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Research Interests

- Boundary Layer Meteorology
- Natural Hazards
- Atmosphere-Biosphere Interactions
- Air Pollution

Qualifications

Examination	Subjects	College/Department	Board/University	Year of Completion
Ph.D.	Meteorology/ Atmospheric Physics	Centre for Oceans, Rivers, Atmosphere, and Land Sciences	Indian Institute of Technology, Kharagpur, India	2012
M.Tech.	Atmospheric Science	Department of Atmospheric & Space Science	University of Pune, Pune, India	2007
M.Sc.	Physics	M.S.College, Saharanpur	C.C.S.University, Meerut, India	2005

Research Experience

April 2023- Present: Associate Professor at Department of Earth and Atmospheric Science, National Institute of Technology Rourkela, India.
July 2015 – March 2023: Assistant Professor at Department of Earth and Atmospheric Science, National Institute of Technology Rourkela, India.
September 2014 – July 2015: Scientist at National Research Council (CNR-ISAFoM), Naples, Italy.
July 2012 – April 2014: Post Doctoral Candidate at Department of Meteorology (MISU), Bert Bolin Centre for Climate Research, Stockholm University, Stockholm, Sweden.
April 2012 – July 2012: Research Assistant at Department of Meteorology (MISU), Bert Bolin Centre for Climate Research, Stockholm University, Stockholm, Sweden.
July 2007 – April 2012: PhD Candidate at Centre for Oceans, Rivers, Atmosphere, and Land Sciences (CORAL), Indian Institute of Technology, Kharagpur, India.
July 2006 - June 2007: M.Tech. Second year Project Student at Physical Meteorology and Aerology Division, Indian Institute of Tropical Meteorology (IITM), Pune, India.

Teaching Experience

August 2015 – Present: Teaching Masters Student's course on "Introductory Atmospheric Dynamics", "Advanced Atmospheric Dynamics", "Boundary Layer Meteorology", "Micrometeorology and Air Pollution" and "Atmospheric Instrumentation Laboratory" at Department of Earth and Atmospheric Science, National Institute of Technology Rourkela, India.

Peer Reviewed Publications

1. Shrivastava, A., Seela, B.K., **Tyagi, B.** and Lin, P.L., 2024. Raindrop size distributions of summer monsoon rainfall observed over Eastern India. Journal of Atmospheric and Solar Terrestrial Physics, 262, p.106315. https://doi.org/10.1016/j.jastp.2024.106315
2. Seela, B.K., Tharun, D., **Tyagi, B.** and Lin, P.L., 2024. Raindrop size distribution characteristics of pre-monsoon precipitation observed over eastern India. Atmospheric Research, 309, p.107581. https://doi.org/10.1016/j.atmosres.2024.107581
3. Hari, M., Kutty, G. and **Tyagi, B**., 2024. Integrating multi-source datasets in exploring the covariation of gross primary productivity (GPP) and solar-induced chlorophyll fluorescence (SIF) at an Indian tropical forest flux site. Environmental Earth Sciences, *83*(8), p.232.
4. Sahu, R.K., Das, M.K., **Tyagi, B.**, Mohapatra, M., Karmakar, S., Islam, A.K.S., Hossain, S.M.S., Kumar, N. and Beck, H.E., 2024. Analyzing Variability and Threshold Values of Thermodynamic Indices in the Context of Climate Change for Predicting Pre-monsoon Season Thunderstorms in Sylhet, Bangladesh. Earth Systems and Environment, pp.1-13.
5. Sahu, R.K., Singh, K.S., Nayak, H.P., **Tyagi, B.,** 2024 Evaluating the Influence of the Shillong Plateau Topography on Thunderstorm Activity over Northeast India, Pure and Applied Geophysics, online published, DOI: 10.1007/s00024-024-03445-9
6. Yadav, R., Anand, V., Sahu, S.K., Kunchala, R.K., **Tyagi, B.** and Beig, G., 2024. Anthropogenic Trace Gases and their Linkages to Meteorology and Climate Change. Frontiers in Sustainable Cities, 6, p.1379626.
7. Sunder, M.S., Tikkiwal, V.A., Kumar, A. and **Tyagi, B.,** 2023. Unveiling the Transparency of Prediction Models for Spatial PM2. 5 over Singapore: Comparison of Different Machine Learning Approaches with eXplainable Artificial Intelligence. AI, 4(4), pp.787-811.
8. Tiwari, D.K., Hari, M., Kundu, B., Jha, B., **Tyagi, B.** and Malik, K., 2023. Delhi urbanization footprint and its effect on the earth's subsurface state-of-stress through decadal seismicity modulation. Scientific Reports, 13(1), p.11750.
9. Sahu, S.K., Sahoo, P., Mangaraj, P., Beig, G., **Tyagi, B.**, Samal, B., Mishra, A. and Yadav, R., 2023. Identification and Quantification of Emission Hotspots of Air Pollutants over Bhubaneswar: A Smart City in Eastern India. Aerosol and Air Quality Research, 23, p.230049.
10. Vuolo, M.R., Acutis, M., **Tyagi, B.**, Boccasile, G., Perego, A., Pelissetti, S. 2023. Odour Emissions and Dispersion from Digestate Spreading. *Atmosphere*, *14*, 619. https://doi.org/10.3390/atmos14040619
11. Sahu, R.K., Nayak, S., Singh, K.S., Nayak, H.P., **Tyagi, B.,** 2023. Evaluating the impact of topography on the initiation of Nor'westers over eastern India, Geomatics, Natural Hazards and Risk, 14:1, DOI: 10.1080/19475705.2023.2184669
12. Gorja, M.M.K., Gulakaram, V.S., Vissa, N.K., Viswanadhapalli, Y. and **Tyagi, B.,** 2023. Analysis of Large-Scale Environmental Features during Maximum Intensity of Tropical Cyclones Using Reanalysis Data. Atmosphere, 14(2), p.333.
13. **Tyagi, B.**, 2022. India's economic growth and disease burden in relation to air pollution. The Lancet Regional Health-Southeast Asia, 7, https://doi.org/10.1016/j.lansea.2022.100081.
14. **Tyagi, B.**, Vissa, N.K. and Ghude, S.D., 2022. Evolution of Pollution Levels from COVID-19 Lockdown to Post-Lockdown over India. Toxics, 10(11), p.653. https://doi.org/10.3390/toxics10110653
15. Choudhary, A., Kumar, P., Sahu, S.K., Pradhan, C., Joshi, P.K., Singh, S.K., Kumar, P., Mezoue, C.A., Singh, A.K., **Tyagi, B.**, 2022. Health Risk Appraisal Associated with Air Quality over Coal-Fired Thermal Power Plants and Coalmine Complex Belts of Urban–Rural Agglomeration in the Eastern Coastal State of Odisha, India. *Atmosphere*, *13*, 2064. https://doi.org/10.3390/atmos13122064
16. Sahu, S.K., Mangaraj, P., **Tyagi, B.**, Yadav, R., Paul, O., Chaulya, S., Pradhan, C., Das, N., Sahoo, P., Beig, G., 2022. Estimating NOX, VOC, and CO variability over India's 1st smart city: Bhubaneswar, Frontiers in Environmental Science, 10, 1-14, https://doi.org/10.3389/fenvs.2022.997026
17. Sahu, R.K., Choudhury**,** G., Vissa, N. **Tyagi, B.**, Nayak, S., 2022. Impact of El-Niño and La-Niña on the pre-monsoon convective systems over Eastern India, Atmosphere, 13(8), 1261.

18. Hari, M. and **Tyagi, B.**, 2022. Terrestrial carbon cycle: a tipping edge of climate change between atmosphere and biosphere ecosystems. *Environmental Science: Atmospheres*. DOI: 10.1039/D1EA00102G
19. Sahu, R.K., **Tyagi, B.**, Vissa, N.K., and Mohapatra, M., 2022. Pre-monsoon Thunderstorm Season Climatology of Convective Available Potential Energy (CAPE) and Convective Inhibition (CIN) over Eastern India. MAUSAM, 73(3), pp.565-586.
20. Barudgar, A., Singh, J. and **Tyagi, B.**, 2022. Variability of Fine Particulate Matter (PM2. 5) and its Association with Health and Vehicular Emissions Over an Urban Tropical Coastal Station Mumbai, India. Thalassas: An International Journal of Marine Sciences, pp.1-14, https://doi.org/10.1007/s41208-022-00442-4
21. Sahu, R.K., Hari, M., **Tyagi, B.**, 2022. Forest Fire Induced Air Pollution over Eastern India during March 2021. Aerosol Air Qual. Res. 22, 220084. https://doi.org/10.4209/aaqr.220084
22. Hari, M. and **Tyagi, B.**, 2022. India's Greening Trend Seems to Slow Down. What Does Aerosol Have to Do with It?. Land, 11(4), p.538.
23. Sahu, R.K. and **Tyagi, B.**, 2022. Spatial variation of thermodynamic indices over north-east India during pre-monsoon thunderstorm season. Journal of Atmospheric and Solar-Terrestrial Physics, 232, p.105868.
24. Hari, M., Sahu, R.K., Sunder, M.S. and **Tyagi, B.**, 2022. Then and Now: COVID-19 Pandemic Lockdown Misfire Atmospheric Methane over India. Aerosol and Air Quality Research, 22, p.210354.
25. Kundu, B., Panda, D., Vissa, N.K. and **Tyagi, B.**, 2022. "Novel 2019 Coronavirus Outbreak" through the Eyes of GNSS Signal. Journal of the Geological Society of India, 98(1), pp.83-87.
26. Vissa, N.K. and **Tyagi, B.**, 2021. Aerosol dipole pattern over India: consequences on rainfall and relation with wind circulations. Acta Geophysica, 69, pp.2475-2482.
27. Hari, M., Srinivasan, S., Rajasekaran, A., **Tyagi, B.**, 2021. Above ground carbon stock mapping over Coimbatore and Nilgiris Biosphere: a key source to the C sink. Carbon Management, pp. 1-18, https://doi.org/10.1080/17583004.2021.1962979
28. Hari, M., Sahu, R.K., **Tyagi, B.**, Kaushik, R., 2021. Reviewing the Crop Residual Burning and Aerosol Variations during the COVID-19 Pandemic Hit Year 2020 over North India. Pollutants, 1(3), pp. 127-140
29. Sahu, S.K., Mangaraj, P., Beig, G., **Tyagi, B.**, Tikle, S. and Vinoj, V., 2021. Establishing a link between fine particulate matter ($PM_{2.5}$) zones and COVID-19 over India based on anthropogenic emission sources and air quality data. Urban Climate, 38, p.100883.
30. Hari, M. and **Tyagi, B.**, 2021. Investigating Indian summer heatwaves for 2017–2019 using reanalysis datasets. Acta Geophysica, pp.1-18.
31. Sahu, S.K., Mangaraj, P., Beig, G., Samal, A., Dash, S. and **Tyagi, B.**, 2021. Quantifying the High Resolution Seasonal Emission of Air Pollutants from Crop Residue Burning in India. Environmental Pollution, 286, p.117165.
32. **Tyagi, B.**, Choudhury, G., Vissa, N.K., Singh, J. and Tesche, M., 2021. Changing Air Pollution Scenario During COVID-19: Redefining the Hotspot Regions over India. Environmental Pollution, 271, p.116354.
33. Singh, J. and **Tyagi, B.**, 2021. Transformation of Air Quality over a Coastal Tropical Station Chennai during COVID-19 Lockdown in India. Aerosol and Air Quality Research, 21, 200490, https://doi.org/10.4209/aaqr.200490.
34. Hari, M., **Tyagi, B.**, Huddar, M.S.K. and Harish, A., 2021. Satellite-based regional-scale evapotranspiration estimation mapping of the rice bowl of Tamil Nadu: A little water to spare. Irrigation and Drainage, online published, https://doi.org/10.1002/ird.2553.
35. Gogikar, P., Tripathy, M.R., Rajagopal, M., Paul, K.K. and **Tyagi, B.**, 2021. PM 2.5 estimation using multiple linear regression approach over industrial and non-industrial stations of India. Journal of Ambient Intelligence and Humanized Computing, 12, pp. 2975-2991
36. Choudhury, G., **Tyagi, B.**, Vissa, N.K., Singh, J., Sarangi, C., Tripathi, S.N. and Tesche, M., 2020. Aerosol-enhanced high precipitation events near the Himalayan foothills. Atmospheric Chemistry and Physics, 20(23), pp.15389-15399.

37. Sahu, S.K., **Tyagi, B.**, Beig, G., Mangaraj, P., Pradhan, C., Khuntia, S. and Singh, V., 2020. Significant change in air quality parameters during the year 2020 over 1st smart city of India: Bhubaneswar. SN applied sciences, 2(12), pp.1-8.
38. Sahu, R.K., Dadich, J., **Tyagi, B.** and Vissa, N.K., 2020. Trends of thermodynamic indices thresholds over two tropical stations of north-east India during pre-monsoon thunderstorms. Journal of Atmospheric and Solar-Terrestrial Physics, 211, 105472.
39. Samanta, S., **Tyagi, B.**, Vissa, N.K. and Sahu, R.K., 2020. A new thermodynamic index for thunderstorm detection based on cloud base height and equivalent potential temperature. Journal of Atmospheric and Solar-Terrestrial Physics, 207, 105367, 1-6.
40. Sahu, R.K., Dadich, J., **Tyagi, B.**, Vissa, N.K. and Singh, J., 2020. Evaluating the impact of climate change in threshold values of thermodynamic indices during pre-monsoon thunderstorm season over Eastern India. Natural Hazards, 102, 1541-1569, 1-29.
41. **Tyagi, B.,** Singh, J. and Beig, G., 2020. Seasonal progression of surface Ozone and NOx concentrations over three tropical stations in North-East India. Environmental Pollution, 258, 113662, DOI: 10.1016/j.envpol.2019.113662
42. Choudhury, G., **Tyagi, B**., Singh, J., Sarangi, C. and Tripathi, S.N., 2019. Aerosol-orography-precipitation–A critical assessment, Atmospheric Environment, 214(116831), 1-19.
43. Singh, K.S., **Tyagi, B.,** Verma, V.K., Maity, S., 2019. Assessing the performance evaluation of different convective parameterization schemes in simulating the intensity of severe cyclonic storms over the Bay of Bengal region, Meteorological Applications, 26(4), 597-609, DOI: 10.1002/met.1787
44. **Tyagi, B.** and Satyanarayana, A.N.V., Assessment of difference in the atmospheric surface layer turbulence characteristics during thunderstorm and clear weather days over a tropical station, SN Applied Science, 1(8), 909, 1-9.
45. Sahu, S.K., **Tyagi, B.,** Pradhan, C. and Beig, G., 2019. Evaluating the variability, transport and periodicity of particulate matter over smart city Bhubaneswar, a tropical coastal station of eastern India. SN Applied Sciences, 1(5), 383.
46. Panda, D., Senapati, B., **Tyagi, B.** and Kundu, B., 2019. Effects of Rayleigh-Taylor instability and Ionospheric plasma bubbles on the Global Navigation Satellite System signal. Journal of Asian Earth Sciences, 170, 225-233, DOI: https://doi.org/10.1016/j.jseaes.2018.11.006
47. Singh, K.S. and **Tyagi, B.,** 2019. Impact of data assimilation and air-sea interaction parameterization schemes for prediction of Bay of Bengal cyclone Phailin, Meteorological Applications, 26(1), 36-48, DOI: 10.1002/met.1734
48. Gogikar, P., **Tyagi, B.,** Gorai, A.K., 2019. Seasonal Prediction of Particulate Matter over the Steel City of India using Neural Network models, Modeling Earth Systems and Environment, 5(1), 227-243, DOI: https://doi.org/10.1007/s40808-018-0530-1
49. Singh, J., Noh, Y.J., Agrawal, S., **Tyagi, B.**, 2019. Dust Detection and Aerosol Properties over Arabian Sea Using MODIS Data, Earth Systems and Environment, 3(1), 139-152, DOI: https://doi.org/10.1007/s41748-018-0079-1
50. Gogikar, P., **Tyagi, B.,** Padhan, R.R., Mahaling, M., 2018. Particulate Matter Assessment Using In-Situ Observations from 2009 to 2014 over an Industrial Region of Eastern India, Earth Systems and Environment, 2 (2), 305-322, DOI: 10.1007/s41748-018-0072-8
51. **Tyagi, B.,** Magliulo, V., Finardi, S., Gasbarra, D., Carlucci, P., Toscano, P., Zaldei, A., Riccio, A., Calori, G., D' Allura, A., Gioli, B., 2018. Performance Analysis of Planetary Boundary Layer Parameterization Schemes in WRF Modeling Set Up over Southern Italy, Atmosphere, 9(7), 272, 1-22
52. Singh, J., **Tyagi, B.**, Ntsangwane, L., and Botai, J., 2017. Analysis of Aggregated Solar PV Output in South Africa, Journal of Clean Energy Technologies, 5(5), 378-382
53. Kundu, B., Vissa, N.K., Panda, D., Jha, B., Asaithambi, R., **Tyagi, B.,** Mukherjee, S., 2017. Influence of a meteorological cycle in mid-crustal seismicity of the Nepal Himalaya, Journal of Asian Earth Sciences, 146, 317–325
54. Gogikar, P., and **Tyagi, B.,** 2016. Assessment of particulate matter variation during 2011–2015 over a tropical station Agra, India, Atmospheric Environment, 147, 11-21.
55. Madala, S., Satyanarayana, A.N.V., Srinivas, C.V., and **Tyagi, B.,** 2016. Performance Evaluation of PBL Schemes of WRF-ARW Model in the Simulating Thermo-Dynamical

Structure of Pre-monsoon convective Episodes over Kharagpur using STORM Data Sets, Pure and Applied Geophysics, 173 (5), 1803-1807.

56. **Tyagi, B.,** and Satyanarayana, A.N.V., 2015. Delineation of surface energy exchanges variation during thunderstorm and non-thunderstorm days during pre-monsoon season, Journal of Atmospheric and Solar Terrestrial Physics, 122, 138-144.
57. **Tyagi, B.**, Satyanarayana, A.N.V., 2014. Coherent structures contribution to fluxes of momentum and heat during stable conditions for pre monsoon thunderstorm season, Agriculture and Forest Meteorology, 186, 43-47.
58. **Tyagi, B.**, Satyanarayana, A.N.V., 2014. Coherent Structures contributions in fluxes of momentum and heat at two tropical stations during pre-Monsoon Thunderstorm season, International Journal of Climatology, 34(5), 1575-1584, DOI: 10.1002/joc.3785.
59. **Tyagi, B.**, Satyanarayana, A.N.V., Rajvanshi, R.K., Mandal, M., 2014. Surface Energy Exchanges during pre-Monsoon Thunderstorm Activity over a tropical Station Kharagpur, Pure and Applied Geophysics, 171(7), 1445-1459, DOI 10.1007/s00024-013-0682-x.
60. Singh, J. and **Tyagi, B.**, 2014. Investigating Lunar Phase Impact on Natural Disasters over India, Advances in Research, 2 (12), 926-934.
61. **Tyagi, B.,** Satyanarayana, A.N.V., 2013. Assessment of Turbulent kinetic energy budget and boundary layer characteristics during pre-monsoon thunderstorm season over Ranchi, Asia Pacific Journal of Atmospheric Science, 49(5), 587-601, DOI:10.1007/s13143-013-0052-8
62. **Tyagi, B.,** and Satyanarayana, A.N.V., 2013. An observational study of Turbulent Kinetic Energy budget parameters during Pre-monsoon thunderstorms over a tropical station of Gangetic West Bengal, ISRN Meteorology, Volume 2013, Article ID 972942, 11 pages http://dx.doi.org/10.1155/2013/972942.
63. **Tyagi, B.,** Satyanarayana, A.N.V., and Naresh Krishna, V., 2013. Thermodynamical structure of atmosphere during pre-monsoon thunderstorm season over Kharagpur as revealed by STORM data, Pure and Applied Geophysics, 170(4), 675-687, DOI: 10.1007/s00024-012-0566-5
64. Madala, S., Satyanarayana, A.N.V., and **Tyagi, B.,** 2013. Performance Evaluation of Convective Parameterization Schemes of WRF-ARW Model in the Simulation of Pre-monsoon Thunderstorm Events over Kharagpur using STORM Data Sets, International Journal of Computer Applications, 71(15), 43-50.
65. **Tyagi, B.,** Satyanarayana, A.N.V., Kumar, M., and Mahanti, N.C., 2012. Surface energy and radiation budget over a tropical station: An Observational study, Asia-Pacific Journal of Atmospheric Science, 48(4), 411-421, DOI: 10.1007/s13143-012-0037-z
66. **Tyagi, B.**, Naresh Krishna, V., Satyanarayana, A.N.V., 2011. Skill of Thermodynamic indices for forecasting pre-monsoon thunderstorms over Kolkata during STORM pilot phase 2006-2008, Natural Hazards, 56(3), 681-698, DOI: 10.1007/s11069-010-9582-x
67. **Tyagi, B.,** Satyanarayana, A.N.V., 2010. Modeling of Soil Surface Temperature and Heat Flux during Pre-monsoon season at two Tropical Stations, Journal of Atmospheric and Solar–Terrestrial Physics, 72 (2-3), 224-233, DOI:10.1016/j.jastp.2009.11.015
68. Ghude, Sachin D.; Jain, S.L.; Beig, G.; Arya, B.C.; Ahamed, Y.N; Kumar, Arun; **Tyagi, B.**, 2008. Ozone in Ambient air at Tropical mega city, Delhi: Characteristics, trends and cumulative ozone exposure indices, Journal of Atmospheric Chemistry, 60(3), 237-252, DOI 10.1007/s10874-009-9119-4.
69. Beig, G., Ghude, S.D., Polade, S. and **Tyagi, B.,** 2008. Threshold exceedances and cumulative ozone exposure indices at tropical suburban site, Geophysical Research Letters, 35, L02802, 1-5, DOI: 10.1029/2007GL031434.

Book Chapters

1. Sunder, M.S., Tharun, D., Sahu, R.K. and Tyagi, B., Aerosol Variability Over Nigeria with a Focus on Changes After COVID-19 Episode. In Advances in Air Quality Research in Africa: Proceedings of the First International Conference on Air Quality in Africa (ICAQ'Africa 2022) (p. 103). Springer Nature.

2. Tyagi, B., Sahu, R.K., Hari, M. and Vissa, N.K., 2022. Thermodynamic Changes in the Atmosphere Associated with Pre-monsoon Thunderstorms Over Eastern and North-Eastern India. Extreme Natural Events, pp.165-197.
3. Anandh, P.C., Vissa, N.K. and Tyagi, B., 2022. Statistical Characteristics of Extreme Rainfall Events Over the Indian Subcontinent. In Extreme Natural Events (pp. 109-127). Springer, Singapore.
4. Senapati, B., Panda, D., Kundu, B. and Tyagi, B., 2022. Real-Time Detection of Tornado-Induced Ionospheric Disturbances by Stand-Alone GNSS Receiver. In Extreme Natural Events (pp. 199-220). Springer, Singapore.
5. Rani, J., Mahakhuda, S.K., **Tyagi, B.** and Singh, J., 2022. Assessing District—Wise Wind Energy Potential of Odisha, India by Observance of Tropical Cyclone Vulnerability. In Innovations in Energy, Power and Thermal Engineering (pp. 61-69). Springer, Singapore.
6. Gogikar, P., and **Tyagi, B.,** 2017. Air Quality Assessment over Mining area of Chandrapur during 2012-2016, Sustainable Mining Practices (book published by Narosa Publication, India), Gorai, A.K., Nimaje, D.S. (Ed.), ISBN: 978-81-8487-604-8, 260 pp.

Presentations at International Conferences

1. Sahu, R.K., Beck, H.E. and **Tyagi, B.**, 2024. Assessing the Influence of the Shillong Plateau Topography on Thunderstorm Activities in North-east India (No. EGU24-19982), EGU General Assembly 2024, 14-19 April 2024, Vienna, Copernicus Meetings.
2. Sunder, S. and **Tyagi, B.**, 2024. Assessment of Wildfire-Induced Changes in Energy Fluxes and Environmental Variables: A Case Study in the Similipal Forest Reserve, Odisha, India (No. EGU24-106). EGU General Assembly 2024, 14-19 April 2024, Vienna, Copernicus Meetings.
3. Tripathi, A., Hari, M., Tikkiwal, V.A., **Tyagi, B.** and Kumar, A., 2023, September. Multi-Horizon Forecasting of Average Daily PM2.5 Concentration: A Case Study of Air Pollution in Singapore. In 2023 International Conference on Emerging Techniques in Computational Intelligence (ICETCI) (pp. 296-302). IEEE.
4. Hari, M., Rehbein, A., Rocha, M., **Tyagi, B.** and Sahu, R.K., 2022, December. Delineating the South Asia Monsoon Precipitation Trends through CMIP6 Simulations. In AGU Fall Meeting Abstracts (Vol. 2022, pp. U23D-02).
5. Hari, M. and **Tyagi, B.**, 2022. Effect of aerosols on ecosystem productivity: a double-edged sword in climate change, EGU General Assembly 2022, 23-27 May 2022.
6. RK Sahu, KS Singh, HP Nayak, B Tyagi, 2022. Evaluating the Impact of Topography on Initiation of Nor'westers over Eastern India, EGU General Assembly 2022, 23-27 May 2022
7. Sahu, R.K. and **Tyagi, B.**, 2021. Spatio-Temporal Variations of Thermodynamic Indices during Pre-Monsoon Season Thunderstorms over Eastern India. In AGU Fall Meeting December 2021. AGU.
8. Hari, M., **Tyagi, B.**, O'Sullivan, M. and Sitch, S., 2021. India is drying out its terrestrial carbon: An inference by multi – model estimation of primary productivities. In AGU Fall Meeting December 2021. AGU.
9. Das, M.K., Sahu, R.K., **Tyagi, B.**, Khan, Md. J. U., Mannan, Md. A., 2021. Defining the Threshold values of Thermodynamic Indices for Forecasting the Pre-Monsoon Thunderstorms over northeast Bangladesh. In AGU Fall Meeting December 2021. AGU.
10. Sahu, R.K., **Tyagi, B.,** Vissa, N.K. and Singh, J., 2020. Spatial variation of thermodynamic indices over Assam, India during pre-monsoon thunderstorm season. International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES 2020), National Institute of Technology Rourkela, Odisha, India, 05 February - 07 February, 2020.
11. Gogikar, P., **Tyagi, B**., 2019. Assessment of Source Areas and Prediction of Particulate Matter using Neural Networks over Heritage and Steel Cities of India. European Geoscience Union General Assembly 2019, 07-12 April 2019, Vienna, Austria
12. Choudhury, G., **Tyagi, B.**, Singh, J., Sahu, R.K., 2019. Understanding the aerosol variability associated with extreme rainfall events over foothills of Himalayan region. International

conference on Climate Change Impacts, Vulnerabilities, and Adaption: Emphasis on India and Neighbourhood (CCIVA), Indian Institute of Technology Kharagpur, India, 26 February - 02 March, 2019.

13. Sahu, R.K., Dadich, J., **Tyagi, B.,** Singh, J., 2019. Thermodynamic indices variability in relation to pre-monsoon thunderstorms over north-eastern India. International conference on Climate Change Impacts, Vulnerabilities, and Adaption: Emphasis on India and Neighbourhood (CCIVA), Indian Institute of Technology Kharagpur, India, 26 February - 02 March, 2019.
14. Gogikar, P., **Tyagi, B**., 2018. Prediction of Particulate Matter over Agra: A Neural Network Approach and Performance Evaluation. International Symposium on Atmospheric Pollution: Science, Technology, Innovation & Compliance (ATMOP-STIC 2018), 07-11 August 2018, National Institute of Technology Calicut, Calicut, India
15. Gogikar, P., **Tyagi, B**., 2017. Spatial and temporal variation of RSPM and SPM over an industrial site. International Tropical Meteorological Symposium on Advancements in Space-Based Earth Observations and Services for Weather and Climate (INTROMET 2017), 07-10 November 2017, Ahmadabad, India.
16. Singh, J., **Tyagi, B.**, Ntsangwane, L., and Botai, J., 2016. Analysis of Aggregated Solar PV Output in South Africa. 3rd Journal Conference on Clean Energy Technologies, 09-11 September 2016, Hong Kong.
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Memberships in Professional Organizations

- Life member of Indian Meteorological Society (IMS), India
- Life member of Ocean Society of India (OSI), India
- Life member of Indian Physics Association (IPA), India
- Member of International Association of Urban Climate (IAUC), USA