



एक कदम स्वच्छता की ओर



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अधिकार

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उच्चतर शिक्षा विभाग  
शास्त्री भवन  
नई दिल्ली - 110 115  
GOVERNMENT OF INDIA  
MINISTRY OF HUMAN RESOURCE DEVELOPMENT  
DEPARTMENT OF HIGHER EDUCATION  
SHASTRI BHAVAN  
NEW DELHI-110 115

**D.O. No. 13-52-2018-ICC**

Date: 3<sup>rd</sup> October, 2018

Subject: **Promotion of SPARC Programme of MHRD**

*Dear Sir/Madam,*

I am happy to inform you that MHRD has launched a new scheme, **Scheme for Promotion of Academic and Research Collaboration (SPARC)** recently. The web link for the same is [www.sparc.iitkgp.ac.in](http://www.sparc.iitkgp.ac.in). The scheme aims at improving the research ecosystem of India's Higher Education Institutions by facilitating academic and research collaborations between top ranked Indian Institutions and the best institutions in the world from 28 selected nations (the list enclosed) to jointly create knowledge that can address and offer solutions to problems of national and /or international relevance. The details of the programme and the e-brochure are attached.

Under SPARC program, IIT Kharagpur will be the National Coordinating Institution. Also, one Indian Institution has been identified as the Nodal Institution for each country, to hand hold, guide other Indian institutions in forging alliance with foreign institutions of the concerned country. The weblink to receive joint proposals will be open from 08.10.18 to 15.11.18.

It is requested to promote the SPARC programme by coordinating with the National Coordinating Institution and the concerned Nodal Institution. Extensive dissemination amongst the faculty by circulating the e-brochure is desired. Also, nominate a Single Point of Contact ( SPoC ) for SPARC programme. Kindly Inform Prof. Adrijit Goswami (([goswami@maths.iitkgp.ac.in](mailto:goswami@maths.iitkgp.ac.in)) at the earliest. I also request all SoPCs to contact Prof. Goswami of the National Coordinating Institution who will be providing a login ID/Password details to enable you to submit the joint proposals through the portal ([www.sparc.iitkgp.ac.in](http://www.sparc.iitkgp.ac.in)). In case you require any assistance or clarification, you are requested to contact the National Coordinating Institution ([goswami@maths.iitkgp.ac.in](mailto:goswami@maths.iitkgp.ac.in) ) or the SPoC of the concerned Nodal Institution

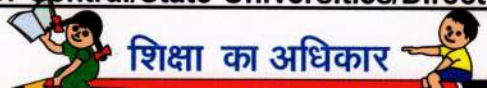
With regards,

Yours sincerely,

( N. Saravana Kumar )

To

**Vice Chancellors of Central/State Universities/Directors of CFTIs/Principals of Colleges**



शिक्षा का अधिकार

# Scheme for Promotion of Academic and Research Collaboration (SPARC)

## Scheme Details

*(As modified after the SFC meeting on 06<sup>th</sup> August, 2018)*

### **Overview**

The Scheme for Promotion of Academic and Research Collaboration (SPARC) aims at improving the research ecosystem of India's Higher Educational Institutions by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world from 25 selected nations to jointly solve problems of national and / or international relevance.

The scheme proposes to enable productive academic cooperation in the areas including Joint Research Projects, Exchange of faculty and students, Joint Degrees, by supporting the following critical components that can catalyze impact making research, namely: (a) Visits and long-term stay of top international faculty / researchers in Indian institutions to pursue teaching and research (b) Visits by Indian students for training and experimentation in premier laboratories worldwide, (c) Joint development of niche courses, world-class books and monographs, translatable patents, demonstrable technologies or action research outcomes and products (d) Consolidation of Bilateral cooperation through academic and research partnerships through Indo-X Workshops in India and (e) Publication, Dissemination and Visibility through a high profile annual international Conference in India

The scheme plans to create an impact at scale by supporting about 600 such joint collaborations across 100 Indian Institutions over a period of two years with 25 countries with a total budget of Rs 418 Crores. The expected outcomes include tangible results in terms of large quantity of high quality research publications, solution to key national and international problems, development of niche courses that can be converted to scalable on-line offerings, development of internationally used text books and widely read research

monographs, creation of next generation manpower trained in sophisticated instrumentation, imbibing of best practices from top international academicians and researchers, strong bilateral and international cooperation and improved world reputation and ranking of Indian Institutions.

## **Features of the SPARC**

The SPARC Programme will have the following salient features:

1. Initially 25 Foreign Countries will be identified for collaboration under SPARC based on their past interactions under schemes like GIAN, schemes of UGC, DST, etc.. and potential for meeting the objectives of SPARC.

The initial list of identified countries include: ***USA, UK, Germany, Australia, France, Canada, Italy, China & Hong Kong, Japan, Singapore, Russia, Israel, Switzerland, Sweden, Netherlands, South Africa, South Korea, Norway, Portugal, Austria, Taiwan, Belgium, Spain, Brazil, Finland.*** Others may be included if felt needed and interest is expressed by the concerned countries.

2. All Indian Institutions ranked in the overall top-100 or category-wise top-100 in the India Rankings (NIRF) are eligible to apply. Only such private institutions which are falling in the above category, and also recognized under 12(B) of UGC Act are eligible. Each eligible Institution will have an identified Institute Coordinator selected by the Head of the Institution and a SPARC Committee for monitoring the SPARC programme in the Institute. The final list will be approved by the SPARC Apex Committee.
3. The partner Foreign Institution shall be in the top-500 of QS World University Rankings or in the top-200 of QS World University Rankings by subject to be eligible to be supported under SPARC.
4. A list of Thrust Areas will be identified for collaboration under SPARC based on emergent relevance and importance for the nation. The topics will mainly be related to Basic & Applied Sciences, Engineering & Technology, Humanities & Social Sciences, etc within the domain of MHRD Institutions. Management,

Professional Disciplines may be considered if they are an integral part of the proposal covering the above-mentioned areas. The Thrust Areas will be in the following broad categories:

- a. Fundamental Research: Those which attempt to provide new knowledge and understanding or address open unsolved problems of international importance. This can be in any area of learning, covering theory, experiments or based on field work.
- b. Emergent Areas of Impact: Those which look at new and emerging areas like Artificial & Machine Learning, Cognitive Science, Human Signal Processing, Digital Humanities, etc, that can potentially bring about a major impact cutting across disciplines and domains.
- c. Convergence: Those which bring together multiple disciplines of basic, engineering, economic, social science and humanities to solve critical problems of today in a holistic integrated manner. These can be broken down into Technology Convergence Domains (eg Transportation, Healthcare, Infrastructure, Manufacturing, etc) or Socio-Cultural Convergence Domains (eg Food, Water, Energy, Climate, Heritage, etc).
- d. Action-Oriented Research: These could be in any area of learning that is field-based for demonstration of certain interventions and instruments that show real change in an economically viable and scalable manner, especially to help empower people, enrich nature and enhance a sustainable future.
- e. Innovation-Driven: Those which can potentially make game-changing products, processes and services of techno-economic value that secure IPR and spawn next generation business and social enterprises.
- f. Any Other Category: Any other proposal of high potential that does not directly fall under any of the above categories.

A proposed detailed list of topics under the above Thrust Areas may be added and approved by an Apex Committee of MHRD, whose constitution is mentioned in the subsequent section.

5. A joint research project has to be submitted by an Indian Institution / University with participation of a foreign university under SPARC for a two-year interaction programme having the following:-
  - a. Component of MHRD funding (under SPARC), Indian Institution's Funding, Foreign Institution's Funding and the clear Deliverables.
  - b. Each partner group will contain at least two international faculty members, two Indian Faculty members and two researchers pursuing PhD or post-doc level from each side. The Faculty members may be from one or two eligible institutions in each side. The students have to be registered full-time students or post-docs in their respective institutions. From the foreign side, it is expected that the team will be from the same country, though it is not mandatory. Each side will have a Lead Institution (LI) and a Principal and co-Principal Investigator.
  - c. The proposal will address a topic in any of the Thrust Areas of SPARC and address a challenging issue of theoretical, experimental and/or translational value. The proposal will be evaluated upon quality / relevance of the area proposed, joint strength and of the teams, proposed outcome & deliverables, available and complementary experimental infrastructure in the institutions (for such kinds of projects), additional financial support from other sources and its potential to significantly advance knowledge and / or create impact on society.
  - d. The proposal shall have the following essential and optional components:
    - i. Essential (minimum items must be part of proposal):
      1. Two visits by the Foreign Faculty to Indian Institutes totalling a combined 2 to 8 months over two years. A visit can be of

duration of 15 days to 4 months. During a visit, in addition to carrying out the project related collaboration and research the Foreign Faculty will teach one course on the topic of the proposal for 12 to 36 hours depending on the period of stay.

2. A set of tangible earmarked deliverables of the collaborative efforts on the proposed topic consisting of joint research outcomes including but not limited to two or more of the following:- top journal publications, text books, research monographs, patents, products, scaled pilots / demonstrations, course materials, etc.

ii. Optional (one or more may be part of proposal):

1. Support to Indian research students for long term visits of up to a year to the partner Institution of the foreign collaborator for carrying out experiments and getting trained in an advanced laboratory facility not easily available in India.
2. Holding at most two Workshops in India on the topic of the proposal to bring together a larger community of researchers for strengthening the collaborative research component. These may be part of premier international conferences held in India as workshops or special sessions.
3. Support of foreign students to spend time in the Indian Institutes as part-time visiting foreign students.

- e. The proposal will be for a period of two years. The budget can be in any one of the three baskets – (i) upto Rs 50 lakhs, (ii) from Rs 50 lakhs upto Rs 75 lakhs and (iii) from Rs 75 lakhs upto Rs 100 lakhs. Proposals which have longer time visits of foreign faculty will be given priority for larger sized baskets.

No major equipment will be supported under the project. International travel of Indian Faculty will not be supported under this project. No scholarship / stipend of Indian scholars will be supported under this proposal. They will continue to receive their regular mode of remuneration (as applicable) from their respective institutions.

- f. The project budget will be defined as per the following norms:-
- i. For a visit of foreign faculty ranging from 1 to 4 month, payment will be made up to as per VAJRA norms ( DST ) of US\$15,000/- for the first month and US\$10,000/- thereafter including honorarium, travel, stay, etc
  - ii. For a visit of foreign faculty of 15 days and less than a month, payment will be made upto as per GIAN norms of US\$12,000/- including honorarium, travel, stay, etc.
  - iii. For the visit of an Indian student to the Foreign Institution, payment will be made upto as per the following:- US\$2000 for travel and \$1000 per month for out-of-pocket allowances.
  - iv. Upto Rs 3 lakhs will be approved for Workshop subject to a maximum of two workshops.
  - v. For the visit of a foreign student, the host Institute will provide suitable free accommodation and an out of pocket allowance of Rs 12,000 per month subject to an upper limit of Rs 2 lakhs over the duration of the project. The student has to stay for a minimum period of 3 months and register as a visiting foreign student. Tuition fees will be waived by the Indian Institution.
  - vi. For visit of Indian faculty abroad, Cumulative Professional Development Allowance (CPDA) will be utilized. An undertaking will be taken from the Institution before making funding for the proposal, that if funds are not available/ falling short under CPDA, institute

would arrange for funding at their level, especially in the case of private institutions.

- vii. It is expected that the local hospitality (boarding / lodging ) would be taken care of by the receiving side institution.
- viii. A overheads and contingency expense of upto 20% of the sum cost of other items mentioned above or Rs 15 lakhs (whichever is minimum) for accessories, consumables, chemicals, video recording, field work, documentation, local travel in India, contingencies, institutional costs, miscellaneous, etc.
- ix. The Institutions will list out the support provided to the project in terms of faculty, researchers, infrastructure, waivers, stipends, explicit costs to various components that are met by the Institute and the source from where the same is being met. These sources could also be external funding agencies. Additional support from the International partner may also be listed in quantitative terms. This additional support will also be an important criterion for evaluation of interest from the submitting team for ensuring success of the project.
- x. The IPR developed out of the project will be decided as per norms of the participating Institutes. The Indian Institute should get the benefits out of Patents / Royalty, rather than the foreign institute or the individual faculty. All disputes must have Indian jurisdiction and applicable laws of India (for any act taking place in India) to be clearly defined by the parties. Any special deviation must be resolved by MHRD through the SPARC Liaison cell and approved by the Apex Committee.
- xi. Each proposal will clearly state that this proposal does not duplicate any other similar proposal funded by the Government of India which funds the same aspects of SPARC including but not limited to those partially or fully funded by MHRD, DST, DBT and other Ministries of



the Government of India. Complementary ongoing projects will be separately indicated.

6. Each Indian Institution will be allowed to submit at most 25 projects as the lead Institution from India and not more than 10 with any foreign country. All participating Indian Institutions will develop a mechanism to review and shortlist proposals before submission for SPARC. Each Indian-Foreign team can submit at most one proposal with the same Principal Investigator pairs.
7. The SPARC scheme envisages supporting around 600 proposals for a total outlay of Rs 418 Crores over two years. Total projects supported under various categories are expected as follows: 300 projects under Rs 50 lakhs category, 200 projects under Rs 75 lakhs category and 100 projects under Rs 100 lakhs. Funding will be released once prior to the start of the project. Utilization Certificate as per Gol norms will be submitted on the completion of the project.
8. Two Annual SPARC Conferences will be held, one at the end of each year to disseminate and highlight the outcomes of the SPARC Scheme. This will embed Indo-X Meetings between participating countries and Thematic Workshop presentations in each of the areas.
9. All projects will be monitored and reviewed once mid-way and once at the end of the project to evaluate progress and final outcome.

## **SPARC Implementation Plan**

The SPARC Scheme will be implemented in the following manner:-

1. There will be an Apex Committee (AC) for SPARC constituted as follows:
  - a. Secretary (HE), MHRD, Chairman
  - b. Joint Secretary, ICC, MHRD, Member Secretary
  - c. JS & FA, MHRD, Member
  - d. Chairman UGG, Member

- e. Chairman AICTE, Member
- f. Nominee of Secretary DST, Member
- g. Nominee of Secretary, DBT, Member
- h. Nominee of Secretary MEA, Member
- i. Director, National Coordinating (NC) Institution, Member
- j. Two Reputed Academicians / Researchers nominated by Secretary (HE), Members
- k. One reputed Academician / Researcher from Private sector, nominated by Secretary ( HE ), Member
- l. Invitees, as approved by Chairman, Invitees

The Apex Committee will be authorized to formulate guidelines, processes, approve the list of projects shortlisted by the Sectional Committee (SC) and NC, review and monitor the progress of the project and facilitate all issues that require interventions, including that of the Government of India.

2. There will be a SPARC Liaison Cell in MHRD Chaired by Joint Secretary ICC, MHRD and Member Secretary SPARC Apex Committee to connect and interact with the relevant units of the participating Foreign Country including their appropriate councils if available in India. It will also liaison with Indian Embassies and Indian S&T and other similar relevant units in the partner countries.

The role of MHRD through the SPARC Liaison Cell will be to develop MoUs with partner countries for the SPARC programme that helps in ease of mobility and visas, complementary Foreign Government support to the SPARC programme in terms of augmented funding, waivers, etc.

3. There will be a National Coordinating (NC) Institution selected by the Apex Committee, which will be responsible for overall execution of SPARC. IIT

Kharagpur will be the National Coordinating (NC) Institution. Its role will be as follows:

- a. All funds for SPARC to Indian Institutions, NIs, SC, Reviewers, etc will be routed through the NC.
  - b. The NC will develop the on-line Portal for submission, evaluation, monitoring, dissemination of SPARC proposals and selected projects. All applications will be received and managed through the SPARC Portal.
  - c. The NC will also coordinate the review of SPARC proposals through the Sectional Committee.
  - d. The NC will organize the two annual SPARC Conferences with the support of MHRD, Nodal Institutions and Sectional Committee.
  - e. The NC will look after coordination of all publications that come out of SPARC in terms of text-books, monographs, brochures, documents, marketing materials, advertisements, etc. The NC will also ensure that patents / royalties emerging out of the research works under this scheme would be with the concerned Institution and not the faculty.
  - f. Hold regular meetings and interactions with the NI group for coordination, monitor progress and facilitate final reviews.
  - g. Coordinate with SPARC Liaison Cell in MHRD to resolve all issues that NIs are unable to resolve.
  - h. In addition to the Director, the NC will identify a National SPARC Coordinator for managing who will be the first point of contact.
4. There will be a set of Nodal Institutions (NI), one for each participating foreign country. The NIs will be selected by the Apex Committee. Each NI will be responsible for the following:

- a. Help, handhold and coordinate with willing Participating Indian (PI) Institutions to forge alliance with the Institutions of concerned participating foreign country, for academic and research collaboration.
  - b. Coordination of each group of projects for that particular foreign country and forging a Indo-X cooperation in all fronts relating to SPARC in particular and overall academic & research collaborations in particular.
  - c. They will help facilitate not only SPARC but also other augmented programmes with the partner country that is being developed and be a conduit for interaction with the partner country for other Institutions enabling various kinds of facilitation. They will also help MHRD SPARC Liaison Cell secure MoUs with such countries. .
  - d. Help organize the relevant Indo-X meetings to review the progress of the projects. Coordinate the Indo-X Workshop to be held along with the Annual SPARC Conference.
  - e. Streamline all Indo-X issues that may come up concerning the project in consultation with NC and the MHRD Liaison Cell.
  - f. Coordinate all Indo-X Publications and Communications.
  - g. Maintain regular interactions with the relevant Indian unit of the Foreign country and coordinate with the SPARC Liaison cell in MHRD
  - h. In addition to the Director, the NI will identify a Nodal SPARC Coordinator for managing and will be first point of contact.
5. There will be a Sectional Committee (SC) Chaired by NC with a Sectional Chair from each Thrust Area selected by the Apex Committee. The Sectional Committee will have a representative each from DST and DBT to avoid duplication of proposals. The Sectional Committee will be responsible for the following:
- a. Review and shortlisting of the submitted proposals. Each Sectional Chair will get each proposal reviewed by one or two experts. Based on the

reviews, the Sectional Chair will make a recommendation for shortlisting. The NC and Sectional Chairs will jointly review the shortlisted projects make a final recommendation for the consideration of the Apex Committee.

- b. Help in monitoring and review annual and final progress of the projects.
  - c. Help in Organizing Thematic Workshops under SPARC especially in the SPARC Conference and coordinate thematic publications under SPARC.
6. Each Participating Indian Institution (PI) will have a SPARC Committee headed by an Institutional Coordinator (IC) nominated by the Head of the Institution. The IC will be the single point of contact for the Institution for overall institutional coordination, project upload, receipt, management, internal approval of funds, submissions of Statement of Expenditures, Utilization Statements, maintenance of documents related to the proposals and selected projects, interaction with MHRD, NC, NI, SC as needed and facilitate submission of reports for annual and final review. The PI and IC will be responsible for management of IPR produced from this project.
7. The following Timelines are envisaged:
- a. Approval of SPARC: 6th August 2018
  - b. Identification of NC, NI, Thrust Areas, SC: 20th August 2018
  - c. Initial Release of Funds to NC: 31st October 2018
  - d. Development of SPARC Portal: 1<sup>st</sup> October 2018
  - e. Registration of Indian Institutions and Approval by AC: 15<sup>th</sup> October 2018
  - f. Last Date for Submission of Proposals: 1st November 2018
  - g. Completion of Reviews: 15<sup>th</sup> December 2018
  - h. Final Approval of Proposals: 30<sup>th</sup> December 2018

- i. Release of Funds for Projects: 15<sup>th</sup> January 2019
  - j. Initiation of Projects: 15<sup>th</sup> January April 2019
  - k. First SPARC Conference: December 2019
  - l. Second SPARC Conference: December 2020
8. A total Budget Outlay of Rs 418 crores is planned with the following breakup:

- a. SPARC Projects  
(300@50L, 200@75L:100@100L) Rs 400 crores
- b. National Coordination: Rs 4 crores
- c. Nodal Institutions (@20 lakhs): Rs 5 crores
- d. SPARC Conferences (two), Workshops: Rs 5 crores
- e. Publications, Marketing (India / Abroad), Misc. Rs 4 crores

All funds will be managed by NC. It will be routed through NC to NI PI, SC, Reviewers, Experts, Agencies, Personnel, etc., participating in SPARC.

The projected Budget as proposed in the scheme for various components would be treated as the maximum cap allowed.

A Third Party Evaluation of the SPARC scheme will be done at the end of 2 years.

## Expected Outcomes

The SPARC Scheme is expected to have a major impact in the following areas:

1. Providing the best international expertise in solving major national problems.
2. Help Indian academicians and researchers unravel deep and open research problems with the help of the best collaborators abroad.
3. Enable long-term stay for international faculty the simultaneously helps in academic interactions, research collaborations, niche course development.
4. Enable a large number of Indian students to be trained in high end experimental facilities available in the best laboratories in the world.
5. Produce a large volume of educational and research content in terms of high quality journal publications, text books, research monographs, patents, demonstrable technologies, products that are jointly authored by Indian and Foreign collaborators.
6. Have strong thematic interactions which enable students in the country interact with high quality research groups through Workshops held in India
7. Develop strong Bilateral relationships in academics and research with top countries in the world
8. Enable most of the top ranked Indian Institutions to develop academic and research collaboration with foreign institutions
9. Improve International Rankings of Indian Institutions through a combination of internationalization, research outcomes and academic interactions.
10. Develop a set of success stories that can enable international agencies, Indian industries, partner ministries support follow up projects.
11. Create a major International Impact for Catapulting Indian Academics and Research and help make it competitive with the best worldwide.



Scheme for Promotion of Academic and Research Collaboration



सत्यमेव जयते

भारत सरकार

Government of India

मानव संसाधन विकास मंत्रालय

Ministry of

Human Resource Development



Indian Institute of Technology Kharagpur

National Coordinating Institute

# SCHEME FOR PROMOTION OF ACADEMIC AND RESEARCH COLLABORATION

Website: <http://www.sparc.iitkgp.ac.in>



# About the Scheme

**Scheme for Promotion of Academic and Research Collaboration (SPARC)** aims at improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between Indian institutions and the best institutions in the world from 28 selected nations to jointly solve problems of national and international relevance in the first phase.



# Overview

In order to facilitate fundamental and socially relevant research in India, lot of emphasis is being laid for strengthening collaboration between Indian research groups with top research groups in the world, so that Indian scientists and students can interact with the finest minds in the world.

SPARC builds on the solid foundation laid by Global Initiative of Academic Networks (GIAN) and offers a scheme to support longer term research program where it not only funds for long term visit by the international faculty (2 to 8 months) but would also fund the travel and sustenance of Indian students at the university / institute of the international collaborator. The program aims at exposing large number of young students, the torch bearers of the future generation, to state-of-the-art developments in science and technology, thereby increasing the number of highly trained scientific manpower in the country, as well as significantly enhance the visibility of Indian science and scientists in the world map of highly advance science. It is expected

that some of the joint ideas would not only lead to breakthrough in science, but would also result in sustainable technological products that will be beneficial to mankind at large, in addition to fulfilling the needs of India.

The major outcome of the SPARC initiative will be strong research collaboration between Indian research groups with best-in class faculty and renowned research group in the leading universities of the world, in areas that are at the cutting edge of science or with direct social relevance to the mankind, specifically of India. Long term stay of international faculty will lead to tangible result such as large number of high impact research publications, solution to key national and international problems, development of niche courses, high quality text books and research monographs, imbibing of best practices from top international academicians and researchers, strong bilateral cooperation, and improved world reputation and ranking of Indian Institutes.

# Objective

SPARC proposes to enable productive academic cooperation by supporting the following critical components that can catalyze impact making research



Visits and long-term stay of top international faculty / researchers in Indian institutions to pursue teaching and research



Visits by Indian students for training and experimentation in premier laboratories worldwide



Visit by Indian faculty to foreign institute



Joint research project between India and foreign institute



Joint development of niche courses, world-class books and monographs, translatable patents, demonstrable technologies or action oriented research outcomes and products



Consolidation of bilateral cooperation through academic and research partnerships through Indo-X workshops in India



Publication, Dissemination and Visibility through a high profile annual international conference in India

Around  
**600**  
**project proposals**  
are expected to be funded  
in the first phase starting  
in 2019

# Elements of a SPARC collaboration

A SPARC collaboration consists of a bilateral team working on a research project with the following features:

▶ Topic of the research proposal falls in one of the Thrust Areas of SPARC and addresses a challenging issue of theoretical, experimental and/or translational value.

▶ Team must comprised of:

at least **2**  
international  
faculty members

**2**  
Indian faculty  
members

**2+2**  
researchers pursuing  
PhD or post-doc from  
each side

Faculty members may be from one or two eligible institutions on either side.

Each side will have a Lead Institution (LI) and a principal and co-principal investigators

# Partner Countries and Nodal Indian Institutes

28 Countries have been identified for collaboration in the first phase of SPARC. There will be a set of Nodal Institutions (NI) in India, one for each participating foreign country, who will be responsible for hand holding, guiding Indian institutes and coordination of activities between the participating Indian Institutions in India and the respective foreign country as well as act as the liaison with the SPARC teams.



**Australia**  
(IIT Kharagpur)



**Austria**  
(MNIT Jaipur)



**Belgium**  
(Punjab University)



**Brazil**  
(University of Hyderabad)



**Canada**  
(IIT Ropar)



**China**  
(IIT Madras)



**Denmark**  
(IIT Roorkee)



**Finland**  
(Visva Bharati University)



**France**  
(IIT Indore)



**Germany**  
(IIT Mandi)



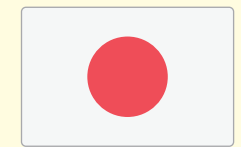
**Hong Kong**  
(IIT Madras)



**Israe**  
(IIT Kanpur)



**Italy**  
(IIT Guwahati)



**Japan**  
(IIT Hyderabad)



**Netherlands**  
(IIT Roorkee)



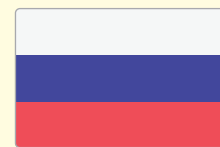
**New Zealand**  
(IIT Kharagpur)



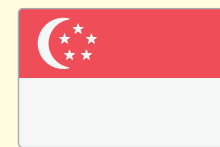
**Norway**  
(JNU)



**Portugal**  
(Jamia Milia Islamia)



**Russia**  
(IIT Bombay)



**Singapore**  
(BHU)



**South Africa**  
(IISER Pune)



**South Korea**  
(IISER Kolkata)



**Spain**  
(NIT Durgapur)



**Sweden**  
(NIT Trichy)



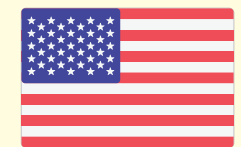
**Switzerland**  
(IIT Bhubaneswar)



**Taiwan**  
(NIT Warangal)



**United Kingdom (UK)**  
(IIT Delhi)



**United States of America (USA)**  
(IISc Bangalore)

# Who can apply?

## Indian Institutes

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All Indian institutes ranked in the overall top-100 or category-wise top-100 in the India Rankings (NIRF)

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Only such private institutes which fall in the above category, and also recognized under 12(B) of UGC Act

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## International Institutes

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The partner foreign institute must be in the top-500 of QS World University Rankings or in the top-200 QS World University Rankings by subject.

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Each eligible Indian institute will have an identified institute coordinator for monitoring the SPARC programme within the Institute.



# Thrust Areas

## 1 Fundamental Research

### Sub-themes



**Basic Sciences**  
Physical Sciences,  
Chemical Sciences,  
Biological Sciences



**Applied and  
Interdisciplinary  
Sciences**



**Humanities and  
Social Sciences**



**Computational and  
Mathematical Sciences**



**Earth, Atmosphere  
and Environmental  
Sciences**

## 2 Emergent Areas of Impact

### Sub-themes



**Advanced Electronics  
and Communication**



**Advanced Functional  
and Meta Materials**



**Structural Genomics  
and Evolutionary  
Biology**



**Artificial Intelligence  
and Cognitive Science**



**Digital  
Humanities**



**Infectious Disease  
& Clinical Research**

## 3 Convergence

### Sub-themes



Transportation and  
Smart Infrastructure



Affordable  
Health Care



Advanced  
Manufacturing



Science and  
Heritage



Energy and  
Water Sustainability

## 4 Action-Oriented Research

### Sub-themes



Future of Earth:  
Green and Renewable  
Technologies



River, Ocean,  
Aviation and  
Space Management  
Technology



Technology Enhanced  
Education and  
Learning, including  
Assistive Technologies



Agricultural and  
Food Sustainability



Technologies for  
Rural and  
Women Empowerment



Law and  
Society

## 5 Innovation-Driven Research

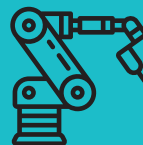
### Sub-themes



Technologies for  
Financial Inclusion



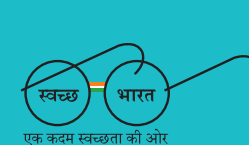
Technologies for  
Forensic, Security  
and Safety



Robotics and  
Embedded Systems



Nano, Biotechnology  
and Applications



Technologies for  
Swachh Bharat



Design  
Innovation



# Budget and Funding Details

Funding  
Period **2** years

## Budget

The proposal can be in any one of the three baskets

up to  
₹50 lakhs

from  
₹50 lakhs  
up to  
₹75 lakhs

from  
₹75 lakhs  
up to  
₹100 lakhs

## Eligible heads for funding

- ▶ Support for international faculty to cover travel, stay, honorarium, etc.
- ▶ International travel and allowance of scholars during period of stay abroad
- ▶ Allowance for stay of international students in India
- ▶ Budget for workshop
- ▶ Contingency for accessories, consumables, chemicals, video recording, field work, documentation, local travel in India, contingencies, institutional costs, miscellaneous, etc.

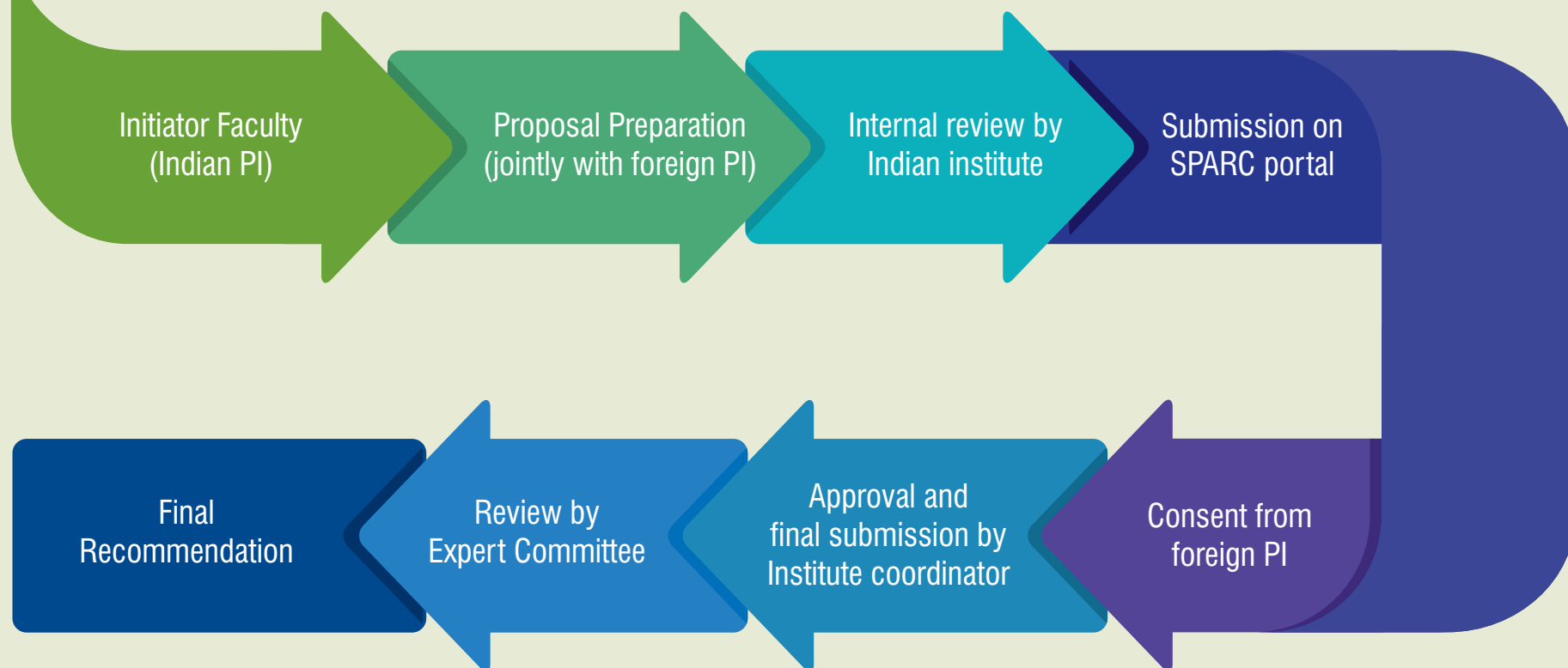
## Items NOT covered under SPARC funding

- ▶ Any major equipment/infrastructure
- ▶ International travel of Indian faculty
- ▶ Scholarship / stipend of Indian or foreign scholars

**The SPARC funding is expected to be complemented by one or more of the following sources:**

- ▶ Funding from Indian institute towards equipment, infrastructure, travel of Indian faculty, stipend of scholars
- ▶ Funding from external funding agencies for complementary ongoing projects
- ▶ Additional support from the Indian or international partner institute

# Evaluation Process



# Expected Outcomes

- Teaching of a specific course and publication of joint research monograph (essential)
- Workshop and conference
- Provide the best international expertise in solving major national problems.
- Help Indian academicians and researchers unravel deep and open research problems with the help of the best collaborators.
- Enable long-term stay for international faculty to participate in academic interactions, research collaborations, course development in niche area.
- Enable a large number of Indian students to be trained in high end facilities available in the best laboratories in the world.
- Produce a large volume of educational and research content in the form of jointly authored/developed publications, text books, research monographs, patents, demonstrable technologies and products.
- Develop strong bilateral relationships in academics and research with top countries in the world.
- Improve international rankings of Indian institutions and create major global impact through success stories.

# National Coordinating Institute (NC)

IIT Kharagpur is the National Coordinating (NC) institute responsible for overall execution of SPARC. The premier institute's roles and responsibilities will include

- Routing of SPARC funds for all stakeholders

- Managing the on-line portal for submission, evaluation, monitoring, dissemination of SPARC proposals and selected projects

- Coordinating the review of SPARC proposals

- Organizing two annual SPARC conferences

- Coordinating and managing the intellectual output (publications and IP) of SPARC

- Coordinating with SPARC Liaison Cell in MHRD to resolve all issues that Nodal Institutes are unable to resolve.

# Important Dates



Release of  
Website



Opening of  
Proposal Submission  
Portal



Closing of  
Proposal Submission  
Portal



सत्यमेव जयते

Ministry of Human Resource Development  
Government of India

**Dr. N. Saravana Kumar**  
Joint Secretary (ICC)  
SPARC Liaison Cell

**NATIONAL COORDINATING INSTITUTE**



**Indian Institute of Technology Kharagpur**

## Contact

### SPARC cell

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Kharagpur – 721302  
West Bengal, INDIA

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### Coordinating Institute

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