

Indian Institute of Technology Madras

Office of Alumni and Corporate Relations



**V.M. THOMAS
ROBOTICS
RESEARCH
&
TEACHING
LABORATORY**

**1973 BATCH PROJECT
QUARK AND SOLAR
WATER HEATER
FOR HOSTELS**

**TREE PLANTATION
IN
IITM CAMPUS**



Mr. V.M. THOMAS

ANNUAL REPORT 2023

INAUGURATION OF V.M. THOMAS ROBOTICS RESEARCH AND TEACHING LABORATORY

The V.M.Thomas Robotics Research and Teaching Laboratory was Inaugurated by Shri V. M. Thomas, Managing Director of Johnson Lifts Pvt. Ltd on Monday, 1st February 2021, at the Department of Engineering Design between 11:00 am and 12:00 noon.

V.M.Thomas Robotics Research and Teaching Laboratory was established with a generous contribution from Shri V. M. Thomas, Distinguished Alumnus of IIT Madras. Known for his business leadership and acumen, and for his social and ecological commitment.



About the Laboratory

V. M. Thomas Robotics Research and Teaching Laboratory in the Department of Engineering Design was established as a teaching and research laboratory for undergraduate and graduate students. A small group of faculty and students work here to advance the level of research in robotics and related areas. Major areas of focus of research are Underwater Robotics, Mobile Robotics, Manipulator Kinematics and Medical Robotics.

This laboratory is intended to provide hands-on experience on industrial robotics, manufacturing automation, mobile robotics, and dynamics and control of field robots. Dual degree students with specialization in Robotics are the primary users of this laboratory. The students experiment with various automation systems and learn to program and implement planning and control algorithms.

The laboratory is equipped with various sensors and actuators to perform research experiments as well as to train people from industries. Some of the major facilities available in the laboratory are:

- ▶ Collaborative Robots (Cobots) – Cobots are lightweight and compact designed to physically interact and collaborate safely with humans in a shared workspace.
- ▶ Haptic Devices (Phantom Omni) – Haptic devices provide touchable virtual/remote reality by enabling the user to touch/feel and manipulate objects in a 3D virtual/remote environment.
- ▶ KUKA KR5 Industrial Robot – Industrial manipulators play a major role in automating and manufacturing process with no one-size-fits all solution, hence offering various alternatives.
- ▶ Wheeled Mobile Robots – Mobile robots have the capability to identify its surroundings and move around its environment.
- ▶ Modular Automation Production System – PLC Programming – Helps to study the automation process, production system using PLC programming, sensors, actuators and mechatronics.
- ▶ Aerial Robots – Helps to study the design, dynamics and control, prototyping and fabrication along with field testing.
- ▶ Underwater Robots – Helps to study the design, dynamics and control, selection of subsystems (thrusters, sensors, and controllers), prototyping and fabrication along with field testing.

For more details

[CLICK HERE](#)



ACTIVITIES OF THE V.M. THOMAS LAB FROM 2021 ONWARDS

ACTIVITIES OF THE V.M. THOMAS LAB

CONDUCTED ROBOTICS
LABORATORY SESSIONS FOR
THE IDDD ROBOTICS STUDENTS
DURING JULY-NOV 2021
AND JULY-NOV. 2022



FEW STUDENTS FROM IITM
AND OTHER INSTITUTES DID
INTERNSHIP PROJECTS



FACILITATED DUAL DEGREE
PROJECT WORK FOR
FEW STUDENTS



LAB. FACILITIES ARE BEING USED
BY ED RESEARCH SCHOLARS
FOR THEIR PHD / MS WORK



STARTED A RESEARCH
PROJECT ON "AUTONOMOUS
DISASSEMBLY OF USED
STORAGE BATTERIES USING
INDUSTRIAL ROBOTS" IN 2022.
THIS WORK IS IN PROGRESS NOW.



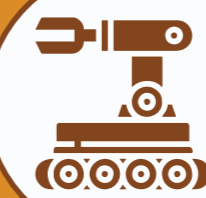
FACILITATED VISIT BY
FACULTY AND STUDENTS OF
ENGG. COLLEGES FROM TN



TWO FACULTY FROM OTHER
INSTITUTES (NIT SILCHAR,
MEPCO SCHENK ENGG. COLLEGE)
ARE UTILISING THE LAB FACILITIES
FOR DST SPONSORED PROJECTS.



ADDED FEW EQUIPMENT LIKE
3-FINGER ADAPTIVE GRASPER,
LIDAR FOR MOBILE ROBOT ETC.
USING EXTERNAL / INTERNAL
FUNDING



V.M. THOMAS ROBOTICS RESEARCH AND TEACHING LABORATORY



THANK YOU AND YOUR FAMILY FOR ALL YOUR SUPPORT



Because of contributors like you, our Professors and students can dream big and work towards achieving a better, brighter future. Thank you for your magnanimity to IIT Madras over several years. We hope you feel profound about your alma mater and how it has continued to develop since your time here.

You and your family have been instrumental in fertilizing this significant growth. IIT Madras extends its gratitude to Shri V.M. Thomas & his wife, Smt Elizabeth Thomas. Thank you again for demonstrating your commitment to our world-class Professors and promising students, and your confidence in IIT Madras' future success through your philanthropic support over the years. IIT Madras will continue to strive to provide a culture of academic excellence that includes quality education, service, research, and creativity. We are humbled and proud to have you and your family walking with us along this trail, wishing you and your family the best always!



Indian Institute of Technology Madras
Chennai-600036. Tamilnadu, INDIA. www.iitm.ac.in

FOR MORE INFORMATION, PLEASE CONTACT

Office of Alumni & Corporate Relations
T: +91-44-2257 8390 | www.acr.iitm.ac.in

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