



Centre for Career Development,  
Indian Institute of Technology Guwahati

**Placement  
Brochure**

**Class of 2024**

**Department  
of Mechanical  
Engineering**





# About The Institute



## Indian Institute of Technology, Guwahati

Established in 1994, as an 'Institute of National Importance', IIT Guwahati has grown into being a preferred destination for people passionate about learning and innovation. IIT Guwahati has been ranked among the Top 100 Young Universities in the world by the Times Higher Education, one of the two Universities from BRICS nations. IIT Guwahati has several factors contributing to how in a short span of time it has established itself as one of the best institutes of its kind in the country. The programmes and courses that are offered at IIT Guwahati are perpetually evolving to adapt to the ever changing global requirements and along with the diversity of the fields of study, this has helped the institute become one of the nation's nerve centres for research and development, and technical education. The faculty ensure that the students of the campus are ready to face the challenges of the professional world by providing them with a sound conceptual understanding of their respective disciplines. The institute also offers a plethora of opportunities to students for their holistic development, through the excellent facilities that it has for sports and general extracurricular activities.



# About The Department

The department of mechanical engineering, being one of the largest and oldest departments of the institute, caters to its students with class tutorial and state-of-the-art laboratories. The department is continuously striving to achieve excellence in education, academic and industry oriented research as well as consultancy work with service to the society.

We aim to provide our students with a perfect blend of intellectual and practical experiences, that helps them to serve our society and address a variety of needs. At the end of our program, students are prepared for entry-level work as a mechanical engineer as well as for the post-graduate study in mechanical engineering or in another discipline, where a fundamental engineering background constitutes a desirable foundation. Academic course work and projects are designed to endow students with the ability to apply knowledge of science, mathematics, and engineering, and the capability to work effectively in multidisciplinary teams, providing leadership and technical expertise.

With a solid grounding in the principles and practice of mechanical engineering, our undergraduates are ready to engage in ethical approaches to engineering, with concern for society and the environment. Our program at the postgraduate level aligns academic course work with research, to prepare scholars in specialized areas within the field of mechanical engineering. Research topics focus on industrial needs.

The department aptly makes use of the technical facility of the workshop in teaching and in setting up of in-house experimental set-ups. Apart from carrying out practical classes as per academic curriculum, workshop caters to needs of different departments of the Institute in terms of executing works of their B.Tech., M.Tech. and Ph.D. students as well as other related research/consultancy works. The department also welcomes students from other departments of the institute as a gesture of support to their time-to-time academic and research needs. Both undergraduates and postgraduates are well placed in leading industries as well as in the higher research level institutions of international recognition.





## Message from Head of the Department

### Prof K. S. R. Krishna Murthy

“ Welcome to **Mechanical Department**, where exceptional talents meet endless opportunities for growth and success.”

- Formed in 1995, the mechanical engineering department is one of the largest and oldest departments of the institute. Till the 24th convocation, 1285 B.Tech. Students, 1262 M. Tech. Students and 226 Ph.D. students have graduated from the department. Since its inception, the department has consistently been recognized worldwide for excellence in research and academics. Over the years, the department has strengthened its research activities, introduced new MTech academic programs, and contributed to society by participating in consultancy work and numerous industrial projects. The department focuses on developing state-of-art computational and experimental facilities for teaching and research.
- The department has also achieved a QS world university ranking by subject in the range of 201-250. The department is conducting its milestones at various stages of its growth by recruiting and retaining the best faculty members, upgrading the course curriculum to cater to the need of industry and research, developing and maintaining state-of-art laboratories, conducting various QIP, TEQIP, and training programs for the students and participants from outside, by conducting cutting-edge research for the country and the society, by introducing multiple inter-disciplinary courses for the students to make them ready for the industry, etc.





# PROGRAMMES OFFERED

## Undergraduate

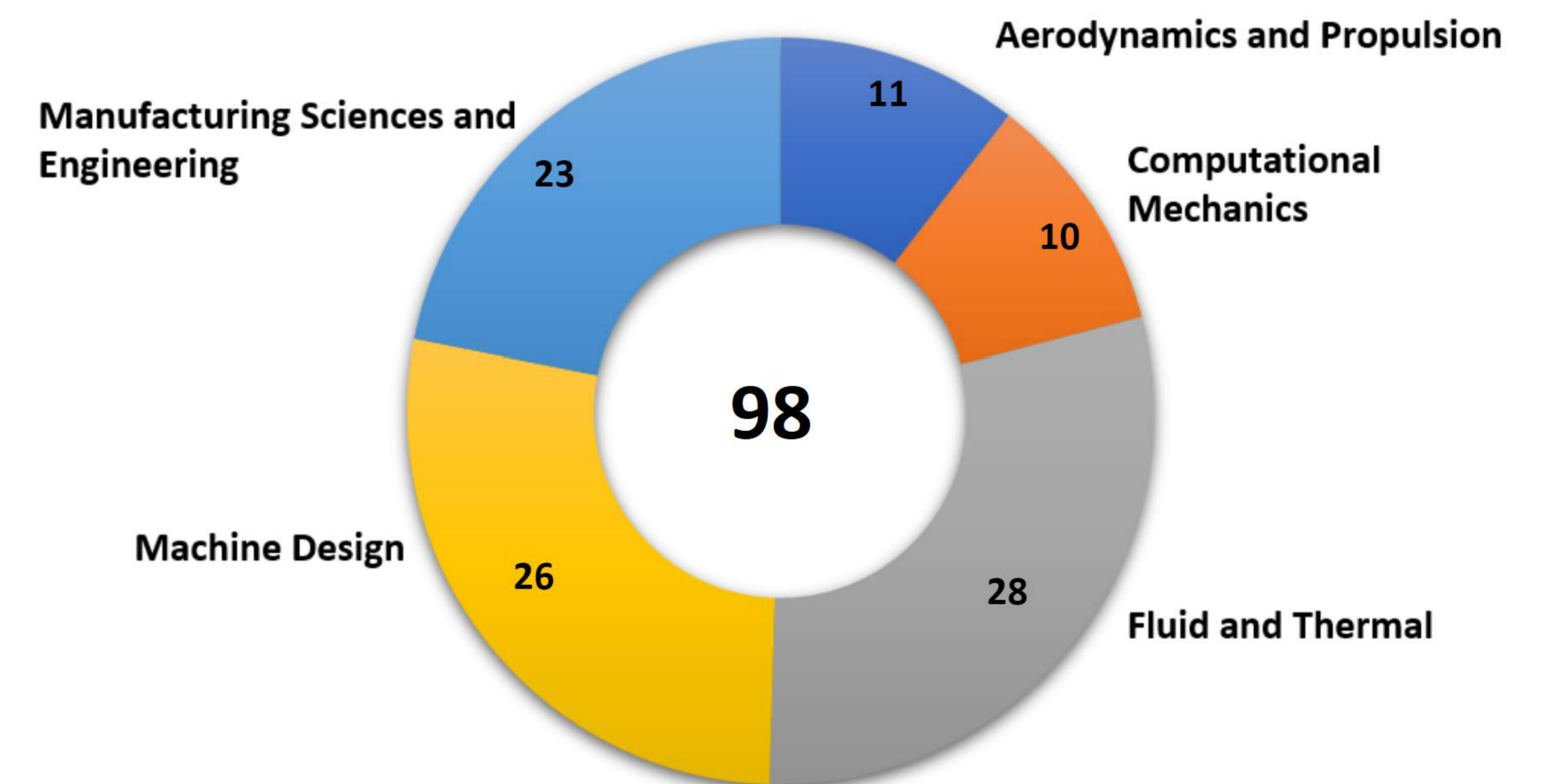
Bachelor of Technology (B.Tech.) degree in Mechanical Engineering follows an eight semester system. The curriculum is designed to impart fundamental principles as well as recent advancements in Mechanical Engineering. The current curriculum includes the SA courses, the HSS courses, and multiple Open Electives from different departments. Students are also mandated to work on their Bachelor Thesis Project for four semesters under the guidance of department faculties. The department also requires that students undergo Industrial Training for at least six weeks. There are **122** students in the graduating batch.

LINK : <https://www.iitg.ac.in/acad/CourseStructure/Btech2018/ME.htm>

## Postgraduate

Students who already have a bachelor's Degree and want to specialize in a field related to Mechanical Engineering may enrol in the two-year M.Tech. Program. In the final phase of M.Tech, the program's students complete advanced compulsory courses, electives, and a fourteen-month M.Tech. Project. The project is usually research and development focused and will be worked on individually. The curriculum is structured to expose students to real-world issues and their solutions. The Department offers five M.Tech. Specializations: Aerodynamics and Propulsion, Computational Mechanics, Fluids and Thermal Engineering, Machine Design and Manufacturing Science and Engineering.

LINK: <https://iitg.ac.in/mech/academics/masters/>



## Doctoral Degree

The doctoral programme requires a minimum necessity of taking four course work in the first two semesters. After the completion of course work, the doctoral students have to appear for the Ph.D. comprehensive examination. The research scholar is further allowed to carry out his/ her research work after successful completion of the Ph.D. comprehensive examination. The maximum duration for the doctoral programme is about five years.

LINK : [https://www.iitg.ac.in/acad/academic\\_prog.php#Doctoral](https://www.iitg.ac.in/acad/academic_prog.php#Doctoral)



# Mechanical Engineering (UG, PG & PHD)

## KEY COURSES OFFERED

### Fluids and Thermal

- Fluid Mechanics
- Thermodynamics
- Computational Fluid Dynamics
- Heat Transfer
- Refrigeration and Air Conditioning
- Aerodynamics
- Aircraft Propulsion
- Gas Dynamics
- Rocket Propulsion
- Conduction and Radiation
- Convective Heat Transfer
- Advanced Thermodynamics
- Microfluidics

### Machine Design

- Advanced Solid Mechanics
- Mechanical Vibration
- Finite Element Methods in Engineering
- Continuum Mechanics
- Design of Machine Elements
- Kinematics of Machinery
- Dynamics of Machinery
- Fracture Mechanics
- Numerical Analysis
- Fracture, Fatigue and Failure Analysis
- Non-Linear FEM
- Non-Linear Vibrations
- Rotor Dynamics

### Manufacturing

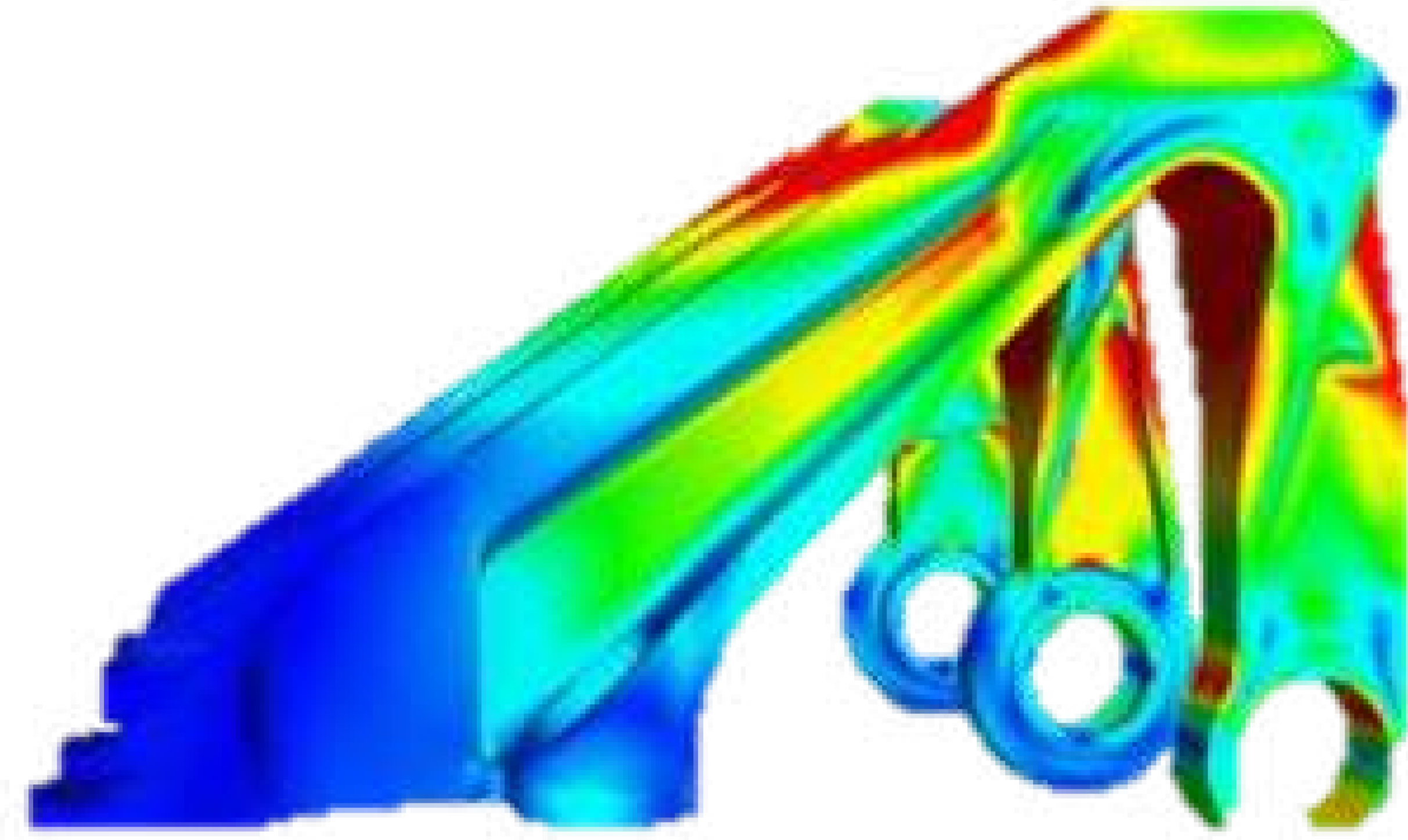
- Manufacturing Technology
- CAD-CAM
- Computer Integrated Manufacturing
- Composite Materials
- Engineering Materials and Characterization
- Advanced Manufacturing Processes
- Subtractive Manufacturing
- Welding and Additive Manufacturing
- Solidification Process
- Micromechanics of Materials
- Smart Materials
- Physics of Deformation

### Interdisciplinary

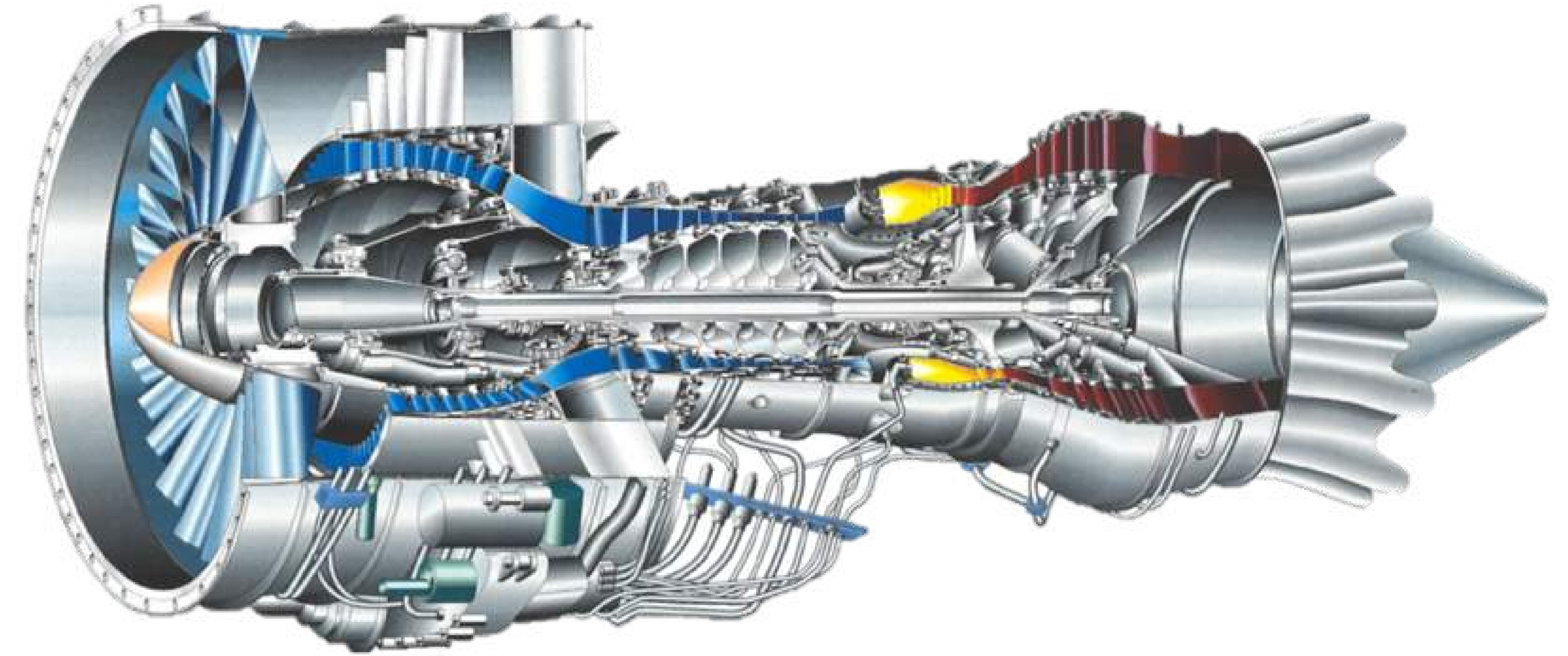
- Industrial Engineering and Operations Research
- Advanced Engineering Mathematics
- Machine Learning
- Soft Computing
- Optimization Methods
- Robotics and Computer Vision
- Modelling, Dynamics and Control of EVs
- Electrical Machines
- Signal Processing and Model Estimation
- Biomedical Devices and Systems
- Control Systems

**and many more...**

# AREAS OF RESEARCH



COMPUTATIONAL MECHANICS



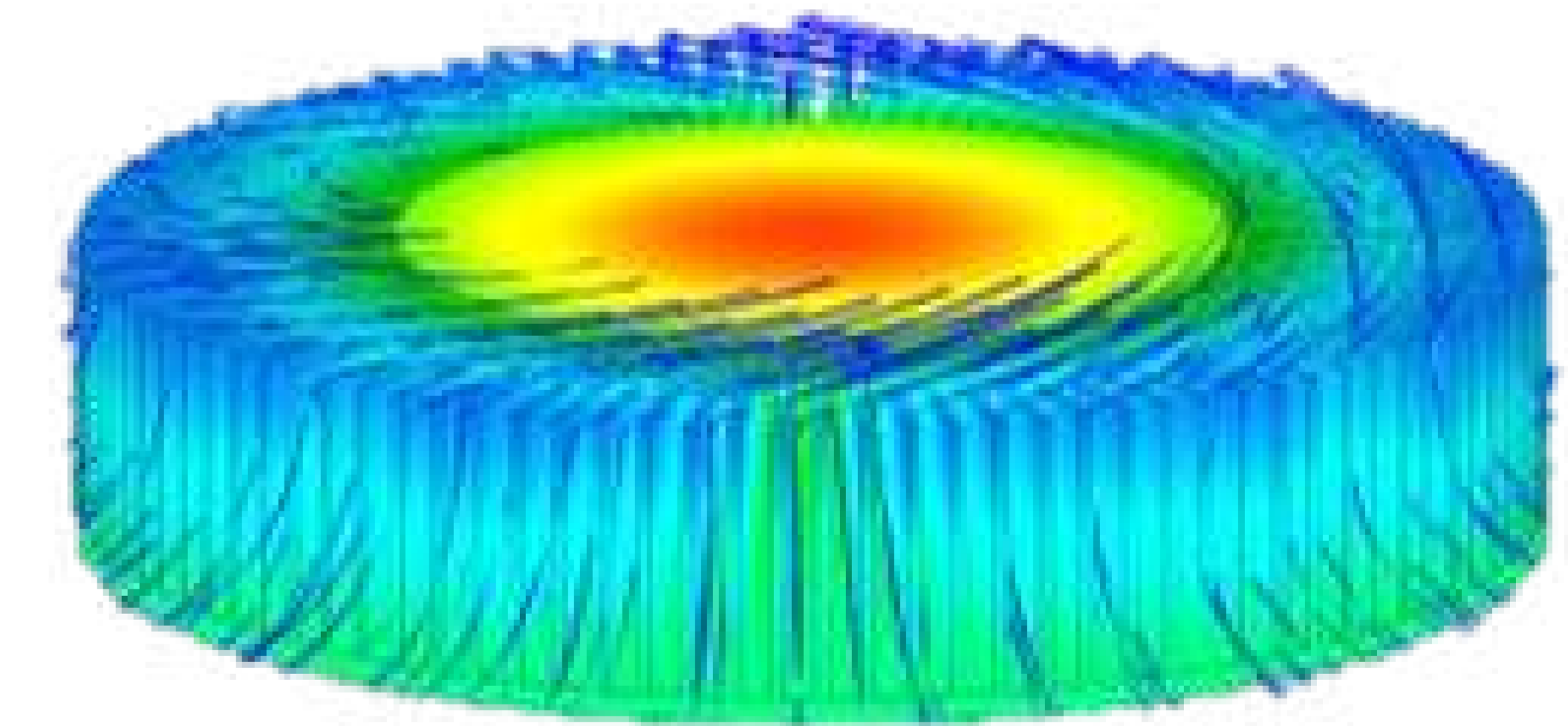
AERODYNAMICS AND PROPULSION



MANUFACTURING SCIENCES AND ENGINEERING



MACHINE DESIGN



FLUIDS AND THERMAL ENGINEERING



# IMPACT OF OUR RESEARCH



As a part of India's G20 initiatives, IIT Guwahati innovators have constructed a 3D-printed security post using a particular M40 grade sustainable concrete containing industrial wastes and fibers. [LINK](#)



Researchers of Mechanical Department, Indian Institute of technology, Guwahati have developed a Prosthetic Leg specifically designed for Indian conditions which is suitable for uneven terrain and supports Indian needs such as cross-legged sitting, and deep squatting. [LINK](#)



Indian Institute of Technology Guwahati research team led by Dr. Nelson Muthu, Assistant Professor, Department of Mechanical Engineering, has developed new modeling methods to assess the probability of failure of composite materials. They have used a combination of Machine Learning tools and state-of-art sampling techniques, to model and predict the failure and other properties of composite materials used in the aerospace and automobile sector. [LINK](#)



# LABORATORIES

## DEPARTMENT LABS

- Advanced Manufacturing Lab
- CAD-CAM Lab
- Fluid Mechanics Lab
- IC Engine Lab
- Instrumentation and Control Lab
- Material Science Lab
- Mechatronics and Robotics Lab
- Strength of Materials Lab
- Theory of Machines Lab
- Thermal Science Lab
- Tribology Lab
- Turbomachinery Lab
- Vibrations and Acoustics Lab
- 3D Concrete Printing Lab

## RESEARCH LABS

- Dynamics and Vibration Lab
- Advanced Welding Lab
- AnuPravaha CFD Lab
- Biomimetic Robotics and Artificial Intelligence Lab
- Biomedical Devices and Biomaterials Lab
- CFD Laboratory
- Composite Structures and Fracture Mechanics Lab
- Computational Mechanics and Optimization Lab
- Wind Tunnel Lab
- Gas Dynamics Lab
- Welding Lab
- Micro-machining Lab
- Microfluidics and Microscale Transport Lab
- Miniature Thermal System Research Lab
- Precision Manufacturing Lab
- Smart Materials and Structures Lab
- Sustainable Manufacturing Lab
- Thermal Hydraulics and Gasification Lab
- Electronics and Design in Mechanical System and Science and Technology in Traditional Systems



# Sponsored Research Projects

Title	Funding Agency	Funding Amount (Lakhs)	Duration
Multi-Axis Multi-Material Wire Arc Additive Manufacturing (MAMM-WAAM)	DST	229.6	2023-25
Fabrication, characterization, and experimental investigation of functionally graded piezo-electric components	SERB	48.7	2023-25
Hybrid cooling system design for Li-ion battery pack systems	DBT	299.1	2023-26
Varying-Order NURBS Discretization Approach	SERB	75	2023-26
Ratio Microneedles for Minimally Invasive Transdermal Drug Delivery Applications	IITG-TIDG	10+	2023-24
Design and in-house fabrication of an underwater compressed air storage system	GESCO Healthcare Pvt. Ltd.	30	2022-23
Experimental investigations on flow boiling instabilities in Mini- and Microchannels	SERB-CRG	95	2021-24

For the complete list of sponsored projects, please visit [this link](#).

Our Faculties and Research Scholars undertake these projects, while the Bachelor's and Master's students contribute to some of it as part of their BTPs and MTPs



# Student Clubs at IITG

## Automobile Club

- The team has represented IIT Guwahati in various national-level SAE (Society Of Automotive Engineers) Competitions like the BAJA, SUPRA, EFFI CYCLE, and Formula Bharat and won several accolades.
- The students get hands-on experience in making a Formula Student car from scratch doing all the manufacturing and designing while working on the various subsystems like powertrain, suspension, engines, thermal management, etc.



## Robotics Club

- The Robotics Club is inclined to strengthen the essence of real tech in the institute. It is a group of tech enthusiasts with a keen interest in Robotics and allied fields looking forward to building technologies that help shape our future by exploring their minds and individual spark.
- Through the projects, the members get experience working with techniques like rapid prototyping, batteries, power management, manufacturing and fabrication of mechanical components, etc.



## Aeromodelling Club

- The Aeromodelling Club is a diverse community of aviation enthusiasts united by their love for flight. The club activities include building and flying model airplanes, as well as designing and operating advanced drones.





# Placement Statistics of BTech and MTech for 2023

Department	Programme	Discipline	No of Students Placed	No of Students Registered	Percentage Placed	Average CTC(INR)	Maximum CTC(INR)	Minimum CTC(INR)	Median CTC (INR)
Mechanical	B.Tech	Mechanical Engineering	85	101	84.16%	20LPA	51.65LPA	7LPA	17.22LPA
	M.Tech	Aerodynamics and Propulsion	6	8	75.00%	11.18LPA	15LPA	8LPA	11LPA
		Computational Mechanics	7	8	87.50%	15.25LPA	21.74LPA	10LPA	10LPA
		Fluid and Thermal	22	28	78.57%	12.25LPA	21.74LPA	8.11LPA	11.25LPA
		Machine Design	22	25	88.00%	11.73LPA	21.74LPA	6.25LPA	10LPA
		Manufacturing Science and Engineering	16	21	76.19%	12.12LPA	26LPA	8LPA	11LPA
	M.Tech Total		73	90	81.11%	12.5LPA	26LPA	6.25LPA	11LPA

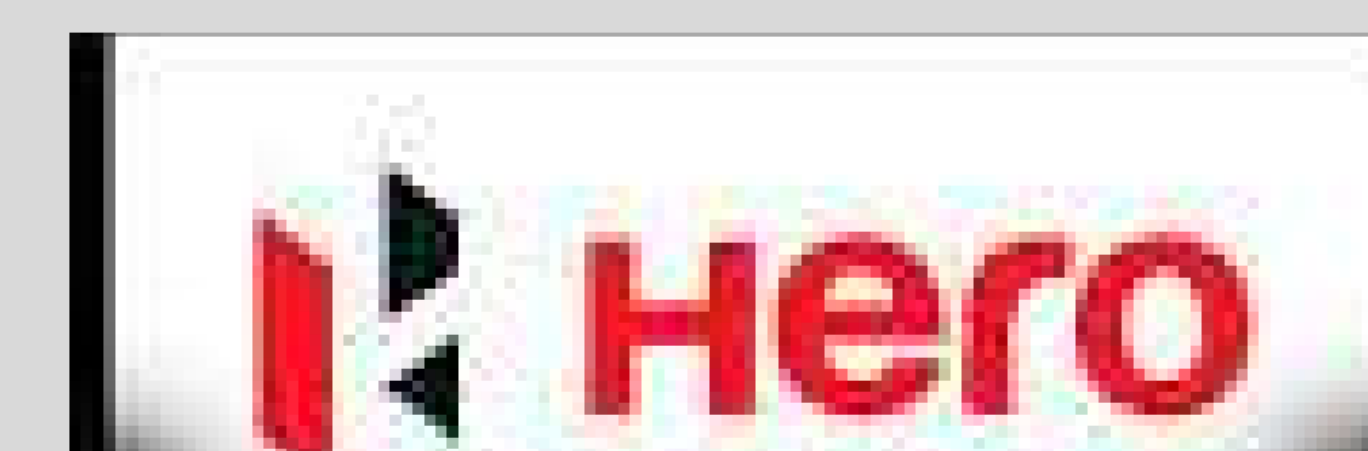


# Past Recruiters'





# Past Recruiters'





# CONTACT US



We are looking forward to have you on our Campus.

## DEPT. FACULTY PLACEMENT REPRESENTATIVE



Dr. Basireddy Sandeep Reddy

Phone : +91 9535026374

## OVERALL PLACEMENT COORDINATORS



Krunal Patel

Phone: +917021901567



Abhijeet Patnaik

Phone: +9187631 15185

## DEPARTMENT PLACEMENT REPRESENTATIVES



Kalpesh Jadhav(MTech)

Phone : +919763186856



Goutham Jyothilal(BTech)

Phone : +917510532290



Akshay Daydar(PhD)

Phone : +918208495849

E-Mail : [placement@iitg.ac.in](mailto:placement@iitg.ac.in) [ccd@iitg.ac.in](mailto:ccd@iitg.ac.in)

Website : [iitg.ac.in/ccd](http://iitg.ac.in/ccd)

Phone no : 0361258 2171/2175

Centre for Career Development (CCD),  
First Floor, Administrative Building,  
Indian Institute of Technology Guwahati,  
Guwahati, Assam - 781039.