

Dr. Sobhan Kumar Kompalli

Scientist/Engineer – SF

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Research Areas: (i) Atmospheric aerosols and their climate impact; (ii) Aerosol life cycle, new particle formation, aerosol microphysical properties and particle aging; (iii) Aerosol-cloud-radiation interactions; (iv) Observations and development of experimental facilities for aerosol studies.

Academic Qualification

Degree	Year	Details
• Ph.D.	2021	Atmospheric Science, Thesis Title: “INVESTIGATIONS ON AEROSOL MICROPHYSICAL PROPERTIES OVER DISTINCT ENVIRONMENTS OF INDIA AND ADJOINING OCEANIC REGIONS”, Cochin University of Science & Technology, Cochin, India.
• M. Sc.	2006	Physics, Pondicherry University, Pondicherry, India.

Professional Background

Designation	Duration	Institution
• Scientist	Feb 2008 - Present	Space Physics Laboratory, VSSC, ISRO, India
• Research Scholar	Sep 2007 - Jan 2008	Space Application Centre, ISRO, Ahmedabad, India
• M.Sc. Lecturer	Jul 2006 - Apr 2007	Dharma Apparao College, Nuzvid, Andhra Pradesh, India

Publications

- Publications in refereed journals: **34**
- National and International proceedings/presentations: **52** (International: **20** + National: **32**)
- Scientific and Technical Reports: **06**

Awards/Honors/Recognitions/Aclamations

- **Best Paper Award** (Gold Medal) in ‘Aerosols and Monsoon’ theme, for the paper entitled ‘Springtime enhancement in aerosol loading over the high-altitude Himalayas: Implications to regional climate’, International Tropical Meteorology Symposium (INTROMET-2014), Chennai, February 2014.
- **Best Paper award** in Space-based meteorology, Oceanography, and Geosphere-biosphere interactions, for the paper entitled “Fine and Ultrafine particles at near Free Tropospheric Environment in Trans-Himalayas: Results from RAWEX”, National Space Science Symposium, Tirupati, February 14-17, 2012.
- Research Fellowship of the Indian Space Research Organisation (2007-08).
- One of the University toppers in M.Sc., B.Sc., and school toppers in SSC.
- National level rank in M.Sc. entrance test; GATE qualified.

Specific Scientific/Technical contributions

- ❖ *First-ever* quantification of **mixing state of black carbon** over India, its temporal variation, highlighting thickly coated BC particles over the IGP outflow and South Asian continental

outflow to the northern Indian Ocean. Quantified the coatings on BC and identified the possible coating material [ACP 2021; ACP 2020; ACP 2019a]

- ❖ Proposed *a mechanism* for new particle formation over the northern Indian Ocean, highlighting the pathway involving the mixing of contrasting free-tropospheric and marine atmospheric boundary layer air masses and involvement of organics [Atmos. Env. 2020]
 - ❖ From the scientific investigation of *aerosol size distributions over a broad regime* from the tropical coastal station, Trivandrum **proposed a mechanism** for ultrafine particle bursts; explained particle formation, growth rate, and seasonal influence on their size distributions [Sci. of Tot. Env. 2016; Ann. Geo. 2014]
 - ❖ Ultrafine particle bursts over a high-altitude forested location (Ooty) over the western Ghats and meteorological dependence on the NPF highlighting the mesoscale processes [JASTP 2018]
 - ❖ Investigated new particle formation over a megacity, New Delhi highlighting the competing processes governing secondary aerosol formation [Atmos. Env. 2021]
 - ❖ *First-ever* vertical characteristics of submicron aerosols using aircraft measurements over the Indian region highlighting the dominance of elevated sulfate layers [ACP 2019b]
 - ❖ Scientific pursuance of the long-term and unique data from the Himalayan aerosol observatory at Hanle (*which completed 11 years of operation*) brought out **first of its kind** results:
 - a) Fine and ultrafine particle concentrations, new particle formation over near free-tropospheric Himalayan location and mechanisms responsible for it [Atmos. Env. 2014; Ann. Geo. 2014; IASTA 2014; JIE 2012a, JGR 2011a]
 - b) Springtime enhancement is absorbing aerosol loading, its interannual variability, and responsible process over the Himalayas [Curr. Sci. 2016, JIE 2012c]
 - c) Physical and optical properties of aerosols over the pristine background Himalayas highlighting the background nature and possible sources [Atmos. Env. 2014; Aeolian Res. 2014; JIE 2012b]
 - d) BC measurements over Hanle confirmed the presence of a significant amount of absorbing BC in the Himalayas during spring than winter. This finding has critical climatic implications in view of the regional warming due to elevated aerosol layers, which can influence south Asian monsoon and glacier retreat [JGR 2011b].
 - e) The impact of a dust episode on aerosol mass loading from the Himalayan site and the processes responsible for it [Aeolian Res. 2014]
 - ❖ Designed and developed Aerosol Humidograph Instrument as a key member of the task team and its performance has been demonstrated.
 - ❖ In a *first of its kind* study over Central India, using ~18 months of balloon-borne and ground observations, quantified the association between aerosols and atmospheric boundary layer; the processes governing aerosol life cycle [Atmos. Res. 2014]
 - ❖ Observational evidence for the rapid response of atmospheric concentration of Black Carbon (BC) to anthropogenic activities [Atmos. Sci. Let. 2013] and the response of ambient BC concentration across the ARFINET stations to the nation-wide COVID-19 lockdown [Curr. Sci. 2021]
 - ❖ Investigated seasonal changes in BC over the Bay of Bengal using *multi-campaign measurements* and influence of spatio-temporally varying BC sources [Atmos. Env. 2013]
 - ❖ Contributed to the scientific understanding of cloud condensation nuclei (CCN) activity of aerosols and fine mode aerosol chemical composition over the northern Indian Ocean [ACP 2020; JGR 2021]
 - ❖ Using long term (~25 years) data brought out the phenomenal increase in aerosol loading over the Indian region and a significant share of the anthropogenic fraction to it [JGR 2013]
 - ❖ Contributed to aerosol data collection from the Arctic as part of the Indian Arctic expedition program of SPL, leading to understanding of the long-term changes in aerosols [Polar Res. 2021]
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List of Publications in Refereed Scientific Journals (Total: 34)

- 1) Nair, V.S., Babu, S.S., **Sobhan Kumar Kompalli**, Jayachandran, V., Ajith, T. C., Gogoi, M.M., "Chemical characterization of aerosols in the South Asian outflow over the northern Indian Ocean: latitudinal gradients and ultrafine particle events", **Environmental Science: Atmospheres**, <http://dx.doi.org/10.1039/D2EA00130F>, 2023.
- 2) Ajith, T.C., **Sobhan Kumar Kompalli**, S. Suresh Babu, "Role of aerosol physico-chemical properties on aerosol hygroscopicity and CCN activity in a tropical coastal atmosphere", **ACS Earth and Space Chemistry**, 6 (6), <https://doi.org/10.1021/acsearthspacechem.2c00044>, 2022.
- 3) Sebastian, M., **Sobhan Kumar Kompalli**, Kumar, V.A., Jose, S., Babu, S. S., Pandithurai, ., Singh, S., Hooda, R. K., Soni, V. K., Pierce, J. R., Vakkari, V., Asmi, E., Westervelt, D. M., Hyvärinen, A.-P., and Kanawade, V. P.: Observations of particle number size distributions and new particle formation in six Indian locations, **Atmospheric Chemistry and Physics**, 22, 4491–4508, <https://doi.org/10.5194/acp-22-4491-2022>, 2022.
- 4) Ajith, T.C., **Sobhan Kumar Kompalli**, Vijayakumar S. Nair, S. Suresh Babu, "Mesoscale variations of the chemical composition of submicron aerosols and its influence on the cloud condensation nuclei activation", **Atmospheric Environment**, 268, 118778, DOI:10.1016/j.atmosenv.2021.118778, 2022.
- 5) **Sobhan Kumar Kompalli**, Babu S.S., Moorthy, K.K., Satheesh, S.K., Gogoi, M.M., Nair, V.S., Jayachandran, V., Liu, D., Flynn, M.J., Coe, H., "Mixing state of refractory black carbon aerosol in the South Asian outflow over the northern Indian Ocean during winter", **Atmospheric Chemistry and Physics**, 21, 9173–9199, <https://doi.org/10.5194/acp-21-9173-2021>, 2021.
- 6) Yadav, S.K., **Sobhan Kumar Kompalli**, Gurjar, B.R., Mishra, R.K., "Aerosol number concentrations and new particle formation events over a polluted megacity during the COVID-19 lockdown", **Atmospheric Environment**, 259, 118526, DOI: 10.1016/j.atmosenv.2021.118526, 2021.
- 7) Gogoi, M.M., Pandey, S.K., Arun, B.S., Nair, V.S., Thakur, R.C., Chaubey, J.P., Tiwari, A., Manoj M. R., **Sobhan Kumar Kompalli**, Vaishya, A., Prijith, S.S., Hegde, P., Babu, S.S., "Long-term changes in aerosol radiative properties over Ny-Ålesund: Results from Indian scientific expeditions to the Arctic", **Polar Science**, 100700, <https://doi.org/10.1016/j.polar.2021.100700>, 2021.
- 8) Gogoi, M.M., Babu, S.S., Arun B. S., Moorthy, K.K., Ajay, A., Ajay, P., Suryavanshi, A., Borgohain, A., Guha, A., Shaikh, A., Pathak, B., Gharai, B., Ramaswamy, B., Menon, H.B., Kuniyal, J.C., Krishnan, J., Gopal, K.R., Maheswari, M., Naja, M., Kaur, P., Bhuyan, P.K., Gupta, P., Singh, P., Srivastava, P., Singh, R.S., Kumar, R., Rastogi, S., Kundu, S.S, **Sobhan Kumar Kompalli**, Panda, S., Das, T., Kant, Y., , "Response of ambient BC concentration across the Indian region to the nation-wide lockdown: Results from the ARFINET measurements of ISRO-GBP", **Current Science**, 120, 2, 341-351, <https://doi.org/10.18520/cs/v120/i2/341-351>, 2021.
- 9) **Sobhan Kumar Kompalli**, Nair, V.S., Jayachandran, V., Gogoi, M.M., Babu, S.S., Particle number size distributions and new particle formation events over the northern Indian Ocean during continental outflow, **Atmospheric Environment**, 238, 117719, 2020. (DOI: 10.1016/j.atmosenv.2020.117719).
- 10) **Sobhan Kumar Kompalli**, Babu, S.S., Satheesh, S. K., Moorthy, K.K., Das, T., Boopathy, R., Liu, D., Darbyshire, E., Allan, J.D., Brooks, J., Flynn, M.J., and Coe, H., Seasonal contrast in size distributions and mixing state of black carbon and its association with PM1.0 chemical composition from the eastern coast of India, **Atmospheric Chemistry and Physics**, 20, 3965–3985, <https://doi.org/10.5194/acp-20-3965-2020>, 2020.
- 11) Nair, V. S., Jayachandran, V. N., **Sobhan Kumar Kompalli**, Gogoi, M. M., and Babu, S. S., Cloud condensation nuclei properties of South Asian outflow over the northern Indian Ocean during winter, **Atmospheric Chemistry and Physics**, 20, 3135–3149, <https://doi.org/10.5194/acp-20-3135-2020>, 2020.
- 12) Brooks, J., Liu, D., Allan, J. D., Williams, P. I., Haywood, J., Highwood, E. J., **Sobhan Kumar Kompalli**, Babu, S. S., Satheesh, S. K., Turner, A. G., and Coe, H., Black carbon physical and optical properties across northern India during pre-monsoon and monsoon seasons, **Atmospheric Chemistry and Physics**, 19, 13079–13096, <https://doi.org/10.5194/acp-19-13079-2019>, 2019a.

- 13) Brooks, J., Allan, J. D., Williams, P. I., Liu, D., Fox, C., Haywood, J., Langridge, J. M., Highwood, E. J., **Sobhan Kumar Kompalli**, O'Sullivan, D., Babu, S. S., Satheesh, S. K., Turner, A. G., and Coe, H., Vertical and horizontal distribution of submicron aerosol chemical composition and physical characteristics across northern India during pre-monsoon and monsoon seasons, **Atmospheric Chemistry and Physics**, 19, 5615–5634, <https://doi.org/10.5194/acp-19-5615-2019>, 2019b.
- 14) Gogoi, M.M., Lakshmi, N.B., Nair, V.S. **Sobhan Kumar Kompalli**, Moorthy, K.K., Babu, S.S., Seasonal contrast in the vertical profiles of aerosol number concentrations and size distributions over India: Implications from RAWEX aircraft campaign, **Journal of Earth System Science**, 128, 225. <https://doi.org/10.1007/s12040-019-1246-y>, 2019.
- 15) Gogoi, M.M., Rao C.T, Jayachandran V, **Sobhan Kumar Kompalli**, Nair, V.S., Rama Gopal, K., Babu, S.S., Spatial gradient of aerosol mass concentrations and size distributions over southeastern Arabian Sea and equatorial Indian Ocean during ICARB-2018, **Atmospheric Environment**, 727-738 pp, 213, <https://doi.org/10.1016/j.atmosenv.2019.06.038>, 2019.
- 16) Arun, B. S., Aswini, A. R., Gogoi, M.M., Hegde, P., **Sobhan Kumar Kompalli**, Sharma, P. and Babu, S.S., Physico-chemical and optical properties of aerosols at a background site (~4 km a.s.l.) in the western Himalayas, **Atmospheric Environment**, 218, 117017, doi.org/10.1016/j.atmosenv.2019.117017, 2019.
- 17) **Sobhan Kumar Kompalli**, S. Suresh Babu, C. Udayasoorian, R.M Jayabalakrishnan, Role of anthropogenic emissions and meteorology on ultrafine particle bursts over a high altitude site in Western Ghats during pre-monsoon, **Journal of Atmospheric and Solar-Terrestrial Physics**, 179, 378-388, DOI: 10.1016/j.jastp.2018.09.001, 2018.
- 18) Prasad, P., Roja Ramana, M. Venkat Ratnam, Wei-Nai Chen, S. Vijaya Bhaskara Rao, Mukunda M. Gogoi, **Sobhan Kumar Kompalli**, K. Sarat Kumar, S. Suresh Babu, Characterization of atmospheric Black Carbon over a semi-urban site of Southeast India: Local sources and long-range transport, **Atmospheric Research**, 213, 411–421, DOI:10.1016/j.atmosres.2018.06.024, 2018.
- 19) **Sobhan Kumar Kompalli**, S. Suresh Babu, Lakshmi N. Bharatan and K. Krishna Moorthy, Spring-time enhancement in aerosol burden over a high altitude location (4520 m amsl) in western trans-Himalayas: results from long-term observations, **Current Science**, 111, 117 – 131, doi: 10.18520/cs/v111/i1/117-131, 2016.
- 20) S. Suresh Babu, **Sobhan Kumar Kompalli** and K. Krishna Moorthy, Aerosol number size distributions over a coastal semi urban location: Seasonal changes and ultrafine particle bursts, **Science of the Total Environment**, 563-564, pp 351-365, <http://dx.doi.org/10.1016/j.scitotenv.2016.03.246>, 2016.
- 21) **Sobhan Kumar Kompalli**, S. Suresh Babu, K. Krishna Moorthy, Mukunda M Gogoi, Vijayakumar S. Nair and Jai Prakash Chaubey, The formation and growth of ultrafine particles in two contrasting environments: A case study, **Annales Geophysicae**, 32, 817–830, doi:10.5194/angeo-32-817-2014, 2014.
- 22) **Sobhan Kumar Kompalli**, K. Krishna Moorthy, S. Suresh Babu, M.R. Manoj Aerosol mass size distribution and black carbon over a high-altitude location in Western Trans-Himalayas: Impact of a dust episode. **Aeolian Research**, 15, 161-168. <http://dx.doi.org/10.1016/j.aeolia.2014.05.003>, 2014.
- 23) **Sobhan Kumar Kompalli**, S. Suresh Babu, K. Krishna Moorthy, M.R. Manoj, N.V.P. Kirankumar, K. Hareef Baba Shaeb, A.K. Joshi, "Aerosol Black Carbon characteristics over Central India: Temporal variation and its dependence on mixed layer height", **Atmospheric Research**, 147–148, 27–37, <http://dx.doi.org/10.1016/j.atmosres.2014.04.015>, 2014.
- 24) **Sobhan Kumar Kompalli**, K. Krishna Moorthy and S. Suresh Babu, Rapid response of atmospheric BC to anthropogenic sources: observational evidence, **Atmospheric Science Letters**, 15: 166–171, DOI: 10.1002/asl2.483, 2014.
- 25) Mukunda M. Gogoi, K. Krishna Moorthy, **Sobhan Kumar Kompalli**, Jai Prakash Chaubey, S. Suresh Babu, M.R. Manoj, Vijayakumar S. Nair, Tushar P. Prabhu, Physical and optical properties of aerosols in a free tropospheric environment: Results from long-term observations over western trans-Himalayas, **Atmospheric Environment**, 84, 262-274, 2014.
- 26) S. Suresh Babu, M. R. Manoj, K. Krishna Moorthy, Mukunda M. Gogoi, Vijayakumar S. Nair, **Sobhan Kumar Kompalli**, S. K. Satheesh, K. Niranjana, K. Ramagopal, P. K. Bhuyan, Darshan Singh, Trends

- in aerosol optical depth over Indian region: Potential causes and impact indicators, **Journal of Geophysical Research**, 118, 11,794–11,806, doi: 10.1002/2013JDO20507, 2013.
- 27) **Sobhan Kumar Kompalli**, S. Suresh Babu, K. Krishna Moorthy, Mukunda M. Gogoi, Vijayakumar S. Nair, Jai Prakash Chaubey, Seasonal variation of aerosol black carbon distribution over the Bay of Bengal: multi-campaign measurements, **Atmospheric Environment**, 64, 366-373, DOI: 10.1016/j.atmosenv.2012.09.073, 2013.
 - 28) **Sobhan Kumar Kompalli**, V Sreekanth, Jai PrakashChaubey, Mukunda M. Gogoi, S Suresh Babu, Tushar P Prabhu and K Krishna Moorthy, Aerosol number size distribution measurements at Hanle, a free tropospheric high-altitude site in Western Himalayas, **Journal of the Institute of Engineering**, Vol. 8, No. 3, pp. 140-146, 2012.
 - 29) Moorthy, K.K., V Sreekanth , Chaubey, J. P., Gogoi, M. M., Babu, S. S., **Sobhan Kumar Kompalli**, Bagare, S. P. , Bhatt, B.C , Gaur, V , Prabhu, T.P., , Singh, S.N., Fine and ultra-fine particles at near free-tropospheric environment over the high altitude station Hanle, in Trans- Himalayas: New particle formation and size distribution, **Journal of Geophysical Research**, doi: 10.1029/2011JDO16343, 2011a.
 - 30) Babu, S. S., Chaubey, J. P., Moorthy, K.K., Gogoi, M. M., **Sobhan Kumar Kompalli** , Sreekanth V , Bagare, S. P. , Bhatt, B.C, Gaur, V, Prabhu,T.P., Ningombam,S.S. , High Altitude (~ 4520 m amsl) measurements of Black Carbon aerosols over Western Himalayas: Seasonal heterogeneity and source apportionment, *Journal of Geophysical Research*, doi:10.1029/2011JDO16722, 2011b.
 - 31) Mukunda M. Gogoi, Jai PrakashChaubey, V Sreekanth, **Sobhan Kumar Kompalli**, S Suresh Babu, Tushar P Prabhu and K Krishna Moorthy, Columnar aerosol extinction characteristics: Measurements from a free-tropospheric observatory in western-Himalayas, **Journal of the Institute of Engineering**, Vol. 8, No. 3, pp. 52–57, 2012.
 - 32) Chaubey, J P., S Suresh Babu, Mukunda M. Gogoi, **Sobhan Kumar Kompalli**, V Sreekanth, K Krishna Moorthy and Tushar P Prabhu, Black Carbon aerosol over a high altitude (~ 4.52 km) station in western Indian Himalayas, **Journal of the Institute of Engineering**, Vol. 8, No. 3, pp. 42-51, 2012.
 - 33) Babu, S. S., Sreekanth, V., Moorthy, K. K., Mohan,M., Kirankumar, N.V.P., Subrahmanyam, D. B., Gogoi, M. M., **Sobhan Kumar Kompalli**, Beegum, N., Chaubey, J. P., Kumar, V. H. A.,Manchanda, R. K., Vertical profiles of aerosol black carbon in the atmospheric boundary layer over a tropical coastal station: Perturbations during an annular solar eclipse, **Atmospheric Research**, doi: 10.1016/j.atmosres.2010.11.019, 2010.
 - 34) **Sobhan Kumar Kompalli**, S. Suresh Babu and K. Krishna Moorthy, Inter-comparison of Aerosol Optical Depth from the Multi Wavelength Solar Radiometer with other radiometric measurements, **Indian Journal of Radio and Space Physics**, Vol.39, pp 364-371, 2010.

Technical Reports: (6)

1. **Sobhan Kumar Kompalli** and Ajeeshkumar PS, Design of Mechanical Layout of the Aerosol Humidograph Instrument (AHI), ISRO-VSSC-TR-0130-0-20, April 2020.
2. **Sobhan Kumar Kompalli** and Ajeeshkumar PS, Development of the isokinetic inlet system for ambient aerosol sampling, ISRO-VSSC-TR-0129-0-20, April 2020.
3. **Sobhan Kumar Kompalli**, Aditya Vaishya, Ajeeshkumar PS, “Design and performance evaluation of dryer module of the Aerosol Humidograph Instrument”, ISRO-VSSC-TR-0513-0-18, December-2018.
4. Ajeeshkumar P. S., Aditya Vaishya, **Sobhan Kumar Kompalli**, Development of a Controller unit for Motorised Ball Valves of the Aerosol Humidograph Instrument, ISRO-VSSC-TR-0570-0-17, November-2017.
5. Aditya Vaishya, **Sobhan Kumar Kompalli**, Ajeeshkumar P. S., Development of an experimental setup for the study of aerosol hygroscopic properties (Design overview and technical details), ISRO-VSSC-TR-0434-0-16, August-2016.
6. Ajeeshkumar P. S., Aditya Vaishya, **Sobhan Kumar Kompalli**, Development of an experimental setup for the study of aerosol hygroscopic properties (Electrical integration and Software development), ISRO-VSSC-TR-0585-0-16, November-2016.

Presentations in Symposia/Workshops/Conferences (Total: 52)

International

1. **Sobhan Kumar Kompalli**, Babu, S.S., Ajith, T.C., Satheesh, S. K., Moorthy, K.K., Das, T., Boopathy, R., Liu, D., Darbyshire, E., Allan, J.D., Brooks, J., Flynn, M.J., and Coe, H. "Light-absorption Enhancement of Black Carbon in the Indo-Gangetic Plain Outflow due to Coatings from the Aged-Biomass Burning Emissions", A36E-04, Session: Light-Absorbing Carbon Aerosol from Observations and Models IV Oral, AGU Fall Meeting, 14 December 2022.
2. Ajith, T.C., **Sobhan Kumar Kompalli**, S. Suresh Babu, "Role of aerosol microphysical properties on cloud condensation nuclei activity over a tropical coastal location" A42C-05, Session: A42C: Atmospheric Aerosols and Their Interactions with Clouds, Radiation, and Climate III Oral, AGU Fall Meeting, 15 December 2022.
3. Sebastian, M., **Sobhan Kumar Kompalli**, Kumar, A., Jose, S., Babu, S. S., Pandithurai, G., Singh, S., K. Hooda, R., K. Soni, V., R. Pierce, J., Vakkari, V., Asmi, E., M. Westervelt, D., Hyvarinen, A.-P., and P. Kanawade, V., "Observations of particle number size distributions and new particle formation in six Indian locations" , A35J, Session: Aerosols and Air Quality over South and Southeast Asia : Observations, Modelling and Impacts II Poster, AGU Fall Meeting, 14 December 2022.
4. Sebastian, M., **Sobhan Kumar Kompalli**, Kumar, A., Jose, S., Babu, S. S., Pandithurai, G., Singh, S., K. Hooda, R., K. Soni, V., R. Pierce, J., Vakkari, V., Asmi, E., M. Westervelt, D., Hyvarinen, A.-P., and P. Kanawade, V.: Characterization of particle number size distributions and new particle formation in different Indian locations, EGU General Assembly 2022, Vienna, Austria, 23-27 May 2022, EGU22-11254, <https://doi.org/10.5194/egusphere-egu22-11254>, 2022.
5. **Sobhan Kumar Kompalli**, T.C. Ajith, Mukunda M. Gogoi, Vijayakumar S Nair, S. Suresh Babu, "Microphysical properties of black carbon aerosol in the south Asian outflow: Results from ICARB-2018", International Symposium on Tropical Meteorology-2021, Changing Climate : Consequences and Challenges (INTROMET-C4), Kochi, 23-26 November 2021. **[Invited talk]**
6. **Sobhan Kumar Kompalli**, S. Suresh Babu, T.C. Ajith, Mukunda M. Gogoi, Vijayakumar S Nair, V. Jayachandran, S.K. Satheesh, K. Krishnamoorthy and Hugh Coe, "Aerosol microphysical properties in the South Asian outflow to the northern Indian Ocean: Results from ICARB-2018", A23G-01, Session: Air Pollution, Greenhouse Gases, and Emissions in Asia and Their Interactions With the World I Oral, AGU Fall Meeting, 14 December 2021.
7. Ajith, T.C., **Sobhan Kumar Kompalli**, S. Suresh Babu, "Cloud condensation nuclei activation over a tropical coastal location: role of particle size, composition and mixing state", A11B-03, session: Atmospheric Aerosols and Their Interactions With Clouds, Radiation, and Climate on Regional Scale, AGU Fall Meeting, 13 December 2021.
8. **Sobhan Kumar Kompalli**, T.C. Ajith, Mukunda M. Gogoi, Vijayakumar S Nair, S. Suresh Babu, "Secondary aerosol formation in the south Asian outflow to the northern Indian Ocean: Results from ICARB-2018", International Symposium on Tropical Meteorology-2021, Changing Climate : Consequences and Challenges (INTROMET-C4), Kochi, 23-26 November 2021.
9. Ajith, T. C., **Sobhan Kumar Kompalli**, Vijayakumar S. Nair and S. Suresh Babu, "Physiochemical properties of sub-micron aerosols and its association with cloud condensation nuclei over a tropical coastal location", International Symposium on Tropical Meteorology-2021, Changing Climate : Consequences and Challenges (INTROMET-C4), Kochi, 23-26 November 2021.
10. **Sobhan Kumar Kompalli** et al., "Microphysical properties and mixing state of refractory black carbon aerosol in the Indo Gangetic Plain (IGP) outflow" Water Future conference at IISc, Bangalore, 23-25 September-2019.
11. Ajith T. C., Nair, V.S., **Sobhan Kumar Kompalli**, Jayachandran, V., Babu, S.S., "Physical, chemical and optical properties of atmospheric aerosols over a tropical coastal location, Thumba", The 2019 CIAAS Meeting: International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments, IIT Delhi, 22-24 March 2019.
12. **Sobhan Kumar Kompalli** et al., "Mixing state of black carbon in the IGP outflow", SWAAMI project review meeting at IISc, Bangalore, on 24-July-2018.

13. Arun, B.S., Gogoi, M. M, Borgohain, A., Kundu, S.S., **Sobhan Kumar Kompalli**, S. Suresh Babu, Regional synthesis of Black Carbon Aerosols over the Himalayas: Impact of synoptic source processes and long term trends, International Water Future Conference, IISc, Bengaluru, September-2019.
14. S. Suresh Babu, K. Krishnamoorthy, Vijayakumar S. Nair, **Sobhan Kumar Kompalli** and Mukunda Gogoi, "RAWEX Observations over India: Spring time enhancement in elevated aerosol absorption": poster presented in 2nd International workshop on 'Atmospheric Composition and Asian Monsoon (ACAM)-2015' at Bangkok, Thailand, 7-10 June 2015.
15. S. Suresh Babu, K. Krishnamoorthy, S. K. Satheesh, Mukunda Gogoi, V.S.Nair, **Sobhan Kumar Kompalli**, Jai Prakash Chaubey, Elevated layers of BC aerosols over Indian region and its implications: Results from Regional Aerosol Warming Experiment (RAWEX), American Geophysical Union, Fall Meeting 2012, 12/2012. Abstract #A41F-0042, 2012AGUFM.A41F0042B.
16. **Sobhan Kumar Kompalli**, K. Krishna Moorthy and S. Suresh Babu, How fast BC responds to its anthropogenic sources? Oral and poster presentation at International Geosphere Biosphere program symposium on Geosphere-Biosphere interactions in a future earth held at Bangalore, April 07, 2014.
17. Mukunda M Gogoi, S. Suresh Babu, K. Krishnamoorthy, **Sobhan Kumar Kompalli**, Vijayakumar S. Nair, Atmospheric and surface deposited black carbon over the high altitude Himalayas, implications to regional climate, Second Annual Regional Atmospheric Science (SARAS) workshop, Pokhara, Nepal, 7-9 June 2014.
18. Mukunda M. Gogoi, **Sobhan Kumar Kompalli**, Jai Prakash Chaubey, S. Suresh Babu and K. Krishna Moorthy, Spring time enhancement in aerosol loading over the high altitude Himalayas: Implications to regional climate, International Tropical Meteorology Symposium (INTROMET-2014), SRM University, Chennai, 21 - 24 Feb 2014. *Received Best Paper Award*
19. Jai Prakash Chaubey, Mukunda M Gogoi, **Sobhan Kumar Kompalli**, Manoj M R, S Suresh Babu and K Krishna Moorthy, Vertical Heterogeneity in Black Carbon Aerosols over Norwegian Arctic: Local and Long range Transport, International Tropical Meteorology Symposium (INTROMET-2014), SRM University, Chennai, 21 - 24 Feb 2014
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अनुसंधान क्षेत्र: वायुमंडलीय एयरोसोल और उनके जलवायु प्रभाव; एरोसोल-क्लाउड-विकिरण इंटरैक्शन; एरोसोल जीवन चक्र, नए कण निर्माण, और कण उम्र बढ़ने; एरोसोल अध्ययन के लिए अवलोकन और प्रायोगिक सुविधाओं का विकास।

शैक्षणिक योग्यता

डिग्री	वर्ष	विवरण
पीएच.डी.	2021	थीसिस शीर्षक: "भारत के विशिष्ट वातावरण और आस-पास के महासागर क्षेत्रों पर एरोसोल सूक्ष्म गुणों पर जांच", कोचीन विज्ञान और प्रौद्योगिकी विश्वविद्यालय, कोचीन, भारत।
एम. एससी.	2006	भौतिकी, पांडिचेरी विश्वविद्यालय, पांडिचेरी, भारत।

प्रोफेशनल पृष्ठभूमि

पद	समयांतराल	संस्थान
वैज्ञानिक	फरवरी 2008 - वर्तमान	अंतरिक्ष भौतिकी प्रयोगशाला, वीएसएससी, इसरो, भारत
अनुसंधान विद्वान	सितम्बर 2007 - जनवरी 2008	अंतरिक्ष अनुप्रयोग केंद्र, इसरो, अहमदाबाद, भारत
एमएससी व्याख्याता	जुलाई 2006 - अप्रैल 2007	धर्म अप्पाराव कॉलेज नुजिवीडू, आंध्र प्रदेश, भारत

प्रकाशन

- रेफरीड पत्रिकाओं में प्रकाशन: **32 (+2 समीक्षा अधीन)**
- राष्ट्रीय और अंतर्राष्ट्रीय कार्यवाही/प्रस्तुतिकरण: **47**
- वैज्ञानिक और तकनीकी रिपोर्ट्स: **06**

पुरस्कार/सम्मान/मान्यताएं/अभिनंदन

- बेस्ट पेपर अवार्ड (स्वर्ण पदक) 'एयरोसोल्लज और मानसून' विषय में, 'अधिक एयरोसोल लदान में वसंत वृद्धि उच्च उंचाई हिमालय: क्षेत्रीय जलवायु के लिए निहितार्थ', अंतर्राष्ट्रीय उष्णकटिबंधीय मौसम विज्ञान संगोष्ठी (INTROMET - 2014), चेन्नई, फरवरी 2014।
- बेस्ट पेपर अवार्ड अंतरिक्ष आधारित मौसम विज्ञान, समुद्र विज्ञान और भूमंडल-जीवमंडल इंटरैक्शन में सर्वश्रेष्ठ पेपर पुरस्कार, जिसका शीर्षक है "ट्रांस-हिमालय में फ्री ट्रोपोस्फेरिक पर्यावरण के पास पर ठीक और अल्ट्राफाइन कण: रावेक्स (RAWEX) से परिणाम", राष्ट्रीय अंतरिक्ष विज्ञान संगोष्ठी, तिरुपति, फरवरी 14-17, 2012।
- भारतीय अंतरिक्ष अनुसंधान संगठन के रिसर्च फेलोशिप (2007-08)।
- विश्वविद्यालय अव्वल रहने वाले छात्र से एक: एमएससी, बीएससी, और स्कूल एसएससी।
- राष्ट्रीय स्तर रैंक: एमएससी में प्रवेश परीक्षा; गेट परीक्षा में योग्यता।

रेफरी वैज्ञानिक पत्रिकाओं में प्रकाशनों की सूची (कुल: 34) (समीक्षा के तहत + 2)

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- 16) Arun, B. S., Aswini, A. R., Gogoi, M.M., Hegde, P., **Sobhan Kumar Kompalli**, Sharma, P. and Babu, S.S., Physico-chemical and optical properties of aerosols at a background site (~4 km a.s.l.) in the western Himalayas, **Atmospheric Environment**, 218, 117017, doi.org/10.1016/j.atmosenv.2019.117017, 2019.
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- 20) S. Suresh Babu, **Sobhan Kumar Kompalli** and K. Krishna Moorthy, Aerosol number size distributions over a coastal semi urban location: Seasonal changes and ultrafine particle bursts, **Science of the Total Environment**, 563-564, pp 351-365, <http://dx.doi.org/10.1016/j.scitotenv.2016.03.246>, 2016.
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