

SNEHA YADAV

AFFILIATION: SPACE PHYSICS LABORATORY, VIKRAM SARABHAI SPACE CENTRE,
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QUALIFICATIONS AND EXPERIENCE

Jul, 2016-till date DST- Innovation in Science Pursuit for Inspired Research (INSPIRE) Faculty, Space Physics Laboratory, Vikram Sarabhai Space Centre, Thiruvananthapuram, India

Jun, 2015-Jun, 2016 NASI-Research Associate, Space and Atmospheric Sciences Division, Physical Research Laboratory, Ahmedabad, India

Feb, 2013-May, 2015 PRL-Postdoctoral Fellow, Space and Atmospheric Sciences Division, Physical Research Laboratory, Ahmedabad, India

Apr, 2012-Jan, 2013 Senior Research Fellow-Extended (CSIR) at Radio and Atmospheric Sciences Division, National Physical Laboratory, New Delhi, India

2007-2012 Research Fellow at Radio and Atmospheric Sciences Division, National Physical Laboratory, New Delhi, India and Barkatullah University, Bhopal

Thesis Title: “*STUDY OF EQUATORIAL AND LOW-LATITUDE IONOSPHERE: MODELING PROSPECTIVE AND APPLICATIONS*”

2006-2007 **M. Phil** in Physics from Barkatullah University, Bhopal, India with 68.25%

2004-2006 **M.Sc.** in Physics from Barkatullah University, Bhopal, India with 74.08%

2001-2004 **B.Sc.** in Physics, Chemistry and Mathematics from Barkatullah University, Bhopal, India with 74.83 %

RESEARCH INTERESTS

- Solar Wind-Magnetosphere-Ionosphere coupling
- Ionospheric Modeling
- Understanding and forecasting of ionospheric scintillations
- Investigations on the low- and high-latitude ionospheric phenomena

CURRENT RESEARCH ACTIVITY

- Investigation of coupling among various altitude regions of the earth's atmosphere.
- Investigations on the response of high- and low-latitude ionosphere to the varying space-weather conditions through exclusive campaigns and participation in expeditions.
- Understanding and forecasting of ionospheric irregularities/L-band scintillations over the Indian longitudes.
- Generation of 2D total electron content (TEC) maps using satellite based augmentation system (SBAS) and employing them to study the space weather impact on low-latitude ionosphere.

AWARDS/FELLOWSHIPS

- Received **Bronze prize** in student team presentation competition in International Reference Ionosphere 2017 Workshop held at National Central University (NCU), Taiwan during 6-17 November 2017.
- Received **Young Scientist Award** in USRI-RCRS 2017 held in Tirupati, India.
- Received Innovation in Science Pursuit for Inspired Research (**INSPIRE**) **Faculty Award** from Department of Science & Technology (DST), India.
- Received certificate of appreciation for novel technique in GNSS user meet -2015 held at ISRO satellite center, Bengaluru.
- **Awarded Senior Research Fellowship-Extended** by Council of Scientific and Industrial Research (CSIR), India in 2012.
- **Awarded Senior Research Fellowship** by Council of Scientific and Industrial Research (CSIR), India in 2010.
- Received **best Oral presentation award** for presenting a paper in National conference held at National Physical Laboratory, New Delhi, India on Radio and Environment Science during 22-23 April, 2009.

PROFICIENCIES/COMPUTER SKILLS

- Experience in handling GNSS, IGS, and GAGAN data.
- Experience in handling satellite data
- Conversant in MATLAB programming.

REFEREE FOR THE SCIENTIFIC JOURNALS

- Journal of Geophysical Research (AGU)
- Advances in Space Research (Elsevier)

RESEARCH HIGHLIGHTS

- ❖ Generation and refinement of the spatio-temporal maps to forecast the occurrence pattern of ionospheric scintillations over the Indian zone. (JGR, 2017)
 - ❖ Generation of scintillation forecasting maps over the Indian longitudes using GAGAN platform. (GPS Solut, 2017)
 - ❖ Investigations on the factors which influence the ionospheric variability during quiet geomagnetic conditions. (JGR, 2017)
 - ❖ Generation of 2D TEC maps using GAGAN data which is an Indian SBAS. These maps are used to study the variability of low-latitude ionosphere under varying space weather conditions. (Space Weather, 2016).
 - ❖ Studied the coupled interactions between ring current intensity and high-latitude ionospheric electron density variations. (JASTP, 2015).
 - ❖ Investigations on the response of magnetosphere-ionosphere system to the changes in the solar wind energy input.
 - ❖ Studied the effect of geomagnetic storms over the low-latitude ionosphere using ionosonde data. The occurrence of new additional cusp of ionization named as “cusp of F1.5” was found out over the low-mid latitude station, Delhi during the geomagnetic disturbances. (JGR, 2012)
 - ❖ Utilization of Indian satellite data (SROSS-C2) to study the variation of ion composition and ion temperature during the geomagnetically disturbed conditions. (JGR, 2011)
 - ❖ Studied the effect of solar cycle and seasons on the low-latitude ionosphere using ionosonde data. (ASR, 2010; 2011; 2013).
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PUBLICATIONS IN REFEREED INTERNATIONAL JOURNALS

1. **Sneha Yadav**, Tarun K. Pant, R. K. Choudhary, C. Vineeth, Surendra Sunda, K. K. Kumar, P. R. Shreedevi, S. Mukherjee (2017), Impact of sudden stratospheric warming of 2009 on the equatorial and low-latitude ionosphere of the Indian longitudes: A case study, *Journal of Geophysical Research - Space Physics*, 122, 10, 10486–10501. doi:org/10.1002/2017JA024392.
2. **Sneha Yadav**, R. Sridharan, Surendra Sunda, T. K. Pant (2017), Further refinements to the Spatio-temporal forecast model for L-band scintillation based on comparison with C/NOFS observations, *Journal of Geophysical Research - Space Physics*, 122, 5643–5652, doi:10.1002/2017JA023869.
3. Surendra Sunda, **Sneha Yadav**, R. Sridharan, M. S. Bagiya, P. V. Khekale, Pan Singh, S. V. Satish, (2017), SBAS-derived TEC maps: a new tool to forecast the spatial maps of maximum probable scintillation index over India, *GPS Solutions*, doi:10.1007/s10291-017-0625-6.
4. **Sneha Yadav**, R. Sridharan, Surendra Sunda, (2016), Impact of the 17 March 2015- St. Patrick's Day storm on the evolutionary pattern of equatorial ionization anomaly over the Indian longitudes using high resolution spatio-temporal TEC maps - New insights, *Space Weather*, 14, doi:10.1002/2016SW001408.
5. **Sneha Yadav** and D. Pallamraju, (2015), On the coupled interactions between Ring current intensity and high-latitude ionospheric electron density variations, *Journal of Atmospheric and Solar Terrestrial Physics*, 125-126, 50–58. doi:org/10.1016/j.jastp.2015.02.006
6. **Sneha Yadav**, R. S. Dabas, Rupesh M. Das, A. K. Upadhyaya, and A. K. Gwal (2013), Temporal and spatial variation of Equatorial ionization anomaly by using multistation ionosonde data for the 19th solar cycle over the Indian region, *Advances in Space Research*, 51, 1253–1265. doi:org/10.1016/j.asr.2012.11.009
7. **Sneha Yadav**, Rupesh M Das, R. S. Dabas, and A. K. Gwal (2013), The response of sporadic E-layer to the total solar eclipse of July 22, 2009 over the equatorial ionization anomaly region of the Indian zone, *Advances in Space Research*, 51, 2043–2047. doi:org/10.1016/j.asr.2013.01.011
8. **Sneha Yadav**, A. K. Upadhyaya, and R.M. Das (2012), Daytime additional F layer stratification over low-mid latitude station of the Indian sector under geomagnetic disturbed conditions”, *Journal of Geophysical Research - Space Physics*, 117, A06320, doi:10.1029/2011JA017305.

9. **Sneha Yadav**, Rupesh M. Das, R. S. Dabas, P. Subrahmanyam and A. K. Gwal (2011), Response of low latitude ionosphere of the Indian region during the super geomagnetic storm of March 31, 2001, *Journal of Geophysical Research - Space Physics*, Vol. 116, A08311, 2011. doi:10.1029/2010JA016373. [*Selected as AGU Editor's Choice "Space Weather" September 2011*].
10. **Sneha Yadav**, R. S. Dabas, Rupesh M. Das, A.K. Upadhayaya, S. K. Sarkar, and A. K. Gwal (2011), Variation of F-region critical frequency (foF2) over equatorial and low-latitude ionosphere during 19th and 20th solar cycle, *Advances in Space Research*, 47, 124–137. doi:org/10.1016/j.asr.2010.09.003
11. **Sneha Yadav**, R. S. Dabas, Rupesh M. Das, A. K. Upadhayaya, Kavita Sharma and A. K. Gwal. (2010), Diurnal and seasonal variation of F2-layer ionospheric parameters at equatorial ionization anomaly crest region and their comparison with IRI-2001, *Advances in Space Research*, 45, 361–367. doi:org/10.1016/j.asr.2009.08.018