



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
OFFICE OF ALUMNI AND CORPORATE RELATIONS

Celebrating the Generosity of



Mr. B. Santhanam

Impact of your giving in 2023

Director's Message



Prof. Kamakoti Veezhinathan
Director, IITM

Greetings!

IIT Madras continues to retain her top position for the eighth consecutive year, in the National Institute Ranking Framework, thanks to the world-class research of its faculty and students. The contribution and support of Alumni and well-wishers like you has crucially helped this standing and stature. Our achievements in research, education, innovation and entrepreneurship have also earned us the recognition of an 'Institute of Eminence' as well as the top position in the Atal Innovation Ranking from the Government of India.

The institute is making an indelible mark with her 'research with impact' in several areas including quantum computing, drinking water technology, industrially relevant mathematical models for governance, rendering cancer-cure more effective. Our centres of excellence, the Center for Innovation, Nirmaan – the pre-incubator, the Incubation Cell, technology centres such as 'IITM-Pravartak' and others, work in unison for not just our nation's building, but societies world-wide. We aspire to be locally impactful and globally relevant through all these efforts.

Towards exploring new research frontiers, a Department of Medical Sciences and Technology has been launched in May 2023 to conjoin medicine and engineering. Similarly, a School of Sustainability was also created in October 2023 to research sustainable practices in the Global South. The campus is moving towards a 'carbon-net-zero' goal through water conservation by 100% recycling, efficient garbage disposal, and electrification of vehicles. The traditional education system is undergoing a paradigm shift, with our online Bachelor of Science programme in Data Sciences and the National Program of Technology Enhanced Learning, that have won Gold in the 'Lifelong Learning' category and Silver in the 'Best Online Program' category of the Wharton-QS Reimagine Education Awards 2022 respectively. IIT Madras is leading this revolution from the front.

Such achievements are not possible without the deep-rooted faith and support of alumni and well-wishers such as yourself. We are indebted to you for your generous, bountiful, and impactful contributions. On behalf of IIT Madras, I offer you our deepest gratitude for continuing to strengthen the Institute. Together with your support, we are confident of building an IIT Madras that is more inclusive, diverse, and enabled by an ecosystem to be nationally relevant and globally recognised.

Dean's Message



Prof. Mahesh Panchagnula

Dean, Alumni & Corporate Relations, IITM

Greetings!

I express my heartfelt gratitude to you for your generous support to IIT Madras. We appreciate your passion in supporting the causes you do and I assure you that your contributions will be optimally utilized. This report has been compiled to convey how your largesse has touched lives and made a difference at IIT Madras. In keeping with the rapid, contemporary strides in science, technology we have set ambitious goals for ourselves - your continued enthusiasm and support will help us greatly in these endeavors.

IIT Madras is far more diverse in its set of pursuits, more green and more research-focused. And yet, it remains unchanged over these years, it is still the best Institute in the country, and attracts the best students that India has to offer to come and make a mark. I also cordially invite you to visit your campus to see for yourself, the impact of your contribution, and the growth and transformation the Institute has undergone over the years.

We can never express our gratitude enough for all that you have done - Thank You!



Mr. B. Santhanam



1978/BT/CE CEO – Asia Pacific & India Region Chairman, Saint-Gobain India

Mr. B. Santhanam is the CEO, Saint-Gobain Asia Pacific and India Region, and Chairman, Saint-Gobain India. He started his career at Grindwell Norton, a Saint-Gobain Group Company, in 1980 and served in various functions such as Information Technology, Operations, Product Development, Sales and Marketing, soon becoming a Member of the Management Board. Over more than two decades, Santhanam was instrumental in the Group's investment of over € 750 Million in Flat Glass to create a pan-India manufacturing footprint.

Mr. Santhanam has been an elected Member of the National Council of CII during 2006-2019 and was the Chairman of the CII Southern Region in 2013-14. He has helped create and develop the "Indian Women Network" (IWN) under CII. He has also been a Member of IGBC (Indian Green Building Council) Executive Committee since 2009.

He has received several awards and recognitions for his leadership, managerial excellence, and contribution to the industry. Santhanam has obtained his B. Tech in Civil Engineering from Indian Institute of Technology, Madras and Post-Graduation in Management from Indian Institute of Management, Ahmedabad.



Pragati Leadership Inspiring & Successful Leadership Awards 2022

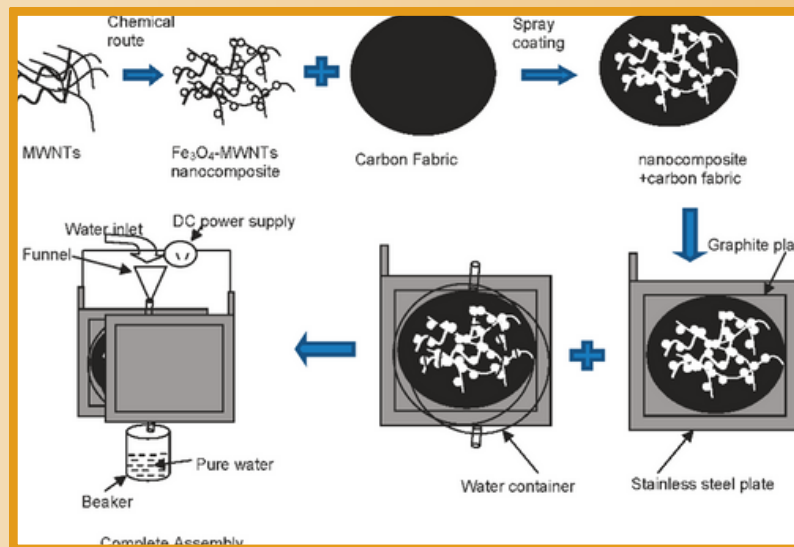
The report will present a thorough assessment of the impact that your contributions have made towards

- 1978 Batch Pearl Reunion - Development of Carbon Nanotube-based Water Filter
- Lego EV3 Kit
- 1978 Batch Ruby Reunion - Prakash Faculty Externship

1978 Batch Pearl Reunion - Development of Carbon Nanotube-based Water Filter

Nanomaterials are also providing novel opportunities to develop more efficient and cost effective nanostructured and reactive membranes for water purification and desalination. Recently reports have demonstrated the successful fabrication of carbon nanotube filters. These new filtration membranes consist of hollow cylinders with radially aligned carbon nanotube walls. These filters were shown to be effective in removing bacteria from contaminated water.

Currently implemented technologies for converting seawater into freshwater, such as multi-stage flash, multiple effect distillation, vapor compression distillation, reverse osmosis and electric dialysis etc., have problems of difficult maintenance such as complex pretreatment of seawater and high energy-consumption. The flow-through supercapacitor is a newly developing technology that shows promise in this regard. Compared to other technologies, the major difference in the operation of this technology is that this device made of nanomaterials is cost-cutting, energy-saving and environment-friendly. The project aims at the investigation of the followings three aspects to develop a suitable CNT based water filter.



Magnetite decorated multiwalled carbon nanotube-based supercapacitor for arsenic removal and desalination of seawater

The fund raised by 1978 batch supported below developments.

- ➔ Developed the CNT based ceramic membranes and study of the effective removal efficiency of biological pollutants from water.
- ➔ Developed the high-performance nanoscale catalysts dispersed CNTs for removal of low-level contaminants in water.
- ➔ Developed CNT-metal oxide supercapacitors for removal of NaCl from salt water.

Lego EV3 Kit

Funds received for this cause have been used for the below:

Control Experiments using Lego Mindstorms:

12 Legomindstorms EV3 kits have been purchased and it is used for conducting control labs for senior under graduates (3-year B.Techs and Dual Degree) and Masters Students using these kits on both odd and even semesters. These Lego kits are also helpful in doing research in robotics.

Lab Experiments

Experiments were performed in groups with each group having a maximum of three students. The following three of experiments were introduced.



Experimental modelling of the dynamics of the wheels of the Lego robots



Inverted pendulum



Pendulum on a Cart

Research

A test bed using LEGO kits was built for validating motion planning algorithms was designed and implemented.

1978 Batch Ruby Reunion - Prakash Faculty Externship



Ruby Reunion of the class of 1978 on January 15, 2019

The Ruby Reunion batch of 1978 unanimously agreed to establish an endowment to support Faculty Externship. They named it, Prakash Faculty Externship, in fondly remembering and honouring their batchmate, Prof. Prakash Krishnaswami.



Objective:

- Evidence shows that research developed in collaboration with top global institutions have a 50% higher citation rate.
- A vital intention of this program is to enable a faculty member's first visit to the world's best research institutions abroad.
- This will create a virtuous cycle by increasing collaboration, improving the quality of research.
- This will improve the reputation of our faculty and institute, paving the way to attract new faculty and institutions interested in collaborating with IIT Madras in the future.



Support provided to Faculty

- This program will support expenses related to local hospitality as well as some local travel of the faculty.
- The cost of an externship per faculty will be between USD 6K to USD 8K depending upon the grant requested by the faculty.
- The interest from the endowment fund provided by the 1978 batch Ruby reunion will support some faculty members every year for their Externship in the name of "**Prakash Fellowship**".

Beneficiary Details:



Prof. Anubhab Roy
Dept. of Applied Mechanics

Prof. Anubhab Roy was awarded as Prakash Faculty Externship program 2020. Because of COVID-19 he visited ENS Lyon, France only in the year 2022.



Prof. K. G. Pradeep
Dept. of Metallurgical & Materials Engineering

He is scheduled to travel to Japan, where he will be engaged in activities related to isotope research as an enabler for thermomechanical processing of metallic materials especially steels via in-situ processing inside an electron microscope. The work will provide detailed understanding for sustainable processing of metallic materials, while controlling the microstructure evolution critical for mechanical strength and service performance.



Prof. Shivananju Bannur Nanjunda
Dept. of Electrical Engineering

He will visit Stanford University and Inscopix in California, USA, to build on his skills in photonics, optical biosensors, optical fiber technology and nano-materials by obtaining training on implementing optogenetics and neural imaging. This will contribute to the growth of his research program in optogenetics.



Prof. Tarun Naskar
Dept. of Civil Engineering

He is currently in Italy to develop the necessary skills and technical know-how to establish a simplified and cost-effective methodology for liquefaction potential assessment. He aims to establish a seismic liquefaction assessment center at IIT Madras and lead the "National R&D Mission on Liquefaction."

We are grateful to you & your family



Mr. B. Santhanam

Thank you for your sustained generosity to IIT Madras over the years. Contributors such as yourself enable our students and Professors to dream big and work towards a better and brighter future. We hope you are proud of your alma mater and how it has remained steadfastly committed to academic and research excellence during and after your time here. You and your family have been instrumental in facilitating this significant growth.

Our efforts to nurture the culture of academic excellence that is the hallmark of IIT Madras - quality education, cutting-edge research, and unfettered creativity - shall continue. We are privileged and humbled to have you and your family walking with us along this trail. We wish you and your family the best always in all walks of life!



Indian Institute of Technology Madras, Chennai - 600036

www.iitm.ac.in

For more information, please contact:
Office of Alumni and Corporate Relations
T: +91-44-2257 8390 | acr.iitm.ac.in



November 2023