

WINTER SCHOOL
ON
SOURCE APPORTIONMENT, MODELLING AND HEALTH RISK

Sunday, 27th November 2022
Venue: IC & SR Auditorium, IIT Madras

Module 1: Air pollution: sources and health impacts

08:30-09:00	Registration & Orientation	
09:00-09:30	INAUGURATION Welcome address & course overview: Prof. Shiva Nagendra S.M., Dept. of Civil Engg, IIT Madras Address by Chief Guest: Prof. Devendra Jalihal, Chairman, Center for Continuing Education, IIT Madras	
09:30-09:45	Introduction of the Participants	
09:45-10:30	<i>Basics of air pollution, current challenges and opportunities</i>	Prof. Shiva Nagendra S M, IIT Madras
10:30-11:15	<i>Measurement & chemical characterization of particulate matter</i>	Prof. R Ravi Krishna, IIT Madras
11:15-11:30	Break	
11:30-12:15	<i>Air pollution impacts on the surrounding environment</i>	Dr. Madhusudanan M, CPCB
12:15-13:00	<i>Air pollution impacts on human respiratory health</i>	Dr. Mahesh PA, JSS Medical College
13:00-14:00	Lunch Break	
14:00-14:45	<i>Influence of meteorology on air quality</i>	Prof. Chandan Sarangi, IIT Madras
14:45-15:30	<i>Emission inventory of air pollutants in urban areas</i>	Dr. Saroj Kumar Sahu, Utkal University
15:30-15:45	Break	
15:45-17:45	<i>Fluidyn air quality prediction software training session</i>	Mr. Krishnaprasad U, Fluidyn

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Module 2 & 3: Source apportionment, modeling & health risk assessment

09:00-09:45	<i>Air quality governance in India: Policy issues related to air quality management</i>	Dr. Ajay A Deshpande, IIT Bombay
09:45-10:30	<i>Measurement & chemical characterization of gaseous pollutants</i>	Prof. Kraichat Tantrakarnapa, Mahidol University
10:30-11:15	<i>Dispersion modeling</i>	Dr. Chandan Sarangi, IIT Madras
11:15-11:30	Break	
11:30-12:45	<i>Source apportionment and application of PMF and CMB model</i>	Prof. Shiva Nagendra and Dr. Jithin Jose, IIT Madras
13:00-14:00	Lunch Break	
14:00-14:45	<i>Urban Air Pollution: Why we should care!</i>	Dr. Harish Phuleria, IIT Bombay
14:45-15:30	<i>Case studies of air pollution exposure assessment</i>	1. Dr. Jithin Jose 2. Dr. Dheeraj Alshetty V 3. Dr. Amit Passi
15:30-15:45	Break	
	Pre-conference workshop on technical writing	
15:45-16:45	<i>Pre-Conference workshop on scientific writing for budding authors</i>	Ms. Kamiya Khatter, Springer
	Demonstration of instruments	
16:45-17:30	<i>Demonstration of particulate & gaseous sampling instruments</i>	Jithin, Aswin, Haritha & Sahana, IIT Madras

7th INDIAN INTERNATIONAL CONFERENCE ON AIR QUALITY MANAGEMENT

IICAQM-2022

MEASUREMENT, MODELLING, HEALTH RISK AND PUBLIC POLICY

29 November - 01 December 2022

Tuesday, 29 th November 2022		DAY 1 of 3	Venue: IIT Madras
08:30-09:00		Registration	
09:00-09:30		INAUGURATION Welcome: Prof. Robinson R.G., IIT Madras About Conference: Prof. Shiva Nagendra S.M., IIT Madras Inaugural Address: Dr. Jayanthi M., I.F.S., TNPCB Chairperson Presidential Address: Prof. V. Kamakoti, Director, IIT Madras Closing Remarks: Prof. Kraichat Tantrakarnapa, Mahidol University (MC: Ms. Gopika I and Ms. Sruthi Jayaraj)	
09:30-10:00		Felicitation "Air Quality Management Research Lifetime Achievement Award" About the Award: Prof. Mukesh Sharma, IIT Kanpur Introduction of Awardee: Prof. Sharad Gokhale, IIT Guwahati Awardee Acceptance Speech: Dr. Prashant Gargava, CPCB Moderator: Prof. Shiva Nagendra SM, IIT Madras (MC: Ms. Gopika I)	

10:00-11:40	INVITED TALKS Chair: Prof. Shiva Nagendra S. M. (IIT Madras) Rapporteur: Gopika I (IIT Madras)	
10:00-10:30	<i>Keynote Address 1: Air quality management in India: A policy perspective</i>	Dr. Prashant Gargava, CPCB
10:30-11:00	<i>Keynote Address 2: Air quality in India: Wish-list to reality</i>	Prof. Virendra Sethi, IIT Bombay
11:00-11:20	<i>Invited Talk 1: Air quality science and management: Heal the void</i>	Dr. Gufran Beig, IISC Bangalore
11:20-11:40	<i>Invited Talk 2:</i>	Prof. Sharad Gokhale, IIT Guwahati
11:40-11:50	Tea/Coffee Break	
11:50-12:45	Technical Session I: Air quality measurement and monitoring Chair: Prof. Kraichat Tantrakarnapa (Mahidol University) and Dr. Aditya Kumar Patra (IIT Kharagpur) Rapporteur: Dr. Amit Passi (IIT Madras)	
11:50-12:05	<i>Paper 1 - Measurement of particulate matter levels in and around the mining area using low-cost sensors</i>	Abhishek Penchala, IIT Kharagpur
12:05-12:20	<i>Paper 2 - Measurements of size resolved nano particle concentration and its distribution in polluted urban environment during induced fire work event</i>	Kanagaraj Rajagopal, Delhi Technological University
12:20-12:35	<i>Paper 3 - Analysis of India's air quality using data analysis tools</i>	S. Kisanth, Universal Matriculation Higher Secondary School, Edappadi
12:35-12:50	<i>Paper 4 - Effect of heatwave in pollutant concentration in Kolkata city during summer 2022</i>	D. Saha, Dept. of Environment, Govt. of West Bengal
12:50-13:05	<i>Paper 5 - Air quality monitoring and alerting system to reduce asthma attacks in children</i>	Sasitharan G., Sri Krish International School, Kovur
12:45-14:00	Lunch Break	
14:00-15:10	INVITED TALKS Chair: Prof. Virendra Sethi (IIT Bombay) Rapporteur: Dr. Jithin Jose (IIT Madras)	
14:00-14:30	<i>Keynote Address 3: Air quality management and energy security: Transport sector</i>	Prof. Mukesh Sharma, IIT Kanpur

14:30-14:50	<i>Invited Talk 3: Assessment of vertical and horizontal PM Profile using UAV systems</i>	Dr. Aditya Kumar Patra, IIT Kharagpur
14:50-15:10	<i>Invited Talk 4: Characterization of vehicular exhaust emissions and super-emitters: Real-world studies</i>	Dr. Harish Phuleria, IIT Bombay
15:10-15:30	Tea/Coffee Break	
15:30-16:45	Technical Session II: Source Apportionment and Emission Inventory Chair: Dr. Aditya Kumar Patra (IIT Kharagpur) and Dr. Harish Phuleria (IIT Bombay) Rapporteur: Ms. Diya M (IIT Madras)	
15:30-15:45	<i>Paper 6 - Chemical characteristics, source apportionment and health risk analysis of atmospheric particulates at the urban-traffic site in Vijayawada city, Andhra Pradesh India</i>	Manuj Sharma, IIT Tirupati
15:45-16:00	<i>Paper 7 - A review of problems and directions in creating a region-specific emission inventory for the agricultural sector</i>	Thirunagari Baby Keerthi, IIT Delhi
16:00-16:15	<i>Paper 8 - Multiscale analysis of PM2.5 - PM10 relationships in the Caribbean area</i>	Adarsh S., TKMCE Kollam
16:15-16:30	<i>Paper 9 - Mapping of PM10 using GIS in Thiruvananthapuram corporation</i>	Meera Mohan, CET Trivandrum
16:30-16:45	<i>Paper 10 - Assessment of factors influencing visibility for south Indian heritage city</i>	Savitha Ulavi, SJCE Mysore
16:45-18:00	Poster Presentation Session: Elevator Pitch (P1-P13) at Exhibition Hall, IC & SR Chairs: Prof. Kraichat T, Mahidol University, Dr. Madhusudanan M, CPCB, Dr. Krishnamurthy, NEERI, and Dr. Suresh Pandian, ISM Dhanbad	
19:00-19:45	Cultural Programme: Athma academy of dance	
20:00-21:30	Conference Dinner Venue: AC Dining Hall, ICSR	

Wednesday, 30 th November 2022		DAY 2 of 3	Venue: IIT Madras
09:00-11:00	<p align="center">INVITED TALKS</p> <p align="center">Chair: Prof. Shiva Nagendra S.M. (IIT Madras) Rapporteur: Ms. Sruthi Jayaraj (IIT Madras)</p>		
09:00-09:30	<i>Keynote Address 4: Current status of air pollution control in India and new initiatives taken to improve air quality by various regulatory agencies</i>	Dr. B. Sengupta, Former Member Secretary, CPCB	
09:30-10:00	<i>Keynote Address 5: Health impacts of Australian climate disasters</i>	Prof. Sotiris Vardoulakis, Australian National University (Online)	
10:00-10:20	<i>Invited Talk 5: Molecules to devices: solid-state sensors for environmental monitoring</i>	Prof. Praveen Ramamurthy, IISC Bangalore	
10:20-10:40	<i>Invited Talk 6: Configuring low-cost low accuracy sensors to yield accurate air-quality data</i>	Prof. Devendra Jalihal, IIT Madras	
10:40-11:00	<i>Invited Talk 7: Study on emission reduction benefits from the HEMMs used in opencast coal mines due to the implementation of latest emission standards</i>	Dr. Suresh Pandian Elumalai, IIT ISM Dhanbad	
11:00-11:30	Tea/Coffee Break		
11:30-12:45	<p align="center">Technical Session III: Applications of Modelling tools in Air Quality Management</p> <p align="center">Chair: Dr. Chandan Sarangi (IIT Madras) and Dr. Rema T (CPCB consultant) Rapporteur: Ms. Lakshmi Pradeep (IIT Madras)</p>		
11:30-11:45	<i>Paper 11 - Analysis of PM10 and PM2.5 concentration under transport policies and statistical modelling</i>	Udita Gupta, Gautham Buddha University, Uttar Pradesh	
11:45-12:00	<i>Paper 12 - Modeling the effects of vehicular traffic on PM2.5 using artificial neural networks</i>	Naina Gupta, School of Planning and Architecture, Delhi	
12:00-12:15	<i>Paper 13 - Spatial variation of radiation balance during the dust storm event of 2nd may 2018 over the northern India</i>	Dola Tharun, NIT Rourkela	
12:15-12:30	<i>Paper 14 - Assessment of crop yield loss due to surface ozone pollution over Delhi NCR and Indo Gangetic plain region using different ozone exposure matrices</i>	Pooja Saroj, University of Delhi	
12:30-12:45	<i>Paper 15 - Long-term health effects of PM2.5 due to agricultural biomass burning in Mandya district, Karnataka</i>	Sarup Das, IIT Madras	

12:45-14:00	Lunch Break	
14:00-15:40	INVITED TALKS Chair: Prof. Praveen Ramamurthy (IISc Bangalore) Rapporteur: Mr. Aswin Giri (IIT Madras)	
14:00-14:20	<i>Invited Talk 8: Observational evidence of elevated smoke layers during crop residue burning season over Delhi: potential implications on associated heterogeneous PM_{2.5} enhancements</i>	Dr. Chandan Sarangi, IIT Madras
14:20-14:40	<i>Invited Talk 9: Surface ozone variability and trends over the Indian region</i>	Prof. Ravi K Kunchala, IIT Delhi
14:40-15:00	<i>Invited Talk 10: PM concentrations measurements associated with different modes of transport in urban traffic environment</i>	Prof. R. Ravi Krishna, IIT Madras
15:00-15:20	<i>Invited Talk 11: Thailand PM_{2.5} footprint: A tool for air quality management</i>	Dr. Trakarn Prapasongsa, Mahidol University
15:20-15:40	<i>Invited Talk 12: Clean air programme for mitigation of air pollution and challenges in urban areas</i>	Dr. Rema Thankappan, CPCB Consultant
15:40-16:00	Tea/Coffee Break	
16:00-17:00	Technical Session IV: Policy and Environment Chair: Prof. Ravi Kunchala (IIT Delhi) and Dr. Suresh Pandian Elumalai (IIT ISM Dhanbad) Rapporteur: Ms. Savitha Ulavi (IIT Madras)	
16:00-16:15	<i>Paper 16 - Investigation of occupational thermal comfort in urban subway stations</i>	Dr. Amit Passi, IIT Madras
16:15-16:30	<i>Paper 17 - Regulations for running air conditioners in public buildings and recognition of biological pollutants for implementing the right to a healthy environment</i>	Raja Singh, School of Planning and Architecture, Delhi
16:30-16:45	<i>Paper 18 - Managing conflicting goals: a case study on ESG of coal India limited</i>	Varsha Singh, IIM Amritsar
16:45-17:00	<i>Paper 19 - Effect of weekdays and weekends on ambient PM_{2.5} levels across five Indian metropolitan cities</i>	Darpa Saurav Jyethi, ISINE, Tezpure

**WORKSHOP
ON
INDOOR AIR QUALITY MANAGEMENT**

Thursday, 1st December 2022		DAY 3 of 3	Venue: IIT Madras
08:30-10:50	INVITED TALKS Chair: Dr. Madhusudanan M (CPCB) Rapporteur: Dr. Laxmiprasad (IIT Madras)		
08:30-09:00	<i>Keynote Address 6: Air pollution modelling over the last 50 years</i>	Prof. Akula Venkatram, University of California, Riverside (Online)	
09:00-09:30	<i>Keynote Address 7: Climate change, air quality and health impact: Thailand perspectives</i>	Prof. Kraichat Tantrakarnapa, Mahidol University	
09:30-09:50	<i>Invited Talk 13: Health impacts induced by air pollution</i>	Dr. Krishnamurthi Kannan, NEERI	
09:50-10:10	<i>Invited Talk 14: Air quality improvement measures in urban centres of Karnataka</i>	Mr. Mahesh T., KSPCB	
10:10-10:30	<i>Invited Talk 15: Is it time to make PM_{2.5} component specific clean air plans in India?</i>	Dr. Sri Harsha Kota, IIT Delhi	
10:30-10:50	<i>Invited Talk 16: Application of particle dosimetry modeling for human health risk assessment</i>	Dr. Amit Passi, IIT Madras	
10:50-11:15	Tea/Coffee Break		
11:15-12:30	Technical Session V: Indoor Air Quality-Measurement, Modelling, and Control Chair: Dr. Krishnamurthi Kannan (NEERI) and Dr. Chitra V.S (CWRDM) Rapporteur: Dr. Deepthi Yaparla (EPTRI Telangana)		
11:15-11:30	<i>Paper 20 - Development and evaluation of photocatalytic geopolymers to improve indoor air quality</i>	J. T. Wilson, University of Bath	
11:30-11:45	<i>Paper 21 - Exposure vulnerability assessment towards indoor air pollutants: A case study</i>	Dr. Lawrence, Isabella Thoburn College, Lucknow	
11:45-12:00	<i>Paper 22 - Study on air pollution tolerance index of selected indoor plants</i>	Amrutha B. Nair, CET Trivandrum	
12:00-12:15	<i>Paper 23 - Assessment of airborne bacteria near sewage treatment plant</i>	Gopika Chandran, CET Trivandrum	
12:15-13:30	Lunch Break		
13:30-15:00	WORKSHOP: INDOOR AIR QUALITY MANAGEMENT		

INVITED TALKS SESSION 1 Chair: Dr. A. Chitra (MMC) Rapporteur: Mr. Sarup Das (IIT Madras)		
13:30-14:00	<i>Keynote Address 8: Importance of bedroom IAQ on sleep quality</i>	Prof. Chandra Sekhar, National University of Singapore (Online)
14:00-14:20	<i>Invited Talk 17: Thermal comfort evaluation in indoor built environments</i>	Prof. Maiya M.P., IIT Madras
14:20-14:40	<i>Invited Talk 18: Air pollution and birthweight in India: the challenge of piecing the evidence for action</i>	Dr. Kalpana Balakrishnan, Sri Ramachandra University
14:40-15:00	<i>Invited Talk 19: HVAC system capabilities in minimizing airborne disease transmission risk in indoor environments</i>	Mr. Shankar Rajasekaran, IMPEC filters
15:00-15:20	Tea/Coffee Break	
INVITED TALKS SESSION 2 Chair: Dr. Sri Harsha Kota (IIT Delhi) Rapporteur: Ms. Mamatha M. (IIT Madras)		
15:20-15:40	<i>Invited Talk 20: Respiratory morbidity due to pollution among workers in unorganized sector</i>	Dr. A. Chitra, Madras Medical College
15:40-16:00	<i>Invited Talk 21: Source apportionment and health risk assessment of indoor particulate matter</i>	Dr. V. S. Chithra, CWRDM
16:00-16:20	<i>Invited Talk 22: Evaluation of fuel and stove alternatives to control biomass emissions in rural settings</i>	Dr. Deepthi Yaparla, EPTRI Telangana
16:20-17:00	Panel Discussion on Air Pollution: A comprehensive Perspective	
17:00-17:30	Valedictory, Prize Distribution	