Indian Institute of Technology Delhi

School of Interdisciplinary Research (SIRe)

SIRe Project Number

2023-01-37

(will be assigned by SIRe)

Project Proposal for Ph.D.

Project Details	
Project Title	Emission mitigation potential and cost for air quality and climate benefits in India
Project Summary (Minimum 500 and maximum 2000 characters)	India's progress towards sustainable future requires managing air quality and climate change in a seamless way. While a lot of activities are undertaken under the National Clean Air Program and National Mission on Strategic Knowledge on Climate Change, the emission reduction strategies are not explored in terms of their cost of implementation and return. In this project, the student is expected to utilize the GAINS tool to explore various emission mitigation strategies and assess their cost-effectiveness in reducing emissions of air pollutants and GHGs in future. The student is expected to develop and implement new control scenarios in the GAINS model for the assessment. The work will bridge the science-policy gap and help the Government of India in prioritizing cost-effective measures for better health and climate benefits.

Ph.D. Supervisors

Role	Faculty	Academic Unit in IITD/Institute/University	Email ID (Official)
Supervisor 1	Prof. Sagnik Dey	CAS	sagnik@cas.iitd.ac.in
Supervisor 2	Prof. Gazala Habib	Civil Engineering	gazalahabib@civil.iitd.ac.in

Project requirements (Student qualifications, experience required, etc)

- Degree is atmospheric science, physics, maths, environmental science/engineering, computer science,
- Experience in air pollution work and some knowledge of GAINS tool is desirable

Source of fellowship/funding

Project or own funding

Role of Faculty Members involved:

Prof Dey is an expert in air pollution and epidemiology study and exposure modelling. Prof Habib is an expert in emission inventory and air quality analysis. Dr Purohit is an expert in air quality, climate, and energy policy. The project will require interdisciplinary approach to bridge science and policy.