

Call for Scientific Project Proposals under Polar Research Initiative 2017-2020 (FY)

The Polar Regions (Arctic, Antarctic, Southern Ocean and the Himalaya's) offer a unique opportunity to researchers to better understand earth system processes and life forms that negotiate extreme conditions. They serve as pulse points to understand the impact of climate change and predict the future of mankind. Polar Regions are one of the first respondents to the changing climate and offers valuable insights into the degree and pace of climate change. Study of Polar Regions has some spin-offs with societal relevance, such as an increased understanding of our monsoons, knowledge of human adaptability in extreme environments, understanding the sea level changes w.r.t., melting of ice, variability of climate and its impact on glaciers etc. The most imminent adversity that the world is facing per se climate change is the melting of ice-sheets which could lead to global sea-level rise. India is among the many nations which have taken a lead in understanding the manifestation of climate change by investing in diverse field and lab based studies.

ESSO-National Center for Polar and Ocean Research (NCPOR), a constituent unit of the Ministry of Earth Sciences (MoES) is the nodal agency for launching Indian scientific expeditions to Antarctica, Arctic, Southern Ocean and the Himalayas and is also a leading R&D institution in Polar research. More than 70 research institutes and universities all over India participate in the scientific expeditions to the Polar Regions. The research undertaken in the Polar Regions is in sync with the international mandates set forth by the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC). The vision and strategy documents, especially for scientific studies in Antarctic have been formulated and updated depending on the need and priorities at various stages. This has led to mounting of various projects with clear objectives targeting specific issues and significant deliverables.

NCPOR intends to call for proposals under selected themes and sub-themes that have high scientific impact and relevance in the present scenario. This initiative by the MoES coordinated by NCPOR under Polar and Cryosphere Research (PACER) programme focuses to promote science among other research establishments particularly the Universities. With fewer themes at the beginning, NCPOR plan to cover the entire gamut of Polar Research in the coming years. These initiatives are expected to be long-term and will provide adequate funds to carry out and complete a project's objective(s). The projects would be initially for the plan period (2017-20) with due evaluation and assessment periodically by a panel of experts. Data generated by these projects, field campaigns (if any) and observational platforms should be shared and will be used to improve the understanding of the various processes of the Earth system in the Polar Regions. In

addition to this, projects are expected to contribute to the capacity building in cryospheric sciences, targeting students/people by promoting their participation, organizing training, workshops, field campaigns etc. With this background, research proposals are invited to study the Arctic, Antarctic, Southern Ocean and Himalaya with prime focus on Climate Change and its processes.

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Scientific projects under this initiative will be sanctioned to personnel/organization satisfying the following criteria. The proposed project should be within the areas of interest discussed in the section 2.3 'Specific areas of interest'. The project may be proposed for a maximum three years or till March 31, 2020 whichever is earlier.

2.1. Eligibility

The project will be sanctioned to the scientist(s)/academician(s), who are in regular service from recognized research/academic institutions/universities. The Principal Investigator (PI) should have sufficient experience and expertise in the relevant field of the proposed project. The PIs are encouraged to design the project proposals involving NCPOR scientists. It is expected that the outcome of the proposed project will significantly enhance/compliment the ongoing R&D activities and the mission mandate of NCPOR. In the case where additional expertise is required to execute the project, the PI can opt for Co-PIs.

2.2. Project sanction criteria

The project proposal will be reviewed annually by a Project Monitoring Committee (PMC) established by NCPOR. The committee will consist of eminent scientists/academicians working in the relevant field. The evaluation of the proposals will be based on the innovation, deliverables and financial targets. The PMC will also assess the progress of the project every year and evaluate the benchmarks proposed by the PI. Although, the sanction of the project will be till March 31, 2020, the extension of the project for each financial year will be based on the progress made during the previous year and subsequent recommendations of PMC on the necessity of continuation of the project.

2.3. Specific areas of interest

Specific areas of interest to be studied and addressed in the project proposal under Arctic, Antarctic, Southern Ocean and Himalaya are:

I. POLAR SCIENCES

- a. Sea-ice modeling
- b. Southern Ocean Processes
- c. In-situ & Satellite observation
- d. Polar Environment and Ecosystem
- e. Polar Biology
- f. Fjord/Coastal dynamics

II. LAND-OCEAN-ATMOSPHERE PROCESSES

- a. Mass/Energy Balance
- b. Ice-sheet dynamics
- c. Paleoclimate
- d. Teleconnections
- e. Crustal Evolution

2.4. Submission of proposals

Proposals in duly given format (Annexure 1) along with all essential endorsements and certificates in the prescribed format should be sent to:

The Director, ESSO - National Centre for Polar and Ocean Research, Headland Sada,
Vasco da Gama, Goa 403 804.

The envelope should be clearly superscripted "Polar Project Proposal". The final proposal should reach NCPOR on or before **14th February 2019.**

2.5. Sanction of Equipments

PIs may propose to purchase equipments and peripherals for successful implementation of the project. However, NCPOR does not encourage the PIs to purchase of major scientific instruments as part of the project. The PIs who do not have high end scientific instruments at the host institution, may make use of instrument/ facilities available at NCPOR.

2.6. Sanction of Manpower

Manpower will be sanctioned in the pay scales of JRF/SRF/Research Associate and Field Assistant (FA)/Technical Assistant (TA). The recruitment rules applicable for the manpower in

the host institute may be followed. Further, it is expected that the PI would be in regular service during the project period and will not be paid from the project. In some special cases, project may accommodate superannuated scientists/academicians as “Consultant”, with proper justification and detailed specific work element to be done by the Consultant. However, the sanction of the same will be based on the recommendation of PMC and will be paid honorarium as per the norms of MoES. In such cases, special consent is required from the host institute to extend the infrastructure facilities to execute the project.

2.7. Financial Framework

The funding required for executing the project should be proposed under the recurring and non-recurring budget heads. The non-recurring budget head includes Equipments/instruments (if any) and Computer Items (Hardware, Software, Peripherals). The recurring budget head includes: 1) Manpower, 2) Field expenditure, 3) Consumables & Labwares; 4) TA/DA, workshops, etc. 6) Contingency and 7) Institutional overheads ($\leq 15\%$) on the recurring heads. The amount proposed towards Contingency should not exceed 10% of the project cost.

2.8. NCPOR Objectives

NCPOR is an autonomous R&D institute fully funded by the MoES and mandated with Polar research in the country. At NCPOR, the scientific mandate is multidisciplinary, which has as its focal theme, cryospheric research in those areas that are currently not being undertaken by any other institution in India. Our prime objective under this initiative is to generate quality long-term research data in Polar Regions and maintain a database, apparently the NPDC (National Polar Data Center). Therefore, it is expected that all data generated as part of the projects sanctioned should be sent to NCPOR on a timely basis and should not be shared with any other agencies. Apart from this, we also expect the project to contribute towards development of an operational product. NCPOR also expect that the project should lead to high quality collaborative research articles to be published in SCI cited journals. NCPOR also expect the research scholars recruited under the project should register for PhD degrees. The students, interested to do their projects for fulfillment to get awarded their M.Sc. or M.Phil degree, could be engaged in such a way that they can also be a beneficiary of this project. Project Investigators are required to ensure that due acknowledgement of the financial assistance received from NCPOR/MoES should be made in the research paper(s) and report(s) published. NCPOR also expects that the concerned NCPOR scientists are involved in the academic/scientific activities of the host institute, including recognition as doctoral thesis supervisors, wherever feasible.

2.9. Project Closure Report

The PI shall submit the Project Closure Report within three months from the date of completion of the project. The closure report shall provide clear details of the achievements, deliverables, etc. along with the Consolidated Expenditure Statement for the entire project period.

2.10. Terms and conditions for issue of the project

1. The PI shall be a permanent employee of the host Institution/University/Research Laboratory/Organization, and is expected to have sufficient exposure and prior experience in the proposed field. All basic facilities by way of accommodation, infrastructure etc. required for the project shall be provided by the host organization.
2. Project will be sanctioned for a specific period and the date of commencement of the project will be the issue of sanction order. The release of further funds will be only against the submission of (i) Audited Utilization Certificate, (ii) Audited Statement of Expenditure, (iii) List of assets & Physical Stock Verification Certificate, and (iv) Annual Progress Report. Accounts should be maintained in a separate Register by controlling authority. This account shall be subjected to audit and report should be submitted periodically. If it is found expedient to keep a part or whole of the grant in a bank account earning interest, the interest thus yielded should be reported to the NCPOR. This will be treated as credit to the host Institution / University/Organization and will be adjusted in the subsequent releases of the grant by NCPOR/MoES. The final audited statement of accounts pertaining to the grant should be submitted within 3 months of the termination / completion of the project. The audited accounts shall be submitted and the unspent balance, if any shall be remitted to NCPOR. The Comptroller and Auditor General of India at its discretion shall have the right to access the books and audits of the Institution / University / Organization for the grants received from NCPOR/MoES.
3. Allocation of funds for various budgetary items as sanctioned shall be adhered strictly. Any deviation either in spending the money from the sanctioned amount for each head or after the lapse of time should be spent only after obtaining the prior approval from NCPOR. No amount can be transferred from one head to another head without the prior approval of NCPOR. All the funds will be released through Public Finance Management System (PFMS) and the PI have to put the expenditure only through this module and upload the Utilization Certificate (UC) at the end of the every year. For a one-time registration of host agency, the PI has to send the details of the organization to NCPOR in the format specified.
4. The host Institution / University / Organization is not permitted to seek or utilize funds from any other organization (Government / Semi-Government / Autonomous or Private) for the same project.

5. Research Associates / Fellows and Technical Supporting Staff like Technician, Field Assistants can be appointed as per the guidelines of the concerned host institute. The project staff shall not to be treated as employees of NCPOR. The deployment of such staff after the completion/ termination of the project will not be the concern / responsibility of the NCPOR.
6. The PI shall submit one hard copy and a soft copy of the annual progress report of the project by the second week of April of every year during the entire duration of the project. The review committee constituted by NCPOR will review the progress of the work and suggest measures to ensure an early realization of the results of the project. During the execution period of the project, the host Institution / University / Organization shall extend all facilities to the committee of experts who will be on inspection / review.
7. Domestic Travel can be included for participation in scientific conferences / symposia / workshops etc. connected with the project. International Travel cost is not allowed out of project funds.
8. The equipment/instrument not available in the nearby and expendable items for laboratory supplies, and cost of computer time etc., may be proposed. However, equipment/instrument should be ordered within ninety days from the date of sanctioning of the project.
9. For permanent/semi permanent assets acquired solely or mainly out of the grant including books, furniture, etc., an audited record in the form of a register shall be maintained by the host Institution / University / Organization for the record purpose. The term Asset means (i) Immovable property or (ii) Movable Property of a capital nature where the value exceeds Rs.10,000/-. However, the grant shall not be utilized for construction of any building. At the end of each financial year, a physical stock verification certificate together with asset details is to be provided for the assets acquired under the project grants for the audit purpose.
10. All the assets, including equipment/instrument, prototype acquired or fabricated out of project funds etc., will be property of NCPOR. They will remain with the host Institution/ University / Organization concerned unless or otherwise directed by NCPOR. These should not be disposed of or encumbered or utilized for any purpose other than those for which the grant is sanctioned during the project period.
11. At the conclusion of the Project, NCPOR will decide about the assets acquired under the project funding. NCPOR has the discretion to give the assets to the Institution if it considers it appropriate. The money generated out of sale proceeds of assets of NCPOR if any, shall be remitted to NCPOR account. However, the host Institution / University / Organization shall render necessary facilities for arranging the sale of assets or transfer them to other places as per the directives from NCPOR.

12. Reports / Dissertation / Thesis / Publications coming out of this research work shall be forwarded to NCPOR immediately after their release. Proper acknowledgement should be given to NCPOR/MoES.
13. The host Institution / University / Organization shall submit all drawings, source codes and technical documentations pertaining to the products of the project at any time as desired by NCPOR. The know-how generated either from the project or the receipts by way of sale of know-how, royalty, etc. will be the property of NCPOR. NCPOR may, at its discretion allow a portion of such receipts to be retained by the host organization. However, the sale of know-how, collection and settling the rate of royalty etc. would be decided by the NCPOR.
14. In case of change of PI to whom the project is sanctioned, the PI shall submit an up to date status report of the project and accounts and shall hand over the same to the first co-investigator who will become a PI after obtaining the necessary permission from the host organization as well as from NCPOR.
15. In case where the host organization is unable to execute or complete the work, the entire amount received in the form of a grant shall be returned to NCPOR along with penal interest. In such case the host organization shall not entrust this work, in full / partial, to any other Institution/ University / Organizations for implementation.
16. NCPOR shall terminate the grant at any stage if convinced either grant of the project is not being properly utilized or work is not progressing according to the milestones.
17. In case, where there is violation of any of these conditions for the grant, closure or dissolution of the host organization, NCPOR shall take possession of all the assets acquired under the project grants, and use them in any manner deemed appropriate or to recover from the host organization, to an extent the total value of the Project including penal interest.