



# Indian Institute Of Technology Bombay



**DEPARTMENT  
OF  
MECHANICAL ENGINEERING**  
Department- Handbook 2020-2021



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**Disclaimer:** Though the ISCP (Institute Student Companion Program) has taken care while compiling the handbook, neither the council nor the Institute can be held responsible for errors/inadequacies that may inadvertently creep in. This handbook cannot be used as a basis for making a claim on facilities/concessions/interpretation of rules/statues or the like. If there is some critical information to which the reader of this handbook refers, it is with his or her responsibility that it is put to use, with cross verification if need be.

## **About the Institute**

Established in 1958, the second of its kind, IIT Bombay, was the first to be set up with foreign assistance. The funds from UNESCO came as Roubles from the then Soviet Union. In 1961 Parliament decreed the IITs as 'Institutes of National Importance.' Since then, IITB has grown from strength to strength to emerge as one of the top technical universities in the world.

The institute is recognized worldwide as a leader in the field of engineering education and research. Reputed for the outstanding caliber of students graduating from its undergraduate and post-graduate programs, the institute attracts the best students from the country for its bachelor's, master's, and doctoral programs. Research and academic programs at IIT Bombay are driven by an outstanding faculty, many of whom are reputed for their research contributions internationally.



IIT Bombay also builds links with peer universities and institutes, both at the national and the international levels, to enhance research and enrich its educational programs. The alumni have distinguished themselves through their achievements in and contributions to the industry, academics, research, business, government, and social domains. The institute continues to work closely with the alumni to enhance its activities through interactions in academic and research programs as well as to mobilize financial support.



Over the years, the institute has created a niche for its innovative short-term courses through continuing education and distance education programs. Members of the faculty of the institute have won many prestigious awards and recognitions, including the Shanti Swaroop Bhatnagar and Padma awards.

Located in Powai, one of the northern suburbs of Mumbai, the residents of the institute reap the advantage of being in the busy financial capital of India, while at the same time enjoying the serenity of a campus known for its natural beauty. A fully residential institute, all its students are accommodated in its 15 hostels with in-house dining; the campus also provides excellent amenities for sports and other recreational facilities.





## **About the Mechanical Engineering Department**

The Mechanical Engineering Department has been there from the very beginning of the journey of IIT Bombay, which is from the year 1958. It is one of the largest in terms of faculty, students, and activities, continues to lead and expand its activities in various directions. The Department has 61 full-time faculty members, five honorary faculty members, 817 Undergraduate students, 577 Post-graduate students, and six supporting staff.

The faculty members are grouped under three broad specializations - Design, Manufacturing, and Thermal & Fluids Engineering. They have been engaged in research in all the classical areas of Mechanical Engineering and upcoming areas too. Thirty laboratories support academic activities. Three new laboratories, Computational Fluid and Soft Matter lab, SATANIC Lab, and Micro-forming lab were inaugurated recently. The Department has decided recently to focus significant research efforts in the following five areas: Computational Mechanics; Nuclear Thermal Hydraulics; CIM; Refrigeration, A/C, and Cryogenics; and MEMS, NEMS, and Mechatronics.

The Department is known for research and projects in robotics, fluid dynamics, heat pumps, cryogenics, nuclear engineering, fracture mechanics, I. C. Engines, Combustion, CFD, CAD-CAM, and other areas. Experimental and computational facilities are being continuously upgraded. Industry interaction has been increased with several post-graduate courses being offered to industry participants and many students working in industry-sponsored projects.



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## **Message from Head of Department**

I welcome you, the MTech. Students of the 2020 batch to this prestigious Institute and the illustrious Department of mechanical engineering. The Department will be your home for the next two years, where you will ascend to new heights in your academic life, keeping abreast of the recent developments in the field through numerous elective courses and conducting cutting edge research in a multitude of laboratories.

The Department is equipped with approximately thirty laboratories to help you follow your passion, which includes robotics, fluid mechanics, combustion, heat pumps, fracture mechanics, nuclear engineering, CFD, CAD-CAM, advanced manufacturing, and so on. The rigor of the courses taught as part of your curriculum, and the research that you conduct in the laboratories as part of your projects would transform you into a powerhouse of knowledge. If you find that there are dreams about research that keep you awake at night, we have a dual degree program that would fast-track your research towards a doctoral degree.

In addition to the academic program, do participate in numerous co-curricular activities as well to diversify your growth as a human being, learning the valuable skills of teamwork, leadership, and general approachability on the way. It is my sincere wish that you make the most of your time here and graduate as a skilled engineer and a confident yet kind human being.



**Prof. Sreedhara Sheshadri**

Head of Department  
Department of Mechanical Engineering  
Indian Institute of Technology Bombay  
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## **Welcome Message from the ISCP Team**

Dear New Entrants,

These are tough times, but you are not alone.

We welcome you to one of the most prestigious institutes in the nation. Congratulations on having achieved this incredible feat. You are about to become part of a culture that will leave its traces within you for a long, long time, even if it begins 'untraditionally.' You will be the ones witnessing the first term to happen entirely online in the history of IIT-Bombay. It might feel overwhelming, and for all the right reasons, we must say. There will be several things you might be worried about, from coping up with the academics in online mode to missing out on things; however, as we said, "You are not alone."

Institute Student Companion Programme (ISCP) is a student body with the primary objective of building a relationship of trust and comfort between the final year students and the incoming students of the P.G. programs. We are here to help you in getting familiar with the ways of IIT-B, which is even more critical in these times. You will become a part of a culture where people want to perfect their craft and thus work day in and day out at it. The scope of these is not limited just to academics. Various online events are and will be organized by the cultural, technical, and sports clubs in IITB, like Code in Quarantine, Fitness challenges, Dance Challenges, etc. Managing these along with online lectures might seem daunting at first, and hence, to help you with a world of problems including these, we assign you a Student Companion.

The Student Companions are self-motivated volunteers who will genuinely help you in low and high tides as an act of giving back what they received from the program. You can look up to the team for any form of support, any information before venturing out into an unknown domain, be it academics or extracurricular activities. You can reach out to us for any issue regarding the curriculum, facilities provided, your physical, social or mental health, and last but certainly not the least, reach out to have a chat with us because that is what we are for, for you.

The COVID -19 pandemic has affected all of us. For now, Health concerns prevent your arrival in our beautiful lush-green IIT-B campus, it also prevents your participation in hostel activities, sports, cultural activities. There are many things here at IIT-B waiting for you, but the most important thing is the campus, and the buildings do not define IIT-B. It is you. You set the culture, the activities, you represent IIT-B to the world, and you make IIT-B what IIT-B is.



So, knowing that time flies at IITB, we strongly suggest participating in things that happen online other than attending lectures, make memories, reach out to us for any queries, and relax with the comfort of your home. At least till we get an opportunity to welcome you into the campus, let us be safe, let us be optimistic and let us keep our learning spirits high.

Looking forward to getting to know you. Giving out some motivation for these difficult times, we end with a quote by Albus Dumbledore:

“Happiness can be found, even in the darkest of times, if one only remembers to turn on the light.”

Stay Safe!



**Aakrit Anshuman**

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Mechanical Engineering

**Satyam Rathore**

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Overall Coordinator, ISCP 2020-21

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## **Welcome Message from Post Graduate Academic Council**

Dear Freshmen,

Congratulations to all freshmen for making it to one of the premier institutes of the country. Despite the stiff competition, you all managed to come out with flying colors. So, on behalf of the PG students of IIT Bombay, it is my honor to welcome you all here. So now, all of you are a part of the IIT Bombay PG community or “PG JUNTA” as we call them. The institute has a wide range of facilities and services to offer to all its students. This will not only ensure a fruitful educational experience but also promote overall skill development. In the institute, several student-run bodies focus on the development of skills, sports, and extracurricular activities such as music, dance, drama, etc.

Along with academics, we urge you all to explore and make the most of the excellent facilities that the institute has to offer. As the Institute Master’s Representative, my entire team and I aim to address your grievances and help you to the best of our abilities. This time since the first semester for you, all is going to be online, and you might have many queries in your mind. Please feel free to contact us at any time.

Our council PGAC is one that is for the PG students of the PG students and, most importantly, by the PG students. So whenever you face a problem, we are always there to help you out. Supporting the students in their academic endeavors is also our foremost priority, and we will try to improve the IITB experience in all the ways we can. On this note, I once again welcome you all to IIT Bombay, hoping to welcome you all back in the campus as soon as the situation gets

better, and wishing you every success in your future endeavors.



**Sohini Dasgupta**

Institute master’s Representative

Post Graduate Academic Council

Email: [imr@iitb.ac.in](mailto:imr@iitb.ac.in)



## **Welcome Message from Department Coordinators**

Welcome Junta,

Heartiest congratulations & warm welcome on making place in the IIT Bombay family. You are about to start a journey of knowledge and exploration. We know the current situation is not on our side, and sometimes the journey can be formidable and stressful. Nevertheless, do not worry; Team ISCP mechanical is always there with you to guide through this journey. Upcoming 2-3 years' stay in IIT will teach you many new things that will continuously reshape your perspective and make you a skilled engineer, also a confident yet kind human being.

As you are already aware that everything will happen online this semester, so at times you may feel unlucky to miss the warmth of the campus life. However, hopefully, everything will return to normal by January, and you will be able to do everything you have dreamed for so long. We know that online education cannot compensate for the classroom environment, but keep trust in the Mechanical department, your seniors, and various student bodies such as PGAC, ISCP, Institute Council who are trying their best to make your learning experience better.

Inside the IIT Bombay campus, you will always be surrounded by brightest minds not just in terms of academics but sports, Arts and cultural as well. IIT-Bombay is a place that not just gives importance to academics, but you will find students busy in various activities all day across campus. We suggest you participate in various sports activities, cultural activities which will help you to broaden the horizon of your mind and developing hidden talent inside you.

We know from our personal experiences how important it is to have someone as a mentor who can guide us from reaching to IIT Bombay campus to getting adapted into campus life. Our DC Ankit Bhagat & his team of SC's were like first friends who helped us not just to get our hostel rooms but with orientation, registration, course selection, etc.

For the first time in the history of IIT-Bombay, it is going to start the academic session in Distance education mode. Many of you, joining IIT Bombay just after finishing your bachelor's, but few will be joining after working in



MNC's for 2-3 years. You will also find few sponsored candidates from organizations such as DRDO, BARC, ISRO, Indian Navy, Indian Coast Guard who are returning to education after a gap of 5-6 years. So everyone must be having tons of questions in their mind related to lectures, professors, study material & exams. So, it would be best if you asked those questions; however, naïve they may be to your student companion & department coordinators. The mechanical ISCP team is always there to help you.

You are about to embark on a journey that we have already embarked on. You may not know about the obstacles that you will find in this journey, but we know from our experience. So we are here to help you avoid the mistakes we made. Feel free to contact us anytime regarding anything. We will be glad to help.



### **Pratik Pradeep Dangar**

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## Mechanical Engineering

### **Supriyo Roy**

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## Mechanical Department Faculties








### ❖ Design Engineering:

<u>Name</u>	<u>Research Interest</u>	<u>Photograph</u>
<b>Prof. Tanmay Bhandarkar (TKB)</b> ME Department/F34 <a href="mailto:Tbhandar2@iitb.ac.in">Tbhandar2@iitb.ac.in</a>	Elasticity, Analytical and numerical methods, Contact Mechanics, Fracture mechanics	
<b>Prof. P.S. Gandhi (PSG)</b> ME Department/S30 <a href="mailto:gandhi@iitb.ac.in">gandhi@iitb.ac.in</a>	Robotics, Mechatronics, Multi-scale manufacturing using fluid instabilities,	
<b>Prof. Anirban Guha (AGH)</b> ME Department/S31 <a href="mailto:anirbanguha@iitb.ac.in">anirbanguha@iitb.ac.in</a>	Design of machines for the textile industry, Tensegrity mechanisms, Structural health monitoring,	
<b>Prof. Abhishek Gupta (AG)</b> ME Department/S 32 <a href="mailto:Abhi.gupta@iitb.ac.in">Abhi.gupta@iitb.ac.in</a>	Robotics and controls, Human-robot interaction, Assistive devices for rehabilitation.	
<b>Prof. V. Kartik (VK)</b> ME Department/ 301 A <a href="mailto:vkartik@iitb.ac.in">vkartik@iitb.ac.in</a>	Dynamics, vibrations and control, Nano- and micro-scale devices, Electric and Hybrid Electric Vehicles,	
<b>Prof. Krishna Jonnalagadda (KNJ)</b> ME Department/S 22 <a href="mailto:krishnaj@iitb.ac.in">krishnaj@iitb.ac.in</a>	Microfabrication, Multifunctional Coatings, Experimental Mechanics, Fracture Mechanics,	
<b>Prof. Salil S. Kulkarni (SSK)</b> ME Department/F 38 <a href="mailto:Salil.kulkarni@iitb.ac.in">Salil.kulkarni@iitb.ac.in</a>	Computational Mechanics, Applied Mechanics, Finite Element Method, Boundary Element Method, Wave propagation and vibrations,	
<b>Prof. Vivek Sangwan</b> ME Department/S 17B <a href="mailto:Vivek.sangwan@iitb.ac.in">Vivek.sangwan@iitb.ac.in</a>	Robotics, Mechatronics, Dynamics, Control	

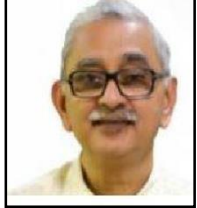





<b>Prof. P. Seshu</b> <a href="mailto:seshu@iitb.ac.in">seshu@iitb.ac.in</a>	Finite element modeling, Computational Solid Mechanics,	
<b>Prof. Dhanesh Manik (DNM)</b> ME Department/S 41 <a href="mailto:dnmalik@iitb.ac.in">dnmalik@iitb.ac.in</a>	Dynamics of machine Design Engineering	
<b>Prof. Amit Singh</b> ME Department/S 26 <a href="mailto:Amit.k.singh@iitb.ac.in">Amit.k.singh@iitb.ac.in</a>	Continuum Mechanics, Multiscale methods, Statistical Mechanics, Heat conduction, Transport	
<b>Prof. S. Suryanarayanan (SSN)</b> ME Department/F 33 <a href="mailto:Shashin@iitb.ac.in">Shashin@iitb.ac.in</a>	Mechatronics, Energy management, Control system design	
<b>Prof. Parag U. Tandaiya (PUT)</b> ME Department/S 18 <a href="mailto:Parag.ut@iitb.ac.in">Parag.ut@iitb.ac.in</a>	Fracture mechanics, Finite element modeling, Computational Solid Mechanics, Mechanical Behaviour of Materials	
<b>Prof. Sripriya Ramamoorthy</b> ME Department/S 29 <a href="mailto:ramamoor@iitb.ac.in">ramamoor@iitb.ac.in</a>	Acoustics, Auditory Biomechanics, Porous materials	
<b>Prof. Shantanu Tripathi</b> ME Department/S 06 <a href="mailto:tripathi@iitb.ac.in">tripathi@iitb.ac.in</a>	Design for Reliability, Mechanical & Environmental Reliability of Electronics, Solder Joint Fatigue,	

❖ **Thermal & fluid Engineering:**

Name	Research Interest	Photograph
<b>Prof. Amit Agrawal (AA)</b> ME Department/204 B <a href="mailto:amit.agarwal@iitb.ac.in">amit.agarwal@iitb.ac.in</a>	Turbulence, PIV, Heat Transfer, Rarefied Gas Flows, Microfluidics	
<b>Prof. Milind Atrey (MA)</b> ME Department/F 09 <a href="mailto:matrey@iitb.ac.in">matrey@iitb.ac.in</a>	Refrigeration, Cryogenic Engineering, Cryocoolers, Cryogenic Heat Exchangers, Two-phase flow heat transfer,	
<b>Prof. Sridhar Balasubramanian (SRB)</b> ME Department/304 B <a href="mailto:sridharb@iitb.ac.in">sridharb@iitb.ac.in</a>	PIV, Flow and turbulence measurement using optical means., Experimental fluid dynamics and heat transfer, Geophysical fluid dynamics	
<b>Prof. U. V. Bhandarkar (UVB)</b> ME Department/303 A <a href="mailto:ubhandarkar@iitb.ac.in">ubhandarkar@iitb.ac.in</a>	Particulate Characterization and Emission Control, Heat transfer in nanofluids, Molecular Modeling and Simulations, Rarefied Gas Flows, DSMC, Appropriate Technology for Rural Areas,	
<b>Prof. Rajneesh Bhardwaj (RNB)</b> ME Department/S 36 <a href="mailto:rajneesh.bharadwaj@iitb.ac.in">rajneesh.bharadwaj@iitb.ac.in</a>	Interfacial transport phenomena, CFD, FEA Droplets, Interfaces, Fluid-Structure Interaction, CFD	
<b>Prof. Amitabh Bhattacharya (AB)</b> ME Department/F 32 <a href="mailto:bhattach@iitb.ac.in">bhattach@iitb.ac.in</a>	Turbulence, multi-phase flow, CFD Turbulence, Fluid-Structure Interaction, Large Eddy Simulation,	
<b>Prof. Abhilash J. Chandy</b> ME Department/S 37 <a href="mailto:achandy@iitb.ac.in">achandy@iitb.ac.in</a>	TFE, Turbulence, Computational Fluid Dynamics, LES/DNS for complex transitional and turbulent flows., Modelling of Turbulent Combustion, DNS/LES of reacting flows,	







<b>Prof. Arindrajit Chowdhury (AC)</b> IC Engine Lab. <a href="mailto:arindra@iitb.ac.in">arindra@iitb.ac.in</a>	Combustion Visualization and Optical Diagnostics, Combustion of Energetic Materials (Propellants and Explosives), Homogeneous Charge Compression Ignition (HCCI) engine, Combustion and emission in practical devices	
<b>Prof. U .N. Gaitonde (UNG)</b> ME Department/F 11 <a href="mailto:gaitonde@iitb.ac.in">gaitonde@iitb.ac.in</a>	Thermodynamics, Energy Conversion, CHT	
<b>Prof. Shivasubramanian Gopalakrishnan</b> ME Department/S 19 <a href="mailto:sgopalak@iitb.ac.in">sgopalak@iitb.ac.in</a>	Fluid Mechanics, Numerical Methods, Computational Fluid Dynamics, Geophysical Fluid Dynamics, Multiphase Flows, Interface Tracking Schemes	
<b>Prof. Kannan N. Iyer (KNI)</b> THTF Lab. <a href="mailto:kiyer@iitb.ac.in">kiyer@iitb.ac.in</a>	Reactor Safety, Thermal Hydraulic, Multiphase Flow Thermal and Fluid Engineering	
<b>Prof. Muralidharan Janani</b> ME Department/SH 17 <a href="mailto:js.murlidharan@iitb.ac.in">js.murlidharan@iitb.ac.in</a>	Heat Transfer, Computational Fluid Dynamics, Experimental fluid dynamics and heat transfer, Flow boiling in microchannels, Experimental techniques in interfacial flows,	
<b>Prof. Shankar Krishnan (SNK)</b> ME Department/104 A <a href="mailto:kshankar@iitb.ac.in">kshankar@iitb.ac.in</a>	Heat Transfer, Thermal Management of Electronics, Non-traditional Thermal Desalination	
<b>Prof. Neeraj Kumbhakarna</b> IC Engine Lab. <a href="mailto:neeraj_k@iitb.ac.in">neeraj_k@iitb.ac.in</a>	TFE, Combustion Visualization, and Optical Diagnostics, Computational fluid dynamics and heat transfer, Thermodynamics, Combustion of Energetic Materials,	



<b>Prof. S.V. Prabhu (SVP)</b> ME Department/308 D <a href="mailto:svprabhu@iitb.ac.in">svprabhu@iitb.ac.in</a>	Fluid Mechanics, Heat Transfer, Flowmetering, Hydrokinetic turbines and wind turbines, Impinging jets (subsonic and supersonic), Premixed flame jets, Internal cooling passages	
<b>Prof. Bhalchandra Puranik (BPP)</b> ME Department/F 40 <a href="mailto:puranik@iitb.ac.in">puranik@iitb.ac.in</a>	Compressible Fluid Dynamics and Shock Waves, High-Knudsen Number High-Speed Internal and External Flows, Convective Heat Transfer Applications	
<b>Prof. Milind Rane (MVR)</b> Heat Pump Lab. <a href="mailto:ranemv@iitb.ac.in">ranemv@iitb.ac.in</a>	Refrigeration, Alternate Energy Resources Energy Conservation, HVAC&R, and Alternate Energy Resources	
<b>Prof. Sandip Kumar Saha (SKS)</b> ME Department/S 27 <a href="mailto:sandip.saha@iitb.ac.in">sandip.saha@iitb.ac.in</a>	Cooling technologies, Heat Transfer, Computational Fluid Dynamics, Renewable energy and energy storage, Multiphase flow,	
<b>Prof. Atul Sharma (AS)</b> ME Department/F 31 <a href="mailto:atulsharma@iitb.ac.in">atulsharma@iitb.ac.in</a>	Multi-Phase Flow, Convective Heat Transfer, CFD, CHD	
<b>Prof. Sreedhara Sheshadri (SSR)</b> IC Engine Lab. <a href="mailto:sreedhara.s@iitb.ac.in">sreedhara.s@iitb.ac.in</a>	Computational Fluid Dynamics, Turbulent Combustion, Engine Combustion, LES/DNS of complex turbulent reacting flows, soot modeling	
<b>Prof. Arun Kumar Sridharan (AKS)</b> THTF Lab. <a href="mailto:arunsri@iitb.ac.in">arunsri@iitb.ac.in</a>	Two-phase Heat Transfer, Experimental fluid dynamics and heat transfer, Two-phase flow and heat transfer, Nuclear Reactor Safety	



<b>Prof. Atul Srivastava (ASR)</b> ME Department/F 07 <a href="mailto:atulsr@iitb.ac.in">atulsr@iitb.ac.in</a>	Heat and Mass Transfer, Two-phase flows, Bioheat transfer, Optical techniques for whole field measurements, Optical tomography, Crystal Growth, Biomedical applications of lasers	
<b>Prof. R. P. Vedula (RPV)</b> THTF Lab. <a href="mailto:rpv@iitb.ac.in">rpv@iitb.ac.in</a>	Fluid flow, heat transfer	
<b>Prof. Dipanshu Bansal</b> ME Department/F 40 <a href="mailto:dipanshu@iitb.ac.in">dipanshu@iitb.ac.in</a>	Vibrational spectroscopy, Energy transport, First-principles simulations of electronic structure.	
<b>Prof. Ankit Jain</b> ME Department/S 20 <a href="mailto:a_jain@iitb.ac.in">a_jain@iitb.ac.in</a>	Designing next-generation materials for energy applications.	

Mechanical Engineering

❖ **Manufacturing Engineering:**

Name	Research Interest	Photograph
<b>Prof. Avinash Bhardwaj</b> ME Department/S 40 <a href="mailto:abhardwaj@iitb.ac.in">abhardwaj@iitb.ac.in</a>	Conic (mixed) integer programming, Linear and Non-Linear Discrete Optimization, Polyhedral	
<b>Prof. P. P. Date (PPD)</b> ME Department/G 41 <a href="mailto:ppdate@iitb.ac.in">ppdate@iitb.ac.in</a>	Metal Forming Processes, Formability, Shopfloor Metallic waste processing, Powder Metallurgy, Metal Injection Moulding	
<b>Prof. Amitava De (AD)</b> ME Department/S 35 <a href="mailto:amit@iitb.ac.in">amit@iitb.ac.in</a>	Welding, LENS, DFM Joining, Additive Manufacturing, Numerical Modeling.	
<b>Prof. S. S. Joshi (SSJ)</b> ME Department/F 36 <a href="mailto:ssjoshi@iitb.ac.in">ssjoshi@iitb.ac.in</a>	Modeling of Manufacturing Processes, Machining of Advanced Materials, precision manufacturing.	
<b>Prof. K. P. Karunakaran (KPK)</b> RM Lab. <a href="mailto:karuna@iitb.ac.in">karuna@iitb.ac.in</a>	Computer Numerical Control, Rapid Prototyping & Tooling, Computer Graphics	
<b>Prof. S. S. Pande (SSP)</b> ME Department/S 39 <a href="mailto:s.s.pande@iitb.ac.in">s.s.pande@iitb.ac.in</a>	Multi-axis CNC machining, CAD, CAM, Computer Graphics	
<b>Prof. Sushil Mishra (SKM)</b> ME Department/S 14 <a href="mailto:sushil.mishra@iitb.ac.in">sushil.mishra@iitb.ac.in</a>	Micro forming, Sheet metal forming, Thermomechanical processing	



<b>Prof. B. Ravi (BR)</b> ME Department/S 34 <a href="mailto:b.ravi@iitb.ac.in">b.ravi@iitb.ac.in</a>	Casting, DFM, Computer-Aided Surgery, Medical device innovation, Web-based education	
<b>Prof. Ramesh K. Singh (RKS)</b> Machine tools lab. <a href="mailto:rsingh@iitb.ac.in">rsingh@iitb.ac.in</a>	Micromachining, Precision & Hybrid machining, Laser Micromachine	
<b>Prof. Pradeep Dixit (PD)</b> ME Department/S 25 <a href="mailto:pradeep.dixit@iitb.ac.in">pradeep.dixit@iitb.ac.in</a>	Microfabrication, MEMS, 3D	
<b>Prof. Alankar Alankar</b> ME Department/S 23 <a href="mailto:alankar.alankar@iitb.ac.in">alankar.alankar@iitb.ac.in</a>	Multiscale Computational Mechanics of Materials, Crystal Plasticity, Integrated Computational	
<b>Prof. Asim Tewari (AT)</b> ME Department/S 08 <a href="mailto:asim.tewari@iitb.ac.in">asim.tewari@iitb.ac.in</a>	Crystal plasticity, Nanocomposites, microstructural mechanics	
<b>Prof. Shyamprasad Karagadde (SPK)</b> ME Department/S 33 <a href="mailto:s.karagadde@iitb.ac.in">s.karagadde@iitb.ac.in</a>	Solidification science, CFD, X-Ray Optical Imaging	
<b>Prof. Rakesh G. Mote (RGM)</b> ME Department/101 <a href="mailto:rakesh.mote@iitb.ac.in">rakesh.mote@iitb.ac.in</a>	FIB, Plasmonics, UPM, Non-conventional machining, machining of advanced materials.	
<b>Prof. Amol Gokhale (AAG)</b> ME Department/301 D <a href="mailto:gokhale@iitb.ac.in">gokhale@iitb.ac.in</a>	Manufacturing Engineering	







<b>Prof. Makarand S. Kulkarni (MSK)</b> ME Department/S 10 <a href="mailto:mskulkarni@iitb.ac.in">mskulkarni@iitb.ac.in</a>	Reliability Engineering, Maintenance Planning, Quality Engineering	
<b>Prof. A. Subash Babu (ASB)</b> <a href="mailto:subash@me.iitb.ac.in">subash@me.iitb.ac.in</a>	Quality management, Inventory management	
<b>Prof. Deepak Marla</b> ME Department/301 B <a href="mailto:dmarla@iitb.ac.in">dmarla@iitb.ac.in</a>	micro/nano-manufacturing	
<b>Prof. Amber Shrivastava</b> ME Department/301 C <a href="mailto:a.shrivastava@iitb.ac.in">a.shrivastava@iitb.ac.in</a>	Friction Stir Welding, Sustainable Manufacturing, Modulation Assisted Machining,	
<b>Prof. Soham Mujumdar</b> ME Department/S 17 <a href="mailto:sohammujumdar@iitb.ac.in">sohammujumdar@iitb.ac.in</a>	Micro/nano-manufacturing, Modeling of manufacturing processes, Cutting fluid delivery	

Mechanical Engineering



## Office Staff

<u>Name</u>	<u>Role</u>	<u>Email Id</u>	<u>Photograph</u>
<b>Ms. Komal Ashok Sakharkar</b>	Junior Administrative Assistant	<a href="mailto:komals@iitb.ac.in">komals@iitb.ac.in</a>	
<b>Mr. Nishikant Meshram</b>	Junior Administrative Assistant	<a href="mailto:nishikant.meshram@iitb.ac.in">nishikant.meshram@iitb.ac.in</a>	
<b>Mr. Ravi Verma</b>	Junior Administrative Assistant	<a href="mailto:ravi_verma@iitb.ac.in">ravi_verma@iitb.ac.in</a>	
<b>Anamika Bharankar</b>	Junior Administrative Assistant	<a href="mailto:10001901@iitb.ac.in">10001901@iitb.ac.in</a>	
<b>Mr. Ajay Torane</b>	Temporary Skilled staff	<a href="mailto:Ajaytorane7@gmail.com">Ajaytorane7@gmail.com</a>	
<b>Ms. Mukta Magar</b>	-----	-----	



## **Research Facilities Available**

The department of Mechanical Engineering, IIT Bombay, boasts well-equipped laboratories with ongoing research in the fields of Thermal & fluid engineering, Manufacturing, Design Engineering. The department has 36 laboratories spreading across the entire IIT Bombay campus. The mechanical department has the highest numbers of laboratories & workshops compared to any other department in the institute. The department provides core central facilities housing several modern instruments necessary for present-day research.

The Mechanical Engineering department of IIT Bombay has several Instructional and Research laboratories, listed below:

### **❖ Thermal & Fluid Engineering:**

- 1) **Computational Fluid Dynamics Laboratory**
- 2) **Computational Fluid & Soft matter Laboratory**
- 3) **Geophysical Fluid Dynamics Laboratory**
- 4) **Heat Pump Laboratory**
- 5) **Interfacial Flow Laboratory**
- 6) **Internal Combustion Engines & Combustion Laboratory**
- 7) **Microfluidics Laboratory**
- 8) **Optical instrumental Laboratory**
- 9) **Refrigeration & Air Conditioning Laboratory**
- 10) **Cryogenics Laboratory**
- 11) **Scalable Algorithms & Numerical methods in the computing laboratory**
- 12) **Thermal energy material & system laboratory**
- 13) **thermal-hydraulics test facility**
- 14) **thermal science laboratory**
- 15) **water tunnel & PIV facility**



❖ **Design Engineering:**

- 1) Acoustics & Hearing Laboratory
- 2) Computational Solid Mechanics Laboratory
- 3) Intelligent Dynamical Ubiquitous Systems Lab
- 4) Mechanics of Materials Laboratory
- 5) Robotics Laboratory
- 6) Solid Mechanics Laboratory
- 7) Suman Mashruwala Advanced Microengineering Laboratory
- 8) Textile Machines Laboratory
- 9) Vibration & Acoustics Laboratory

❖ **Manufacturing Engineering:**

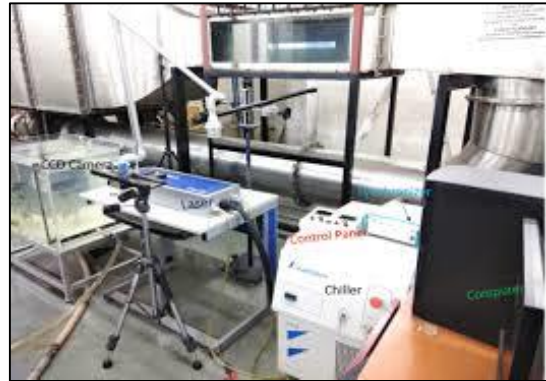
- 1) Advanced Mechanical Testing Facility
- 2) Biomedical Engineering & Technology (Incubation) Centre
- 3) Central Workshop
- 4) Computer-Aided Manufacturing Laboratory
- 5) Electrochemical Microfabrication Laboratory
- 6) ICME & Materials Genome Laboratory
- 7) Machine Tools Laboratory
- 8) Metal Forming Laboratory
- 9) Microstructural Mechanics & Micro forming Laboratory
- 10) National Centre for Aerospace Innovation and research
- 11) Rapid Manufacturing Laboratory
- 12) Solidification Laboratory
- 13) Welding Laboratory



## Laboratory Images:



**Production Engineering Lab.**



**Velocimetry Lab.**



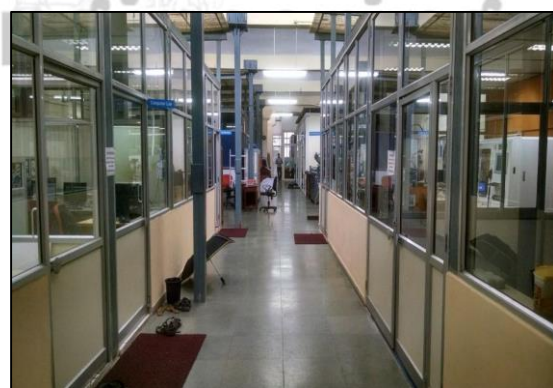
**Vibration & Instrumentation Lab.**



**Robotics & Automation lab.**



**Solidification Lab.**



**Machine Tool Lab.**

## Mech Glories

### IITB Racing:

A group of students from IIT Bombay who are united by their passion for engineering, and the desire to fulfill a common goal of putting India on the world map of race all-terrain car manufacturers. It started on a journey in June 2007. They participated in Formula SAE 2008, held in Michigan, USA, in May 2008. IIT Bombay was proud to be the only Indian team participating in the event. Since its inception in 2008, IITB Racing has targeted excellence at the premier SAE Collegiate Design Competitions: Formula SAE (formula race car competition), and the Baja SAE (all-terrain vehicle competition). IITB Racing's formula car 'Vayu' won the SAE Perseverance award for the Best Rookie Team at the FSAE Michigan 2008 event, held at Michigan International Speedway in May 2008.

The second vehicle, 'Prithvi,' an all-terrain vehicle, won 5 awards (including Best Engineering Design and Maximum Acceleration) at the Baja SAE India 2009 event, held at NATRIP, Pithampur in January 2009. The 3rd vehicle 'Agni,' a formula car, was the 2nd best Asian entry at the FSUK competition, held at the famous Silverstone Formula One Circuit, U.K., in July 2009. In Baja SAE 2011, Prithvi 2.0 won the Raftar Award of 1 Lakhs INR for being the Lightest and the Fastest Vehicle in the competition.



## **Radiance:**

The Annual Research and Technology Festival of the Department of Mechanical Engineering of IITB, or Radiance was first initiated in the year 2007. Over the years, it has built its legacy and reputation of being a platform for fostering brotherhood amongst the Mechanical Engineering fraternity across the nation. It is a stage for the discussion of the challenges plaguing Mechanical Engineering, of the full world of opportunities that lies before us, and of the innovative and creative ideas that just strike people, in the "Radiance" and guests from over 100 colleges and corporate companies, Radiance is just getting bigger and bigger. Thrilling competitions, innovative and fresh paper presentations, exciting hands-on workshops, and exhibitions that are a treat to the eyes and many inform.





## **M.Tech Projects of 2019 Batch**

### **1) Design Engineering:**

<b><u>Name</u></b>	<b><u>Category</u></b>	<b><u>Project Area / Title</u></b>	<b><u>Guide</u></b>	<b><u>Email id/Contact No.</u></b>
Akshay Jawale	TA	Phase-field simulation of crack.	Prof. Tanmay Bhandakkar	<a href="mailto:193100024@iitb.ac.in">193100024@iitb.ac.in</a> 8275207034
Shubham Darade	TA	Peri dynamics and its application to model failure.	Prof. Tanmay Bhandakkar	<a href="mailto:193100028@iitb.ac.in">193100028@iitb.ac.in</a> 7798543557
Akash Kapase	TA	Topology optimization in machine design.	Prof. Salil Kulkarni	<a href="mailto:193100010@iitb.ac.in">193100010@iitb.ac.in</a> 7743972334
Shaily Bansal	TA	Design of Impact type machines for minimum vibrations and sound.	Prof. Dhanesh Manik	<a href="mailto:193100025@iitb.ac.in">193100025@iitb.ac.in</a> 9816936639
Shashank jakhmola	TA	Noise and vibration reduction of screw compressor.	Prof. Dhanesh Manik	<a href="mailto:193100022@iitb.ac.in">193100022@iitb.ac.in</a> 7409227642
Madhav More	TA	Study of interacting inhomogeneities	Prof. Tanmay Bhandakkar	<a href="mailto:193100032@iitb.ac.in">193100032@iitb.ac.in</a> 9028670354
Dharmender	TA	Experiment and simulation of adiabatic shear banding in metals.	Prof. Krishna Jonnalagadda	<a href="mailto:193100061@iitb.ac.in">193100061@iitb.ac.in</a> 7409711515
Yogesh Supe	TA	Image Analysis on Mobile Platforms.	Prof. Anirban Guha	<a href="mailto:193100059@iitb.ac.in">193100059@iitb.ac.in</a> 7588804916



Shubham Sabale	TA	Model Order Reduction for Nonlinear finite elements.	Prof. Salil Kulkarni	<a href="mailto:193100011@iitb.ac.in">193100011@iitb.ac.in</a> 9405359996
Ravinder	TA	Properties of foam materials.	Prof. Sripriya Ramamoorthy	<a href="mailto:193100057@iitb.ac.in">193100057@iitb.ac.in</a> 9896003216
Gurvinder Singh	TA	Development of a new generation of thermoelectric materials.	Prof. Amit Singh	<a href="mailto:193100056@iitb.ac.in">193100056@iitb.ac.in</a> 9729014683
Chappe Narsing Suryakant	TA	Damping of structural vibration using piezo shunt damping.	Prof. Sripriya Ramamoorthy	<a href="mailto:193100058@iitb.ac.in">193100058@iitb.ac.in</a> 9561890380
Ashwani Kushwaha	TA	Measurement of Viscoelastic properties of polymer using TSA & MD simulation.	Prof. Amit Singh	<a href="mailto:193100026@iitb.ac.in">193100026@iitb.ac.in</a> 9325659997
R Nitin Iyer	RAP	Hypervelocity impact on bulk metallic glasses for spacecraft shielding applications	Prof. Parag Tandaiya	<a href="mailto:19310r001@iitb.ac.in">19310r001@iitb.ac.in</a> 8461097412
Jalaj Gupta	RAP	Thermomechanical behavior of polymers	Prof. Krishna Jonnalagadda	<a href="mailto:19310R002@iitb.ac.in">19310R002@iitb.ac.in</a> 8851644813
Saurabh Kumar pal	Sponsored Candidate	Design of controller for leg exoskeleton	Prof. Vivek Sangwan	<a href="mailto:193104001@iitb.ac.in">193104001@iitb.ac.in</a> 7052756282
Abhishek Tapkire	Sponsored Candidate	Range extender in Electric Vehicle	Prof V Kartik	<a href="mailto:193104002@iitb.ac.in">193104002@iitb.ac.in</a> 9822215196



Abhishek Kumar	Sponsored Candidate	Gait analysis of bio-inspired robot	Prof. Anirban Guha	<a href="mailto:193104003@iitb.ac.in">193104003@iitb.ac.in</a> 7798832539
Satyendra Narayan Pandit	Sponsored Candidate	Stability Analysis of Legged Robot- Recovery from unusual situations.	Prof. Anirban Guha	<a href="mailto:193104004@iitb.ac.in">193104004@iitb.ac.in</a> 9763903340

## **2) Thermal & Fluid Engineering:**

<b><u>Name</u></b>	<b><u>Category</u></b>	<b><u>Project Area / Title</u></b>	<b><u>Guide</u></b>	<b><u>Email id/Contact no.</u></b>
Ammar Ahmad Qazi	TA	Physics Guided Machine Learning Approaches for Computational Fluid Dynamics.	Prof. Atul Sharma	<a href="mailto:iammar.qazi@iitb.ac.in">iammar.qazi@iitb.ac.in</a> 8850286002
Jaykumar Gupta	TA	Micro heat pipe heat transfer analysis.	Prof. Janani Muralidharan	<a href="mailto:193100008@iitb.ac.in">193100008@iitb.ac.in</a> 7710801048
Akash Nandalal Gajbhiye	TA	Study of particle breakage in Grinding mill.	Prof. Abhilash Chandy	<a href="mailto:193100039@iitb.ac.in">193100039@iitb.ac.in</a> 9472472522
Nilay Bhalgat	TA	Experimental analysis of condensation of steam in the presence of non-condensable gases.	Prof. Arunkumar Sridharan	<a href="mailto:193100043@iitb.ac.in">193100043@iitb.ac.in</a> 9405004088
Yash Shinde	TA.	Design and development of an oxy-waste combustor to tackle urban waste at source.	Prof. Arindrajit Chowdhury	<a href="mailto:yash.shinde@iitb.ac.in">yash.shinde@iitb.ac.in</a> 9403699002



Anupam Kashyap	TA	Combustion modeling of the solid propellant rocket.	Prof. Neeraj khumbhkarna	<a href="mailto:193100045@iitb.ac.in">193100045@iitb.ac.in</a> 8521987149
Anish Thakur	TA	Mixed convection at high Rayleigh number.	Prof. Rajendra Vedula	<a href="mailto:193100046@iitb.ac.in">193100046@iitb.ac.in</a> 7973490013
Poorvank Sharma	TA	Time-resolved extreme ultraviolet diffraction measurements of heat transfer from nano-heaters for application in the electronics industry.	Prof. Dipanshu Bansal	<a href="mailto:poorvank.sharma@iitb.ac.in">poorvank.sharma@iitb.ac.in</a> 9829089727
Akhilesh Yadav	TA	Simulation of atmospheric entry in other planets.	Prof. U. V. Bhandarkar	<a href="mailto:193100051@iitb.ac.in">193100051@iitb.ac.in</a> 7042250752
Sanap Ajay Somnath	TA	Dynamics of laden particle jet using PIV.	Prof. Shridhar Balasubramaniam	<a href="mailto:193100053@iitb.ac.in">193100053@iitb.ac.in</a> 8308172516
Pratik Pradeep dangar	TA	Numerical simulation of combustion instabilities in gas turbine combustor.	Prof. Shreedhara sheshadri	<a href="mailto:193100054@iitb.ac.in">193100054@iitb.ac.in</a> 9326491272
Kuljeet Singh	TA	Thrust generation from pitching foil.	Prof Rajneesh Bhardwaj	<a href="mailto:193100055@iitb.ac.in">193100055@iitb.ac.in</a> 8146467530
Anubhav Bansal	TA	Experimental study of Droplet Heat Transfer	Prof. Atul Shrivastava	<a href="mailto:193100009@iitb.ac.in">193100009@iitb.ac.in</a> 9899326839
Saumil Joshi	TA	Thermal design of supercomputing heat exchanger	Prof. Milind Rane	<a href="mailto:193100048@iitb.ac.in">193100048@iitb.ac.in</a> 9409081172



Prakalp Sandhiya	TA	Mathematical Modeling of the thermal pasteurization process	Prof. Shankar Krishnan	<a href="mailto:193100042@iitb.ac.in">193100042@iitb.ac.in</a> 8217563069
Nikhil Katiyar	TA	Experimental & Numerical study on Solidification	Prof. Sandeep Saha	<a href="mailto:193100050@iitb.ac.in">193100050@iitb.ac.in</a> 9630866324
Subodh Kumar Yadav	Foreign Candidate	Modeling of sheared non-Newtonian flows.	Prof. Shivasubramanian Gopalakrishnan	<a href="mailto:193102001@iitb.ac.in">193102001@iitb.ac.in</a> 9958692446
Manish Dhanwani	Sponsored Candidate	Waste heat recovery from the exhaust of IC Engines.	Prof. Atul shrivastava	<a href="mailto:193104005@iitb.ac.in">193104005@iitb.ac.in</a> 8805234028
Sumit Bankey	Sponsored Candidate	Study of a hydrofoil.	Prof. Amit Agarwal	<a href="mailto:193104006@iitb.ac.in">193104006@iitb.ac.in</a> 8141540145
Saurabh Srivastav	Sponsored Candidate	Waste heat recovery using the vapor absorption method for cooling of GT air intake.	Prof. Rajneesh Bhardwaj	<a href="mailto:193104007@iitb.ac.in">193104007@iitb.ac.in</a> 9884706165
Rakesh Raushan	Sponsored Candidate	Design of emission monitoring system of the ship.	Prof Sreedhara Sheshadri	<a href="mailto:193104008@iitb.ac.in">193104008@iitb.ac.in</a> 9422425646
Navaneetha Saravanan M	Sponsored Candidate	Erosion Corrosion analysis on Pipe bends onboard Indian Navy Ships.	Prof Arun Kumar Sridharan	<a href="mailto:193104010@iitb.ac.in">193104010@iitb.ac.in</a> 9566608500



### 3) Manufacturing Engineering:

<u>Name</u>	<u>Category</u>	<u>Project Area / Title</u>	<u>Guide</u>	<u>Email id/ Contact No.</u>
Abhijeet Sarkar	TA	Modeling of 3D surface topography using ANN	Prof. S. S. Pande	<a href="mailto:sarkarabhijeet1996@iitb.ac.in">sarkarabhijeet1996@iitb.ac.in</a> 8369939029
Abhijeet Soni	TA	Optimization of focused Ion beam for nano/micro-manufacturing	Prof. Rakesh Mote	<a href="mailto:abhijeetsoni@iitb.ac.in">abhijeetsoni@iitb.ac.in</a> 7307421706
Akshay Ajaykumar Bhutada	TA	Virtual real data collection from multiscale mechanics simulation	Prof. Alankar Alankar	<a href="mailto:akshaybhutada@iitb.ac.in">akshaybhutada@iitb.ac.in</a> 8412941816
Akshaya sehra	TA.	Design and manufacturing of a lightweight connecting rod by tube hydroforming	Prof. P.P. Date	<a href="mailto:akshaysrhra021@iitb.ac.in">akshaysrhra021@iitb.ac.in</a> 9871709238
Amit Dubey	TA	Laser-Assisted machining of difficult to cut materials	Prof. Deepak Marla	<a href="mailto:eromit@iitb.ac.in">eromit@iitb.ac.in</a> 8796015538
Anurag Kothari	TA	Progressive damage modeling of CFRP composite using a multiscale approach	Prof. Suhas Joshi	<a href="mailto:anuragkothari@iitb.ac.in">anuragkothari@iitb.ac.in</a> 6398085750
Ashwin U. Bhale	TA	Simulations of heat transfer, material flow, and residual stresses during non-uniform deformation of steels	Prof. Shyamprasad karagdde	<a href="mailto:193100073@iitb.ac.in">193100073@iitb.ac.in</a> 9766061114



Jainil Shah	TA	Ontological semantics in smart manufacturing	Prof. Asim Tewari	<a href="mailto:shahjainil2406@iitb.ac.in">shahjainil2406@iitb.ac.in</a> 9324571725
Prajual Pillai	TA	Physics-based reliability model	Prof. Makarand S Kulkarni	<a href="mailto:prajual_pillai@gmail.com">prajual_pillai@gmail.com</a> 9415008195
Rahul Dalal	TA	Process Optimization of Ice Investment Casting	Prof. K. P. Karunakaran	<a href="mailto:193100077@gmail.com">193100077@gmail.com</a> 9650239047
Rahul Pandey	TA	Low-cost medical device innovation	Prof.B. Ravi	<a href="mailto:193100074@iitb.ac.in">193100074@iitb.ac.in</a> 9540931177
Ruhikesh Laxman Khandizod	TA	Electrical Discharge-assisted Surface nano-texturing	Prof. Soham Mujumdar	<a href="mailto:193100082@iitb.ac.in">193100082@iitb.ac.in</a> 9096373909
Saurabh Mandaokar	TA	Smart machines	prof. Makarand Kulkarni	<a href="mailto:saurabhmandaokar@iitb.ac.in">saurabhmandaokar@iitb.ac.in</a> 8554868418
Shingare Prashant Parappa	TA	Design of dielectrics for electrical discharge machining	Prof. Soham Mujumdar	<a href="mailto:193100070@iitb.ac.in">193100070@iitb.ac.in</a> 9823377523
Shubham bhangale	TA.	Low cycle high-temperature fatigue analysis on aerospace material	Prof. Sushil Mishra	<a href="mailto:shubhbhangale@iitb.ac.in">shubhbhangale@iitb.ac.in</a> 8682038790
Sourabh Kant Dash	TA	Laser bone surgery	Prof. Deepak Marla	<a href="mailto:s.kantdash@iitb.ac.in">s.kantdash@iitb.ac.in</a> 8249397409



Sudip Walter Thomas	TA	Development of word vector embedding maps for manufacturing research	Prof. Asim Tewari	<a href="mailto:193100063@iitb.ac.in">193100063@iitb.ac.in</a> 8972803425
Vivek Revi	TA	Machine Learning for Material Design	Prof. Alankar Alankar	<a href="mailto:vivek.revi94@iitb.ac.in">vivek.revi94@iitb.ac.in</a> 9496862796
Yogesh Kumar Chaurasia	TA	Friction stir welding of dissimilar materials	Prof. Amber Srivastava	<a href="mailto:yogi.hope@iitb.ac.in">yogi.hope@iitb.ac.in</a> 7053591891
Zeba Malik	TA	Laser-assisted damage machining of furtree profiles on turbine blades (Inconel 718 alloy)	Prof. S. S. Joshi	<a href="mailto:zebamalik@iitb.ac.in">zebamalik@iitb.ac.in</a> 8171661586
Supriyo Roy	RA	Simulation of the additive manufacturing melt pool.	Prof. Shyamprasad Karagadde	<a href="mailto:193109013@iitb.ac.in">193109013@iitb.ac.in</a> 9002621145
Arun Jha	RA	Energy-efficient Jaggery maker	Prof. Milind Rane	<a href="mailto:jhaarun.aj@iitb.ac.in">jhaarun.aj@iitb.ac.in</a> 9619421748



## **Department Council PG Representative**

The department council is a student association who is responsible for fostering and developing all academic as well as non-academic student activities of the department. They are responsible for increasing the social interaction between the faculties and students as well as among the students of different batches. The Department council PG representative comprises PG Nominee Academic Affairs, PG sports nominee & PG cultural nominee who coordinate with Department general secretary to organize various academic & non-academic events for postgraduate students.



**Rucha Desai**

**General Secretary**

Contact No: 9426806679, 9082405480

What's App No: 9426806679

Email id: [gsec.me@gmail.com](mailto:gsec.me@gmail.com)



**Manthan Dhisale**

**P.G. Nominee**

**Academic Affairs**

Contact No: 9145052338

What's App No: 9145052338

[dhisalemanthan916@gmail.com](mailto:dhisalemanthan916@gmail.com)



**Chinmay Gandhshreewar**

**P.G. Nominee**

**Sports**

Contact No: 8329545681

What's App No: 8329545681

[cgandhshreewar@gmail.com](mailto:cgandhshreewar@gmail.com)



**Anish Thakur**

**P.G. Nominee**

**Cultural**

Contact No: 7973490013

What's App No: 7973490013

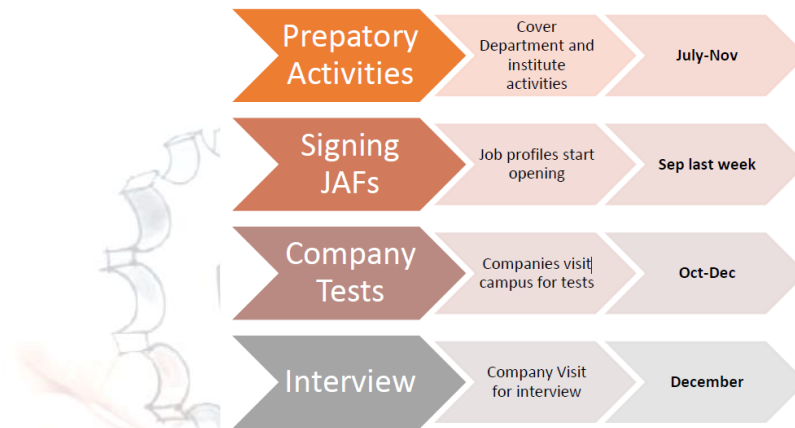
[193100046@iitb.ac.in](mailto:193100046@iitb.ac.in)



## Placement Cell

We present to all of you a very warm welcome to the Mechanical Department on behalf of the Placement team. Full effort is made to train the students for working in the sector where they prefer to do. Matching of minds to aspire in life begins from here. Various department and institute level activities are carried to build technical, interpersonal skills, which shifts mind space from students to working professionals.

### Placement Timeline:



### Previous years MTech Mechanical Statistics:

Year	Participated	Placed	% Placed
2019-2020	71	60	84.50
2018-2019	49	38	77.55
2017-2018	58	56	96.55

### Placement team for the year 2020-21:



**Sudip Walter Thomas**

**D.P.C. (T.A)**



**Vaibhav Jaiswal**

**D.P.C. (R.A)**



**Jainil Shah**

**C.C.**



**Prajwal Pillai**

**C.C.**

**D.P.C : Department Placement Coordinator**

**C.C : Company Coordinator**

## **Mechanical in Sports & Cultural**

Being the best institute in India, our campus is enriched with the best of sports facilities. The Department not only stands out in research but also in sports. Our Department is full of sports enthusiasts. We were on 3<sup>rd</sup> position overall, & 1<sup>st</sup> position among boys out of 21 departments in PGGC. On the other hand, we organize events such as the Faculty Vs PG cricket match where PG students & department faculty get once in a year the opportunity to play together under the same roof. Kurta day where faculties & students showcase their hidden talent in activities such as dancing, singing, mimic, etc. Through these competitions, we aim to promote interaction among faculty members and students to reduce the communication gap. IITB also organizes camps for beginners where your interest is the only prerequisite. So, you are always welcome to pursue the sport, and you always wanted to give a try.

### **Achievements in Sports**

#### **Gold Medals**

##### **KHO-KHO (Boys)**

Divyaj Shah | Parth Parmar | Vishal Mahale

Rohan Chavan | Keyur Borad | Prakash Suthar

Rohtash Beniwal | Ammar | Kuljeet Singh

Aniket Adsule | Shani Saha | Navneetha



##### **Football (Boys)**

Saptarshi Jana | Nishit Sen

Aakash Chiwal | Jnana | Ram More

Kuljeet Singh | Kunwar | Ajay Raj

Abhijeet Bhardwaj | John



### ❖ Basket Ball (Boys)

Pratik Marvar | Ajay raj | Shubhanshu  
| Anirudhh | Gaurav Shrivastava | Jnana  
| Nishith sen | Kuljeet Singh | Mandeep



### Bronze Medals



### Badminton (Boys)

Shantanu | Saurabh Dash  
Himanshul | Alwin

### Chess (Boys)

Neel Kamal Gupta | Amey Suryawanshi  
Yash Shinde | Shani Saha | Pratik Dangar



### Badminton (Girls)

Shaily bansal | Lavanya | Apakrita Tayade

## **Achievements in Cultural :**



### **Arcade Mania, Fashion Show**

Yash Shinde  
Winner



### **Colours of Life**

### **PG Cult Photography Competition**

Vivek P. Revi, Winner



### **Classical & Folk Dance Competition**

Apakrita Tayade  
Runner-up



### **Annual Insync Dance Show**

**AIDS 2020**

Jainil Shah | Saurabh Mandaokar

Participants



## **To Help Us All**

### **❖ Student Wellness Centre ( <http://www.iitb.ac.in/swc/en> )**

After securing admission at the Institute and starting your stay here, you may feel that a lot of parameters around you are different. You would have more responsibilities to handle at the hostel and at the academic level. Take heart, you will not be the only one. There are a few issues that almost everyone in the Institute faces initially like academic concerns, social (family and peer) pressure etc, leading to feelings of loneliness, low confidence, anxiety, stress, anger and sadness, to name a few.

To help you refrain from losing focus and being unhappy, the counsellors of SWC encourage you to approach them for any problem that you are facing- be it academic, emotional, social or financial without hesitation.

Counselling provides an opportunity for individuals to learn to make better choices, improve interpersonal skills, develop confidence and increase educational effectiveness. In a one-on-one meeting with a counsellor, students are helped to explore and express feelings, examine beliefs and ways of thinking about their present situation, reflect on patterns of behaviour, and work toward making healthier and happier changes.

As Covid forced us to be physical separated and make everything uncertain in the near future, it is understandable for anyone to be feeling stressed. SWC is always there to hear from you.

### **❖ Gender Cell ( <http://www.gendercell.iitb.ac.in/> )**

IIT Bombay's Women's Cell has been in existence since 2002. With the enactment of the Institute's policy on sexual harassment, the Cell has been renamed the Gender Cell (GC). In recognition of the Institute's belief that its employees and students have a right to be treated with dignity and respect, the Cell works proactively towards developing a safe and secure environment for employees, and to ensure that all students may gain their education without fear of prejudice, gender bias, hostility or sexual harassment.



## **Important Information You Should Know**

**1. LDAP ID:** It is the unique identification of each individual in IIT Bombay. By default, the LDAP ID assigned to you will be your roll number, and the associated password will be generated after you have come to the institute, and the requisite registration processes are completed.

**2. Moodle:** It is the website which provides for academic interactions between faculty and students in IIT Bombay. From Moodle, you can download all the course materials uploaded by the Course Instructor for the course you have registered for and also interact with the faculty, and it is a forum for academic discussions. **Link:** <http://moodle.iitb.ac.in>

**3. Webmail:** This is your personalized email in IIT B. You will get your Id when you get enrolled in IITB. **Link:** <https://webmail.iitb.ac.in>

**4. ASC:** This is the leading website for all your administrative needs. You can pay your fees, register for courses, check syllabi of various courses, and also check your academic performance and many other things. **Link:** <http://asc.iitb.ac.in>

**5. Leave -** A total of 30 days of casual leave will be available for the entire course duration. Leave can be applied in mechanical engineering leave access system. Permission of the guide is required for the leave approval. <https://www.me.iitb.ac.in/~mefac/>.

**6. Computer Center-** Computer center manages all the network activity within the Institute. It also provides licensed software required in academics <https://www.cc.iitb.ac.in/>

**7. Central Library –** Central library website provide a search engine for the books available in the library. <https://opac.library.iitb.ac.in/>

**8. Application Software Centre (ASC) -** ASC is the first interactive website for all the administrative requirements of a student. It includes payment of fees, registration, and deregistration from courses, checking grades awarded in subjects, brief contents of all the subjects being offered, timetable, and a lot more information. For more information, please visit <https://asc.iitb.ac.in/>



## **Useful Links**

**ISCP:** <https://gymkhana.iitb.ac.in/~scp/scp/index.html>

**Students activities - :** <https://gymkhana.iitb.ac.in/>

**Hostel affairs:** <https://gymkhana.iitb.ac.in/hostels/>

**Cultural:** [https://gymkhana.iitb.ac.in/~cultural/web/login\\_form.php](https://gymkhana.iitb.ac.in/~cultural/web/login_form.php)

**Sarc:** <https://sarc-iitb.org/>

**CDEEP (Centre For Distance Engineering Education Programme):**  
<http://www.cdeep.iitb.ac.in/index.php>

**IITBombayx:** <https://www.iitbombayx.in/about>

**Gendercell IITB:** <http://www.gendercell.iitb.ac.in/>

**Ph.D. and M.Tech Thesis Abstract:**  
[http://etd.library.iitb.ac.in/etd/Etd\\_View.jsp](http://etd.library.iitb.ac.in/etd/Etd_View.jsp)

**Placement Blog:** <http://placements.iitb.ac.in/blog/>

# Mechanical Engineering



## **Some Useful Apps**

### **1) InstiApp:**

InstiApp is an Android App that helps you navigate through the IIT Bombay Campus. It is a one-stop solution for all the queries above and beyond. An app of the insti, for the insti, and by the insti, it connects all the aspects of one's insti life, weaving around hostels, academics, co-curricular activities, and recreation.

[https://play.google.com/store/apps/details?id=app.insti&hl=en\\_IN](https://play.google.com/store/apps/details?id=app.insti&hl=en_IN)

### **2) Instimap:**

InstiMap is a searchable map of the campus, specially designed for first-time visitors and new entrants, to find their way around IIT Bombay with ease. It is available on instiApp - an Android App that helps you navigate through the various events on IIT Bombay Campus. It is available at <https://insti.app/map>

### **3) m-Indicator:**

This app contains the Local Train Timings of Mumbai and also details the local train routes for IIT Bombay. One can also find the various bus routes and the bus numbers on this app.

<https://play.google.com/store/apps/details?id=com.mobond.mindicator>

### **4) OpenVPN Connect App:**

OpenVPN Connect is the official VPN application for Android developed by OpenVPN, Inc. It is a universal client serving the following OpenVPN products:

⇒ Access Server – server solution for businesses

⇒ OpenVPN Compatible Server – solution for self-hosted servers

It can be used for connecting with IITB Internal sites using a VPN.

[https://play.google.com/store/apps/details?id=net.openvpn.openvpn&hl=en\\_IN](https://play.google.com/store/apps/details?id=net.openvpn.openvpn&hl=en_IN)

### **5) MYBYK App:**

Whether you want to ride a cycle at home or use it to commute within your campus, whenever you need a cycle, find an MYBYK near you. Unlock using your smartphone and pedal your way to a healthy life.

<https://play.google.com/store/apps/details?id=in.greenpedia.mybyk>



6) **SHIRU CAFÉ:**

Order your free drink in the app. Simply launch the app and tap the drink you would like to order.

<https://play.google.com/store/apps/details?id=jp.co.enrission.shirucafe>

7) **Aarogya Setu:**

Aarogya Setu is a mobile application developed by the Government of India to connect essential health services with the people of India in our combined fight against COVID-19. The App is aimed at augmenting the initiatives of the Government of India, particularly the Department of Health, in proactively reaching out to and informing the users of the app regarding risks, best practices, and relevant advisories about the containment of COVID-19.

<https://play.google.com/store/apps/details?id=nic.goi.aarogyasetu>



**Mechanical Engineering**



## **A reminder of things before coming to IIT Bombay**

**1. The following documents are necessary for the completion of the admission process:**

- 1) Gate Score Card
- 2) 10th and 12th mark sheet
- 3) Semester wise grade sheet or mark-sheet / Final transcript
- 4) Provisional Degree Certificate / Degree Certificate
- 5) Migration / Transfer Certificate
- 6) Passport size photograph (at least 12).
- 7) ID and Address proof (PAN card, Driving License, Passport, Voter ID)
- 8) Category Certificate (if applicable)
- 9) Also, bring at least two photocopied of each of the documents and bring at least 12 copies of your passport size photograph.

**Note: Moreover, if you are unable to produce the final transcripts, you can submit them till September by producing an undertaking.**

**2.** Make your luggage light. The campus has a variety of shops (like Y-point or IIT Market) where you can purchase all the basic required things. Each hostel has a general store for other essentials. There are couples of supermarkets (D-Mart, Haiko) within 1 km from the main gate. Try to avoid bringing things like mattress, pillow, buckets, etc. small shops with these things will be put up on the campus itself during a few initial days. Bed dimensions are 6ft \* 3ft. So, you can bring bed sheets accordingly. Otherwise, you can buy it here, and it is readily available.

**3.** You can come to IITB at any time. The main gate will remain open 24\*7. But try to avoid late night arrivals as you may find it difficult to reach IITB as at that time autorickshaw or cab facilities will not be frequently available. New comers while coming to IITB, show the security staffs the intimation mail or screenshot or print out of the same.



## **Reaching IIT Bombay**

IIT Bombay is located at Powai, which is in the North-Eastern part of Mumbai. One can travel by auto-rickshaws or taxis to reach IIT from the nearest stations. The nearest stations for Central Railway are Kanjur Marg or Vikhroli. The nearest station for Western Railway is Andheri. International flights land at Sahar Airport which is about 7kms from IIT. The Domestic Airport Santa Cruz is about 11kms from IIT Bombay, and autorickshaws/prepaid cabs are readily available from there for IIT.

### **From the Airport:**

Those traveling by air can take **taxis/auto-rickshaws** from the domestic **(40-60 min travel time)/international (20-40 min travel time)** airport to reach IIT Bombay.

### **From Central Railway:**

Suppose traveling by the central railway line [**with tickets to Kalyan/Thane/Kurla/Dadar/CST**], get down at **Kalyan/Thane/Dadar** and take a local train to **Kanjur Marg/Vikhroli**, which are **the nearest stations to IIT Bombay**. Come out through the western-side gate and **take a bus or auto-rickshaw to IIT main gate**.

### **From Western Railway:**

If you are coming by the western railway line, **get down, preferably at Borivali/Bandra/Andheri**. From **Bandra (local railway station)** west, you can take the **422 bus** to IIT Bombay's main gate. From **Borivali East and Andheri East**, several buses come to the **IIT main gate**. Alternatively, you can take a **three-wheeler or taxi** from these stations. If you get down at **Mumbai Central**, then travel in a reverse direction to **Dadar (Western Railway)**. From **Dadar Western Railway**, you will have to change to **Dadar Central Railway**. To reach IIT Bombay from **Dadar Central Railway**, follow the instructions given under **Central Railway**.

### **Reaching IIT Bombay Guest House (Van Vihar/Jal Vihar):**

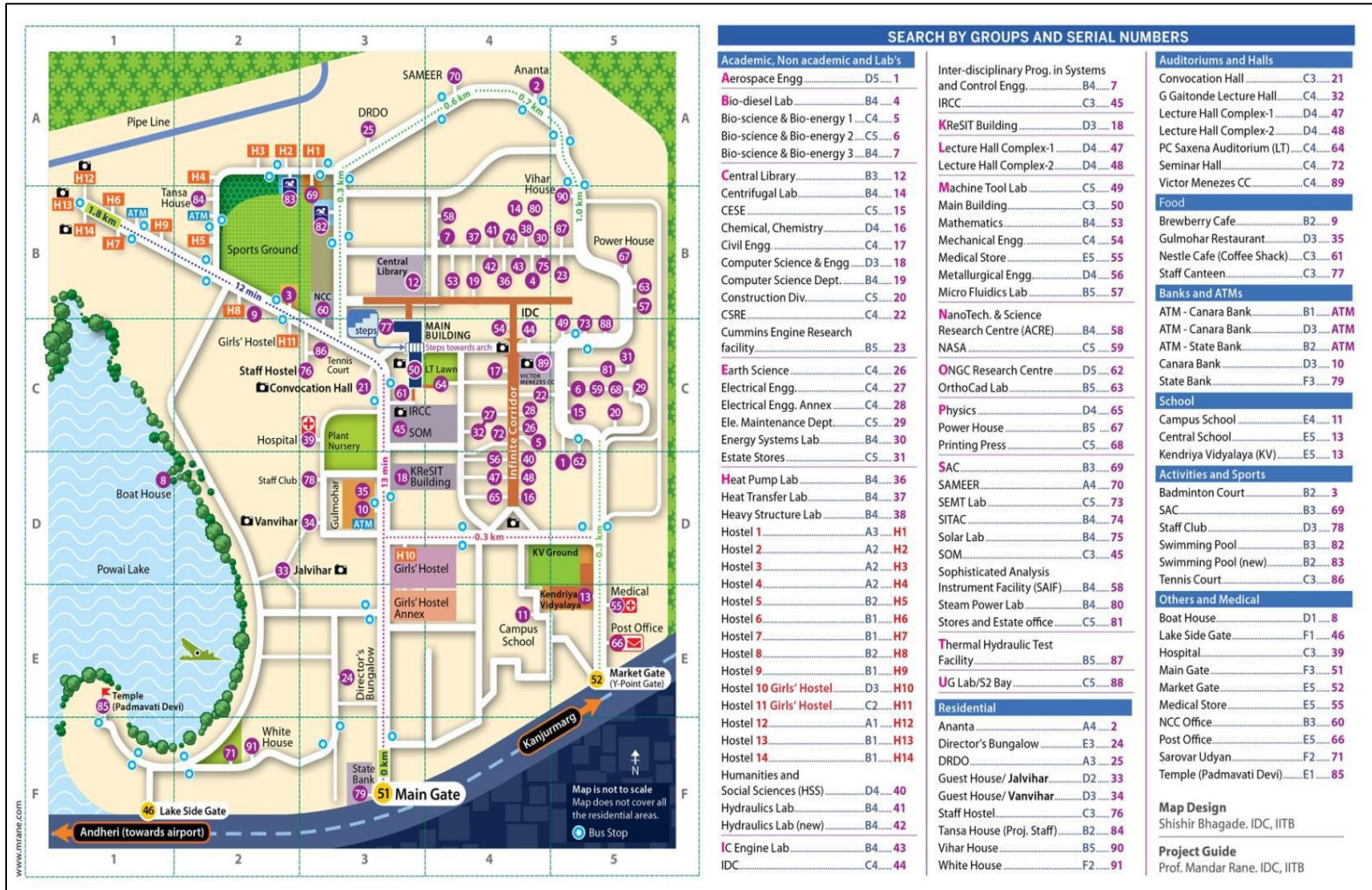
There are **three gates to IIT Bombay**. It is advised to enter through **the main gate**. If you are coming by an **auto-rickshaw/taxi**, enquire from



the security at the main gate for the directions to IIT B Guest House (Van Vihar/Jal Vihar Guest House).

### Reaching IIT B Hostels:

There are **three gates** to IIT Bombay. It is advised to enter through the main gate. If you are coming by an auto-rickshaw/taxi, enquire from the security at the main gate for the direction.



Link to this map:

[http://www.iitb.ac.in/sites/default/files/article/images/IITB-Map---2D\\_ENG-PRINT.jpg](http://www.iitb.ac.in/sites/default/files/article/images/IITB-Map---2D_ENG-PRINT.jpg)



## Department ISCP Team

### Department Coordinators

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**Feel Free to Contact Anytime !!!**



## Your Seniors

Design



Thermal &  
Fluid



Mechanical Engineering

Manufacturing



A background image showing a hand holding a large gear, with several other gears of different sizes floating around it, creating a mechanical theme.

**WELCOME TO THE FAMILY!**

**Mechanical Engineering**