**Name:** **TUHIN KUMAR MANDAL**
Date of Birth: 04-01-1967
Postal address: National Physical Laboratory
Dr. K.S. Krishnan Marg
New Delhi 110 012
India
E-mail: tuhin@nplindia.org / tuhin_m@yahoo.com/
tuhinkumarmandal@gmail.com

**EDUCATION**

- Ph.D, 1999, Delhi University,
- M.Sc (Physics) 1990, Calcutta University,
- B.Sc (Physics) 1988, Calcutta University

**TITLE OF THESIS:**

Stratosphere-troposphere interchange of chemical active minor species (**Supervisors: Dr. A.P.Mitra and Dr. O.P.Nagpal)**

**PROFESSIONAL CAREER:**

- Chief Scientist 2019- till date, NPL
- Senior Principal Scientist 2014- 2019, NPL
- Principal Scientist, 2009- 2014, NPL
- Scientist E-I, 2005-2009, NPL
- Scientist C, 2001-2005, NPL
- Scientist B, 2000-2001, NPL
- INDOEX, SRF, CSIR, 1998-2000, NPL
- INDOEX RA-DOS, 1997-1998, NPL
- SRF, CSIR, 1994-1997, NPL
- JRF, CSIR, 1992-1994, NPL

**SCHOLARSHIP AND AWARD:**

1. Guest Faculty, School of Environmental Studies, Delhi University, 2006
2. BOYSCAST Fellowship, DST, Max Plank Institute for Chemistry, Mainz, Germany, (2002)
3. START Young Scientist Award, START, USA (1999),
4. Qualified CSIR-UGC (NET) (1991),
5. National Merit Scholarship in B.Sc (10+2+3).
6. National Merit Scholarship in H.S (10+2),
7. National Loan Scholarship in Madhyamik (10)

**Others:** Member, American Geophysical Union, USA; Member, Advispry Editorial Board, Environmental Science: Atmosphere, Royal Society of Chemistry, UK

**PROJECTS:**

- Completed- 17
- Ongoing- 03

**PUBLICATIONS**

- SCI Journals: 173
- Reports/Book: 06

**STUDNETS SUPERVISED**

- PhD: 14 (completed), 3 (ongoing)
- MTech: 6
- MSc: 23

(T.K.Mandal)
Chief Scientist

**PROJECT INVOLVED**

| S. No | Title of the Project | Funding Agency | Period | Status | Role | Nodal Agency | Collaborators |
|---|---|---|---|---|---|---|---|
| 1 | Changing atmosphere, Biosphere, Geosphere & socio-economic activities in Sunderban activities in Sunderban data | CSIR | 2003-08 | Complete | Co-PI | Jadavpur University | Jadavpur University |
| 2 | Network Project by CSIR-Impact of anthropogenic perturbations on oceanographic–atmospheric processes in and around India in the context of Global Change (CMM-0009) | CSIR | 2004-08 | Complete | Team Member | CSIR-NIO | CSIR-NIO, CSIR-NGRI CMMAC, Bangalore |
| 3 | Asian Ozone Pollution in Eurasian Perspective- | APN | 2005-08 | Complete | Co-PI | JAMESTEC-JAPAN | PRL, JASTEC, JAPAN |
| 4 | Centre for Astroparticle Physics & Space Sciences-A National Facility at Bose Institute | DST | 2004-09 | Complete | Co-PI | Bose Institute | Bose Institute, IITM, Pune |
| 5 | Estimates of Indoor Air Pollution Emitted from fuels used in residential Sector of Northern India, Sponsored to GGS Indraprastha University, Delhi and NPL is collaborator of this program | CSIR | 2006-10 | Complete | CO-PI | IGIT, IP University | Indira Gandhi Delhi Technological University for Women, Delhi |
| 6 | Study on effect of total solar eclipse on atmospheric parameters | ISRO/DOS | 2009-10 | Complete | Co-PI | CSIR-NPL | Space Physics laboratory, Trivandrum |
| 7 | Study of the effects of atmospheric dynamical activity (long and short term) in the tropical tropopause region: implication on the stratosphere-troposphere exchange of the minor constituents- | ISRO/DOS | 2007-12 | Complete | PI | CSIR-NPL | Rajdhani College, Delhi University |
| 8 | Evaluation of emission factors and budgets and particulate matter of relevance to climate change emitted by fuels particularly biomass used in India by the rural sector and small-scale industries | DST | 2007-11 | Complete | PI | CSIR-NPL | |
| 9 | Study on temporal variation of aerosol in relation with variation of boundary layer at Giridih (Indo-Gangetic plain) | ISI | 2010-12 | Complete | Co-PI | ISI, Kolkata | ISI, Kolkata |
| 10 | Environmental contaminants: New Screening technologies and effect on human health (NWP-17) | CSIR | 2007-12 | Complete | Team Member | CSIR-IITR, | IITR, CMAAC |

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|---|---|---|---|---|---|---|---|
| 11 | Study of distribution and sources of ambient ammonia over NCR Region (Delhi), | DST | 2009-12 | Complete | Co-PI | CSIR-NPL | IARI, Delhi |
| 12 | Probing the changing atmosphere and its impact in the Indo-Gangetic Plains (IGP) and Himalayan Regions (AIM-IGPHim) (PSC 0112) | CSIR | 2012-17 | Complete | Team Member | CSIR-NPL | NPL, NEERI, IHBT, IMMT, NIEST, NGRI, NAL,CMMACS, CRRI, CIMAP |
| 13 | Upper Tropospheric And Lower Stratospheric Water Vapor Distribution And Variability Over Tropical Region: Implication On Stratosphere-Troposphere Exchange | ISRO/ DOS | 2011-14 | Complete | PI | CSIR-NPL | Space Physics Laboratory, Trivandrum |
| 14 | Analysis and modeling of atmospheric pollutants over Indo-Gangetic Plain | CSIR | 2013-2015 | Complete | Co-PI | | |
| 15 | Study of seasonal variation of ozone precursors in relation with surface ozone over Delhi, a mega city | ISRO/ DOS | 2012-18 | Ongoing | PI | CSIR-NPL | PRL, Ahmedabad |
| 16 | National Carbonaceous Aerosols Programme Working Group III: Modeling carbonaceous aerosol source influence and atmospheric effects (Association Institute) | MoEF&CC | 2016-2021 | Ongoing | PI | IIT-Mumbai | IIT-Delhi, IIT-Kanpur, IIT-Madras, IISER-Bhopal, IIT-Kharagpur, IITM, Pune, Bose Institute, NEIST |
| 17 | Megacity Delhi atmospheric emission quantification assessment and Impact (Delhi-Flux) | MoES | 2017-2021 | Ongoing | PI | IIT Roorke | Centre for Ecology and Hydrology, UK; University of Manchester, UK; University of York, UK |
| 18 | Spatio temporal variability of aerosol over National Capital Region (NCR), India | DST | (2015-2018) | Complete | Collaborator | IGDTUW, Delhi | |
| 19 | Chemical composition and source apportionment of aerosols using receptor models at urban sites of the Himalayan region of India | DST | (2018-2021) | Complete | Co-PI | NPL | GBPNIHESD |
| 18 | South Asian Nitrogen Hub (SANH) | UKCEH, UKRI, UK | 2021-2024 | Ongoing | PI | UKCEH | UKCEH |
| 20 | Establishment of testing & calibration facilities for Continuous Emissions Monitoring System (CEMS) | MoEF&CC | 2021-2023 | Ongoing | Team Member | NPL | - |

**STUDENTS SUPERVISED**

**PhD**

| Sl. No | Name of Student | Subject | University | Status | Year |
|---|---|---|---|---|---|
| 1 | Trailokya Saud | Basic Sciences | IP University | Awarded | 2013 |
| 2 | Dharama Pal Singh | Basic Sciences | IP University | Awarded | 2013 |
| 3 | Shipra Jain | Physical Science | AcSIR | Awarded | 2016 |
| 4 | Rohtash | Engineering Science | AcSIR | Awarded | 2017 |
| 5 | Avirup Sen | Physical Sciences | AcSIR | Awarded | 2019 |
| 6 | Ashima Sharma | Physical Sciences | AcSIR | Awarded | 2018 |
| 7 | Mukesh Kumar | Chemical Sciences | AcSIR | On leave | 2016 |
| 8 | Martina Rani | Chemical Sciences | AcSIR | Ongoing | 2018 |
| 9 | Garima Kotnala | Physical Sciences | AcSIR | Awarded | 2018 |
| 10 | Arnab Mondal | Chemical Sciences | AcSIR | Ongoing | 2019 |
| 11 | Sakshi Ahalwat | Chemical Sciences | AcSIR | Ongoing | 2019 |
| 12 | Ummed Singh Saharan | Chemical Sciences | AcSIR | Ongoing | 2019 |
| 13 | Ritu Jangirh | Chemical Sciences | AcSIR | Ongoing | 2020 |
| 14 | Rahul Arya | Chemical Sciences | AcSIR | Ongoing | 2020 |
| 15 | Pooja Yadav | Chemical Sciences | AcSIR | Ongoing | 2020 |
| 16 | Lokesh Yadav | Chemical Sciences | AcSIR | Onging | 2021 |

**MTech**

| **S. No** | **Name of the students, University** | **Degree/Pg Sources** | **Duration** | **Title** |
|---|---|---|---|---|
| 1. | Manisha Dahia<br>G J Univ. S&T, Hissar | M.Tech. (Env Sc & Tech) | 9 months (Sept 10 to June 11) | Chemical characterization pf aerosols emitted from biomass fuels and ambient air over lower Indo Gangetic Plains (IGP) of India |
| 2. | Gaurav Pandey<br>Thapar Univ.<br>Patiala | M.Tech. (Env Sc & Tech) | 6 months (Jan 11 to June 11) | Chemical characterization of aerosol emitted from household biomass burning of Madhya Pradesh, India |
| 3 | Ms. Saraswati,<br>Guru Jambheswar University of Sc. and Tech., Hisar, (Haryana). | (M.Tech., Environmental Sciences & Engineering) | 9 months (Sep, 2009 to May , 2010) | Chemical properties of aerosol emitted from biofuels and ambient air over northern India |
| 4 | Abhisek Gupta<br>Thapar Univ.<br>Patiala | M.Tech. (Env Sc & Tech) | 6 months (Jan 11 to June 11) | Studies of carbonaceous aerosol and water soluble ionic species emitted from residential biomass burning of Andhra Pradesh, India |
| 5 | Palak Gogia | M.Tech. (Env Sc | 12 months | Effect of crop burning over North India |

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|---|---|---|---|---|
| | (Thapar University) | & Tech) | (June15,2015 to June 15, 2016) | |

**MSc**

| S. No. | Name of the students , University | Degree / PG courses | Duration | Title of Thesis |
|---|---|---|---|---|
| 1 | Palak Balyan, Kurukshetra University, Kurukshetra (Haryana). | MSc (Env. Sc) | 6 months (Jan to June 10) | Study of trace gases (SO2 and NO2) and chemical characterization of ambient aerosols at an urban site of Delhi |
| 2 | Anita Gupta GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 11) | Chemical characterization of aerosols emitted biomass fuels used in the rural sector of Rajasthan |
| 3. | Manish Kumar GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 12) | Spatial distribution of ambient ammonia over National Capital region (NCR) of Delhi |
| 4. | Salu Rani GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 12) | Budget Estimation of Particulate Matter and Chemical Characterisation of Emissions from Residential Fuels of Western India |
| 5. | Tanvi Gill GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 12) | Determination of emission estimates of particulates and gaseous emission (SO2 and NOx) from biomass fuels |
| 6. | Salu Rani, GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 12) | Estimation of budget of particulate matter and chemical characterization of emissions from residential fuels of western India. |
| 7. | Tanvi Gill, GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 12) | Determination of emission estimates of particulates and gaseous emission ($SO_2$ and $NO_x$) from biomass fuels. |
| 8 | Renu Mahsiwal, GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 13) | Source Apportionment of $PM_{10}$ and PM $_{2.5}$ using Receptor Models over Delhi |
| 9. | Humaira Ghayas, GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 13) | Characterization of pollutants over the Himalayan region: By implication of biomass burning |
| 10. | Nidhi Tomar, GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 13) | Comparative study of PAHs emitted from Biomass fuels of different environment of India |
| 11 | Utkarsha Pathak GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 14) | *Influence of ozone precursors on the variation of concentration of surface ozone over a megacity Delhi* |
| 12 | Mahima Arora GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 14) | Chemical characterization of ambient and biomass emitted pollutants and to establish link between the two |
| 13 | Niki Choudhary GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 14) | Chemical Characterization of Particulates ($PM_{2.5}$ and $PM_{10}$) and its Source Apportionment using Receptor Models over Delhi |
| 11 | Mahima Arora GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 14) | Chemical characterization of ambient and biomass emitted pollutants and to establish link between the two |
| 12 | Nidhi Malik GGSIPU, Delhi | M.Sc. (Env Sc) | 6 months (Jan to June 15) | Emission estimate of pollutants from biomass fuels used in rural sector of southern region of India |
| 13 | Arushi Jha | M.Sc. (Env Sc) | 6 months (Jan to June 15) | Study on reactive nitrogen and its interaction with other trace gases. |
| 14 | Shipra Varshney | M.Sc. (Env Sc) | 6 months (Jan to June 16) | Seasonal variation and concentration weighted trajectory analysis of aerosol at an urban site |

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| | GGSIPU, Delhi | | | of Delhi. |
| 15 | Prerita Agarwal<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to June 16) | Study of ambient air quality in Delhi region before-during-after the odd-even vehicle rule (2015-16). |
| 16 | Leveena Sharma<br>AMITY | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to June 17) | Chemical characteristics of crop residue burning over Panjab and Haryana during October-November 2016 |
| 17 | Suba Lakshmi<br>AMITY | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to June 17) | Aerosols characteristics over Delhi |
| 18 | Jagriti Suneja<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to June 18) | Seasonal and annual variation of $SO_2$ over an urban site of Delhi, India. |
| 19 | Yash Jain<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to June 18) | Chemical characterization of biomass burning emissions over different regions of Odisha, India. |
| 20 | Priyanka Yadav<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to Jun 19) | Chemical characteristics of $PM_{2.5}$ over three locations of National Capital Region of India. |
| 21 | Ritu Khutela<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to Jun 19) | Study of carbonaceous species and trace metals in $PM_{10}$ over Nainital region of central Himalayas. |
| 22 | Ms. Julie Dey Nayek<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to Jun 21) | Seasonal characteristics, sources and transport pathways of ambient ammonia and related trace gases at two typical urban sites of Delhi |
| 23 | Mr. Apoorv Kaushik<br>GGSIPU, Delhi | M.Sc.<br>(Env Sc) | 6 months<br>(Jan to Jun 21) | District wise emission estimates<br>Of pollutants from crop residue over Punjab, India |

## Publications

## Book Chapters

| Sl. No | Title, Author, Publisher | Author | Publisher | Year |
|---|---|---|---|---|
| 1 | Ozone and UV Scenario over India; Climatology, Trend and Future: Part A Ozone over India and Part B: UV-B radiation intensities over India and changes during a decade by | **T.K.Mandal**, G. Beig, A.P.Mitra Risal Singh, R.S.Tanwar, Sambhu Nath, | *Scientific Report Number 22*, Centre on Global Change, National Physical Laboratory, PP 1-96, New Delhi 110012, December, 2004, | 2004 |
| 2 | Asian Ozone Pollution in Eurasian Perspective | H. Akimoto, P. Pochanart, J. Tang, T. Wang, S.L. Jain, B.C. Arya, **T.K. Mandal**, S. Lal and S.-F. Lim, | Asia-Pacific Network for Global Change Research | 2005 |
| 3 | Atmospheric ammonia over Indian region, | S.K. Sharma, **T.K. Mandal** | 9 chapters ,113 pages, Jan. 2015, Germany, ISBN:978-3-659-67979-7, LAMBERT Academic Publishing Ag, Germany | 2015 |
| 4 | Metrology for Atmospheric Environment Part I: Atmospheric Constituents | Chhemendra Sharma, **Tuhin Kumar Mandal**, Sachchidanand Singh, Govind Gupta, Monika J. Kulshrestha, Prabha Johri, Ashish Ranjan, Arun Kumar Upadhayaya, Rupesh M. Das, Daya Soni, Sumit Kumar Mishra, Senthil Kumar Muthusamy, Sudhir Kumar Sharma, Preetam Singh, Shankar Gopala Aggarwal, Soman Radha Radhakrishnan, and Manoj Kumar, | Chapter 13, Metrology for Inclusive Growth of India, Spinger, pp 1-1076 | 2020 |
| 5 | Metrology for Atmospheric Environment Part II: Environmental Governance | Chhemendra Sharma, **Tuhin Kumar Mandal**, Sachchidanand Singh, Govind Gupta, Monika J. Kulshrestha, Prabha Johri, Ashish Ranjan, Arun Kumar Upadhayaya, Rupesh M. Das, DayaSoni, Sumit Kumar Mishra, Senthil Kumar Muthusamy, Sudhir Kumar Sharma, Preetam Singh, Shankar Gopala Aggarwal, Soman Radha Radhakrishnan, and Manoj Kumar, | Chapter 14, Metrology for Inclusive Growth of India, Spinger, pp 1-1076 | 2020 |
| 6 | Source Identification of Aerosols using Stable Carbon and Nitrogen Isotopic Composition | Binoy K Saikiya (AU: **Sharma, S.K.**, Mandal, T.K.,) | Atmospheric Aerosol: Properties, Sources and Detection, USA (New York) 2022, NOVA Scientific Publishers | 2022 |

2. Complete list of research publications including those accepted. Please give names of co-authors also. ***Abstracts, summaries, papers communicated should not be included.***

## Publication:174, Google Scholar Citation: 5407, H Index: 42, ResearchGate Citation: 5724,

| S. No | Title | Authors | Journals | Year |
|---|---|---|---|---|
| 1 | Characterization of Road Dust in Delhi: Heavy Metal Analysis, Health Risks, and Sustainability Implications | Ritu Jangirh, Arnab Mondal, Pooja Yadav, Lokesh Yadav, Arindam Datta, Priyanka Saxena, **Tuhin Kumar Mandal** | ***Aerosol Science & Engineering*** | 2024 |
| 2 | Analysing Solid Residential Fuel Usage Patterns in Rural and Urban Slums of Delhi: Implications for Pollution Reduction and Sustainable Practices | Arnab Mondal, Ritu Jangirh, Rahul Arya, Lokesh Yadav, Sakshi Ahlawat, Pooja Yadav, Paramjeet Singh Paliyal, Prakash Bobde, Paulami Ghosh, Surajit Mondal, Akansha Rai, Rubiya Banoo, Nikki Chaudhary, Martina Rani, Garima Kotnala, Eiko Nemitz, Sudhir Kumar Sharma, **Tuhin Kumar Mandal** | ***Energy for Sustainable Development***<br><br>https://doi.org/10.1016/j.esd.2024.101460 | 2024 |
| 3 | Hotspot driven air pollution during crop residue burning season in the Indo-Gangetic Plain, India | Ummed Singh Saharan, Rajesh Kumar, Siddhartha Singh, **TK Mandal**, M Sateesh, Shubha Verma, Akhil Srivastava | ***Environmental Pollution***<br><br>https://doi.org/10.1016/j.envpol.2024.124013 | 2024 |
| 4 | Role of sources of NMVOCs in $O_3$, OH reactivity, and Secondary Organic Aerosol Formation over Delhi | Pooja Yadav, Shyam Lal, Sachchida Nand Tripathi, Vaishali Jain, **Tuhin Kumar Mandal** | ***Atmospheric Pollution Research*** | 2024 |
| 5 | Chemical characteristics, morphology and source apportionment of PM 10 over National Capital Region (NCR) of India | Rubiya Banoo, Sarika Gupta, Ranu Gadi, Amit Dawar, Narayanasamy Vijayan, **Tuhin Kumar Mandal,** Sudhir Kumar Sharma | ***Environmental Monitoring and Assessment***<br><br>196:163<br><br>doi. org/ 10. 1007/ s10661-023- 12281-8. | 2024 |
| 6 | Size-distribution and driving factors of aerosol oxidative potential in rural kitchen microenvironments of northeastern India | Bijay Sharma, Jingying Mao, Shiguo Jia, Sudhir K. Sharma, **Tuhin K. Mandal,** Sebastien Bau, Sayantan Sarkar | ***Science of Total Environment*** | 2024 |
| 7 | A Sustainable and Regenerative Process for the Treatment of Textile Effluents Using Nonphotocatalytic Water Splitting by Nanoporous Oxygen-Deficient Ferrite | Abha Shukla, Jyoti Shah, Sunidhi Badola, **Tuhin K. Mandal**, Ved V. Agrawal, Asit Patra, Lalsiemlien Pulamte, and, Ravinder K. Kotnala | ***Environmental Science & Technology*** 2024, 9, 7, 8490–8502 https://doi.org/10.1021/acsomega.3c09773 | 2024 |
| 8 | Response of organic aerosol to Delhi's pollution control measures over the period 2011–2018 | James M Cash, Chiara Di Marco, Ben Langford, Mathew R Heal, **Tuhin K Mandal,** Sudhir K Sharma, Bhola Ram Gurjar, Eiko Nemitz | ***Atmospheric Environment***<br><br>Volume 315, 15 December 2023, 120123 https://doi.org/ | 2023 |

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|---|---|---|---|---|
| | | | 10.1016/ j.atmosenv.2023.120123 | |
| 9 | Strategic enhancement of oxygen defects in ZnO from ZnS for water splitting to generate green electricity by hydroelectric cell | Sunidhi Badola, Jyoti Shah, Anurag Gaur, Satish Khasa, DS Rawal, **T. K Mandal**, AK Srivastava, RK Kotnala | ***Applied nanomaterial today*** Volume 34, October 2023, 101904 https://doi.org/ 10.1016/ j.apmt.2023.101904 | 2023 |
| 10 | Emission inventory of inorganic trace gases from solid residential fuels over the National Capital Territory of India | Rahul Arya, Sakshi Ahlawat, Lokesh Yadav, Martina Rani, Arnab Mondal, Ritu Jangirh, Garima Kotnala, Nikki Choudhary, Akansha Rai, Ummed Singh Saharan, Pooja Yadav, Rubiya Banoo, Sudhir Kumar Sharma, Bhola Ram Gurjar, Eiko Nemitz, Jacqueline F. Hamilton, **Tuhin Kumar Mandal** | ***Environmental Science and Pollution Research*** https://doi.org/ 10.1016/ j.envpol.2023.123246 | 2023 |
| 11 | Optical source apportionment of aqueous brown carbon (BrC) on a daytime and nighttime basis in the eastern Indo-Gangetic Plains (IGP) and insights from $^{13}C$ and $^{15}N$ isotopic signatures | Supriya Dey, Pronoy Ghosh, Prashant Rawat, Nikki Choudhary, Akansha Rai, Rohit Meena, **Tuhin K. Mandal**, Jingying Mao, Shiguo Jia, , Neeraj Rastogi, Sudhir K. Sharma, Sayantan Sarkar | ***Science of total Environment*** 894 (2023) 164872 https://doi.org/ 10.1016/ j.scitotenv.2023.164872 | 2023 |
| 12 | Reconciliation of energy use disparities in brick production in India | Kushal Tibrewal, Chandra Venkataraman, Harish Phuleria, Veena Joshi, Sameer Maithel, Anand Damle, Anurag Gupta, Pradnya Lokhande, Shahadev Rabha, Binoy K Saikia, Sayantee Roy, Gazala Habib, Shubham Rathi, Anubha Goel, Sakshi Ahlawat, **Tuhin Kumar Mandal**, M Azharuddin Hashmi, Asif Qureshi, Abisheg D, Jawed Iqbal, Sandeep Devaliya, Ramya Sunder Raman, Yang Lian, Govindan Pandithurai, Sudheer Kumar Kuppili, Shiva Nagendra, Sauryadeep Mukherjee, Abhijit Chatterjee, Tanveer Ahmad Najar, Arshid Jehangir, Jitender Singh, Baerbel Sinha | ***Nature Sustainability***. https://doi.org/ 10.1038/s41893-023-01165-x | 2023 |
| 13 | Reassessing the availability of crop residue as a bioenergy resource in India: A field-survey based study | Taveen S Kapoor, Chimurkar Navinya, Gupta Anurag, Pradnya Lokhande, Shubham Rathi, Anubha Goel, Renuka Sharma, Rahul Arya, **Tuhin K Mandal**, KP Jithin, Shiva Nagendra, Mohd Imran, Jyoti Kumari, Akila Muthalagu, Asif Qureshi, Tanveer Ahmad Najar, Arshid Jehangir, Diksha Haswani, Ramya Sunder Raman, Shahadev Rabha, Binoy Saikia, Yang Lian, G Pandithurai, Pooja Chaudhary, Baerbel Sinha, Abisheg Dhandapani, Jawed Iqbal, Sauryadeep | Journal of Environmental Management, Volume 341, 1 September 2023, 118055 https://doi.org/ 10.1016/ j.jenvman.2023.118055 | 2023 |

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| | | Mukherjee, Abhijit Chatterjee, Chandra Venkataraman, Harish C Phuleria | | |
| 14 | Role of South Asian outflow on the oxidative potential of marine aerosols over the Indian Ocean | Subhasmita Panda, S Suresh Babu, Sudhir Kumar Sharma, **Tuhin Mandal**, Trupti Das, Boopathy Ramasamy | Science of The Total Environment Volume 887, 20 August 2023, 164105<br><br>https://doi.org/10.1016/j.scitotenv.2023.164105 | 2023 |
| 15 | Chemical Characterization and Source Apportionment of $PM_{10}$ Using Receptor Models over the Himalayan Region of India | Nikki Choudhary, Akansha Rai, Jagdish Chandra Kuniyal, Priyanka Srivastava, Renu Lata, Monami Dutta, Abhinandan Ghosh, Supriya Dey, Sayantan Sarkar, Sakshi Gupta, Sheetal Chaudhary, Isha Thakur, Archana Bawari, Manish Naja, Narayanasamy Vijayan, Abhijit Chatterjee, **Tuhin Kumar Mandal**, Sudhir Kumar Sharma, Ravindra Kumar Kotnala | *Atmosphere*<br><br>***14(5),*** 880;<br><br>https://doi.org/10.3390/atmos14050880 | 2023 |
| 16 | Characteristics of volatile organic compounds (VOCs) at an urban site of Delhi, India: diurnal and seasonal variation, sources apportionment | **T.K. Mandal**, Pooja Yadav, Mukesh Kumar, Shyam Lal, Kirti Soni, Lokesh Yadav, Ummed Singh Saharan, S.K. Sharma | ***Urban Climate***<br><br>https://doi.org/10.1016/j.uclim.2023.101545 | 2023 |
| 17 | Short-term effects: Elemental and morphological assessment of aerosols over Old Delhi region, India | Shobhna Shankar, Ranu Gadi, SK Sharma, **TK Mandal** | ***Mapan***<br><br>*https://doi.org/10.1007/s12647-023-00646-w* | 2023 |
| 18 | Fine Mode Carbonaceous Aerosols of $PM_{2.5}$ Over the High-Altitude Stations of the Indian Himalayas | Nikki Choudhary, Jagdish Chandra Kuniyal, Renu Lata, Monami Dutta, Akansha Rai, Sheetal Chaudhary, Isha Thakur, Archana Bawari, Abhijit Chatterjee, **Tuhin Kumar Mandal**, Sudhir Kumar Sharma | ***Mapan***<br><br>https://doi.org/10.1007/s12647-023-00647-9 | 2023 |
| 19 | CCN activation of ultrafine biogenic-WSOC under restricted anthropogenic emissions: A study over eastern Himalaya in India | Monami Dutta, Abhinandan Ghosh, Sudhir Kumar Sharma, **Tuhin Kumar Mandal**, Abhijit Chatterjee | ***Atmospheric Research***<br><br>*https://doi.org/10.1016/j.atmosres.2023.106704* | 2023 |
| 20 | Insights into seasonal-variability of SVOCs, morpho-elemental and spectral characteristics of PM2.5 collected at a dense industrial site: Faridabad, Haryana, India | Shobhna Shankar, Ranu Gadi, Somvir Bajar, Neha Yadav, **Tuhin K Mandal**, Sudhir K Sharma | ***Chemosphere***<br><br>*https://doi.org/10.1016/j.chemosphere.2023.138204* | 2023 |
| 21 | Heating and lighting: Understanding overlooked energy-consumption activities in the Indian residential sector | Chimurkar Navinya, Taveen Singh Kapoor, Anurag Kumar Gupta, Pradnya Lokhande, Renuka Sharma, Laxmi Prasad SV, Shiva Nagendra SM, Jyoti Kumari, Gazala Habib, Rahul Arya, **Tuhin Kumar Mandal**, Akila Muthalagu, Asif Qureshi, | ***Environmental Research Communications***<br><br>*https://DOI.org/10.1088/2515-7620/* | 2023 |

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| | | Tanveer Ahmad Najar, Arshid Jehangir, Supreme Jain, Anubha Goel, Shahadev Rabha, Binoy Saikia, Pooja Chaudhary, Baerbel Sinha, Diksha Haswani, Ramya Sunder Raman, Abisheg Dhandapani, Jawed Iqbal, Sauryadeep Mukherjee, Abhijit Chatterjee, Yang Lian, Govindan Pandithurai, Chandra Venkataraman, Harish C Phuleria | *acca6f* | |
| 22 | Elemental Composition and Sources of Fine Particulate Matter ($PM_{2.5}$) in Delhi, India | SK Sharma, **TK Mandal** | ***Bulletin of Environmental Contamination and Toxicology***<br><br>*DOI*<br>*https://doi.org/10.1007/s00128-023-03707-7* | 2023 |
| 23 | Biogenic and anthropogenic sources of isoprene and monoterpenes and their secondary organic aerosol in Delhi, India | Daniel J Bryant, Beth S Nelson, Stefan J Swift, Sri Hapsari Budisulistiorini, Will S Drysdale, Adam R Vaughan, Mike J Newland, James R Hopkins, James M Cash, Ben Langford, Eiko Nemitz, W Joe F Acton, C Nicholas Hewitt, **Tuhin Mandal**, Bhola R Gurjar, Ranu Gadi, James D Lee, Andrew R Rickard, Jacqueline F Hamilton | ***Atmospheric Chemistry and Physics***<br><br>*https://doi.org/10.5194/acp-23-61-2023* | 2023 |
| 24 | Long-term (2013-2018) relationship of water soluble inorganic ionic species of PM2.5 with ammonia and other trace gases in Delhi, India | Garima Kotnala, S.K. Sharma, **T.K. Mandal** | *Aerosol Science and Engineering*<br><br>https://doi.org/10.1007/s41810-022-00154-5 | 2022 |
| 25 | Identification of carbonaceous species and FTIR profiling of PM2.5 aerosols for source estimation in old Delhi region of India | Shobhna Shankar, Ranu Gadi, S. K. Sharma, **T. K. Mandal** | ***MAPAN***<br><br>https://doi.org/10.1007/s12647-022-00575-0 | 2022 |
| 26 | Seasonal Characteristics, Sources and Pollution Pathways of PM10 at High Altitudes Himalayas of India | Nikki Choudhary, P. Srivastava, Monami Dutta, Sauryadeep Mukherjee, Akansha Rai, J. C. Kuniyal, Renu Lata, A. Chatterjee, M. Naja, N.Vijayan, **T. K. Mandal**, and S. K. Sharma | ***Aerosol Air Qual. Res.***<br><br>https://doi.org/10.4209/aaqr.220092 | 2022 |
| 27 | Assessment of source and source regions of $PM_{10}$ at an urban area of Delhi, India | R. Banoo, S.K. Sharma, N. Vijayan, **T.K. Mandal** | ***Aerosol Science and Engineering***<br><br>https://doi.org/10.1007/s41810-022-00139-4 | 2022 |
| 28 | Long-Term Variation in | SK Sharma, **TK Mandal**, R Banoo, A Rai, | ***Bulletin of*** | 2022 |

| | | | | |
|---|---|---|---|---|
| | Carbonaceous Components of $PM_{2.5}$ from 2012 to 2021 in Delhi | M Rani | ***Environmental Contamination and Toxicology***<br><br>https://doi.org/10.1007/s00128-022-03506-6 | |
| 29 | Drivers of air pollution variability during second wave of COVID-19 in Delhi, India | Ummed Singh Saharan, Rajesh Kumar, Pratyush Tripathy, M Sateesh, Jyoti Garg, Sudhir Kumar Sharma, **Tuhin Kumar Mandal** | ***Urban Climate***<br><br>https://doi.org/10.1016/j.uclim.2021.101059 | 2022 |
| 30 | Stable carbon and nitrogen isotopic characteristics of $PM_{2.5}$ and $PM_{10}$ in Delhi, India | Sudhir Kumar Sharma, Supriya G Karapurkar, Damodar M Shenoy, **Tuhin Kumar Mandal** | ***Journal of Atmospheric Chemistry***<br><br>https://doi.org/10.1007/s10874-022-09429-0 | 2022 |
| 31 | Gridded distribution of total suspended particulates (TSP) and their chemical characterization over Delhi during winter. | Ritu Jangirh, Sakshi Ahlawat, Rahul Arya, Arnab Mondal, Lokesh Yadav, Garima Kotnala, Pooja Yadav, Nikki Choudhary, Martina Rani, Rubiya Banoo, Akansha Rai, Ummed Singh Saharan, Neeraj Rastogi, Anil Patel, Ranu Gadi, Priyanka Saxena, Narayanasamy Vijayan, Chhemendra Sharma, Sudhir Kumar Sharma, **Tuhin Kumar Mandal** | ***Environmental Science and Pollution Research.***<br><br>https://doi.org/10.1007/s11356-021-16572-w | 2022 |
| 32 | Seasonal variations in carbonaceous species of $PM_{2.5}$ aerosols at an urban location situated in Indo-Gangetic Plain and its relationship with transport pathways, including the potential sources | Khaiwal, R., Singh, T., **Mandal, T.K**., Sharma, S.K., and Mor, S., | ***J Environ Management***<br><br>https://doi.org/10.1016/j.jenvman.2021.114049 | 2022 |
| 33 | The role of particulate matter in reduced visibility and anionic composition of winter fog: a case study for Amritsar city | Rekha Yadav, Aditi Sugha, Manpreet S. Bhatti, Sushil K. Kansal, Sudhir K. Sharma and **Tuhin K. Mandal** | ***RSC Advances***<br><br>https://DOI: 10.1039/d2ra00424 | 2022 |
| 34 | Chemical properties of emissions from solid residential fuels used for energy in the rural sector of the southern region of India | **Mandal, T.K.,** Yadav, L., Sharma, S.K., Saxena, M., Tomar, N., Datta, A., Mallik, N., and Saharan, U.S., | ***Environ Sci Poll Res*** .<br>https://doi.org/10.1007/s11356-022-18543-1 | 2022 |
| 35 | Source and source region of | Sudhir Sharma, Martina Rani, **Tuhin** | ***MDPI*** | 2021 |

| | | | | |
|---|---|---|---|---|
| | carbonaceous species and trace elements in $PM_{10}$ over Delhi, India | **Mandal** | https://doi.org/10.3390/ecas2021-10346 (registering DOI) | |
| 36 | Frequency distribution of pollutant concentrations over Indian megacities impacted by the COVID-19 lockdown | Arnab Mondal, Sudhir Kumar Sharma, **Tuhin Kumar Mandal**, Imran Girach, Narendra Ojha | ***Environmental Science and Pollution Research*** https://doi.org/10.1007/s11356-021-16874-z | 2021 |
| 37 | Seasonal characteristics and sources of carbonaceous components and elements of $PM_{10}$ (2010–2019) in Delhi, India | Sudhir Kumar Sharma, Rubiya Banoo, **Tuhin Kumar Mandal** | ***Journal of Atmospheric Chemistry*** https://doi.org/10.1007/s10874-021-09424-x | 2021 |
| 38 | Evidence of the presence of SARS-CoV-2 virus in atmospheric air and surfaces of a dedicated COVID hospital | Abhishek Dubey, Garima Kotnala, **Tuhin K Mandal**, Subash C Sonkar, Vijay K Singh, Sameer A Guru, Aastha Bansal, Monica Irungbam, Farah Husain, Binita Goswami, Ravindra K Kotnala, Sonal Saxena, Sudhir K Sharma, Kirti N Saxena, Chhemendra Sharma, Suresh Kumar, Dinesh K Aswal, Vikas Manchanda, Bidhan C Koner | ***Journal of Medical Virology***, 93,9, 5339-5349 https://doi.org/10.1002/jmv.27029 | 2021 |
| 39 | Variations in chemical composition of aerosol during Diwali over mega city Delhi, India | Garima Kotnala, Mukesh Kumar, Arun Kumar Sharma, Surendra Kumar Dhaka, Ranu Gadi, Chirashree Ghosh, Mohit Saxena, Sudhir Kumar Sharma, Anindita Roy Saha, Aparna Nautiyal, Ashima Sharma, Chhemendra Sharma, Ravindra Kumar Kotnala, **Tuhin Kumar Mandal** | ***Urban Climate*** https://doi.org/10.1016/j.uclim.2021.100991 | 2021 |
| 40 | Size-segregated aerosols over a high altitude Himalayan and a tropical urban metropolis in Eastern India: Chemical characterization, light absorption, role of meteorology and long range transport | Ghosh, A., Patel, A., Rastogi, N., Sharma, S.K., **Mandal, T.K.,** and Chatterjee, A., | ***Atmos Environ*** https://doi/10.1016/j.atmosenv.2021.118398 | 2021 |
| 41 | Seasonal transport pathway and sources of carbonaceous aerosols at an urban site of eastern Himalaya | Rai, A., Mukherjee, S., Choudhary, N., Ghosh, A., Chatterjee, A., **Mandal, T.K.,** Sharma, S.K., | ***Aero Sci Engin.*** https://doi.org/10.1007/s41810-021-00106-5 | 2021 |

| | | | | |
|---|---|---|---|---|
| 42 | Ozone sensitivity factor: $NO_x$ or NMHCs?: A case study over an urban site in Delhi, India | Sharma, A., Sharma, S.K., and **Mandal, T.K.,** | ***Urban Climate***<br><br>https://doi.org/10.1016/j.uclim.2021.100980 | 2021 |
| 43 | Chemical, physical and biological characterization of wintertime $PM_{2.5}$ during a land campaign study in a coastal city of Eastern India | Mahapatra, P.S., Panda, U., Mallik, C., Boopathy, R., Jain, S., Sharma, S.K., **Mandal, T.K.,** et al. | ***Atmos Poll Res.***<br><br>Volume 12, Issue 9, September 2021, 101164<br><br>https://doi.org/10.1016/j.apr.2021.101164 | 2021 |
| 44 | Non-methane volatile organic compounds emitted from domestic fuels in Delhi: Emission factors and total city-wide emissions | Arnab Mondal, Ummed Singh Saharan, Rahul Arya, Lokesh Yadav, Sakshi Ahlawat, Ritu Jangirh, Garima Kotnala, Nikki Choudhary, Rubiya Banoo, Akansha Rai, Pooja Yadav, Martina Rani, Shyam Lal, Gareth J Stewart, Beth S Nelson, W Joe F Acton, Adam R Vaughan, Jacqueline F Hamilton, James R Hopkins, C Nicholas Hewitt, Lokesh K Sahu, Nidhi Tripathi, SK Sharma, **Tuhin K Mandal** | ***Atmos Environ-X***<br><br>Volume 11, October 2021, 100127<br><br>https://doi.org/10.1016/j.aeaoa.2021.100127 | 2021 |
| 45 | Chemical properties of emissions from solid residential fuels used for energy in the rural sector of the southern region of India | Gareth J Stewart, Beth S Nelson, W Joe F Acton, Adam R Vaughan, James R Hopkins, Siti SM Yunus, C Nicholas Hewitt, Oliver Wild, Eiko Nemitz, Ranu Gadi, Lokesh K Sahu, **Tuhin K Mandal**, Bhola R Gurjar, Andrew R Rickard, James D Lee, Jacqueline F Hamilton | ***Atmospheric Environment X***<br><br>https://doi.org/10.1016/j.aeaoa.2021.100115 | 2021 |
| 46 | $PM_1$ composition and source apportionment at two sites in Delhi, India, across multiple seasons | Ernesto Reyes-Villegas, Upasana Panda, Eoghan Darbyshire, James M. Cash, Rutambhara Joshi, Ben Langford, Chiara F. Di Marco, Neil Mullinger, W. Joe F. Acton, Will Drysdale, Eiko Nemitz, Michael Flynn, Aristeidis Voliotis, Gordon McFiggans, Hugh Coe, James Lee, C. Nicholas Hewitt, Mathew R. Heal, Sachin S. Gunthe, Shivani, Ranu Gadi, Siddhartha Singh, Vijay Soni, **T.K.Mandal**, and James D. Allan | ***Atmospheric Chemistry and Physics***<br><br>Volume 21, issue 13 21, 10133–10158,<br><br>https://doi.org/10.5194/acp-2020-894 | 2021 |
| 47 | Investigating the seasonal variability in source contribution to PM 2.5 and PM 10 using different receptor models during 2013–2016 in Delhi, India | S Jain, SK Sharma, N Vijayan, **TK Mandal** | **Environmental Science and Pollution Research,**<br><br>https://doi:10.1007/s11356-020-10645-y | 2021 |

| | | | | |
|---|---|---|---|---|
| 48 | Comprehensive organic emission profiles, secondary organic aerosol production, reactivity and toxicity of emissions from domestic fuels in Delhi, India | Gareth J. Stewart, Beth S. Nelson, W. Joe F. Acton, Adam R. Vaughan, James R. Hopkins, Siti S. M. Yunus,C. Nicholas Hewitt, EikoNemitz, Andrew R. Rickard, James D Lee, **Tuhin Kumar Mandal** and Jacqueline F. Hamilton. | ***Environmental Science: Atmospheres***<br><br>https://doi.org/10.1039/D0EA00009D | 2021 |
| 49 | Seasonal Variation and sources of carbonaceous species and elements in PM2.5 and PM10 over the Eastern Himalayas | Sudhir Kumar Sharma, Sauryadeep Mukherjee, Nikki Choudhary, Akansha Rai, Abhinandan Ghosh, Abhijit Chaterjee, Narayanswami Vijayan, **Tuhin Kumar Mandal** | ***Environmental Science and Pollution Research***<br><br>https://doi.org/10.1007/s11356-021-14361-z | 2021 |
| 50 | Emission factors for non-methane volatile organic compounds from combustion of domestic fuels in Delhi, India. | Stewart, G. J., Acton, W. J.F., Nelson, B. S., Vaughan, A. R., Hopkins, J. R., Arya, R., Mondal, A., Jangirh, R., Ahlawat, S., Yadav, L., Sharma, S.K., Dunmore, R.E., Yunus, S.S. M., Hewitt, C. N., Nemitz, E., Mullingar, N., Gadi, R., Sahu, L.K., Tripathi, N., Rickard, A. R., Lee, J. D., **Mandal, T.K**., and Hamilton, J. F. | ***Atmospheric Chemistry and Physics.***<br><br>https://doi.org/10.5194/acp-2020-892 | 2021 |
| 51 | Emissions of intermediate-volatility and semi-volatile organic compounds from domestic fuels used in Delhi, India | Stewart, G. J., Nelson, B. S., Acton, W. J. F., Vaughan, A. R., Farren, N. J., Hopkins, J. R., Ward, M. W., Swift, S. J., Arya, R., Mondal, A., Jangirh, R., Ahlawat, S., Yadav, L., Sharma, S. K., Yunus, S. S. M., Hewitt, C. N., Nemitz, E., Mullinger, N., Gadi, R., Sahu, L. K., Tripathi, N., Rickard, A. R., Lee, J. D., **Mandal, T. K.,** and Hamilton, J. F. | ***Atmospheric Chemistry and Physics***<br><br>https://doi.org/10.5194/acp-2020-860. | 2021 |
| 52 | Chemical characterization, source apportionment and transport pathways of $PM_{2.5}$ and $PM_{10}$ over Indo Gangetic Plain of India | Srishti Jain, Sudhir Kumar Sharma, Manoj K Srivastava, Abhijit Chatterjee, Narayanswami Vijayan, S SwarupaTripathy, K Maharaj Kumari, **Tuhin Kumar Mandal**, Chhemendra Sharma | ***Urban Climate*** 36, 100805<br><br>https://doi.org/10.1016/j.uclim.2021.100805 | 2021 |
| 53 | Comparison of ambient air pollution levels of Amritsar during foggy conditions with that of five major north Indian cities: multivariate analysis and air mass back trajectories | Rekha Yadav, Manpreet S. Bhatti, Sushil K. Kansal, Laxmi Das, Vishakha Gilhotra, Aditi Sugha, Dipti Hingmire, Shweta Yadav, Ankit Tandon,Rajbir Bhatti, Anubha Goel, **Tuhin K. Mandal** | ***SN Applied Sciences***<br><br>https://doi.org/10.1007/s42452-020-03569-2 | 2021 |
| 54 | Seasonal analysis of submicron aerosol in Old Delhi using high resolution aerosol mass spectrometry: Chemical characterisation, source apportionment and new marker identification | James M. Cash, Ben Langford, Chiara Di Marco, Neil Mullinger, James Allan, Ernesto Reyes-Villegas, Ruthambara Joshi, Mathew R. Heal,W. Joe F. Acton,Nick Hewitt, Pawel K. Misztal,Will Drysdale, **Tuhin Mandal**, Shivani, Ranu Gadi and EikoNemitz | ***Atmospheric Chemistry and Physics.***<br><br>https://doi.org/10.5194/acp-2020-1009 | 2021 |

| | | | | |
|---|---|---|---|---|
| 55 | Influence of Vehicular Emissions (NO, NO2, CO and NMHCs) on the Mixing Ratio of Atmospheric Ammonia (NH3) in Delhi, India | G Kotnala, SK Sharma, **TK Mandal** | ***Archives of Environmental Contamination and Toxicology***<br><br>https://doi.org/10.1007/s00244-019-00689-8<br><br>*78 (1), 79-85* | 2020 |
| 56 | Spatial Variability and Sources of Atmospheric Ammonia in India: A Review | SK Sharma, G Kotnala, **TK Mandal** | ***Aerosol Science and Engineering,***<br><br>https://doi.org/10.1007/s41810-019-00052-3<br><br>*1-8* | 2020 |
| 57 | Seasonal Variation of OC, EC, and WSOC of PM 10 and Their CWT Analysis Over the Eastern Himalaya | A Rai, S Mukherjee, A Chatterjee, N Choudhary, G Kotnala, **TK Mandal**, S.K.Sharma | ***Aerosol Science and Engineering***<br><br>https://doi.org/10.1007/s41810-020-00053-7<br><br>*4 (1), 26-40* | 2020 |
| 58 | Seasonal characteristics of aerosols (PM2. 5 and PM10) and their source apportionment using PMF: A four-year study over Delhi, India | S Jain, SK Sharma, N Vijayan, **TK Mandal** | ***Environmental Pollution,***<br><br>https://doi.org/10.1016/j.envpol.2020.114337<br><br>Vol. 262,114337 | 2020 |
| 59 | Seasonal Variation of Carbonaceous Species of $PM_{10}$ Over Urban Sites of National Capital Region of India | R Banoo, SK Sharma, R Gadi, S Gupta, **TK Mandal** | ***Aerosol Science and Engineering***<br><br>https://doi.org/10.1007/s41810-020-00058-2<br><br>*4 (2), 111-123* | 2020 |
| 60 | Emergence of Blue Sky Over Delhi Due to Coronavirus Disease (COVID-19) Lockdown Implications | G Kotnala, **TK Mandal**, SK Sharma, RK Kotnala | ***Aerosol Science and Engineering,***<br><br>https://doi.org/10.1007/s41810-020-00062-6 | 2020 |

| | | | | |
|---|---|---|---|---|
| 61 | Variation of carbonaceous species and trace elements in PM10 at a mountain site in the central Himalayan region of India | Sharma, S.K., Choudhary, Nikki, Srivastava Riyanaka, Naja Manish, Vijayan N., Garima Kotnala, Tuhin Kumar Mandal | ***Urban Climate***<br><br>https://doi.org/10.1007/s10874-020-09402-9 | 2020 |
| 62 | Wintertime carbonaceous species and trace metals in PM10 in Darjeeling: A high altitude town in the eastern Himalayas | SK Sharma, Nikki Choudhary, Garima Kotnala, Durba Das, Sauryadeep Mukherjee, Abhinandan Ghosh, N Vijayan, Akansha Rai, Abhijit Chatterjee, **TK Mandal** | ***Urban Climate***<br><br>*https://doi.org/10.1016/j.uclim.2020.100668*<br><br>Vol. 34 (4), 100668 | 2020 |
| 63 | Long term Measurements of $SO_2$ over Delhi, India | Jagriti Suneja, Garima Kotnala, Amarjeet Kaur, **T.K.Mandal,** S.K.Sharma | ***MAPAN***<br><br>https://doi.org/10.1007/s12647-019-00349-1<br><br>35, 125–133 | 2020 |
| 64 | Real-time monitoring of air pollutants in seven cities of North India during crop residue burning and their relationship with meteorology and transboundary movement of air | Khaiwal Ravindra, Tanbir Singh, Sahil Mor, Vikas Singh, **Tuhin Kumar Mandal**, Manpreet Singh Bhatti, Suresh Kumar Gahlawat, Rajesh Dhankhar, Suman Mor, GufranBeig | ***Science of The Total Environment,***<br><br>*https://doi.org/10.1016/j.scitotenv.2019.06.216*<br><br>*2019, 690, 717-729* | 2019 |
| 65 | Light-absorbing impurities in snow of the Indian Western Himalayas: impact on snow albedo, radiative forcing, and enhanced melting | PS Thind, KK Chandel, SK Sharma, **TK Mandal**, S John | ***Environmental Sciences and Pollution Research,***<br><br>https://doi.org/10.1007/s11356-019-04183-5<br><br>Vol. 26 (8), 7566-7578 | 2019 |
| 66 | Source apportionment and health risk assessment of organic constituents in fine ambient aerosols (PM2.5): a complete year study over National Capital Region of India | Ranu Gadi, Sudhir Kumar Sharma, **Tuhin Kumar Mandal** | ***Chemosphere***,<br><br>https://doi.org/10.1016/j.chemosphere.2019.01.067<br><br>Vol. 221, 583-596 | 2019 |
| 67 | Chemical characterization of fine atmospheric particles for water-soluble ions and carbonaceous species over a tropical urban atmosphere in lower Indo-Gangetic Plain | Babu Priyadharshini, Shubha Verma, Abhijit Chatterjee, Sudhir Kumar Sharma, **Tuhin Kumar Mandal** | ***Aerosol and Air Quality Research,***<br><br>*doi: 10.4209/aaqr.2017.12.0606* | 2019 |

| | | | | |
|---|---|---|---|---|
| | | | Vol. 19 (1), 129-147 | |
| 68 | Seasonal variation, source apportionment and source attributed health risk of carbonaceous aerosols in fine aerosol over National Capital Region, | Shivani., Gadi, R., Sharma, S.K., and **Mandal, T.K**. | ***Chemosphere*,** https://doi.org/10.3390/ijerph18042177 Vol. 237, 124500 | 2019 |
| 69 | Characteristics of gaseous and particulate ammonia and their role in the formation of secondary inorganic particulate matter at Delhi, India | Saraswati, Mohit Saxena, S.K.Sharma, **T.K.Mandal** | ***Atmospheric Research*,** https://doi.org/10.1016/j.atmosres.2018.11.010 Vol. 218, 34-49 | 2019 |
| 70 | Source Apportionment of $PM_{10}$ Over Three Tropical Urban Atmospheres at Indo-Gangetic Plain of India: An Approach Using Different Receptor Models | Jain, S., Sharma, S.K., Srivastava, M.K., Chaterjee, A., Singh, R.K., Saxena, M., and **Mandal, T.K**. | ***Archives of Environmental Contamination and Toxicology (AECT),*** https://doi.org/10.1007/s00244-018-0572-4 *Vol.* 76 (1), 114-128 | 2019 |
| 71 | Simultaneous measurements of ambient $NH_3$ and its relationship with other trace gases, PM2.5 and meteorological parameters over Delhi, India | Saraswati, M. George, Sudhir Kumar Sharma, **Tuhin Kumar Mandal,** R K. Kotnala | ***Mapan-Journal of Metrology Society of India.*** https://doi.org/10.1007/s12647-018-0286-0 Vol. 34 (1), 56-69. | 2019 |
| 72 | Short Term Degradation of Air Quality during Major Firework Event in Delhi, India | Shivani., Gadi, R., Saxena, M., Sharma, S.K., and **Mandal, T.K.,** | ***Meteorology and Atmospheric Physics*,** https://doi.org/10.1007/s00703-018-0602-9 Vol. 131, 753-764. | 2019 |
| 73 | Appearance of the persistently low tropopause temperature and ozone over the Bay of Bengal region. | Shipra Jain, A.R. Jain, **T.K. Mandal** | ***Meteorology and Atmospheric Physics*,** https://doi.org/10.1007/s00703-017-0554-5 *2019, 131,4,753-764* | 2019 |
| 74 | Seasonal and annual trends of carbonaceous species of $PM_{10}$ over a megacity Delhi, India during 2010-2017 | S. K. Sharma, **T. K. Mandal**, A. Sharma, Saraswati, Srishti Jain, JagritiSuneja, Garima Kotnala | ***Journal of Atmospheric Chemistry*,** https://doi.org/10.1007/s10874-018-9379-y | 2018 |

| | | | | |
|---|---|---|---|---|
| | | | Vol. 75, 305-318 | |
| 75 | Levels and Sources of organic compounds in Fine Ambient Aerosols over National Capital Region of India | Shivani, Ranu Gadi, Sudhir Kumar Sharma, **Tuhin Kumar Mandal** | ***Environmental Science and Pollution Research,*** https://doi.org/10.1007/s11356-018-3044-5 25, 31071–31090 | 2018 |
| 76 | Investigation on spatiotemporal distribution of aerosol optical properties over two oceanic regions surrounding Indian subcontinent during summer monsoon season | Chaturvedula Viswanatha Vachaspati, Gurramkonda Reshma Begam, Yadiki Nazeer Ahammed, Kanike Raghavendra Kumar, **Tuhin Kumar Mandal**, Kotalo Rama Gopal, Rajuru Ramakrishna Reddy | ***Environmental Science and Pollution Research,*** *25*, 27039–27058 | 2018 |
| 77 | Carbonaceous Species of $PM_{2.5}$ in Megacity Delhi, India during 2012-2016 | S.K.Sharma, **T.K.Mandal**, Shristi Jain, Ashima Sharma | ***Bulletin of Environmental Contamination and Toxicology***, https://doi.org/10.1007/s00128-018-2313-9 Vol. 100, 695-701 **IF: 2.807** | 2018 |
| 78 | Carbonaceous and inorganic species in $PM_{10}$ during wintertime over Giridih, Jharkhand (India) | SK Sharma, **TK Mandal**, AK De, NC Deb, Srishti Jain, Mohit Saxena, S Pal | ***Journal of Atmospheric Chemistry***, https://doi.org/10.1007/s10874-017-9373-9 Vol. 95(2), 107-118 **IF: 3.36** | 2017 |
| 79 | Stable carbon and nitrogen isotopic composition of $PM_{10}$ over Indo-Gangetic Plains (IGP), adjoining regions and Indo-Himalayan Range during a winter 2014 campaign: Influence of biomass burning | Avirup Sen, Supriya G. Karapurkar, Mohit Saxena, Damodar M. Shenoy, Abhijit Chaterjee, Anil K. Choudhuri, Trupti Das, Altaf H. Khan, Jagdish Chandra Kuniyal, Srimata Pal, Dharam Pal Singh, Sudhir Kumar Sharma, Ravindra Kumar Kotnala, **Tuhin Kumar Mandal,** | ***Environmental Science and Pollution Research,*** https://doi.org/10.1007/s11356-018-2567-0 *2018, 25,26,26279-26296* | 2018 |
| 80 | Source apportionment of $PM_{10}$ using PCA/APCS, UNMIX and PMF in Delhi, India | Shriti Jain, S.K.Sharma, **T.K.Mandal** and Mohit Saxena, | ***Particuology***, *https://doi.org/10.1016/j.partic.2017.05.009* *2018, 37,107-118* | 2018 |
| 81 | Characterization and source apportionment of organic compounds in $PM_{10}$ using PCA and PMF at a traffic hotspot of Delhi | Sarika Gupta, Ranu Gadi, S.K.Sharma and **T.K. Mandal** | ***Sustainable Cities and Society,*** | 2018 |

| | | | | |
|---|---|---|---|---|
| | | | https://doi.org/10.1016/j.scs.2018.01.051<br><br>39, 52-67, 2018 | |
| 82 | Study on ambient air quality of megacity Delhi, India during Odd-Even strategy | S.K. Sharma, PreritaAgarwal, T.K. **Mandal**, S.G. Karapurkar, D.M. Shenoy, S.K. Peshin, Anshu Gupta, Mohit Saxena, Srishti Jain, A. Sharma, Saraswati | ***MAPAN-Journal of Metrology Society of India.***<br><br>https://doi.org/10.1007/s12647-016-0201-5<br><br>Vol. 32(2), 155-165 | 2018 |
| 83 | Five-year measurements of ambient ammonia and its relationships with other trace gases at an urban site of Delhi, India. | Saraswati, S.K.Sharma, **T.K.Mandal** | ***Meteorology and Atmospheric Physics*,**<br><br>https://doi.org/10.1007/s00703-017-0512-2<br><br>Vol. 130 (2), 241-257 | 2018 |
| 84 | Spatio-temporal variation of air pollutants and the impact of anthropogenic effects on the photochemical buildup of ozone across Delhi-NCR | Sunil Kumar Peshin, Ashima Sharma, Sudhir Kumar Sharma, Manish Naja, **T.K. Mandal** | ***Sustainable Cities and Society*,**<br><br>*https://doi.org/10.1016/j.scs.2017.09.024*<br><br>*2017, 35,74-751* | 2017 |
| 85 | Chemical composition of fine mode particulate matter ($PM_{2.5}$) in an urban area of Delhi, India and its source apportionment | S.K. Sharma and **T.K. Mandal** | ***Urban Climate*,**<br><br>*https://doi.org/10.1016/j.uclim.2017.05.009*<br><br>*2017, 21,106-122* | 2017 |
| 86 | Chemical characteristics and source apportionment of $PM_{2.5}$ using PCA/APCS, UNMIX and PMF at an urban site of Delhi, India | Srishti Jain, Sudhir Kumar Sharma, Nikki Choudhary, RenuMasiwal, Mohit Saxena, Ashima Sharma, **Tuhin Kumar Mandal**, Anshu Gupta, Naresh Chandra Gupta, Chhemendra Sharma | ***Environmental Sciences and Pollution Research*,**<br><br>https://doi.org/10.1007/s11356-017-8925-5<br><br>Vol. 24, 14637-14656. | 2017 |
| 87 | Loss of crop yields in India due to surface ozone: An estimation based on a network of observations | Lal S., S. Venkataramani, M. Naja, J. C. Kuniyal, **T. K. Mandal,** P. K. Bhuyan, K. M. Kumari, S. N. Tripathi, U. Sarkar, T. Das, Y. V. Swamy, K. Ramagopal, H. Gadhavi and M. K. S. Kumar | ***Environmental Science and Pollution Research,***<br><br>https://doi.org/10.1007/s11356-017-9729-3 | 2017 |

| | | | | |
|---|---|---|---|---|
| | | | 24, 20972–20981 | |
| 88 | Inter-annual Variation of Ambient Ammonia and Related Trace Gases in Delhi, India | S.K.Sharma, Saraswati, **T.K.Mandal**, Mohit Saxena | ***Bulletin of Environmental Contamination and Toxicology*,**<br><br>https://doi.org/10.1007/s00128-017-2058-x<br><br>Vol. 99(2), 281-285. | 2017 |
| 89 | Variations in particulate matter over Indo-Gangetic Plains and Indo-Himalayan Range during four field campaigns in winter monsoon and summer monsoon: Role of pollution pathways | A.Sen, A.S. Abdelmaksoud, Y. Nazeer Ahammed, Mansour A. Alghamdi,Tirthankar Banerjee, Mudasir Ahmad Bhat, A. Chatterjee, Anil K. Choudhuri, Trupti Das, Amit Dhir, Pitamber Prasad Dhyani,Ranu Gadi, Sanjay Ghosh, Kireet Kumar, A.H.Khan, M. Khoder, K. Maharaj Kumari, Jagdish Chandra Kuniyal, Manish Kumar, Anita Lakhani, ParthSarathi Mahapatra, Manish Naja, Dharam Pal, S. Pal, Mahammad Rafiq, Shakil Ahmad Romshoo, Irfan Rashid, Prasenjit Saikia, D.M. Shenoy, Vijay Sridhar, Nidhi Verma, B. M. Vyas, Mohit Saxena, A. Sharma, S.K.Sharma and **T.K.Mandal** | ***Atmospheric Environment,***<br><br>*https://doi.org/10.1016/j.atmosenv.2016.12.054*<br><br>*2017,154,200-224* | 2017 |
| 90 | Seasonal Variations and Source profile of n-alkanes in particulate matter ($PM_{10}$) at a heavy traffic site, Delhi | Sarika Gupta, Ranu Gadi, **T.K. Mandal**, S.K. Sharma | ***Environmental Monitoring and Assessment.,***<br><br>https://doi.org/10.1007/s10661-016-5756-7<br><br>*2017,189,1,43* | 2017 |
| 91 | Seasonal characteristics of water-soluble inorganic ions and carbonaceous aerosols in total suspended particulate matter at a rural semi-arid site, Kadapa (India) | G. Reshma Begam,C. Viswanatha Vachaspati,Y. Nazeer Ahammed, K. Raghavendra Kumar, R. R. Reddy, S. K. Sharma, Mohit Saxena, **T. K. Mandal** | ***Environmental Science and Pollution Research*,**<br><br>https://doi.org/10.1007/s11356-016-7917-1<br><br>*2017,24,2,1719-1734* | 2017 |
| 92 | Relationships of surface ozone with its precursors, particulate matter and meteorology over Delhi | Ashima Sharma, **T.K. Mandal**, S.K. Sharma, D.K. Shukla, S. Singh | ***J. Atmospheric Chemistry*,**<br><br>https://doi.org/10.1007/s10874-016-9351-7<br><br>*2017, 74,4,451-4741* | 2017 |

| | | | | |
|---|---|---|---|---|
| 93 | Water soluble inorganic species of $PM_{10}$ and $PM_{2.5}$ at an urban site of Delhi, India: Seasonal variability and Sources | Mohit Saxena, A. Sharma; A. Sen, Priyanka Saxena, Saraswati,**T.K. Mandal**, S.K. Sharma, C Sharma, | ***Atmospheric Research***, https://doi.org/10.1016/j.atmosres.2016.10.005 *2017, 184, 112-125* | 2017 |
| 94 | Study on surface ozone and its precursors at an urban site of Delhi, India | A Sharma, S K Sharma, U Pathak, N C Gupta and **T K Mandal** | ***Indian Journal of Radio & Space Physics*.** Vol. 45, 95-100. | 2016 |
| 95 | Spatio-temporal chemical characteristics of aerosol over Indo Gangetic Plain of India. | Sharma, S.K., **Mandal, T.K.,** Srivastava, M.K., Chatterjee, A., Jain, S., Saxena, M., Singh, B.P., Saraswati., Sharma, A., Adak, A., and Ghosh, S.K. | ***Environmental Science and Pollution Research***, https://doi.org/10.1007/s11356-016-7025-2 *201, 23,18,18809-18822* | 2016 |
| 96 | Study on Comparison of Indian Ozonesonde data with Satellite data | Rohtash, **T.K.Mandal**, S.K.Peshin and S.K.Sharma | ***MAPAN-Journal of Metrology Society of India*,** http://dx.doi.org/10.1007%2Fs12647-016-0174-4 *2016, 31,3, 197-217* | 2016 |
| 97 | Source Apportionment of $PM_{2.5}$ in Delhi, India Using PMF Model | S.K. Sharma, Nikki Choudhary, RenuMasiwal, **T.K. Mandal**, A. Sharma, Mohit Saxena, Anshu Gupta and N.C. Gupta | ***Bulletin of Environmental Contamination & Toxicology (BECT)***, https://doi.org/10.1007/s00128-016-1836-1 2016, 97,2,286-293 | 2016 |
| 98 | Spatial variability in Ambient Atmospheric Fine and Coarse Mode Aerosols over Indo-Gangetic plains, India and adjoining oceans during the onset of Summer Monsoons, 2014 | Avirup Sen, Yadiki Nazeer Ahammed, Tirthankar Banerjee, Abhijit Chatterjee, Anil Kumar Choudhuri, Trupti Das, Narayan Chandara Deb, Amit Dhir, Sangita Goel, Altaf Hussain Khan, **Tuhin Kumar Mandal**, Vishnu Murari, Shrimanta Pal, Padma Shrinivas Rao, Mohit Saxena, Sudhir Kumar Sharma, Ashima Sharma and Chaturvedula Viswanatha Vachaspati | ***Atmospheric Pollution Research*.** https://doi.org/10.1016/j.apr.2016.01.001 Vol. 7 (3), 521-532 | 2016 |
| 99 | Residential biomass burning | Mohit Saxena, Sudhir Kumar Sharma, | ***Aerosol and Air*** | 2016 |

| | | | | |
|---|---|---|---|---|
| | emissions over Northwestern Himalayan region of India: Chemical characterization and Budget estimation | Nidhi Tomar, Humaira Ghayas, Avirup Sen, Rohtash Singh Garhwal, Naresh Chandra Gupta, **Tuhin Kumar Mandal** | ***Quality Research*.**<br><br>https://doi.org/10.4209/aaqr.2015.04.0237<br><br>Vol. 16(3), 504-518 | |
| 100 | Influence of ozone precursors and particulate matter on the variation of surface ozone at an urban site of Delhi, India, | Ashima Sharma, S.K.Sharma, **T.K.Mandal,** | ***Sustainable Environment Research*.**<br><br>https://doi.org/10.1016/j.serj.2015.10.001<br><br>Vol. 26 (2), 76-83 | 2016 |
| 101 | Organic and Elemental Carbon Variation in $PM_{2.5}$ over Mega City Delhi and Bhubaneswar, a Semi-Urban Coastal Site in India, | Sipra Panda, S. K. Sharma, ParthSarathiMahapatra, Upasana Panda, Satyajit Rath, Minakshi Mahapatra, **T.K. Mandal** and Trupti Das, | ***Natural Hazards*.**<br><br>https://doi.org/10.1007/s11069-015-2049-3<br><br>Vol. 80 (3), 1709-1728 | 2016 |
| 102 | Variation of stable carbon and nitrogen isotopic composition of PM10 at urbansites of Indo Gangetic Plain (IGP) of India, | S.K. Sharma, **T.K. Mandal**, D. M. Shenoy, PratirupaBardhan, Manoj K. Srivastava, A. Chatterjee, Mohit Saxena, Saraswati, B. P. Singh and S.K. Ghosh | ***Bulletin of Environmental Contamination and Toxicology*.**<br><br>https://doi.org/10.1007/s00128-015-1660-z<br><br>Vol. 95 (5), 661-669 | 2015 |
| 103 | Chemical characterization and source apportionment of aerosol at an urban area of Central Delhi, India, | Sudhir Kumar Sharma, Ashima Sharma, Mohit Saxena, Nikki Choudhary, RenuMasiwal, **Tuhin Kumar Mandal** and Chhemendra Sharma, | ***Atmospheric Pollution Research,***<br><br>*https://doi.org/10.1016/j.apr.2015.08.002*<br><br>*2015,* 7, 110-121 | 2015 |
| 104 | Measurement of ambient $NH_3$, NO and $NO_2$ at an urban area of Kolkata, India: A case study , | S.K. Sharma, Rohtash, **T.K. Mandal**, N.C. Deb and S. Pal, | ***MAPAN-Journal of Metrology Society of India*,**<br><br>https://doi.org/10.1007/s12647-015-0147-z<br><br>*2015,* 31 (1), 75-80 | 2015 |
| 105 | Study of surface ozone at Port Blair, India, a remote marine station in the Bay of Bengal<br>; | **T.K.Mandal**, S.K.Peshin, C. Sharma, Prabhat Kumar Gupta, Rachit Raj, and S.K.Sharma | ***Journal of Atmospheric and Solar-Terrestrial Physics*** | 2015 |

| | | | | |
|---|---|---|---|---|
| | | | https://doi.org/10.1016/j.jastp.2015.04.010<br><br>*129,142-152,2015* | |
| 106 | Impact of monsoon associated deep-penetrating clouds on the hydration of the tropical upper troposphere | Shipra Jain, A.R. Jain, **T.K. Mandal** | ***Atmospheric Science Letters,***<br><br>https://doi.org/10.1002/asl2.517<br><br>*2015, 16,38-43* | 2015 |
| 107 | Seasonal variability of trace gases ($O_3$, NO, $NO_2$ and CO) and particulate matter ($PM_{10}$ and $PM_{2.5}$) over Delhi, India | S.K.Peshin, Ashima Sharma, S.K.Sharma, **T.K.Mandal** | ***Vayumandal,***<br><br>*4.0, 1-4, 61-73, January-December, 2014,* | 2014 |
| 108 | Chemical properties of emission from biomass fuels used in the rural sector of the western region of India | Avirup Sen, **T.K.Mandal**, S.K. Sharma T. Saud, Mohit Saxena, Ranu Gadi R.P.Bhatnagar, D.P.Singh, and Rishu Gautam | ***Atmospheric Environment,***<br><br>https://doi.org/10.1016/j.atmosenv.2014.09.012<br><br>*2014*, 99,411-424 | 2014 |
| 109 | Dry phase of the lower stratospheric water vapor seasonal cycle: Evidence of coupling between surface and tropical lower stratosphere processes | Shipra Jain, A.R. Jain, **T.K. Mandal** | ***Journal of Atmospheric and Solar-Terrestrial Physics*,**<br><br>https://doi.org/10.1016/j.jastp.2014.08.018<br><br>*2014, 121,257-270* | 2014 |
| 110 | Measurement of ambient ammonia over the National Capital Region of Delhi, India | S.K. Sharma, **T.K. Mandal**, Rohtash, ManishKuamr, N. C. Gupta, H. Pathak, R.C. Harit and Mohit Saxena | ***MAPAN-Journal of Metrology Society of India,***<br><br>https://doi.org/10.1007/s12647-014-0098-9<br><br>*2014, 29,3,165-173* | 2014 |
| 111 | Source apportionment of $PM_{10}$ by using positive matrix factorization at an urban site of Delhi, India | S.K. Sharma, **T.K. Mandal**, M. Saxena, Rashmi, Rohtash, A. Sharma and R. Gautam | ***Urban Climate,***<br><br>https://doi.org/10.1016/j.uclim.2013.11.002<br><br>*2014, 10,4,656-670* | 2014 |
| 112 | Source Apportionment of Particulates | Mohit Saxena, Sudhir Kumar Sharma, | ***Atmospheric*** | 2014 |

| | | | | |
|---|---|---|---|---|
| | by Receptor models over Bay of Bengal during ICARB campaign | **Tuhin Kumar Mandal**, Sachchidanad Singh, Trailokya Saud, | ***Pollution Research*****,** https://doi.org/10.5094/APR.2014.082 Vol. 5, 729-740 | |
| 113 | Atmospheric Fine and Coarse Mode Aerosols at Different Environments of India and the Bay of Bengal during Winter-2014: Implication of a Coordinated Campaign | A. Sen, Y. Nazeer Ahammed, Tirthankar Banerjee, G. Reshma Begam, B. P. Burah, A. Chatterjee, Anil K. Choudhuri,Amit Dhir, Trupti Das, Pitamber Prasad Dhayni, N. C. Deb,Ranu Gadi, Sanjay Ghosh, Abhishek Gupta, K.C.Sharma, A.H.Khan, K. Maharaj Kumari, Manish Kumar, Jagdish ChandraKuniyal, Anita Lakhani, R. K. Meena,P. S. Mahapatra, S,W.A. Naqvi, Dharam Pal, S. Pal, Sipra Panda,Rohtash, J. Saikia,P. Saikia, A. Sharma, Priyanka Sharma, M. Saxena, D.M. Shenoy, C. ViswanathaVachaspati, S.K.Sharma, **T.K.Mandal** | ***MAPAN-Journal of Metrology Society of India,*** https://doi.org/10.1007/s12647-014-0109-x *2014, 29,4,273-284* | 2014 |
| 114 | Measurements of particulate ($PM_{2.5}$), BC and trace gases over the northwestern Himalayan region of India. | S.K. Sharma, **T.K. Mandal**, C. Sharma, J. C. Kuniyal, Rohtash, A. Sen, H. Ghayas, N.C. Gupta, Priyanka Sharma, M. Saxena and A. Sharma | ***MAPAN-Journal of Metrology Society of India*****,** https://doi.org/10.1007/s12647-014-0104-2 *2014*, Vol. 29 (4), 243-253. | 2014 |
| 115 | Study on particulate polycyclic aromatic hydrocarbons over Bay of Bengal in winter season | Mohit Saxena, D.P.Singh,T. Saud, R. Gadi, S. Singh, S.K. Sharma, **T.K. Mandal**, | ***Atmospheric Research****,* *https://doi.org/10.1016/j.atmosres.2014.04.001* *2014*, *145, 205-213* | 2014 |
| 116 | Ammonia Emission from Rice-Wheat Cropping System in Subtropical Soil of India | S.K. Sharma, R.C. Harit, V. Kumar, **T.K. Mandal**, H. Pathak | ***Agricultural Research*** https://doi.org/10.1007/s40003-014-0107-9 *2014, 3(2), 175-180* | 2014 |
| 117 | Variation of OC, EC, WSIC and trace metals of $PM_{10}$ in Delhi, India | S.K. Sharma, **T.K. Mandal**, Mohit Saxena, Rashmi, A Sharma, A. Datta, T. Saud | ***J. Atmos. Solar Terrestrial Physics*****,** *https://doi.org/10.1016/j.jastp.2014.02.008* *2014, 113, 10-22* | 2014 |
| 118 | Characteristics of ambient ammonia | S.K. Sharma, Manish Kumar, Rohtash, | *Meteorology and* | 2014 |

| | | | | |
|---|---|---|---|---|
| | over Delhi, India | N.C. Gupta, Saraswati, M. Saxena, **T.K. Mandal** | *Atmospheric Physics*, https://doi.org/10.1007/s00703-013-0299-8 *2014, 124(1-2), 67-82* | |
| 119 | Experimental Facilities to monitor various types of atmospheric parameters in the Radio and Atmospheric Sciences Division (RASD) of CSIR- National Physical laboratory | M.V.S.N. Prasad, C. Sharma, B.C. Arya, T.K. Mandal, Sachchidananda Singh, Monika J Kulshrestha, Rajesh Agnihotri, S.K. Mishra, S.K. Sharma | ***MAPAN-Journal of Metrology Society of India*,** https://doi.org/10.1007/s12647-013-0067-8 *2013, 28(3), 193-203* | 2013 |
| 120 | Tropopause and interchange of minor constituents in the upper troposphere and lower stratosphere (UTLS) region | A.R.Jain, Vivek Panwar, C.J.Johny, Shipra Jain, S.K.Peshin, S.K.Dhaka, **T.K.Mandal** | *IJRSP, Special Issue*, http://nopr.niscpr.res.in/handle/123456789/22994 *2013, 42, 320-331* | 2013 |
| 121 | High seasonal variation of atmospheric C and particle concentrations in Delhi, India | Papiya Mandal, T. Saud, R. Sarkar, A. Mandal, S. K. Sharma, **T. K. Mandal**, J. K. Bassin | ***Environ Chem Lett*,** https://doi.org/10.1007/s10311-013-0438-y *2013, 12, 225-230* | 2013 |
| 122 | Role of convection in hydration of tropical UTLS: implication of AURA MLS long-term observations . | Shipra Jain, A.R. Jain, **T.K Mandal** | ***Ann. Geophys.*,** https://doi.org/10.5194/angeo-31-967-2013, 2013. *31, 967-981, 2013* | 2013 |
| 123 | Spatial Variation of Chemical Constituents from the Burning of Commonly used Biomass Fuels in Rural Areas of the Indo-Gangetic Plain (IGP), India | T. Saud; M Saxena; D.P. Singh; Saraswati Jadav; Manisha Dahiya; S.K. Sharma; A Dutta; Ranu Gadi; **T. K. Mandal** | ***Atmospheric Environment*,** *https://doi.org/10.1016/j.atmosenv.2013.01.053* *2013, 71, 158-169* | 2013 |
| 124 | Emissions estimates of particulate PAH from biomass fuels used in rural sector of Indo-Gangetic Plain of India | D. P. Singh, Ranu Gadi, **T. K. Mandal,** T. Saud, M. Saxena, R.P. Bhatnagar, S.K. Sharma, and A. Mukherjee | ***Atmospheric Environment,*** *https://doi.org/10.1016/j.atmosenv.2012.11.042* | 2013 |

| | | | | |
|---|---|---|---|---|
| | | | *2013,68, 120-126* | |
| 125 | Measurement of Sulphur Dioxide ($SO_2$) and Nitrogen Dioxide ($NO_2$) during winter over a period of three years at Kaikhali (22.0N & 88.614E) in Sundarbans | Indranil Mukherjee, Niladri Chakraborty, **Tuhin Kumar Mandal,** Anupam Deb Sarkar | ***Int. J. of Environmental Engineering,*** *Vol.5, No.3, 289 – 298, 2013* | 2013 |
| 126 | Study on Water Soluble Ionic Composition of PM10 and related Trace Gases over Bay of Bengal during W-ICARB Campaign, | S.K.Sharma, A.K.Singh, T. Saud, **T.K.Mandal**, M. Saxena, R. Gadi, R. Gautam, V. Parmar, S. Ghosh, S. Singh and J.K Bassin, | ***Meteorology and Atmospheric Physics,*** https://doi.org/10.1007/s00703-012-0204-x *2012, 118(2), 37-51* | 2012 |
| 127 | Spatial distribution of ambient ammonia over National Capital Region, India | S.K. Sharma, H. Pathak, **T.K. Mandal,** A. Datta, R. Gautam, M. Saxena, T. Saud, | ***J. Scientific Industrial Research,*** *2012, 71(5), 360-362* | 2012 |
| 128 | Emission estimates of organic and elemental carbon from household biomass fuel used over the Indo-Gangetic Plain (IGP), India | T. Saud, R. Gautam, **T.K. Mandal**, Ranu Gadi, D.P. Singh, S.K. Sharma, Manisha Dahiya, M. Saxena | ***Atmospheric Environment,*** *https://doi.org/10.1016/j.atmosenv.2012.07.030* *61, 212-220, 2012* | 2012 |
| 129 | Ammonia Emission from Subtropical Crop Land Area in India , | A.Datta, S. K. Sharma, R.C. Harit, V. Kumar, **T. K. Mandal,** H. Pathak | ***Asia Pacific Journal of Atmospheric Sciences,*** https://doi.org/10.1007/s13143-012-0027-1 *2012, 48(3), 275-281* | 2012 |
| 130 | Characterization of Gaseous and Particulate Polycyclic Aromatic Hydrocarbons in Ambient Air of Delhi, India | DP Singh, Ranu Gadi, **TK Mandal** | ***Polycyclic Aromatic Compounds,*** https://doi.org/10.1080/10406638.2012.683230 2012, 32(4), 556-579 | 2012 |
| 131 | Measurement of ambient $NH_3$ over Bay of Bengal during W-ICARB Campaign | S.K.Sharma, A.K.Singh, T. Saud, **T.K.Mandal**, M. Saxena, R. Gadi, R. Gautam, V. Parmar, S. Ghosh, S. Singh and J.K Bassin, | ***ANGEO Communicates,*** https://doi.org/10.5194/angeo-30-371-2012, 2012 | 2012 |

| | | | | |
|---|---|---|---|---|
| | | | *2012, 30(2), 371-377* | |
| 132 | Some features of water vapor mixing ratio in upper troposphere and lower stratosphere (UTLS): Role of Convection | V. Panwar, A. R. Jain, A. Goel, **T. K. Mandal**, V. R. Rao, and S. K. Dhaka, | ***Atmospheric Research,*** *dx.doi.org/10.1016/ j.atmosres.2012.02.0 03* *Volume 108, May, 86–103, 2012* | 2012 |
| 133 | Emission estimates of particulate matter (PM) and trace gases ($SO_2$, NO and $NO_2$) from biomass fuels used in rural sector of Indo-Gangetic plain, India | T. Saud, **T.K Mandal**, Ranu Gadi, D.P. Singh, S.K. Sharma, M. Saxena, A. Mukherjee, | ***Atmospheric Environment,*** *https://doi.org/10.101 6/j.atmosenv.2011.06. 031* *45, 5913-5923, 2011* | 2011 |
| 135 | Emission estimates of particulate PAH from biomass fuels used in Delhi, India | Ranu Gadi, Dharam P. Singh, **Tuhin K Mandal**, Trailokya Saud, Mohit Saxena, | Journal of Human and Ecological Risk Assessment, https://doi.org/ 10.1080/10807039.20 12.652461 2011, 18(4),871-887 | 2011 |
| 136 | Levels, Sources, and Toxic Potential of Polycyclic Aromatic Hydrocarbons in Urban Soil of Delhi, India. | D.P.Singh, Ranu Gadi, **T.K. Mandal,** | Journal of Human and Ecological Risk Assessment, dx.doi.org/ 10.1080/10807039.20 12.65246 1, 18: 393–411, 2012 | 2012 |
| 137 | Study of mixing ratio of atmospheric ammonia and other nitrogen components | S.K. Sharma, H. Pathak, A. Datta, M. Saxena, T. Saud and **T.K. Mandal**, | ***Proceedings of the International Academy of Ecology and Environmental Sciences***, *2011, 1(1):38-48* | 2011 |
| 138 | Greenhouse gas emissions from ricebased cropping systems: Economic and technologic challenges and opportunities | A. Dutta, K. S Rao, S.C. Santra, **T.K.Mandal** and T.K.Adhya, | ***Mttg. Adapt. Strateg. Glob. Change,*** *16,5,597-615* | 2011 |
| 139 | Stable (C and N) isotopic composition of bulk aerosol particles over India and northern Indian Ocean during the pre-monsoon season: Indications to significant mixing of | Rajesh Agnihotri, **T.K. Mandal,** S. G. Karapurkar, Manish Naja**,** Ranu Gadi**,** Y. Nazeer Ahammed**,** Animesh Kumar, T. Saud, Mohit Saxena, | ***Atmospheric Environment,*** *https://doi.org/* | 2011 |

| | | | | |
|---|---|---|---|---|
| | marine nitrogenous compounds from the Arabian Sea | | *10.1016/ j.atmosenv.2011.03.003*<br><br>*2011, 45, 2828-2835* | |
| 140 | Characterization of Particulate-bound polycyclic aromatic hydrocarbons and trace metals composition of urban air in Delhi, India | D.P.Singh, Ranu Gadi, **Tuhin K. Mandal,** | ***Atmospheric Environment***,<br><br>*https://doi.org/ 10.1016/ j.atmosenv.2011.02.058*<br><br>*2011, 45(40), 7563-7663* | 2011 |
| 141 | Variation of ambient $SO_2$ over Delhi | Arindam Datta, T. Saud, S. Tiwari, **T.K. Mandal** and S. K. Sharma, | ***J. Atmospheric Chemistry,***<br><br>https://doi.org/ 10.1007/s10874-011-9185-2<br><br>*2010, 65(2-3), 127-143* | 2010 |
| 142 | Variations in mixing ratios of ambient ammonia, nitric oxide and nitrogen dioxide in different environments of India | S.K. Sharma, M. Saxena, **T.K. Mandal**, Y.N. Ahammed, H. Pathak, A. Datta, T. Saud and B.C. Arya, | ***Journal of Earth Science and Climate Change,***<br><br>*2011, doi:10.4172/2157-7617, 1000102,* | 2011 |
| 143 | Occurrence of extremely low cold point tropopause temperature during summer monsoon season: ARMEX campaign and CHAMP / COSMIC satellite observations. | A.R. Jain, Vivek Panwar, C.J.Johny,**T. K. Mandal**, V. R. Rao, Rishu Gautam, S. K. Dhaka; | ***JGR-Atmosphere*,**<br><br>*2011, 116, D03102, doi:10.1029/2010JD014340* | 2011 |
| 144 | Spatial distribution of biomass consumption as energy in rural areas of the Indo-Gangetic Plain | T.Saud, D.P. Singh, **T.K Mandal**, R.Gadi, H.Pathak, M.Saxena, S.K.Sharma, R.Gautam, A.Mukherjee, R.P.Bhatnagar, | ***Biomass and Bioenergy,***<br><br>*https://doi.org/ 10.1016/ j.biombioe.2010.11.001*<br><br>*2011, 35, 932- 941* | 2011 |
| 145 | Observations on Aerosol Optical Depth Over a Period of 3 Years at Kaikhali (22.022°N, 88.614°E) Inside a Special MangroveEcosystem—The Sundarbans | Indranil Mukherjee, Niladri Chakraborty and **T. K. Mandal**, | ***Water Air Soil Pollution,***<br><br>https://doi.org/ 10.1007/s11270-010-0492-z | 2010 |

| | | | | |
|---|---|---|---|---|
| | | | *2010, 215(1-4), 477-486* | |
| 146 | Effect of the solar eclipse on 15 January 2010 on the surface $O_3$, NO, $NO_2$, $NH_3$, CO mixing ratio and the meteorological parameters at Thiruvanthapuram, India | S.K.Sharma, **T.K.Mandal**, B.C.Arya, M. Saxena, D.K.Shukla, A. Mukherjee, R.P.Bhatnagar, S. Nath, S. Yadav, R. Gautam and T. Saud, | ***Annales Geophysicae*,** https://doi.org/10.5194/angeo-28-1199-2010, 2010 *28, 1-7, 2010* | 2010 |
| 147 | Mesoscale convection system and occurrence of extreme cold tropopause temperatures: Observations over Asian summer monsoon region | Jain, A. R., V. Panwar, V., **T.K. Mandal**, V.R. Rao, A. Goel, R. Gautam, S.S. Das, and S.K. Dhaka, | ***Annales Geophysicae*.,** https://doi.org/10.5194/angeo-28-927-2010, 2010. 28, 927-940, 2010. | 2010 |
| 148 | Determination of arsenic, mercury metals in suspended particulate matter by Flame/Flameless Atomic Absorption Spectrometer. | Nahar Singh, Sippy Chauhan, T. Saud, Mohit Saxena, DayaSoni, Khem Singh, Alok Mukherjee, **T.K. Mandal**, J.K. Bassinand Prabhat K. Gupta, | ***Atmospheric Pollution Research*,** *https://doi.org/10.5094/APR.2010.014* *1. 112-117, 2010* | 2010 |
| 149 | Emissions of Polycyclic Aromatic Hydrocarbons in the Atmosphere: An Indian Perspective | D.P.Singh, Ranu Gadi and **T.K.Mandal**, | ***Journal of Human and Ecological Risk Assessment*,** *https://doi.org/10.1080/10807039.2010.512258* *2010, 169, 1-3,* | 2010 |
| 150 | Seasonal variability of ambient $NH_3$, NO, $NO_2$ and $SO_2$ over Delhi | S.K. Sharma, A. Datta, T. Saud, **T.K. Mandal**, Y.N.Ahammed, B.C. Arya and Mohit Saxena, | ***J. Environmental Science*,** *22(7),1-6, 2010* | 2010 |
| 151 | Study of temporal variation in ambient air quality during Diwali festival in India. | D.P. Singh, Ranu Gadi, **T.K. Mandal**, C.K. Dixit, K. Singh, Trailokya Saud, Nahar Singh, Prabhat K. Gupta, | ***Environmental Monitoring and Assessment*,** https://doi.org/10.1007/s10661-009-1145-9 *2010, 169(1-4), 1-13* | 2010 |

| | | | | |
|---|---|---|---|---|
| 152 | Influence of large-scale variations in convective available potential energy (CAPE) and solar cycle over temperature in tropopause region at Delhi (28.30N, 77.10 E), Kolkata (22.30 N, 88.20E), Cochin (100N, 770E) and Trivandrum (8.50N, 77.00E) using radiosonde during 1980-2005 | S. K. Dhaka, R. Sapra, V. Panwar, A. Goel, R. Bhatnagar, M. Kaur, **T. K. Mandal**, A. R. Jain, and H.-Y.Chun ; | ***Earth, Planet and Space,*** https://doi.org/10.5047/eps.2009.09.001 *2010, 62, 319-331,* | 2010 |
| 153 | Observation on particulate matter over a period of three years at Kaikhali (22.022°N & 88.614°E) inside a special mangrove ecosystem: The Sundarbans | Indranil Mukherjee, Niladri Chakraborty, Anupam Deb Sarkar, **Tuhin Mandal**, | ***Journal of Environmental Engineering,*** *https://doi.org/10.1061/(ASCE)EE.1943-7870.0000120* *2010, 136, 1, 119-126* | 2010 |
| 154 | Study on concentration of ambient $NH_3$ and interactions with other ambient trace gases, | S.K. Sharma, A. Datta, T. Saud, **T.K. Mandal**, Y.N.Ahammed, B.C. Arya and M.K. Tiwari, | ***Environmental Monitoring and Assessment,*** https://doi.org/10.1007/s10661-009-0791-2 *2010, 22(7) 1023–1028* | 2010 |
| 155 | Measurement of Ozone ($O_3$) and Nitrogen Dioxide ($NO_2$) in winter period inside a Mangrove Ecosystem at Kaikhali(Sundarbans), | Indranil Mukherjee, Niladri Chakraborty, **T.K.Mandal**, | ***Indian Journal for Air Pollution Control*** *(IJAPC),* *New Delhi Chapter, Vol-IX, No 2, September2009, pp 42-48* | 2009 |
| 156 | Study on district level emission of carbonaceous aerosol from biofuels used in rural sector as energy over Indo Gangetic Plain, | **T.K.Mandal**, Trailokya Saud, Mohit Saxena, R.P.Bhatnagar, Dharam Pal, Ranu Gadi, Rishu Gautam, Sudhir Sharma, Alok Mukherjee, A. Datta, | ***Geochimica et Cosmochimica Acta,*** *Volume 73, Issue 13 Supplement 1, A825 (June 2009)* | 2009 |
| 157 | Assessment of air quality with respect to some criteria air pollutants at a transboundary location, Kaikhali in Sundarban, | I. Mukherjee, **T.K.Mandal**, A.P.Mitra, N.Chakraborty, | ***Journal of the Institution of Public Health Engineers, India (JIPHE),*** *Vol, 2007-08, No 1, pp 41-44* | 2008 |
| 158 | Long term variations in temperature in association with convective available Potential Energy in the upper troposphere using radiosonde | S.K.Dhaka, Vivek Panwar, Rupali Sapra, M. Kaur, Ankur Goel, **T.K.Mandal**, A.R.Jain | ***Advances in Geosciences,*** *https://doi.org/* | 2008 |

| | | | | |
|---|---|---|---|---|
| | data over Delhi (28.00N, 77.10E) & Kolkata (22.30N, 88.20E), India | | *10.1142/9789812838100_0014*<br><br>*(AS-0105),16, 155-164, 2008* | |
| 159 | Observations of trace gases and aerosols over the Indian Ocean during the Monsoon Transition period | **T.K.Mandal**, Ateef Khan, Y. Nazeer Ahameed, R.S.Tanwar, R.S.Parmar, K.S.Zalpuri, Prabhat Kr. Gupta, S.L.Jain, Risal Singh, A.P.Mitra and S.C.Garg, A, Suryanarayana, V.S.N. Murty and Andrew J. Shepherd; | ***Journal of Earth System Science (Special Issue),***<br><br>https://doi.org/10.1007/BF02702875<br><br>*115, 4, 473-484, 2006* | 2006 |
| 160 | Observations of extremely low cold point temperature (CPT) temperature over Indian tropical region during summer monsoon months: possible implications for stratospheric water vapor | A.R.Jain, Siddarth Shankar Das, **Tuhin Kumar Mandal** and A.P.Mitra, | ***Journal of Geophysical Research (Atmosphere),***<br><br>*111, doi:10.1029/2005JD005850, 2006* | 2006 |
| 161 | Emissions of carbonaceous aerosols from biofuels in India, | D.C. Parashar, Ranu Gadi, **T.K.Mandal**, A.P.Mitra and S.C.Garg; | ***Atmospheric Environment,***<br><br>*https://doi.org/10.1016/j.atmosenv.2005.08.034*<br><br>*39, 7861-7871, 2005.* | 2005 |
| 162 | Measurement of particulates at a transboundary location, Kaikhali in Sunderban, | Mukherjee, Indranil, A.P.Mitra, C.Sharma, **T.K.Mandal**, P.K.Gupta, Ajay Singh, N. Chakraborty, | ***Indian Journal of Air Pollution Control,***<br><br>*11, 18-23, 2005* | 2005 |
| 163 | Variability of mixed layer Heights over the Indian Ocean and Central Arabian Sea during INDOEX, IFP-99 | D. Balasubhramanyam, Radhika Ramachandran, K. SenGupta and **Tuhin Kumar Mandal,** | ***Boundary Layer Meteorology,***<br><br>https://doi.org/10.1023/A:1022811512160<br><br>*107, 683-695, 2003* | 2003 |
| 164 | *Interactive comment on* "On the origin of tropospheric $O_3$over the Indian Ocean during the winter monsoon: African biomass burning vs. stratosphere-troposphere exchange" *by* A. T. J. de Laat | **T. K. Mandal** | ***Atmos. Chem. Phys. Discuss.,***<br><br>*2, S358–S361, 2002* | 2002 |
| 166 | Observations of vertical distribution of tropospheric ozone over Indian Ocean and its comparison with continental profiles during INDOEX FFP-1998 and IFP-1999 | S.K.Peshin, **T.K.Mandal**, H.G.J. Smit, S.K.Srivastav and A.P.Mitra. | ***Current Science,***<br><br>*2001, 80, 197-208* | 2001 |
| 167 | First time observation of latitudinal | Ravi Kumar, Shompa Chaudhary, | ***Current Science,*** | 2001 |

| | | | | |
|---|---|---|---|---|
| | and vertical distribution of radiative flux using radiometer sonde over Indian Ocean during INDOEX IFP-1999 and its comparison with the observation at other Indian stations | S.K.Peshin, S.K.Srivastava, **T.K.Mandal**, A.P.Mitra, | https://www.jstor.org/stable/24105155<br><br>*2001, 80, 209-215* | |
| 168 | Green House Gas Inventory, Modelling and Global Change | A.P.Mitra, K.K. Mahajan, D.C. Parashar, M.K.Tiwari, A.B.Ghosh, K.S.Zalpuri, M.C. Sharma, R.S.Ram, Prabhat K.Gupta, G.Beig, C. Sharma, S.Bhattacharya, S.Bose, U.C. Kulshrestha and **T.K.Mandal**, | ***Earth System Sciences*** *Vol.1 (Eds O.P.Varma& T.M. Mahadevan), Published by Ind. Geol. Cong., pp 265-289, 2000* | 2000 |
| 169 | Influence of stratosphere-troposphere exchange on tropospheric ozone over the tropical Indian Ocean during the winter monsoon | M. Zachariasse, P.F.J. van Velthoven, H.G.J. Smit, J. Lelieveld, **T.K. Mandal** and H. Kelder, | ***J. Geophys. Res. (Atmosphere).***<br><br>*https://doi.org/10.1029/2000JD900082*<br><br>*105, 15.403-15,416, 2000* | 2000 |
| 170 | Determination of photolysis frequency of $O^1D$ in the tropical region | R. Paul, A.P.Mitra,**T.K.Mandal** and S.K.Srivastava, | ***Ind. J. Radio & Space Physics,***<br><br>*28, 286-290, 1999* | 1999 |
| 171 | Study of Trace Gas species including Greenhouse Gases, over Indian Ocean during INDOEX Precampaign Cruises of 1996, 1997 & 1998 on Sagar Kanya | Prabhat K. Gupta, R.C. Sharma, S. Koul, D C Parashar, **T.K. Mandal** and A.P.Mitra | ***Current Science,***<br><br>https://www.jstor.org/stable/24101370<br><br>*Vol-76, NO. 7, 968-972, 1999* | 1999 |
| 172 | Measurements of acid rain over Indian Ocean and surface measurements of Atmospheric Aerosols at New Delhi During INDOEX Precampaigns | U.C. Kulshrestha, Monika Jain, **T.K. Mandal**, Prabhat. K. Gupta, A.K. Sarkar and D.C. Parashar, | ***Current Science,***<br><br>https://www.jstor.org/stable/24101374<br><br>*Vol-76, NO. 7, 944-946, 1999* | 1999 |
| 173 | Vertical distribution of ozone over the Indian Ocean (15°N-20°S) during First Field Phase INDOEX-1998 | **T.K. Mandal**, D. Kley, H.G.J. Smit, S.K.Srivastava, S.K.Peshin and A.P.Mitra; | ***Current Science,***<br><br>https://www.jstor.org/stable/24101369<br><br>*7, 938-943, 1999* | 1999 |
| 174 | Stratosphere-troposphere ozone exchange observed by Indian MST radar and a simultaneous balloon borne ozonesonde | **T.K. Mandal,** J.Y.N. Cho, P.B.Rao, A.R.Jain, S.K.Peshin, S.K.Srivastava, A.K.Bohra and A.P.Mitra, | ***Radio Science,***<br><br>*https://doi.org/10.1029/97RS03553*<br><br>*Vol-33, No 4, 861-893, 1998* | 1998 |

**Conference Proceedings:**

| Sl. No. | Authors | Title of the Article | Date /Year | Name of Conference | Venue | Vol No. Pages | Publisher |
|---|---|---|---|---|---|---|---|
| 1. | Sharma, S.K., **Mandal, T.K.,** Arya, B.C., Ahammed, Y.N., Shukla, D.K., Saxena, M., et al | Effects of the solar eclipse on 15 January 2010 on the mixing ratio of trace gases and the meteorological parameters at Thiruvananthapuram, India | 27-28 January, 2011 | National Workshop: Results on Solar Eclipse | SPL, Thiruvananthapuram | 144-147 | SPL, Thiruvananthapuram (India) |
| 2 | Sharma, S.K., **Mandal, T.K.,** Saxena, M., Saud, T., Datta, A., Gautam, R., et al | Carbonaceous and water soluble ionic components of aerosol ($PM_{10}$) over Delhi, India | 19-23 March, 2012 | 8th Int. Conf. on Air Quality: Science and Application | Athens, Greece | 701-704 | Conf. Proceedings, Athens, Greece |
| 3 | Kumar, M., Rohtash., Gupta, N.C., … **Mandal, T.K**., et al | Role of ambient ammonia in the formation of secondary aerosol over National Capital Region of Delhi | 11-13 Dec., 2012 | IASTA Conference-2012 | BARC-Mumbai, India | 171-175 | IASTA Bulletin, Mumbai |
| 4 | Sharma, S.K., Korpole, S., Srivastava, M.K., **Mandal, T.K.** et al | Spatial variability of OC, EC and WSIC of $PM_{10}$ over IGP of India | 21-23 Feb., 2013 | AdMet-2013 | NPL-New Delhi | 159-160 | MSI, New Delhi |
| 5 | Sharma, S.K., Kumar, M., Gupta, N.C., Rohtash., Saxena, M., Saraswati., and Mandal, T.K. | Characteristics of atmospheric ammonia over Delhi, India | 21-23 Feb., 2013 | AdMet-2013 | NPL-New Delhi | 21-23 | MSI, New Delhi |
| 6 | Rohtash., **Mandal, T.K.,** Sharma, S.K., Saxena, M., and Mukherjee, A | Calorific value of residential fuels in western region of India | 21-23 Feb., 2013 | AdMet-2013 | NPL-New Delhi | 117-118 | MSI, New Delhi |
| 7 | Sharma, A., Rohtash., Lal, S., **Mandal, T.K.,** Sharma, S.K., | Seasonal variation of surface ozone and its precursors over India | 2014 | AdMet-2014 | Thapar University, Patiala | 236-237 | MSI-NPL, India |
| 8 | Sharma, S.K., **Mandal, T.K.,** Saxena, M., Singh, S., | Study on water soluble ionic composition of PM10 and related trace gases over Bay of Bengal during W_ICARB | 2014 | ARF ICARB RAWEX, 2014 | SPL, Trivendaram | 209-210 | SPL-ISRO, Trivendaram |
| 9 | **Mandal, T.K.,** Sharma, S.K., Sharma, C., Kuniyal, J.C., Rohtash., Sen, A., Ghayas,H., et al., | Measurements of trace gases ($NH_3$, NO, $NO_2$ & $SO_2$), particulates ($PM_{2.5}$ & TSP) and black carbon over the western Himalayan region | 2014 | International Conference on Air Quality: Science and Application | Germany | 235 | University of Hertfordshire, UK |
| 10 | Sharma, S.K., Masiwal, R., Gupta, N.C., **Mandal, T.K**., Saxena, M., and Rohtash | Source apportionment of $PM_{10}$ and $PM_{2.5}$ by using positive matrix factorization | 2014 | International Conference on Air Quality: Science and Application | Germany | 254 | University of Hertfordshire, UK |
| 11 | Sharma, A., Rohtash., Lal, S., **Mandal, T.K**., Sharma, S.K., | Influence of ozone precursors on concentration of surface ozone over Delhi (in Hindi). | 8-9, December 2014 | National conference MAPIKI-2014 | NPL | 80-83 | MSI-NPL, India |
| 12 | Rohtash., Sen, A., Sharma, C., Kuniyal, J.C., Sharma, P., Kumar, A., **Mandal, T.K**., .. et al | Chemical characteristics of total suspended particulates (TSP) over the north western Himalayan region of | 11-13 November, 2014 | IASTA Conference, at BHU, Varanasi | Varanasi | 114-117 | IASTA |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | India | | | | | |
| 13 | Choudhary, N., Sharma, A., Masiwal, R., Saxena, M., Gupta, A., Gupta, N.C., Rohtash., **Mandal, T.K**., and Sharma, S.K., | Source apportionment of particulate matter (PM10 and PM2.5) using PMF and UNMIX receptor models over Delhi | 11-13 November, 2014 | IASTA Conference, at BHU, Varanasi | Varanasi | 413-415 | IASTA |
| 14. | Sharma, A., Sharma, S.K., **Mandal, T.K.,** | Surface ozone concentration and its behaviour with aerosol at urban site of Delhi, India | 2016 | AdMet-2016 | NPL, New Delhi | 17 | MSI, New Delhi |
| 15. | Pathak, U., Sharma, A., Gupta, N.C., **Mandal, T.K**., Sharma, S.K. | Measurements of surface ozone and its precursors in Delhi, India | 2016 | AdMet-2016 | NPL, New Delhi | 62 | MSI, New Delhi |
| 16 | Sharma, S.K., **Mandal, T.K**., Saraswati, Jain, S., Saxena, M., Sharma, A., et al | Spatio-temporal chemical characteristics and source apportionment of PM10 over Indo Gangetic plain of India | 2016 | AdMet-2016 | NPL, New Delhi | 66 | MSI, New Delhi |
| 17 | Saraswati., Sharma, A., Saxena, M., **Mandal, T.K.,** Sharma, S.K., | Long-term measurement of ambient ammonia and its impacts on air quality of Delhi, India | 2016 | AdMet-2016 | NPL, New Delhi | 81 | MSI, New Delhi |
| 18 | Jain, S., Sharma, S.K., **Mandal, T.K**., Shenoy, D.M., Bardhan, P., Srivastava, M.K., et al | Seasonal variations of stable carbon and nitrogen isotopic composition of $PM_{10}$ at urban sites of Indo-Gangetic Plains (IGP) of India | 2016 | IASTA-2016 | PRL, Ahmedabad | 597-601 | IASTA, India |
| 19 | **Mandal, T.K**., Gogia, P., Singh, T., Shivani., Dhir, A., Bhati, M.S., et al | Effect of crop residue burning in Punjab and Haryana over the northern India | 25-27 April, 2017 | International Conference on Aerosol and Climate Change | Bose Institute, Darjeeling | 155-157 | Bose Institute, Darjeeling |
| 20 | Jain, S., Sharma, S.K., **Mandal, T.K**., Srivastava, M.K., Singh, R.K., Chaterjee, A., et al | Source apportionment of $PM_{10}$ ssing PCA-APCS, UNMIX and PMF models in Indo-Gangetic plain (IGP) of India. | 25-27 April, 2017 | International Conference on Aerosol and Climate Change | Bose Institute, Darjeeling | 161-162 | Bose Institute, Darjeeling |
| 21 | Mahapatra, P.S., Jain, S., Panda, S., Sharma, S.K., Senapati, S., **Mandal, T.K**., et al | Spatial distribution of endotoxin associated with $PM_{2.5}$ in ambient air and its relationship with chemistry and meteorology | 25-27 April, 2017 | International Conference on Aerosol and Climate Change | Bose Institute, Darjeeling | 172-173 | Bose Institute, Darjeeling |
| 22 | Sen A., Saxena, M., Sharma, S.K., Shenoy, D.M., Karapurkar, S.G., and **Mandal, T.K.** | Stable isotopic composition of $PM_{10}$ over Indo-Gangetic plain and neighboring areas during a winter, 2014 campaign | 25-27 April, 2017 | International Conference on Aerosol and Climate Change | Bose Institute, Darjeeling | 174-176 | Bose Institute, Darjeeling |
| 23 | Sharma, A., Peshin, S.K., Sharma, S.K., and **Mandal, T.K.** | Spatio-temporal variation of gaseous and particulate pollutants and meteorology over Delhi-NCR | 25-27 April, 2017 | International Conference on Aerosol and Climate Change | Bose Institute, Darjeeling | 177-179 | Bose Institute, Darjeeling |
| 24 | Sharma, S.K., **Mandal, T.K**., Kuniyal, J.C., Sharma, P., Sharma, C., Saxena, M., et al | Chemical composition and source apportionment of $PM_{2.5}$ and TSP in North-western Himalayan | 25-27 April, 2017 | International Conference on Aerosol and Climate Change | Bose Institute, Darjeeling | 221-223 | Bose Institute, Darjeeling |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | region of India | | | | | |
| 25 | Nayak, G., Kumar, A., **Mandal, T.K**., and Sharma, S.K., | Characteristics and distribution of carbonaceous species over Bay of Bengal during winter monsoon outflow. | 26-28 Nov, 2018 | IASTA Conference | IIT, Delhi | 120-122 | IASTA, India |
| 26 | Kumar, M., **Mandal, T.K.,** and Sharma, S.K., | A preliminary study on ozone precursor-NMVOCs at an urban site of Delhi during monsoon | 26-28 Nov, 2018 | IASTA Conference | IIT, Delhi | 123-126 | IASTA, India |
| 27 | Priyadharshini, B., Verma, S., Chatterjee, A., Sharma, S.K., **Mandal, T.K.,** and Dubey, K | Chemical signatures of urban, open burning and dust transportation in a tropical urban environment over Eastern Indian region | 26-28 Nov, 2018 | IASTA Conference | IIT, Delhi | 408-411 | IASTA, India |
| 28 | Banoo, R., Sharma, S.K., Gadi, R., and **Mandal, T.K**., | Sources and source regions of $PM_{10}$ carbonaceous species over NCR of Delhi. | 18-20 December , 2019 | 4th Internat. Conf. Air Quality Manag. (IICAQM 2019 | IIT, Mumbai | 5 pages | IIT, Mumbai |
| 29 | Rai, A., Gurung, B., Chatterjee, A., Choudhary, N., Kotnala, G., **Mandal, T.K.,** and Sharma, S.K., | Seasonal variation and concentration weighted trajectory (CWT) analysis of carbonaceous species in $PM_{10}$ over eastern Himalayan region of India. | 18-20 December , 2019 | 4th Internat. Conf. Air Quality Manag (IICAQM 2019 | IIT, Mumbai | 6 pages | IIT, Mumbai |
| 30 | Choudhary, N., Gurung, B., Srivastava, P., Naja, M., Chatterjee, A., Vijayan, N., **Mandal, T.K.,** and Sharma, S.K., | Chemical characteristics and sources of aerosols over Himalayan region of India. | 18-20 December , 2019 | 4th Internat. Conf. Air Quality Manag (IICAQM 2019 | IIT, Mumbai | 6 pages | IIT, Mumbai |
| 31 | James Cash, Chiara Di Marco, Ben Langford, Neil Mullinger, James Allan, Ernesto Reyes Villegas, Rutambhara Joshi, Mathew Heal, **Tuhin Mandal**, Shivani Shivani, Ranu Gadi, Eiko Nemitz | Chemical characterisation of the submicron aerosol composition in Old Delhi. | 2019, | Geophysical Research Abstracts | AGU Fall Meeting, USA | Vol. 21, p1-1. 1p | AGU,USA |
| 32 | **T.K. Mandal**, J.Y.N. Cho, P.B.Rao, A.R.Jain, and S.K.Peshin, A.P.Mitra, | A campaign of simultaneous observations of vertical transport using the Indian MST radar and balloon-borne ozonesonde. | November 7-11, | Proceeding of the seventh workshop on technical and scientific aspects of MST radar, Solar-Terrestrial Energy Program, edited by Belva Edwards | | | |
| 33 | D.C. Parashar, M.C Sharma, P.K. Gupta, R. Singh, C. Sharma, U.C. Sharma, U.C. | Biomass Burning: A significant source of atmosphere trace gases | February 6-9, 1996 | National Symposium held in Osmania | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Kulshrestha, R.C. Sharma, S. Koul, **T.K.Mandal**, J. Baruah, M.R. Nath | | | University, Herdrabad, India, | | | |
| 34 | P.D. Kumar, O.P. Nagpal, **T.K. Mandal**, A.P. Mitra and S.K. Srivastava | Dynamics of equatorial middle atmosphere observed using the Indian MST radar, | November 7-11, 1995 | Seventh Workshop on Technical and Scientific Aspects of MST/ST radar (mst7/isar2) held in | Cleimson University, South Carolina, USA, | | |
| 35 | **T.K.Mandal**, S.K.Peshin, S.K.Srivastava, R.K.Choudhary, A.P.Mitra, | Tropospheric Ozone over India, | 10-13, July, 2001 | Global Change Open Science Conference, Amsterdam, The Netherlands, | | | |
| 36 | Ravi Kumar, Shompa Das, **T.K.Mandal**, S.K.Peshin and A.P.Mitra | A comparative study of the International ozone loss at Maitri and Syowa stations of Antarctica from 1988 to 1999 | 17-24 February, 2004 | XIII National Space Science Symposium-2004, Page 54, | | | |
| 37 | Shompa das, **T.K.Mandal**, R.S.Parmar, K.S.Zalpuri, C.Sharma, S.L.Jain, A.P.Mitra and A.Dutta, | Impact of Air Pollution on Human Health during Diwali, | 17-24 February, 2004 | XIII National Space Science Symposium-2004, Page 54, | | | |
| 38 | A.R.Jain, Siddarth Shankar Das, Tuhin Kr. Mandal, A.P.Mitra, | Observation of extremely low cold point tropopause (CPT) temperature over Indian Tropical region during summer monsoon months: possible implications for stratospheric water vapor: | 17-24 February, 2004 | XIII National Space Science Symposium-2004, Page 24, | | | |
| 39 | **T.K.Mandal**, G. Beig, C. Sharma and A..Mitra | Synthesis of Trace gases over India, | 4-9 September, 2004 | 8th International IGAC Conference, New Zealand, | | | |
| 40 | D.C.Parashar, T.K.Mandal, Ranu Gadi and A.P.Mitra | Aerosol Emission Estimate from Bio Fuel burning in India, | 4-9 September, 2004 | 8th International IGAC Conference, New Zealand, | | | |
| 41 | **T.K.Mandal**, S.K.Peshin, H.G.J.Smit, P.K.Gupta, and A.P.Mitra, | Some Key features of Ozone and Watervapor over Indian Ocean and Comparison with the observation over Atlantic Ocean, | November 3-5, 2004 | SOLAS Science 2004, Halifax, Nova Scotia, Canada; | | | |
| 42 | **T.K.Mandal**, B.C.Arya, S.L.Jain, Shompa Das, R.P.Bhatnagar, R.S.Parmar, S.C.Garg, | Study Of Trace Gas At Darjeeling (Eastern Himalayas) | November 3-5, 2005 | **First Workshop On Astroparticl** | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | A.P.Mitra, A.K.Singh, Y.Yadav, A.Addak, Sanjay Ghosh, Sibaji Raha | | | **e Physics And Space Sciences, Scope Of The National Facility In Eastern Himalayas, Bose Institute, Darjeeling**, | | | |
| 43 | **T.K.Mandal**, B.C.Arya, S.L.Jain, Shompa Das, R.S.Parmar, R.P.Bhatnagar, Prabhat Kumar Gupta, Nahar Singh, S. Koul, S.C.Garg and A.P.Mitra,A.K.Singh, Y. Yadav, Sibaji Raha, Sanjay Ghosh, A.Adak,N.K.Purkait and A.DasguptaMridul Bose, Niladri Chakraborty, Indranil Mukherjee, Joyshree Roy, S.K.Peshin | Study of Trace Gases at some special selected sites of India | November 21-22, **2005** | First Symposium on Asian Ozone Pollution in Eurasian Perspective-The APN Project Workshop/Seminar, Beijing, | | | |
| 44 | **T.K.Mandal**, S.K.Pehsin, S.C.Garg and A.P.Mitra | Study of surface ozone and its precursor gases at Port Blair, India, a remote marine station in Bay of Bengal | 10-14 July, **2006** | AGOS Conference, Singapore, | Singapore | | |
| 45 | Ranu Gadi , AmarjeetBudget estimates of indoor Kaur , Neelima Markanday , **T.K.Mandal** , D.C.Parashar , and A.P. Mitra . | air pollutants from solid biomass fuels used in India**.** | June 5-8, **2006** | ESA's Air Quality Workshop, Potomac, Near Washington DC, USA, | Washington DC, USA, | | |
| 46 | A.R.Jain, **T.K.Mandal** and V.R. Rao | Influence of monsoon associated mesoscale systems on the tropical tropopause and stratosphere-troposphere exchange (STE) of minor constituents | June 12-15, **2006** | SPARC-GEWEX/ GCSS-IGAC Invitational Workshop, Victoria BC, Canada, | Victoria BC, Canada, | | |
| 47 | **T.K.Mandal**, S.K.Peshin, R.K.Chaoudhary, A.R.Jain and A.P.Mitra, | Long term changes in stratospheric and tropospheric Ozone over India | 17-23, Septembe r, 2006 | 9th International CACGP/IGAC/WMO Conference | Cape Town,, South Africa | | |
| 48 | **T. K. Mandal** and Y. N. Ahammed, | Relationship of Ozone and Carbon monoxide over Bay of Bengal and Arabian Sea during summer and winter Monsoon transitions, | | | | | |

**Books, Monographs**

| Sl. No | Title, Author, Publisher | Author | Publisher | Year |
|---|---|---|---|---|
| 1 | Ozone and UV Scenario over India; Climatology, Trend and Future: Part A Ozone over India and Part B: UV-B radiation intensities over India and changes during a decade by | **T.K.Mandal**, G. Beig, A.P.Mitra Risal Singh, R.S.Tanwar, Sambhu Nath, | *Scientific Report Number 22*, Centre on Global Change, National Physical Laboratory, PP 1-96, New Delhi 110012, December, 2004, | 2004 |
| 2 | Asian Ozone Pollution in Eurasian Perspective | H. Akimoto, P. Pochanart, J. Tang, T. Wang, S.L. Jain, B.C. Arya, **T.K. Mandal**, S. Lal and S.-F. Lim, | Asia-Pacific Network for Global Change Research | 2005 |
| 3 | Atmospheric ammonia over Indian region, | S.K. Sharma, **T.K. Mandal** | 9 chapters ,113 pages, Jan. 2015, Germany, ISBN:978-3-659-67979-7, LAMBERT Academic Publishing Ag, Germany | 2015 |
| 4 | Metrology for Atmospheric Environment<br>Part I: Atmospheric Constituents | Chhemendra Sharma, **Tuhin Kumar Mandal**, Sachchidanand Singh, Govind Gupta, Monika J. Kulshrestha, Prabha Johri, Ashish Ranjan, Arun Kumar Upadhayaya, Rupesh M. Das, Daya Soni, Sumit Kumar Mishra, Senthil Kumar Muthusamy, Sudhir Kumar Sharma, Preetam Singh, Shankar Gopala Aggarwal, Soman Radha Radhakrishnan, and Manoj Kumar, | Chapter 13, Metrology for Inclusive Growth of India, Spinger, pp 1-1076 | 2020 |
| 5 | Metrology for Atmospheric Environment<br>Part II: Environmental Governance | Chhemendra Sharma, **Tuhin Kumar Mandal**, Sachchidanand Singh, Govind Gupta, Monika J. Kulshrestha, Prabha Johri, Ashish Ranjan, Arun Kumar Upadhayaya, Rupesh M. Das, DayaSoni, Sumit Kumar Mishra, Senthil Kumar Muthusamy, Sudhir Kumar Sharma, Preetam Singh, Shankar Gopala Aggarwal, Soman Radha Radhakrishnan, and Manoj Kumar, | Chapter 14, Metrology for Inclusive Growth of India, Spinger, pp 1-1076 | 2020 |
| 6 | Source Identification of Aerosols using Stable Carbon and Nitrogen Isotopic Composition | Binoy K Saikiya<br>(AU: **Sharma, S.K.**, Mandal, T.K.,) | Atmospheric Aerosol: Properties, Sources and Detection, USA (New York) 2022, NOVA Scientific Publishers | 2022 |