

Curriculum Vitae of GUMMADIPUDI NAGA SAI MADHAVI

Name : GUMMADIPUDI NAGA SAI MADHAVI
 Sex : Female
 Date & Place of birth : 01/12/1985, Nellore.
 Marital status : Married
 Nationality : Indian
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| Address for correspondence | Permanent Address |
|---|---|
| <p>Dr. G.N. MADHAVI National Post Doctoral Fellow ship C/o Dr.Gopadutta R&D Dean VBIT ,Ghatkesar , Aushapur village R.R.dist , Hyderabad Telangana-501301 Ph: +91 - 9704179599 +91- 9866520545 e-mail: gummadipudimadhavi@gmail.com</p> | <p>Dr. G.N. MADHAVI National Post Doctoral Fellow ship Flat No-202 Meghana Residency Shanti Nagar Opp Asian Multiplex Theatres Uppal , R.R.Dist , Hyderabad Telangana, INDIA Ph: +91- 9704179599, +91- 9866520545 e-mail: gummadipudimadhavi@gmail.com</p> |

Education Qualifications:

| Exam Passed | Subjects/ Specialization | Year of Passing | Board/ University | % of marks |
|-------------|--|--------------------|-------------------------------|------------|
| B.Sc., | Mathematics, Physics, Chemistry | 2006 | S. V. University, Tirupati | 79.6% |
| M.Sc., | Physics, specialization in Condensed Matter Physics | 2008 | S. V. University, Tirupati | 79% |
| Ph. D | Physics, Specialization in Atmospheric Science | Awarded in 2015 | S. V. University, Tirupati | - |

Details of previous/present employment:

| Sl. no | Name of the Employer with full address | Post held | Period of Service | Nature of Work |
|--------|--|--|--|---|
| 1. | Advanced Centre for Atmospheric Sciences funded by ISRO Dept of Physics S.V. University, Tirupati. Andhra Pradesh, INDIA-517502 | ISRO-JRF+SRF Research scholar Research Associate | Aug. 2008 to Mar. 2013 July. 2010 to June. 2015 Sept. 2015 to March 2017 | Middle atmospheric dynamics using COSMIC GPSRO technique Planetary wave characteristics using COSMIC GPSRO and other satellite and model datasets Spectral climatology of wave oscillations using Meteor Radar and MF Radar data sets. A spectral climatology of planetary waves in the middle and upper atmosphere using GPS satellites and Radar systems |
| 2. | National Post Doctoral Fellowship funded by DST SERB Project , New Delhi. | National Post Doctoral Fellowship (DST SERB Project) | 6 th March 2017 to 6 th March 2019 | |

Research area : **Atmospheric Science**

Thesis Title : Global temperature morphology and planetary wave characteristics using different satellite measurements

Area of specialization : Middle atmospheric dynamics and climatology

Research Experience

I have been working in the area of atmospheric science with special interest on Global Temperature morphology and planetary wave characteristics using different satellites . During the period of my research work, I have been actively involved in various campaigns related to MST radar and GPS Radiosonde

observations at NARL, Gadanki, India and various national and international conferences held in the S.V.University.

The entire thesis of my research work is mainly based on the data taken from newly developed GPSRO COSMIC data along with different satellites like SABER, HRDI and reanalysis data sets to study the global temperature morphology and planetary wave characteristics and their effect on pauses in the atmosphere especially in the upper stratosphere and lower mesosphere region. During my research period, I have participated as a student in **International School on Atmosphere Radars, ISAR-NCU-2011, 14-23 November 2011, National Central University (NCU) Chung-Li, Taiwan. I have worked as a Research Associate from September 2015 to March 2017 in the Department of Physics, S.V.University, Tirupati.**

Presently working as a **National Post-Doctoral Fellow associated to VBIT, Hyderabad to study the spectral climatology of planetary waves in the middle and upper atmosphere using GPS satellites and Radar systems.**

Work already in progress:

- Short and long-period gravity waves using GPSRO temperature dataset are needed to be investigated.
- Incorporation of the COSMIC GPSRO data to improve the accuracy of the global and regional numerical weather forecasts and climate analysis, especially in regions lacking of observational data sets.

Future plan of work:

- Using characteristics of QTDW, generation mechanism and tidal interactions over mid and high latitudes in the upper stratosphere and lower mesosphere have to be studied.
- Estimation of the spatial structures of planetary wave periods using EMD technique.

Publications: See annexure - I

Published : 5 under preparation: 2

Under Review :2

Workshops and Schools attended:

International: 1 National: 14

Papers presented in workshops and schools:

International :1 National: 14

Computational Skills

Packages : Familiar with, Matlab, Origin, SURFER and IDL

Operating Environment : WINDOWS, LINUX/UNIX, DOS.

Annexure- I

List of Publications in International Journals:

1. Stratospheric sudden warmings observed in the last decade by satellite measurements and reanalysis: P. Kishore*, Isabella Velicogna, M. Venkat Ratnam, S. P. Namboothiri, J. H. Jiang, Tyler C Sutterley, V. Sivakumar, **G. N. Madhavi**, and S. V. B. Rao, Remote Sensing of Environment,184,263–275,2016.<http://dx.doi.org/10.1016/j.rse.2016.07.008>.(Impact Factor: **6.81**)
2. 2-day wave observations over the middle and high latitudes in the NH and SH using COSMIC GPS RO measurements: **G.N. Madhavi**, P. Kishore, S.V.B. Rao, I. Velicogna, G. Basha, Advances in Space Research, (2014), Advances in Space Research 55 (2015) 722–731
[doi:http://dx.doi.org/10.1016/j.asr.2014.09.032](http://dx.doi.org/10.1016/j.asr.2014.09.032) (Impact Factor: **1.358**)
3. Climatology and comparison study of stratosphere and lower mesosphere temperatures using satellite and reanalysis data sets : **G. N. Madhavi**, P. Kishore, S.V. B. Rao, Isabella Velicogna, V. Sivakumar , Int. J. Cur. Res.Rev. 05, 17-42, 2013. (Impact Factor: **4.016**)
4. Planetary waves in the upper stratosphere and lower mesosphere during 2009 Arctic major stratospheric warming: **G. N. Madhavi**, P. Kishore, I. Velicogna, M. Venkat Ratnam, J. H. Jiang, Ann. Geophys., 30, 1529-1538, 2012, [doi:10.5194/angeo-30-1529-2012](https://doi.org/10.5194/angeo-30-1529-2012). (Impact Factor: **1.741**)
5. A case study of mesospheric fast and ultrafast Kelvin waves observed over a three-radar network using Empirical Mode Decomposition: Kishore

Pangaluru; Isabella Velicogna; Yara Mohajerani; Enrico Ciraci; **Madhavi G.N.**, *Annalae Geophysicae.*, 36, 925–936, 2018. <https://doi.org/10.5194/angeo-36-925-2018>. (Impact Factor: **1.741**)

6. Wave activities and turbulence influencing Stratosphere Troposphere Exchange (STE) of ozone . Gopa Dutta, K. V. N. Janardhan, P. Vinay Kumar, Salauddin Mohammad, **G.N.Madhavi**, S. Venkateshwara Rao and M. Venkat Ratnam. (Under Review JASTP)
7. Long period oscillations observed globally in the middle atmosphere using COSMIC GPS RO and SABER/TIMED measurements. **G.N. Madhavi**, P. Kishore, Gopa Dutta, S.V.B. Rao, I. Velicogna. (Communicated to Climate Dynamics)

Best poster award

- **Best poster award for the paper entitled “Observations of the quasi-2-day wave in the upper stratosphere and lower mesosphere using COSMIC GPS RO satellite measurements”, G.N. Madhavi, P. Kishore, S. Vijaya Bhaskara rao, 17th National Space Science Symposium (NSSS-2012) ’ 14-17 February 2012, S. V. University, Tirupati, A.P .**

National or International Conferences/Workshops/Symposia Attended :

1. 2nd Data analysis Workshop on SAFAR held at National Atmospheric Research Laboratory, India during 22-23 June, 2010.
2. 3rd AP SCIENCE CONGRESS.12-14, November 2010, JNTU, Hyderabad, A.P.
3. 98th Indian Science Congress held at SRM University, Chennai, Tamilandu during 3-7, January, 2011.
4. “ARWPCC” National Conference on Advances in Atmospheric Remote Sensing, Weather Prediction and Climate Change conducted at Sri Venkateswara University, Tirupati during 10 - 11 March, 2011.
5. **International School on Atmosphere Radars, ISAR-NCU-2011 , 14-23 November 2011, National Central University (NCU) Jhong-Li, Taiwan.**
6. 17th National Space Science Symposium (NSSS-2012) ’14-17 February 2012, S.V. University, Tirupati, A.P .
7. Workshop on Satellite navigation Systems –Their Applications to Aviation and Atmospheric Science , 30th March 2012 ,S.V.University ,Tirupati ,A.P.

8. AP Science Congress-2012 meeting on 14-16 November, Acharya Nagarjuna University, Guntur.
9. National Symposium on “Current trends in Atmospheric Research including Communication and Navigation aspects (CARCAN-2012)” during 21-22 December, 2012, Ghatkesar (M), R.R.dist.
10. AP SCIENCE CONGRESS.27-29, January 2016, S.V.University, Tirupati, A.P.
11. NSSS-2016, February 9-12, VSSC, Kerala.
12. Indian Science Congress , Tirupati, Jan 3-7, 2017.

List of Papers /Posters Presented in National/International Seminars / Symposia / Conferences:

1. “Global temperature morphology and latitudinal trends in the stratosphere: validation study of COSMIC/FORMOSAT-3 measurements”: **G.N.Madhavi**, Dr.S.Vijaya Bhaskara Rao and P.Kishore in 3rd AP SCIENCE CONGRESS held at JNTU, Hyderabad, A.P. during 12-14, November 2010 and “ARWPCC” National Conference on Advances in Atmospheric Remote Sensing, Weather Prediction and Climate Change held at Sri Venkateswara University, Tirupati during 10 -11, March 2011.
2. “Signatures of MJO and Planetary Oscillations in the Troposphere and Stratosphere region using COSMIC temperature data” **G.N. Madhavi** , P. Kishore , Prof. S. Vijaya Bhaskara rao , 98th Indian Science Congress, 3-7, January 2011, SRM University, Chennai, Tamilandu.
3. “Observations of the quasi-2-day wave in the upper stratosphere and lower mesosphere using COSMIC GPS RO satellite measurements”, **G.N. Madhavi** , P. Kishore , Prof. S. Vijaya Bhaskara rao, 17th National Space Science Symposium (NSSS-2012) '14-17 February 2012, S.V. University, Tirupati, A.P .
4. “Global Temperature Structure of Annual, Semi Annual and Quasi-Biennial Oscillations Observed by TIMED/SABER and COSMIC /FORMOSAT-3 Measurements”, **G.N.Madhavi** , P. Kishore and S. Vijaya Bhaskara Rao, AP Science Congress-2012 meeting on 14-16 November.

5. "Long period oscillations observed globally in the middle atmosphere using COSMIC GPS RO and SABER/TIMED measurements" **G. N. Madhavi** , P. Kishore , M. V. Ratnam and S. Vijaya Bhaskara Rao , "Current trends in Atmospheric Research including Communication And Navigation aspects (CARCAN-2012)" during 21-22 December, 2012, Ghatkesar (M), R..R.dist and AP SCIENCE CONGRESS.27-29, January 2016, S.V. University, Tirupati, A.P
6. The ultra-fast and fast kelvin waves in the equatorial Mesosphere and Lower Thermosphere region, **G. N. Madhavi** , P. Kishore and S. Vijaya Bhaskara Rao during NSSS-2016, February 9-12, VSSC, Kerala.
7. A CASE STUDY OF MESOSPHERIC FAST AND ULTRAFAST KELVIN WAVES OBSERVED OVER A THREE-RADAR NETWORK USING EMPIRICAL MODE DECOMPOSITION, **G. N. Madhavi** , P. Kishore and S. Vijaya Bhaskara Rao during Indian Science Congress, Tirupati , Jan 3-7, 2017.
8. Long period oscillations observed globally in the middle atmosphere using COSMIC GPSRO and SABER/TIMED measurements. G.N. Madhavi, P. Kishore, Gopa Dutta, S.V.B. Rao, I. Velicogna. **(Abstract Accepted in SPARC International conference)**

Member ships:

Member of Indian Meteorological society , Hyderabad Chapter, India.

Member of YESS - Community, South East Asia.

Potential Reveiwer of Journal of Geophysical Research (JGR).