

Advertisement for Admission to Ph.D. Programme
Department of Astronomy, Astrophysics and Space Engineering
Indian Institute of Technology Indore, Simrol Campus, Khandwa Road, Indore – 453552

Ph.D. Admissions/2024/ August

Applications are invited from highly motivated and research-oriented candidates for admission to Ph.D. Program in the **Department of Astronomy, Astrophysics and Space Engineering (DAASE), IIT Indore.**

Applications are invited only for **FA categories** in this round.

Who is a FA candidate:

1. Fellowship Awardees from the funding agencies such as CSIR, UGC, NBHM, DST etc., OR
2. JRF/ SRF project staff with valid GATE score/UGC NET-LS awardee working in a sponsored research project under a faculty member, PI of the project, of IIT Indore

Masters' degree in the **relevant Department of Engineering/ Technology** (with first division as defined by the awarding Institute/ University) **AND** GATE qualification,

OR Four-year Bachelors' degree **OR** five-year integrated degree in the **relevant**

Department of engineering (with first division as defined by the awarding Institute/ University) **AND** valid GATE qualification,

OR

Masters' degree in the **relevant Department of Science** (with first division as defined by the awarding Institute/ University) **AND** valid GATE qualification **OR** UGC/CSIR-JRF qualification **OR** Equivalent Fellowship.

OR Masters' degree in the relevant Department of Science (with first division as defined by the awarding Institute/ University) with UGC-NET (Lecturership) **AND** valid GATE qualification

INSPIRE fellowship awardee with valid GATE score/UGC NET-LS awardee.
The scholarship will be as per the rules of the concerned funding agency

Application Procedure: Kindly refer to the main Ph.D. Advertisement of the Institute available <https://academic.iiti.ac.in/phdadvt.php>.

- **Online Application Form (Compulsory):** Candidates **MUST** apply **ONLINE** through the portal: <https://academic.iiti.ac.in:8443/nregistration.jsp> Incomplete or improperly filled applications or lack of supporting documents (found in any stage) will not be considered for further processing.
- **Recommendation Letters (Compulsory):** The candidates should arrange to send **TWO** letters of recommendation (in the specified format available **in the application portal**) from the referees listed in the application form. These letters should be **sent** by the referees directly to the email ids: pc-phd-aase@iiti.ac.in and aase-office@iiti.ac.in before the application deadline. **Please make sure that one of the referees is a faculty/scientist from the last institution/university that you have attended. Please note your referees will not receive any automatic email notification for the recommendation letter.**
- **Application Fee:** Please refer to the main PhD Advertisement of the Institute available at <http://academic.iiti.ac.in/phdadvt.php>

Relevant Discipline: Physics, Applied Physics, Astronomy, Astrophysics, Space Science and Engineering, Mathematics, Applied Mathematics, Statistics, Applied Statistics, Earth and Atmospheric Science and Engineering, Remote Sensing, Software Engineering, Information

Technology, Data Science, Data Analytics, Engineering Physics, Aerospace Engineering, Aeronautics, Electronics and Communications Engineering, Electrical Engineering, Computer Science and Engineering, Civil Engineering, Mechanical Engineering, Metallurgy Engineering and Materials Science, Biophysics, Biotechnology, Bioinformatics, Chemistry, Chemical Engineering.

Research Areas

The Department of Astronomy, Astrophysics and Space Engineering (DAASE) at IIT Indore is a unique department among all IITs. It offers a dedicated platform to pursue research in astronomy, astrophysics and space science and engineering, and related areas. The DAASE is seeking applications for Ph.D. positions under the following four broad areas of research:

S.No	Area of Research	Topics
1.	Astronomy and Astrophysics	Observational and Computational Cosmology with Statistical Inference, Galaxy Clusters and Large Scale Structures, Galaxy Formation, Circum-Galactic Medium, CMB, Computational Astrophysics, Neutron Stars, Pulsars and Black Holes, Transients, Radio, X-ray and Gamma-ray Observations, Relativistic astrophysics, Accretion discs around compact objects, Cataclysmic variables, Galaxy and Interstellar Medium, MilkyWay Dynamics, Dark Matter, High Energy Astrophysics, Multi-messenger Astronomy, AI/ML Applications and Big Data Astronomy.
2.	Space Sciences and Engineering	Solar, Heliosphere and Ionosphere research, Space Weather, Satellite Based Navigation, Spacecraft & Payload Control, Satellite Communication and Payload Design, AI/ML Applications
3.	Earth and Atmospheric Sciences	Climate change, Atmosphere and Cloud Physics, Atmospheric Remote Sensing: Technologies and Applications, Radar Meteorology, Polar meteorology, Earth Observations: Multi Spectral, LIDAR and SAR, AI/ML applications.
4.	Instrumentation	Signal and Image Processing, Radio Astronomy Instrumentation and Space Payloads, Antenna Design, Simulation and Fabrication with ML applications. UAS sensors and Instrumentations, RADAR and SAR system.

Our faculty members are actively involved in the international mega-science project the **Square Kilometre Array (SKA)**, **PLUTO code**, **NavIC**, **SEAMS**, **AstroSat**, **Aditya-L1**, **NISAR**, **Indian Polar Research**, **Vera Rubin Observatory**, etc.

Our faculty members and students are also extensively using national/international facilities like the **uGMRT**, **VLA**, **MWA**, **IXPE**, **SWIFT**, **NuStar**, **FACT**, **MAGIC**, **NICER**, **XMM-Newton**,

Chandra, **Fermi**, **LOFAR**, **HCT**, **eROSITA**, **MACE**, **CONCERTO**, **CCAT-p** and **APEX**.

Applicants are strongly advised to visit the departmental website (<https://aase.iiti.ac.in/>), faculty (https://aase.iiti.ac.in/?page_id=17) and PhD student profiles (https://aase.iiti.ac.in/?page_id=21) and homepages of individual faculty members before applying for the Ph.D. programme:

- **Dr. Deepika Bollimpalli:** <https://anandadeepika28.wixsite.com/my-site>
- **Dr. Manoneeta Chakraborty:** <http://www.iiti.ac.in/people/~manoneeta/>
- **Dr. Saurabh Das:** <http://www.iiti.ac.in/people/~saurabh.das/>
- **Prof. Abhirup Datta:** <http://iiti.ac.in/people/~abhirup.datta/>
- **Dr. Prakash Gaikwad:**
https://scholar.google.com/citations?user=00RA_t8AAAAJ&hl=en
- **Dr. Soumavo Ghosh:** <https://sites.google.com/view/drsoumavoghosh>
- **Dr. Unmesh Khati:** <http://people.iiti.ac.in/~unmesh.khati>
- **Dr. Suman Majumdar:** <http://www.iiti.ac.in/people/~sumanm/>
- **Dr. Savyasachi Malu:** <https://www.linkedin.com/in/siddharthsavyasachimalu/>
- **Dr. Narendra Nath Patra:** <http://people.iiti.ac.in/~naren>
- **Dr. Amit Shukla:** <https://sites.google.com/iiti.ac.in/welcome/home>
- **Dr. Priyanka Singh:** <https://psingh220.github.io/pswebpage/home.html>
- **Dr. Bhargav Vaidya:** <http://www.iiti.ac.in/people/~bvaidya/>

For any queries please contact:

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