Department of Mechanical Engineering

Indian Institute of Technology Indore

Khandwa Road, Simrol Indore 453 552

Madhya Pradesh, India

Ph.D. Program in Department of Mechanical Engineering

The Department of Mechanical Engineering, IIT Indore invites applications from high caliber, sincere and research-oriented students for admission to the Ph.D. Program under the Fellowship Awardee (FA) Category only. Fellowship awardees are those students who have received a formal fellowship award letter from funding agencies such as CSIR, UGC, NBHM, DST-INSPIRE or Sponsored Project etc., for pursuing PhD in the institute of higher education in India.

Eligible FA category candidates are strongly advised to visit the website of the faculty members at http://people.iiti.ac.in/~meiiti/index.php/about/ before applying for the Ph.D Program.

Students who do not have any formal fellowship award letter from any funding agencies or projects mentioned above and are looking for Teaching Assistantship (TA) from the institute need not apply.

For more details, refer to the main Ph.D. Advertisement of the Institute available at http://academic.iiti.ac.in/phdadvt.php

A. Eligibility for Indian Students:

Minimum Educational Qualifications (MEQs) and Qualifying Examination (QE) for Indian applicants	Minimum Educational Qualifications (MEQs) and Qualifying Examination (QE) for International applicants
B. Tech. in Mechanical Engineering, Metallurgy, Automobile Engg; Marine Engineering; Ceramic Engineering; Materials Engineering, Manufacturing Engineering, Industrial Engineering, Reliability Engineering Production Engineering, Materials Science Engineering, Aerospace Engineering, Chemical Engineering, Biotechnology, Bioengineering, Biomedical Engineering or any other related field of Engineering	**MEQ:** Masters' degree in the **Mechanical Engineering** (with first division as defined by the awarding Institute/ University) **QE:** Valid TOEFL/IELTS OR equivalent qualification **OR**

and **Masters' degree** in the Mechanical Engineering/ Technology/ Metallurgy Engineering/ Energy Systems Engineering; Energy and Environment; Energy Engineering; Automobile Engineering; Thermal Engineering; Heat Power; Energy Materials, Fluids & Thermal Engineering, Cryogenics & Vacuum Technology, Hydraulic Engineering, Material Science and Engineering, Manufacturing Engineering, Industrial Engineering, Production Engineering, Reliability Engineering, Machine Design, Biotechnology, Bioengineering, Biomedical Engineering. CAD/CAM with first division as defined by the awarding Institute/ University) or other related fields of engineering and GATE qualification OR Four-year Bachelors' degree **OR** five-year integrated degree in the **Mechanical Engineering** (with first division as defined by the awarding Institute/ University) **AND** valid GATE qualification	Valid GATE qualification

B. Eligibility for International Students: Please refer to the main Ph.D. Advertisement of the Institute (http://academic.iiti.ac.in/phdadvt.php)

After submitting the application online, the eligible International candidate needs to send the signed hard and soft - copy of the application along with a recent photograph, self-attested relevant certificates and Statement of Purpose (SOP) to the DPGC Convener of ME Department latest by 23 August, 2022.

C. Last date of online application (for Indian as well as International Students)**:** 23 August, 2022

Last date of Online Application through http://academic.iiti.ac.in:8080/nregistration.jsp (for both Indian and International Applicants)	23 August 2022.
Shortlisted candidate intimated	Last week of August 2022
Last date of receiving recommendations of two referees (to be sent by referees to admission-me@iiti.ac.in) (for both Indian and International Applicants)	22 August 2022
Date of Interview (both Indian and International Applicants)	Last week of August 2022
Interview Schedule & Mode	
Interviews for the Ph.D. admission would be conducted in the Last week of August, 2022 through the Google Meet platform or offline. A detailed schedule regarding the interview will	

be intimated to the eligible/shortlisted candidates later.

D. Application Procedure and General Information for Indian Students:

[1] Candidates must apply ONLINE through the website (http://academic.iiti.ac.in:8080/nregistration.jsp). This will generate a unique application number for each applicant.

[2] Application Fee:

- Indian Applicants: 100/- Indian Rupees (non-refundable) to be paid through State Bank Collect.
- International Applicants: US $ 30 (non-refundable) through RTGS. Kindly refer to the main Ph.D. Advertisement of the Institute at http://academic.iiti.ac.in/phdadvt.php for more details about the payment procedure and course fee structure.

Please refer to the main Ph.D. Advertisement of the Institute for more details.

[3] The application must be submitted online on or before the date mentioned above.

[4] There is no need to send hard copies of the application form and supporting documents through POST or COURIER.

[5] The shortlisted applicants will be called for a written test/interview via email only so mention your email id carefully.

[6] The candidates must arrange recommendation letters (in the given format only) at least two referees well before appearing for a written test/interview. A recommendation letter sample is provided in Word format, which can be downloaded for further use. Candidate letters of recommendation must be sent by referees to admission-me@iiti.ac.in.

[7] The candidates must submit a statement of purpose explaining why they would like to pursue the Ph.D. in the specific area (200 to 300 words) well before appearing for a written test/interview.

[8] Candidates should submit a signed single PDF of scanned copies of the fee payment receipt and self-attested copies of supporting documents (10th marksheet, 12th marksheet, B.Tech degree mark sheets and certificate, GATE score card, Master's degree mark sheets and certificate, Caste Certificate, if applicable and all other relevant certificates) in the mentioned order (all combined into a single PDF file) to https://docs.google.com/forms/d/e/1FAIpQLSekuRqn50PW6yRC1iKmhE9XU_OEFX7peHkYlED-2BMiOhVGeA/viewform?usp=sf_link within the online application deadline.

[9] Candidates should submit single PDF having letter of the fellowship award (i.e. from CSIR, UGC, DST, PMRF, etc.) along with the application form generated after applying online (form should be signed and past the photograph) to https://docs.google.com/forms/d/e/1FAIpQLSekuRqn50PW6yRC1iKmhE9XU_OEFX7peHkYlED-2BMiOhVGeA/viewform?usp=sf_link within the online application deadline.

[10] No interim correspondence whatsoever will be entertained from applicants regarding conduct and result of the selection process and reasons for not being called for interview or selection.

[11] Mere fulfillment of the essential qualifications does not guarantee admission to PhD program in the Department of Mechanical Engineering. The selection will be based on the overall performance, including a written test, interview, academic background, suitability for research in the chosen field/area, research aptitude, communication skills, and others.

The candidates can contact the DPGC convener for further information at the following address:

admission-me@iiti.ac.in.

For any further queries, please contact	For queries specific to the Department, emails

Ph.D. Admission Cell, Indian Institute of Technology Indore, Indore-453552, Indore, Madhya Pradesh, India. Email: phdadmission@iiti.ac.in	can be sent to admission-me@iiti.ac.in

Annexure

Vacancies are available in the following areas:

Sr. No.	Specialization	Research Areas
1	**Design Engineering** **(Dr. Krishna Mohan Kumar)**	● Acoustics of Ducts and Mufflers ● Industrial and Automotive Noise Control ● Automotive Noise Control ● Designing for Quietness
2	**Design Engineering** **(Dr. Indrasen Singh)** **Fund Source:** Funded by ARDE (DRDO) Project No. ARDE/23CR0001/AMMNLS/ARD/-1429/CMS-III	● Experimental and Numerical Investigation of suitability of driving band made of material other than Gilding metal.
3	**Design Engineering** **(Dr. Shailesh Kundalwal)**	● Modeling of Hydrogen Storage ● Composite Materials and Structures ● Nanomechanics & Micromechanics
4	**Design Engineering** **(Dr. Sandeep Singh)** **Fund Source:** Sponsored Project	● Solid mechanics and design ● Finite element method ● Computational mechanics ● Computational material science ● Multiscale modelling of nanomaterials ● Atomistic simulation ● Finite element modelling of nanostructures
5	**Design Engineering** **(Dr. Pavan Kumar Kankar)**	● Vibration ● Vibration and force analysis in biomechanical preparation of root canals ● Fault diagnosis of mechanical components ● Condition based maintenance

		● Machine learning ● Signal processing
6	**Production/Manufacturing/Materials/Metallurgy** **(Prof. Suhas S. Joshi)**	● Modeling machining of 'difficult-to-machine' materials (MMCs, Inconel, Titanium) ● Modeling and development of micro-machining processes. ● Laser micro-machining, LIGA and Nano-polishing
7.	**Production/Manufacturing/Materials/Metallurgy** **(Prof. I. A. Palani)**	● Laser Based Micro/Nano Additive manufacturing and surface processing ● Mechatronics system Design Machining of Hard and High temperature materials
8	**Production/Manufacturing/Materials/Metallurgy** **(Dr. Kazi Sabiruddin)**	● Surface Engineering ● Thermally sprayed ceramic coatings ● Tribo-mechanical applications
9	**Production/Manufacturing/Materials** **(Dr. Yuvraj Kumar Madhukar)**	● Additive Manufacturing ● WAAM-MIG, MAAM-TIG, LASER-AM ● Automation and control ● Laser Material Processing
10	**Manufacturing Engineering** **(Dr. Ashish Rajak)**	● Metal Forming ● Metal Welding ● Finite Element Method ● Powder Compaction
11	**Manufacturing Engineering** **(Dr. Girish Verma)**	● Machining processes ● Abrasive based super-finishing processes ● Ultrasonic-assisted machining process ● Additive manufacturing.
12	**Manufacturing Engineering** **(Prof. Neelesh Kumar Jain)**	● Micro-plasma Based Additive Manufacturing of High Melting Point Materials ● Development of *advanced materials*

		such as Biomaterials, Shape Memory materials, Functionally Graded Materials, High and Medium Entropy alloys by Additive Manufacturing ● Advanced Machining and Finishing Processes ● Modeling and Simulation of Manufacturing Processes ● Near net-shape manufacturing of Miniature and Non-circular Gears ● Green Machining
13	**Manufacturing/CAD/CAM/Metallurgy/Production** **(Dr. Dan Sathiaraj)**	● High Entropy Alloy ● Additive manufacturing
14	**Industrial and Systems Engineering** **(Prof. Bhupesh Kumar Lad)**	● Smart manufacturing, ● Reliability engineering, and prognostics
15	**Thermal Engineering** **(Dr. Harekrishna Yadav)**	● Fluid Dynamics and Heat Transfer ● Fluid-Structure Interaction ● Shear Flow, Supersonic Flow, Flow and Turbulence Measurement using Optical Techniques ● Heat Transfer Enhancement ● Renewable and Sustainable Energy.
16	**Thermal and Materials Engineering** **(Dr. Satyanarayan Patel)**	● Energy conversion, storage and harvesting materials ● Solid-State Refrigeration ● Piezoelectric, Pyroelectric and ferroelectric materials ● Energy Engineering
17	**Thermal Engineering** **(Dr. Ankur Miglani)**	● Combustion and Propulsion: Combustion of next-generation fuels (Gel and nanofluid fuels); ● Heat Transfer, micro/nanofluidics: Thermal management of high-heat-flux electronics;

		● Soft matter: Instabilities in drying colloidal droplets
18	**Thermal Engineering** **(Prof. Santosh Kumar Sahu)**	● Fluid Dynamics ● Heat Transfer ● Thermal Science
19	**Thermal Engineering** **(Prof. Shanmugam Dhinakaran)** **Fund Source:** SERB Project	● CFD ● Biofluid Mechanics & Bioheat Transfer ● Biomedical Engineering/Biotechnology
20	**Thermal and Materials Engineering** **(Dr. S Janakiraman)**	● Energy Storage Materials, ● Lithium & Sodium-ion Batteries, ● Polymer Electrolytes, Composites, & Thin Film Batteries.
21	**Thermal Engineering** **(Prof. Ritunesh Kumar)**	● Desiccant Cooling systems. ● Heat transfer at microscale ● Biofuels
22	**Thermal Engineering** **(Dr. Devendra L Deshmukh)**	● Laser diagnostics in combustion and multiphase flows.

Faculty members and their research profiles: To gain more insight, interested applicants are encouraged to visit faculty members' profiles.

Dr. Krishna Mohan Kumar: https://scholar.google.co.in/citations?user=Fq0imOkAAAAJ&hl=en

Dr. Indrasen Singh: http://people.iiti.ac.in/~meiiti/index.php/dr-indrasen-singh/

Dr. Pavan Kumar Kankar: https://scholar.google.co.in/citations?hl=en&user=eN63O5AAAAAJ

Prof. Suhas S. Joshi: https://scholar.google.co.in/citations?user=9QQ4-RIAAAAJ&hl=en

Prof. I. A. Palani: http://mechatronicsiiti.webs.com/

Dr. Shailesh I. Kundalwal: https://www.sikundalwal.com/.

Dr. Sandeep Singh: https://scholar.google.co.in/citations?user=nhQER2YAAAAJ&hl=en

Dr. Kazi Sabiruddin: https://www.iiti.ac.in/people/~skazi/index.html

Dr. Yuvraj Kumar Madhukar: http://people.iiti.ac.in/~meiiti/index.php/dr-yuvraj-kumar-madhukar/

Dr. Ashish Rajak: https://scholar.google.com/citations?user=eHnsIccAAAAJ&hl=en&oi=ao

Dr. Girish Verma: http://people.iiti.ac.in/~meiiti/index.php/dr-girish-chandra-verma-2/

Prof. Neelesh Kumar Jain: http://people.iiti.ac.in/~nkjain/

Dr. Dan Sathiaraj: https://sites.google.com/view/drdansathiaraj

Prof. Bhupesh Kumar Lad: http://bklad.webs.com/

Dr. Harekrishna Yadav: http://people.iiti.ac.in/~meiiti/index.php/dr-harekrishna-yadav-2/

Dr. Satyanarayan Patel: https://sites.google.com/view/satyanarayan-patel

Dr. Ankur Miglani: https://scholar.google.co.in/citations?user=6ABZdEoAAAAJ&hl=en

Prof. Santosh K. Sahu: http://people.iiti.ac.in/~santosh/

Prof. Dhinakaran Shanmugam: http://people.iiti.ac.in/~sdhina

Dr. S Janakiraman: https://scholar.google.co.in/citations?user=kL1lz88AAAAJ&hl=en

Dr. Devendra L Deshmukh:https://scholar.google.co.in/citations?user=KJsV7yQAAAAJ&hl=en