

ABHISHEK CHAKRABORTY

E-Mail: abhiy7@gmail.com; a.chakraborty@iitrpr.ac.in; Skype id: abhiy7

Career Statement: In quest of challenging assignments in Teaching and Research with an organization of repute.

Synopsis

- ✦ Possess more than 3 years of combined experience in academic, research and industry.
- ✦ Completed M.Tech with specialization in Environmental Engineering.
- ✦ Endowed with a passion for winning as evinced through demonstrated abilities in studies.
- ✦ A keen communicator with dynamic relationship building, analytical & problem solving skills.
- ✦ Completed Ph.D. from IIT Kanpur in December 2016.

Academia

- ✦ Assistant Professor in IIT Ropar from July 2018.
- ✦ Completed PhD in Civil Engineering with specialization in Environmental Engineering from IIT Kanpur with CPI 8.50 in 2016.
- ✦ Completed M.Tech in Environmental Engineering and Management from IIT Kanpur with CPI 9.70 in 2009.
- ✦ B.E in Civil Engineering from IEST, Shibpur (Formerly Bengal Engineering College) with 75.2% in 2006.
- ✦ 10th from Mudiali Hr.Sec. School in 2001 with 84.6%
- ✦ 12th from Nutbihari Das Boys Hr. Sec. School in 1999 with 83.2%.

Research Interests

- ✦ Secondary organic aerosol formation and fog/aqueous processing of organic aerosols.
- ✦ Characterization and source apportionment of air pollutants.
- ✦ Impact of anthropogenic activities on air pollution characteristics and possible implications on health and climate.
- ✦ Applying the obtained knowledge to devise more effective policies for coping with pollution and climate change.
- ✦ Development of low cost, effective air pollution monitoring, control technologies.

Academic Achievements

- ✦ Achieved AIR 82 in GATE-2007.
- ✦ Achieved Big Leap Foundations Topper's Award for Higher Secondary Result.
- ✦ Topper of Environmental Engineering and Management Programme at IIT Kanpur with 9.70 CPI.
- ✦ Awarded Academic Excellence Award for the year 2007-08 by IIT Kanpur for excellent academic performance in Environmental Engineering and Management Programme at IIT Kanpur.

Master's and PhD thesis

1. Master's Thesis: Chemical Characterization of Submicron Aerosol in Kanpur Region: A Source Apportionment Study; Supervisor: Dr. Tarun Gupta
2. PhD Thesis: Fog and organic aerosols interactions: Sources, composition, and chemistry
Supervisors: Dr. Tarun Gupta & Dr. S.N.Tripathi

Publications

1. Chakraborty, A., Gupta, T., "Chemical characterization and source apportionment of submicron (PM₁) aerosol in Kanpur region, India", *Aerosol Air Qual. Res*, 10 (5), 433-445, 2010.
2. Gupta, T., Chakraborty, A., Ujjwal, K.K., "Development and performance evaluation of an indigenously developed air sampler designed to collect submicron aerosol", *Ann Indian Natl Acad Eng (INAE)*, 7, 189-193, 2009.
3. Chakraborty, A., Bhattu, D., Gupta, T., Tripathi, S.N. and Canagaratna, M. R., "Real-time measurements of ambient aerosol in a polluted Indian city : Organic aerosol sources, characteristics and processing during foggy and non foggy time periods", *Journal of Geophysical Research-Atmospheres*, 120 (17), 9006-9019, 2015.
4. Izhar, S., Goel, A., Chakraborty, A., Gupta, T., "Annual trends in occurrence of submicron particles in ambient air and health risk posed by particle bound metals", *Chemosphere*, 146, 582-590, 2016
5. Chakraborty, A., Ervens, B., Gupta, T., and Tripathi, S.N., "Characterization of organic residues of size-resolved fog droplets and their atmospheric implications", *Journal of Geophysical Research-Atmospheres*, 121 (8), 4317-4332, 2016.
6. Chakraborty, A., Gupta, T., and Tripathi, S.N., "Chemical composition and characteristics of ambient and rainwater aerosols during Indian summer monsoon: Insight from aerosol mass spectrometry", *Atmospheric Environment*, 136 (July), 144-155, 2016.
7. Rai, P., Chakraborty, A., Mandaria, A., and Gupta, T., "Composition and source apportionment of PM₁ at urban site Kanpur in India using PMF coupled with CBPF (Conditional Bivariate Probability function)", *Atmospheric Research*, 178 (September), 506-520, 2016.
8. Bhattu D., Tripathi, S.N. and Chakraborty A., "Deriving aerosol hygroscopic mixing state from size-resolved CCN activity and HR-ToF-AMS measurements", *Atmospheric Environment*, 142 (October), 57-70, 2016.
9. Chakraborty, A., Gupta, T., and Tripathi, S.N., "Combined effects of organic aerosol loading and fog processing on organic aerosols oxidation, composition, and evolution", *Science of the Total Environment*, 573 (December), 690-698, 2016.
10. Kumar, B., Chakraborty, A., Bhattu, D., and Tripathi, S.N., "Highly time resolved chemical characterization of submicron organic aerosols at a polluted urban location", *Environmental science: Processes and Impacts*, 18 (September), 1285-1296, 2016.
11. Chakraborty, A., Gupta, T., and Tripathi, S.N., "Effects of organic aerosol loading and fog processing on organic aerosols volatility", *Journal of Aerosol Science*, 105 (March), 73-83, 2017.
12. Chakraborty, A., Rajeev, P., Rajput P., and Gupta, T., "Water soluble organic aerosols in Indo Gangetic Plain: Insights from aerosol mass spectrometry", *Science of the Total Environment*, 599-600 (December), 1573-1582, 2017.
13. Chakraborty, A., Mandariya, A., Chakraborty, R., Gupta, T., and Tripathi, S.N., "Realtime chemical characterization of post monsoon organic aerosols in a polluted urban city: sources, composition, and comparison with other seasons", *Environmental Pollution*, 232 (January 2018), 310-321, 2017.
14. Crenn, V., Chakraborty, A., Fronval, I., Petitprez, D., and Riffault, V., "Fine particles sampled at an urban background site and an industrialized coastal site in Northern France – Part 2: Comparison of offline and online analyses for carbonaceous aerosols", *Aerosol Science and Technology*, 52:3, 287-299, 2018.

Seminars/Conferences/Workshops

1. Presented a Research paper in International Congress of Environmental Research held in Goa, India on December 2008.
2. Presented a Research paper in SSRCE'09 conference held at IIT Madras.
3. Chakraborty, A., Gupta, T., Tripathi, S. N., Ervens, B. and Bhattu, D., Size-resolved fog water chemistry and its atmospheric implications. Selected for oral presentation, European Geosciences Union (EGU) General Assembly 2015, 12-17 April 2015, Vienna, Austria.
4. Chakraborty, A., Bhattu, D., Gupta, T., Tripathi, S. N., and Canagaratna, M.R., Processing of ambient aerosols during fog events: Role of aerosol acidity. Oral presentation at Conference of Indian Aerosol Science and Technology Association (IASTA), Nov 11-13, 2014, IIT-BHU, Varanasi, Uttar Pradesh, India.
5. Chakraborty, A., Bhattu, D., Gupta, T., Tripathi, S. N., and Canagaratna, M.R., Processing of Ambient Aerosols during Fog Events: Role of Acidity. Oral presentation at 2013 American Geophysical Union (AGU) Fall Meeting, December 09 – 13, 2013, San Francisco, California.

6. Chakraborty, A. Gupta, T., and Tripathi, S.N., Processing of ambient aerosols during fog events. Poster presentation at European Aerosol Conference (EAC), September 1-6, 2013, Prague, Czech Republic.

Research work highlighted in print media

1. *More stubble burning in winter adds to fog*, The Times of India City, Delhi Publication, January 20, 2017.

URL: http://timesofindia.indiatimes.com/city/delhi/more-stubble-burning-in-winter-adds-to-fog/articleshow/56674260.cms?TOI_browsertnotification=true

2. *Blame crop burning for fog: IIT Study*, The Indian Express, Varanasi Publication, December 13, 2016.

URL: <http://indianexpress.com/article/india/delhi-pollution-smog-crop-burning-for-fog-iit-4424138/>

3. *Unraveling the myriad causes of North India's pollution pall*, Yale Environment360, published at the Yale School of Forestry & Environmental Studies, February 9, 2017.

URL: <http://e360.yale.edu/features/origins-of-north-indias-air-pollution>

Professional and research experience

August 2009 to June 2010 with Dar Al Handasah. (Pune) as a Design Engineer

Responsibilities:

Designing water and waste water supply networks using different tools like; WaterCAD, SewerCAD, StormCAD, etc.

Validation of different analytical software used in network design

Coordinating with different department for adequate and timely completion of projects

July 2010 to June 2011 with Jaypee University of Information Technology (Shimla) as a Lecturer in Civil Engineering Department

Responsibilities:

Taught water supply engineering, wastewater treatment & disposal, water resources and Environmental Science subjects

Conducted fluid mechanics and environmental engineering labs

Guided 3 B.Tech students for their final year projects

Started Air quality measurement laboratory in the Institute

January 2017 to May 2018 with IMT Lille Douai (previously Ecole des Mines), France as a postdoctoral fellow

Responsibilities:

Conducting laboratory and field experiments

Data analysis and manuscript preparation

Presentation of results in conferences and meetings with collaborators

Providing assistance in guiding doctoral students

From July 2018 (continuing) with IIT Ropar as an Assistant Professor in Civil Engineering Department

Responsibilities:

Teaching of basic and advanced Civil Engineering courses

Curriculum development

Laboratory development and supervising practical experiments of students

Writing research proposals and managing research funds

Executing research and consultancy projects

Extra-Curricular Activities

🏆 Winner of several yoga competitions.

IT Skills

- ↳ Familiar with basic Computer Operations, Several software for the Design of Water Distribution Network, and air quality modeling.
- ↳ Platform: Windows Tools: Latex, Endnote, Mendeley, Igor, AMS-PMF, HYSPLIT trajectory model

Personal Dossier

- ↳ Permanent Address: C/O Monilal Chakraborty, A-129, Shib Nagar 4th Lane, Gardenreach, Kolkata-700024.
- ↳ Present Address: Department of Civil Engineering, IIT Ropar, Rupnagar, Punjab-140001.
- ↳ Date of Birth: 15th April 1984
- ↳ Phone: Primary: (+91) 9651669859; Secondary: (+91) 7524853724