

Name of the Faculty Dr. A. Supraja Reddy
 Designation Associate Professor
 Nature of Job/Appointment Regular
 Date of Joining the institution 27.02.2015 (Contract)
 04.07.2019 (Regular)
 Email suprajareddy_ece@cbit.ac.in



Educational Qualifications	Name of the Degree	Class
Ph. D	Doctor of Philosophy (ECE)	Awarded
PG	M. Tech (RS&GIS)	First with Distinction
UG	B. E. (ECE)	First with Distinction

Work Experience

Teaching	16 Years
Research	03 years
Industry	--
Others	--

Area of Specialization Global Navigation Satellite Systems (GNSS), GNSS Augmentation Systems, Ionospheric Wave Propagation

Professional Memberships FIETE

Responsibilities held at Institution Level

1. Member, Academic Council
2. Member, Academic Audit Committee
3. Member, Industry Institute Cell
4. Member, BoS, ECE Dept.
5. Incharge, Academic Audit
6. Dept. Research Coordinator
7. Convener, Dept. Research Committee
8. Member, Program Content Committee
9. Chairman, Course Expert Group

Responsibilities held at Department Level

Research Guidance

Guided 07 M.E projects

Awards Received

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1. Received '**best paper of the conference**' and the '**best paper of the track - antennas and wireless communication**' awards for the paper entitled "Effect of Latitude and Longitude on Bounding Sigma at Low-latitude Stations for GBAS Applications" at IEEE International WIE Conference on Electrical and Computer Engineering 2016 (WIECON-ECE) is jointly organized by IEEE Pune section and IEEE Bangladesh section.
2. Received '**best paper of the conference**' award for the paper entitled "Multipath and Thermal Noise Free relative TEC estimation using IRNSS L5 and S1 signals" at International Conference on Innovative Technologies in Engineering (ICITE 2018), Osmania University, Hyderabad, 11-13 April 2018.

Courses Handled at Under Graduate / Post Graduate Level.

Electronic Devices, Analog Circuits, Satellite Communications, Principles of GNSS, Wireless and Mobile Communication, Signal Intelligence Systems

No. of Papers Published

National Journals -- International Journals -- 16
National Conference -- 09 International Conference -- 20

Projects Carried out

Principal Investigator of the project Entitled "Investigation of the Effects of Ionospheric Spatial Decorrelation on Indian GBAS", sponsored by Space Applications Centre (SAC), ISRO, Ahmedabad.
Duration of the project : 3 years (2017-2020)
Funding: Rs.19.34 lacs

Patents

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Technology Transfer

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Invited Speaker

1. Lecture on "Link power Budget and Multiple Access Techniques for Satellite Communications", Geethanjali College of Engineering and Technology, Hyderabad, on 04 May 2022.
2. Lecture on "DGPS for Marine Navigation" in AICTE Sponsored STTP on "Current Trends and Emerging Advances in Marine Navigation and Communication" (Phase-I), 23-28 Nov 2020.
3. Lecture on "GBAS for Sea Ports" in AICTE Sponsored STTP on "Current Trends and Emerging Advances in Marine Navigation and Communication (Phase-II), 07-12 Dec 2020.
4. Lecture on "Latest trends and developments in GBAS", at University College of Engineering, Osmania University, Hyderabad during a STTP on "Recent Research Developments and Challenges in Communication and Navigation Technologies", during 25-29 Feb 2020.
5. Lecture on 'Ongoing Research in the Area of Ground Based Augmentation Systems' at Research and Training Unit for Navigational Electronics (NERTU), Osmania University, Hyderabad, during a Two day symposium on 'Research Trends in GNSS' during September 08-09, 2019
6. Lecture on 'Ground Based Augmentation Systems for Improved Position Accuracy' at Geethanjali College of Engineering and Technology (GCET), Medchal Dist., during a One week FDP on '5G and GNSS Positioning' during June 17-22, 2019
7. Lecture on "GNSS Augmentation Systems", at University College of Engineering, Osmania University, Hyderabad during a One Week FDP on "Principles of GNSS, Applications and Research Areas" on 08 June 2018.

No. of Books/Chapter Published with details

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Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops.Other Trainings (**Attended and/or Organized**).

1. FDP on "Big Data Applications in Electrical Engineering", from 20/02/2023 to 24/02/2023, EEE Dept., CBIT.
2. FDP on "Exploring Machine Learning and Deep Learning Algorithms for Natural Language Processing (NLP) Applications " from 22/11/2021 to 26/11/2021 at VNRVJIET, sponsored by AICTE, ATAL Academy.
3. One Week STTP on "Emerging Trends in VLSI Technology", organized by Malla Reddy Engineering College for Women, 14-19 June.
4. ATAL FDP on "Design Thinking", organized by Bharati Vidyapeeth College of Engineering and ATAL Academy, 21-25 June 2021.
5. Webinar series on "Applications of Satellite Navigation and NavIC for Common Man", , 06-09 Feb 2021, organized by Indian Space Industries Exhibitors.
6. One week online refresher course BHARATEEYA CHAITANYAM organized by Geervana Bharathi of

Chaitanya Samskruthi, CBIT , during 29 June to 05 July 2020.

7. "Introduction to Electronics" an online non-credit course authorized by Georgia Institute of Technology and offered through Coursera on 10 June 2020
8. One week FDP on "Outcome Based Education and NBA Accreditation Process (UG) conducted by CBIT during 28 May to 01 June 2020
9. "AI for everyone" an online non-credit course authorized by Stanford University and offered through Coursera on 04 May 2020
10. "Wireless Communication for Everybody" an online non-credit course authorized by Yonsei University and offered through Coursera on 28 April 2020
11. Participated in IIC online sessions conducted by Institute's Innovation Cell of MHRD Innovation Cell during 28 April to 22 May 2020.
12. One week FDP on "IoT for Emerging Applications", organized by CBIT during 04-08 Feb 2020.
13. Workshop on "Quantum Computing", organised by Quantum Computing Special Interest Group, IEEE Hyderabad Computer Society Chapter, on 16th Nov 2019, Supported by Microsoft and IIIT Hyderabad.
14. National Workshop on Wireless Communication (NWWC-2019)', organized by Advanced Institute of Mathematics, Statistics and Computer Science (AIMSCS), Hyderabad, during 21st – 23rd Jan 2019.
15. Organizer, Research Day, at CBIT on 23rd August 2019.
16. Coordinator of 4th International Conference on Vedic Mathematics, organized by CBIT in association with IAVM during 29- 31 Aug 2019.

Details of Journal Publications/ Conferences (National and International)

International Journals

1. Ammana, S.R., Sujimol, M.R., Songala, K.K, Sarma A.D "Advantage of IRNSS S-band signal for GBAS applications in adverse ionospheric storm conditions". Aerospace Systems, 5(3), (2022). <https://doi.org/10.1007/s42401-022-00158-6>
2. Supraja R Ammana and Haritha G, " Analysis of Temporal Variations of TEC with Ionospheric Activity at Low Latitude Station", Proteus Journal, June 2021.
3. Ammana S.R., "Overview of Real-Time GNSS Spoofing Attacks and Consequences" Journal of Interdisciplinary Cycle Research", Volume XIII, Issue VI, June 2021, pp.1658-1662
4. S R Ammana, "An Analysis of GPS Code minus Carrier (CMC) Measurements for GBAS Applications", The IUP Journal of Electrical and Electronics Engineering, Vol.11(1), January 2018.
5. A.S Reddy, "Modernized GPS Signals-Benefits and Status", International Journal of Emerging Technology and Advanced Engineering, Vol.8(3), March 2018.
6. A.S Reddy, "Ionospheric Effects on the Performance of Satellite-Based Navigation in India" Research Journal of Engineering and Technology, Vol. 09 (1), Jan-Mar 2018, (pp.55-58).
7. A.S Reddy, "Ground Based Augmentation of GPS for PA and Landing of Aircraft", ISST Journal of Electrical & Electronics Engineering, Vol. 8(2), pp. 1-4, December 2017.
8. A.S Reddy, "Accuracy improvement in State-of-Art Ground Based Augmentation Systems", ISST Journal of Electrical & Electronics Engineering, Vol. 8(2), p.p. 5-8, December 2017.
9. A.S Reddy, "Improving the positioning performance of GPS through Differential GPS – An Overview", International Journal of Engineering Research And Development, Vol.13(11), pp.37-39, November 2017.
10. A.S Reddy, "Augmentation of GPS for Aviation Applications – A Comprehensive Overview", International Journal of Emerging Technology and Advanced Engineering, Vol.7(11), pp.251-254, November 2017.
11. Supraja Reddy Ammana and Sarma D Achanta, "Estimation of Overbound on Ionospheric Spatial Decorrelation over Low Latitude Region for GBAS", IET Radar Sonar and Navigation, Vol.10(3), pp.637-645, March 2016. (10.1049/iet-rsn.2015.0469)
12. P.Naveen Kumar, A.D.Sarma and A.Supraja Reddy "Modelling of Ionospheric Time Delay of GPS signals using Taylor Series Expansion for GPS Aided Geo Augmented Navigation Applications", IET Radar Sonar and Navigation, Vol.8(9),pp.1081-1090, May 2014 (Impact factor: 1.135). (: 10.1049/iet-rsn.2013.0351)

13. V.Satya Srinivas, A.D.Sarma, A.Supraja Reddy and D.Krishna Reddy, "Investigation of the effect of Ionospheric Gradients on GPS Signals in the Context of LAAS", Progress In Electromagnetics Research B, Vol. 57, Pp.191-205, January 2014 (Impact factor: 1.229). (doi:10.2528/PIERB13101305)
14. K.C.T. Swamy, A.D.Sarma, A. Supraja Reddy, V. Satya Srinivas and PVD Somasekhar Rao, "Modelling of GPS Signal Scintillations with Polynomial Coefficients over the Indian Region", Indian Journal of Radio & Space Physics (IJRSP), pp.167-174, Vol. 42, June 2013.
15. Mohammed Mushthaq Ahmed, Quddusa Sultana, A.SuprajaReddy and M A Malik, "Tropospheric error correction in assisted GPS signals", Indian Journal of Radio & Space Physics (IJRSP), Vol. 42, pp.159-166, June 2013.
16. A.Supraja Reddy, G.Santhosh Kumar and A.D.Sarma, "Mitigation of Code-Carrier Divergence Effect using an Optimized Filter for LAAS Applications", IETE Journal of Research. Vol.58: Nov-Dec 2012 (Impact factor: 0.185) (10.4103/0377-2063.106752).

International Conference Papers

- [1] S. Reddy Ammana, K. Kumar Songala and D. Bollavula, "Performance Evaluation of Weil Codes and Gold Codes for Application in Future Navigation Signals," 2022 IEEE 2nd Mysuru Sub Section International Conference (MysuruCon), Mysuru, India, 2022, pp. 1-6, Doi: 10.1109/MysuruCon55714.2022.9972451.
- [2] Supraja Reddy Ammana, Satyanarayana K, Bhaskara S. M, Komal Kumar S, Sowjanya B, Namitha K, Nikhitha T, Sarma A. D, "Development of Simple Software Receiver For IRNSS L5 Signal", 2021 IEEE International Women in Engineering (WIE) conference on Electrical and Computer Engineering (WIECON-ECE), 4-5 December 2021, Dhaka, Bangladesh.
- [3] Bhaskara S. M, Sarma A.D, Komal Kumar S, Supraja Reddy A, "A Simple SDR based Method to Spoof Low-End GPS aided Drones for Securing Locations", 2021 IEEE International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things (RAAICON), 3-4 Dec 2021, Dhaka, Bangladesh (accepted, yet to be published).
- [4] Sree Naresh Krishna Chama, Satyanarayana Katukojwala, Supraja Reddy Ammana, Shivank Agarwal, Varun Kumar Reddy and A.D.Sarma "Design and Development of NavIC and GPS based Geolocation System for CO2 Monitoring", International Conference on Innovative Practices in Technology and Management.. 17-19 Feb 2021, Amity University, Noida.
- [5] Komal Kumar S, Supraja Reddy A, Harichandana R., and A.D.Sarma "Simplistic Spoofing of GPS Enabled Smart Phone" 2020 IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE), 26-27 December, 2020, Bhubaneswar, India.
- [6] Naga, S.R.C., Padmapriya, K., Supraja, R.A., Satyanarayana, K. and Dattatreya, S.A., ' Design and Implementation of Bluetooth-Beacon based Indoor Positioning System', 5th IEEE international Women in Engineering (WIE) Conference on Electrical and Computer Engineering 2019 (IEEE WIECON-ECE 2019), IEEE Bangalore Section & WIE AG Bangalore Section, 15-16 Nov. 2019 (10.1109/WIECON-ECE48653.2019.9019997).
- [7] Supraja Reddy Ammana and A.D. Sarma, 'On the Suitability of Ionospheric Gradient Estimation Techniques for IRNSS based GBAS Applications', IEEE international Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Boston, Massachusetts, USA, 8-13 July 2018.
- [8] Supraja Reddy A, "Performance Evaluation of Mixed-Pair method of Estimation of Ionospheric Gradients on IRNSS L5 Signals", International Conference on Innovative Technologies in Engineering (ICITE 2018), Osmania University, Hyderabad, 11-13 April 2018.
- [9] Mohd Qurram Javeed, A.D. Sarma, A. Supraja Reddy, T. Sridher, N.V. Koteswara Rao and Tarun Kumar Pant "Multipath and Thermal Noise Free relative TEC estimation using IRNSS L5 and S1 signals", International Conference on Innovative Technologies in Engineering (ICITE 2018), Osmania University, Hyderabad, 11-13 April 2018.
- [10] Supraja Reddy A, "Investigation of Anomalous Ionospheric Gradient Effects on the Performance of Indian GBAS", IEEE International Conference on Computing Methodologies and Communication (ICCMC-2017), Surya Engineering College, Erode, 18-19 July 2017.