Department/ Other Institutes for the project:

<table>
<thead>
<tr>
<th>Equipment available with</th>
<th>Generic Name of Equipment</th>
<th>Model, Make &amp; year of purchase</th>
<th>Remarks including accessories available and current usage of equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI &amp; his group</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PI's Department</td>
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<tr>
<td>Other Inst In the region</td>
<td></td>
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</table>

41. Detailed Bio-data of the Investigator including

Name, Address, Date of Birth, Religion/Caste, Institution’s Address etc.

Academic Qualifications (University /College from where attained, year of passing, class, Thesis title etc.)

Publications list (Title of paper, authors, Journal details, pages, year etc.)

Patent list, if any

List of Projects implemented

42. Details of Research Projects being implemented/ completed/ submitted by the Investigator including Name of the Institute

Project Title

Project Status:
Completed-duration, period (from... to....), funding agency and total cost
On-going-duration, date of start, funding agency and total cost
Proposed-duration, funding agency where submitted and total cost

Summary of the project

Major Results/ Highlights of the project including achievement (publications, patents etc.), for completed projects

Up-to date Technical progress report for on-going projects.

43. Any other relevant matter.
List of Programme Advisory Committees (existing)
(Please enter one of these at Section 2.1: Sub Area)

Chemical Sciences (3 PACs)

i)  Inorganic Chemistry
ii) Organic Chemistry
iii) Physical Chemistry

Earth & Atmospheric Sciences (3 PACs)

i)  Atmospheric Science
ii) Earth Science
iii) Himalayan Glaciology

Engineering Sciences (5 PACs)

i)  Chemical Engineering
ii) Electrical, Electronics and Computer Engineering
iii) Materials, Mining and Mineral Engineering
iv) Mechanical & Manufacturing Engineering & Robotics
v)  Civil & Environmental Engineering

Life Sciences (4 PACs)

i)  Animal Sciences
ii) Biophysics, Biochemistry and Molecular Biology
iii) Health Sciences
iv) Plant Sciences

Mathematical Science (1 PAC)

Physical Sciences (3 PACs)

i)  Condensed Matter Physics and Materials Science
ii) Lasers, Optics, Atomic and Molecular Physics
iii) Plasma, High Energy, Nuclear Physics, Astronomy & Astrophysics and Nonlinear dynamics
Annexure II

Endorsement from the Head of Institution

(To be given on letter head)

Project Title:

1. Certified that the Institute welcomes participation of _______________________________as the Principal Investigator for the project and that in the unforeseen event of discontinuance by the Principal Investigator, the Institute will assume the responsibility of the fruitful completion of the project / settle the project in consultation with SERB.

2. Certified that the equipment and other basic facilities as enumerated in Section 40 and such other administrative facilities as per terms and conditions of the grant, will be extended to the investigator throughout the duration of the project.

3. Institute assumes to undertake the financial and other management responsibilities of the project.

Date:

Place: Name and Signature of Head of Institution
(Name in Block Letters)
Phone No.
e-mail:

NB: In regard to the research proposals emanating from scientific institutions laboratories under various scientific departments, the Head of institution is required to provide a justification indicating clearly whether the research proposal falls in line with the normal research activities of the institution or not and if not, the scientific reasons which merit its consideration by SERB.
Certificate from the Investigator

Project Title:

1. I agree to abide by the terms and conditions of the SERB research grant.
2. I did not submit the project proposal elsewhere for financial support.
3. I have explored and ensured that equipment and basic facilities (enumerated in Section 40) will actually be available as and when required for the purpose of the projects. We shall not request financial support under this project, for procurement of these items.
4. I undertake that spare time on permanent equipment (listed in Section 36) will be made available to other users.
5. I have enclosed the following materials:

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Date:                  
Place:                Name and signature of Principal Investigator