ANNUAL REPORT

2023-2024

Centre For Innovation

Director's Message

Prof. V. Kamakoti

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, unwavering dedication and creative mindset of its faculty and students. The contribution and support of Alumni and well-wishers like you have 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.

IIT Madras is making an indelible mark in promoting and providing education to students from the length and breadth of India to areas beyond Indian territory, through her initiatives in rural developmental educational programs, international, interdisciplinary M.Tech courses, and online diploma courses. The popularity and reach of our online courses can be gauged by the fact that around 25000 students in ages ranging from 17 to 82, have enrolled for these courses across national boundaries, and about 30% are from rural India. The institute, in a first-ever initiative by an IIT, has consolidated its position on the world map by establishing her international campus in Zanzibar, Africa where about 45 students have been admitted to different programs.

Innovation and entrepreneurship are ingrained in all our endeavours – our ambitious ventures in rocket and space explorations, the development of lab-grown diamonds, hyperloop, the Brain Research Centre etc, are a testimony to this. The start-up ecosphere is also a reflection of this spirit, wherein last year, 70 startups came to fruition, successfully nurtured by our centres of excellence, the Centre for Innovation, Nirmaan – the pre-incubator, the Incubation Cell, technology centres such as 'IITM-Pravartak' at the IIT Madras Research Park and others. This year, our target is to incubate at least a 100 Start-ups in various sectors. It is expected that at least 20% of the passing out students will be proud CXOs of their own ventures! The year 2023 also saw 221 national and 105 international patents from our Institute and we are looking to closing this current financial year with 366 patents, to account for 'a patent a day'.

Towards promoting interdisciplinary research and exploring new frontiers, a Department of Medical Sciences and Technology was launched in May 2023, a School of Sustainability in Oct 2023, a Department of Data Science and Artificial Intelligence in Nov 2023 and a new Interdisciplinary Dual Degree program on Quantitative Finance in Dec 2023 through the synergy of the departments of Management Studies, Computer Science and Engineering and Mathematics. Our School of Sustainability has signed MoUs for collaborations with Tel Aviv University, Israel and Technische Universität Dresden, Germany, with the aim of being recognized as a leader for sustainability teaching and research in the global south.

Lofty ambitions and achievements are impossible without the deep-rooted faith and support of alumni and well-wishers like yourself. We are indebted to you for your bountiful, impactful contributions and the faith reposed on us. On behalf of IIT Madras, I express my 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 seized of tomorrow's needs to be nationally and globally relevant.
Thank you!

Dean's Message

Prof Mahesh Panchagnula

Dean, Alumni and Corporate Relation's Message

Greetings from the Office of Alumni and Corporate Relations!
Please accept my sincere appreciation for the unwavering support you continue to provide to IIT Madras. Your generosity is the cornerstone of our success, and we are truly grateful for your commitment to the causes that are important to the students and faculty of IIT Madras. This report is a testament to the profound impact your contributions have had –by transforming the lives of students, supporting research, augmenting Institute infrastructure, enhancing learning or through supporting other myriad causes. Your trust in us propels our ambitions, and we are committed to ensuring that your donations are utilized to their fullest potential.

In a world evolving rapidly in science and technology, we have set ambitious goals for ourselves. Your enduring enthusiasm and support provide fillip to our efforts. IIT Madras stands as a beacon of diversity, sustainability, innovation and research excellence. While we have transformed over the years, our commitment to being a premier institute in the country and abroad, remains steadfast, attracting the brightest minds from across the globe. I cordially invite you to visit the campus, witness first-hand the salutary impact of your contributions, and observe the Institute's growth and evolution over the years.

Your generous gifts have made an incredible difference in our Institute's aspirations – *Thank you*! Your continued partnership is invaluable as we navigate the exciting journey ahead, shaping the future of India and the world together.

Centre for Innovation

- Established in 2008 with the backing from the class of 1981

- Located in Sudha & Shankar Hub

- Belief in the importance of community collaboration and freedom to explore for fostering innovation.

- Fueled by team dedication and supported by ample resources and guidance, CFI has evolved into a vibrant ecosystem.

- Currently hosts 14 clubs and 7 competition teams, each focusing on driving technological innovation with diverse interests.

- Emphasises solutions benefiting the environment and society, resulting in numerous projects receiving national recognition and patents.

- CFI Clubs are the Functioning organs of CFI

- Clubs are divided based on interests of students

- Clubs facilitate knowledge transfer among members

CFI Clubs

Electronics Club
Click Here

3D Printing Club
Click Here

Biotech Club
Click Here

Aero Club
Click Here
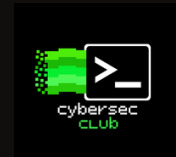
Team Envisage
Click Here

iBot Club
Click Here

Horizon
Click Here

Cybersecurity Club

Programming club
Click Here

Mathematics Club
Click Here

Webops and Blockchain Club
Click Here

Product Design Club
Click Here

AI Club
Click Here

Team Sahaay
Click Here

Competition Teams

Raftar Formula Racing

Passion for automotive engineering and motorsports, every year, the team is challenged to build a swift Formula Student race car. The team annually has participated in Formula Bharat and brought home various victories over the year

Committed to building intelligent, robust, precise and safe ground navigation systems. The team participates in IGVC annually and has bagged 1st place in the design and cyber security challenge in 2023.

Team Abhiyaan

Team Anveshak

The team has built a remote-operated all-terrain rover with a robotic manipulator and digger.

A team revolutionising transportation with sustainable Hyperloop technologies - backed by the Indian Government. The team finished in the global top-5 at European Hyperloop Week (EHW) 2022, bagging nominations in Traction systems, Electrical systems, and the Complete Pod category.

Team Avikshar Hyperloop

Team Agnirath

A team of engineers envisioning a sustainable future through solar research, with a mainstream effort to build an efficient and novel state-of-the-art solar car. The team has participated in the Bridgestone World Solar Challenge(Australia) and The American Solar Challenge.

The team made a mark in the 2023 Spaceport America Cup when our rocket 'CHETAK-1' touched an apogee up to 10,000ft in New Mexico, USA, in the world's largest intercollegiate rocketry competition SPACEPORT AMERICA CUP 2023. Furthermore, we are competing in the ISRO's CANSAT Competition-2023

Team Abhyuday

iGem

Passionate about the fascinating field of synthetic biology. It participates in the International Genetically Engineered Machine Competition every year

CFI's Recent Accomplishments

Team Abhiyaan achieved 1st prize in Design and 1st prize in Cyber Challenge at the "3rd Intelligent Ground Vehicle Competition" (#IGVC 2023)

Team Avikshar Hyperloop participated in the "European Hyperloop Week 2023" and bagged three awards: 3rd in the Full-scale Socio-Economic aspects of Hyperloop category, 5th in the Guiding Systems Award category and 8th in the sense & control systems award category

Team Anveshak participated in the "Anatolian Rover Challenge (ARC)" held in Turkey from July 19th to July 23rd,2023 and secured the overall 1st position, accumulating a total of 122.1 points

Team Abhuday secured the 16th - best flight performance position in "The Spaceport America cup"

Team Agnirath participated in the "World Solar Challenge 2023" and became one of 16 out of 38 participating teams Team Raftar participated in Formula Bharat'24 and secured an overall second place in the Electric Vehicle Category. The team got 1st place in Overall Design, Battery Design and Mathworks Modelling Award.

Impact created by the Establishment of CFI

Fostering innovation culture inside IIT Madras

More and more students want to join CFI as it's seen as a place where their ideas can bloom without restrictions, and selection is based purely on talent and enthusiasm. It provides a platform where students can explore their ideas, experiment with new technologies, and collaborate with peers to bring innovative projects to life. 1000+ students were enrolled in CFI last year for the same reason.

Interdisciplinary collaborations

CFI provides a place for students to transcend traditional disciplinary boundaries and encourages cross-disciplinary collaboration by bringing together students from diverse academic backgrounds to work on multidisciplinary projects.

Enhancing Learning experience

CFI allows students to work on real-world projects and offers hands-on experience, technical training sessions and an experimental learning approach that complements the academic curriculum via a practical approach.

Nurturing entrepreneurial spirit

The innovative and real-world projects in CFI have a great potential to become next-gen startups. CFI provides a way for incubation programmes, pitch competitions, and mentorship opportunities to promote entrepreneurial spirit among the students.

CFI Open House 2024
Overview

The Indian Institute of Technology, Madras (IITM) invited the public to visit its Center for Innovation (CFI) Open House 2024 event and IITM for All expo on 2nd and 3rd march of this year. As a part of the "Anaivarukkam IITM (IITM for everyone) campaign, individuals could experience IITM's state-of-the art labs. Attendees were welcomed at CFI Open House 2024 event, which is CFI's flagship event conducted annually to display recent projects and accomplishments of its student innovators. Over 1500 visitors from outside IITM attended these events and witnessed the innovative projects being developed by IITM and CFI.

IITM for all Expo

This expo was hosted to highlight the labs and the Centers of Excellence (CoEs) at IITM and to democratize awareness of cutting-edge technology at IITM and CFI.

Prof. V. Kamakoti, Director of IITM, inaugurated this exhibit and invited enthusiasts, students, and curious minds from all walks of life to immerse themselves in the forefront of technological advancement and engage with leading researchers while exploring the limitless possibilities of science and technology.

Professor V. Sriram, Co-Curricular Advisor, IITM stated, "this year, intriguing and descriptive offline lab tours are organized as a part of IITM for all. Covering each department and its wide range of labs, it allows researchers on the campus to showcase their fascinating work to the young students and general public. Whether you are prospective student, a community member or a professional or the public interested in our research initiatives, this event promises to be informative and inspiring. "
Professor Sathyanarayana N Gummadi, Dean (Students), IITM stated that "this is one such initiative of the students, which institute is fully supporting to showcase IIT Madras' advanced laboratories to the general public. I believe this will be an opportunity for all to visit the beautiful campus and motive the young generation who will be the leaders in the future."

Students from Team Shaastra worked tirelessly over the weeks to organize the logistics, coordinate registrations, and plan the ambience of this event.

Main Attractions at IITM for ALL

Robotics Lab

Biomedical Engineering Lab

Rocket and Missile Lab

Ballistic and High Speed Flow Lab

360 Degree Full bridge Ship Simulator

Electric Vehicle Fun Event

Cardiovascular Genetics Lab

Lab grown Diamonds

3D Printing Facilities

Glimpses from CFI Open House

We would like to take this opportunity again to express our heartfelt gratitude to all those who made benevolent contributions towards the growth and development of IIT Madras.

THANK YOU

April 2024