

About Aligarh Muslim University

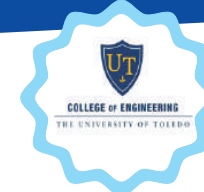
Aligarh Muslim university occupies a unique position amongst universities and institutes of higher learning in the country. It was established in 1920 by the efforts of great visionary and social reformer Sir Syed Ahmad Khan. Since inception, it has opened doors to the members of all communities and from all corners of the world.

Spread over 467.6 hectares in the city of Aligarh, Uttar Pradesh, Aligarh Muslim University offers more than 300 courses in traditional and modern branches of education. It ranks eight among top twenty research universities in India.

The university has 13 faculties comprising 117 teaching departments, 3 academies and 21 centres and institutes. It has more than 37327 students and 1686 teachers on its rolls. There are nineteen halls of residence with eighty hostels for students.

About the Department

Department of Civil Engineering was established in 1942. Since then it has been contributing to engineering education by offering one B.Tech. and five M. Tech. programs in different specializations of civil engineering. The department has thirty Professors, four Associate Professors and five Assistant Professors covering different specializations. The areas of specializations include Structural Engineering, Hydraulics and Water Resources, Environmental Engineering, Geotechnical Engineering and Earthquake and Disaster Mitigation. There are 52 research scholars working in different fields and 35 Doctoral degrees have been awarded till date. The faculty members have to their credit Multinational Research Projects and individual research grants from different funding agencies.



{GLOBAL INITIATIVE OF ACADEMIC NETWORK}

AIR QUALITY MODELING THEORY AND APPLICATIONS

July 25 – 29 , 2022

Organized by

Environmental Engineering Section
Department of Civil Engineering
Z.H.College of Engineering and Technology
Aligarh Muslim University, Aligarh



Prof. Ashok Kumar

University of Toledo, USA



Prof. Mukesh Sharma

I.I.T., Kanpur



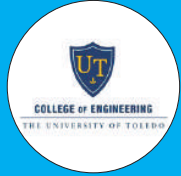
Course Coordinator

Prof. Izharul Haq Farooqi

Prof. Izharul Haq Farooqi, Course Coordinator
Mobile +9412176757, Email: farooqi.cv@amu.ac.in

CONTACT:





AIR QUALITY MODELING: THEORY AND APPLICATIONS



Overview

Air pollution is a complex environmental problem in India. Government agencies are involved in reducing the levels of air pollutants throughout India. Air quality modeling is applied in making regulatory decisions in order to control air pollution. This course emphasizes the basic elements of air quality modeling. The course will cover the structure, input data requirements, theoretical framework, and the output from the modeling systems.

The course is intended for scientists and engineers with little or no familiarity of air quality modeling. The participants can expect to gain familiarity with 1) overview of air quality models for point and area sources, 2) input data, 3) theory to compute concentrations under different conditions, 4) results for air quality assessment studies, 5) risk assessment, and 6) Special topics related to India.

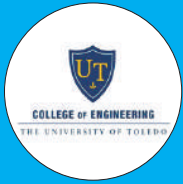
Objectives: The broad objectives of the course include

1. Development of a strong understanding of air quality models and associated input data
2. Role of meteorology
3. Modeling theory
4. Area source modeling
5. Risk modeling and Applications
6. Source Apportionment Modelling through Chemical Mass Balance (CMB) and Positive Matrix Factorization (PMF) Techniques

Who Can Attend:

- Faculty from Reputed Academic, Research and Technical institutions.
- Practicing Engineers and Professionals from Govt. and other Institutions
- Students at all levels (BTech/MTech/PhD)





AIR QUALITY MODELING: THEORY AND APPLICATIONS



Technical Program

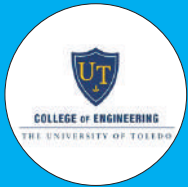
Date	Lecture	Topic	Faculty
25-7-22	Lecture 1	Introduction to Air Quality Modelling	Prof. Ashok Kumar
25-7-22	Lecture 2	Atmospheric Meteorology	Prof. Ashok Kumar
25-7-22	Tutorial 1	Problem Solving Session	Prof. Ashok Kumar and Prof. I.H.Farooqi
26-7-22	Lecture 3	Plume Rise and Concentration Calculations from Industrial Stacks	Prof. Ashok Kumar
26-7-22	Lecture 4	Plume Rise: Analytical Solutions, Momentum sources, Buoyant plumes, Semi-empirical equations, Numerical models, Jets	Prof. Ashok Kumar
26-7-22	Tutorial 2	Problem Solving Session	Prof. Ashok Kumar and Prof. I.H.Farooqi
27-7-22	Lecture 5	Area Source Modelling for gaseous and Particulate Releases	Prof. Ashok Kumar
27-7-22	Lecture 6	USEPA's AERMOD Model and its Applications	Prof. Ashok Kumar
27-7-22	Tutorial 3	Problem Solving Session	Prof. Ashok Kumar and Prof. I.H.Farooqi
28-7-22	Lecture 7	Mobile Source Modeling and Heavy Gas Models	Prof. Ashok Kumar
28-7-22	Lecture 8	Model Evaluation and Risk Modeling: Statistical Parameters for Air Quality Model Evaluations and Case Histories Risk due to air pollutants (NRC Model for Risk Assessment, Environmental Fate and Exposure Algorithms, Linear and Non-Linear Models for Risk)	Prof. Ashok Kumar
28-7-22	Tutorial 4	Problem Solving Session	Prof. Ashok Kumar and Prof. I.H.Farooqi
29-7-22	Lecture 9	Source Apportionment Modelling through Chemical Mass Balance (CMB) and Positive Matrix Factorization (PMF) Techniques – Part 1	Prof. Mukesh Sharma
29-7-22	Lecture 10	Source Apportionment Modelling through Chemical Mass Balance (CMB) and Positive Matrix Factorization (PMF) Techniques – Part 2	Prof. Mukesh Sharma
29-7-22	Tutorial 5	Problem Solving Session	Prof. Mukesh Sharma and Prof. I.H.Farooqi

Registration Fee

Participants from Academic Institutes	Rs. 2000/-
Participants from Industry and Non Academic Organizations	Rs. 3000/-
Research Scholars M. Tech Students	Rs. 1500/-

Mode of Payment In the form of Demand Draft drawn in favor of "AIR QUALITY MODELING"
Bank Transfer Details
BANK NAME & BRANCH : CANARA BANK
AMU, ALIGARH
BENEFICIARY NAME: AIR QUALITY MODELING
A/C NO: 110053306297
IFSC CODE: CNRB0005247
MICR CODE: 202015013





AIR QUALITY MODELING: THEORY AND APPLICATIONS



International Faculty

Dr. Ashok Kumar is distinguished university professor emeritus and ex chair of Civil and Environmental Engineering and an adjunct professor of Public Health at The University of Toledo, Toledo, Ohio. He has 40 years' experience in teaching and research on basic and industrial problems in the fields of air quality modeling, risk assessment and application of computers. Before coming to Toledo he worked for Syncrude Canada Ltd. as an atmospheric physicist where he developed, planned and conducted studies related to the dispersion of emissions of a tar sands plant. Dr. Kumar received his Bachelors of Science in Engineering (Honors) from Aligarh University in India (1970), his Masters of Applied Science (Mechanical Engineering) from University of Ottawa, Canada (1972) and his Ph.D. in air pollution from the University of Waterloo, Canada (1978). He was registered as a Professional Engineer in the Province of Alberta, Canada and a Diplomat of the American Academy of Environmental Engineers. He is a fellow member of Air and Waste Management Association (A&WMA). He received Layman A. Ripperton Award for distinguished achievement as an educator in the field of air pollution control in June 2003 from A&WMA. He is an honorary member of A&WMA. Dr. Kumar is author or co-author of more than 450 peer-reviewed papers, book chapters, conference papers and reports.



National Faculty



Prof. Mukesh Sharma has obtained Bachelor's degree in Civil Engineering from Indore University in 1980, Masters from I.I.T., Kanpur in 1982 and Doctorate from University of Waterloo Ontario Canada in 1994. He is serving as a Professor at I.I.T. Kanpur from 1997 onwards. Before joining IIT Kanpur he has served in Central Pollution Control Board New Delhi. He has also served at National Institute of Urban Affairs New Delhi. His areas of interest include Air Quality Modelling and Management, Characterization of PM_{2.5}; Formation of Secondary Particles, Source Apportionment Study; Exposure Assessment; Human and Ecological Risk Assessment, Environmental Fate Processes and Modelling, Air Quality Index; Emission Monitoring, GHG Emissions Assessment and Mitigation. He has published 86 research papers in peer reviewed journals and made more than 30 presentations in conferences. He has delivered a number of key note lectures and has nine book chapters to his credit. Prof. Sharma has received a number of awards both in India and abroad. Prof. Sharma has undertaken a number of international research projects worth US\$ 350000

Course Coordinator

Prof. Izharul Haq Farooqi has been working in the environmental engineering field for the last thirty two years. The areas of specialization are water and wastewater treatment including Biological treatment, Biodegradation of toxic wastes, corrosion control. Teaching interests include Biological treatment of wastewaters, environmental chemistry and microbiology, Industrial water treatment. Dr. Farooqi has published more than one hundred research papers in refereed journals and conferences abroad. Dr. Farooqi has supervised seven Ph.D thesis and 73 M. Tech. Dissertations. Dr. Farooqi has organized three international conferences and a number of National and International workshops on different topics of environmental engineering. Dr. Farooqi has undertaken research projects from different agencies like Ministry of Environment and Forest, UGC, UPCST, UNICEF and DST. Besides he was awarded with Young Scientist Award by UP Council of Science and Technology. Part from research projects Dr. Farooqi has taken a number of consultancy assignments from different govt. and private organizations.



Local Coordinator, GIAN at AMU



M. J. Warsi is the Professor and Chairperson, Department of Linguistics, Aligarh Muslim University (AMU), Aligarh. Prior to AMU he taught at University of Michigan, Ann Arbor, USA, University of California at Berkeley, USA, and Washington University in St. Louis, USA. Professor Warsi, is the recipient of the James E. McLeod Faculty Award for the year 2012 at Washington University in St. Louis, USA. He is a gold medalist from Aligarh Muslim University and a West Bengal Urdu Academy award holder. In the year 2005 Prof. Warsi was named an "unsung hero" by the Chancellor of the University of California at Berkeley, USA. He has published numerous books, research papers and in the area of applied linguistics. His academic findings help to understand the efficacy of the common contact in languages, culture and identity. He is also serving as the Editor-in-Chief, Aligarh Journal of Linguistics (AJL), a UGC-Care-listed journal. He has delivered invited lectures, talks and keynote addresses at many Universities in India and abroad. He has been the recipient of several grants including a \$25000 grant by South Asia Language Resource Centre, University of Chicago, USA. Freeman Foundation Grant by University of Michigan, Ann Arbor, USA, and Mini Professional Development grant by University of California at Berkeley, USA. Professor Warsi is currently serving as Local Coordinator, GIAN at Aligarh Muslim University, Aligarh.