



# INTERNSHIP BROCHURE

## IIT MADRAS

Ranked 1st among engineering colleges  
in India



# Content

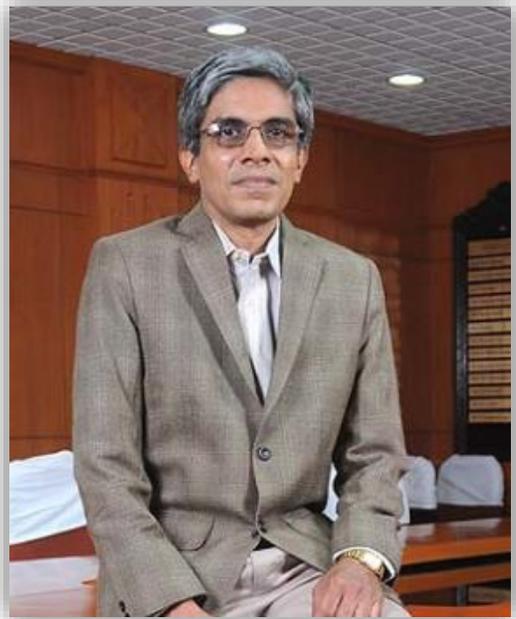
1. Message from The Director	.....(3)
2. Message from the Internship Advisor	.....(4)
3. About IIT Madras	.....(5)
4. IITM in News	.....(6)
5. Our Esteemed Alumni	.....(7)
6. Our Faculties and Research Work	.....(8)
7. Academic Programmes	.....(9)
8. Academic Departments	.....(11)
9. Extra-Curricular Activities and Entrepreneurship Activities	.....(15)
10. Internships	.....(17)
11. Internship Recruitment process	.....(17)
12. Our past Recruiters	.....(18)
13. Contact Details	.....(19)

# Message from The Director

**Dr Bhaskar Ramamurthi, Director, IIT Madras**

*IIT Madras continues to produce world-class graduates and post graduates year after year. Particularly noteworthy is the increase in the number of post-graduates, both at the Masters and Doctoral levels who continue to be immediately absorbed by industry and academia all over the world. Our graduates are an integral part of India's growth story. The nation's best education system, along with the finest facilities, has ensured that our students achieve excellence in their chosen fields.*

*I am certain that our students, with the help of the internship Office, will find their dream internship. Equally, I am sure the organizations they join will be glad they came here. I appreciate the internship Office for their untiring efforts and wish the students all the best in internship 2017-18.*



# Message from Internship Advisor

**Prof Dr. P. Chandramouli, Internship Advisor, IIT Madras**

*IIT Madras is one of the premier institutions in the country and the IIT brand is well recognized across the globe. Our graduates are an integral part of India's growth story. The nation's best education system, along with the finest facilities, has ensured that our students achieve excellence in their chosen fields.*

*IIT Madras made a path-breaking step in February 2015 by establishing a separate office for Internship activities; the Dean of Students and our Director deserve credit for recognizing the need for such an office.*

*This office serves as the link between our student community and Industry. In its short span of existence, the office has been able to place nearly 750 students over the past 2 years in about 160 organizations. This has been possible due to a dedicated team of office staff and tremendously enthusiastic student team currently being led by Ms. Pavithra and Mr. Anand. They work tirelessly to ensure that both the students and the company representatives have a pleasant and productive engagement.*

*I warmly welcome all the companies for the 2017-18 Internship recruitment and wish our students good luck in finding their desired internship.*



# About IIT Madras

**Established in 1959**, Indian Institute of Technology Madras is one of the foremost institutes of national importance in technical education and applied research. IIT Madras stands second as the best among all the premier institutes in the country according to the NRF rankings 2017. It has been instrumental in nurturing the dreams and aspirations of some of India's brightest minds through a mix of intensive curricular and co-curricular activities. The programs aimed at developing in each student, a mastery of fundamentals, versatility of mind and motivation for learning, have resulted in well-rounded leaders of the highest professional experience.

## **Students of IITM:**

- The student community comprises of the academically elite class of students who have come out in top 0.01% in one of the most difficult entrance tests of the country, JEE.
- The academic atmosphere at the Institute is a rare blend of modern day technical skills and the traditional emphasis on imparting knowledge.
- The faculty as well as the students who have qualified from the Institute have always done the country proud through their outstanding achievements and leadership qualities.

## IITM in News

IIT Madras continues to be the best in engineering & emerges as the best overall institution in India conducted by the National Institutional Rankings Framework (NIRF) of the Ministry of Human Resource Development, Government of India.

IIT Madras has recently been included to join the Compact Muon Solenoid (CMS) experiments of CERN (European Lab for Particle Physics). IIT Madras is now part of one of the biggest international collaboration involving more than 3000 scientists, engineers, and students from 172 institutes in 40 countries. Students and research scholars of IIT Madras will now get an opportunity to work at CERN.

IIT Madras is the National Coordinator of the Uchatar Avishkar Yojana (UAY) programme launched by MHRD to improve the competitive edge of industry sponsored, outcome-oriented research projects. With the largest number (23) of projects approved at a cost of Rs.100 crores, IIT Madras is all set to provide a big flip to its industry institute interaction.

The Indian Institute of Technology, Madras has won the 2017 **IEEE Spectrum** Technology in the Service of Society Award for its **Solar-DC Microgrid technology**. IEEE is the world's largest technical professional association, and produces over 30% of the world's literature in the electrical and electronics engineering and computer science fields. IEEE Spectrum is its flagship publication.

The Government of India has decided to adopt the Nano-Technology developed by Professor T Pradeep, Department of Chemistry, IIT Madras and his research team and implemented it across all arsenic affected regions of India.

## Our Esteemed Alumni

**Anant Agarwal**- Professor of Electrical Engineering and Computer Science at MIT; CEO of EdX; holds a Guinness World Record for the largest microphone array; IIT Madras Distinguished Alumnus Award – 2014.

**Hari Balakrishnan**- Fujitsu Professor in the department of Electrical Engineering and Computer Science at MIT.

**Krishna Bharat**- creator of Google News; Principal Scientist, Google.

**Jayas**- CEO, Boston Technology Corporation Damodaran 1985.

**Ramanathan V. Guha**- Creator of widely used web standards such as RSS, RDF and Schema.org, responsible for products such as Google Custom Search, co-founder of Epinions and Alpiri, Ex-Vice President in research at Google.

**Prem Watsa**- The ninth Chancellor of University of Waterloo. Founder of Fairfax Financial Holdings. Former Director of Royal Ontario Museum Foundation.

**B Muthuraman**- Vice-Chairman of Tata Steel. Awardee of the Padma Bhushan in 2012 by the Indian Government. Former Chairman of Board of Governors of XLRI. Former Chairman of Board of Governors of IIT Kharagpur.

**Rohini Chakravarthy**- Founder at Inksedge. Joined NEA in 2007. Former Head of Wireless, Corporate Business Development at Cisco Systems. Former Senior Investment Manager at Intel Systems.

**Arvind Raghunathan**- CEO of Roc Capital Management. Former Managing Director of Deutsche Bank. Former Managing Director of Credit S

# Our Faculties and Research Work

Every Faculty member of IITM has a Doctorate from a prestigious national and international college/university.

Professors are involved in cutting edge research in various fields. A number of faculty members have patents to their name and are authors of numerous research papers published in international journals. Several faculty members are also leading editors of international journals.

These faculties have been advisors to both industry and government through consultancy projects and sponsored research.

## Major Research Centres:

- Indo-German Centre for Sustainability.
- National Centre for Catalysis Research.
- National Centre for Combustion.
- R & D Centre for Nanotechnology.
- Centre for China Studies.
- Centre for Social Innovation and Entrepreneurship.
- Materials Science Research Centre.

## IITM RESEARCH PARK

Aims at bring together companies which are research oriented to leverage the expertise of IIT Madras. Modelled along the lines of successful research parks such as Stanford, MIT and Harvard, the park have been known to add value and impetus to industry and business enterprises.

# Academic Programmes

The Students pursue BTech or Dual Degree programmes which include MTech specialisation as well. The students complete additional courses in the area of specialisation and a yearlong project under the guidance of a professor. Apart from this, some of the students pursue M.Sc, MA, MS, Ph.D programmes offered by the institution.

## **B-Tech:**

The programme's central goals are to impart fundamentals of professional engineering to the young students. The admission to these programs is carried out through the Joint Entrance Exam (IITJEE) one of the toughest examinations in the world, with a 0.8% average acceptance ratio into the IIT's from a pool of 10,00,000 students. A two semester project in the final year is also a part of the curriculum. Aimed at inculcating a sense of original research among the students, it also gives them an exposure to state of the art, technology and cutting edge research undertaken in the institute.

## **Dual Degree:**

The Dual-Degree programme, a unique ten semester programme, confers a B.Tech in a basic field of engineering with an M-Tech in specialized areas. The students complete additional courses in the area of specialization and a yearlong project under the guidance of a professor.

## **Minors:**

Systems Engineering

Management

Mathematics for Computer Science

Economics

Developmental Policy

Industrial Engineering

Operations Research

**M.Sc:**

This four semester programme takes the best science graduates of the country through JAM (Joint Admission Test for M.Sc). On an average, only 4% of the aspiring candidates are admitted to this programme offered by the IIT's. The programme is developed to impart essential knowledge in the respective departments and provide opportunities for specialization in all major areas.

**M.A:**

The unique 5-year integrated programme, launched in 2006, leads to Master of Arts degree in 3 major streams - Developmental studies, Economics, and English Studies. The MA program exposes students to a wide variety of disciplines in Social Sciences and Humanities.

**M.S:**

MS by research is a very unique masters programme offered by very few institutes in the country. Admission to this programme is through Graduate Aptitude Test in Engineering (GATE) examination and a written test and interview process in each department. Course is usually completed in a period of 2-3 years.

**Ph.D:**

Ph.D is the culmination of a person's education at IIT Madras, high standards are set for a scholar pursuing his Ph.D. Admission to Ph.D is through a rigorous process of written test and interview. Ph.D scholars also undertake a comprehensive viva examination to test the scholar's core fundamental in his subject. Tentative time taken for completion of Ph.D is 3-4 years.

# Academic Departments

**Department of Aerospace Engineering:** The Department of Aerospace Engineering at the Indian Institute of Technology, Madras (IITM) was established in 1969. Since then it has been in the forefront of fundamental and applied research & development with scientific and social impact in the country. The department has been involved in activities supporting our national ambitions in the field of Aerospace Engineering. Continued interaction with R&D agencies of international repute in the field of aerospace engineering has led to mutually beneficial research activities. One of the major contributions to our society has been in the form of training manpower via graduate research programs (PhD and Master of Science by research) as well as course based programs (M.Tech, Dual Degree and B.Tech). Graduate and undergraduate programs offered are of international repute and considered the best in the country. Various alumni from this department have been at the forefront of research organizations in the country and elsewhere. Department offers a vibrant academic atmosphere which enables independent research and free exchange of ideas.

**Department of Applied Mechanics:** The Department of Applied Mechanics has been in existence since 1959 and has grown into a full-fledged inter disciplinary graduate research department over the years. The Department focuses on academic activities in three broad areas viz., Biomedical Engineering, Fluid Mechanics and Solid Mechanics. The Department has played a major role in contributing to the academic community and society. The faculty have won international recognition for their industrial research and sponsored projects. Some of the facilities available in various laboratories of this Department are unique in the country.

**Department of Biotechnology:** Research activities in the Department of Biotechnology are wide-ranging, reflecting the diversity of modern biotechnology. The Department provides an ideal milieu for interdisciplinary and collaborative research. The research activities of faculty members are well funded through extra-mural research funding from government agencies such as CSIR, DAE, DBT, DST, etc. Funding received from the DBT includes a Program support grant to establish a state-of-the-art research facility in Cancer Biology and for setting up of a Bioinformatics Infrastructure Facility. The Department has also received funding from DST to set up the National Imaging Facility, which will house Laser Real Time Confocal Microscope and Atomic Force Microscope.

**Department of Chemical Engineering:** The department offers several post- Graduate degree programmes leading to an M.Tech, M.S. or Ph.D. degree, all of which have a strong research content. About 50 students receive their PG degrees annually from our Department. The focus areas of our department are in energy (fuel cells, coal gasification and combustion), systems and control (data analysis, fault diagnosis, optimization, advanced control), process intensification (ultrasonics, microwaves, microfluidics and microreactors), biochemical and environmental engineering (Wastewater treatment, bioremediation of soils, air pollution monitoring), and materials (polymers, electronic materials, catalysts).

**Department of Civil Engineering:** It has been in existence since the inception of IIT Madras in 1959 and has grown into a full-fledged department with specialisations in all the major areas of Civil Engineering. The departmental activities embrace Planning, Design, Construction and Management. The academic programmes, B. Tech., M.Tech., M.S. and Ph.D., of the Civil Engineering department at IIT Madras are some of the best in the country and the world. Many of the faculty members have received advanced degrees and/or training from reputed institutions in India, Germany, UK., USA, Canada, Japan and Netherlands.

**Department of Computer Science & Engineering:** The Department was started as the Computer Centre in 1973 with the acquisition of an IBM 370, perhaps the most powerful computer in India at that time. It offered M.Tech, M.S and PhD degree programmes. In 1983, the B.Tech degree programme was started. Today the Department has a vibrant student body numbering about 400. Over 60% are postgraduate students, mostly supported by scholarships. The Department also offers several attractive industry-sponsored Fellowships for outstanding PhD scholars and liberally supports participation in top-ranking international conferences. Over 50 full-time engineers work on R&D projects enriching the academic environment.

**Department of Electrical Engineering:** Research activities in the Department of Electrical Engineering are in three ways, academic, sponsored and Research Based Industrial Consultancy (RBIC). The latter two are mainly utilized to upgrade laboratory research equipment and facilities. Research projects worth nearly 18 Crore Rupees have been undertaken by our faculty in the last 6-7 years. There are four major groups in the department: (a) Communications, (b) Microelectronics and VLSI, (c) Power Electronics, Control, Robotics and Instrumentation and (d) Power systems and high voltage engineering.

**Department of Engineering Design:** The Department of Engineering Design was established in IIT Madras as its 16th Department with a focus on interdisciplinary teaching and research. The Department launched the novel dual degree programme in Engineering Design with a view to providing the much needed leadership in this area. The first of its kind in the country, the programme constitutes a B.Tech specialisation in Engineering Design and M.Tech specializations in Automotive Engineering and in Biomedical Design with a strong thrust on the modern practices of design.

**Department of Mechanical Engineering:** The Department of Mechanical Engineering at IIT Madras is as old as the Institute itself. Its impact on the institute and on society is easily demonstrated by noting the alignment of the department's evolution with key events and technological advances in the India and elsewhere. Today, the department of Mechanical engineering of IIT Madras attracts and features an extraordinary rich diversity and quantity of talented individuals, with nearly 700 undergraduates, 500 graduate students and over 60 faculty members. In addition to teaching undergraduate and graduate students, the faculty of Mechanical Engineering actively pursues research through graduate students. The current graduate students include nearly 150 Master of Technology students (M.Tech), 170 Master of Science (by research) students (M.S.) and 300 students pursuing their doctoral programme (Ph.D).

**Department of Metallurgical and Materials Engineering (MME):** The Department of Metallurgical and Materials Engineering (MME) is one of the oldest departments of IIT Madras, established in 1959 as Department of Metallurgy at the very inception of the Institute. The Department is actively engaged in research, education and industrial consultancy. It offers B.Tech, M.Tech, M.S. and Ph.D. degrees. The Department's teaching, research and consultancy activities cover a broad spectrum of materials science & engineering and industrial metallurgy (metal casting, metal joining, metal forming and materials technology). During the initial stages, the Department received generous support from Germany (erstwhile FRG). The Department developed a unique character at the outset owing to its strong linkages with the industry and the expertise of the faculty in industrial metallurgy. Over the years, the research interests of the faculty have diversified into many areas of materials science.

**Department of Ocean Engineering:** Department stands remarkable in terms of expertise and infrastructure facilities and there has been notable success in achieving the above mentioned objectives. The Department vigorously pursues activities in line with its objectives and remains committed to excellence in its endeavor in education, research and training programs as well as supporting developmental efforts of marine industries. The Department has laboratory area of 3000m<sup>2</sup> and a highly specialized faculty numbering 20 with adequate support from technical and administrative staff.

# Extra-Curricular Activities and Entrepreneurship Activities

## **SHAASTRA:**

It is the annual technical festival of IIT Madras. The Sanskrit word ‘Shaastra’ means science and the festival accordingly consists of various engineering, science and technology competitions, summits, lectures, video conferences, exhibitions, demonstrations and workshops. The festival is traditionally held over four days and four nights. Shaastra is entirely student managed and holds the distinction of being the first such event in the world to be ISO 9001:2000 certified for implementing a Quality Management System. Many eminent academics, industry leaders, scientists and innovators visit Shaastra to deliver lectures as part of a Lecture Series.

## **CFI:**

CFI was started in 2008 with an Aim to be a forum for creative output of the budding engineers of IIT Madras. It provides students the necessary platform for realizing their ideas. A great workspace, a comprehensive inventory, ample guidance from faculty & senior-students and the zeal and passion of the CFI team make CFI a gifted asset for IIT Madras students. CFI has successfully evolved into a hub which encourages thinking and provokes students to generate ideas making it truly the “centre” for innovation.

## **SAARANG:**

Saarang is the annual student- cultural festival of IIT Madras. The festival has enthusiastic participation in Choreo, Debate, Dramatics, Music and Professional shows. More than 50,000 college students across the country attend the festival each year.

**FINANCE CLUB:**

Finance Club of IIT Madras, is a student driven initiative that provides a perfect platform for students to hone the skills required to make the mark in the Financial Sector. The activities of club are molded in such a way that participants get updated with current happenings of the financial world, nuances of investment and financial markets and can evaluate or identify current career opportunities in this sector. The club members also handle a virtual portfolio, further enhancing the skill set of the students.

**ANALYTICS CLUB:**

The primary objective of the club is to provide students with an interdisciplinary collaborative environment through which they can organize themselves to improve their understanding of analytics. This club serves as a unifying body that connects all students interested in data crunching to acquire necessary statistical and computational skills to draw meaningful conclusions from data. We provide opportunities for students to pursue their interests in analytics through projects, workshops, lectures by prominent personalities from the industry and weekly sessions/ meetings regardless of prior knowledge or experience.

**E-CELL:**

The primary objective of the organization is to provide the right guidance and foster entrepreneurial spirit among the young minds. Established in 1998, E-Cell has evolved over the years into one of the most active and impactful student organization in the institute.

**SPORTS:**

Sports occupy the pride of the place in student's hearts, with students competing in competitions throughout the year. The Inter -IIT Sports Tournament held annually is one of the most competitive sports tournament held in our country. In addition to that, there are various intra- hostel and inter-hostel events held throughout the year.

# Internships

The students enrolled in the five year dual degree programme (B. Tech & M Tech) are required to complete their internship. Students seek internships for professional exposure to various sectors such as Research and Development, Analytics, Finance, FMCGs, Coding. We have major recruiters from Core Engineering Firms, Leading Bank, Consult Companies and Startups. Students also obtain research internships in universities worldwide. We have dedicated Internship Cell to cater to the students who do their internship in their 3rd year of the academic programme. We have more than 100 companies recruiting at IIT Madras every year.

## Internship Recruitment Process

The Internship Recruitment Process consists of the following steps.

1. Filling and submitting the Internship Registration Form (IRF) by the company.
2. Dissemination of IRF to the students and uploading of resumes by the students.
3. Selection process based on tests, group discussions, assignments, interviews etc. as mentioned by the company in the IRF.
4. Informing the results of the selection process to the students.
5. Informing the names and contact details of students accepting the offer to the company.
6. Transmission of offer letters to the Internship office. It must be noted that a student, once selected for an internship, is not allowed to sit for any other company. In case he/she has applied for more than one company, he/she has to accept the earliest offer.

## Our Past Recruiters





## **Internship Scheduling**

**Mrs. V. Priya**

internship@smail.iitm.ac.in

**Tel:** 044-2257 8132

## **Internship Logistics**

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## **Visit Us at**

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