



## PhD Project

### Project Details

Project Title	Impact of air pollution on child health in Delhi NCR
Project Summary	Exposure to air pollution is the second largest health risk in India; yet indigenous evidence of health impacts is lacking. This project would fill this gap by generating direct evidence and causal interpretation targeting the child population in the Delhi NCR. The study design would allow analyzing data utilizing a prospective cohort with multi-year follow-up. The prospective cohort is ongoing in one of the rural demographic surveillance sites - Ballabgarh, which caters to a large population in semi-urban and rural setting with nearly 500 births every year. The site is managed by AIIMS. Pregnant mothers will be recruited for the study and will be followed for birth outcomes. Newborns will be followed for 2-years every 6 months for assessing nutritional outcomes, developmental milestones, and acute respiratory morbidities. The study would specifically address the hypothesis – how much does in-utero and early-life exposure to PM <sub>2.5</sub> impact child health (birthweight and subsequent growth and respiratory infection) during early childhood in a highly polluted region like Delhi NCR?

### PhD Supervisors

Role	Faculty	Academic Unit in IITD	Email ID
Supervisor 1	Sagnik Dey	Centre for Atmospheric Sciences, IITD	sagnik@cas.iitd.ac.in
Supervisor 2	Anand Krishnan	Community Medicine, AIIMS	kanandiyer@yahoo.com

### Project requirements (Student qualifications, experience required, etc)

- MSc (with GATE/NET/DST-INSPIRE) in relevant discipline or MTech in relevant discipline.
- Candidates with own fellowship will be preferred.
- Experience on exposure modelling/epidemiological studies using Python/R/Matlab is desired.

### Source of funding (IRD/FITT Project details, if any)

We would prefer candidates with their own fellowships, until the supervisors acquire funding through external source.

### Role of Faculty Members involved:

This is a true interdisciplinary project requiring expertise on exposure and modelling and health data analysis. Prof Dey will supervise the exposure modelling, while Prof Krishnan will supervise the health analysis. Both the supervisors will be involved in the cohort data collection.