

Dr. HEMANTH KUMAR ALLADI

NATIONAL POST DOCTORAL FELLOW
SPACE PHYSICS LABORATORY
VIKRAM SARABHAI SPACE CENTRE
INDIAN SPACE RESEARCH ORGANIZATION
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DATE OF BIRTH: 15th July 1988
NATIONALITY: INDIAN



CURRICULUM VITAE

RESEARCH INTERESTS

Atmospheric Sciences: Upper Troposphere and Lower Stratosphere (UTLS) Structure and dynamics, Tropical Tropopause Layer (TTL) processes, deep and overshooting convective clouds, Stratosphere-Troposphere Exchange (STE) and Validation of satellite measurements.

CURRENT POSITION

National Post-Doctoral Fellow at Space Physics Laboratory, VSSC, ISRO, Trivandrum.
(Sep 2017-present).

EDUCATIONAL QUALIFICATIONS

Degree	University	Main Subjects	Class & Year
Doctor of Philosophy (Ph.D.)	Sri Venkateswara University, Tirupati, Andhra Pradesh, India	Physics (Atmospheric Sciences)	April 2018
Five Year Integrated M.Sc.	Sri Venkateswara University, Tirupati, Andhra Pradesh, India	Physics	72% (First Class with Distinction) 2006-2011
Intermediate	Board of Higher Secondary Education, Andhra Pradesh	Physics, Chemistry, Biology	94.6% (First Class with Distinction)
S.S.C	Board of Secondary Education, Andhra Pradesh	Science, Mathematics, Social Studies	86% (First Class with Distinction)

FELLOWSHIPS & ACHIEVEMENTS

1. **Research Fellowship** from **National Atmospheric Research Laboratory** Nov 2011-Nov 2016.
2. **National Post-Doctoral Fellowship** from Department of Science, India to pursue research in Space Physics Laboratory, Sep 2017-Present.

EXPERIMENTAL AND PROGRAMMING SKILLS:

- Handling **MST Radar, Radiosonde, Ozonesondes, CFH-Sonde** and other re analysis datasets.
- Handling large volume of satellite (**INSAT-3D, TRMM, Megha Tropiques, AIRS, and MLS**) and re-analysis datasets.
- Formulated the method for segregating the radiosonde profiles based on the **time history of convection**.
- **Estimated the cross tropopause flux using Wei method (1987)** during different convective conditions.
- Knowledge in the implementation of the field experiments especially **balloon borne experiments**.
- Experience in setting up the ground stations, pre flight preparation and launching of different radiosondes (**i-met, Meisei, Pisharoty sonde**).
- Preflight preparations and launching of **Ozonesonde (ECC) and Cryogenic Frost Point hygrometer(CFH) Sondes**.

PARTICIPATION IN EXPERIMENTAL CAMPAIGNS:

Name of the Campaign	Place & Period	Major Responsibilities
ICARB (Integrated Campaign for Aerosols, gases and Radiation budget)	SPL,VSSC, Thumba (Jan 14-Feb15 2018)	Pre Flight testing of Radiosonde, Ozonesondes and cryogenic Frost Point Hygrometer.
TTD (Tropical Tropopause Dynamics Experiment)	NARL, Gadanki, India Dec2010-March 2014	Pre Flight testing of Radiosonde, execution of radiosonde launch and MST Radar Operation. Data Analysis
BATAL (Balloon Asian Tropopause Aerosol Layer)	NARL, Gadanki, India TIFR, Hyderabad, India BHU, Varanasi, India	Pre Flight testing of Radiosonde, Ozonesondes and cryogenic Frost Point Hygrometer.

COMPUTER SKILLS

Operating Systems	:	Windows & Linux
	:	
Analytical Softwares	:	MATLAB, Origin & GRADS

LIST OF PUBLICATIONS:

1. Venkat Ratnam, M.V., Sunilkumar, S.V., Parameswaran, K., Krishna Murthy, B.V., Geetha Ramkumar., Rajeev, K., GhouseBasha., RavindraBabu, S., Muhsin, M., Mishra, M.K., **Hemanth Kumar, A.**, AkhilRaj, S.T., and Pramitha, M., (2014)., Tropical tropopause dynamics (TTD) campaigns over Indian region: An overview., J.Atmos.Sol.-Terr.Phys., 121,229-239.
2. **Hemanth Kumar, A.**, VenkatRatnam, M.V., Sunilkumar,S.V.,Parameswaran K., Krishna Murthy, B.V., (2015)., Role of deep convection on the tropical tropopause characteristics at sub-daily scales over the South India monsoon region., Atmos. Res., 161-162, 14-24.
3. Venkat Ratnam, M.V., **Hemanth Kumar, A.**, and Jayaraman, A., (2016)., Validation of INSAT-3D Sounder data with in situ measurements and other similar satellite observations over India., (2016)., Atmos. Meas. Tech.,9, 5735-5745.
4. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., Sunilkumar,S.V., Parameswaran K., Krishna Murthy, B.V., (2017), Cross tropopause flux observed at sub-daily scales over the south Indian monsoon regions., Atm. Res., Volume 201, 1 March 2018, Pages 72-85.
5. **Hemanth Kumar, A.** and Venkat Ratnam, M.V., (2017)., Tropical Tropopause Layer characteristics observed at different scales over complete Indian region using INSAT-3D sounder measurements., Curr. Sci., (Revised).
6. Vernier, J.P., Fairlie, T.D., Deshler, T., Venkat Ratnam, M.V., Gadhavi, H., Kumar, S., Natarajan, M., Pandit, A.K., Akhil Raj, S.T., **Hemanth Kumar, A.**, Jayaraman, A., Sing, A.K., Rastogi, A., Sinha, P.R., Shravan, Kumar.,Tiwari, S.,Wegner, T., Baker, N., Vignelles, D., Stenchikov, G., Shevchenko, I., Smith, J., Bedka, K., Kesarkar, A., Singh, V., Bhate, J., Ravikiran, V., Rao, M.D., RavindraBabu, S., Patel, A., Vernier, H., Weinhold, F.G., Liu, H., Knepp, T., Thomason, L., Crawford, J., Ziemba, L., Moore, J., Crumeyrolle, S., Williamson, M., Berthet, G., Jegou, F., Renard, J.B.,(2017)., BATAL: The Balloon measurement campaigns of the Asian Tropopause Aerosol Layer., BAMS.

CONFERENCES/SYMPOSIA/SEMINARS/TRAINING SCHOOLS:

1. I actively participated in the *training programme* on “**Fundamentals of RADAR for atmospheric Research**” organized by SERB, Department of Science in CUSAT, Cochin during January 2013.
2. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., Sunilkumar,S.V., Parameswaran K., Krishna Murthy, B.V.,Role of deep convection on the tropical tropopause characteristics at sub-daily scales over the South India monsoon region.**Oral Presentation** at 18thNational Space ScienceSymposium (NSSS-2014) at Dibrugarh University, Dibrugarh during 29th Jan- 1st Feb 2014.
3. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., Sunilkumar,S.V., Parameswaran K., Krishna Murthy, B.V.,Role of deep convection on the tropical tropopause characteristics at sub-daily scales over the South India monsoon region.**Oral Presentation** at Andhra Pradesh Akademi of Sciences (APAS) Golden Jubilee Science Congress, Hyderabad, 13th-15th November 2014.
4. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., and Jayaraman, A., Validation of INSAT-3D sounder data with TTD campaign radiosonde observations over Gadanki. **Oral Presentation**at Andhra Pradesh Akademi of Science Congress, Tirupati, 26th -29th January 2016.
5. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., and Jayaraman, A.,Validation of INSAT-3D Sounder data with in situ measurements and other similar satellite observations over India. **Oral Presentation** at 19th National Space Science Symposium (NSSS-2016), Trivandrum during 9th -12thFebruary 2016.
6. I also actively participated in a workshop “**GNSS Aids and Applications**” organized by Institute of Radio Physics and electronics, University of Calcutta, Kolkata on September 23rd 2016.
7. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., Sunilkumar,S.V., Parameswaran K., Krishna Murthy, B.V.,Role of deep convection on the tropical tropopause characteristics at sub-daily scales over the South India monsoon region.**Poster Presentation** at the **International School on “Detection, monitoring and modeling of Convective and Volcanic clouds”** in Tarquinia, Italy during 24th October-29th October 2016.
8. **Hemanth Kumar, A.**, Venkat Ratnam, M.V., Sunilkumar,S.V., Parameswaran K., Krishna Murthy, B.V.,Cross tropopause flux observed at sub-daily scales over the south Indian monsoon regions. **Poster Presentation** at the “**ECR Symposium and SPARC Workshop**” in Incheon, South Korea during October 18-20th 2017.

Trivandrum

April 2018

A.Hemanth Kumar

(Alladi.Hemanth Kumar)