



**LAKSHMI. N.B**  
**Research Associate**  
**Space Physics laboratory**  
**Vikram Sarabhai Space Centre**  
**Indian Space Research Organization**  
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#### PERSONAL PROFILE

Nationality : Indian  
Sex : Female  
Date of Birth : 26 August 1986  
Languages Known : Malayalam, English, and Hindi  
Permanent address : 218L, Diamond District, Pangappara (P O),  
Thiruvananthapuram – 695 581

#### ACADEMIC QUALIFICATION

- **Ph.D. in physics** from Cochin University of Science and Technology, Kochi, India
- **Master of Science in Physics** (2007-2009) from Mahathma Gandhi University with **7.6** cumulative grade point average (71.6% Aggregate).
- **Bachelor of Science in Physics** (2004-2007) from Calicut University with **90%** aggregate.
- Intermediate (2002 -2004) : Board of Higher Secondary Education **90%** aggregate.
- A.I.S.S.E (2002) from CBSE board with **80%** aggregate.

Degree	Period	Institute/University
<b>B.Sc</b>	2004-2007	Vimala College, University of Calicut, Kerala
<b>M.Sc</b>	2007 - 2009	School of Pure and Applied Physics, Mahathma Gandhi University, Kottayam, Kerala
<b>Ph.D</b>	2012-2018	Space Physics Laboratory, VSSC, Cochin University of Science and Technology, Kerala

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**PRESENT POSITION:** Research Associate, Space Physics Laboratory, VSSC, Trivandrum

## PUBLICATIONS IN STANDARD REFEREED JOURNAL: 7

### PROFFESIONAL BACKGROUND

Designation	Institute	Period	Area of work
<b>Research Associate</b>	Space Physics Laboratory, VSSC, Trivandrum	Feb 2019 till present	Satellite remote sensing of Atmospheric aerosols
<b>Senior research fellow</b>	Space Physics Laboratory, VSSC, Trivandrum	May 2014 – April 2017	Satellite remote sensing of Atmospheric aerosols
<b>Junior Research Fellow</b>	Space Physics Laboratory, VSSC, Trivandrum	May 2012 – April 2014	Atmospheric aerosols and radiative forcing
<b>Visiting Student</b>	Raman Research Institute, Bangalore	April 2009 – May 2010	Non-linear optics

**AREA OF RESEARCH:** Atmospheric aerosols, mineral dust, Radiative forcing and Climate change

### RESEARCH SUPERVISER

Dr. S Suresh Babu  
Head & Scientist SG,  
Aerosols Trace gases and Radiative Forcing (ATRF) Branch  
Space Physics Laboratory, Vikram Sarabhai Space Centre (ISRO)  
Thiruvananthapuram 695 022

### RESEARCH INTERESTS

- Aerosol radiative forcing and it's climate linkage
- Satellite remote sensing of aerosols
- Lidar retrieval of aerosols optical properties
- Mineral dust aerosols and their climate impacts

## AWARDS AND HONORS

- ISRO Research Associate (Post-doctoral) fellowship Department of Space, Indian Space Research Organization (Feb 2019 – Feb 2021)
- ISRO Research Fellowship from Department of Space, Indian Space Research Organization leading to Ph.D. degree (May 2012 – April 2017).
- Best Paper Award for the scientific paper presentation at Conference of Indian Aerosol Science and Technology Association, 2014 (IASTA2014), Banaras Hindu University, Varanasi, November, 2014.

## TRAINING/WORKSHOPS

1. Summer school at Sri Venkateswara University Tirupati on “Basics of atmospheric sciences” organized jointly by UGC-SVU centre for MST RADAR applications and National Atmospheric Research Laboratory, Gadanki during 11-21 March 2013.

## STANDARD REFEREED JOURNAL PUBLICATIONS

1. **Lakshmi, N. B.**, V. S. Nair, and S. Suresh Babu (2017), Vertical Structure of Aerosols and Mineral Dust Over the Bay of Bengal From Multisatellite Observations, **Journal of Geophysical Research**, 122(23)4<sup>th</sup> December, 12845–12861, doi: 10.1002/2017JD027643.
2. **Lakshmi, N. B.**, S. Suresh Babu and V. S. Nair (2018), Recent regime shift in mineral dust trend over South Asia from long term CALIPSO observations, **IEEE Transactions on Geoscience and Remote Sensing**, doi: 10.1109/TGRS.2019.2891338.
3. Mukunda M Gogoi, **N. B. Lakshmi**, V. S. Nair, S. K. Kompalli, K Krishna Moorthy And S. Suresh Babu (2019), 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**, 1246, doi.org/10.1007/s12040-019-1246-y.
4. Vaishya, A., S. Suresh Babu, V. Jayachandran, M. M. Gogoi, **N. B. Lakshmi**, K. Krishna Moorthy, and S. K. Satheesh (2018), Large contrast in the vertical distribution of aerosol optical properties and radiative effects across the Indo-Gangetic Plain during SWAAMI-RAWEX campaign, **Atmospheric Chemistry and Physics**, 18, 17669-17685, doi.org/10.5194/acp-18-17669-2018.

5. Prijith, S. S., S. Suresh Babu, **N. B. Lakshmi**, S. K. Satheesh, and K. Krishna Moorthy (2016), Meridional gradients in aerosol vertical distribution over Indian Mainland: Observations and model simulations, **Atmospheric Environment**, 125, 337–345, doi:10.1016/j.atmosenv.2015.10.066.
6. Kompalli, S. K., S. Suresh Babu, **N. B. Lakshmi**, and K. Krishna Moorthy (2016), Spring-time enhancement in aerosol burden over a high-altitude location in western trans-Himalaya: Results from long-term observations, **Current Science**, 111(1), 117–131, doi:10.18520/cs/v111/i1/117-131.
7. Murali. M. G, M. G. Ramya, D. Udayakumar, **N. B. Lakshmi** and R. Philip (2010), Synthesis and third order optical nonlinearity studies of the donor-acceptor conjugated polymer poly(2-[3,4-didodecyloxy-5-(1,3,4-oxadiazole-2-yl)thiophene-2-yl]-5-phenyl-1,3,4-oxadiazole) and a polymer/TiO<sub>2</sub> nanocomposite., **Synthetic Metals** (160), 2520-2525, doi: 10.1016/j.synthmet.2010.09.038.

#### **PUBLICATIONS IN CONFERENCE PROCEEDINGS**

1. **Lakshmi. N. B**, S. S. Babu and V. S. Nair , 'Characterization of mineral dust aerosols over the Himalayas using space-borne observations', Future Earth Conference, Indian Institute of Science, Bangalore, 24 -27 September, 2019
2. **Lakshmi. N. B**, V. S. Nair and S. S. Babu,' Vertical structure of heating rate due to absorbing aerosols over the Indian region', AS19-A010, 16<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society (AOGS-2019), Singapore, 28 July-2 August, 2019
3. **Lakshmi, N. B**, S. S. Babu, Prijith. S, V. S. Nair, K. K. Moorthy, 'Seasonal and spatial variation of vertical structure of mineral dust transport over the Bay of Bengal using multi-satellite observations', National Space Science Symposium, Vikram Sarabhai Space Centre, Trivandrum, 9 - 12 Feb 2016.
4. **Lakshmi, N. B**, S. S. Babu, S. S. Prijith, V. S. Nair and K. K. Moorthy, 'Vertical structure of aerosols and mineral dust transport over Bay of Bengal from multi-year space borne observations', National Climate Science Conference, Indian Institute of Science, Bangalore, 2– 3 July 2015.
5. **Lakshmi. N. B**, S. S. Babu, S. S. Prijith, K. K. Moorthy and V. S. Nair, 'Vertical structure of aerosols over Bay of Bengal from airborne and space borne observations', Conference of Indian Aerosol Science and Technology Association,

2014 (IASTA2014), Banaras Hindu University, Varanasi, 11<sup>th</sup> - 13<sup>th</sup> November, 2014  
(**BEST PAPER AWARD**)

6. Vaishya, A., Babu, S. S., Jayachandran, V., Gogoi, M. M., **Lakshmi, N. B.**, Moorthy, K. K., & Satheesh, K., “Spatial and Altitudinal Contrast in Aerosol Radiative Properties across the Indo-Gangetic Plain” URSI Asia-Pacific Radio Science Conference (AP-RASC) (pp. 1-3), March 2019, IEEE. doi: 10.23919/URSIAP-RASC.2019.8738411.
7. Gogoi, M. M., S. S. Babu, **N. B. Lakshmi**, Nair, V.S., and K. K. Moorthy, “Aircraft Measurements of Aerosol Number Size Distribution Over India: Radiative Implications of Elevated Coarse Mode Absorption during spring”, AS06-003, 14<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society (AOGS-2017), Singapore, 06-11 August, 2017.
8. S. S. Prijith, S. S. Babu, **N. B. Lakshmi**, S. K. Satheesh and K. K. Moorthy, Vertical distribution of aerosols over the Indian region: role of prevailing meteorology’, National Space Science Symposium, Vikram Sarabhai Space Centre, Trivandrum, 9 - 12 Feb 2016.
9. Kompalli, S.K., S. S. Babu, M. M. Gogoi, **N. B. Lakshmi**, and M. R. Manoj, Aerosol climatology over a free-tropospheric location in western trans-Himalayas: Results from multi-year measurements of aerosol physical and optical properties, National Climate Science Conference, Divecha Center for Climate Change, Indian Institute of Science, Bangalore, 2-3 July 2015.
10. Gogoi, M. M., S. S. Babu, K. K. Moorthy, J. P. Chaubey, V. S. Nair, M. R. Manoj , S. K. Kompalli, **N. B. Lakshmi**, Roseline. C. Thakur, Thamban Meloth, S. Rajan: Aerosol Characteristics over Norwegian Arctic: Results From Indian Scientific Expeditions, Presented in ISAR-3, Tokyo, Japan, Jan-2013.