

# Curriculum Vitae



## **Dr. Sailesh N. Behera** (Assistant Professor)

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## **EDUCATION:**

- Ph.D. Indian Institute of Technology Kanpur, India (2011)
- M.Tech. Motilal Nehru National Institute of Technology Allahabad, India (2004)
- B.Engg. Kalinga Institute of Industrial Technology Bhubaneswar, India (2001)

## **EMPLOYMENT:**

- Assistant Professor, Department of Civil Engineering, Shiv Nadar University, India (July 2015 to present)
- Post-Doctoral Fellow, Department of Civil and Environmental Engineering, National University of Singapore, Singapore (2012-2015)
- Senior Project Engineer, Department of Civil Engineering, Indian Institute of Technology Kanpur, India (2011-2012)
- Lecturer, Department of Civil Engineering, Motilal Nehru National Institute of Technology Allahabad, India (2004-2005)

## **RESEARCH INTERESTS:**

- Air quality monitoring and modeling
- Fate and control of water and wastewater contaminants
- Waste management
- Water-air-soil Interactions
- Policy evaluation of control strategies
- Mapping of emission scenarios

## **SUBJECTS TAUGHT:**

- Air Quality Science and Engineering (CED 405)
- Environmental Engineering (CED 308)
- Environmental Management in Industries (CED 315)
- Solid Waste Management (CCC 621)
- Transportation Engineering (CED 304)
- Elements of Surveying (CED 209)
- Engineering Hydrology (CED 203)
- Air Pollution Control (CED 631)
- Nanotechnology for Environment (CED 634)
- Applied Statistics (CED 642)
- Industrial Wastewater Treatment (CED 644)

**GRANTS AND PROPOSALS:**

S. No.	Grant Agency	Title of Project	Status	Amount (Lakh ₹)	PI/ Co-PI
(1)	Department of Science and Technology (DST) Scheme: Early Career Research Award	Physicochemical characterization, formation mechanism and human health risk assessment of size-fractionated particulate matter emitted from stationary diesel engine exhausts through an experimental set-up of environmental chamber. Ref. no: ECR/2016/002039	Ongoing	48.5	PI
(2)	Department of Science and Technology (DST) Scheme: BRICS Multilateral R&D Projects	Co-combustion and particulate matter emission characteristics of blends of hydrothermally carbonized biochar from food processed waste and coal at laboratory-scale experiments.	Preparation	47.5 (to be proposed)	PI

**AWARDS/FELLOWSHIPS:**

- Early Career Research Award by Science and Engineering Research Board, Department of Science and Technology, Government of India (2017)
- Fellowship from National Research Foundation (NRF) Singapore during Post-doc (2012-2015)
- Ph.D. Scholarship by Ministry of Human Resource Development (MHRD), Government of India (2005-2010)
- M.Tech. Scholarship by Ministry of Human Resource Development (MHRD), Government of India (2002-2004)

**DISSERTATIONS AND PROJECTS GUIDED/GUIDING:****Ph.D.**

S. No.	Dissertation Title	Student Name	Enrollment	Status	Supervisor/ Co-Supervisor
(1)	Removal of organic and inorganic pollutants from industrial wastewater through nanotechnology	Dharmaraj Patil	July 2017	Ongoing	Supervisor

**M.Tech.**

S. No.	Dissertation Title	Student Name	Enrollment	Status	Supervisor/ Co-Supervisor
(1)	A GIS based Optimization method of transportation route for municipal solid waste management in Lucknow city	Praveen Kumar (IET, Lucknow)	July 2015	Completed	Co-Supervisor

**UG: Opportunity for Undergraduate Research (OUR) Projects**

S. No.	Dissertation/Project Title	Student Name	Duration
(1)	Investigation of Complete Scenarios of Plastic Wastes in Delhi Using Software and Advanced Computing Methods	Anant Bajpai	2017-2018

## **UG: Final Year Projects (FYP)**

S. No.	Dissertation/Project Title	Student Name	Duration
(1)	Production and characterization of food-waste-based biochar product	Yuvraj Goyal	2017-2018
(2)	Production and characterization of wood-chip-based biochar product	Rajat Gaur	2017-2018
(3)	Environmental Implications of hydro turbines degradation	Oshin Shakdwipee	2017-2018
(4)	Characterization of size-segregated aerosols at a background site	Apoorv Srivastava	2017-2018
(5)	Investigating human health risk assessment from exposure to air pollution in the Megacities of India.	N. Niveth Kumar	2015-2016
(6)	Investigation into possible techno-feasible aspects of utilization of dried sewage sludge in various engineering applications.	Karan Kapoor	2015-2016
(7)	Current practices and future challenges of solid waste management in the National Capital Delhi.	Danush J.	2015-2016
(8)	Application of HYSPLIT trajectory model in source apportionment of particulate matter at an urban environment.	Karthikraj G.	2015-2016
(9)	Assessment of human health risks associated with emerging contaminants in indoor dust	Ng Sian Ching (NUS Singapore)	2014-2015
(10)	AERMOD air dispersion modelling of sulfur dioxide emitted from major point sources in Singapore	Chew Jie Si (NUS Singapore)	2013-2014
(11)	Developing an urban-scale IVE-GIS-based emission inventory and assessing growth trends of air pollutants from on-road vehicles	Gabriella S. Karnadi (NUS Singapore)	2013-2014
(12)	Insights into characterizations of carcinogenic compounds emitted from cigarette smokes	Huang Xian (NUS Singapore)	2012-2013

## **ADMINISTRATIVE RESPONSIBILITIES:**

- Coordinator, Departmental UG Committee, Department of Civil Engineering, Shiv Nadar University, January 2018 to Present
- Coordinator, Departmental PG Committee, Department of Civil Engineering, Shiv Nadar University, July 2017 to Present
- Coordinator, Purchase team with specific research group at National University of Singapore, 2012-2015
- Project Execution Coordinator of several National and International projects at Indian Institute of Technology Kanpur, 2008-2012

## **PUBLICATIONS:**

### **Book Publication**

Authors: Sailesh N. Behera (Shiv Nadar University), and Mukesh Sharma (Indian Institute of Technology Kanpur)

Title of Text Book: "Air Pollution Science and Engineering: Fundamental Concepts and Applications".

Publisher: "CRC Press, Taylor & Francis Group

Status: In Progress

## Journal Publications

- 1) Tomatis, M., Xu, H., Wei, C., Bishop, M.T., He, J., Wang, C., Zhao, M., Xiao, H., Yu, H., **Behera, S.N.**, Tang, B. (2018). "Comparative study of Mn/Co binary metal catalysts supported on two commercial diatomaceous earths for oxidation of benzene". *Catalysts*, 8(3): 111. MDPI Publisher (IF = 3.1).
- 2) Yusuf, A., Snape, C., He, J., Xu, H., Liu, C., Zhao, M., Chen, G.Z., Tang, B., Wang, C., Wang, J., **Behera, S.N.** (2017). Advances on transition metal oxides catalysts for formaldehyde oxidation: A review. *Catalysis Reviews*, 59(3), pp.189-233. Taylor and Francis Publisher (IF = 6.1).
- 3) Parida, B.R., **Behera, S.N.**, Oinam, B., Pandey, A.C., Singh, N., "Evaluation of satellite-derived Rainfall Estimates for an Extreme Rainfall Event over Uttarakhand, Western Himalayas". *Hydrology*, 4(2): 22: 2017. MDPI Publisher (IF due in 2019).
- 4) Xu, J.S., Xu, M.X., Snape, C., He, J., **Behera, S.N.**, Xu, H.H., Ji, D.S., Wang, C.J., Yu, H., Xiao, H., Jiang, Y.J. (2017). "Temporal and spatial variation in major ion chemistry and source identification of secondary inorganic aerosols in Northern Zhejiang Province, China". *Chemosphere*, 179:316-330. Elsevier Publisher (IF = 4.2).
- 5) Singh, D., Shukla, S.P., Sharma, M., **Behera, S.N.**, Mohan, D., Singh, N.B. and Pandey, G. (2016). GIS-based on-road vehicular emission inventory for Lucknow, India. *Journal of Hazardous, Toxic, and Radioactive Waste*, 20(4): p.A4014006. ASCE Publisher (IF = 0.74)
- 6) Chen, X., Balasubramanian, R., Zhu, Q., **Behera, S.N.**, Bo, D., Huang, X., Xie, H., Cheng, J. (2016). "Characteristics of atmospheric particulate mercury in size-fractionated particles during haze days in Shanghai". *Atmospheric Environment*, 131, 400-408. Elsevier Publisher (IF = 3.6).
- 7) **Behera, S.N.**, Cheng, J., Huang, X., Zhu, Q., Liu, P., Balasubramanian, R. (2015). "Chemical composition and acidity of size-fractionated inorganic aerosols of 2013-14 winter haze in Shanghai and associated health risk of toxic elements ". *Atmospheric Environment*, 122, 259-271. Elsevier Publisher (IF = 3.6).
- 8) **Behera, S.N.**, Sharma, M., Shukla, S.P. (2015). Characterization of Gaseous Pollutants and Water-Soluble Inorganic Ions in PM<sub>2.5</sub> during Summer Time at an Urban Site of North India. *Journal of Hazardous, Toxic, and Radioactive Waste*, 20(4), p.A4015002. ASCE Publisher (IF = 0.74).
- 9) **Behera, S.N.**, Sharma, M. (2015). Spatial and seasonal variations of atmospheric particulate carbon fractions and identification of secondary sources at urban sites in North India. *Environmental Science and Pollution Research*, 22(17): 13464-13476. SpringerLink Publisher (IF = 2.7).
- 10) **Behera, S.N.**, Sharma, M., Mishra, P.K., Nayak, P., Damez-Fontaine, B., Tahon, R. (2015). Passive measurement of NO<sub>2</sub> and application of GIS to generate spatially-distributed air monitoring network in urban environment. *Urban Climate*, 14, 396-413. Elsevier Publisher (IF = 3.1).
- 11) **Behera, S.N.**, Cheng, J., Balasubramanian, R. (2015). In situ acidity and pH of size-fractionated aerosols during a recent smoke-haze episode in Southeast Asia. *Environmental Geochemistry and Health*, 37(5): 843-859. SpringerLink Publisher (IF = 2.6).
- 12) Nayak, P., Sharma, M., **Behera, S.N.**, Thirunavoukkarasu, M., Chand, P.K. (2015). High-performance liquid chromatographic quantification of plumbagin from transformed rhizoclonal cultures of *Plumbago zeylanica* L.: inter-clonal variation in biomass growth and plumbagin production. *Applied Biochemistry and Biotechnology*, 175(3): 1745-1770. SpringerLink Publisher (IF = 1.8).
- 13) **Behera, S.N.**, Betha, R., Huang, X. and Balasubramanian, R., 2015. Characterization and estimation of human airway deposition of size-resolved particulate-bound trace elements during a recent haze episode in Southeast Asia. *Environmental Science and Pollution Research*, 22(6): 4265-4280. SpringerLink Publisher (IF = 2.6).
- 14) **Behera, S.N.**, Balasubramanian, R. (2014). "Influence of biomass burning on temporal and diurnal variations of acidic gases, particulate nitrate, and sulfate in a tropical urban atmosphere". *Advances in Meteorology*, Article ID 828491, <http://dx.doi.org/10.1155/2014/828491>. Hindwai Publisher (IF = 1.3).
- 15) **Behera, S.N.**, Sharma, M., Nayak, P., Shukla, S.P., Gargava, P. (2014). "An approach for evaluation of proposed air pollution control strategy to reduce levels of nitrogen oxides in an urban environment". *Journal of Environmental Planning and Management*, 57(4), 467-494. Taylor and Francis Publisher (IF = 1.1).
- 16) Betha, R., **Behera, S.N.**, Balasubramanian, R. (2014). "2013 Southeast Asian smoke haze: fractionation of particulate-bound elements and associated health risk". *Environmental Science & Technology*, 48(8), 4327-4335. ACS Publisher (IF = 6.2).

- 17) **Behera, S.N.**, Xian, H., Balasubramanian, R. (2014). "Human health risk associated with exposure to toxic elements in mainstream and sidestream cigarette smoke". *Science of The Total Environment*, 472, 947–956. Elsevier Publisher (IF = 5.1).
- 18) Liu, H.Y., Bartonova, A., Schindler, M., Sharma, M., **Behera, S.N.**, Katiyar, K., Dikshit, O. (2013). "Respiratory disease in relation to outdoor air pollution in Kanpur, India". *Archives of Environmental & Occupational Health*, 68(4), 204–217. Taylor and Francis Publisher (IF = 1.1).
- 19) **Behera, S.N.**, Sharma, M., Aneja, V.P., Balasubramanian, R. (2013). "Ammonia in the atmosphere: a review on emission sources, atmospheric chemistry and deposition on terrestrial bodies". *Environmental Science and Pollution Research*, 20(11), 8092–8131. SpringerLink Publisher (IF = 2.6).
- 20) **Behera, S.N.**, Betha, R., Liu, P., Balasubramanian, R. (2013). "A study of diurnal variations of PM<sub>2.5</sub> acidity and related chemical species using a new thermodynamic equilibrium model". *Science of the Total Environment*, 452, 286-295. Elsevier Publisher (IF = 5.1).
- 21) **Behera, S.N.**, Betha, R., Balasubramanian, R. (2013). "Insights into chemical coupling among acidic gases, ammonia and secondary inorganic aerosols". *Aerosol and Air Quality Research*, 13(4), 1282-1296. TAAR Publisher (IF = 2.6).
- 22) Shukla, S.P., Yadav, S.K., Lohani, B., Biswas, S., **Behera, S.N.**, Singh, N.B., Singh, N.K. (2012). "Characterization of traffic noise for a typical Indian road crossing". *Current Science*, 103(10), 1193-1201. IASC Publisher (IF = 0.9).
- 23) Aneja, V.P., Schlesinger, W.H., Erisman, J.W., **Behera, S.N.**, Sharma, M., Battye, W. (2012). "Reactive nitrogen emissions from crop and livestock farming in India". *Atmospheric Environment*, 47, 92-103. . Elsevier Publisher (IF = 3.6).
- 24) **Behera, S.N.**, Sharma, M. (2012). "Transformation of atmospheric ammonia and acid gases into components of PM<sub>2.5</sub>: An environmental chamber study". *Environmental Science and Pollution Research*, 19(4), 1187-1197. SpringerLink Publisher (IF = 2.6).
- 25) **Behera, S.N.**, Sharma, M. (2011). "Degradation of SO<sub>2</sub>, NO<sub>2</sub> and NH<sub>3</sub> leading to formation of secondary inorganic aerosols: An environmental chamber study". *Atmospheric Environment*, 45, 4015-4024. Elsevier Publisher (IF = 3.6).
- 26) **Behera, S.N.**, Sharma, M., Dikshit, O., Shukla, S.P. (2011). "GIS-based emission inventory, dispersion modeling, and assessment for source contributions of particulate matter in an urban environment". *Water, Air, & Soil Pollution*, 218(1-4), 423–436. SpringerLink Publisher (IF = 1.7).
- 27) Shukla, S.P., Agrawal, V., Singh, N.B., Shukla, R., Bhargava, D.S., **Behera, S.N.** (2011). "Water quality index of surface water in an industrial area in Kanpur city". *Journal of the Institution of Engineers (India): Environmental Engineering*. SpringerLink Publisher.
- 28) **Behera, S.N.**, Rout, J., Sharma, M., Gargava, P. (2013). "Development and evaluation of control strategies for reduction of ambient PM<sub>10</sub> levels in urban environment: Application of GIS and dispersion modeling". *Journal of Engineering Research and Applications*, 3(4), 2278-2294, IJERA Publisher.
- 29) **Behera, S.N.**, Sharma, M. (2010). "Reconstructing primary and secondary components of PM<sub>2.5</sub> aerosol composition for an urban atmosphere". *Aerosol Science and Technology*, 44(11), 983–992. AAAR Publisher (IF= 2.5).
- 30) **Behera, S.N.**, Sharma, M. (2010). "Investigating the potential role of ammonia in ion chemistry of fine particulate matter formation for an urban environment". *Science of the Total Environment*, 408, 3569–3575. Elsevier Publisher (IF = 5.1).
- 31) Sharma, M., Kishore, S., Tripathi, S.N., **Behera, S.N.** (2007). "Role of atmospheric ammonia in the formation of inorganic secondary particulate matter: a study at Kanpur, India". *Journal of Atmospheric Chemistry*, 58, 1-17. SpringerLink Publisher (IF = 1.7).
- 32) **Behera, S.N.**, Singh A.K., Prasad, S.C. (2005). Assessment of health effect due to urban vehicular traffic - A case study, *National Academy of Sciences Letters, India*. 28, 399-404. NASC Publisher (IF = 0.6).
- 33) **Behera, S.N.**, Singh A.K., Prasad, S.C. (2005). Assessment of vehicular pollution on urban air quality - An Indian case study. *Indian Journal of Environmental Protection*, 25, 727-731. (IF = 0.2).

### **Book chapter publications**

- 1) **Behera, S.N.**, Balasubramanian, R., (2016). "The air quality influences of vehicular traffic emissions". *Air Quality-Measurement and Modeling*, ISBN 978-953-51-2765-9, InTech Publisher.

- 2) **Behera, S.N.**, Sharma, M., Dikshit, O., Shukla, S.P. (2011). "Development of GIS-aided emission inventory of air pollutants for an urban area". *Advanced Air Pollution*, 16, 279-294, ISBN 978-953-307-511-2, InTech Publisher.

### **Conference publications**

- 1) Kumar, N., Chahal, A., **Behera, S.N.**, Yadav, S. (2016). Investigating human health risk assessment from exposure to air pollution in Indian Megacities. CHEMOCN 2016, Indian Chemical Engineering Congress held at A. C. Tech, Anna University, Chennai during 27-30 December, 2016.
- 2) Singh, G., **Behera, S.N.**, (2016). Development of a GIS-based optimization method for transportation routes in municipal solid waste management. *Recycle 2016, International Conference on Solid Waste Management*. Held at Indian Institute of Technology Guwahati during 1-2 April, 2016.
- 3) Sharma, M., **Behera, S.N.** (2011). "Influence of existing particle surfaces on formation of secondary inorganic aerosols in fine mode". European Aerosol Conference, Manchester, UK.
- 4) Aneja, V.P., Schlesinger, W.H., Erisman, J.W., Sharma, M., **Behera, S.N.**, Batty, W. (2010). "Reactive nitrogen emissions from crop and livestock farming in India", *ING Bulletins on Regional Assessment of Reactive Nitrogen*, Bulletin No. 3, (Ed. Himanshu Pathak), SCON-ING, New Delhi, pp i-iv & 1-18.
- 5) **Behera, S.N.**, Sharma, M., Gargava, P. (2010). "Evaluation of secondary organic aerosol contribution to PM<sub>2.5</sub> for an urban environment". IITK-BARC Conference on Advances in Environmental Monitoring, IIT Kanpur. Solar Press, Kanpur, ISBN 81-904444-1-5.
- 6) Bhatt, V., Behera, S.N., Sharma, M., Dikshit, O. (2009). "A nationwide GIS- based approach for development of emission inventory". 7th International Conference on Air Quality - Science and Application (Air Quality 2009), Istanbul, Turkey, 24-27.
- 6) **Behera, S.N.**, Dhada, I., Sharma, M. (2009). "A TiO<sub>2</sub>-based photo-catalytic oxidation system for reduction of VOCs in the Ambient Air. The IASTED International Conference on Environmental Management and Engineering, Banff, Alberta, Canada.
- 7) Sharma, M., Kishore, S., Tripathi, S.N., **Behera, S.N.** (2006). "Role of atmospheric ammonia in the formation of secondary particulate matter: a study at Kanpur, India". Workshop on Agricultural Air Quality: State of the Science Potomac, Maryland, USA.
- 8) **Behera, S.N.**, Sabat, A.K., Prasad, S.C. (2005). "Industry institute interaction in technical education". Proceedings of the IGC on Geotechnics in Environmental Protection (IGC-2005), Nirma Institute of Management Ahmadabad, India.
- 9) **Behera, S.N.**, Sabat, A.K., Prasad, S.C. (2005). "Utilization of fly ash to reduce environmental Pollution- A case study". Proceedings of the National Conference on Geotechnics in Environmental Protection (GEN-2005), Motilal Nehru National Institute of Technology Allahabad, India.
- 10) **Behera, S.N.**, Singh, A.K., Prasad, S.C. (2005). "Modeling of transport related air pollution for urban areas". Proceedings of National Conference on Advances in Road Transport (ART-2005), NIT Rourkela, India.
- 11) **Behera, S.N.**, Singh, A.K., Prasad, S.C. (2005). "Neural network model for traffic noise prediction". Proceedings of National Conference on Advances in Road Transport (ART-05), NIT Rourkela, India.

### **OTHERS:**

#### **Past research projects**

- Air group experimental in the project on 'energy and environmental sustainability solutions for megacities': sponsored by National Research Foundation, Singapore
- Environmental health assessment: Sponsored by Norwegian Institute for Air Research, Norway
- Air quality assessment, emissions inventory and source apportionment studies for Kanpur city: sponsored by Central Pollution Control Board Delhi, India
- Operation and maintenance of air quality station in Kanpur: Sponsored by Central Pollution Control Board Delhi, India
- Performance evaluation of Envirotech PM<sub>10</sub> sampler: Sponsored by Envirotech Centre for R&D, New Delhi, India
- Assessment of air pollution through dispersion modeling due to proposed thermal plants in Guwahati, India: Sponsored by Envirotech Centre for R&D, New Delhi, India

## Reviewer of Journals

- Atmospheric Environment, Elsevier Publisher
- Science of the Total Environment, Elsevier Publisher
- Journal of Environmental Management, Elsevier Publisher
- Atmospheric Research, Elsevier Publisher
- Environmental Pollution, Elsevier Publisher
- Air Pollution Research, Elsevier Publisher
- Environmental Science and Technology, ACS Publisher
- Atmospheric Chemistry and Physics, EGU Publisher
- Aerosol and Air Quality Research, Taiwan Association of Aerosol Research
- Environmental Science and Pollution Research, SpringerLink Publisher
- Water, Air & Soil Pollution, SpringerLink Publisher
- Ambio: A Journal of the Human Environment, SpringerLink Publisher
- International Journal of Environmental Science & Technology, SpringerLink Publisher

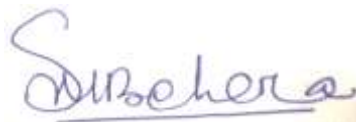
## REFERENCES:

Name	Dr. Mukesh Sharma	Dr. Onkar Dikshit	Dr. Rajasekhar Balasubramanian	Dr. Jun He
Occupation or Position	Professor	Professor	Associate Professor	Associate Professor
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## DECLARATION:

I hereby declare that the entries in the curriculum vitae are true to the best of my knowledge and belief.



Date: 11/03/2018

Place: Shiv Nadar University, Greater Noida

(Signature)