Centre for Atmospheric Sciences

IIT Delhi

2025 - 26

About IIT Delhi

Indian Institute of Technology Delhi is one of the 23 IITs created to be Centres of Excellence for training, research and development in India's science, engineering and technology.

Established as the College of Engineering in 1961, the Institute has later declared an Institution of National Importance under the "Institutes of Technology (Amendment) Act, 1963" and was renamed "Indian Institute of Technology Delhi". It was then accorded the status of a Deemed University with powers to decide its academic policy, conduct its own examinations, and award its degrees.

Since its inception, over 48000 have graduated from IIT Delhi in various disciplines, including Design, Engineering, Physical Sciences, Management and Humanities & Social Sciences. Of these, nearly 5070 received PhD degrees. The number of students who graduated with a B.Tech. degree is over 15738. The rest obtained Master's Degrees in Engineering, Sciences and Business Administration.

These alumni today work as scientists, technologists, business managers and entrepreneurs. Several alumni have moved away from their original disciplines and have taken to administrative services, active politics or are with NGOs. In doing so, they have contributed significantly to building of this nation.
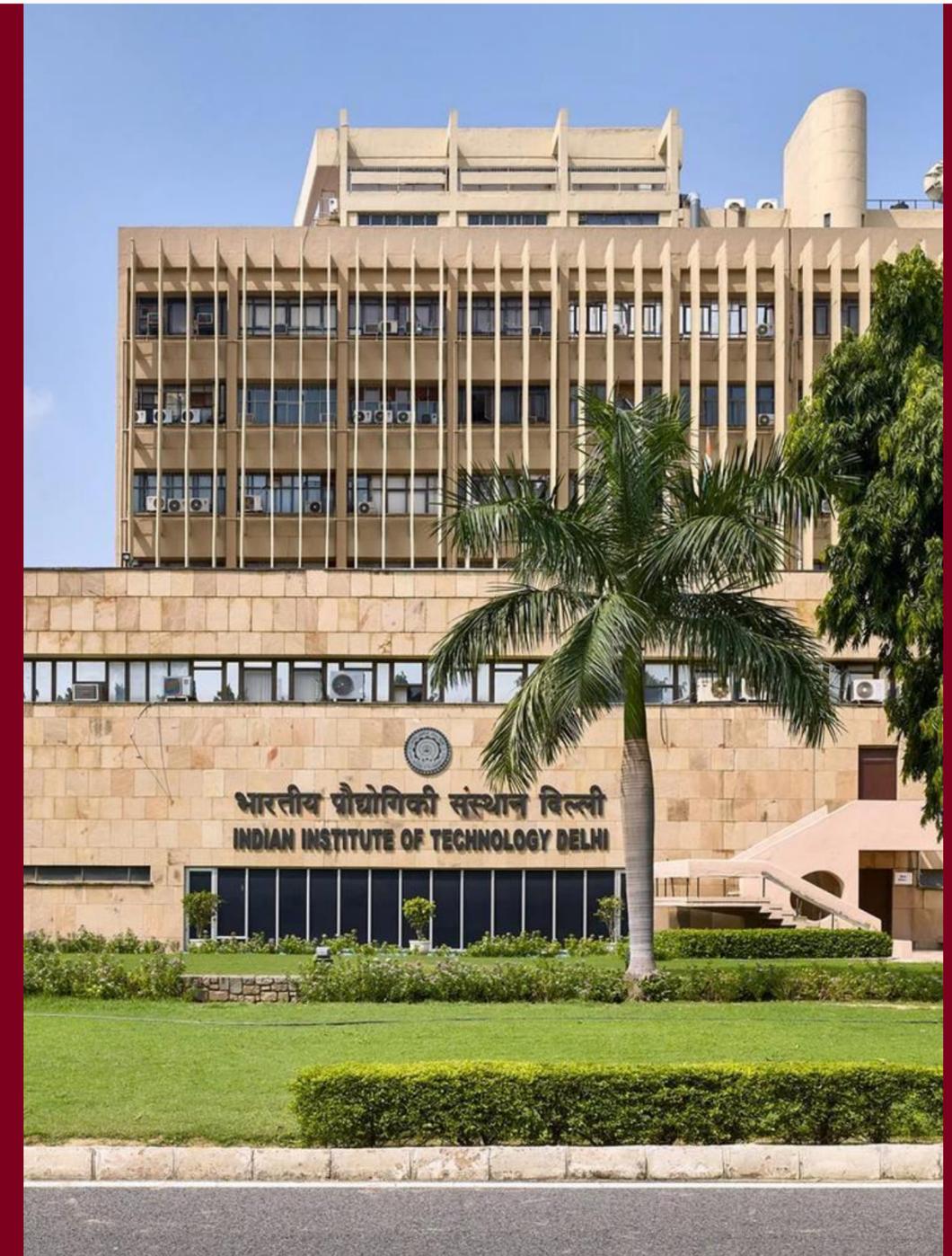
Centre for Atmospheric Sciences

- The Centre for Atmospheric Sciences is a premier Centre for education and research in atmospheric and oceanic sciences in India.
- CAS offers M. Tech. in Atmospheric-Oceanic Sciences and Technology supported by the Ministry of Earth Sciences (MoES), under the Government of India.
- The goal of CAS is to conduct cutting-edge interdisciplinary research & create a highly skilled workforce for the government and industrial sectors with expertise in modelling, data analysis and machine learning techniques in weather, climate, and air pollution.

Prof. Sagnik Dey

Head of the Centre, Centre for Atmospheric Sciences

Information about weather and climate has become critical in every aspect of our lives. The requirements of expertise in weather and climate data informatics are pivotal for a wide range of industries that use such information in decision-making and operations. The M.Tech, MS(R), and Ph.D. curricula at the Centre for Atmospheric Sciences are designed to cater to this growing need. Our top-quality students are trained to understand the changing climate system, formulate effective strategies, and develop solutions, both as individuals and as a team. They can be a valuable asset to any company that seeks to manage the uncertainties of intermittent weather in the era of global warming and sustain economic growth.

Prof. Samiran Mandal

Faculty Coordinator

Our graduates are well-prepared to contribute to Environmental, Social, and Governance (ESG) initiatives, with a particular expertise in climate science and climate risk assessment. They receive strong foundational and advanced training in atmospheric, oceanic, and climate sciences, combined with hands-on experience in data analytics, numerical modeling, remote sensing, and computational tools.

This skill set enables them to support climate risk analysis, sustainability reporting, environmental impact assessments, and resilience planning across various sectors, including finance, insurance, energy, infrastructure, and policy. We welcome recruiters seeking analytically strong, multidisciplinary talent to strengthen their ESG and climate-focused teams.

Meet Our Faculty

Sagnik Dey
Head of the Centre
(Professor)

Somnath Baidya Roy
Professor

Krishna Mirle Achutarao
Professor

Dilip Ganguly
Professor

Vimlesh Pant
Professor

Saroj Kanta Mishra
Professor

Ravi Kumar Kunchala
Associate Professor

Sandeep Sukumaran
Associate Professor

Shahzad Gani
Assistant Professor

Sajeev Philip
Assistant Professor

Sarvesh Kumar Dubey
Assistant Professor

Samiran Mandal
Assistant Professor

Saurabh Rathore
Assistant Professor

Yama Dixit
Assistant Professor

Abhishek Savita
Assistant Professor

A. D. Rao
Emeritus Professor

Centre for Atmospheric Sciences

The **Centre for Atmospheric Sciences (CAS)** was founded in 1979 at the Indian Institute of Technology Delhi (IITD). We are comprised of a multi-disciplinary team of meteorologists, oceanographers, applied mathematicians, physicists, chemists, engineers, and biologists working in the areas of atmospheric and oceanic sciences.

The major activities of the Centre are **Research, Teaching, and Continuing Education**. The research and teaching activities of the Centre have been oriented towards achieving a fundamental understanding of atmospheric and oceanic processes relevant to society.

The Centre has created high-performance computing facilities, research laboratories, and research infrastructure such as the Atmospheric Observatory that enable high-end computational modelling and state-of-the-art observational programmes. This has attracted talented students and researchers from India and abroad.

https://cas.iitd.ac.in/

Courses We Study

• Climate Change: Impacts, Adaptation and Mitigation
• Renewable Energy Meteorology
• Synoptic Meteorology
• Air-Sea Interaction
• Remote Sensing of the Atmosphere and Ocean
• Impacts of Climate Change and Air Pollution on Human Health
• Physical and Dynamical Oceanography
• Atmospheric Chemistry and Air Pollution
• Advanced Data Analysis Methods for Weather and Climate
• Mathematical and Computational Methods
• Numerical Modelling of the Atmospheric and Oceanic Sciences
• Science of Climate Change
• Tropical Weather and Climate

Recent M. Tech. Projects

• Hybrid AI- NWP framework for improving short-range weather prediction accuracy
• Generative Adversarial Network(GAN) based Emulation of Microphysics Schemes in the WRF model
• Developing a Physics-Constrained Deep Learning Framework for Surface Marine Heatwave Detection and Forecasting.
• Impact of Climate Change on Tropical Lightning Activity
• Integrating Aerosol and Meteorological Observations from the IGP into the SOSAA Chemical Transport Model
• Modelling Acute Exposure to Ambient PM2.5 over South Asia
• Weather Forecasting
• Air Quality Modelling and Its Health Impacts
• Atmospheric Modelling and Extreme Weather

Latest Research
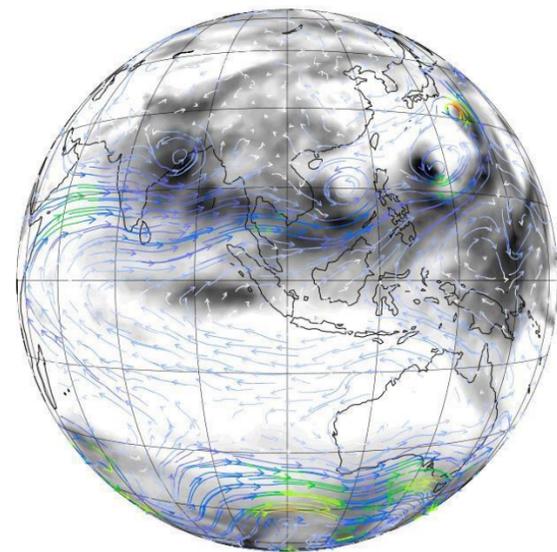
Atmosphere

Numerical Modeling of the Atmosphere, General Circulation, Tropical Meteorology and Indian Monsoon, Land-Surface Process Modeling, Land-Atmosphere Interaction.
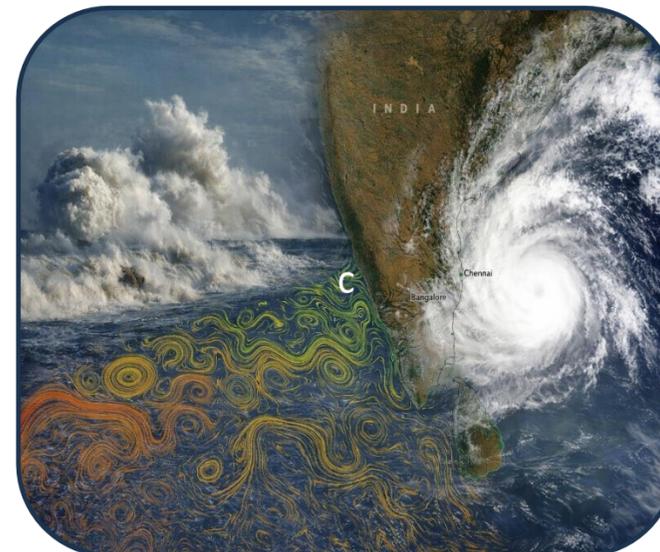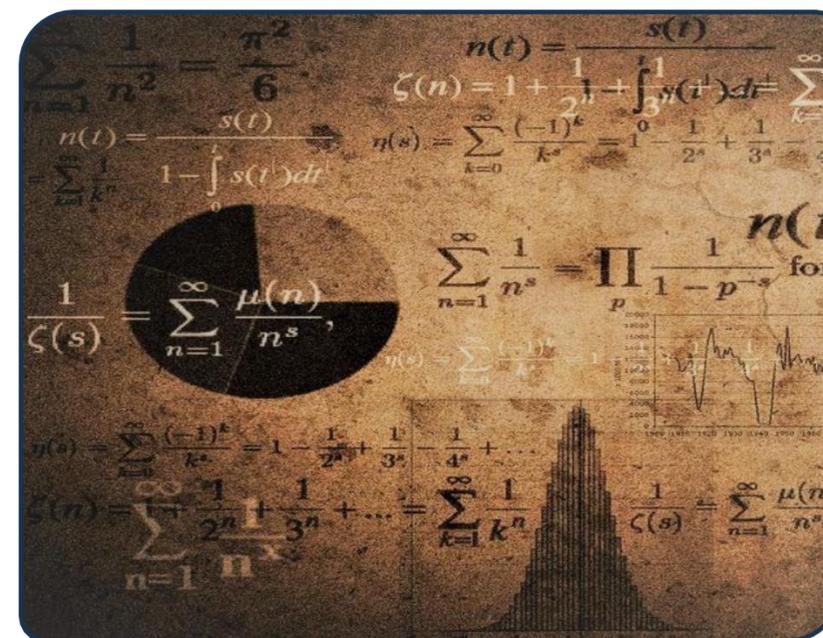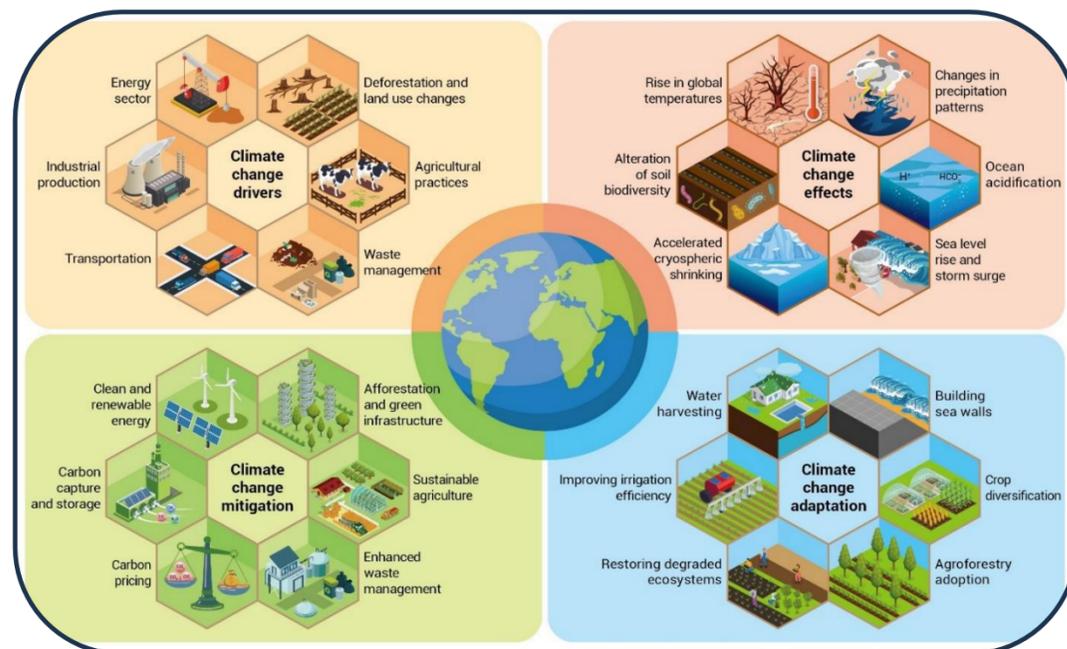

Ocean

Ocean Modelling, Coastal Processes, Ocean State Simulations and Forecasting, Storm Surges and Inundation.

Renewable Energy

Renewable Energy Meteorology, Resource Assessment, Forecasting.

Climate

Climate Variability and Changes, Climate Change, Detection & Attribution, Climate Modelling, Climate Projections, Climate Change Impacts.

Applied Mathematics

Numerical Methods, Data Assimilation and Adjoint Modeling, Inverse Modeling, GPU Computing.

Aerosols and Air Pollution

Urban Meteorology, Air Pollution and Health, Aerosol-Climate Interactions, Heat Island Effect and Fog Prediction, Air Quality Studies.

How Our Research Maps to ESG & Corporate Needs

Environmental Quality & Health

Climate Risk & Resilience

Energy Transition & Net-Zero

Extreme Events & Asset Risk

ESG Data & Climate Intelligence

Corporate ESG Strategy

• Risk • Disclosure • Resilience

Portfolios We Look For:

Climate Risk Analyst | ESG Reporting Analyst | Environmental Risk Analyst | Catastrophe Risk Analyst | Sustainability Analyst | ESG Compliance Analyst | Energy Transition Analyst | Sustainability Strategy Associate | ESG Data Scientist | Climate Data Analyst
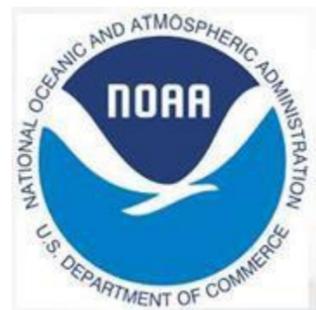
OFFICE OF CAREER SERVICES
IIT DELHI

Past Recruiters

Programming Languages, Software, and Models
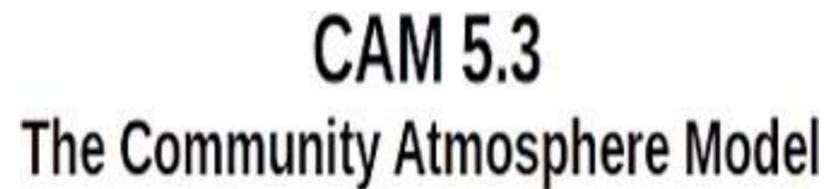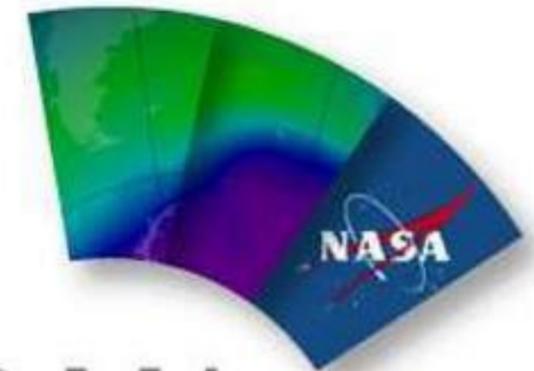
Collaborations and MoUs
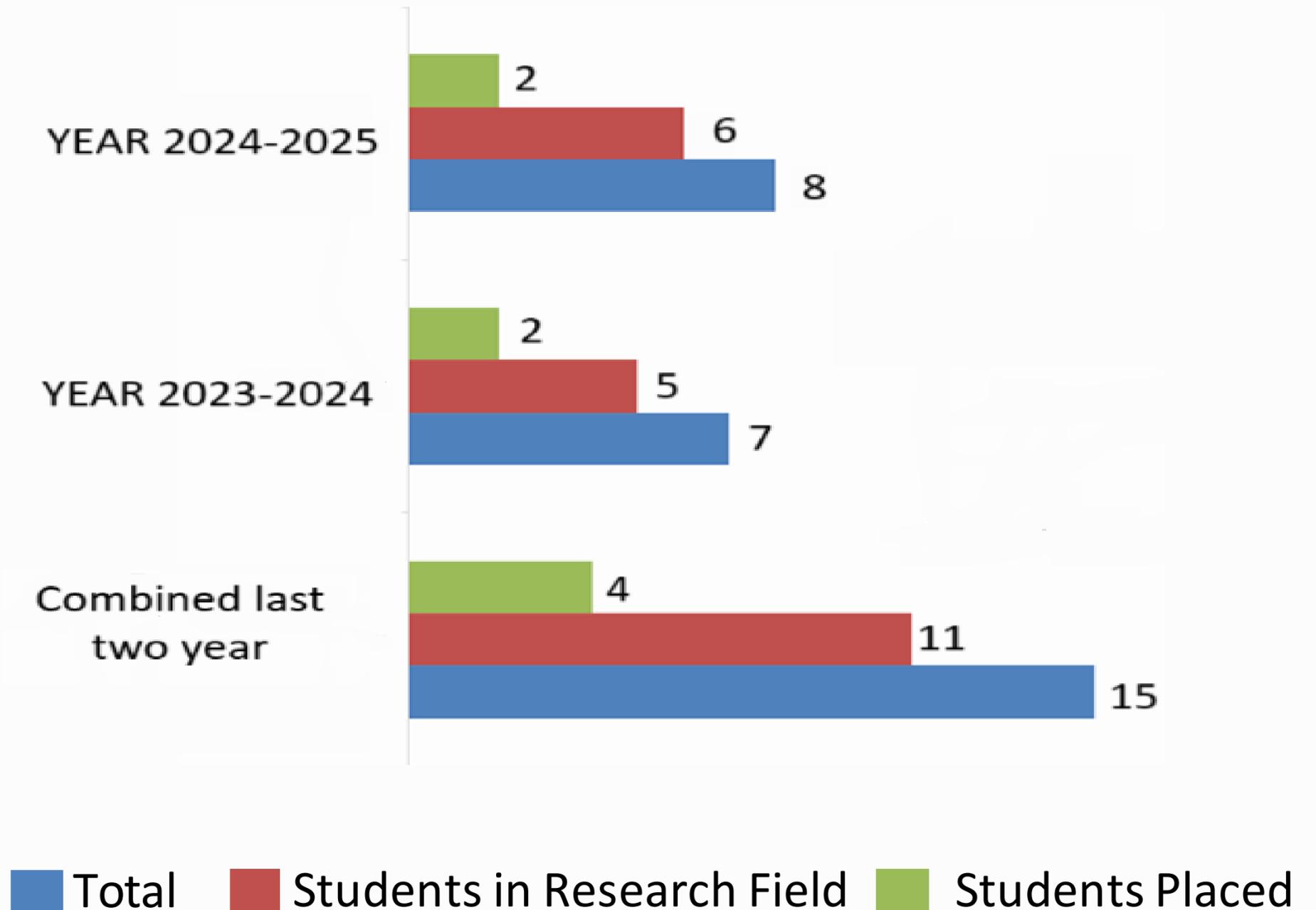
Placement Statistics

- **100% Placement recorded in Center for Atmospheric Sciences.**

- **Students were placed in various Atmospheric Scientist, Reinsurance and Analytics related positions in reputed Organizations.**

Placement statistics bar chart:

	Total	Students in Research Field	Students Placed
YEAR 2024-2025	8	6	2
YEAR 2023-2024	7	5	2
Combined last two year	15	11	4

Notable Alumni

Mr. Faizan Khan

Founder and CEO
Tensor Dynamics Pvt. Ltd.,
India.

M.Tech. in 2018

Dr. Manish Modani

Principal Solution Architect
NVIDIA, India.

Ph.D. in 2007

Dr. Swati Basu

Ex-Scientific Secretary,
Office of Principal Scientific
Adviser, GoI

Ph.D. in 1983

Dr. K.J. Ramesh

Ex-Director General,
Indian Meteorological
Dept., MoES

Ph.D. in 1990

Prof. Atul Jain

Professor
Dept. of Atmospheric Sciences,
Univ. of Illinois Urbana-
Champaign
Ph.D. in 1987

Some of Our Alumni in Industry

Himani,
AI & Data Analyst,
Deloitte USI

Bhushan A. Shirwadkar,
Sr. Advisor
Gallagher Re, MH

Vabhika Rishi,
Assistant Innovation
Manager, HSBC

Munish Danu,
Soft. Developer
SAPITBLUE Technologies.

Ajay Singh Rathore,
Data bricks developer,
Hero Fincorp , Delhi

Prasang Raj,
Data bricks developer,
Hero Fincorp, Delhi

Priyank Srivastava,
Data Scientist,
TransOrg Analytics

Ajay Gantara,
Associate, Atmospheric
Perils,Swiss Re

Arunima Sarkar,
Wind peril specialist,
Gallagher Re

Abhirup Bhattacharya,
Associate,
Morgan Stanley

Preeti Rajpoot,
Senior Data Scientist,
HCL, Noida

Prashant Kumar, Sr.
Scientist, Moody's
RMS, Noida

Recruitment Process

1

IIT Delhi sends an invite

Once you show interest, an email is sent by the placement office along with relevant details and a registration link.

2

Companies fill the JNF/TNF

JNF-Job Notification Form and TNF-Training Notification Form needs to be filled by the recruiter. Once it is frozen, the opening is listed in the IITD Recruitment Portal.

3

Shortlist, Interview & Recruit

Interested students apply through the portal. Resume(s) and Portfolios
are sent via mail. Recruiters shortlist, interview and hire the students.

Contact Us
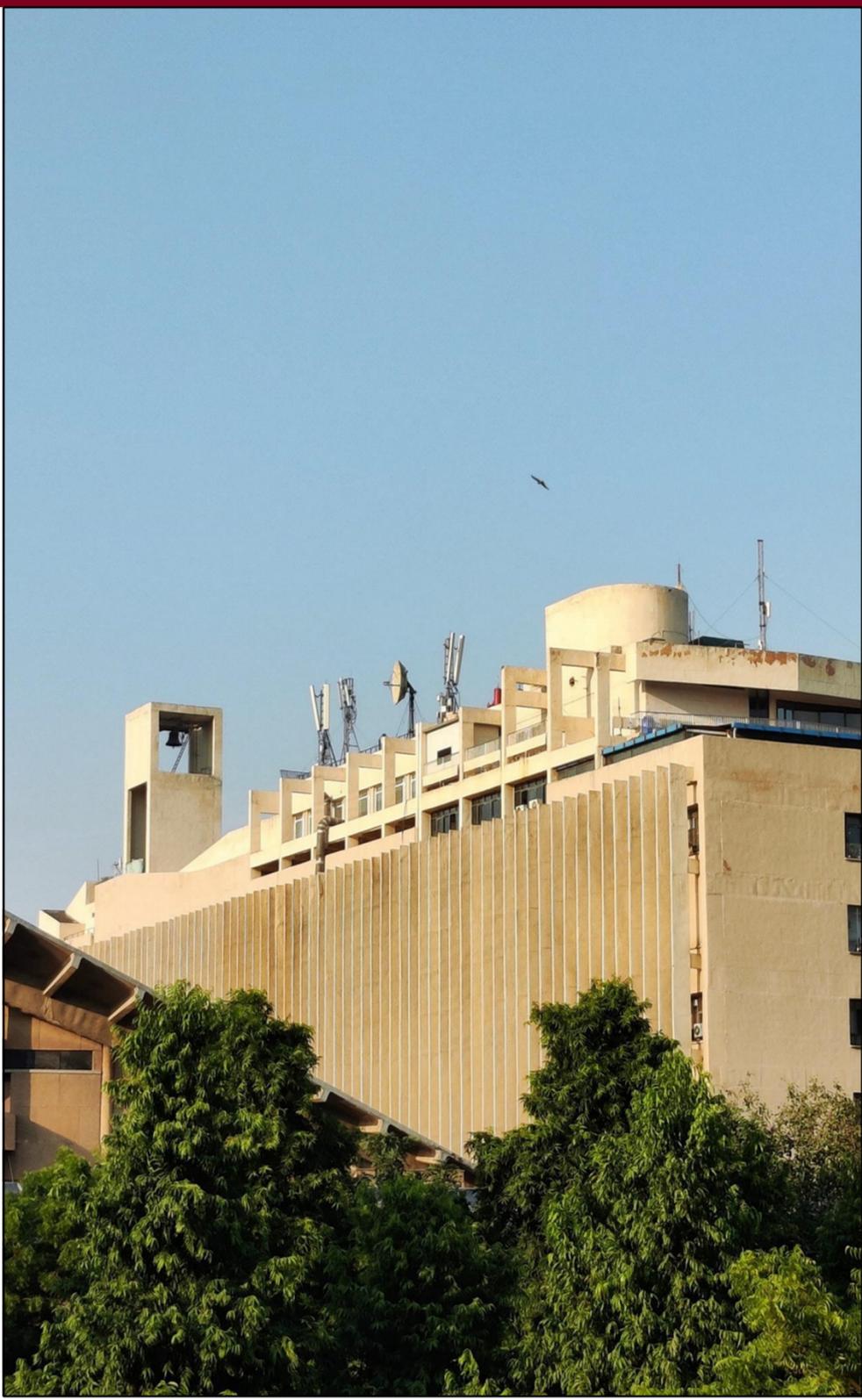
Faculty Coordinator

Prof. Samiran Mandal
Assistant Professor
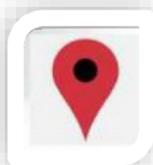**Email**: mandals@cas.iitd.ac.in
Phone: 9474017113

PhD Nucleus Coordinator

Mr. Riyaz Khan
Email: Riyaz.Khan@cas.iitd.ac.in
Phone: 9899787380

PG Nucleus Coordinator

Ms. Aishwarya Goley
Email: ast242588@iitd.ac.in
Phone: 8799703396

• Prof. Naresh V. Datla, Professor-in-Charge, OCS, IIT Delhi
Email: picocs@admin.iitd.ac.in

• Prof. Suresh Neelakantan, Co-Professor-in-Charge, OCS, IIT Delhi
Email: cpicocs@admin.iitd.ac.in

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