
Amit Kumar Mishra, PhD

Assistant Professor

School of Environmental Sciences

Jawaharlal Nehru University, New Delhi, India-110067

Sex: Male **DOB:** 05/11/1983 **Nationality:** Indian

Phone: +91-9205201653 **E-mail:** amit.mishra.jnu@gmail.com

Research Interests

- Optical and Microphysical Properties of Aerosols: Remote Sensing & Modelling
- Aerosol Radiative Forcing & Aerosol-Cloud-Climate Interaction
- Air Pollution, Climate Change & Environmental Policy

Professional Appointments

- 2017 (Oct)–current: Assistant Professor
School of Environmental Sciences,
Jawaharlal Nehru University (JNU), New Delhi, India.
- 2016 (May)–2017 (Oct): DST Inspire Faculty
Environmental Science and Biomedical Metrology Division,
CSIR-National Physical Laboratory, New Delhi, India.
- 2015 (Nov)–2016 (Mar): Post-Doctoral Fellow
Centre for Environmental Science and Engineering,
Indian Institute of Technology (IITK), Kanpur, India.
- 2012 (Nov)–2015 (Nov): Post-Doctoral Fellow
Department of Earth and Planetary Science,
Weizmann Institute of Science (WIS), Rehovot, Israel.

Education

- Ph.D. (2012): Environmental Science
Department of Earth and Environmental Science,
Nagoya University (NU), Nagoya, Japan.
- M.Phil. (2009): Environmental Science
School of Environmental Sciences,
Jawaharlal Nehru University (JNU), New Delhi, India.
- NET/JRF (2007): Earth, Atmospheric, Ocean & Planetary Sciences
Joint CSIR-UGC,
CSIR, New Delhi, India.

M.Sc. (2007): Environmental Science
School of Environmental Sciences,
Jawaharlal Nehru University (JNU), New Delhi, India.

B.Sc. (2005): Mathematics, Physics & Chemistry (Hons.)
Faculty of Science,
Banaras Hindu University (BHU), Varanasi, India.

Awards and Achievements

Scholarships

- Inspire Faculty Award from Department of Science and Technology, Govt. of India (Feb 2016)
- International Scholarship of Japanese Monbukagakusho Scholarship from Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT), Govt. of Japan (Apr 2010 – Oct 2012).
- Senior Research Fellowship (SRF) of Council of Scientific and Industrial Research (CSIR), Government of India (Jul 2009 – Mar 2010).
- Junior Research Fellowship (JRF) of Council of Scientific and Industrial Research (CSIR), Government of India (Jul 2007– Jun 2009).
- National Eligibility Test (NET) for lectureship, CSIR, Government of India, 2007.

Distinction

- Batch topper in M.Phil. (2009) from School of Environmental Science, JNU, India.

Memberships

- European Geophysical Union (EGU)
- American Geophysical Union (AGU)
- American Energy Society (AES)

Reviewer of International Journals

Atmospheric Environment, Journal of Geophysical Research-Atmosphere, Atmospheric Research, Aerosol and Air Quality Research, Environmental Pollution, QJRMS, International Journal of Remote Sensing, Atmospheric Chemistry and Physics etc.

Technical Skills

Computational

- Operating system: Windows, MAC, Linux/Unix.
- Computer language: MATLAB, IDL, FORTRAN, Shell scripts etc.
- Radiative Transfer Schemes and various software tools used in Atmospheric Sciences
- Satellite Data Analyses: CALIPSO, MODIS, AIRS, MISR, OMI-AURA, PARASOL etc.

Experimental

- Atomic Absorption Spectrophotometer (AAS)
- Air sampling using high volume and PM_{2.5} sampler
- Sun-photometer, Sun/sky Radiometer and Lidar.

Research Experiences

DST INSPIRE Project (2016 – 2021: Ongoing)

- Study of atmospheric brown clouds over the Indo-Gangetic Plain and their impact on monsoon and agro-ecosystem. **[Grant: 35 Lakhs INR]**

Post Doc. Projects (2012 – 2016)

- Radiative signature of absorbing aerosols over the Mediterranean.
- Co-variability of fire and smoke in the Amazon Basin.
- Effect of aerosol layer height on direct aerosol radiative forcing.
- Evaluation of spatial boundaries of point measurements over the Mediterranean.
- Elevated aerosol layer and its radiative impacts.

Ph.D. Thesis (2012)

- Spatio-temporal distribution of aerosols characteristics over the Indo-Gangetic Basin: synergetic analyses using multi space-borne and ground-based remote sensors.

M.Phil. dissertation (2009)

- Determination of size segregated aerosol concentration derived from aerosol optical depth (AOD) measurements at various locations of Delhi.

M.Sc. dissertation (2007)

- Size distribution of suspended particulate matter (SPM) and associated heavy metals in ambient air of Delhi.

Publications [Total Impact Factor (IF) = 43.90 as per 2016] *Corresponding AuthorPublished or in-press/accepted

1. Chowdhary, S., Dey, S., *Tripathi, S.N., Beig, G., **Mishra, A.K.**, Sharma, S., (2017) "Traffic intervention" policy fails to mitigate air pollution in megacity Delhi, **Environmental Science and Policy**, 2017, 74, 8-13. **(IF=3.751)**
2. Pandey, A.K., **Mishra, A.K.**, Kumar, R., Berwal, S., Devadas, R., Huete, A., and *Kumar, K. (2017) CO variability and its association with household cooking fuels consumption over the Indo-Gangetic Plains. **Environmental Pollution**, 2017, 222, 83-93. **(IF=5.099)**
3. Bali, K., ***Mishra, A.K.**, *Singh, S., (2017) Impact of anomalous forest fire on aerosol radiative forcing and snow cover over Himalayan region, **Atmospheric Environment**, 2017, 150, 264-275. **(IF=3.629)**
4. Sarnagi, C., *Tripathi, S.N., **Mishra, A.K.**, Goel A., Welton, E.J., (2016) Elevated aerosol layers and their radiative impact over Kanpur during monsoon onset period, **Journal of Geophysical Research-Atmosphere**, 2016, 121, doi:10.1002/2015JD0247. **(IF=3.454)**
5. **Mishra, A.K.**, Rudich, Y., *Koren, I., (2016) Spatial boundaries of Aerosol Robotic Network observations over the Mediterranean basin, **Geophysical Research Letters**, 2016,43 doi: 10.1002/2015GL067630. **(IF=4.253)**
6. Tiwari, S., **Mishra, A.K.**, *Singh, A.K., (2016) Aerosol climatology over the Bay of Bengal and Arabian Sea inferred from Space-borne Radiometers and Lidar Observations, **Aerosol and Air Quality Research**, 2016, 16, 2855–2868 doi:10.4209/aaqr.2015.06.0406. **(IF=2.606)**
7. **Mishra, A.K.**, Rudich, Y., *Koren, I., (2015) Effect of aerosol vertical distribution on aerosol-radiation interaction: a theoretical prospect. **Heliyon** 2015, 1(2), e00036.doi:10.1016/j.heliyon.2015.e00036**(IF=NA)**
8. **Mishra, A.K.**, Lehahn, Y., *Rudich, Y. and *Koren I. (2015) Co-variability of smoke and fire in the Amazon Basin, **Atmospheric Environment** 2015, 109, 97-104. doi:10.1016/j.atmosenv.2015.03.007. **(IF=3.629)**
9. Kumar, S., Kumar, S., Kaskaoutis, D.G., Singh, R.P., Singh, R.K., **Mishra, A.K.**, Srivastava, M.K., and *Singh, A.K. (2015) Meteorological, atmospheric and climatic perturbations

- during major dust storms over Indo-Gangetic Basin, **Aeolian Research** 2015, 17, 15-31, [doi:10.1016/j.aeolia.2015.01.006](https://doi.org/10.1016/j.aeolia.2015.01.006). (IF=2.298)
10. **Mishra, A.K.**, Klingmueller, K., Fredj, E., Lelieveld, J., *Rudich, Y., and *Koren, I. (2014) Radiative signature of absorbing aerosol over the Eastern Mediterranean Basin, **Atmospheric Chemistry and Physics** 2014, 14, 7213-7231, [doi:10.5194/acp-14-7213-2014](https://doi.org/10.5194/acp-14-7213-2014). (IF=5.318)
 11. ***Mishra, A.K.**, Shibata, T., and Srivastava, A.K. (2014) Synergistic approach for the aerosol monitoring and identification of types over Indo-Gangetic Basin in pre-monsoon season, **Aerosol and Air Quality Research** 2014, 14(3), 776-782, [doi:10.4209/aaqr.2013.03.0083](https://doi.org/10.4209/aaqr.2013.03.0083). (IF=2.606)
 12. ***Mishra, A.K.**, Srivastava, A.K., and Jain, V.K (2013). Spectral dependency of aerosol optical depth and derived aerosol size distribution over Delhi: An implication to pollution source, **Sustainable Environment Research** 2013, 23(2), 113-128. (IF=NA)
 13. **Mishra, A.K.**, and *Shibata, T (2012). Climatological aspects of seasonal variation of aerosol vertical distribution over central Indo-Gangetic belt (IGB) inferred by the space-borne lidar CALIOP, **Atmospheric Environment** 2012, 46, 365-375, [doi:10.1016/j.atmosenv.2011.09.052](https://doi.org/10.1016/j.atmosenv.2011.09.052) (IF=3.629)
 14. **Mishra, A.K.**, and *Shibata, T (2012). Synergistic analyses of optical and microphysical properties of agricultural crop residue burning aerosols over the Indo-Gangetic Basin (IGB), **Atmospheric Environment** 2012, 57, 205-218. [doi:10.1016/j.atmosenv.2012.04.025](https://doi.org/10.1016/j.atmosenv.2012.04.025) (IF=3.629)
 15. ***Mishra, A.K.**, and Shibata, T. (2011) Seasonal variation of aerosol optical and microphysical properties with altitude over central Indo-Gangetic belt (IGB) inferred from CALIPSO, **Proceedings of International Nagoya – Workshop on Asian Dust** (3-4 March, 2011), pp. 11-14. (IF=NA)
 16. *Avtar, R., Thakur, J., **Mishra, A.K.**, Kumar, P. (2011) Geospatial Technique to Study Forest Cover Using ALOS/PALSAR Data. In: **Geospatial Techniques for Managing Environmental Resources** (2011), Springer publication, ISBN: 978-94-007-1857-9, pp.139-151. (IF=NA)

International/National Conferences

- **Mishra, A.K.**, Singh, S., Kumar, A., Chandra, S., Jose, S., Rudich, Y. and Koren I. (2016) Addressing the gaps between ground- and satellite-derived aerosol properties, Proceeding of IASTA-Aerosols and Climate Change: Insights and Challenges by Indian Aerosol Science and Technology Association, Physical Research Laboratory, Ahmedabad, India, 6 – 8 December, 2016.
- **Mishra, A.K.**, Singh, S., Kumar, A., Chandra, S., Jose, S. (2016) Forest fires and aerosol radiative forcing over Himalayan region, Proceeding of IASTA-Aerosols and Climate Change: Insights and Challenges by Indian Aerosol Science and Technology Association, Physical Research Laboratory, Ahmedabad, India, 6 – 8 December, 2016.
- Rudich, Y., **Mishra, A.K.**, Lehahn, Y., Koren I. (2014) Fire and smoke in the Amazon Basin: a combined statistic, presented at 2014 **Joint 13th Quadrennial iCACGP Symposium and 13th IGAC Science Conference**, Natal, Brazil, 22 – 26 September, 2014.
- **Mishra, A.K.**, Yinon Rudich and Ilan Koren (2014) Observed absorbing signature of summer-time aerosol over the Eastern Mediterranean, Abstract EGU2014-1476 presented at 2014 **European Geophysical Union (EGU) Meeting**, Vienna, Austria, 27 April – 2 May, 2014.
- **Mishra A.K.** and Shibata T.(2011) Vertical distribution of agriculture crop residue burning aerosol observed by Space borne lidar CALIOP – A case study over Indo-Gangetic Basin(IGB).Abstract A13E-0401 Poster presented at 2011 **American Geophysical Union (AGU) Fall Meeting**, San Francisco, California, USA, 5-9 December.
- **Mishra A.K.** and Shibata T. (2011) Seasonal variation of aerosol optical and microphysical properties with altitude over central Indo-Gangetic belt (IGB) inferred from CALIPSO, **Proceedings of International Nagoya – Workshop on Asian Dust**, Nagoya, Japan, 3-4 March, 2011.