

Prof. Mukesh Khare, Ph.D. (UK), CE, FIE, FWIGB (UK)

Professor Mukesh Khare is the Fellow of Institution of Engineers India and Fellow of Wessex Institute of Great Britain. He is a Chartered Engineer and was born in Varanasi, India. He obtained his Ph.D. degree in Faculty of Engineering from Newcastle University, UK and has managed a range of environmental projects throughout his professional career. With a specialization in air quality modelling, Prof. Khare's experience has covered research and development studies, teaching, consulting, modelling, editorial activities. In addition, Prof. Khare has authored more than 150 research publications primarily for peer reviewed journals and conference proceedings. He has two sons and lives and work in Indian Institute of Technology Delhi, India.



Contact Information

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Professional Education

- 1984-1989: Ph.D. (Faculty of Engineering), Newcastle University, UK
- 1977-1979: M. Tech (Civil Engineering) University of Roorkee, India
- 1973-1977: B. Tech (Civil Engineering), University of Roorkee, India.

Appointments

- December 1979- March 1981: Assistant Design Engineer, Irrigation Design Organization, Roorkee, India.
- March 1981-April 1984: Assistant Environmental Engineer, Pollution Control Board, Agra/Lucknow, India.
- April 1984 -July 1989: Research Scholar/Demonstrator, Civil Engineering Department, University of Newcastle Upon Tyne, UK.
- October 1989 -April 1990: Fellow to Council of Scientific and Industrial Research (CSIR), National Environmental Engineering Research Institute (NEERI), Nagpur.
- August 1990- July 1996: Assistant Professor/Lecturer, Civil Engineering Department, IIT Delhi, India.
- July 1996 -June 1997: Lecturer – II, Civil Engineering Department, University of Technology, Lae, Papua New Guinea.
- July 1997 -January 2000: Assistant Professor, Civil Engineering Department, IIT Delhi, India.
- January 2000 – January 2005: Associate Professor, Civil Engineering Department, IIT Delhi, India.
- January 2005 – July, 2006: Professor, Civil Engineering Department, IIT Delhi, India
- July 2006 – June 2007 Atlantic LNG Chair Professor in Environmental Engineering, University of West Indies, St. Augustine, Trinidad and Tobago
- July 2007- to-date: Professor, Civil Engineering Department, IIT Delhi

Administration

- **Chairman**, Graduate Aptitude Test Examination (GATE), 2012-2013
- **Organizing Chairman**, Joint Admission for M.Sc. (JAM), 2012-2013
- **Dean**, Alumni Affairs and International Programme, IIT Delhi, 2014-2016
- **DAAD Fellow**, KIT, Germany
- **Honorary Patron**, Planet Earth Institute (PEI), London.
- **Founder Member**, Global Scientific Committee, PEI, London
- **Member**, Advisory Board, Blacksmiths, USA
- **Independent Director**, Board of Directors, Hindustan Copper Limited, Kolkata, India,
- **Independent Director**, Board of Directors, CMPDI, Ranchi, India.
- **Independent Director**, Board of Directors, EIL, Delh
- **Chairman**, Sustainable and CSR Committee, CMPDI, Ranchi
- **Chairman**, Stakeholder Committee, **EIL, Delhi**
- **Member**, SEIAA, Government of Delhi NCT, 2011-2014
- **Chairman**, SEIAA, Government of Delhi NCT, 2015 - to date

Awards and Distinctions

- National Merit Scholarship by Government of India -1969 to 1977.
- National Scholarship for Study Abroad, Ministry of Education, Government of India – 1984 to 1989.
- Overseas Research Student (ORS) Award by the Committee of Vice Chancellors and Principals, UK - 1987 to 1989.
- University Grant Fellowship Award by University Grant Commission, Government of India – 1977 to 1979.
- Best Outgoing Student Award by the Civil Engineering Department, University of Roorkee – 1977.
- Dr. M. G. Deshpande Memorial Prize, National Society of Fluid Mechanics & Fluid Power, India, for the best paper presented at the 2nd International and 29th National Conf. of Fluid Mechanics and Fluid Power, held at IIT, Roorkee, India, Dec. 12 – 14, 2002.

Grants (selected)

- Treatment of urinal wastewater using rotating biological contactor system. DST, India, Role-PI.
- Environmental evaluation of a public building located in urban centre with respect to indoor air quality. MHRD, India, Role-PI.
- Indoor air quality monitoring at offices/commercial complexes. DST, India, Role-PI.
- Development of advanced oxidation and microbial technology for dye waste water treatment. MoEF, India, Role-PI.
- Technology Enabled Universal Access to Safe Water (TECHNEAU)". EU, Role-Col.
- Environmental engineers of tomorrow: Developing a shared tool box through collaboration. EPSRC, UK, Role-PI.

- Monitoring and Characterization of Respirable Particles in Urban Environment (outdoor/ indoor) and their Association with Human Health”, AICTE, India, Role-Col.
- Performance Evaluation of Rotating Biological Contactors”, University of Karlsruhe, Germany, Role-Col.
- Evaluation of Quantitative Dispersion Models for Urban Air Quality Assessment. UKIERI, UK, Role-PI.
- Indoor Air Quality: Monitoring, Prediction, Exposure Assessment and Cleaning”, CEFIPRA, Ecole des Mines des Nantes, France, Role-PI.
- Comprehensive Environmental Pollution Index. CPCB, India, Role-Col.
- C V Raman International Fellowship for African Researchers. DST-FICCI, India, Role-PI.
- Ganga River Basin: Environmental Management Plan. MoEF, India, Role-Col.
- STREAT – Sustainable Semi-Decentralized Sewage Treatment – Wastewater Reuse, Nutrient Recovery and Biogas Production in the Delhi Metropolitan Area. MoEF, India, Role-PI.
- Wind Tunnel Simulation of Dispersion of PM10 and PM2.5 in Urban Corridor. UKIERI, New Delhi, India. Role-PI.
- Resource Building for Ecosystem and Human Health Risk Assessment with Special Reference to Microbial Contamination”, Obama-Singh Initiative, US-India, Role-Col.
- Interactive Systems and Coating for a Sustainable Built Environment. UKIERI, India, Role-Col.
- Receptor Modelling of Particulate Air Pollutants. UKIERI, India, Role-PI.
- Eco-Innovative Safe and Energy Efficient Materials (ECO_SEE)”, EU, FP7.0, Role-PI.

International Collaboration (selected)

- Ecole de Mines, Nantes, France (Prof. Michele Pavageau)
- Harvard University, Cambridge, USA (Prof. Peter Rodger)
- Ecole Nationale des Ponts (Paris), France (Prof. S. Modwel)
- University of West Indies, Trinidad & Tobago (Prof. S. Sankat)
- Groupe des Ecole des Mines (GEM), France (Prof. Michele Pavageau)
- Newcastle University, UK (Prof. Margaret Bell).
- PEI London, UK (Mr. Mauricio Fernandes)
- University of Birmingham, UK (Prof. Roy Harrison)
- University of Surrey, UK (Dr. Prashant Kumar)
- University of Bath, UK (Prof. Pete Walker)
- Desert Research Institute, USA (Prof. Judith Chow)

Recent Publications

- Prashant Kumar, Suresh Jain, B.R. Gurjar, Prateek Sharma, **Mukesh Khare**, Lidia Morawska (2013). “New Directions: Can a Blue Sky Return to a Indian Megacities?”, Atmospheric Environment, 71, pp. 1-4.
- Sumit Sharma, Prateek Sharma and **Mukesh Khare** (2013), “Hybrid modelling approach for effective simulation of reactive pollutants like Ozone”, Atm. Env, 80, pp408-14.

- Sunil Gulia, S.M. Shiva Nagendra and **Mukesh Khare** (2014), "Performance evaluation of ISCST3, ADMS-Urban and AERMOD for urban air quality management in a mega city of India", *Intern. J. of Sustainable Development and Planning*, Vol. 9 (6) pp. 778– 793.
- Sunil Gulia, S.M. Shiva Nagendra, **Mukesh Khare**, Khanna, I. (2015), "Urban air quality management-A review", *Atmospheric Pollution Research*, doi: 10.5094/APR.2015.033.
- Sunil Gulia, Akarsh Shrivastava, A.K. Nema and **Mukesh Khare** (2015). Assessment of urban air quality around a heritage site using AERMOD: A case study of Amritsar city, India. *Environmental Modelling and Assessment*, DOI: 10.1007/s10666-015-9446-6.
- Gulia S., Kumar A., and **Khare M.** (2015). Performance Evaluation of CALPUFF and AERMOD dispersion model for air quality assessment of an Industrial complex. *Journal of Scientific and Industrial Research*, 74 (05), 302-307.
- Isha Khanna, **Mukesh Khare**, Prashant Gargava (2015). Health Risks Associated with Heavy Metals in Fine Particulate Matter: A Case Study in Delhi City, India. *Journal of Geoscience and Environment Protection*, 2015, 3, 72-77
- Sunil Gulia, S.M. Shiva Nagendra, **Mukesh Khare** (2015) Comparative Evaluation of Air Quality Dispersion Models for PM_{2.5} at Air Quality Control Regions in Indian and UK Cities, *MAPAN*, 30(04), 249-260.
- Kumar, P., **Khare, M.**, Harrison, R. M., Bloss, W. J., Lewis, A., Coe, H., & Morawska, L. (2015). New Directions: Air pollution challenges for developing megacities like Delhi. *Atmospheric Environment*.

Books

- Khare, Mukesh and Prateek Sharma (2002), *Modelling Urban Vehicle Emissions*, WIT press, UK, under the *Advances in Transportation Engineering*.
- Khare, Mukesh and S M Shiva Nagendra (2007), *Artificial Neural Network in Vehicular Pollution Modelling*, Springer, under the *computational Intelligence Series*.
- Khare, Mukesh, Sankat, C K, Shrivastava, G and Venkobachara, C (2008), *Aluminium Smelting: Health, Environmental and Engineering Perspectives*, Ian Randle publishers, Jamaica.
- Khare, Mukesh (2012), *Air Pollution–Monitoring, Modelling, Health and Control*, In Tech Publishers, Croatia.
- Arun Kansal and Mukesh Khare (2009), *Environmental Policy Evaluation*, VDM, Germany.
- Radha Goel and Mukesh Khare (2010), *Indoor Air Quality in Naturally Ventilated Schools*, VDM, Germany.
- Priyanka Kulshrestha and Mukesh Khare (2010), *Indoor Air Pollution and Health - A Health Perspective*, VDM, Germany.
- Suresh Jain and Mukesh Khare (2010), *Urban Air Quality Modelling - A Neuro-Fuzzy Approach*, VDM, Germany
- Kaushik Shandilya, Mukesh Khare and Akhilendra Gupta (2012), *Characterization of Fine Air Particles in Delhi: Characterization and Speciation of Fine Particulates in Ambient Air in Delhi*, Lambert Academic Publications, USA.

Research interest

Urban air quality modelling; Air quality monitoring using sensor based technology; Indoor air quality monitoring, modelling and simulation using CFD;