RESUME

Name: Dr. M N V S S Kumar

Department: Electronics and Communication Engineering

Date of Birth: 08-08-1987

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Academic Excellence:

QUALIFICATION	BOARD / UNIVERSITY	DIVISION	YEAR
Ph. D	Andhra University	Awarded	2013
M. Tech (R&M)	Andhra University	FIRST Class	2010
B. Tech	Andhra University	FIRST Class	2008

Total Years of Experience (Teaching/Industry): 11 Years

Period		Organization	Designation
Jan, 2024	Till Date	AITAM, Tekkali	Professor
Oct, 2013	Dec, 2023	AITAM, Tekkali	Associate Professor
Oct, 2010	Oct, 2013	UGC/Andhra University	Project fellow
May, 2008	Sep, 2010	DRDO/Andhra University	Research Assistant

Ph.D Thesis Title: Development of Submarine/AUV Underwater Navigation Techniques using Imaging Sonar

Areas of Interest:
1. Image Processing
2. Signal Processing
3. Global Positioning System

Guidance of Academic Projects:
    i)   Doctoral Projects :
              Awarded: 01
              Pursuing: 02
    ii)   Masters Projects   : 10
    iii)   Bachelor Projects : 50

Sponsored Research Projects:

S. No.	Sponsoring Agency	Title of the Project	Grant
1	UGC MRP	Detection of Mines, Submarines and Mapping of Obstacles using Image Processing for Secured Patrolling of Sea Coast	4,26,000/-

Funding from external agencies:

S. No.	Sponsoring Agency	Title of the Program	Grant
1	DLRL (Co-PI)	Development of multilateration algorithm for obtaining 3D positioning of emitters and determination of optimal distribution of sensors	9,64,200/-

Memberships of Professional Societies and Other Organizations:
    MIEEE – 91195213
    ISTE
    MIETE - 500747
    Marine Technology Society Member - 27975

Details of Publications:
    SCI   : 07
    SCOPUS   : 18
    DOI   : 05
    Technical reports : 23

Text Books:
1. Mobile and Cellular Communication (Including 5G & Beyond and Microstrip Antennas), Paramount Book Distributors, 2024.

International Journals:
1. G Sateesh Kumar, M N V S S Kumar, G Sasi Bhushana Rao, "GPS Signal Short-Term Propagation Characteristics Modeling in Urban Areas for Precise Navigation Applications", Journal of Positioning, 2013, 4, 192-199 **(DOI)**.
2. Bharathi Bidikar, G.Sasibhushan Rao, Ganesh Laveti, M.N.V.S.S.Kumar, "Satellite Clock Error and Orbital Solution Error Estimation for Precise navigation Applications", Positioning journal (Scientific-Research), Vol.5, pp:22-26, Feb-2014. (http: //dx.doi.org /10.4236/pos.2 014.51003) **(DOI)**.

3. M N V S S Kumar, et. al, "Extraction of 3-Dimensional Features by Analyzing Underwater Images obtained from SONAR fitted on Autonomous Underwater Vehicle (AUV)" CIIT International Journal of Digital Image Processing, Vol.2, Iss.2, February 2010.

4. M N V S S Kumar, et. al, "Segmentation of Sonar Images based on Adaptive Thresholding with Image Histogram", CIIT International Journal of DIP, Vol. 2, Iss. 3, March 2010.

5. M N V S S Kumar, et. al, "Extraction of 3D Object Signatures from Images Obtained from Sonar Fitted on AUV", International Journal of Engineering Research and Applications, Vol. 1, Issue 4, pp.1635-1639.

6. M N V S S Kumar, et. al, "Turbo Coding Based High Performance Technique to Minimize Privacy and Safety Issues in RFID", International Journal of Engineering Research and Applications, Vol. 1, Issue 3, pp.879-883.

7. M N V S S Kumar, et. al, "Development of Image Fusion Algorithm for Impulse Noise Removal in Digital Images using the quality Assessment in Spatial Domain", International Journal of Engineering Research and Applications, Vol. 1, Issue 3, pp.786-792.

8. M N V S S Kumar, et. al, "An Overview of Software Testing in Medical System and Medical Device Testing", International Journal of Advanced Engineering Sciences And Technologies, Vol No. 8, Issue No. 1, 080 – 085, 2011.

9. M N V S S Kumar, et. al, "GPS Satellite Transmitted Signal SNR modeling over Low Latitude Region for Aircraft Navigation", International Journal of Advanced Engineering Sciences and Technologies, Vol. 12, Iss. 1, 29-33, 2011.

10. POPEL, Elena; DEEPTI, M. Vijaya; KUMAR, M.N.V.S.S.. Software Quality Assurance and Activities in Software Development Life Cycle. Software Engineering and Technology, [S.l.], v. 3, n. 6, p. 262-265, Jun. 2011. ISSN 0974 – 9632.

11. M N V S S Kumar, et. al, "A New Image Synthesis Algorithm for Detection of Underwater Objects from Sector Scan SONAR for Navigation of AUV", International Journal of Graphics and Image Processing, Vol. 2, Iss. 3, 2012.

12. M N V S S Kumar, et. al, "Effect of Range Resolution on the performance of Monotonic and Chirp Technology Sonar", CIIT International Journal of Digital Signal Processing, 2014.

13. M N V S S Kumar, et. al " Design of Biorthogonal Wavelets Based on Parameterized Filter for the Analysis of X-ray Images", Computational Intelligence in Data Mining - Volume 2, Smart Innovation, Systems and Technologies Volume 32, 2015, pp 99-110 Springer India, 11 Dec 2014 **(Scopus)**.

14. P.M.K.Prasad, G.Sasi Bhushana Rao, M.N.V.S.S Kumar," Implementation of MRA based Biorthogonal Wavelets for Edge Feature Extraction of X-ray Images" International Journal of Graphics & Image Processing ISSN:2249 – 5452 Vol.5 Issue 1 Feb.2015 , pp.11-18.

15. G.Sasi Bhushana Rao,P.M.K.Prasad, M.N.V.S.S Kumar,"Investigation of various orthogonal wavelets for precise analysis of X-ray images" International Journal of Engineering Research and Applications, ISSN : 2248-9622, Vol. 5, Issue 2(Part 3), February 2015, pp.24-32.

16. Ganesh Laveti, G.Sasibhushana Rao, K.Jhansi Rani, M.N.V.S.S.Kumar, "GPS Receiver Position Estimate with Least Squares and Linear Quadratic Estimator", International Journal Of Advanced Engineering, Vol 1, issue 1, March 2015.

17. Bharati Bidikar, G Sasibhushana Rao, L Ganesh, MNVS Santosh Kumar, "Satellite SET Correction for Precise Medium Earth Orbit Estimation", International Journal Of Advanced Engineering, Vol 1, issue 1, March 2015.

18. P .M. K. Prasad, M.N.V.S.S. Kumar, G.Sateesh kumar , G.Sasi Bhushana Rao, "Performance Analysis of Edge Detection Methods for X-ray images in Spatial domain", International Journal Of Advanced Engineering, Vol 1, issue 1, March 2015.

19. P .M. K. Prasad, M.N.V.S.S. Kumar, G.Sasi Bhushana Rao, "Performance Analysis of Biorthogonal Wavelets For Edge Feature Extraction of X-Ray Images Based on Parameterized Filter Design", International Journal of Applied Engineering Research, ISSN 0973-4562 Volume 10, Number 5 (2015) pp. 11979-11993 **(Scopus)**.

20. M N Mani, G S Rao, K S Prasad, L Ganesh, M N V S S Kumar, "A new method of target tracking by EKF using bearing and elevation measurements for underwater environment", Robotics and Autonomous Systems, Elsevier, August 2015 **(SCI)**.

21. L. Vijaya Lakshmi, A. Jaya Laxmi, M N V S S Kumar, P Sirish Kumar, "Radar Target Characteristics Extraction using Polarization Scattering Matrix", CIIT International Journal of Digital Signal Processing, Vol.7, No.5, 2015.

22. Bharathi Bidikar, G.Sasibhushana Rao, L.Ganesh, M.N.V.S.S Kumar, "GPS C/A Code Multipath error Estimation for Surveying applications in Urban Canyon", Springer LNEE Series on Microelectronics, Electromagnetics and Telecommunications, Volume 372, pp:135-142, ISBN-978-81-322-2728-1, Dec-2015 **(Scopus)**.

23. Bharati Bidikar, G Sasibhushana Rao, M N V S Santosh Kumar, "Orthogonal Decomposition Algorithm for Ionospheric Delay Estimation for Precise GPS Applications", Elsevier International Conference on Computational Modelling and Security, Bangalore, pp: 620-625, Feb-2016. (Procedia Computer Science Journal) **(Scopus)**.

24. Ganesh laveti, G.Sasibhushana Rao, D.Eswara Chaitanya, M.N.V.S.S.Kumar, "TDOA measurement based GDOP analysis for radio source localization", Elsevier International Conference on Computational Modeling and Security, Bangalore, pp: 722-728, Feb-2016. (Procedia Computer Science Journal) **(Scopus)**.

25. M N V S S Kumar, G.Sasibhushana Rao, L.Ganesh, Rajkumar Goswami, "Expectation-Maximization based image fusion algorithm for detection of Underwater targets from SONAR images", Elsevier International Conference on Computational Modeling and Security, Bangalore, pp: 762-769, Feb-2016. (Procedia Computer Science Journal) **(Scopus)**.

26. Bharati Bidikar, M N V S Santosh Kumar, L Ganesh & G Sasibhushana Rao, "Orthogonal Decomposition Based Algorithm For Signal Propagation Delay Estimation", TJPRC: Journal of Power Systems, & Microelectronics (TJPRC: JPSM), Vol. 2, Issue 1, Jun 2016, 35-40.

27. Bharati Bidikar, G Sasibhushana Rao, L.Ganesh and M.N.V.S.Santosh, "A Novel Multipath Mitigation Technique for SPSGPS Receivers in Indian Urban Canyons",

Springer LNEE Series, Video Surveillance for Sensor Platforms, ISSN: 1876-1100, **(SCOPUS Indexed)**.

28. M.N.V.S.S Kumar, "Design of Area Efficient Conditional CMOS 8-bit Magnitude Comparator", International Journal & Magazine of Engineering, Technology, Management and Research, Vol 5, Issue 11, 50-55, 2320-3706, Oct, 2016.

29. M.N.V.S.S Kumar, "Design of High Directive Planar Antenna using Schelkunoff Polynomial", CIIT Journal of Wireless Communication, Vol 8, No 4 , 140-143, 0974 – 9756, April, 2016.

30. M.N.V.S.S Kumar, "Handoff Probability Analysis of GSM Cellular Network", CIIT Journal of Wireless Communication, Vol 8, No 3, 0974 – 9756, March, 2016.

31. G Sateesh Kumar, M N V S S Kumar, G Sasi Bhushana Rao, "GPS Position Estimation Using Integer Ambiguity Free Carrier Phase Measurements", International Journal of Engineering and Technology (IJET), Vol 8 No 6 Dec 2016-Jan 2017, DOI: 10.21817/ijet/2016/v8i6/160806229 **(Scopus)**.

32. Ch. Rajasekhara Rao , M. N. V. S. S. Kumar and G. Sasi Bhushana Rao, "MRI Brain Tumour Segmentation and it's 3D Construction", ARPN Journal of Engineering and Applied Sciences, VOL. 12, NO. 17, September 2017 **(Scopus)**.

33. P.M.K. Prasad; G. Sasibhushana Rao; M.N.V.S.S. Kumar; K. Chiranjeevi, "Design and implementation of non-perfect reconstruction biorthogonal wavelets for edge detection of X-ray images", Int. J. of Data Science, 2018 Vol.3, No.1, pp.50 – 67.

34. Ch.Rajasekhara Rao, M N V S S Kumar, G Sasi Bhushana Rao, " A Unique Algorithm for MRI Brain Tumor Segmentation and it's 3D Visualization", International Journal Of Scientific Progress and Research (IJSPR), Issue 122, Volume 43, Number 02, January 2018.

35. Ch.Rajasekhara Rao, M N V S S Kumar, G Sasi Bhushana Rao, "Investigation of Optimal Denoising Filter for MRI Images", International Journal of Applied Engineering Research, ISSN 0973-4562, Volume 13, Number 15 (2018) pp. 12264-12271.

36. S Umamaheswararao, M N V S S Kumar, R Madhu, "Investigation of underwater sound wave propagation characteristics for channel modelling", International Journal of Engineering & Technology, 7 (4) (2018) 5147-5150, DOI: doi: 10.14419/ijet.v7i4.17714 **(Scopus)**.

37. Ch.Manohar kumar, M N V S S Kumar, Ch. Rama Krishna, "CIRCULAR SLOTTED MULTIBAND ANTENNA FOR X-BAND AND KA-BAND APPLICATIONS", International Journal of Research and Analytical Reviews (IJRAR), ISSN 2348-1269, Volume 6, Number 1 (2019).

38. Ch.Manohar kumar, M N V S S Kumar, "EFFECT OF METAMATERIAL ON A TRIANGLE SHAPED MULTI-BAND PATCH ANTENNA", Journal of Emerging Technologies and Innovative Research (JETIR), ISSN 2349-5162, Volume 6 Issue 3, March-2019 **(Scopus)**.

39. Ch. Manohar kumar, M N V S S Kumar, "A Compact Ultra-Wide Band Rhombus Shaped Fractal Antenna With Metamaterial In the Ground Plane", International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6, August 2019 **(Scopus)**.

40. Ch. Manohar kumar, M N V S S Kumar, "A Rhombus Shaped Metamaterial Inspired Antenna In The Ground Plane For X Band Applications", International Journal of

Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8, Issue-1, May 2019 **(Scopus)**.

41. Ch. Usha Kumari, N. Madhusudhana Rao, M.N.V.S.S Kumar, Kishore Pinninti, M Pala Prasad Reddy, "Benign and Malignant Tumor Classification using Machine Learning Technique", International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8, Issue-3, September 2019 **(Scopus)**.

42. Sanapala Umamaheswararao , M.N.V.S.S Kumar and R Madhu, "Enhancing the spectral efficiency and energy efficiency of underwater channel communication by optimal cooperative spectrum sensing using hybrid ptimization", International Journal of Communication Systems, Wiley, 27 April 2020 **(SCI)**.

43. P.Kishore, Ch.Usha, Kumar, M.N.V.S.S.Kumar and T.Pavani **"**Detection and analysis of Alzheimer's disease using various machine learning algorithms", Materials today Proceedings, Elsevier, 10th September, 2020 **(Scopus).**

44. M. KrishnaMonika, N.Arun Vignesh, Ch.Usha Kumari, M N V S S Kumar and E. LaxmiLydia "Skin cancer detection and classification using machine learning", Materials today Proceedings, Elsevier, 15th August, 2020 **(Scopus)**.

45. Ch.Usha Kumari, E.Laxmi Lydia, A.Sampath Dakshina Murthy and M.N.V.S.S Kumar, "Designing of wireless sensor nodes for providing good quality drinking water to the public", Materials today Proceedings, Elsevier, 14th August, 2020 **(Scopus)**.

46. Koduri Sreelakshmi, Gottapu Sasibhushana and M. N. V. S. S. Kumar, "A Compact Grounded Asymmetric Coplanar Strip-Fed Flexible Multiband Reconfigurable Antenna for Wireless Applications", IEEE Access (IF 3.745) Pub Date : 2020-10-26 , DOI: 10.1109/access.2020.3033502. **(SCI)**

47. Ch. Manohar kumar, M N V S S Kumar, "Performance of patch antenna through varying structure and positions", Indian Journal of Radio & Space Physics Vol 50, June 2020, pp 95-99. **(Scopus)**

48. Sanapala Umamaheswararao , M.N.V.S.S Kumar and R Madhu, "Improvement of Spectral and Energy Efficiency of Underwater Channel Communication", AMA, Volume 52, Issue 01, October, 2021 **(SCI)**.

49. M. N. V. S. S. Kumar, D. Eswara Chaitanya, L. Ganesh, and T. Sri Sudha, "An Automated Breast Cancer Detection by Heuristic-Based Ensemble Deep Classifier Using Mammogram and Tomosynthesis Images" Biomedical Engineering: Applications, Basis and Communications, Vol. 36, No. 02, 2450001 (2024). **(Scopus)**

50. M.N.V.S.S. Kumar, Sanapala Ramkishore, G. Sateesh Kumar, Sanapala Umamaheswararao, "Communication efficiency enhancement in underwater wireless sensor networks", International Journal of Computational Vision and Robotics, 2024, DOI: 10.1504/IJCVR.2024.10064408. **(Scopus)**

National Journals:

1. M N V S S Kumar, et. al, "Performance analysis of Collision Alleviating DCF Protocol in congested wireless networks - A Markov chain analysis", IET Networks, Vol. 2, Iss.4, 2013 **(SCI)**.

2. M N V S S Kumar, et. al, "GPS Position Error Analysis for Precise Surveying and GAGAN Applications over the Indian Subcontinent", Journal of Indian Geophysical Union, (October 2010), Vol.14, No.4, pp.245-250 **(SCI)**.

3. M N V S S Kumar, et. al, "GPS L1 Signal Pseudorange Error Analysis Using TEQC", The IUP Journal of Telecommunications, Vol. III, No. 3, August 2011, pp. 54-60 **(Peer Reviewed)**.

4. M N V S S Kumar, et. al, "Surface Reconstruction of 3D Underwater Object from 2D Images obtained from Sector Scan Sonar fitted on AUV", Journal of Communication, Navigation and Signal Processing, 2nd Issue, Vol. 1, July 2012.

5. M N V S S Kumar, et. al, "GPS signal Rician fading model for precise navigation in urban environment", Indian Journal of Radio & Space Physics, Vol 42, June 2013, pp 192-196 **(SCI)** .

6. Bharati Bidikar, G.Sasi Bhushana Rao, M.N.V.S.S Kumar "Neutral Atmospheric Delay Effects on GPS C/A Code for Precise Navigation Applications", The IUP Journal of Telecommunications, Vol. VII.No.1, pp:48-54, February 2015**(Peer Reviewed)**.

7. M. N. V. S. S. Kumar, "A new approach for tracking moving objects in underwater environment", CURRENT SCIENCE, VOL. 110, NO. 7, 10 APRIL 2016, doi: 10.18520/cs/v110/i7/1315-1323 **(SCI)**

International Conferences:

1. M N V S S Kumar, et. al, '2D to 3D Conversion of Underwater Images obtained from SONAR fitted on Autonomous Underwater Vehicle (AUV)', IEEE TENCON 2009, Singapore.

2. M N V S S Kumar, et. al, 'Accurate TEC determination Using Integer cycle Ambiguities estimation for Civil Aviation Application', International symposium on Opportunities and Challenges Facing Aviation Industry in Indian Subcontinent, April 18th 2009.

3. M N V S S Kumar, et. al, 'A New Image Processing Segmentation Algorithm for Navigation and Guidance of an Underwater Robot', International Conference on Statistics, Probability, Operations Research, Computer Science and Allied Areas, Jan 4-8, 2010.

4. M N V S S Kumar, et. al, 'Extraction of 3D Information from 2D Underwater SONAR Images', International Conference on Statistics, Probability, Operations Research, Computer   Science and Allied Areas, Jan 4-8, 2010.

5. M N V S S Kumar, et. al, 'Analysis of Impact of Change of States on Implementation of Rate 1/3, 8 PSK TCM Scheme in Digital Communication over AWGN Channel', International Conference on Statistics, Probability, Operations Research, Computer Science and Allied Areas, Jan 4-8, 2010.

6. M N V S S Kumar, et. al, 'Bit Error Rate Analysis of IEEE 802.11g Physical Layer for Mandatory and Optional Modes', International Conference on Statistics, Probability,   Operations Research, Computer Science and Allied Areas, Jan 4-8, 2010.

7. M N V S S Kumar, et. al, 'Performance Analysis of Linear and Nonlinear Spatial Filters for Noise Reduction in Image Processing', International Conference on

Statistics, Probability, Operations Research, Computer Science and Allied Areas, Jan 4-8, 2010.

8. M N V S S Kumar, et. al, 'Analysis of SONAR Images to Extract 3Dimensional Parameters', International Conference on Aerospace Electronics, Communications and Instrumentation, Jan 6th – 7th, 2010, at V. R. Siddhartha engineering College.

9. M N V S S Kumar, et. al, 'Suitability of Average, Gaussian, and Median Filters for Processing Under Water Sonar Images', International Conference on Aerospace Electronics, Communications and Instrumentation, Jan 6th – 7th, 2010, at V. R. Siddhartha engineering College.

10. M N V S S Kumar, et. al, "Calculation of 3-Dimensional Aspects of Underwater Objects from 2-Dimensional Sonar Images", International conference on Embedded Systems, July 14th -16th 2010 at Coimbatore Institute of Technology.

11. M N V S S Kumar, et. al, "Reconstruction of Ambiguity Resolved Carrier Phase measurements based Ionospheric parameters using Tomography", International conference on Mobile Internet Devices, ICMID – 2010, Hyderabad, December 17th to 18th 2010.

12. M N V S S Kumar, et. al, "Wireless Underwater Channel Modeling for SONAR Data Communication", International conference on Mobile Internet Devices, ICMID – 2010, Hyderabad, December 17th to 18th 2010.

13. M N V S S Kumar, et. al, "Performance Evaluation of Standard Positioning Service GPS receiver with LS and LQ Estimators over Southern Region of Indian Sub Continent", IEEE ICSEMR 2014, Chennai, November 27-29, 2014.

14. M N V S S Kumar, et. al, "Convergence Issues of Taylor Series Method in Determining Unknown Target Location Using Hyperbolic Multi-lateration", IEEE ICSEMR 2014, Chennai, November 27-29, 2014, **(IEEE Digital Xplore, DOI:10.1109/ICSEMR.2014.7043670).**

15. M N V S S Kumar, et. al, "Analysis of X-Ray images using MRA based Biorthogonal wavelets for detection of minute fractures", IEEE ICSEMR 2014, Chennai, November 27-29, 2014.

16. M N V S S Kumar, et. al, "Design of Biorthogonal wavelets based on parametrized filter for the analysis of X-Ray images", ICCIDM'2014 Springer Conference, Veer Surendra Sai University of Technology, Burla, Sambalpur-768018, Odisha, India.

17. Bharathi Bidikar, G.Sasibhushana Rao, L.Ganesh, M.N.V.S.S Kumar, "GPS C/A Code Multipath error Estimation for Surveying applications in Urban Canyon", Springer LNEE Series on Microelectronics, Electromagnetics and Telecommunications, Volume 372, pp:135-142, ISBN-978-81-322-2728-1, Dec-2015.

18. Ganesh Laveti, G.Sasibhushana Rao, D.Eswara Chaitanya, M.N.V.S.S.Kumar, "TDOA Measurement Based GDOP Analysis for Radio Source Localization", Elsevire International Conference on Computational Modeling and Security (CMS 2016), Bangalore, India, Feb 12-13, 2016.

19. Bharati Bidikar, G Sasibhushana Rao, L.Ganesh and M.N.V.S.Santosh, "Orthogonal Decomposition Algorithm for Ionospheric Delay Estimation for Precise GPS Applications", Elsevire International Conference on Computational Modeling and Security (CMS 2016), Bangalore, India, Feb 12-13, 2016.

20. M N V S S Kumar, G Sasibhushana Rao, "A Heuristic 3D Construction Algorithm for Detection of Tumour in Magnetic Resonance Imaging Slices", International

Conference on Hybrid and Composite Materials,chemical processing:HCMCP-2016, St.Peter's Engineering College, Hyderabad, Sep 25-27, 2016.

21. Ch.Rajasekhara Rao, M N V S S Kumar, and G Sasi Bhushana Rao, "A Novel Segmentation algorithm for feature extraction of Brain MRI Tumor" The 6th International Conference on Frontiers of Intelligent Computing: Theory and applications (FICTA),14th and 15th OCT 2017 at KIITU Bhubaneswar.
22. Sandeep B, M.N.V.S.S Kumar, Umamahesh S, Santosh. P, Ganesh. L "Online Ocean monitoring using Edge IoT", IEEE-MTS Global Oceans 2020: Singapore- U.S. Gulf Coast.
23. M.N.V.S.S Kumar, Sandeep B, Umamahesh S, Santosh P, "Design of Underwater Software Acoustic Modem (USAM) for Applications of Acoustic Data Communications", IEEE-MTS Global Oceans 2020: Singapore- U.S. Gulf Coast
24. Sandeep Battula, MNVSS Kumar, Santosh P, "In Search of Wholeness: Detecting Dark Matter", International Conference Series on History of Physics-2021, by Cambridge University, IOP Science, June 2021.
25. Sandeep Battula, MNVSS Kumar, Santosh P, "Discovering Habitable Exo-planets using Vernier based Optical Frequency Combs", Planetary Atmospheres: from Earth and Beyond, London University, IOP Science, June 2021.
26. Sandeep Battula, MNSS Kumar, Santosh P, "Ultra Rapid Vibrational Spectroscopy using Vernier based Optical Frequency Microcombs", Condensed Matter and Quantum Materials (CMQM-2021), University of Bristol, IOP Science, June 2021.

National Conferences:
1. M N V S S Kumar, et. al, 'Digital Image Processing' in SATECS, a National level Technical Symposium in Andhra University.
2. M N V S S Kumar, et. al, 'Improved Integrity Monitoring Using CFAR algorithm for Satellite Fault Detection' in Recent Advances in Communication Engineering an International Conference at Osmania University.
3. M N V S S Kumar, et. al, 'Segmentation Methods of the Sonar Images-A Comparison' in Aastha'08 a National level Technical Symposium.
4. M N V S S Kumar, et. al, 'Accurate Satellite Signal Strength Measurement using Transmission Parameters Modeling' in National Symposium on Instrumentation (NSI-33), Andhra University.
5. M N V S S Kumar, et. al, 'Statistical Analysis of Underwater Acoustic Signal in the presence of Gaussian and Colored Noise', RF and Signal Processing Systems-2010, Jan 7-9, 2010.
6. M N V S S Kumar, et. al, 'Extraction of 3-Dimensional parameters by Analyzing Underwater Images obtained from SONAR fitted on Autonomous Underwater Vehicle (AUV)', RF and Signal Processing Systems-2010, Jan 7-9, 2010.
7. M N V S S Kumar, et. al, 'Conversion of Underwater 2d Sonar Images to 3d', National Conference on Advances in Signal Processing, Nov 20-21, 2009.
8. M N V S S Kumar, et. al, 'An Optimal Image Signal Processing Model for Underwater Navigation', National Conference on Advances in Signal Processing, Nov 20-21, 2009.

9. M N V S S Kumar, et. al, '2D to 3D Conversion of Underwater Images obtained from SONAR fitted on Autonomous Underwater Vehicle (AUV)', National Symposium on Acoustics NSA-09, Nov 26-28, 2009 at RCI, Hyderabad.

10. M N V S S Kumar, et. al, 'A New Image Segmentation Thresholding Technique for Precise processing of Sector Scan SONAR images', National Symposium on Acoustics NSA-09, Nov 26-28, 2009 at RCI, Hyderabad.

11. M N V S S Kumar, et. al, "A 16 Bit CRC Error Detection Scheme proposal for Reliable Transmission of SONAR data", National conference on Recent Advances in DSP, Embedded systems, VLSI, Image Processing, Communication & Electronics Engineering In Association with IEEE Hyderabad Section, Device – 2010, Visakhapatnam, November 13th to 14th 2010.

12. M N V S S Kumar, et. al, "GPS Position Error Analysis Comparison Using Point Solution Approach And Least Squares Approximation Algorithms For Surveying And Gagan Applications", National conference on Recent Advances in DSP, Embedded systems, VLSI, Image Processing, Communication & Electronics Engineering In Association with IEEE Hyderabad Section, Device – 2010, Visakhapatnam, November 13th to 14th 2010.

13. M N V S S Kumar, et. al, "QAA Based Underwater Targets Detection", Advances in Communciation Technologies (NCACT-12), January 9th -10th 2012.

14. M N V S S Kumar, et. al, "3D Surface Reconstruction from Point Clouds obtained from 2D Sonar Images Using Triangulation", National IETE Conference on Advanced Communication and Computer Technologies, July 6th – 7th, 2012.

15. M N V S S Kumar, et. al, "Development of Image Synthesis Algorithm for Detecting Underwater Targets from SONAR Images", National IETE Conference on Advanced Communication and Computer Technologies, July 6th – 7th, 2012.

16. M N V S S Kumar, et. al, "Edge Feature Extraction of X-ray bone image using Haar wavelet transform", National IETE Conference on Advanced Communication and Computer Technologies, July 6th – 7th, 2012.

17. M N V S S Kumar, et. al, "A New Algorithm for 3D Surface Reconstruction from Point Clouds obtained from 2D Sonar Images Using Triangulation", NAVCOM-2012, Osmania University, Hyderabad, December 19th – 20th, 2012.

18. M N V S S Kumar, et. al, "Performance analysis of Monotonic and Chirp Technology Sonar in terms of Range Resolution", NCCCI-2012, Gitam University, Hyderabad, December 20th – 21st, 2012.

19. M N V S S Kumar, et. al, "3D Surface Reconstruction from Data Set obtained from 2D Sonar Images", ARCNET-2013, NSTL, Visakhapatnam, September, 2013.

20. M N V S S Kumar, et. al, "Adaptive Hysteresis Based Handoff Algorithm for GSM Cellular System", ARCNET-2013, NSTL, Visakhapatnam, September, 2013.

21. M N V S S Kumar, et. al, "Radar Target Characteristics Extraction using Polarization Scattering Matrix", ARCNET-2013, NSTL, Visakhapatnam, September, 2013.

22. M N V S S Kumar, et. al, "A Fast Computing Vertical Handoff Algorithm Based on Dynamic New Call Blocking Probability", ARCNET-2013, NSTL, Visakhapatnam, September, 2013.

23. M N V S S Kumar, et. al, "Satellite signal emission time correction for precise geosynchronous orbital solutions", NCRRECE, CRR College of Engineering, 24th & 25th, January 2014.

24. M N V S S Kumar, et. al, "Performance analysis of Least Squares and Linear Quadratic Estimator over southern region of Indian subcontinent", HKBKCE, Bengaluru, 5 June 2014.

25. M N V S S Kumar, et. al, "Analysis of Chirp Technology Sonar mounted on AUV", IEEE NECICASPC – 2K14, Narasaraopeta Engineering College, Narasaraopeta, 4th & 5th JULY, 2014.

26. M N V S S Kumar, et. al, "Analysis of X-Ray images based on orthogonal wavelets for detection of minute fractures", IEEE NECICASPC – 2K14, Narasaraopeta Engineering College, Narasaraopeta, 4th & 5th JULY, 2014.

27. M N V S S Kumar, et. al, "Hyperbolic multilateration to determine location of an unknown target", IEEE NECICASPC – 2K14, Narasaraopeta Engineering College, Narasaraopeta, 4th & 5th JULY, 2014.

28. M N V S S Kumar, et. al, "A Novel SET Estimation Algorithm for Precise Geosynchronous Orbital Solutions", 11th -13th Dec 2014, IEEE INDICON, Pune, **(IEEE Digital Xplore, DOI: 10.1109/INDICO N.2014.7030413).**

29. M N V S S Kumar, et. al, "A Novel TOA Measurement Based Global Evolutionary Search Estimator for Defence Applications", IEEE conference EESCO-2015, Vignan, 24th – 25th January, 2015.

30. G. Sasi Bhushana Rao, P M K Prasad and MNVSS Kumar "Edge feature extraction of X-rays images based on spatial domain techniques", IEEE Technically Co-sponsored conference on Emerging trends in Signal Processing And Communication Engineering, ESPACE-2015, Tekkali, February 20th -21st 2015.

31. Bharati Bidikar, G. Sasi Bhushana Rao, L.Ganesh and MNVS Santosh Kumar "Satellite Signal Emission Time Correction for Precise Medium Earth Orbit Estimation", IEEE Technically Co-sponsored conference on Emerging trends in Signal Processing And Communication Engineering, ESPACE-2015, Tekkali, February 20th -21st 2015.

32. Ganesh Laveti, G. Sasi Bhushana Rao, K Jhansi Rani, MNVSS Kumar and D.Eswara Chaitanya "DFGPS Receiver Performance Analysis with LS and LQ Estimators", IEEE Technically Co-sponsored conference on Emerging trends in Signal Processing And Communication Engineering, ESPACE-2015, Tekkali, February 20th -21st 2015.

33. D. Eswara Chaitanya, G. Sasibhushana Rao, L.Ganesh, M.N.V.S.S Kumar,G. Rajeswara Rao, "A Study of Measurement Errors in Hyperbolic Multilateration", NECICASPC-2K15, 13th – 14th July, 2015.

34. Bharati Bidikar, G Sasibhushana Rao, L Ganesh and MNVS Santosh Kumar, " Tropospheric and Satellite Clock Error effects on GPS C/A Code Range Measurements" NECICASPC-2K15, 13th – 14th July, 2015.

35. Ganesh Laveti , M.N.V.S.S Kumar, D.Eswara Chaitanya, Rajkumar Goswami, G.Sasibhushana Rao, "Investigation of Suitable Position determination Algorithm for GPS Application", Second National Conference on Power Systems (NCPS-2015), Andhra University, Visakhapatnam, India.

36. Bharati Bidikar, M N V S Santosh Kumar, L Ganesh, G Sasibhushana Rao,"Signal Propagation Time Delay Estimation using Eigenvector Algorithm", Second National Conference on Power Systems (NCPS-2015), Andhra University, Visakhapatnam, India.

37. M N V S S Kumar, G Sateesh Kumar, "Design of Low Interference High Directive Planar Antenna with Schelkunoff Polynomial method", NECICASPC-2K15, 13th – 14th July, 2015.

Technical Reports:
1. Technical report submitted on NSTL(DRDO) consultancy project (NSTL/NA/9162/AUV/Consultancy/04 November 2007) entitled "Extraction of Obstacle aspects from the Images received from a Sector Scan Sonar (SSS) fitted On board a AUV Phase-II ", (No: AUCE/ECE/NSTL/Consultancy/04 July 2010).
2. Technical report submitted on NSTL (DRDO) CARS project (NSTL\NA\9162\AUV\CARS\2 dated 29th January 2010) entitled "Design and Development of suitable coding algorithm for improving the BER in respect of underwater channel Phase-I", (Technical Report No: AUCE/ECE/NSTL\NA\9162\AUV\CARS\ I \ MAY 2010).
3. Technical report submitted on NSTL(DRDO) CARS project (NSTL\NA\9162\AUV\CARS\2 dated 29th January 2010) entitled "Design and Development of suitable coding algorithm for improving the BER in respect of underwater channel Phase-I", (Technical Report No: AUCE/ECE/NSTL\NA\9162\AUV\CARS\ II \ JULY 2010).
4. Technical report submitted on CSIR project (CSIR project sanction File No : 22(0440)/07/EMR-II dated 23-10-2007) entitled "An Innovative Approach for Modeling of Total Electron content of Ionosphere from GPS Aided Geo Augmented navigation receiver data in the context of Indian Subcontinent Phase-III", (Technical Report No: AU\ECE\CSIR\EMR\GSR\Feb\2010\3).
5. Technical report submitted on AICTE-NCP project (Sanction Ltr No: 8023/RID/BOIII/NCP (1.)/2007-2008 dated 13.03.2009) entitled "Range error estimation in Global Navigation Satellite System based on secured Positioning for GPS Aided Geo Augmented Navigation (GAGAN) and Long range missile application Phase I" (Technical Report No: AU/ECE/AICTE/GSR/May/2010/1).
6. Technical report submitted on "An Innovative Approach for Modeling of Total Electron content of Ionosphere from GPS Aided Geo Augmented navigation receiver data in the context of Indian Subcontinent", No. AUCE/ECE/CSIR/EMR/GSR/Feb/2010/3 Oct.,2009 Andhra University, Visakhapatnam (Submitted to CSIR, Govt. of India, New Delhi).
7. Technical report submitted on "An Innovative Approach for Modeling of Total Electron content of Ionosphere from GPS Aided Geo Augmented navigation receiver data in the context of Indian Subcontinent", No. AUCE/ECE/CSIR/EMR/GSR/Feb/2010/2 Nov., 2009 Andhra University, Visakhapatnam (Submitted to CSIR, Govt. of India, New Delhi).
8. Technical report submitted on "An Innovative Approach for Modeling of Total Electron content of Ionosphere from GPS Aided Geo Augmented navigation receiver data in the context of Indian Subcontinent", No. AUCE/ECE/CSIR/EMR/GSR/Feb/2010/1 Nov., 2008 Andhra University, Visakhapatnam (Submitted to CSIR, Govt. of India, New Delhi).
9. Technical report submitted on "Extraction of Obstacle Aspects from the Images received from a Sector Scan Sonar (SSS) fitted Onboard a AUV Phase II", No.

AUCE/ECE/NSTL/2008/2, Andhra University, Visakhapatnam, March 2009 (Submitted to DRDO, NSTL).

10. Technical report submitted on "Extraction of Obstacle Aspects from the Images received from a Sector Scan Sonar (SSS) fitted Onboard a AUV Phase III", No. AUCE/ECE/NSTL/2009/3, Andhra University, Visakhapatnam, July 2009 (Submitted to DRDO, NSTL).

11. Technical report submitted on "Imaging of Ionosphere over the Indian subcontinent using GPS Aided Geo Augmented Navigation (GAGAN) Total Electron Content (TEC) Receiver data for Civil Aviation Application", No. AUCE/ECE/UGC/Major Res Proj/GSR/2009/Oct/1, Oct., 2009 Andhra University, Visakhapatnam (Submitted to UGC, Govt. of India, New Delhi).

12. Technical report submitted on "Imaging of Ionosphere over the Indian subcontinent using GPS Aided Geo Augmented Navigation (GAGAN) Total Electron Content (TEC) Receiver data for Civil Aviation Application", No. AUCE/ECE/UGC/Major Res Proj/GSR/2009/Oct/1, Oct., 2009 Andhra University, Visakhapatnam (Submitted to UGC, Govt. of India, New Delhi).

13. Technical report submitted on NSTL(DRDO) consultancy project (NSTL/NA/9162/AUV/Consultancy/04 November 2007) entitled "Extraction of Obstacle aspects from the Images received from a Sector Scan Sonar (SSS) fitted On board a AUV Phase-II ", (No: AUCE/ECE/NSTL/Consultancy/02 March 2009).

14. Technical report submitted on NSTL(DRDO) consultancy project (NSTL/NA/9162/AUV/Consultancy/04 November 2007) entitled "Extraction of Obstacle aspects from the Images received from a Sector Scan Sonar (SSS) fitted On board a AUV Phase-II ", (No: AUCE/ECE/NSTL/Consultancy/03 July 2009).

15. Technical report submitted on CSIR project (CSIR project sanction File No : 22(0440)/07/EMR-II dated 23-10-2007) entitled "An Innovative Approach for Modeling of Total Electron content of Ionosphere from GPS Aided Geo Augumented navigation receiver data in the context of Indian Subcontinent Phase-II", (Technical Report No: AU\ECE\CSIR\EMR\GSR\Oct\2009\2).

16. Technical report submitted on UGC project (UGC File. No: 33-93/2007(SR) dated 20-03-2008) entitled ": Imaging of Ionosphere over the Indian subcontinent using GPS aided Geo Augmented Navigation (GAGAN) Total Electron Content (TEC) Receivers for Civil Aviation Application Phase-I", (Technical Report No: AU/ECE/UGC/Major Res proj/GSR/2009/Oct/1).

17. Technical report submitted on NSTL(DRDO) consultancy project (NSTL/NA/9162/AUV/Consultancy/04 November 2007) entitled "Extraction of Obstacle aspects from the Images received from a Sector Scan Sonar (SSS) fitted On board a AUV Phase-I ", (No: AUCE/ECE/NSTL/Consultancy/01 August 2008).

18. Technical report submitted on CSIR project (CSIR project sanction File No : 22(0440)/07/EMR-II dated 23-10-2007) entitled "An Innovative Approach for Modeling of Total Electron content of Ionosphere from GPS Aided Geo Augmented navigation receiver data in the context of Indian Subcontinent Phase-I", (Technical Report No: AU\ECE\CSIR\EMR\GSR\Oct\2008\1).

19. Technical report submitted on UGC project (UGC Major research project Ltr. No. 42-126/2013 (SR), dated 25-03-2013) entitled "Investigation of various navigation solutions using carrier phase measurements b and development of a new algorithm to

determine the precise position",(Technical Report No:AU\ECE\UGC\Major Res proj/GSR\2014/Dec/1).
20. Technical report submitted on DLRL (DRDO) project (DLRL research project Ltr. No. DLRL/ST/001(R)/2014D0083, dated 17-06-2014) entitled "Development of Multilateration algorithm for obtaining 3-D positioning of emitter and determination of optimal distribution of sensors", (Technical Report No: AU\ECE\DLRL\CAPSI/01/ Dec2014).
21. Technical report submitted on DLRL (DRDO) project (DLRL research project Ltr. No. DLRL/ST/001(R)/2014D0083, dated 17-06-2014) entitled "Development of Multilateration algorithm for obtaining 3-D positioning of emitter and determination of optimal distribution of sensors", (Technical Report No: AU\ECE\DLRL\CAPSI/02/ June2015).
22. Technical report submitted on UGC project (UGC Ltr. No. 42-126/2013(SR), dated 25-03- 2013) entitled "Investigation of Various Navigation Solutions using Carrier Phase Measurements and Development of a new algorithm to determine the Precise Position", (Technical Report No: AU/ECE/UGC/Major Res Proj/ GSR/2016/Dec/2).
23. Technical report submitted on UGC project (UGC F. No. 43-310/2014(SR), dated 07-01-2016) entitled "Detection of Mines, Submarines and Mapping of Obstacles using Image Processing for Secured Patrolling of Sea Coast", (Technical Report No: AITAM/ECE/UGC/Major Res proj/ MNVSSK/2017/Feb/1).

Patents:
1. **Patent number:** 2021101248
   Patent Title: A Reconfigurable Quad-Band Antenna Device for Wireless Communication
   Patent Status: Granted
2. **Patent number:** 201941010083
   Patent Title: A System for providing an Automatic Alert to nearby Ambulance during Accidents
   Patent Status: Filed and Published
3. **Patent number:** 202141024318
   Patent Title: Multi-Band Reconfigurable and Flexible Antenna
   Patent Status: Filed and Published

Details of Conferences / Workshops / Refresher Courses Organized:
1. Organized a conference on IEEE Technically Co-sponsored conference on Emerging trends in Signal Processing And Communication Engineering, ESPACE-2015, Tekkali, February 20th -21st 2015.
2. Organized a conference on Advances in Communication. Navigation and Computer Networks (ACNCN-2012), Andhra University, Visakhapatnam.
3. Organized A Two Day Workshop on "Micro Controller Programming In Robotics", 23rd -24th September, 2011.
4. Organized A Two Day Workshop on "MATLAB And It's Applications in Communications & Signal Processing", 12th & 13th November, 2011.

Certifications:

1. Completed "Introduction to Programming with MATLAB" from Vanderbilt University, Coursera on 13th April, 2020.

Details of Conferences / Workshops / Refresher Courses Attended:

S. No.	Dates	Name of The Programme	Host Institution
1	6th Dec, 2014	Outcome based Education	AITAM, Tekkali
2	09th March, 2015	One Day Workshop on Outcome Based Education in Association with IUCEE, Under TEQIP Phase-II	AITAM, Tekkali
3	5th July, 2016	Intellectual property Rights in E & IT Sector	AITAM, Tekkali
4	26th Sep – 1st Oct, 2016	A One-Week Faculty Development Program on "Advances in Communication Technology"	AITAM, Tekkali
5	Dec, 2008	GPS workshop	Osmania University
6	23rd -24th Sep, 2011	A Two Day Workshop on Micro Controller Programming in Robotics	Andhra University
7	12th 13th Nov, 2011	A two day workshop on MATLAB and its Applications	Andhra University
8	5th -7th April, 2013	A three day workshop on Advanced Optimization Techniques for Engineering and Management	GMRIT, Rajam
9	29th August – 3rd Sep, 2016	Faculty Development Program on "Wireless Communication Technologies"	GVPCE, Visakhapatnam
10	04th – 09th, May 2020	Faculty Development Program on "Recent trends in Advanced Communications"	LBRCE, Mylavaram
11	22nd – 26th, June, 2020	Faculty Development Program on "Technological Advances in Wireless Communication Systems"	AITAM, Tekkali
12	11th – 13th, June, 2020	Faculty Development Program on "Mobile Ad Hoc Networks - A Reliability Perspective"	Bhimavaram Institute of Engineering & Technology

(Dr. M N V S S Kumar)