



Placement Brochure

2022 -2023



Ranked 14th in NIRF Overall Ranking

PLACE OF ORIGIN

Indian Institute of Technology Hyderabad
Telangana, India

YEAR OF ORIGIN

2022

IMAGE COPYRIGHTS

Indian Institute of Technology Hyderabad



OUR VISION

Indian Institute of Technology Hyderabad will be the cradle for inventions and innovations. It will advance knowledge and scholarship to students in science, technology and liberal arts, and equip them to handle the challenges of the nation and the world in the 21st century.

OUR MISSION

IIT Hyderabad aims to be recognized as ideators and leaders in higher education, research and industry, and to develop human power with creativity, technology and passion for the betterment of India and humankind.

OUR CORE VALUES

Integrity:

Honest, ethical and responsible behaviour will be fundamental to all our dealings and actions.

Diversity of Ideas:

We encourage plurality and diversity of ideas to create a robust and vibrant future.

Enquiry:

We foster the spirit of scientific inquiry.

Academic freedom:

We ensure complete academic freedom in teaching and research.

Service to the nation:

We are committed to providing technology, solutions and trained man power for the betterment of the people of India.

Transparency:

We exhibit transparency in all that we do.

Environmental Stewardship:

We are committed to developing and participating green technologies.

Excellence:

We endeavour to excel in research, education and student activities.

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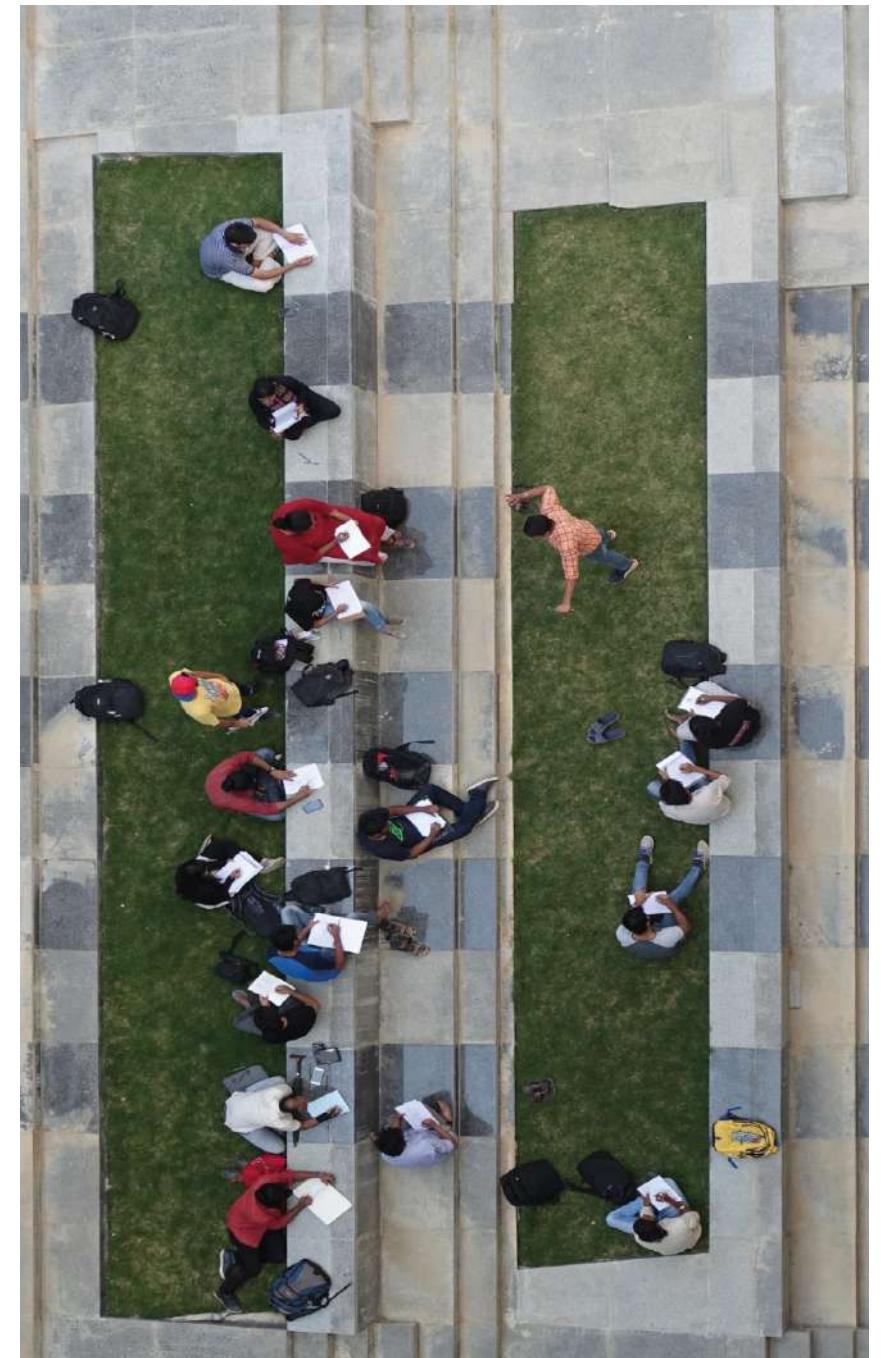
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ABOUT US

IIT HYDERABAD

IIT Hyderabad is one among the 2nd generation of IITs started by the Govt. of India. Today IITH offers 14 BTech programs, 1 BDes Program, 3 MSc programs, 23 MTech programs, 9 online MTech programs, 1 MDes program, 2 MA Program and 15 Ph.D. programs in all branches of engineering, science, liberal arts and design. IIT Hyderabad offers 2 years MTech Program to the foreign Nationals in 9 different departments. The very foundation of IIT Hyderabad is based on research and innovation. The vibrant research culture is evident from the number of patents and publications from IITH. At IITH students are given with a plethora of choices, which they diligently choose with the help of a faculty advisor. Courses that last for a semester are almost a foregone story at IITH. From 14-15 academic year onwards all BTech programs started offering courses that are of smaller credits; called the fractal academics; very carefully designed to keep the enthusiasm of the students and to keep them in pace with the state-of-the-art from 1st semester till 8th semester. IITH in the past couple of years has been highly successful in building tie-ups with leading academic institutions around the globe. IITH enjoys a very special relationship with Japanese Universities and Industries that goes beyond academic and research collaborations. In fact, some of the iconic buildings in IITH campus will carry the signature of Japanese architecture. IITH is creating a unique holistic educational ecosystem that offers interactive learning, a highly, flexible academic structure, cutting-edge research, strong industry collaboration, and entrepreneurship. It is providing an environment wherein students and faculty are not afraid to translate their dreams into realities.



FROM THE
DIRECTOR'S DESK



"Believe you can, and you're halfway there."
– Theodore Roosevelt.

Dear Friends,

Indian Institute of Technology Hyderabad welcomes you to the Dream Destination of Future Industry, Academic & Innovation leaders.

We are proud of preparing dynamic leaders who make a difference to the world with the skills that are nurtured here for a better tomorrow. As an institute that is close to completion of only 14 years of its existence, it is gratifying to note that we are doing well and are almost on par with some of the first-generation IITs. With the NIRF ranking of 8 among all the engineering institutes for the 4th consecutive time, and 16th overall rank in the country and being within the top 10 ranks among technical institutes from India in QS world rankings, we stand tall. This is essentially due to over 274 dynamic young faculty of the institute in over 18 departments, with an average age of about 40, who work hard and take up challenges without the fear of failure, making IITH at the forefront of R&D innovations. A healthy faculty-to-student ratio of 1:14 and a good mix of UG and PG programs with a UG to PG to PhD ratio of 40:30:30 makes IITH a unique place for teaching and research.

The strong research culture at IITH is reflected in around 1000 sponsored research projects of Rs. 570+ Crores that our faculty members have been handling. The number of Scopus indexed publications in the last 5 years is close to 5000, reflecting the thriving research activity with the focus on Inventing & Innovating in Technology for Humanity (IITH).

With strong Japanese collaboration and support from the Ministry of Education, the second phase of infrastructure development is in full swing and is expected to be completed by 2022. This is expected to give a big push to the institute's research activity. IITH has a strong start-up culture with a dedicated space for innovation and a research park. By the end of the second phase, we will have about 1.5 lakh sqft of space each for both the above activities, which will boost the entrepreneurship activity significantly at IITH.

The fractal academics with an interdisciplinary approach, with departments such as AI, Climate Change, Engineering Sciences, Design, Liberal Arts, Entrepreneurship & Management, Heritage Science & Technology and Centre for Interdisciplinary Programs provide a unique academic atmosphere at IITH. The BTech program in AI, Biomedical Engineering, Biotechnology & Bioinformatics, Industrial Chemistry & Computational Engineering (1st introduced among the IIT system), a minor in entrepreneurship, Executive MTech in Data Science, represent the unique and diversified academic fabric of IITH. The institute has taken up several industry-oriented measures this year. A semester-long internship in the 6th semester for BTech/BDes students and a mandatory 1-credit course on "Industry Lectures", are to name a few. The institute is moving towards having at least 50% of MTech projects that are on industry-defined problems. A number of new industry-oriented MTech programs such as Additive manufacturing (with DRDO support), E-waste resource engineering & management (jointly with C-MET, Hyderabad), Medical device innovation (jointly with AIG, Hyderabad), Energy science & technology, Integrated sensor systems, Network & information security, Polymers & biosystems engineering and Smart mobility, will enhance our outreach to industry.

We have also introduced Online MTech in Computational Mechanics, Communications and Signal Processing, Power Electronics and Power Systems, Microelectronics and VLSI, Industrial Metallurgy, Integrated Computational Materials Engineering, EV (Electric Vehicle) Technology, Data Science, Heritage Science & Technology and MDes by Practice, to support working professionals.

We are looking forward to strong academic and industrial collaborations to help us grow stronger. Industry-Research-Academia ties upon cutting-edge technologies are the key to the country's growth. I am confident that IITH will play its part proactively in this direction.

We are looking forward to a strong and long-standing collaboration!

Stay Safe & Stay Strong...

**Best Regards,
B. S. Murty
Director, IIT Hyderabad**

ADDRESS FROM

DEAN PUBLIC AND CORPORATE RELATIONS



Department of Public and Corporate Relations has been instituted with a vision to foster collaboration that establishes IITH as a premier & dream strategic partner across the globe. As one of its strategic wings, the Office of Career Services primarily focuses on the holistic development of all the students and providing them with the best career opportunities. A dedicated team at the Office of Career Services focuses on placements, internships, and providing a spectrum of career options to the students. IITH creates a unique holistic ecosystem for education that offers interactive learning, a very flexible academic structure, cutting-edge research, strong industry collaboration, and entrepreneurship. This environment enables students to translate their dreams into realities and makes A Dream Destination for the recruiters looking for enthusiastic and ever-evolving individuals. Last season we witnessed the best placement season ever, with 300+ recruiters making 577 offers.

I wish our flag bearers a rewarding career and a gracious life ahead.

Best Regards,

Prof. C Krishna Mohan

WHAT WE OFFER

ACADEMIC PROGRAMS

Undergraduate

BTech	Duration 4 years	Qualifying Test IIT-JEE (Advanced)
BDes	Duration 4 years	Qualifying Test UCEED

Postgraduate

MTech	Duration 2/3 years	Qualifying Test GATE & Self-sponsored
MSc	Duration 2 years	Qualifying Test JAM
MDes	Duration 2 years	Qualifying Test CEED & Self-sponsored
MA (DS)	Duration 2 years	Qualifying Test Written Test & Interview

Doctorate

PhD	Students with good academic background are admitted into the program through a rigorous written test & interview. Assistantship for regular PhD students is provided by MHRD
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2023 GRADUATING

BATCH PROFILE

STRENGTH	B.TECH.	STRENGTH	M.TECH.
24	Artificial Intelligence	07	Additive Manufacturing
27	Chemical Engineering	32	Artificial Intelligence
32	Civil Engineering	18	Biomedical Engineering
57	Computer Science & Engineering	14	Biotechnology
52	Electrical Engineering	22	Chemical Engineering
30	Engineering Sciences	45	Civil Engineering
22	Engineering Physics	05	Climate Change
12	Mathematics & Computing	40	Computer Science & Engineering
12	Materials Science & Metallurgical Eng.,	39	Electrical Engineering
42	Mechanical & Aerospace Engineering	08	Energy Science and Technology
		10	E-Waste Resource Engineering and Management
STRENGTH	B.DES.	20	Integrated Sensor Systems
10	Design	15	Materials Science & Metallurgical Eng.,
		37	Mechanical and Aerospace Engineering
STRENGTH	M.SC.	11	Medical Device Innovation
47	Chemistry	08	Network Information System
18	Mathematics	07	Polymers and Bio Systems Engineering
23	Physics	19	Smart Mobility
STRENGTH	M.DES.	STRENGTH	M.A. (DEVELOPMENT STUDIES)
47	Design	06	Liberal Arts

PLACEMENT SUMMARY

Some of the top paying companies are Accenture Alphonso Amazon, and DG Google, Inc. Infurnia Japan, Microsoft, NTT-AT, Rakuten, Takano, TSMC, Yokogawa,.

**Highest Package
Rs. 65.46 LPA**

Total number of students
781

Number of companies registered
330

**Average Package
Rs. 20.46 LPA**

Student placement registrations
666

Total offers Received
586

Number of Companies with offer
141

Number of International Offers
46

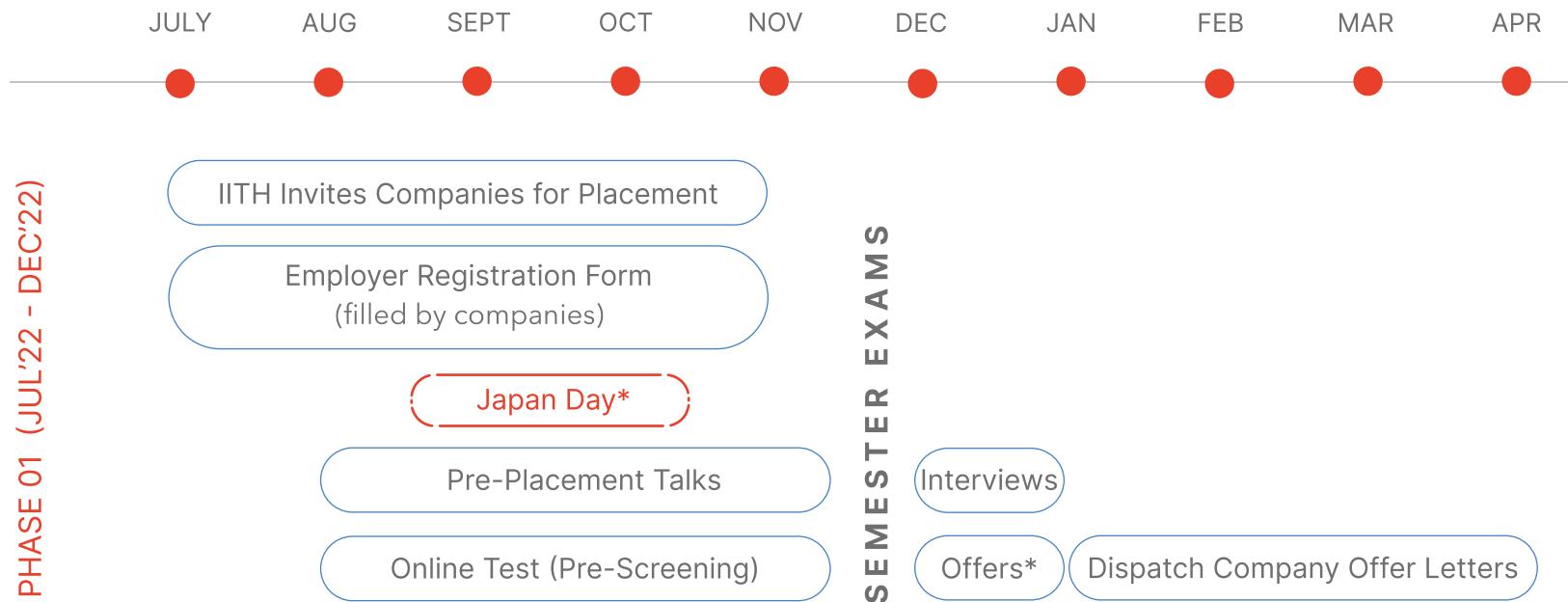
A good number of students from UG and PG opted for higher education in India and abroad. Mentioned below are the few universities opted by the students for higher education:

- California Institute of Technology
- Carnegie Mellon University
- Columbia University
- Georgetown University
- Georgia Institute of Technology
- Harvard Business School
- IIM Ahmedabad
- ISI
- IISc Bangalore
- IIT Bombay
- IIT Delhi
- IIT Madras
- Karlsruhe Institute of Technology
- New York University
- Purdue University
- University of Illinois
- University of Minnesota Twin Cities
- University of Munster
- University of Pennsylvania
- University of Southern California
- University of Texas

PLACEMENT PROCEDURE

PHASE 01

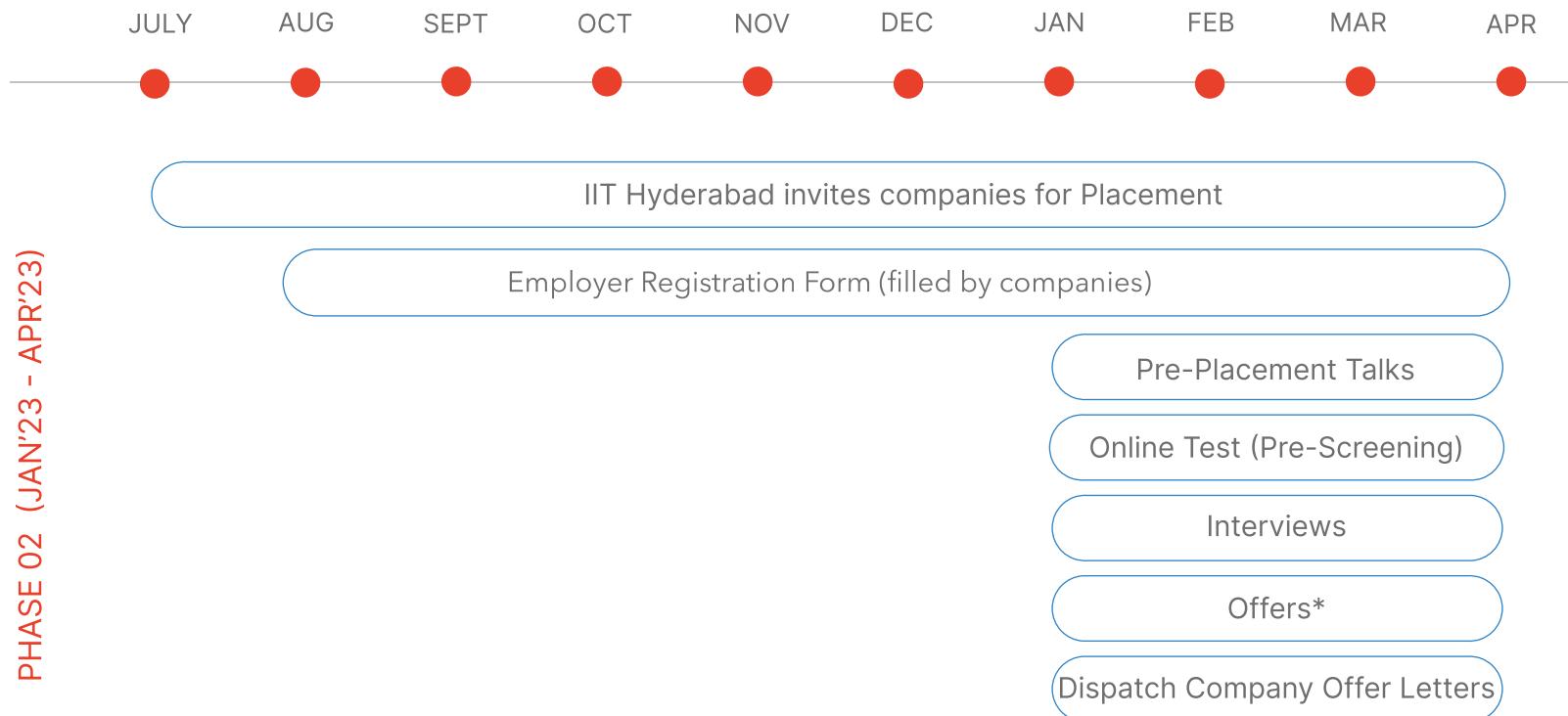
- Interviews in the month of December (Every year)
- Highly Competitive
- Typical areas include IT, Circuit, PSU, Core, Auto, Banking and Finance, Healthcare, Pharma, R&D, Construction, Education.



PLACEMENT PROCEDURE

PHASE 02

- Interviews in the months of January to April (Every year)
- For students with specific focus areas
- Hiring in diverse areas (in addition to areas of Phase 1) Education, Manufacturing, Start-ups



OUR PROMINENT RECRUITERS

Aakash Educational Services Ltd.	BEL(PSU)	E - Ring Software Solutions India	Head Digital
Accenture	Bharti Airtel	Eaton	Helium Consulting
Accenture Japan	Blend 360	Ecom Express	Honeywell
Adobe Inc.	BNY Mellon	Electronic Arts	IDrive
Aganitha Cognitive Solutions	Brane Enterprises	Extramarks Edu	IEMCAL
AM/NS	Byjus(SME)	Finwill	Indeed
Amagi Media Labs	Capgemini	Fitjee	Infinite Civil Solutions
ADP Private Limited	Caterpillar	Flipkart	Infosys
Amazon	CDAC	Flipspaces	Infurnia
AMD	Ceremorphic	Fujitsu	Innominds
American Express	Cogoport	Gainsight Software	Intel
Amrita Edu	CTS	General Electric	IQVIA
Arup	Daftcraft	Genpact	ISOFE
Bajaj Auto	DELL	Gojek	Jaguar
Baker Hughes	Deloitte	Goldman Sachs	Jaikranthi
Bank of America	Denso	Google	JIO
Beehyv	DP World	HCL	JP Morgan
BEL(CRL)	Dremio	HCL Technologies (Design)	KEC Intn.

OUR PROMINENT RECRUITERS

Komprise

KPIT

L&T Infotech(LTI)

L&w Constructions

Larsen & Toubro

Legato Health Care

Leoforce

Mahindra & Mahindra

Mathworks

Mediatek

Meesho

Mercedes-Benz

Merilytics

Micron

Microsoft

MTX

Namo eWaste

NCR

Newzera

NTT AT

NTWIST

Nurture Farm

Oppo

Optum

Oracle

Orbees

OYO

Panasonic India

Paytm

Perceptive Analytics

Phable Care

Phenom People

Philips

ProtoVulcan

Publicis Sapient

PWC

Qualcomm

Rakuten

Razorpay

Riskcovry

Robert Bosch

SaaS Lab

Samsung Semiconductor

Sedemac Mechatronics

Siemens Gamesa

Sigmoid

Silicon Labs

Snapwiz

Sprinklr

SSREC

Staart Buildtech

Standard Chattered GBS

Steradian Semiconductors

Suzuki Motor Corp.

Swiggy

TASL

TATA Motors

Tata Unistore

TCE

TCS

TCS (Design)

Texas Instruments

Tredence Analytics

Truminds

TSMC (Core)

Valeo Wellbeing

ValueLabs

Vedanta

Whirlpool

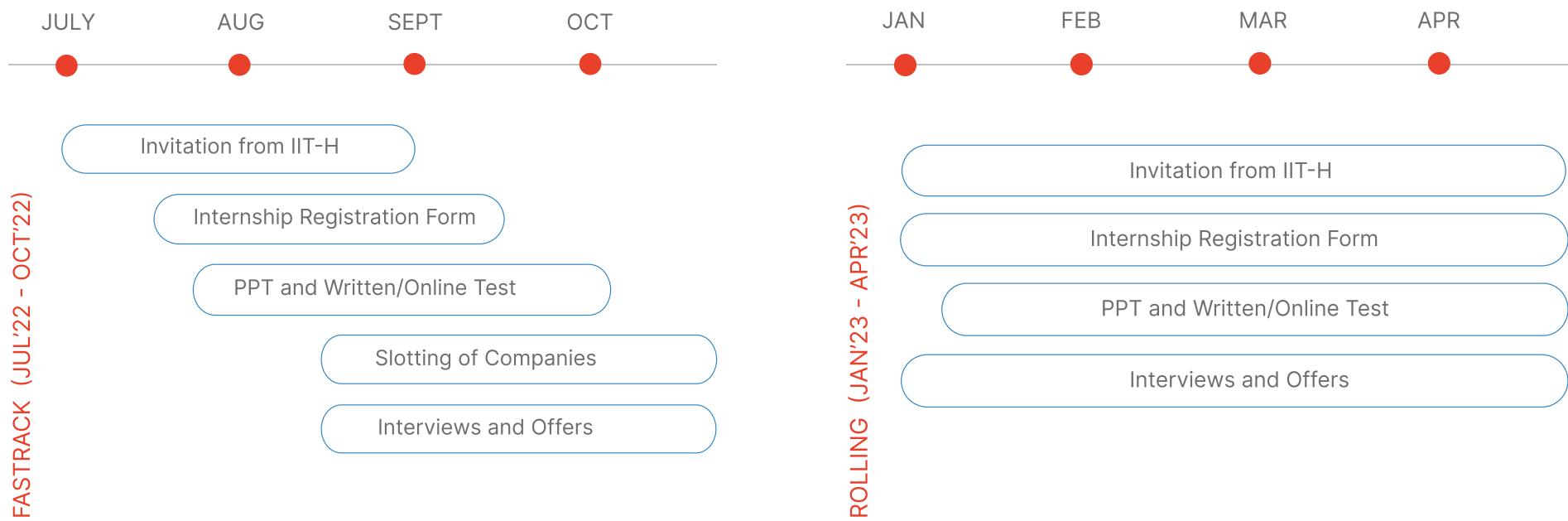
Wipro Turbo

ZL Technologies

Zomato

IITH TIMELINE

INTERNSHIP PROCEDURE



INTERNSHIPS Summary

Number of companies registered
172

Total offers Received
289

Highest Monthly Stipend
Rs. 2 L

Number of Companies with offer
90

Summer Internship Offers
250

Average Monthly Stipend
Rs. 52 K

Number of International offers
23

Semester Internship Offers
39

Our Prominent Recruiters:

ABB Global Industries
Adobe
AIBOD
Amazon
AMS Semiconductors
Apexplus
Appointy
Arav
Arcesium
Arista Networks
Artpillz
ASACO Pvt. Ltd.

ASACO Pvt. Ltd.
Asilla
Axtria
Bajaj Auto
BHEL
Blitzjobs
BlueFusion Inc
BNY Mellon
Brane Enterprises
Caterpillar
De Shaw
Delightful Gourmet Pvt Ltd (Licious)

Deloitte
Denso
DG Takano
Digipplus
Digital Marveled
DRE Motors
Dremio
E-Ring IT Solutions
Eaton
Ecorenenergy
Flipkart

Our Prominent Recruiters:

INTERNSHIPS Summary

. Frontier Tower Associates

Frugal Testing

Gainsight

GE Digital

Geny Medium

GEOGO

Goldman Sachs

Google

Greatfour Systems

Grid Edge Works

Growth Arrow

Hexagon Capability Center

Honeywell

Houseitt

HP Inc.

I-PAC

I'm Beside You

IBM

IIITH

Indeed

Intel

JIO Platforms

KLA Tencor

KPIT

KRG Consultants

L&T Infotech

Legato Health Technologies

LG Soft India

Lotusdew Wealth and Investment Advisors

Maritime Research Centre

Mathworks

MCEME

Media.net

Medicento

. Medtronic Engineering & Innovation Centre

Mercedez Benz R & D

Micron Technologies

Microsoft

Mitsubishi Corporation

Mondelez

My-healthconnect

Mynta

NTT-AT

Ntwist

NVIDIA

Omega Wealth Management

Optum

Oracle

Orbit Shifters

ORMAE

Our Food Pvt Ltd

OYO

Paninian India Pvt. Ltd

Peacock Solar

Philips

Porter

Pranava Technologies

Providence Global

Publicis Sapient

Pure Energy

Qualcomm

Raam Group

Rakshak Foundation

Redseer

Revmax Technologies

Robert Bosch

Our Prominent Recruiters:

INTERNSHIPS Summary

. Salesforce

Samsung Data Systems

Samsung R&D Bangalore

Samsung R&D Delhi

Sansan

Scala

Sekisho Corporation

Servicenow

Siemens

Signion

SMS Data Tech

SpeEdLabs

Spiral Inc.

Spiral Robotics

Sprinklr

StoryExpress

Suzuki Motor Corporation

Svaya Robotics

Synchrony

Tata Consultancy Services

Tata Steels

TCS R&I

Tech Japan

Tenhard

Tesco

Texas Instruments

TIHAN

TRDDC

UST Global

Wavelabs

Werscholars

Xilinx

Yahoo

Yokogawa Electric Corporation

. Yukai Engineering

ZF India

Zomato

2021-2022

JAPAN DAY

JAPAN DAY
2021



ભારતીય સોન્ટેક્લિક વિજ્ઞાન સંસ્કૃતિકા
મારતીય પ્રીદ્યોગિકી સંસ્થાન હૈદરાબાદ
Indian Institute of Technology Hyderabad

Japan Day 2021 conducted virtually on
25th September 2021

नमस्ते

2021-2022

JAPAN DAY

JAPANESE COMPANIES THAT VISITED/PARTICIPATED IN IITH ON-CAMPUS PLACEMENTS/INTERNSHIP

2021-2022

Accenture Japan

Arav

Asilia

Daftcraft

Denso Corporation

DG Takano

I'm Beside You

NTT Advanced Technology Corporation

Rakuten Mobile

Scala Inc.

SMS Data Tech

Suzuki Motor Corporation

TechJapan

Yokogawa

Yukai Engg.

Total offers Received

61

Placement Offers

38

Internship Offers

23

2021-2022

JAPAN DAY

OBJECTIVES of Japan Day Event

To serve as a bridge in bringing Japanese companies and IITH students together for mutual long term relationships.

To enable companies to reach diverse pool of students at IITH and also understand the research projects at IITH

To enable students to broaden knowledge on areas of Technology in demand, career prospects and work culture in Japan

To develop industry contacts and explore career opportunities

COMPANIES THAT PARTICIPATED IN JAPAN DAY 2021

[AWL Inc.](#)

[Denso International India Pvt. Ltd.](#)

[DG TAKANO Co. Ltd.](#)

[Fujitsu Ltd.](#)

[I'm beside you Inc.,](#)

[mil-kin Inc.](#)

[NTT Advanced Technology Corporation](#)

[Rapyuta Robotics Co. Ltd.](#)

[Scala Inc.](#)

[Space View Inc.](#)

[Sun Well Solutions Co. Ltd.](#)

[Team AIBOD Inc.](#)

[Tokhimo Inc.](#)

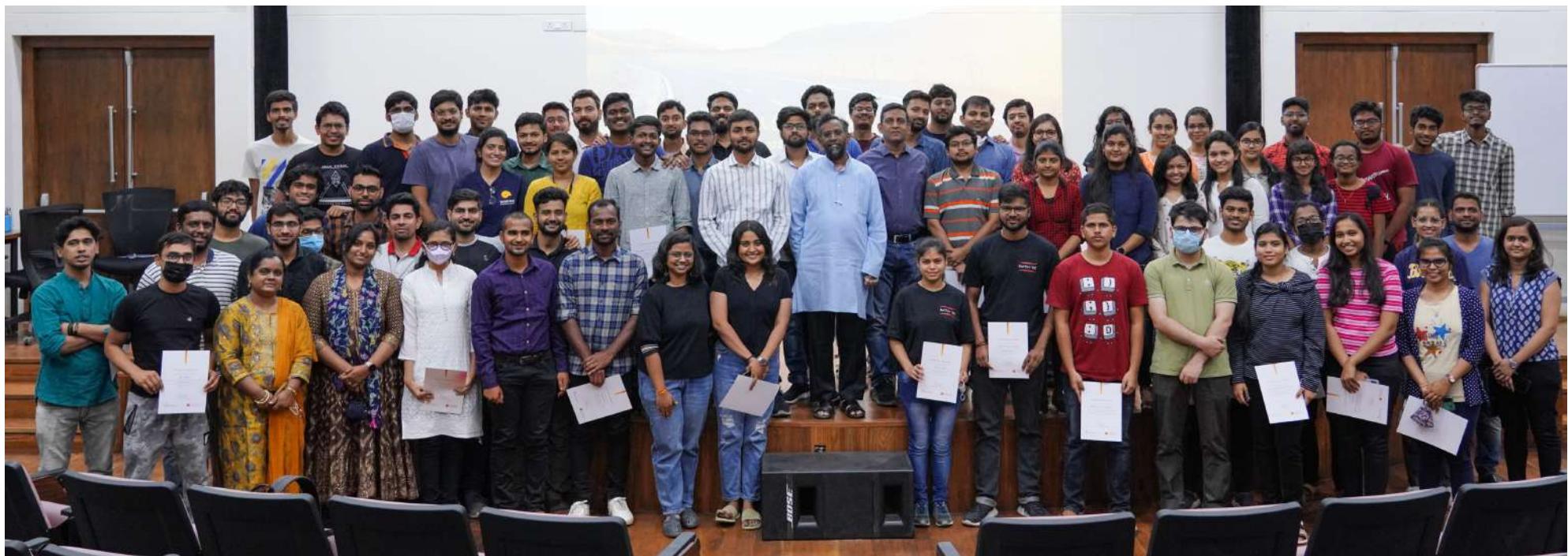
IITH ANNUAL

PLACEMENT DAY

Indian Institute of Technology Hyderabad celebrates '**Placement Day**' to felicitate the young, dynamic, enthusiastic and aspiring students with the "**Excellence Award**" for their significant contribution to the placement and internship activities and procedures, performed under the Office of Career Services of IITH.

They are honorably designated as '**Student Placement Coordinator**', '**Student Internship Coordinator**', '**Student Tech Coordinator**' and '**Student Career-cell Coordinator**' marking them as bearing greater responsibility and integrity and dedication.

We appreciate and thank the students for their efforts and valuable contribution in an exceptional way which fostered the success of the Institute in getting maximum companies.



IITH OFFERINGS

PROGRAMS

- | | | | |
|-----------|---|-----------|--|
| 01 | Additive Manufacturing | 13 | Energy Science and Technology |
| 02 | Artificial Intelligence | 14 | Engineering Science |
| 03 | Biomedical Engineering | 15 | Integrated Sensors System |
| 04 | Biotechnology | 16 | Liberal Arts |
| 05 | Chemical Engineering | 17 | Material Science and Metallurgical Engineering |
| 06 | Chemistry | 18 | Mathematics and Computing |
| 07 | Civil Engineering | 19 | Mechanical and Aerospace Engineering |
| 08 | Climate Change | 20 | Medical Device Innovation |
| 09 | Computer Science and Engineering | 21 | Network and Information Security |
| 10 | Design | 22 | Physics |
| 11 | E-waste Resource Engineering and Management | 23 | Polymer and Biosystems |
| 12 | Electrical Engineering | 24 | Smart Mobility |

M.TECH. Specialized Programs

Additive Manufacturing

The Department imparts in-depth knowledge in fundamental aspects of Mechanical Engineering and Material Science and Metallurgy. Thus the student learns the principles of CAD/CAM, design for manufacturing and assembly, Product design and prototyping, design for additive manufacturing, elasticity and plasticity, Heat transfer, Finite Element Analysis, Advance material joining process, major characterization techniques such as X-Ray diffraction, optical and electron microscopy as well as spectroscopy. Moreover, students are given ample opportunity to gain hands-on expertise in all these techniques. In addition, they learn various computational modelling techniques. As a part of their undergraduate and graduate curriculum, students learn basic and advanced courses on thermodynamics, kinetics and phase transformations of materials. In these courses they are trained to apply fundamental principles of thermodynamics and kinetics to study phase equilibria and diffusion in key engineering alloys such as steels, superalloys, and light alloys using CALPHAD-based tools.

The department offers course work covering broad fields of Mechanical Engineering, Materials science and metallurgical engineering from fundamentals to advanced and emerging areas such as nanomaterials, biomaterials, energy materials, electron microscopy, thermomechanical processing, thin films and devices, Machine Learning to name a few, which impart strong foundation on several major aspects to enhance the state of the knowledge of the students.

See - [Brochure](#)

Visit - [Website](#)



DEPARTMENTS

Artificial Intelligence

The Department of Artificial Intelligence (AI) at IIT-Hyderabad was established in 2019 to offer academic programs and mould students with a holistic understanding of the theory and practice of Artificial Intelligence, as well as to create a complete ecosystem for both academic practice and research in AI.

The mission of the department is to "Enable and facilitate students to become leaders in the AI industry and academia nationally and internationally; as well as to meet the pressing demands of the country in the various subareas and applications of AI". Presently the department offers B.Tech, M.Tech (2/3 yrs) and PhD programs. The department also offers "Professional program in AI and emerging technologies" which is a 5-week residential program at IITH. Research Areas: AI for Agriculture, Intelligent Transportation and Smart Mobility, Generative Modelling, Speech Systems and Natural Language Processing, Robotics, Recommendation Systems and Data Mining, Bayesian learning, Explainable Machine Learning, Autonomous Vehicles, Computer Vision, Video Quality Assessment, Social Media and Text Analysis, ML in Astronomy, Inference Algorithms, Graphical Models, Big Data Analysis, Computer Architectures for AI, AI and IoT, AI and HPC.

See - [Brochure](#)
Visit - [Website](#)



DEPARTMENTS

Biomedical Engineering

M.tech in Biomedical Engineering (BME) at IIT Hyderabad envisages to develop engineering strategies to promote innovations in medical technologies, solve challenging problems in medicine, and facilitate the translation of technology to clinical health care.

The department provides specialization in the following two domains:

Medical sensing, analytics & simulation (MedSAS): Typically requires a background in engineering, physics, programming, signal processing and data analytics.

Nanomedicine & Biomaterials (NBM): Typically requires a background in biotechnology, medicine, pharmaceutical or life sciences.

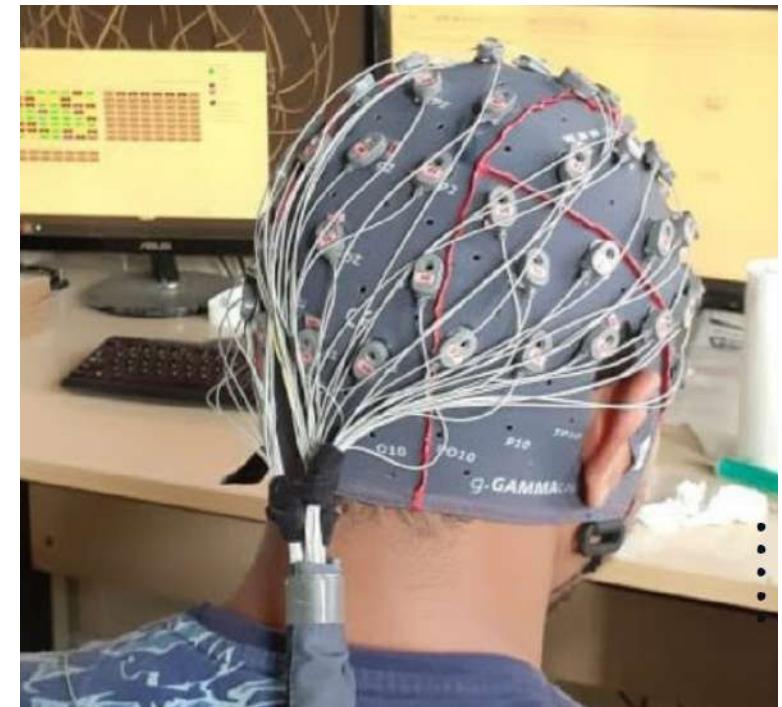
Research Areas

MedSAS stream: Neuroimaging of the brain & peripheral electrophysiology, Intraoperative Neuromonitoring support systems, Lensless Holographic Microscopy for Point-of-Care Applications, Quantitative phase imaging, Multiple beam interferometry, Microscopy. Microfluidics and Lab on Chip, Therapeutic and Diagnostic Ultrasound for cancer, maternal/fetal, and musculoskeletal applications.

NBM stream: Targeted and Triggered drug delivery and, 3D bioprinting of tissue/organ constructs, In vitro tissue/organ models, 3D printed orthosis and prosthesis, Microfluidics and Lab on Chip for Bioengineering and protein aggregation modeling, Computational Biomechanics, Cancer Nanotechnology and therapeutics, Nanotoxicology, Robotics and Neuromorphic technologies, Constitutive modeling of biomaterials, Mechanotransduction in tissue engineering, Micro/nano system for vaccine development, Immunoengineering, Stem Cell Engineering, Molecular biological analysis of angiogenesis, osteogenesis, and evaluation of diabetic cell therapy.

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Visit - [Website](#)



DEPARTMENTS

Biotechnology

The Department of Biotechnology at IIT Hyderabad was established in 2010 and it offers outstanding research and teaching programs in the frontier areas of Biotechnology. The department hosts 10 core faculty members, 40 Ph.D., 34 M.Tech and 10 B.Tech students. It offers B.Tech Biotechnology and Bioinformatics, M.Tech Medical Biotechnology and Ph.D. Biotechnology.

The mission of the department is to develop new generation of scientific leaders with scientific vigor, critical thinking, ethics and multitasking managerial skills to thrive in the fast-paced technology driven industry and academia. We foster innovations through cutting-edge technologies and interdisciplinary research. The research expertise of our faculties can be broadly classified under cell and molecular biology, biochemistry, protein engineering, structural biology, DNA repair, chromosome dynamics, gene regulation, advanced imaging, proteomics, circadian rhythm, cancer genomics, RNA biology, alternative splicing, biomarker discovery, cell signaling, Innate Immunity bioinformatics artificial intelligence, DNA Nanotechnology and computational biophysics. We use a range of model systems such as bacteria, yeast, mouse, Drosophila, zebrafish, and human cells and employ single-molecule imaging to high-throughput omics based platforms to address a variety of biological questions



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DEPARTMENTS

Chemical Engineering

Department of Chemical Engineering at IIT Hyderabad is one of the country's fastest growing chemical engineering departments, with an excellent reputation in teaching and research created over the last decade. We provide quality chemical engineering education, research, and professional consulting support to process industries with 22 faculty members involved in cutting-edge research. We train the next generation of chemical engineers to address today's socio-technical challenges. This is reflected in the department's outstanding track record of attracting industries focusing on various sectors including energy, design, and application of AI/ML. Further, this is also revealed in obtaining grant-in aid for research projects, industry consultancy, fellowships (DST, DBT, DRDO, BRNS, UKIERI, MHRD, NMDC, Tata etc.) and collaborations with various universities across the globe.

Vision

We will achieve our ambitious goal by (i) instilling our fractal teaching approach which provides our students the extreme flexibility of need based learning, (ii) amalgamating the theoretical concepts, computational methods and programming in chemical engineering i.e., exposing our students (apart from the core subjects) to programming in MATLAB, python and other programming languages through various assignments, projects, and researches, (iii) interdisciplinary research approach helping our students and faculties to become more socially responsible citizen, (iv) implanting the culture of productization and start-up in the young mind, and (v) making high quality education accessible to the citizens of the country at their ease.

See - [Brochure](#)

Visit - [Website](#)



Research exposure

Our research transcends the traditional disciplinary boundaries and expands into diverse areas spanning from traditional, computer aided chemical engineering to application of AI/ML in complex system analysis. Our close interaction with industry ensures that the research is in a robust balance of fundamental and applied research. Some of the interdisciplinary research areas in which the department is highly focused on include Advanced Materials & Mineral Processing, Artificial Intelligence & Machine Learning in Chemical Engineering, Bioengineering & Biotechnology, Computational and Systems Biology, Energy Conversion & Storage, Fluid Mechanics, Heterogeneous Catalysis, Optimization & Process Systems Engineering

DEPARTMENTS

Chemistry

The Department of Chemistry, Indian Institute of Technology, Hyderabad is one of the premier departments in the country today. The Department started functioning from the very inception of IITH and has the distinction of starting the first PG program in science in 2010, offering two year M.Sc. chemistry degree program. Both theory and laboratory teaching programs for UG have started from the very first day of IITH . Besides, the state-of-the-art PG and research laboratories were established. Since its inception, the department has attracted world class faculty members, who are involved in all major areas of chemistry research. Currently the department has 21 highly motivated wonderful faculty members working on cutting-edge research projects and 7 lab technicians. The Department is committed to excellence in chemistry by establishing research programs for meeting scientific and technological challenges faced by the ever changing, science centered world of the 21st century. Our aim is to produce highly sought after and knowledgeable graduates for pursuing careers with academia, industry and government.

Research Areas

- Organic Synthesis and Drug Discovery
- CO₂ Activation and Pollution Abatement
- Organometallic Chemistry
- Spectroscopy and Dynamics of Transient Species
- Strongly Correlated Materials for Thermoelectric and Superconductors
- Functional Organic Materials and Supramolecular Chemistry
- Biophysical Chemistry
- Computational Inorganic Chemistry



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DEPARTMENTS

Civil Engineering

Since its inception in 2008, the Department of Civil Engineering has been at the forefront of teaching, research, and consulting, focusing on the broad areas of Geotechnical, Structural, Transportation Systems, Hydraulics, Water Resources and Environmental Engineering. The curriculum for these specializations ensures proficiency in the breadth of topics and sufficient depth of coverage within each area. Students graduating from the programme are provided exposure to the latest analysis and design software such as ABAQUS, STAAD Pro, ANSYS, Zen Crack, FLAC 3D, PLAXIS 2D/3D and GeoStudio Professional, GMS, ERDAS, HGA, in a state-of-the-art computational facility.

Research Areas: Structural Strengthening, Earthquake Engineering, FRP composites, Fracture Mechanics, Finite Elements, Structural Health Monitoring, Improved Road and Rail Performance, Ground Improvement, Soil-Structure Interaction, Recycled Material for Construction, Wastewater treatment, Solid waste management, Remote Sensing with GIS, Contaminant transport, Groundwater flow, Surface water Hydrology and Development of Advanced Computational Techniques.

Research Facilities / Labs: Geotechnical Engineering, Structural Engineering, Water Resources Engineering, Traffic Engineering, Highway Materials, Air Quality Monitoring, Microbiology, Solid & Hazardous Waste Management, Water & Wastewater Engineering, Water Quality Analysis, Advanced Geotechnical Engineering, Geosynthetic Testing, Large Scale Testing, Advanced Soil Dynamics, Ground Characterisation, Advanced Cement-Based Materials, Advanced Structural Material Testing, Scaled Structural Testing and Materials Characterisation.



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DEPARTMENTS

Climate Change

The Department of Climate Change at IIT Hyderabad integrates academic and practical knowledge by bringing together a diverse array of stakeholders, including scientists, engineers, policy researchers, practitioners, and students in order to develop a holistic understanding of Climate Change.

We, at IITH, aspire to be a leading institute in developing real-world solutions to the many challenges brought forth by Climate Change. Our innovative interdisciplinary curriculum involves a mix of core and elective courses, an industry lecture and seminar series by leading experts, focus group discussions, field visits, and a research thesis to provide cutting-edge education in the area of Climate Change

Research Areas:

Climate:

Climate Data Science, Climate Adaptation, Climate Extremes, Climate Impact, Climate Resilience, Urban Studies, Sustainable Development, Climate Governance and Policy, Environmental, Social and Governance (ESG).

Computation/ Modelling:

Applications of AI & ML, High Performance Computing (Parallel Coding), Climate & WRF Models, Satellite and Radar Rainfall Estimation, Emissions Modelling, Scaling up and Efficiency of Simulations, 3D & 4D Variation Assimilation Methods

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Mitigation:

Renewable Energy, Design for Sustainability, Sustainability Assessment, Life Cycle Analysis, Biofuels, Bio-electro chemistry, Carbon Emissions, CO₂ Activation, Resource Recovery from Waste, Waste Management.

Industry Relevant Skills:

Python and R for data handling and visualization, Advanced Computing in C, Climate Modelling, OpenLCA, ESG, Risk Assessment.

Recovery from Waste, Waste Management Renewable Energy

DEPARTMENTS

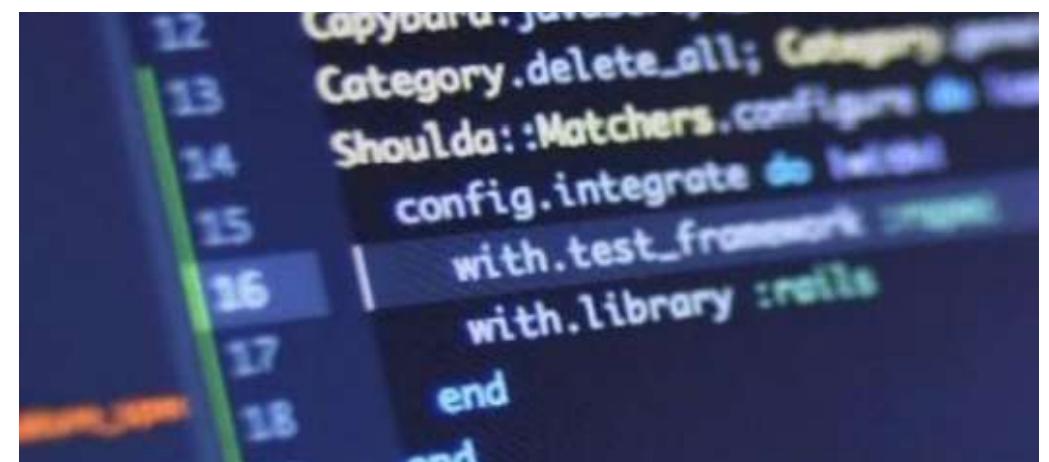
Computer Science and Engineering

IIT Hyderabad's Computer Science and Engineering (CSE) department is a one-of-a-kind center of excellence, carrying out exceptional research and tech innovation. It is one of the most dynamic and vibrant departments providing in-depth training and research opportunities for in-demand fields such as Machine Learning and AI, Networking & 5G, Compilers, Parallel & Distributed Computing, etc. The department provides several project-based courses, exposing students to real-world problems and the dynamic industry norms and standards. It offers the "Industry Lecture series" set up with tech leaders of several globally innovating companies who share their insight with the students. The department also has strong collaborations with universities and companies in Japan. Many of our students spend time in Japan as part of exchange programs and Internships. The department has come up with several innovative ideas, start-ups, and award-winning publications, with our alumni working as tech leaders and prominent researchers. The department aims to inculcate a passion for innovation and creativity in its students. The faculty have active collaboration with academic and industry partners spread worldwide. One (Suzuki's V2X project) was recently demonstrated and is near the field testing stages. Other prominent names include Microsoft Research, IBM Research, Intel, AMD, Samsung, DRDO and the University of Oxford, University of Tokyo, Swinburne University, IISc, other IITs, and many more global Universities.

The department also provides students with various labs of global standards. Last year alone, we produced over 60 publications in conferences such as CVPR, ICML, AAAI, ACL, NEURIPS, ISPDC, etc.

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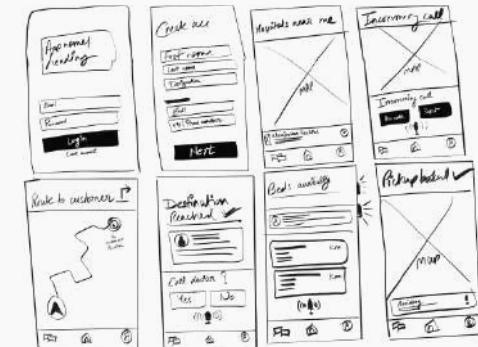
DEPARTMENTS

Design

The Department of Design offers a vibrant environment for research and practice of several facets of Design. The department envisions a creative engagement in the space between technologies and people.

The Department of Design currently offers Bachelors of Design (B.Des), Master of Design (M.Des), Doctor of Philosophy (Ph.D) in Design and Design Minor. The teaching methods adapt to customized student requirements. Students experience a strong foundation in courses such as Evolution of Design, Design Process, Design Thinking, Photography, Film Appreciation, Form Exploration, Material Exploration, Environmental Perception, Elements of Design and Principles of Design. This foundation enables them to branch out into electives such as User Experience Design, Graphic Design, Advanced Photography, Filmmaking, Animation, Illustration, Spatial Design, Product Design, System Design, Furniture Design, Information Visualization and Interaction Design. The Design students additionally explore Crafts and Performance Arts. The balance of foundation and specializations make the students flexible as per the dynamic industry requirements.

Department of Design delves into research in Traditional as well as Emerging Technologies. Research areas include -Culture and Heritage, Traditional and Contemporary Photography, Art, Architecture, Design Education, Film Theories and Interactive Filmmaking, Design and Sustainability.



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M.TECH. Specialized Programs

E-Waste Resource Engineering & Management

MTech in E-Waste Resource Engineering & Management (EREM) is being offered, from the academic year 2020, jointly by IIT Hyderabad and C-MET. In the future, this initiative will help to catalyse efforts in the country and around the world to handle the E-Waste and provide the necessary support for several government initiatives in this direction such as Skill India, Swachh Bharat, Waste to Wealth initiatives. This programme is supported by the Ministry of Electronics and Information Technology, Govt. of India.

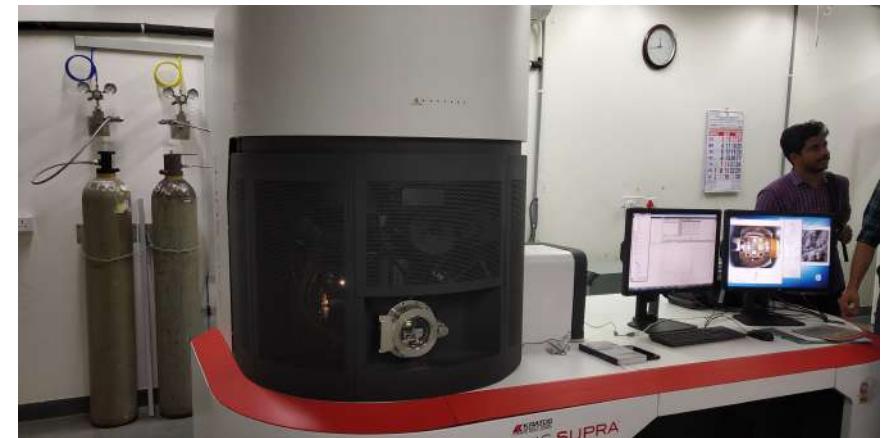
Research Areas

As a part of the initiative, Professors and scientist from the IIT Hyderabad and the C-MET Hyderabad are working on various project, including Extraction of Rare Earth Elements from the spent Permanent Magnet Carbon derived from Waste PCBs for Lithium-ion Batteries; Recovery of cobalt from spent Lithium-ion Battery Electronic component detection from waste PCBs using Computer Vision; Application of Deep Learning on retired Lithium ion batteries Recovery of precious metals (silver, copper) from e-waste like PCBs through electrochemical and pyrometallurgy approach Effective use of Artificial Intelligence and Machine Learning in Silicon solar cell dismantling process and also reuse of Lithium ion battery Measuring and Designing a circular economy based E-waste supply chain flow Vehicle routing AI optimization for sustainable e-waste collection. The students are trained in metal extraction methods, such as Hydrometallurgy, Pyrometallurgy and Electrometallurgy.

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as well as, RoHS enforcement, global E-Waste laws, Machine learning, Artificial intelligence, Trace metal analysis, Supply Chain management Optimization, and Life Cycle Assessment.



DEPARTMENTS

Electrical Engineering

The Department of Electrical Engineering (EE) at IIT Hyderabad offers a vibrant environment for undergraduate, post-graduate education and research in many areas of Electrical Engineering. The department comprises a diverse group of faculty members with varied research interests offering courses such as traditional Electrical Engineering, interdisciplinary CS courses, etc. Research Outcomes include over 83 Journal papers, 74 Conference Proceedings, 5 Filed Patents, and over 11 Projects with a funding of 85 crores. Another major project includes a testbed on autonomous navigation (TiHAN) for unmanned aerial vehicles, which got funded 135 crores by GOI.

Research Facilities / Labs: Coding & Communication Theory Lab, Speech Information Processing (SIP) Lab, Immersive Multimedia and Telepresence Laboratory for Video and Image Analysis (LFOVIA), Renewable Energy and Power Systems Lab, Power Electronics and Power Systems (PEPS) Lab, Smart Power Applications and Renewables Control (SPARC) Lab, Electron device Research Lab, Dynamics and Control Lab, Littlings Lab, Nanophotonics Lab, Advanced Embedded Systems and Digital IC Design Lab, Flexible Electronics and Nanodevices Lab, VLSI Research lab, and Wireless Communications and Networking (WiCoN) Lab.

We aim to be recognized as ideators and leaders in higher education and research and to develop human power with creativity, technology, and passion for the betterment of India and humankind.



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M.TECH. Specialized Programs

Energy Science & Technology

M.Tech. in Energy Science and Technology (EST) is an interdisciplinary program being offered from the academic year 2020- 2021 at IITH. The Master's program is designed to welcome students with various bachelor's degrees and has a dedicated teaching program to bridge the gap between different students' backgrounds. The Department of Chemistry is initially coordinating this course. Faculty members from different departments (CHE, CHY, EE, MSE, PH) across the Institute with expertise in Energy, Materials, and Technology serve as instructors for the diverse curriculum. The program's goal is to impart and foster knowledge in energy research and development and state-of-the-art approaches to shape the future of energy. Broad areas include but are not limited to Fossil Fuels, Power Engineering, General Energy, Renewable Energy, Energy Storage, Hydrogen Energy, and so forth.

Research facilities and labs -

Material Synthesis: Materials synthesis apparatus, Autoclave, and fixed bed reactor. Energy Storage applications: Battery assembly and electrochemical characterization.

Solar PV: Solar cell fabrication and characterization.

Electric Vehicles: Basics and designing.

Characterization: Scanning Electrochemical Microscopy (SECM), XRD & SAXS, SEM-EDAX, TEM, XPS, FTIR, UV-vis NIR, Atomic Force and Raman Microscopy, Chemisorption, GC, GC-MS, LCMS, Thermal Studies (TGA, DSC), Power Electronics and Converters Lab: DC-DC converters, DC- AC converters.



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DEPARTMENTS

Engineering Science

Engineering Science is a unique interdisciplinary B. Tech. program started at IIT Hyderabad for the first time in 2012. It focuses on the T-Education model, where the horizontal line in T corresponds to breadth while the vertical line corresponds to depth. This program aims to let students experience the type of courses they will be doing in a particular branch before choosing. For the first two years of this program, students take courses from different departments such as Computer Science, Artificial Intelligence, Electrical Engineering, Math and Computing, Mechanical, Chemical, Civil, Material Science, Physics and Chemistry. At the end of 2nd year, they will be selecting a department of their choice and continue to specialize in their respective branches from 3rd year onwards. A student specializing in a particular branch from Engineering Science will be doing nearly all the core courses done by any student of that specific branch. They are also allowed to remain as Engineering Science students and continue doing courses from different departments to gain interdisciplinary knowledge. This 'T' based model gives a holistic perspective in engineering education.

Research facilities/labs:

Emphasis on understanding and integrated application of engineering, Ability to apply acquired math, science and engineering skills to solve real-world engineering problems, Ability to identify, formulate and solve multi-disciplinary engineering problems, Ability to work well in interdisciplinary teams with focus on system integration



The Engineering Science Department has a world-class faculty with education and training from the best Universities in India and abroad. As an interdisciplinary department, we have access to the labs of every department including CSE, AI, EE, Math, Mechanical, Civil, Chemical, Physics, etc.

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M.TECH. Specialized Programs

Integrated Sensor Systems

Since 2020, IIT Hyderabad has started an Interdisciplinary MTech degree program in Integrated Sensor Systems (ISS). The course work provides all necessary basic and applied skills for design, fabrication and testing of integrated sensor system in all area of importance by using the concept of interdisciplinary science and technology. During the course work, candidates may take courses in Basic Concepts of Smart Materials and Devices, Physics of Low Dimensions Devices, Computational Modelling Techniques, Micro and Nanofabrication Technologies, Circuit and Packaging, Embedded Programming (Design and Lab), Intelligent Signal Processing using AI/IoT, and elective courses in other allied fields. Additionally, in thesis project, a candidate is required to design, analysis, fabricate, and characterize a device to achieve excellent thesis grade which will enable him/her to get confidence and skills in Integrated Sensor Systems. The program help the candidates to get excellent industrial as well as academic career. The program also includes Industry lectures and a course in English communication. The overall program will develop manpower and technopreneurs in the area of sensors technology.

Associated faculty members are having inter-disciplinary research interest and offer unique research problems to the students for thesis works which include the application of Sensors Network, Machine Learning, IoT based sensor system development, physical sensors, Multiple sensors single processing, Nano generators, Energy harvesters power management using IoT, etc



Research facilities/labs:

It uses various laboratories established in different department such as Advanced Embedded Systems and Digital IC Design Lab, Design of Analog RF Mixed Integrated Circuit Lab, Nano-X Cleanroom and Characterization Lab, Nanophotonics Lab, MEMS and Micro/Nanosystems Laboratory, CARBON Nano Lab, SenAct Lab, Flexible Electronics & Nano Devices Laboratory, BioFabTE Lab, Nanomagnetism and microscopy lab.

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DEPARTMENTS

Liberal Arts

Liberal Arts at IIT Hyderabad is a leading center for the study of a highly diverse range of subjects including Cultural Studies, Economics, English (Literature and Language), Psychology, Linguistics, Sociology and Social Anthropology.

The Department of Liberal Arts, IITH announces a unique MA program in Development Studies, designed to enable innovative and rigorous research to address social problems in the area of development practices in contemporary India. With a directory of faculty from Sociology and Anthropology, Development Studies, Economics, Linguistics and Cognition, Psychology, Literature, and Cultural Studies, this program aims to provide a comprehensive understanding of the diverse public systems, infrastructures, and policies that impact development in complex ways. With a dedicated internship and dissertation components, this two-year full-time program offers students a formidable and challenging platform from which they can engage with contemporary research and professional practice in India and across the globe.

The department launched the MA in Health, Gender, and Society which will enable the students to critically understand the problems in the healthcare space and contribute to the field with practice and research.

Research Areas

Psychology, Psycho-oncology, medical anthropology, contemporary anthropology, statistics, development economics, public policy, media and development, climate action, tribal development, labor studies, and social justice.

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Research Facilities / Labs: Department of Liberal Arts has research facilities that cover both theoretical and experimental aspects of all core research areas. Few of them are given below: Language and Cognition Laboratory, Psychology Laboratory, Applied Econometrics Laboratory.

DEPARTMENTS

Materials Science & Metallurgical Engineering

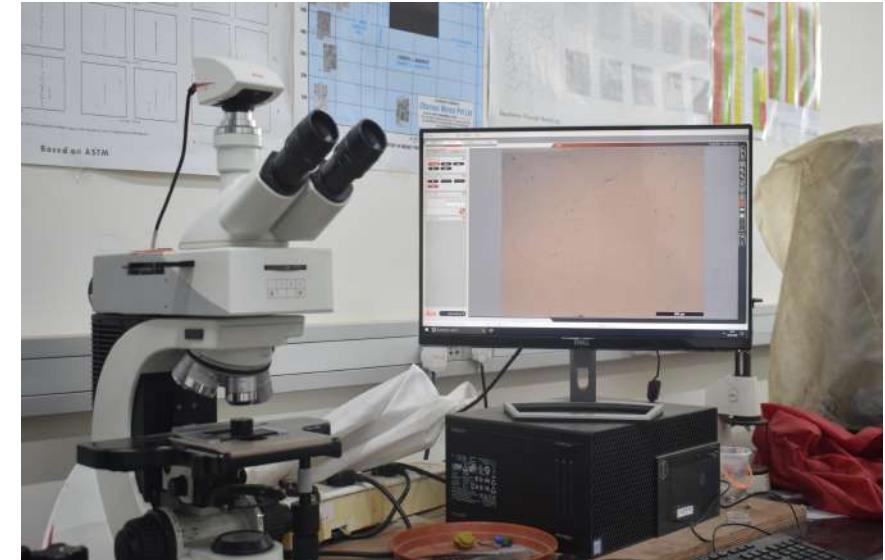
The department offers course work covering broad fields of Materials Science and Metallurgical Engineering from atom to applications in emerging areas such as :

- Structural Materials, Functional Materials, Computational Materials
- Advanced Materials Characterization
- Health care & Bio Materials, Nano Science
- Nano Technology and Energy Materials

It consists of diverse faculty members from various fields of science and engineering.

Research facilities/labs:

- High Entropy Alloys
- Development of light metals in novel applications
- Additive Manufacturing & Welding
- Powder Metallurgy & Composite Materials
- Sensors and Actuators
- Batteries and Supercapacitors
- Coatings
- Materials Informatics
- Phase field modelling & Neural networks
- Bacterial Cellulose based Composites
- Biomaterials
- Phase Transformations and Microstructure Development
- Mechanical behaviour of materials



- Electron Microscopy
- Nano Fabrication and Material Synthesis
- Semiconductor Materials and Devices
- Diffusion Controlled Processes in Materials
- Printed and Flexible electronics
- Nano Porous Materials and Gas Separation
- Process Metallurgy of Steels

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DEPARTMENTS

Mathematics

The department offers a complete range of mathematics programmes: BTech in Mathematics and Computing, MSc with specialisations in Mathematics, as well as, Mathematics and Computing, and PhD in Mathematics and Statistics. Firmly focussed on training students right from the start of their academic career, the Department of Mathematics is recognised for its commitment to developing a strong foundation in mathematics, and offering statistical and computational skills to prepare them for positions in industry, government, and academia.

Research facilities/labs:

Faculty in the department are engaged in research areas such as Algebra, Analysis, Applied Mathematics, Data Analysis, Fluid Dynamics, Fuzzy Logic, Geometry, Machine Learning, Number Theory, PDE, Probability and Statistics (Biostatistics, Computational Statistics, Adaptive designs and Reliability Theory). The students are specifically trained in theoretical, applied and statistical aspects of mathematics, as well as, in emerging areas, such as, Computational Intelligence, Coding and Cryptography, and Statistical Data Analysis, which is evident from the research projects they do as part of their curriculum. The department has excellent and state-of-the-art computational facilities including high end GPU servers.

```
require 'copybara/rspec'
require 'copybara/rslls'

Copybara.javascript_driver = :webkit
Category.delete_all; Category.create!(name: "Mathematics")
Shoulda::Matchers.configure do |config|
  config.integrate do |with|
    with.test_framework :rspec
    with.library :rslls
  end
end
# Add additional requirements here
# Requires supporting files contained in the
# spec/support/ directory
# spec/support/ and its subdirectories must contain files in
# rslls format
```

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DEPARTMENTS

Mechanical & Aerospace Engineering

The department has a dynamic curriculum which integrates the teaching of engineering science fundamentals along with modern industrial practices. The curriculum is constantly updated considering the industry requirements. Our classroom consists of students from diverse backgrounds which encourages healthy and free communication of ideas that synergizes the learning process. The department has a rich and diverse set of talented faculty who are actively involved in industrial projects from DRDO, ISRO, BHEL, Honeywell, Boeing, CEAT etc.

Research Areas

Research Areas: The Department of Mechanical and Aerospace Engineering broadly works on Aerospace Structures, Integrated Design & Manufacturing, Mechanics & Design and Thermo-fluids Engineering.

The Focus Research Areas

Multibody Dynamics, Legged Robotics, Control Theory and Mechatronics, MEMS, NEMS, Linear & Nonlinear Vibrations, Impact Mechanics, Experimental Solid Mechanics, Contact Mechanics, Applied Mechanics , Design of Composite Structures, Aerodynamics, Unmanned Aerial Vehicles, Robotics, Biomechanics, Acoustics, Dynamics Control, Vibrations in Structures and Turbo-Machines, Thermal Management Approaches for Distortion Control in Metal Additive Manufacturing, Process Modeling and Optimization Fracture Mechanics, Laser Material Processing, Underwater laser material manufacturing process.



Manufacturing processes for Mass Customization, Development of Integrated Product and Process Design Systems, Supersonic & Hypersonic Flows, Combustion Kinetics, CFD modelling of Turbulent flows and Turbulent Combustion, Interfacial flows ,Phase Changing Materials, Stability Analysis of Flows, Multi-Materials Simulations, Experimental and Numerical Combustion Kinetics, Turbulent spray combustion, Turbulence modelling, LES, Combustion & Multiphase flows .

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M.TECH. Specialized Programs

Medical Device Innovation

A unique MTech degree program to foster the development of world-class affordable medical devices to address the existing gap in the country. This program is offered in association with the clinical partner Asian Institute of Gastroenterology (AIG), Hyderabad and the incubator partner Center for Healthcare Entrepreneurship(CfHE), IIT Hyderabad. It shall add impetus for scaling up of Med Tech innovations by translating academic research and clinical needs into downstream commercial design and development of medical devices. The program requires clinical immersions working with clinicians in hospitals in understanding the unmet needs in the clinical settings. The curriculum also includes Design Thinking, 3D Prototyping, Biomedical Devices, Intellectual Property Rights, Safety and Standard for Medical Devices, Business Plan Development and Entrepreneurship..

Curriculum

Medical Design Innovation Program requires a total of 50 credits including a Capstone Project for 24 credits. The program requires 4 credits on clinical immersions working with clinicians in hospitals in understanding the unmet needs in hospital. Candidates from industry can choose their topic of capstone project in alignment with their industry. The curriculum also includes Design Thinking, 3D Prototyping, Biomedical Devices, Intellectual Property Rights, Safety and Standard for Medical Devices and Business Plan Development and Entrepreneurship.

Research Areas

All aspects of Instrumentation design required for development & optimization of Medical Devices, Use of Artificial Intelligence & Machine Learning for disease prognosis, Speech systems & Natural Language Processing, Recommendation Systems & Data Mining, Computer vision,

Inference Algorithms, Graphical Models, Big Data Analysis, Software as Medical Device, Software as a Medical Service (SaaS), IoT in healthcare, Signal Processing, Medical Imaging, Computer-Aided Design techniques for Rapid 3D Printing & Prototyping, Integration of healthcare in various verticals like Smart Mobility and other tech devices for example Wireless Body Area Networks (WBANs), Biometrics, Security & Privacy for Medical Devices, Biometric Authentication, Flexible & Wearable Electronics & Smart Power Applications for vitals monitoring leading to disease prediction & drug delivery, Intellectual property rights & management, Extensive market research of the existing healthcare products & services.



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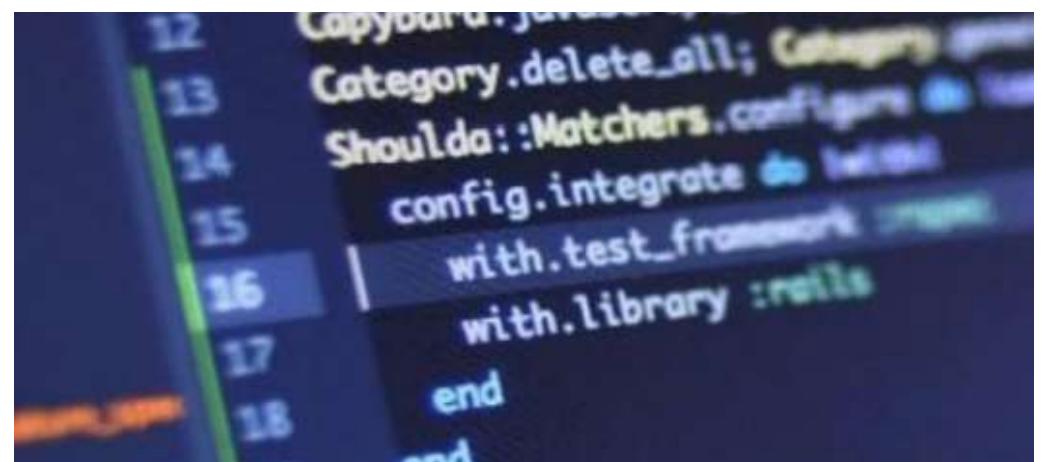
Network and Information Security

IIT Hyderabad's Computer Science and Engineering (CSE) department is a one-of-a-kind center of excellence, carrying out exceptional research and tech innovation. It is one of the most dynamic and vibrant departments providing in-depth training and research opportunities for in-demand fields such as Machine Learning and AI, Networking & 5G, Compilers, Parallel & Distributed Computing, etc.

The department provides several project-based courses, exposing students to real-world problems and the dynamic industry norms and standards. It offers the "Industry Lecture series" set up with tech leaders of several globally innovating companies who share their insight with the students. The department also has strong collaborations with universities and companies in Japan. Many of our students spend time in Japan as part of exchange programs and Internships.

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The department also provides students with various labs of global standards. Last year alone, we produced over 60 publications in conferences such as CVPR, ICML, AAAI, ACL, NEURIPS, ISPDC, etc.



DEPARTMENTS

Physics

The Department of Physics is one of the most vibrant centres of learning on the campus. The theme of the department is to broaden the boundaries of research across its undergraduate, postgraduate and research programmes and become an outstanding centre for Physics in the next decade. The technological and scientific aptitude that is nourished through contemporary learning methodologies, enables the students to bring a significant contribution to industries, research and academia. The B.Tech program in 'Engineering Physics' is a unique combination of Physics and Engineering, the M.Sc. Physics Program prepares students well for a career in research or industry & The PhD program offers several exciting frontier research areas spreading across theory experiments and applications.

Research Facilities/Lab:

At present, the department has 24 faculty members in the areas of MEMS & Micro/Nano Systems, Energy Conversion Devices, Statistical and Biological Physics, Astrophysics and Cosmology, Computational Condensed Matter Physics, Experimental Condensed Matter Physics, High Energy Physics, Optics, Spectroscopy and LaserPlasma Physics.

Advanced Detector Materials Design and Simulations, Energy Conversion Devices Lab, Intense LaserMatter Interaction Lab, MEMS & Micro/Nano Systems Laboratory, Nanomagnetism and Microscopy, Advanced Functional Materials laboratory apart from the B.Tech. and M.Sc. boasting of state-of-the-art teaching experimental demonstrations.



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M.TECH. Specialized Programs

Polymers & Biosystems

The Polymer and Biosystems (PBS) program brings together people from diverse engineering fields like Mechanical, Chemical, Material Science and Biotechnology. It is aimed at training students in skillfully solving engineering problems in the emerging areas of Polymer Science, Drug Design, Microfabrication, and Artificial Intelligence(AI).

Key-Distuingushing Features:

Emphasis on advanced courses in Statistics, AI and Machine Learning(ML) allowing students to adapt and comprehend market needs. Hands-on training in research projects that have potential applications in healthcare and allied sectors. Industry experiences in the form of lectures and interactive sessions from prominent industry personnel (IBM, GeneTech, JMP, ANSYS & startups like Malai Biomaterial and E-Spin Nanotech). Establishing a long-term partnership with industries to work on problems of mutual interest to develop sustainable technologies for medical diagnostics.

Research Areas

AI/ML based feature extraction from image and time series datasets (Cancer and Neuronal cells), Computational Models for Biological Systems, Microfluidic Technologies for Diagnostics ,Polymeric Biomaterials for Drug Delivery Systems, Bacterial Cellulose Biomaterial for Metal Sulfur Batteries



Research Facilities/Lab:

AFM, Confocal Microscopy and TEM, Electrospinning ES3 (ESpin Nanotech), CO₂ incubated Cell Culture Facilities, Differential Scanning Calorimeter, Gel Permeation Chromatograph, Small Angle X-Ray Scattering, Particle Analyzer, IR and UV Spectrometers.

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M.TECH. Specialized Programs

Smart Mobility

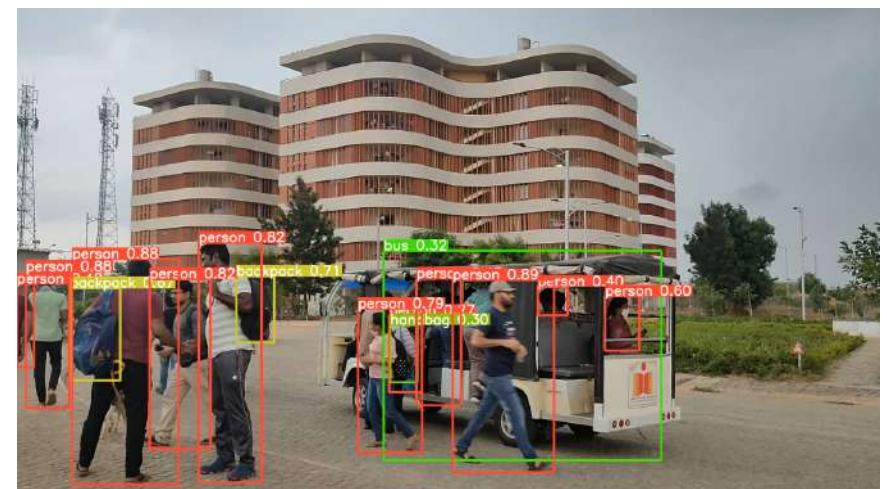
Smart Mobility is an interdisciplinary program which is first of its kind initiative started in India in collaboration with TiHAN(Technology Innovation Hub on Autonomous Navigation) at IIT Hyderabad. TiHAN aims at translational technology research and development along with commercialization in the areas of Autonomous Navigation and Data Acquisition Systems.

Smart Mobility is an intersection of the Department Of CSE, AI, EE, and many more where each student have strong Data Structures, database management skills, and hands-on project experiences in cutting-edge technologies like AI/ML, Computer Vision, Sensor fusion, ROS(Robotic Operating System), ADAS(Advanced Driver Assistance Systems), and hardware like Nvidia Pegasus, dSPACE Microautobox III, NI controller, etc.

Research Areas

Object Tracking for AVs, Video Segmentation, Developing Bayesian Deep Learning and Continual learning-based Algorithms, Path planning, Navigation and Control of Autonomous Vehicles, Sensor Fusion for AVs, Navigation of drones, UAV Resource Monitoring, Reinforcement Learning for ADAS, Image Captioning, QoE of using voice assistants.

TiHAN testbed, NVIDIA AI Technology Center (NVAITC), Wireless Networks Lab (Wi-NET), Lab for Video and Image Analysis (LFOVIA), Visual Learning and Intelligence Lab (VIGIL).



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RESEARCH AND Development

SPONSORED PROJECTS

	Total Amount	No. of Projects	No. of Funding Agencies
2021-2022	Rs. 69.18 Cr.	156	68
2020-2021	Rs. 75.41 Cr.	124	43
2019-2020	Rs. 64.49 Cr.	111	37

CONSULTANCY PROJECTS

	Total Amount	No. of Projects	No. of Funding Agencies
2021-2022	Rs. 25.31 Cr.	220	98
2020-2021	Rs. 07.50 Cr.	173	88
2019-2020	Rs. 04.24 Cr.	129	62

PATENTS AND PUBLICATIONS

The very foundation of IIT Hyderabad is based on research and innovation. The culture of research is inculcated in the undergraduate students in the first semester itself by introducing a one credit independent project, where the students execute a project of their choice in small groups irrespective of their branch. Heavy emphasis is given to the thesis component of the post-graduate programs. The vibrant research culture is evident from the number of patents and publications IITH has.

The total number of patents filed, published, and granted up to this point is 168, 144, and 20 respectively. These figures convey a great deal about the excellence of study and research at IITH.



RESEARCH ENDEVOURS

Every research endeavour is a voyage to discover truth and IITH is committed to promote this voyage in India. It aims at learning through practice and research. The Institute is on its way in creating the infrastructure, ambiance and culture necessary for the pursuit of creative ideas.

INNOVATIVE INITIATIVES

The conventional engineering skills are no more sufficient to address the problems of today's fast changing society. At IITH students are provided with a plethora of choices, from which they diligently choose with the help of a faculty advisor.

Courses that last for a semester are almost a foregone story at IITH. All undergraduate programs have started offering courses that are of smaller credits; called the fractal academics; very carefully designed to keep the enthusiasm of the students and to keep them in pace with the current scientific, technological and industrial scenarios. These courses are distributed the time from the first to the eighth semester.

Another academic initiative at IITH is the double major. In addition to the requirements from the parent branch, a student can get a major from another department by successfully completing 24 core credits. The options for a minor and honour's degree also exist on top of a double major.

WHAT'S NEW

BTech in Biotechnology & Bioinformatics

The Biotechnology Department offers a 4-year B Tech program in Biotechnology and Bioinformatics. Like all other BTech courses at IIT Hyderabad, this program follows an eight-semester fractal curriculum comprising core courses, department elective courses, free electives, seminars, experiments in laboratory, projects and creative/liberal arts courses.

The BTech. program in Biotechnology and Bioinformatics is application-based program and trains students for solving biological problems using biological and computational approaches. It aims to provide essential skills in Biotechnology, including molecular cell biology, biochemistry, systems biology and nan biotechnology.

BTech in Computational Engineering

Modern industry uses computer modelling in almost all aspects of product and process development, be it in the designing of modern aircraft or discovering a new medicine. These computer modelling software and methodology use advanced mathematics, numerical methods and algorithmic approaches. The BTech program in Computational Engineering aims to produce graduate engineers who will have the expertise in using modern computational methods for a wide variety of industrial applications.

BTech Program in Industrial Chemistry

The chemical industry of India is a major contributor to the Indian economy, contributing 7% of the country's GDP. Chemistry with particular emphasis on producing finest graduate students with adequate knowledge of Chemistry and technology to work in various chemical industries, such as pharma and drug design, polymer industry, petrochemical industries, and several industries in energy science.

This program aims to promote academic excellence in solving Industrial Chemistry problems and provide the stimuli to students to excel in higher education, research, innovation, and entrepreneurship in academia and industry.



STUDENT & FACULTY RAPPORT

Well qualified, and with the right mix of experience and youth, our faculty members are zestful, energetic and creative, and share a common goal to put IITH on the international map as a hub for technological innovation. Students to faculty ratio of 14:1 ensures close interaction between the students and faculty. Most of the faculty are equipped with research and/or industrial experience from reputed foreign or national research laboratories and are involved in cutting edge research with major publications in reputed international journals. Our faculty members advise both industry and government organizations through consultancy projects. They are also involved in Out-Reach Courses which include short courses for the industry professionals. Furthermore, workshops are held under Technical Education Quality Improvement Programme (TEQIP).

Our students and research scholars are not only academically brilliant, but also national & international scholarship awardees. They are nationally recognized chess players, Olympiad winners, NTSE (National Talent Search Examination) and KVPY (Kishore Vaigyanik Protsahan Yojana) Scholars, etc. who have a proven record of excellence & precociousness even before their entry into the Institute. A large number of our students have been awarded with various scholarships like TODAI (scholarship from the University of Tokyo) in association with Mori Seki Company Limited, IMCM (Institute Merit-Cum-Means).



Peek into the

STUDENT LIFE

A healthy campus life plays a pivotal role in the all-round development of the students. Along with the intense academic schedule and brain-storming class hours, the students of IIT Hyderabad indulge in extensive sporting action.

ELAN FESTIVAL

The Technical-cum-Cultural Festival of IIT Hyderabad is the best exhibition of the management and organizational skills of the students. The internationally recognized event is very popular among the students all over the state. The students' active participation in cultural, technical and literary competitions has made it a grand success.

N-VISION FESTIVAL

N-vision is the techno-management fest organised by the students of IIT Hyderabad with a motto of providing a platform to the technical enthusiasts of our country to explore, innovate and showcase their technical and engineering prowess.

N-vision started in 2011 and over the years it has gradually evolved from an inter-college festival to one of the most recognised techno-management fests of the country.



E-CELL

E-Cell is a group of entrepreneurs and seeks to solve real life problems and come up with really innovative and cool designs as a solution for the same.

Unwind with

CLUB ACTIVITIES

Clubs are the integral part of any college. The enthusiastic students of IIT Hyderabad have also formed many significant clubs like Sci-tech. Clubs which include Kludge, Infero, Electronica, Cepheid, Endeavour, Torque, Robotics along with the colorful Cultural Clubs enlisting Gesture, Movie Club, Photography Club, Rang de manch, Vibes. Regular cultural rendezvous have transformed the student community into a happy family where all major festivals are celebrated with pomp and gaiety. The Night Life revolves around the various workshops and competitions conducted by numerous student-managed clubs. To sum it up, life at Indian Institute of Technology Hyderabad is the IIT experience lived king size.

01. NATIONAL SERVICE SCHEME (NSS)

National Service Scheme (NSS) at IITH is aimed at providing each student with a significant context in which he/she can reach a deeper understanding of social reality in India today. As a part of this, the students in their leisure time visit nearby schools and hospitals to assist the government authorities.

EK BHARAT SHRESHTHA BHARAT (EBSB)

EBSB is a programme for promoting national integration through systematic exchange between paired institutes in the cultural, literary and linguistic fields. We intend to learn the linguistic and cultural aspects of the home state of our paired institute, covering history, culture, language, cuisine, festivals, clothing etc. The EBSB club has been formed at IITH to carry forward activities under the programme with our paired institute, IIT Kanpur. We aim to celebrate a plethora of Indian festivals and customs (paying special attention to those of Uttar Pradesh) in ways which are both enjoyable and informative which would thereby educate our fellow students while having fun.



SPORTS CLUB

IIT-Hyderabad provides full fledged facilities for all outdoor sports. A well equipped Gymnasium and regular practice has shown great results at Inter-IIT sports meets.

TEDx IITH

TEDxIITH is a very active student body, driving fun and insightful talks by great personalities.

CONSULTING and FINANCE CLUB

The Consulting and Finance Club is responsible for creating Finance proficient avid problem solvers who can become great leaders in the Consulting and Finance industries.



Loosen up at

SHIRU CAFE

Shiru Cafe at the Indian Institute of Technology Hyderabad's campus is the first store outside Japan. The Cafe is manned by Japanese student interns and offers free beverages to IITH fraternity.

The mission of Shiru Cafe is to create a place where students can learn about the professional world and envision their future careers. Students enjoy free select coffee, tea and juice while learning about careers, companies and job opportunities.



How to Reach

DIRECTIONS to IITH

From the Airport :

- IIT Hyderabad can be reached by any authorized taxi in about 1 hour from the Rajiv Gandhi International Airport

Select Cab Services Contact Number:

Meru Cabs: 040 4422 4422

Dot Cabs: 040 2424 2424

Taxi for Sure: 040 4040 9090

Ola Cabs: 040 3355 3355

Yellow Cabs: 040 4646 4646

City Bus

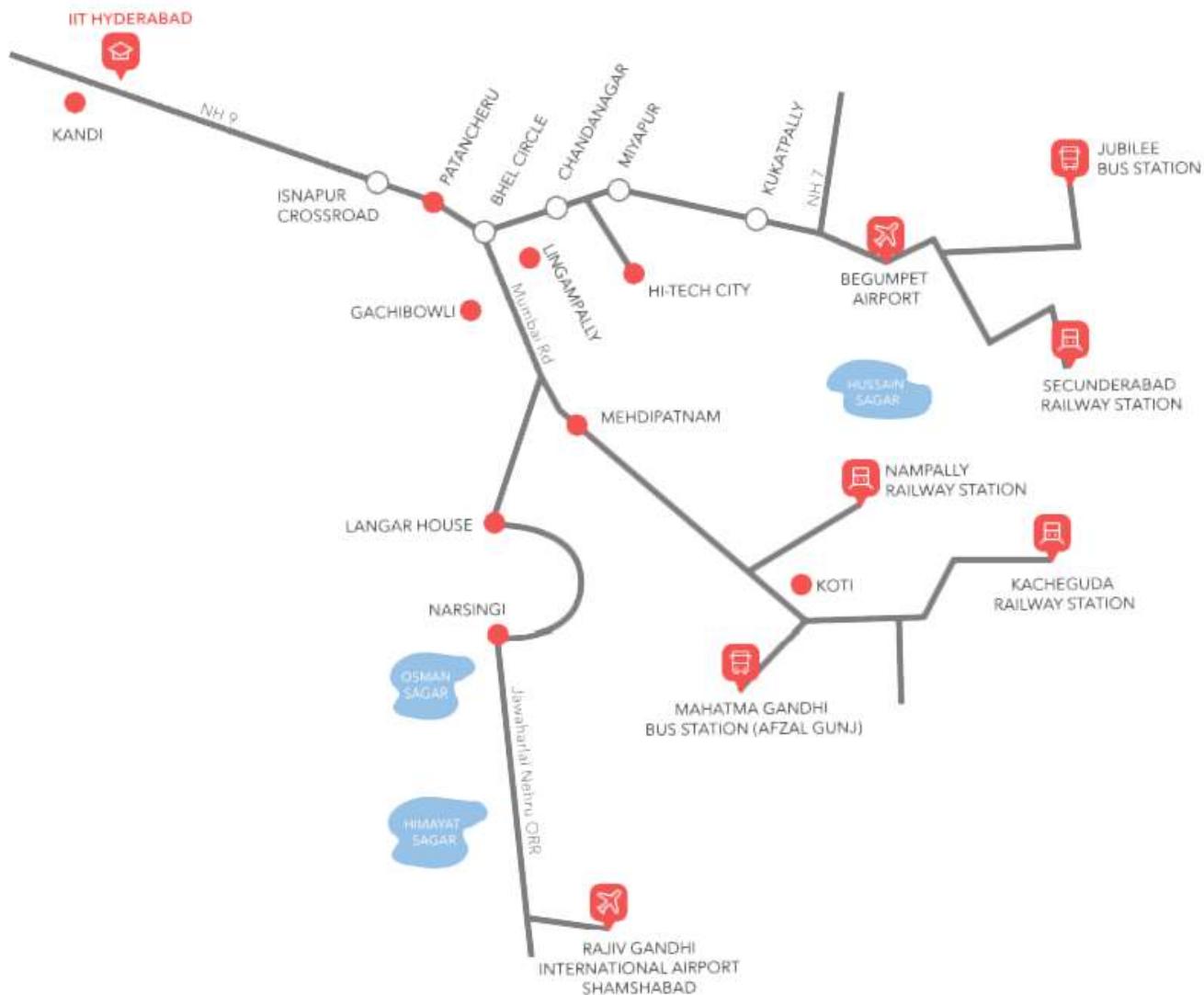
- Take city bus to Patancheru (No. 219 or 226). The journey takes about 1.5 hours. Patancheru is about 18 km from IIT Hyderabad.
- At Patancheru Bus Station, board the Sangareddy Bus and get a ticket for IITH.
(Patancheru - Isnapur - Rudraram - Kowlampet - IITH Bus Stop - Kandi - Sangareddy)
- IIT Hyderabad bus stop will come before Kandi village bus stop.

Bus Numbers: Secunderabad to Patancheru 219-216, Koti to Patancheru 218, 222, 217, Jubilee Bus Station to Patancheru 226, Chandanagar to Patancheru 219, 218, 222



By Train

- Take MMTS Local Train to Lingampalli station. Lingampalli is about 25 km from IIT Hyderabad.
 - Take city bus from Lingampalli station (Platform 6 side) to Patancheru (No. 216)
 - At Patancheru Bus Station, board the Sangareddy Bus and get the ticket for IITH. (Patancheru - Isnapur - Rudraram - Kowlampet - IITH Bus Stop - Kandi - Sangareddy)
 - IIT Hyderabad bus stop will come before Kandi village bus stop.
- Note: Autos are also available from Patancheru to IITH Campus



Contact Us

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Faculty-in-Charge

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Faculty Incharge - Office of Career Services

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OCS Staff

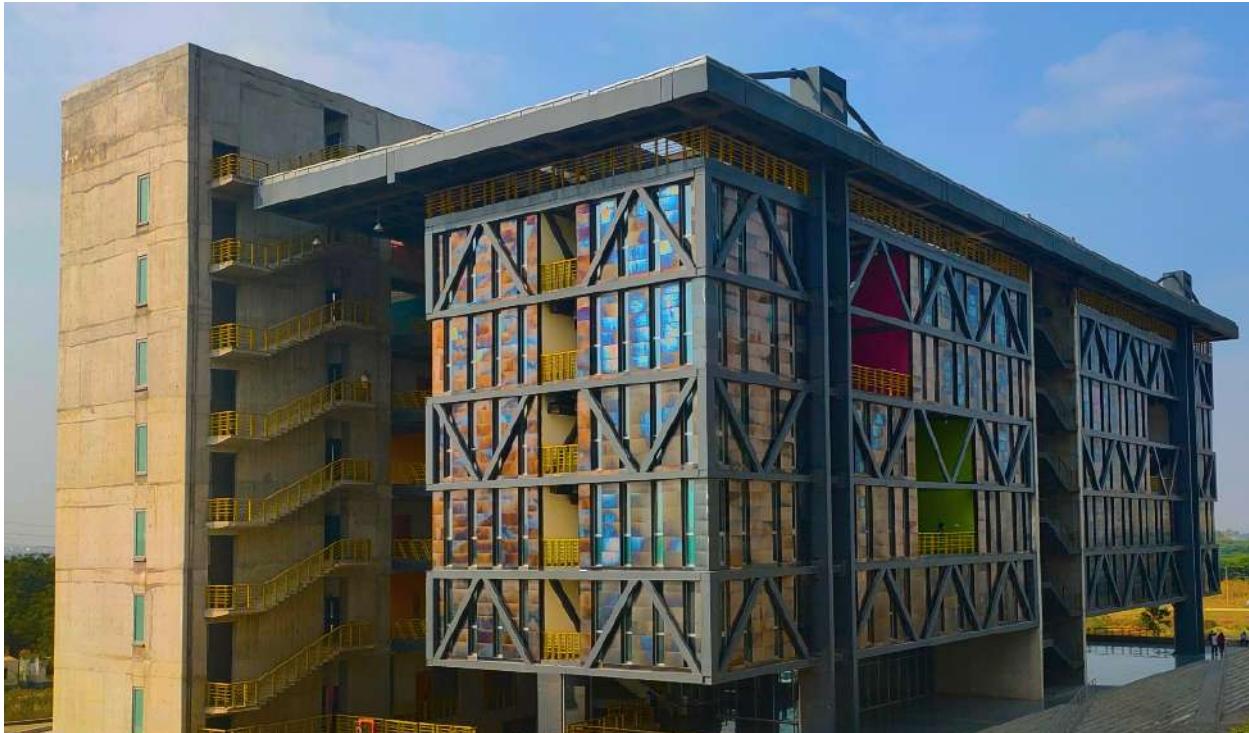
Ms. K Malini, Section Officer
Mr. Vetrivel M, Executive Assistant

Student Placement Team

Jai Goyal	Placement Head
Dipak Singh	Placement Manager
Mudita Dubey	Placement Manager



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ పైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad



Placement Brochure

2022 -2023

Designed by

Shreyas KB, Mandira V R, Manali Bapat,
Mudita Dubey, Rucmenya Bessariya

Department of Design, IITH