



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)



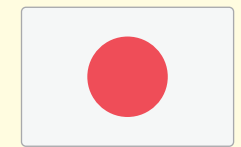
**Hong Kong**  
(IIT Madras)



**Israel**  
(IIT Kanpur)



**Italy**  
(IIT Guwahati)



**Japan**  
(IIT Hyderabad)



**Netherlands**  
(IIT Roorkee)



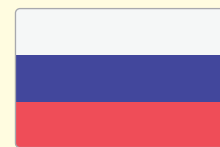
**New Zealand**  
(IIT Kharagpur)



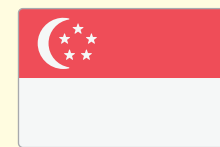
**Norway**  
(JNU)



**Portugal**  
(Jamia Milia Islamia)



**Russia**  
(IIT Bombay)



**Singapore**  
(BHU)



**South Africa**  
(IISER Pune)



**South Korea**  
(IISER Kolkata)



**Spain**  
(NIT Durgapur)



**Sweden**  
(NIT Trichy)



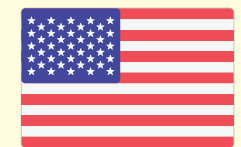
**Switzerland**  
(IIT Bhubaneswar)



**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

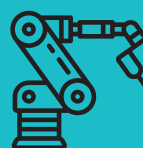
### Sub-themes



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.

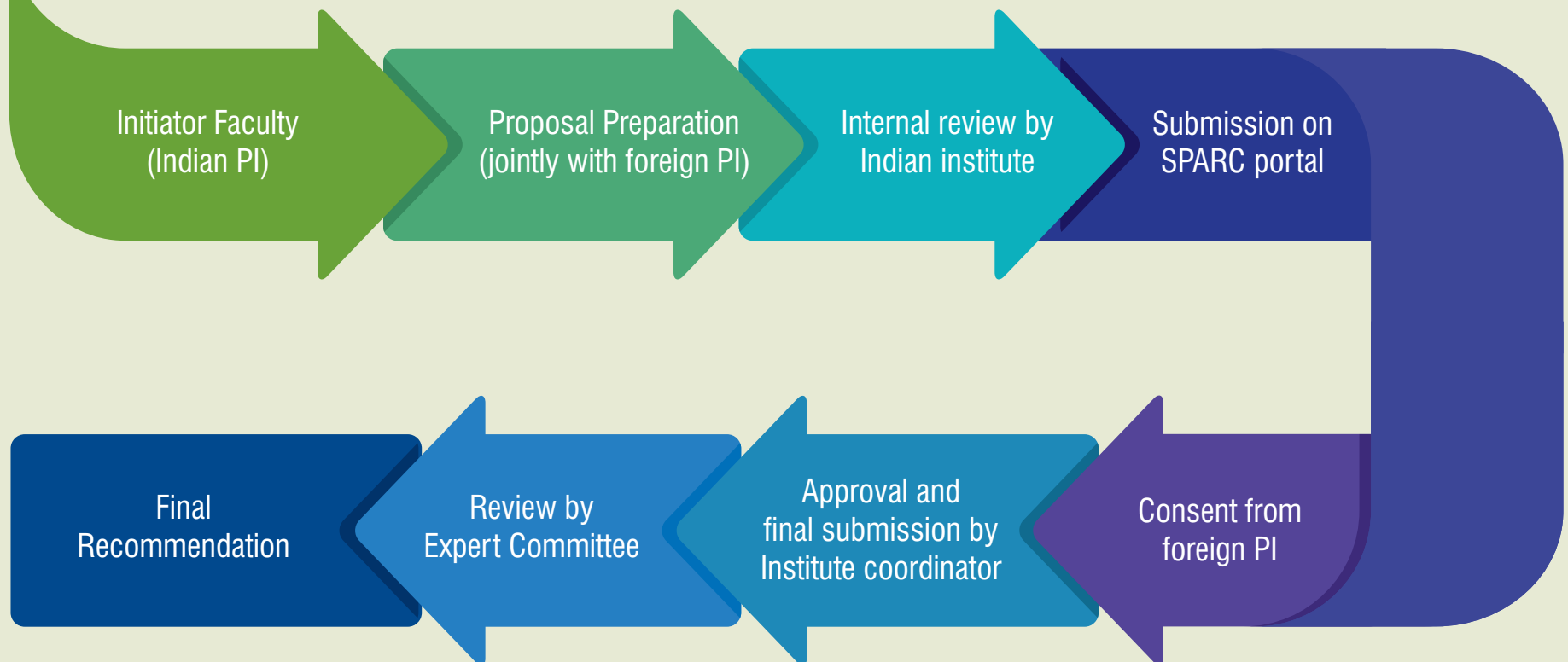
## Items NOT covered under SPARC funding

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

### Coordinating Institute

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