

Profile of Dr.I.V.Subba Reddy

Contact Address

**Dr. I. VENKATA SUBBA REDDY**

M. Sc., Ph.D. MISTE, MIETE, MISCA, MISRS, MIMS,

**Associate Professor of Physics**

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Title of the Ph. D Thesis: *“Studies on Atmospheric Gravity waves and planetary waves over a tropical station using Indian MST Radar and Lidar”*

**SRI VENKATESWARA UNIVERSITY, INDIA, Awarded on April 2, 2005**

**Physics, specialization in Atmospheric Science**

Current Position: Working as an Associate Professor, Dept. of Physics, GITAM University, Hyderabad Campus, Medak (Dist), Telangana, India.

**Coordinator-Academic Research & Sponsored Research, GITAM University-Hyderabad Campus & In charge for Higher Studies (Ph.D)**

Areas of Research Specialization : Atmospheric Sciences, Climate Change, Environmental Science, Nanomaterials and Electronics

Experience

- ✓ Research Experience (Atmospheric Science) : 16 years
- ✓ International : 5 years (From 2005- 2010)
  - Post Doctoral Fellow-National Central University - Taiwan
  - Research Scientist – Kyoto University - JAPAN
  - Marie-Curie Research Fellowship/ Adjunct Professor - Poland
- ✓ Teaching : more than 11 years
  - (B.Tech- Engineering Physics,
  - B.Sc- Physics, M. Sc- Physics,
  - M. Tech-Space Technology & Applications)-
- ✓ List of scientific publications presented in National/International conferences/seminars : 34
- ✓ Seminars, Summer Schools, Conferences/

Workshops or Research

: 62

	Seminars/Conferences attended	Scientific Papers Presented In Conferences/Seminars/Workshops
<b>International</b>	19	21
<b>National</b>	43	13
<b>Total</b>	<b>62</b>	<b>34</b>

Details of academic visits to abroad on various assignemnts

- Taiwan
- Singapore
- USA
- Japan
- Poland

Education

Detail of Academic career (Metric/SSC onward)

Name of the Degree	Name of the Board/ University	Year of Passing	Class	Specialization
Ph. D	Sri Venkateswara University	April 2005	----	<b>Atmospheric Science</b>
M. Sc	Sri Krishnadevaraya University	April 1998	First-	Physics, specialization in Electronics
B. Sc	Sri Venkateswara University	April 1996	Distinction -	Mathematics, Physics, Chemistry
Intermediate	Board of Intermediate Education	March 1992	First	Mathematics, Physics, Chemistry
S.S.C	Board of Secondary Education	March 1990	First	Mathematics, Physical Sciences, Social Sciences, Hindi, Telugu, English

**ADMINISTRATIVE EXPERIENCE:**

- **Coordinator – Academic Research & Sponsored Research**, In charge for Higher Education Studies (Ph.D), GITAM University-Hyderabad Campus from 01 July 2015 to till date
- **In charge HOD** (Dept. of Engg. Physics) June 2014 – June 2015
- **Coordinator – UGC Affairs & Research Activities**, GITAM University-Hyderabad Campus September 2013 to June 2015

Awards / Recognitions

- **National Award** – from Public Relations Council of India (PRCI), Mumbai, India on 13 Feb 2012.
- **Special Invitation for Keynote Address EUMETSAT 2012 Meteorological Satellite conference September 2012**  
(International Scientific steering Committee of EUMETSAT –Germany selected and Invited me to give a Key note address in the EUMETSAT Conference held at Sopot, Poland. **From Entire India, I only have been selected for this Conference. The participants were all over the world and nearly from 60 Countries, 400 participants were participated.**

- I have been invited for Contributed talk in Second International Workshop on “Frontiers of Atmospheric Physics and Technology” (SIWFAPT-2012) held at Yogi Vemana University, Kadapa, India during March 01-03, 2012.
- I have been invited as a technical session chair in Signal Processing by KU College of Engineering & Technology, Kakatiya University, Andhra Pradesh, India during 28-29 March 2014.
- Board of Studies (BOS) Member for Engineering Physics, GRIET, Hyderabad
- Subject Expert Committee Member for Physics and Atmospheric Sciences
- Executive Council member of IETE-Hyderabad Chapter - 2014-2016
- Executive Council member of IMS-Hyderabad Chapter - 2014-2016
- Executive Council member of Public Relations Council of India (PRCI)-Hyderabad Chapter 2014-2016
- Certificate of participation and Appreciation form the DISANET project team

### Academic Awards

- Post Doctoral Researcher/  
Adjunct Professor : Awarded Prestigious Marie-Curie TOK Fellowship under Experienced researcher category, University of Lodz, POLAND.
- Research Scientist : Awarded Research Scientist Fellowship by Research Institute for Sustainable Humanosphere (RISH), Kyoto University, JAPAN.
- Post Doctoral Fellowship : Awarded Post Doctoral Research Fellowship by National Central University, TAIWAN.
- Associate Professor : Department of Physics, St. Ann’s College of Engineering & Technology, (Affiliated to Jawaharlal Nehru Technological University- Kakinada), Chirala, Andhra Pradesh, INDIA.
- Research Associate : Awarded Research Associate Fellowship, by Prestigious Indian Institute of Tropical Meteorology, Ministry of Earth Sciences, Govt. of India, Pune, INDIA.
- CSIR Fellowship : Awarded Senior Research Fellowship for Young and Dynamics Research Scholars given by Council of Scientific and Industrial Research (CSIR), Govt. of India, India.
- Junior Research Fellowship : Awarded Junior Research Fellowship by Advanced Center for Atmospheric Sciences, Department of Space (DOS), Govt. of India, India.
- Project Fellowship : Awarded Project Fellowship by University Grant Commission (UGC), Govt. of India, India.

### Reviewer of Journals

1. Technical Reviewer of the 2014 IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2014).
2. Reviewer for “International Journal of Scientific Engineering and Technology, INDIA

3. Member in International Scientific Committee and Editorial Review Board on International Journal of Electronics and Communication Engineering, World Academy of Science, Engineering and Technology, USA
4. Reviewer of Annales Geophysicae – Elsevier (UK)
5. Journal of Atmospheric and Solar-Terrestrial Physics – Elsevier (UK)

### Teaching Interests/Subjects Taught

- Microwave Communications & Electronics
- Remote Sensing Applications, Radar, Lidar and Satellites
- The Dynamic Meteorology & Middle Atmospheric Dynamics, Tropical Meteorology
- Climate variability
- General circulation of the atmosphere
- Engineering Physics & Applied Physics

### Specific Area of Research

- Microphysical Characteristics of Clouds
- Climate variability, Monsoon studies, Water vapor
- Boundary Layer Meteorology
- Atmospheric gravity waves (Using Radar and Lidar, GPS Radio Occultation technique), Gravity waves associated Momentum flux and energy, Turbulence studies, Kelvin wave studies
- Convection and Precipitation studies, Stratosphere Troposphere Exchange processes
- Airglow studies, Aerosol studies
- Nanomaterials
- Electronics

### Computational Skills

Operating Platforms : DOS, UNIX, Windows, Linux, Mac OS.  
Programming Languages : C, C++ , MATLAB, IDL,  
Application Packages : ADP, Origin, Surfer and Internet tools

### Major Scientific Research Projects National/ International

#### Atmospheric Instruments for weather Monitoring Observations-AWS:

**1<sup>st</sup> Project** I have been established an Automatic Weather Station at Gitam University-Hyderabad Campus (HTP) In collaboration with IMD-IIT HYD-JAPAN collaboration under DISANET project.

**2<sup>nd</sup> Project** was sanctioned by Andhra Pradesh State Disaster Mitigation Society (APSDMS) and under this project AGRI Meteorological Instruments will be sanctioned in phase wise manner. At present we got pressure, temperature, humidity, wind speed and wind direction sensors along with rain gauge. Soil moisture and outgoing long wave radiation and other sensor systems will be given in next phase.

- Studies on atmospheric gravity wave characteristics over a tropical station at Gadanki - **Co-Investigator**
- Studies on middle atmospheric gravity wave structure including saturations process at a low latitude - **Co-Investigator**
- Stability of the atmosphere over the Europe – Marie – Curie Research Funding- University of LODZ, POLAND (Europe) - **Co Investigator**
- Retrieval of Water vapor by using COSMIC GPS RO technique, KYOTO UNIVERSITY, JAPAN – **Co Investigator**
- Airglow studies by using ROCSAT-2 (Republic of ChinaSatellite-2, US and China Collaborated satellite) - National Central University, TAIWAN - **Co Investigator**

### **Various academic Skills**

- ❖ Extended support in conducting M.Sc Physics practical classes for M. Sc Physics students, Sri Venkateswara University, Tirupati from Jan. 2000-April 2003.
- ❖ Organized seminars in the Physics Department, Sri Venkateswara University, Tirupati under Physical Society.
- ❖ Presented Lectures at various Seminars and Workshops/Symposiums related to Atmospheric Science, Remote sensing techniques and Physics.
- ❖ Involved in Scientific related activities in GITAM University.
- ❖ Ability to organize workshops and conferences along with functions like Institute's Annual Day, Techno FESTs, etc.
- ❖ In charge for Ph.D admissions, GITAM University-Hyderabad Campus
- ❖ AMC chairperson for B.Tech Students
- ❖ Examination branch In charge from the Dept. of Physics

### **Technical Experience**

Possesses very good knowledge on operation and handling of VHF Radar, Nd-YAG Lidar, LAWP, Doppler Weather radar (DWR) and Radiosonde. Conducted and designed various experiments with the above instruments. I am also familiar with processing of Different Satellites for the Atmospheric Science Research, radio occultation data -COSMIC (Limb View Technique), AQUA (Nadir technique), NCEP and ECMWF data sets also.

### **Membership - Professional Bodies - 07 National & 03 International**

#### **National**

- **The Indian Science Congress Association –Life Member since 2012**
- **Indian Society of Remote Sensing – Life Member Since 2012**
- **Indian Meteorological Society (IMS) -Life Member since 2011**
- **Indian Society for Technical Education (ISTE)- Life Member since 2010**
- **Institute of Electronics and Telecommunication Engineers (IETE) - Life Member since 2012**

➤ **Public Relations Council of India (PRCI) since 2012**

**International**

- **Asia Oceanic Geosciences Society (AOGS) 2005-2007**
- **American Geophysical Union(AGU) 2006-2008**
- **International Society for Environmental Information Sciences (ISEIS) -Life Member since 2011**

➤ **Seminar/Conferences/Workshops Organized**

S.No	Name of the Seminar /Conference/workshop	National/ International conference	As Convener / Co-convener/ Joint convener	Name of the Sponsoring Authority
1	5 <sup>th</sup> Group Monitoring Workshop/project Review -cum 7 <sup>th</sup> Meeting of the SERB “Start up Grant/Fast Track Proposals for young scientist in Earth and Atmospheric Sciences” (DST)	National	Chief Coordinator	DST, Govt. of India
2	7 <sup>th</sup> Global Communication Conclave -2013	International	Organizing Committee member	Public Relations Council of India
3	Electromagnetic Theory & Transmission lines	National	Convener	IETE Hyderabad Centre
4	Low power VLSI Design “Challenges	National	convener	IETE Hyderabad Centre
5	Micro Wave Engineering	National	convener	IETE Hyderabad Centre
6	Controls Systems	National	convener	IETE Hyderabad Centre

**Attended Seminars, Summer Schools, Conferences or Research**

1. One week Global Initiative of Academic Networks (GIAN) course on “**Synthesis, Characterization, Processing and Applications of Nanomaterials**” conducted by Department of Metallurgical and Materials Engineering, National Institute of Technology, Warangal, Telangana State, India from 07<sup>th</sup> - 11<sup>th</sup> March 2016.
2. Two-week ISTE Short Term Training Programme on “**Engineering Physics**” conducted by Indian Institute of Technology, Bombay from December 08-18, 2015 under National Mission on Education through ICT (MHRD).
3. The 18<sup>th</sup> International Symposium on “Wireless Personal Multimedia Communications (WPMC’15)”, the Fifth International Conference on Wireless Communications, Vehicular Technology, Information Theory, Aerospace & Electronic Systems is being held in Novotel Convention Centre, Hyderabad, India jointly with Global Wireless Summit 2015 (GWS 2015) during 13-16<sup>th</sup> December GWS 2015.
4. Faculty development program on “**Light Harvesting Materials**” conducted by GRIET, Hyderabad on 10 October 2015

5. **“NPTEL Workshop”** Conducted by NPTEL, IIT Madras & Alliance University, Bangalore on 05 September 2015.
6. **“One Week ISTE STTP for coordinators workshop on Technical Communication”** conducted by IIT Bombay under National Mission on Education through ICT during 24<sup>th</sup> to 28<sup>th</sup> August, 2015.
7. **All India Seminar on “ICT in space, Defence and Industrial Applications”** conducted by the Institute of Engineers, Andhra Pradesh State Center, Hyderabad, Telangana during 10-11 July 2015.
8. **“Two-Week ISTE STTP workshop on Environmental Studies”** conducted by IIT Mumbai under National Mission on Education through ICT during 02-12 June 2015.
9. **“Advanced Photonics Technologies for Science and Engineering Application”** National Institute of Technology, Warangal on 12<sup>th</sup> April 2015.
10. **“TWO - WEEK ISTE Short Term Training Programme (STTP) on Pedagogy for Effective use of ICT in Engineering Education”** conducted by IIT Mumbai under National Mission on Education through ICT during 05-09 January 2015 & 10-18 January 2015
11. **41<sup>st</sup> Annual General body Meeting of Indian Society of Remote Sensing (ISRS) and ISPRS mid-term symposium “Operational Remote Sensing Applications: Opportunities, progress and Challenges”** held at Park Hotel, Rajbhavan Road, Somajiguda, Hyderabad during 09-12 December 2014.
12. **Indo-Global Education Expo & Summit 2014”,** organized by the Govt. of Telangana, the FAPCCI, the OMICS group and the Indus Foundation held at Marigold Hotel, Hyderabad during 20-23 November 2014.
13. **Outcome based Education,** organized by GITAM University-Hyderabad Campus during 26-27 September 2014
14. **“Research Meeting on Information Network for Natural Disaster Mitigation and Recovery” (DASANET),** held at Hotel Hyatt, Gachibowli, Hyderabad on 24 July 2014
15. **HPC Tech 'Phi' day meeting- Exclusive invitation for key influencers,** AVASA Hotel Vega Hall, Plot No: 15, 24, 25 & 26, Sector - 1, Survey No: 64, Huda Techno Enclave, Madhapur, Hyderabad- 500081 on 24 September 2014.
16. **“International conference on Photonics, VLSI and Signal Processing”** conducted by KU College of Engineering & Technology, Kakatiya University, Warangal, Andhra Pradesh, India during 28-29 March 2014.
17. **Antariksh Symposium on “Space Technology & Robotics”** conducted by Space School International held at Bull Temple Road, Basavanagudi, Bangalore, Bangalore from 22-24 February 2014.
18. **8<sup>th</sup> Public Relations Council of India (PRCI) Global Communication Conclave- Responsible Communication 2014”** held at Hotel Orchids near Domestic Airport, Mumbai during 14-15<sup>th</sup> February 2014.
19. **“Workshop on patent Awareness”** program held at GITAM University-Vishakhapatnam on 28<sup>th</sup> October 2013.
20. Workshop on Science of **“Climate Change Indian Scenario (SCCIS 2013)”** conducted by KLE Society’s Nijalingappa College, Bangalore in collaboration with Sir M Visvesvaraya– ISROChair, Bangalore University, Bangalore during 23-24 August 2013.
21. **“2<sup>nd</sup> International Conference on Innovations in Electronics and Communication Engineering (ICIECE-2013)”** held at Guru Nanak Institute of Technology & Guru Nanak Institute of Technical Campus, Ibrahimpatnam, Hyderabad, India during 09-10 August 2013.
22. **“BIOFEST- 2012, International Bio Conference & Event”** held at Leonia International Convention Center, Shameerper, Hyderabad, India during 12-13 December 2012.

23. **EUMETSAT 2012 Meteorological Satellite Conference conducted by EUMETSAT, Darmstadt, Germany held at Sheraton Sopot Hotel, Sopot, Poland during September 02-07, 2012.**
24. **2<sup>nd</sup> International Workshop on “Frontiers of Atmospheric Physics and Technology” (SIWFAPT-2012) held at Yogi Vemana University, Kadapa, India during March 01-03, 2012)**
25. **“6<sup>th</sup> Global PR Enclave 2012”** conducted by Public relations Council of India (PRCI), Mumbai on 13 February 2012.
26. **“TROPMET 2011”** conducted by Indian Meteorological Society held at DR. MCRHRD Institute, Road No.25, Jubilee Hills, Hyderabad during 14-16 December, 2011.
27. **“Faculty Development Program (FDP)”** conducted by Gitam University-Hyderabad campus -Center for Learning & Sustainability, Hyderabad during 16-17 Dec 2011.
28. **“Workshop on Technology Management, Higher Education and Public Health”**, held at Khatriya hotel, Hyderabad conducted by Gitam University-Hyderabad campus, India on 14 October 2011.
29. **“Panel Discussion on Employable Education”** organized by **Public Relations Council of India-Hyderabad Chapter**, held at Minerva Grand Hotel, SD Road, Secunderabad, India on 01 October 2011.
30. **“US-India workshop on Air Quality and Climate Change”**, held at CR III, Bella Vista Campus, Raj Bhavan Road, Administrative Staff College of India, Hyderabad, India during 12 – 14 September 2011
31. **“Annual Monsoon Workshop”**, held at Indian Institute of tropical Meteorology, Pune, **India on 13 January 2011.**
32. **Participated in “2011 WCRP SPARC Local Workshop” held at** Indian Institute of Tropical Meteorology, Pune, India during Jan 31-02 Feb 2011
33. **Effective Teaching – Teacher Training Program**, held at Sreenidhi Institute of Science & Technology, Hyderabad, India during June 29-July 3, 2010.
34. **“ The First International Workshop on Prevention and Mitigation of Meteorological Disasters in Southeast Asia”**, held at Kyoto, **Japan** during March 3-5, 2008
35. **“International CAWSES Symposium”**, held at Kyoto, **Japan** during October 23-27, 2007.
36. **“2007 Taiwan Geosciences Assembly”**, held at Acer Aspire Park, Longtan, Taoyuan County, **Taiwan** during May 15-18, 2007.
37. **“AGU Fall Meeting 2006”**, held at Moscone Center, San Francisco, CA, **USA** during December 11-15, 2006.
38. **“FORMOSAT-3/COSMIC Workshop 2006-Early Results and IOP Campaigns”**, held at Taipei, **Taiwan** during November 28 – December 01, 2006.
39. **“International School on Atmospheric Radars (ISAR)”**, held at National Central University, Chung-Li, **Taiwan** during October 9-27, 2006.
40. **“International Workshop for the East Asian Monsoon Experiment”**, held at National Central University, Chung-Li, **Taiwan** during September 29-30, 2006.
41. 3<sup>rd</sup> Annual meeting on **“Asia Oceania Geosciences Society (AOGS-2006)”** held at Suntec City, **Singapore** during July 10-14, 2006.
42. **“Conference on applications of Satellite and Radar Image”**, held at National Central University, Chung-Li, **Taiwan** during May 29, 2006.
43. **“GPS Occultation workshop”**, held at National MST Radar Facility (NMRF), Dept. of Space, Govt. of India, Gadanki, **India** during April 19-21, 2005.



44. **International workshop on “Radar Interferometry & Imaging (WRII)”**, held at National MST Radar Facility, Dept. of Space, Govt. of India, Gadanki, **India** during January 24-25, 2005.
45. **“Colloquium on International Network of Tropical Atmosphere Radars (INTAR - 2005)”**, held at Sri Venkateswara University, Tirupati, India during January 20-22, 2005.
46. **“National workshop on Strategies and Technologies for weather Modification and Cloud Seeding”**, held at S. V. University, Tirupati, **India** during September 29-30, 2004.
47. **“Seventh user scientist’s workshop on Indian MST Radar”**, held at National MST Radar Facility, Gadanki, **India** during July 5-7, 2004.
48. **“XIII National Space Science Symposium (NSSS-2004)”**, held at Mahatma Gandhi University, Kottayam, Kerala, **India** during February 17-20, 2004.
49. Attended **“Fourth Winter School on Indian MST Radar”**, held at Sri Venkateswara University, Tirupati/Gadanki, **India** during January 21-30, 2004.
50. **“Sixth user scientists workshop on Indian MST Radar”**, held at National MST Radar Facility, Gadanki, **India** during February 26 -28, 2003.
51. Attended for **“Brain storming session on the results of Equatorial wave campaign 1999 and 2000”** held at NMRF, Gadanki, **India** during August 16, 2002.
52. Attended **“Workshop on Studies of Tropical Mesoscale Systems”**, held at NMRF, Gadanki, **India** during March 13-14, 2002.
53. **“XII National Space Science Symposium (NSSS - 2002)”**, held at Barkatullah University, Bhopal, India during February 25-28, 2002.
54. Attended **“Second SERC School on Numerical Weather Prediction Data Processing, Assimilation and Initialization”**, held in Centre for Atmospheric Sciences, IIT Delhi, New Delhi, **India** during March 12 - April 7, 2001.
55. **“National workshop on recent developments in atmospheric and space physics”**, held at University of Roorkee, Roorkee, **India** during March 19-21, 2001.
56. **“Fifth user scientist’s workshop on Indian MST Radar”**, held at National MST Radar Facility, Gadanki, **India** during March 10, 2001.
57. Attended **“Third Winter School on Indian MST Radar”**, held at Sri Venkateswara University, Tirupati/Gadanki, **India** during March 4 - 9, 2001.
58. Seminar on internet & E-Governance, held at S. V. University, Tirupati (A.P), **India** during December 23, 2000.
59. Attended **Numerical Weather Prediction and Numerical Methods** lecturers arranged by Dept. of space sciences, University of Pune, Pune, **India** during July 23 - 30, 2000.
60. **“XI National Space Science Symposium (NSSS-2K)”**, held at Toshali Sands Ethnic Village Resort, Puri, **India** during March 1- 4, 2000.
61. Participated in GPS Experiment at SHAR Centre, Sriharikota in collaboration work with Nagoya University, **Japan** during August 30 - September 16, 2000.
62. **“Fourth user scientists workshop on MST Radar”**, held at National MST Radar Facility, Tirupati, **India** during April 3 - 7, 1999.

## Research Experience

The major area of research work carried out involves, Atmospheric Gravity waves, associated momentum fluxes and turbulent structures making use of MST radar system at a tropical station, Gadanki (13.5°N, 79.2°E), GPS/Radiosonde LAWP and LIDAR. Studies are also carried out on Tropospheric winds (seasonal) with VHF radar and comparing them with various well-established techniques. I also carried out airglow emission studies using ROCSAT-2 data especially OH, O<sub>2</sub> and O(<sup>1</sup>S) green line emissions, and Global variation of water vapor using GPS RO, AIRS, NCEP, ECMWF data sets. I am also familiar with usage of Doppler Weather Radar data which is going to be used for to study the micro physical characteristics of clouds.

Actively involved in various field campaigns and group meetings related to operational and observations of Radar, Lidar, LAWP and GPS/Radiosonde. Also involved in supporting for PSLV and GSLV rocket launches (providing wind information from time to time and observing the weather conditions before launch). As a Ph. D student I also supported the UGC-SVU center for MST radar applications which is aimed to conduct various experiments with above mentioned techniques, interpretation of results obtained by various user scientists experiments etc. I have a good exposure on various remote sensing systems. I have familiarity in analyzing and interpreting the ROCSAT-2, COSMIC GPS RO satellite data sets too.

Currently, I am working as a Associate Professor in the Department. of Physics, GITAM University, Hyderabad Campus on Global Variation of water vapor using COSMIC, Aqua, NCEPC and ECMWF datasets, Microphysical characteristics of the clouds, Monsoon studies, Nanomaterials and Electronics.

## References:

**1. Prof. S. Vijaya Bhaskara Rao**

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