

## **Dr. GOPA DUTTA**

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### **Education:**

- **Doctorate of Philosophy (Ph.D), Space Sciences, 1983**, from Gujarat University, Ahmedabad
- **Master of Science (M. Sc.), Physics, 1974**, from Jadavpur University, Calcutta.

### **Teaching Experience:**

- **Thirty years** teaching experience including eighteen years (1991-2009) of Post-Graduate (M.Sc.) teaching.
- **Subjects handled** solid state physics, EM theory, Optics, Mathematical Physics.

### **Research Experience:**

- **Twenty years** of Research experience at international level.

### **Visiting Professor:**

- Worked as a Visiting Professor at **Research Institute for Sustainable Humanosphere (RISH), Kyoto University, Japan** for six months from 12<sup>th</sup> January to 11<sup>th</sup> July, 2007.

### **CARCAN-2012:**

- Convener of the National symposium “Current trends in Atmospheric Research including Communication And Navigation aspects” during 21-22 December, 2012.

### **Present Position:**

Working as **Professor & Director of Research & Development Center of Vignana Bharathi Institute of Technology**. (Teaching Electromagnetic Fields (EMF) for II year B.Tech., EEE students).

**Research Guidance:**

- Recognized Research Supervisor of Physics Department, Osmania University, Hyderabad

**No. of Ph.D/ M.Phil produced** : **Four / Three**

**No. of Ph.D working:** : **Three**

**International conferences attended:**

- Visited **Hong Kong** to attend and present a Paper in the International Symposium "Progress in Electromagnetic Research Symposium - **PIERS'97**" held at City University of Hong Kong during (6-9) January, 1997.
- Attended **MST - 8** held at **Bangalore, India** during 15 – 20 December, 1997.
- Visited **Nagoya, Japan** to attend and presented a Paper in the International Symposium "**COSPAR'98**" held at Nagoya Congress Centre, Nagoya during (12-19) July, 1998.
- Attended and organized a session in "Progress in Electromagnetic Research Symposium - **PIERS'2002**" held at **Cambridge, Boston, USA** during 1- 5, July, 2002.
- Attended **MST-11** held at **Tirupati, India** during 11-12-2006 to 15-12-2006.
- Attended International symposium on Coupling Processes in Equatorial Atmosphere (**CPEA**) held at **Kyoto, Japan** during 20<sup>th</sup> March 2007 to 23<sup>rd</sup> March 2007.
- Attended International workshop on weather modification technologies and symposium on natural disaster management **Hyderabad, India** during 27<sup>th</sup> June 2008 to 29<sup>th</sup> June 2008.
- Attended The International Conference **SPARC** held at **Bologna, Italy** during 31-08-2008 to 5-09-2008
- Attended **MST12** held at **London, Canada** during 17-05-2009 to 23-05-2009.
- Attended **CODEC-09** held at Hyatt Regency **Kolkata, India** during 14-12-2009 to 16-12-2009.
- Attended **AOGS** conference held at **Hyderabad, India** during 5-07-2010 to 10-07-2010.
- Attended **MST13** and presented 3 papers held at **Kuhlungsborn, Germany** during 19-03-2012 to 23-03-2012.

- Attended SPARC GA 2014 and presented a paper held at Queenstown, New Zealand, during 12 – 17 January, 2014.
- Attended CODEC 2015 and presented a paper held at Kolkatta, India during 16 – 18, December, 2015.

**No. of National conferences attended: Innumerable**

**Number of Publications : Thirty three (33) [International 23, National 10]  
: One is communicated.**

### **List of Publications (Journals)**

<b>S.No.</b>	<b>Name of the Journal etc.</b>	<b>Title of the paper</b>	<b>Month &amp; Year of Publication</b>	<b>National or International</b>
1.	<i>J. Atmos. &amp; Terr. Phys Elsevier Publications.</i>	On the estimation of eddy diffusion coefficient in the mesosphere from partial reflection technique	1981	International (SCI)
2.	<i>Ann. Geophys. European Geophysical Union (EGU)</i>	Lunar tidal variation in ionospheric absorption at a low latitude during solar minimum	1982	International (SCI)
3.	<i>Adv. Space Res.</i>	Comparison of A1-Absorption Data with Theoretically computed values based on the International Reference Ionosphere (IRI)	1983	International (SCI)
4.	<i>Ind. J. Radio &amp; Space Phys.</i>	Seasonal & Solar Control of Ionospheric Absorption at a low latitude station	1981	National
5.	<i>Proc. Indian natn. Sci. Acad.</i>	Ionospheric Radio Effects of the Solar Eclipse on 16 February	1980	National
6.	<i>Ind. J. Radio &amp; Space Phys.</i>	Gravity Waves in Mesosphere	1979	National
7.	<i>Journal of Optics</i>	Diffraction Images of Illuminated Straight Edges By Optical Systems With Apodised Annular Apertures	1993	National
8.	<i>Asian Journal of Physics</i>	Coherent imagery of sinusoidal amplitude gratings by optical systems apodised with Lanczos filters	1993	International

9.	<i>J. Pure &amp; Applied Phys.</i>	Effects of Linear Super-Resolvers on Coherent Slit Images	1993	National
10.	<i>J. Pure &amp; Applied Phys.</i>	Point spread function of variably apodised optical systems with triangular amplitude filters	1999	National
11.	<i>J. Pure &amp; Applied Phys.</i>	Phase Contrast Imaging from Non-Central Apodisation	1999	National
12.	<i>Ind. J. Radio &amp; Space Phys.</i>	Zonal and meridional winds over Hyderabad	1996	National
13.	<i>Ind. J. Radio &amp; Space Phys.</i>	Wind and temperature over Hyderabad during the solar eclipse of 24 Oct. 1995	1999	National
14.	<i>Ind. J. Radio &amp; Space Phys.</i>	Long period atmospheric oscillations in the troposphere, lower and middle stratosphere over Hyderabad	1999	National
15.	<i>Ann. Geophys. European Geophysical Union (EGU)</i>	VHF Radar Observations Of Gravity Waves at a Low Latitude	1999	International (SCI)
16.	<i>Indian J. Radio &amp; Space Phys.,</i>	Different methods to study gravity wave variance - A comparison	2000	National
17.	<i>Radio Sci. American Geophysical Union (AGU)</i>	Seasonal variation of solar tides in the troposphere and lower stratosphere over Gadanki: comparisons with the GSWM	2002	International (SCI)
18.	<i>J. of Atmos. and Solar Terr. Phys Elsevier Publications.</i>	Vertical wavenumber spectra of wind fluctuations in the troposphere and lower stratosphere over Gadanki, a tropical station	2005	International (SCI)
19.	<i>Radio Science American Geophysical Union (AGU)</i>	Comparison of gravity wave momentum fluxes estimated by different methods using MST radar	2005	International (SCI)
20.	<i>Geophys. Res. Lett. American Geophysical Union (AGU)</i>	On the optimum time of integration for estimation of momentum flux from VHF radar data	2005	International (SCI)

21.	<i>Geophys. Res. Lett. American Geophysical Union (AGU)</i>	On the optimal beam separation to minimize statistical estimation error of momentum flux using conjugate beam technique	2007	International (SCI)
22.	<i>J. Geophys. Res. American Geophysical Union (AGU)</i>	Seasonal variation of short-period (<2 h) gravity wave activity over Gadanki, India (13.5° N, 79.2° E)	2008	International (SCI)
23.	<i>Annales Geophysicae European Geophysical Union (EGU)</i>	First results from the CAWSES-India Tidal Campaign	2008	International (SCI)
24.	<i>Annales Geophysicae European Geophysical Union (EGU)</i>	Long-term mean vertical velocity measured by MST radar at Gadanki (13.5° N, 79.2° E)	2009	International (SCI)
25.	<i>J. Geophys. Res. American Geophysical Union (AGU)</i>	Characteristics of high frequency gravity waves generated by tropical deep convection: Case studies	2009	International (SCI)
26.	<i>Annales Geophysicae European Geophysical Union (EGU)</i>	High resolution observation of turbulence in the troposphere and lower stratosphere over Gadanki	2009	International (SCI)
27.	<i>Geophys. Res. Lett. American Geophysical Union (AGU)</i>	Frequency dependence of gravity wave momentum flux estimates in the lower atmosphere: First observations using MST radar wind data at Gadanki (communicated)	2009	International (SCI)
28.	<i>Annales Geophysicae European Geophysical Union (EGU)</i>	Quasi-two-day wave in the lower atmosphere over Hyderabad during summer of 2009.	2012	International (SCI)
29.	<i>J. of Atmos. and Solar Terr. Phys Elsevier Publications.</i>	Response of tropical lower atmosphere to annular solar eclipse of 15 January, 2010,	2011	International (SCI)

30.	<i>Technology Spectrum</i>	Diurnal tide in the troposphere and lower stratosphere over Hyderabad, a tropical station	2011	International
31.	<i>Journal of Earth System Science Springer Publications.</i>	Equatorial wave activity during 2007 over Gadanki, a tropical station	2015	International (SCI)
32	<i>Advances in Atmospheric Sciences Springer publications</i>	Impact of cyclone NILAM on tropical lower atmosphere dynamics	2016	International (SCI)
33	<i>Theoretical and Applied Climatology</i>	Climatology of diurnal tide and its long term variability over a tropical station In press	2016	International (SCI)

## Projects

**Number of Projects completed** : **Nine**  
**On – going Projects** : **one**  
**Communicated** : **one**

### **Projects Completed:**

1. "DYNAMICAL COUPLING BETWEEN THE LOWER ATMOSPHERE AND MESOSPHERE THROUGH OBSERVATION OF TIDES AND GRAVITY WAVES" (DST) [No.ESS/B10-13/95 of Rs. 5, 41, 000/-]. Completed in **1998**.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

2. "STUDIES ON THE PERFORMANCE OF OPTICAL SYSTEMS WITH NON-CENTRAL PARTIAL APODISATION" (UGC) [Rs. 26, 500/-]. Completed in **1996**.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

3. "VHF RADAR MEASUREMENT OF MOMENTUM FLUXES OF GRAVITY WAVES AND TIDES IN THE LOWER ATMOSPHERE OVER A TROPICAL STATION" (ISRO)[No.10/2/272 of Rs. 5, 02, 000/-]. Completed in 2004.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

4. "CONSISTENCY OF DIFFERENT METHODS TO MONITOR EDDY

DIFFUSION COEFFICIENTS AND ENERGY DISSIPATION RATES AND THEIR SEASONAL VARIABILITIES” (DST) [No.ESS/63/185/2K of Rs. 6, 29, 088/-]. Completed in 2005.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

5. “A CAMPAIGN TO INVESTIGATE ATMOSPHERIC STRUCTURE AND DYNAMICS INCLUDING EXCHANGE PROCESSES OVER INDIAN TROPICAL REGION (8.5° N, 8.7° N, 13.5° N, 17.2° N), USING HIGH ALTITUDE BALLOON DATA, RADAR AND LIDAR OBSERVATIONS” (ISRO: A pilot project UNDER CAUSES PROGRAM) [Rs. 4, 10, 000/-]. Completed in 2008.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

6. “INVESTIGATION OF TROPICAL CONVECTION THROUGH OBSERVATIONS OF GRAVITY WAVES AND TROPOSPHERE-STRATOSPHERE EXCHANGE OF VARIOUS PARAMETERS” (ISRO) [No.10/2/317 of Rs. 9, 23, 000/-]. Completed in 2008.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

7. “INVESTIGATION OF GRAVITY WAVE GENERATION DURING PARTIAL SOLAR ECLIPSE” (ISRO: CNSC). [Rs. 2, 35, 000/-]. Completed in 2010.

**Principal Investigator: Dr. Gopa Dutta, Hyderabad.**

8. “A CAMPAIGN TO INVESTIGATE ATMOSPHERIC STRUCTURE AND DYNAMICS INCLUDING EXCHANGE PROCESSES OVER INDIAN TROPICAL REGION (8.5° N, 8.7° N, 13.5° N, 17.2° N), USING HIGH ALTITUDE BALLOON DATA, RADAR AND LIDAR OBSERVATIONS” (ISRO: UNDER CAUSES PROGRAM has been sanctioned for 3 years). [No.B.19013/3/2009-II of Rs. 41, 37, 400/-].

**Principal Investigator: Prof. Gopa Dutta, VBIT, Aushapur (V), Ghatkesar (M), R. R. Dist., Telangana.**

9. LONG TERM TRENDS OF ATMOSPHERIC OSCILLATIONS AND THEIR RELATIONSHIPS WITH SOLAR VARIABILITY (ISRO, CAUSES II, 16,41,470/-, has been sanctioned for 3 years).

**Principal Investigator: Prof. Gopa Dutta, VBIT, Aushapur (V), Ghatkesar (M), R. R. Dist., Telangana.**

**On-going Projects:**

STRATOSPHERE-TROPOSPHERE COUPLING THROUGH OBSERVATIONS OF OZONE AND WATER VAPOUR: TRANSPORT EFFECTS ON THE VERTICAL DISTRIBUTION OF OZONE, **DST (3 years), ~ 14 lakhs.**

**Principal Investigator: Prof. Gopa Dutta, VBIT, Aushapur (V), Ghatkesar (M), R. R. Dist., Telangana.**

**Communicated:**

STUDY OF VARIATIONS IN TEC/SCINTILLATION AND IWV USING GNSS (GLOBAL NAVIGATION SATELLITE SYSTEM) RECEIVER (**ISRO, RESPOND**) ~ 35 lakhs.

**Principal Investigator: Prof. Gopa Dutta, VBIT, Aushapur (V), Ghatkesar (M), R. R. Dist., Telangana.**