

## Education

### Indian Institute of Technology Delhi, New Delhi, India.

Pursuing Doctoral Degree: Department of Civil Engineering,  
Joining year: July 2015.



### National Institute of Technology, Durgapur, India.

M.Tech: Environmental Science & Technology (Dept. of Earth and Environmental Studies)  
Grade: 8.94/10  
Year: 2015.

### Indian Institute of Human Rights, New Delhi, India.

PGD: Human Rights.  
Grade: Passed.  
Year: 2014.

### The University of Burdwan, West Bengal, India.

M.Sc.: Biotechnology (Dept. of Biotechnology).  
Grade: 75.75%.  
Year: 2012.

### The University of Burdwan, West Bengal, India.

B.Sc. (Hons): Biotechnology (Dept. Of Biotechnology).  
Grade: 75.83%.  
Year: 2010.

## Projects & Doctoral Work

### *Effect of fine aerosol and its toxic components on the human lung.*

Toxicological testing of Particulate Matter in-vitro studies, linking to chemical characterization of aerosol (ultrafine particle) toward the same and also finding out the knowledge gaps also assessing the risk related to constituent Factor, and PM as a whole, working on Human Health Risk Model (HHRM) for Delhi, India and working on filling up the gap of integrated approach linking epidemiological studies related to disease caused by air pollution to in-vitro studies.

IIT Delhi Semester Grade point of Course Work: **10/10.**

**Principal Investigators:** *Dr Gazala Habib, Department of Civil Engineering, Indian Institute of Technology, Delhi.*

*Dr Arun Kumar, Department of Civil Engineering, Indian Institute of Technology, Delhi.*

*Dr. Vivekanandan. Perumal, Kusuma School of Biological Sciences, Indian Institute of Technology, Delhi.*

## Innovation & Novelty of Work

- Cytotoxicity testing of Particulate Matter.
- Chemical characterization of aerosol (ultrafine particle).
- Finding out the Knowledge Gap, and Assessing the risk related to Constituent Factor (Single vs Mixture), and PM as a whole, working on **Human Health Risk Model (HHRM) for Delhi, India.**
- **Final Year Project**  
**M.Tech:** Bioremediation of Para-Nitrophenol by bacterial isolate from Textile Dye Industry. (2014-2015).  
*Innovation:* NCBI BLAST analysis for Superbug Strains like *Pseudomonas montelii*, and obtaining a special strain to use it in future for phenol and its derivative compound.
- **Ananya Das, Apurba Dey.** "Bioremediation of Para-Nitrophenol by bacterial isolate from textile dye industry". (Submitted).
- **Ananya Das, Apurba Dey.** "Toxicity parameter check -p- nitrophenol (p -NP)." (Submitted).

**Principal Investigator:** *Prof. Apurba Dey, Department of Biotechnology. NIT Durgapur.*

- **Masters Dissertation Project**

**(M.Sc. Biotechnology):** “Genomic comparison of host-associated micro-organism”.2012.

Innovation: First-time Development of a database of pathogenic micro-organism that creates diseases in Host.

**Principal Collaborator:** *Dr Sudip Kundu, Department of Biophysics, Molecular Biology and Bio-informatics, University of Calcutta.*

- **Undergraduate Research Project:** Biodegradation of Phenol and Cyanide from Coke oven Effluents. (Aug 2009-September 2009).

**Principal Investigator:** *Dr S.K.Gupta, Department of Environmental Science & Engineering. IIT-ISM (Dhanbad).*

## Industrial Internships

- **Mother Dairy Calcutta, India.**

In-plant Training in the Quality Control Lab, Process and Engineering Section, Mother Dairy, (Aug-2011).

**Job Profile:** Microbes profiling of the products on an hourly basis, and preparing a daily report of the swab reports of the channel nozzle of all the milk processing section plants.

**Reporting Authority and Supervisor:** *Mr.K.P. Boral, Chief In-charge (Processing Units and Administration).*

## Achievements

- **M.Tech 2015:** Department 2<sup>nd</sup> position.
- **Gate -2013,** Qualified, In Biotechnology.
- **Gate -2012,** Qualified, In Biotechnology.
- **B.Sc. (Hons) Biotechnology:** University 3<sup>rd</sup> Position Memento, in cumulatively three years.
- **National Science Olympiad –** Distinctive performance, 2003 & 2006.

## Publications

- **Ananya Das, Gaurav Singh, Gazala Habib, Arun Kumar, (2018),** *Non-carcinogenic and Carcinogenic Risk Assessment of Trace Elements of PM<sub>2.5</sub> during Winter and Pre-monsoon Seasons in Delhi: A Case Study.* Exposure and Health.
- **Ananya Das, Mohammad Yawar, Nisar Ali Baig, Arun Kumar, Gazala Habib.** *Which size fraction of hazardous particles govern the respiratory deposition and inhalation risk in highly polluted city Delhi? (Submitted – Under review).*
- **Ananya Das, Gazala Habib, Arun Kumar, Vivekanandan Perumal.** *Cytotoxic and inflammatory effects of particulate matter (Ultrafine aerosol)-associated metals on human lung epithelial A549 cells: The Delhi Chapter. (Submitted).*
- **Ananya Das, Arun Kumar, Gazala Habib, Vivekanandan Perumal** *Realistic estimation of Inhaled Ambient Particulate Matter Bound Metals in Indian City Delhi with Quantification of risk on binary mixture level and translocation of metals on human tissue. (Under Preparation).*
- **Ananya Das, Vivekanandan Perumal, Arun Kumar, Gazala** *Understanding the role of ultrafine particle of size PM<sub>≤0.25</sub> -A prospective study from New Delhi. (Submitted).*
- **Ananya Das, Nisar Ali Baig, Arun Kumar, Vivekanandan Perumal, Gazala Habib,** *“Personal and ambient exposure of fine particulate matter and its in-vitro effect on lung cell line: A study for metro city Delhi.” International Aerosol Conference 2018, St. Louis. USA. (Sept-2018).*
- **Das, A., Kumar, A., Habib, G., Perumal, V.,** *Identifying Knowledge Gaps in Incorporating Toxicity of Particulate Matter Constituents for Developing Regulatory Limits on Particulate Matter,* World Academy of Science, Engineering and Technology, Zurich, July 21 - 22, 2016.

**Membership of Scientific Society:** Society of Environmental Toxicology and Chemistry Asia/Pacific, (SETAC, January 2019).

**Research Interest:** Aerosol, Health risk assessment (mixture toxicity), In-vitro toxicity, Epidemiological studies, Inputs to Public Policy Development.

#### **Skill Set**

- Particulate Matter Sampling (Using Medium Volume Sample & Personal Cascade Impactor).
- Chemical Analysis, sample preparation techniques.
- In-Vitro toxicity testing with human cell lines.
- Bacterial waste water treatment and chemical waste water treatment.

#### **Teaching Assistantship**

- Environmental Engineering. (IIT Delhi).
- Waste Water Engineering Lab (IIT Delhi, NIT Durgapur).
- Air Pollution, Theory and Lab (IIT Delhi).

#### **Student Advised**

- Darla Abhilaash, B. Tech Civil Engineering (4<sup>th</sup> year, IIT Delhi)- BTP project, "Preparation of Filter paper for the sampling of PM<sub>2.5</sub> using Medium Volume Sampler", (Dec 2016-April 2017).
- Mohammad Yawar, B. Tech Civil Engineering (4<sup>th</sup> year, Aligarh Muslim University, UP), Internship, "Sampling protocol development and sampling of particulate matter using ambient and personal exposure techniques. (June -July 2017).

#### **Important Workshop**

- "Quantitative Microbial Risk Assessment" under GIAN, IIT Delhi, June 2018.
- Principles of Toxicology (Public Health Foundation of India& Harvard T.H Chan School of Public Health, USA). (September-2017).
- Medical Imaging Techniques, Post Processing and Clinical Applications (April-2017).
- Climate Impacts on Health in Asia. (The Abdus Salam International Centre for Theoretical Physics- IIT DELHI, 2016, December).
- Technologies in Bioenergy and Environmental Sustainability (TBES-2015), NIT Durgapur.

#### **Contact Information**

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<https://www.linkedin.com/in/ananya-das-a18b9515b/>.

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