FUNDRAISING & ALUMNI AFFAIRS

2019

Office of Development & Alumni Affairs (ODAA)
Indian Institute of Science (IISc)

MESSAGE FROM THE CHAIR

There has never been a better time to invest in research and education in India. There is increasing recognition that improved funding for research — both from government and private sources — is not just important but indispensable. This year, the amendment of the CSR Act to include funding for research as well as technology incubators is an indication of this realization.

IISc, as India's pre-eminent institution for science and engineering, has always remained at the forefront, emphasizing original contributions in frontier areas, and encouraging cross-disciplinary collaborations that lead to novel solutions and innovations.

Just last year, the Institute was recognized as an Institution of Eminence (IoE) by the Government of India. But this honour comes with a caveat: IISc has to match the generous funding provided under the IoE scheme through funds raised by its own means.

Now, more than ever, the Institute needs your help to advance its ambitions and aspirations.

Over the last four years, IISc has been fortunate to receive generous contributions from various corporates, philanthropists and alumni. Several projects that were initiated with these funds are now nearing completion, and have already made a difference to the quality of education and research.

Philanthropic and CSR funding has continued to grow, with several new projects — especially in emerging research areas — initiated just this year.

CSR support is fueling cutting-edge research in areas such as AI, robotics, smart socio-technical systems, high temperature materials and energy research at IISc. Several philanthropists and organizations are also supporting the professional development of faculty members and students through international travel grants and scholarships.

IISc remains grateful to all its benefactors for their unstinting support, and we hope that you will continue to support the Institute's advancement in the years to come.

Govindan Rangarajan
Chair, Division of Interdisciplinary Research
In-charge, Office of Development and
Alumni Affairs (ODAA)

FUNDS RAISED (2015-2019)

255 CRORES* — CORPORATE SOCIAL RESPONSIBILITY (CSR)

68 CRORES — PHILANTHROPY

13 CRORES — ALUMNI

Includes 21.2 crores endowment from Infosys Foundation prior to ODAA

COMPLETED
PROJECTS

A new **"Centre for Infectious Diseases Research – Infosys Wing"** has been established in IISc, with generous funding provided by the Infosys Foundation. The grant, which was given in 2015, has enabled IISc to improve infrastructure for research in infectious diseases such as malaria and tuberculosis, and also share the expertise developed through various training programs and workshops.

Recognizing the need for skill development in various areas, Hindustan Aeronautics Limited joined hands with IISc in 2015 to set up the **HAL-IISc Skill Development Centre** at the IISc Challakere campus, with the projected cost of Rs. 73.7 crores. Construction of the building has been completed, and laboratory facilities are currently being established. Preliminary training programmes for trainers in the aerospace domain have been initiated.

To encourage more women students to pursue science and engineering, Jindal Aluminium Group made a philanthropic contribution of Rs. 20 crores to construct the **Dr. Sitaram Jindal Ladies Hostel Block and Mess Hall.** This block can accommodate up to 203 women students. A seperate mess block which can house about 350 students at a time has also been completed. It was inaugurated in September 2019 by former ISRO Chair Shri Kiran Kumar, and students are expected to occupy rooms starting early 2020.

NEW CSR PROJECTS (2019)

TCS Smart-X Hub
TCS Foundation
Research in Smart-X systems: healthcare, mobility, 3D sensor systems and autonomous systems

Research and education in high-temperature materials
Garrett Motion/Honeywell Turbo Technologies
Funds to promote cutting-edge research in high-temperature materials, as well as support for scholarships and travel grants

Centre for Networked Intelligence
Cisco
Promoting research and creating intellectual capital in networked intelligent systems

Research in emerging technologies for wireless communications
Tata Elxsi
Cutting-edge research in visible light wireless communication and AI/ML in wireless communications

IFTAS-CDS Collaborative Lab in Data Science & Engineering
IFTAS
Research in data-driven scientific computing and mathematics of data and computation

Support for energy research
Tata Consulting Engineers
Research in using AI for supercritical carbon dioxide power blocks, and grid integration of large-scale renewable power generation

TCS SMART-X HUB

With generous **CSR support** from the **TCS Foundation**, IISc has embarked on establishing a state-of-the-art 200,000 sq. ft. building called the **TCS Smart-X Hub**.

The building will house four interdisciplinary centres at IISc. These centres will work synergistically on cutting-edge research in highly interdisciplinary areas.

They will also steer ambitious mission-mode projects that push the frontiers of knowledge and address grand challenges of relevance to the country, such as tackling gastrointestinal disorders, predicting and pre-empting traffic congestion, developing technologies for device miniaturization and autonomous air vehicle platforms.
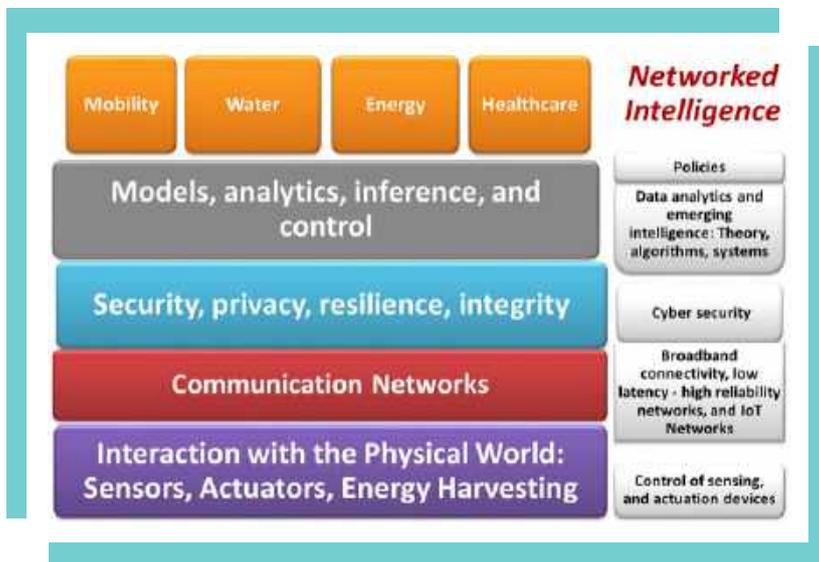
Goals:
- Mission-mode projects that
  - Address Grand Challenges relevant to the Indian context
  - Provide solutions for society and the industry
  - Lead to technology commercialization and IP generation
- Cutting-edge fundamental interdisciplinary research
- Training of PhD and master's students in interdisciplinary areas to provide critical manpower for India's industry
- High-impact publications in top journals
- Increased engagement with industry and international organizations
- Increased engagement with the government, with impact on national policy

CENTRE FOR NETWORKED INTELLIGENCE

Cisco and IISc have joined hands to establish a Centre to tap into the potential of networked intelligent systems.

Large-scale sensing and data gathering can result in greater social good only if we are able to create knowledge out of the gathered data.

Realizing the potential of networked intelligence requires a holistic approach, a creation of a networked intelligence stack involving real-time sensing, communication, networking, distributed computation, analytics and control, characterization of application intent, and application adaptation. What is needed is an integrated network of these networks for building the next generation intelligent systems that can intervene in novel, direct, and perhaps even personalised ways with the end-user.

The purpose of this Centre is to enable the creation of the intellectual capital needed to realise this promise.

Activities:

- Research
  - Communication infrastructure
  - Urban data exchanges and smart city infrastructure
  - Security, privacy, resilience, integrity
  - Models, analytics, inference and control
  - Policy studies
- Teaching and training: PhDs, postdocs, M. Tech. students; online courses
- Conferences, symposia, schools
- Experimental network cluster to run proposed novel algorithms

CYBER-PHYSICAL SYSTEMS

Indian Urban Data Exchange for Smart Cities

The Robert Bosch Centre for Cyber-Physical Systems (RBCCPS) at IISc is a research and academic centre under the Division of Interdisciplinary Research.

A major component of the Centre's budget comes from a grant given as a part of **CSR** activity, from **Robert Bosch Engineering and Business Solutions, India**.

This funding, along with support from various other sources, has enabled the Centre to focus on foundational and applied research in robotics involving advanced machine learning techniques, connected autonomous systems like drones and 5G-enabled autonomous vehicles, and socio-technical systems like urban transportation systems and Smart Cities.

The centre also hosts a state-of-the-art CPS laboratory called the Makery. It is also involved in creating and running a drone research park and a 5G-V2X testbed for connected autonomous vehicles research. It has established strong collaborations with many major technology companies and engages with many startups. It also works closely with government bodies and participates in specific standardisation activities.

Custom-built walking robot with reinforced deep learning

Autonomous drones and vehicles using AI/ML & 5G

MAJOR PHILANTHROPIC CONTRIBUTIONS (2019)

Tata Trusts
Grants for supporting professional development of faculty members & students, including travel to international conferences, support for short-term international visits, international PhD scholarships and support for special administrative positions

Wipro
Collaboration for cutting-edge research in AI, robotics and autonomous systems, with philanthropic support for capacity building, including fellowships, internships and travel grants

Mr. Kris Gopalakrishnan
Grant to support research collaborations in various fields and exchange of research scholars between IISc and Nanyang Technological University, Singapore

Ms. Indumati Srinivasan & Dr. Seshadri Shekar Chakravarthy
Endowment in memory of Mr. C. S. Sreenivasan to support research activities in electrical engineering and high voltage engineering at IISc

Linkedin
Grant to support outreach activities, workshops and symposia for the Golden Jubilee celebrations of the Department of Computer Science and Automation, IISc

Prof. Govind Rao
Endowed memorial lecture in the name of Dr. M. A. Govinda Rau, who helped establish the Department of Chemical Engineering, IISc

Mrs. KV Sudha
Yearly grants to support the teachers' training programme at IISc Challakere, and travel support for IISc UG students to present their work at international conferences

Mr. Sunil Nahar & Lakshya Nahar
Funding and infrastructure contribution to establish a state-of-the-art robotics Makery for students at the new Student Amenities Centre

Mrs. Sheila Somanath
Establishment of the CN Ramachandra & Kamala Iyer Fellowship for advancement of science and engineering

WIPRO-IISC RESEARCH & INNOVATION NETWORK

Wipro and IISc have jointly initiated a collaborative consortium to do research in areas such as AI, robotics and autonomous systems. They also intend to build cutting-edge innovative solutions by combining technology and design.

As part of the Wipro-IISc Research and Innovation Network (WIRIN), Wipro will bring in investment, as well as help in identifying key industrial challenges and hard problems to solve from industry and business perspectives. For its part, IISc will bring in its rich research experience in cutting-edge areas such as AI, machine learning, computer vision, etc. Research will cover areas including visual computing, human computer interaction, and cognitive computing and AI.

The collaboration also envisions the establishment of a dedicated lab for autonomous systems and robotics, infrastructure, test beds, and collaborative working spaces for IISc and Wipro researchers.

As part of this collaboration, Wipro also seeks to fund scholarships (M. Tech. and PhD students) and labs in chosen areas such as autonomous systems. The project also envisages internships for undergraduate and graduate students of IISc and other institutions.

STUDENT & FACULTY PROFESSIONAL DEVELOPMENT

International mobility of faculty members and students is critical for their professional development. But they face several challenges.

The current international travel support given to students for the entire duration of their PhD is not sufficient sometimes for even one international conference. Support for international travel for faculty members is also greatly restricted unless they receive fellowships such as the J.C. Bose Fellowship. These restrictions prevent meritorious IISc students and faculty members from travelling abroad.

To address this crucial gap, the **Tata Trusts** have contributed several grants this year to support the international mobility of IISc faculty members and students.

This includes funds for students and faculty members to present their research in the form of papers, posters and oral presentations at prestigious conferences abroad, as well as funds for short visits by IISc faculty members to universities and labs abroad that help kick-start collaborations and carry out cutting-edge research.

These activities also play an important role in improving IISc's international perception.

72
students have received grants to present their work at international conferences

52
faculty members have received grants to present their work at international conferences

22
faculty members have received grants for short-term international visits to build research collaborations

EMPOWERING WOMEN RESEARCHERS

In the last two years, IISc has received funding from many donors to support various initiatives aimed at empowering women students and faculty members

Rekha Rao Young Investigator position
IISc Council Chair **Prof. P Rama Rao** has contributed an endowment that will support young women Assistant Professors at IISc for a term of 2 years each.

Scholarships for women students in engineering
Booking.com, a leading digital travel e-commerce company, has contributed scholarships to support 4 women students pursuing M. Tech. programs in engineering.

Travel grants for women students
Apra Labs has made a contribution to support women students in ECE present their work at international conferences.

Several women students are also supported by travel grants provided by **alumni & Tata Trusts**.

With generous support from **Jindal Aluminium Group** (philanthropy) and **Bharat Petroleum Corporation Ltd.** (CSR), obtained through support extended by alumni Mr. KR Raghunath and late Prof. KB Akhilesh, IISc has been able to construct 2 blocks of a new, modern 500-room women's hostel.

These new blocks were set up mainly to accommodate a growing women student population, and to encourage more women students to join IISc and pursue research careers. Efforts are on to raise funds for the third and final block.

IISc also plans to establish another 500-room women's hostel in the near future.

STUDENTS' MAKERY

A Makery is being set up at the Institute with philanthropic funding from Mr. Sunil Nahar (CEO, Common Wealth) and his son Lakshya Nahar, to accelerate the spirit of innovation amongst the student community at IISc.

The facility will have an ideation center and a well-equipped lab to build systems and test models.

A discussion room is also part of the Makery which will be used to discuss projects and scale up ideas.

In addition to funds for setting up the Makery, Mr. Sunil Nahar is also furnishing the entire interiors and is also funding the purchase of the lab equipment.

ALUMNI CONTRIBUTIONS (2019)

This year, several alumni have contributed to support various activities at the department as well as Institute level.

Pooled contributions have been received for projects such as:

Chemical Engineering Summer Internship
Endowment to support the department's annual internship programme benefiting UG students

Manish Narayan Memorial Fund
Endowment in memory of Manish Narayan to support student travel in Materials Engineering

CSA Golden Jubilee Fund
Support for outreach and development activities marking CSA department's Golden Jubilee year

ECE Alumni Research Fund for Students
Travel grants to support ECE students present their work at international conferences

Prof. VVS Sarma Memorial Lecture
An annual lecture series in memory of Prof. VVS Sarma in the CSA Department

UG tuition fee waiver
Funds to support UG students at IISc by reimbursing their tuition fee

Major alumni contributions (Rs. 1 lakh and above)

N Lakshmi Narayanan ('75)
Rs. 5 crores - Endowments

Durgam Chakrapani ('64)
Rs. 5 lakhs - Durgam Chakrapani Medal

Seetharam Gundurao ('96)
Rs. 4 lakhs - Support for CEDT Dept.

Anonymous
Rs. 2.1 lakhs - Student travel fund

Suman Devadula ('07) & family
Rs. 1.1 lakhs - UG tuition reimbursement

Krishna Kummamuru ('93)
Rs. 1 lakh - Manish Narayan Fund

S Anand Kumar ('63)
Rs. 1 lakh - UG tuition reimbursement

Gopalan Thyagarajan ('93)
Rs. 1 lakh - Manish Narayan Fund

Raman Venkataraman ('93)
Rs. 1 lakh - UG tuition reimbursement

GS Bhat ('90)
Rs. 1 lakh - Roddam Narasimha Lecture

DIGITAL LIBRARY OF LIFE & ENDOWMENTS

Mr. N. Lakshmi Narayanan, Emeritus Vice Chair, Cognizant (1975, DIISc, Management Studies) has made generous contributions to IISc to support various activities in the past year.

Funds contributed by Mr. Lakshmi Narayanan are supporting the **Digital Library of Life**, a project kick-started by the Centre for Ecological Sciences at IISc.

One of the main goals of this project is to develop an online biodiversity repository that facilitates access to valuable information on plant and animal wealth in the country for research, teaching, conservation and outreach activities. The funding also supports ongoing digitization and preservation activities at CES.

The funding has already enabled the following activities so far:

- Extensive field inventories for specimens in several states
- The launch of a dedicated online portal called Flora of Peninsular India
- Digitization of insects in the museum at CES

Apart from a generous addition to IISc's unrestricted corpus, Mr. Lakshmi Narayanan's contribution is also supporting the following:

Arcot Ramachandran Young Investigator & N Lakshmi Narayanan Young Investigator positions to support two young Assistant Professors in the Division of Interdisciplinary Research for a 2 year term each

IDR Division Travel Award to support students in presenting their work at international conferences

UG TUITION REIMBURSE-MENT

71
DONORS

13
LAKHS

In 2011, 100 years after IISc admitted its first batch of students in 1911, the Institute began offering a unique 4-year Bachelor of Science (Research) programme.

Some of the brightest students in the country are selected through rigorous entrance exams.

To encourage more young students to join this program, the Institute seeks to raise funds that will help reimburse the tuition fees for such bright students. The aim is to raise about Rs. 10,000 per student which corresponds to the current tuition fee amount.

An appeal has been made to alumni for each person to support the tuition reimbursement of one UG student this year by contributing Rs. 10,000 (approximately US$150). Our target is to support up to 240 (current and newly-joined students) during the current year. Each year, IISc plans to raise about Rs. 24 lakhs to cover the tuition fee of existing and newly joined UG students.

We have already received overwhelming support from various alumni who have generously contributed to this project. Their gifts have helped us reach 55% of our goal for this year.

To see the full list of donors, and to contribute to this project, please visit https://www.alumni.iisc.ac.in/givingx/tuition-waiver-for-ug-students

OTHER CONTRIBUTORS (2019)

Corporates/Philanthropists

Accel Partners
Aniket Singh
Broadcom
Hewlett-Packard
HT Parekh Foundation
Huawei Technologies India
L&T Technology Services
Maersk
Target
Ricoh
Sonata Software
Dr. Subraya & Aparna Gangoli
Tata Motors
Tesco
Vanguard Charitable Trust
LRN Foundation

Alumni

Student Travel Grant
PV Lakshminarayana

Chem Engg Summer Internship
KS Gandhi
Anonymous
Sujay Chattopadhyay

Manish Narayan Memorial Fund
Mukundan Rengaswamy
Narasimhan KVL
Sankaranarayanan Balasubramanian
Srinivasan Balasubramanian

CSA Golden Jubilee Fund
Nalin Gupta
Seshadri R
Venkateswara Sastry

UG Tuition Reimbursement
Aarthi Thyagarajan
Abhijith Neerkaje
Alistair Lewis
Anand Lakshmanan
Animesh Bhowmick
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Anonymous
Arun Hiregange
Ashok K Gupta
Ashok Waran
Avik Ray
Bharat Balkrishna Joshi
Brojokishore Chowdhury
Damodaran Krishnaraj
Drakshayani D N
Durga Prasad Nori
Ganesan Viswanathan
Gopalakrishna Vadlamani
GR Ramesh
Jameeluddin Mohammed
Jayaraman Ramakrishnan
Kalyana K Rao
Kesavamurthy Nagaraj
Keshava Murthy Y N
Krishnamachar Sreenivasan
Kumuda Kushalappa
M Giridhar Krishna
Manoj Joshi
Murali Kaundinya
Nadeem Akhtar

Narasimha Rao Kolli
NKR Eswar
Omprakash Subbarao
Pankaj Saxena
Prabindh Sundareson
Pushpendra Singh
R Vasudevan
Raghunath S
Rajan Varadarajan
Rajesh Chalasani
Ravi Ananth
Ravi Purushotham
S Balaji
S S Madan
Satish Mundra
Sri Mohana Singamsetty
Subramania Thandaveswaran
Sunil Chandra
Surendra Raju Meesaraganda
Swapnesh Banerjee
Talya Keshavamurthy
Tanumay Datta
Thiruman Archunan
V Rajaraman
Vara Naga Surendra Kamadi
Vasanta Subramanian
Venkata Suman Kumar M
Vittal Candade
Yerramilli Sri Krishna Prasad

ECE Alumni Fund for Students
Anonymous

IISc's Unrestricted Corpus
Harish Ravi

Civil Engg classroom renovation
Ravi Sharma

Support for Research
Swapneel Khandagale

PROPOSED PROJECTS: INFRASTRUCTURE

We invite alumni support in connecting to corporates and raising funds for these projects. Please contact us to find out more.

State-of-the-art building for Energy Research
A 100,000 sq. ft. contemporary building
Labs for current and new faculty members
Classrooms for students (incl. proposed MTech Energy program)
Workshop, training facilities for skill development programs
Cutting-edge facilities for major R&D projects
Facilities for developing products and prototypes

Contemporary Learning Centre
State-of-the-art digital learning centre keeping pace
with developments and pedagogy
To support increased intake of students planned under IoE -
from current 4400 to 6000 students
Facilities to especially support the UG program

IISc-Rice Centre for Additive Manufacturing
A physical center for close collaboration between IISc and Rice
University in Manufacturing and Materials
Exchange of faculty members and students
Joint research programs
Development of new educational ventures

New 500-room women's hostel
Apart from new women's hostel consisting of 3 blocks under construction, a second 500-room women's hostel is also planned to be constructed on the IISc Bengaluru campus in the near future.

PROPOSED PROJECTS: RESEARCH

We invite alumni support in connecting to corporates and raising funds for these projects. Please contact us to find out more.

Digital Health

Ambitious initiative to establish a futuristic digital hospital using innovative haptic interfaces, going beyond telemedicine & electronic health records

Setting up a health data centre, health library, real-time health heat maps
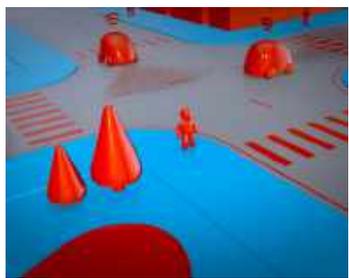
Research on digital twin for health and body-on-chips

Quantum Technologies

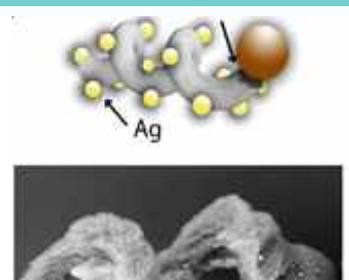Focus on quantum sensors, quantum communications and quantum simulations

Fabrication and characterisation in the areas of solid state quantum devices, superconducting qubit devices, sources and detectors for quantum communication networks, and quantum sensors

Autonomous Systems

Xprize avatar challenge: Developing Robotic Avatar named 'ASHA' for remote nursing and elderly care, in partnership with TCS and Hanson Robotics

Pushpak: Developing next-gen technologies for connected autonomous vehicles, including setting up a 1500 acre drone research park

Micro & Nano Robotics

Nanorobots that can swim in biological fluids
Bio-inspired MEMS based FFT for analog neural networks
Implants for cochlea
Self-healing circuits
Microfluidic interfaces for cell manipulation

CONTACT

Office of Development and Alumni Affairs (ODAA)

Indian Institute of Science (IISc)

development.odaa@iisc.ac.in | alumniaffairs.odaa@iisc.ac.in

+91-80-2293 3590/3591

www.odaa.iisc.ac.in | www.alumni.iisc.ac.in