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| a. | Name, Designation, Organization | Dr.P.LAXMINARAYANA Professor and Director Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad - 500007 Ph: +91-40-27098066; Fax +91-40-27091762 |
| b | Date of Birth | 05th June 1968 |
| c | Address (Residential) | A1-8, Teachers Qts, JNTH University, Hyderabad-85 Ph. 09490805486, +91-40-23157787 plaxminarayana@yahoo.com ; laxminarayana@osmania.ac.in |

ACADEMIC QUALIFICATIONS

| Examination Passed | Board /University | Year | Division/ Grade Merit etc. |
|---|---|--------------------------------|-----------------------------------|
| Ph.D. (ECE) | Osmania University | December 2000 | - |
| M.E. (ECE) (Systems and Control Engineering) | Osmania University | November 1992 – August 1994 | First |
| AMIE Sections A & B Electrical Engineering | Institution of Engineers (India) | 1987 - 1990 | First |
| L.E.E. (Diploma) Electrical Engineering | State Board of Technical Education and Training, A.P. | 1983 – April 87 | First |
| S.S.C. | Board of Secondary Education, A.P. | 1982 - 1983 | First |

EMPLOYMENT/EXPERIENCE :

| S.No. | Designation | Organization | Duration |
|--------------|--------------------------------------|--|-------------------------|
| 1. | Professor and Director | Research and Training Unit for Navigational Electronics Osmania University, (NERTU, OU), Hyderabad | August 2015 – till date |
| 2. | Principal Scientist/ Professor | (NERTU, OU) | July 2011 – July 2015 |
| 3. | Senior Scientist/Associate Professor | (NERTU, OU) | July 2005 To June 2011 |
| 4. | Manager | Analog Devices India Pvt.Ltd | July 2003 To June 2005 |
| 5. | Scientist / Assistant Professor | (NERTU, OU) | July 97 to July 05 |
| 6. | Lecturer | University College of Engineering, Osmania University, (UCEOU)Hyderabad | June 97 to July 97 |
| 7. | Lecturer(Part-Time) | UCEOU | April 97 to June 97 |

AREAS OF RESEARCH AND ACADEMIC INTEREST

1. Analysis and Development of Signal Processing Algorithms for
 - a. Global Navigational Satellite Systems
 - b. Speech signal Processing
 - c. Image Processing
 - d. Real Time Signal Processing with DSPs
2. Industry-Institute Interaction: Consultancy and promoting startup companies
3. Popularization of Indian Science and Technology

SUMMARY OF PROJECTS, PUBLICATIONS, GUIDANCE, SHORT COURSES etc.

| | | | | | | | |
|--|-----------|---------------------------|-----------|--------------------|-----------|---------------|-----------|
| Sponsored and Consultancy Projects | 15 | Govt. Sponsored: | 08 | Industry sponsored | 07 | Books | 01 |
| Publications | 60 | Journals | 08 | Technical Reports | 11 | Conferences | 39 |
| Ph.D. Guidance | 07 | Completed | 03 | Submitted | 01 | In Progress | 04 |
| M.E. Guidance | 40 | Completed | 40 | Submitted | 00 | In Progress | 00 |
| Short Term Courses/Workshops Organized | 34 | Invited and Popular Talks | 85 | Invited Talks | 75 | Popular Talks | 10 |
| Papers Presented/participated in Conferences | 18 | Courses attended | 33 | | | | |

AWARDS/SCHOLARSHIPS

1. **Research Exchange Award by Royal Academy of Engineering, UK** to visit Nottingham University, 2011 on GNSS-SDR
2. UGC Scholarship in M.E. by MHRD, Government of India for GATE qualified candidates 1992-1994
3. National Loan Scholarship in Diploma, 1984-1985

MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS/SOCIETIES

1. Fellow of IETE. **(F-222171)**
2. Fellow of Institution of Engineers (India) **(F-1155292)**
3. Senior Member of IEEE **(M-90846426)**
4. Member, Institute of Navigation, (2015-Till date)
5. Member of Indian Science Congress Association **(L-16490)**
6. Member of Acoustical Society of India **(LM-786)**
7. Member of Indian Society for Technical Education **(LM-7331)**
8. Joint Secretary**(2013-2014)**, Member, EC**(2016-till Date)** of OUECE Alumni Association
9. Founder President, Govt. Polytechnic MBNR Alumni Association (GPTMBNRAA) **(2018-Till Date)**

PROFESSIONAL SERVICES/MEMBER of COMMITTEES

1. Member, School Board, School of Computer and Information Sciences, University of Hyderabad **(2018-Present)**
2. Member, Board of Studies for M.Tech. Course on GNSS (offered at Center for Space Science and Technology Education in Asia and the Pacific, SAC-ISRO, Ahmadabad) 2017-2019.
3. Member, Board of Studies of ECE, JtUH University, Hyderabad **(2012-2014)**
4. Member, Board of Studies of ECE, Osmania University, Hyderabad **(2012-Till Date)**
5. Member, Board of studies of ECE in the Following Autonomous Engineering Colleges
 - a. Anurag Group of Institutions, Hyderabad
 - b. BV Raju Institute of Technology, Narsapur, Telangana.
 - c. Anurag Engineering College, Kodad, Telangana
 - d. University College of Engineering, Osmania University (Invitee)
 - e. Kakatiya Institute of Technology and Science, Warangal (EIE)

INDUSTRY SPONSORED PROJECTS

| S.No. | Title of the Project | Funded by | Amount Rs. In lakhs | Duration | Remarks |
|-------|--|---------------------------------------|------------------------|----------------------|--|
| 1 | Development RAIM, TRAIM and Mitigation of Multipath and Interference Effects for NavIC and GPS receivers | BEL | 42.00 | Dec-2021 Aug-2022 | Taken Under Consultancy Trough RDCC by signing an MoA between NERTU-OU and CRL-BEL |
| 2. | DGPS Surveying | GIS Pvt. Ltd. | 03.15 | Nov-2017 Sep-2018 | Taken the consultancy through RDCC, OU |
| 3. | Optimization AMR-WB Speech Codec Optimization | Lantiq Communications India Pvt. Ltd. | 06.20 | Jan-2015 Sep-2015 | Taken the consultancy through RDCC, OU |
| 4. | Multimedia and ADSPS Laboratory | Analog Devices India Pvt.Ltd. | 50.00 (approx) | Nov-2007 Nov-2012 | Establishment of Multimedia and ADSPs laboratory at Dept. of ECE, OU along with Dr.K.Subba Rao |
| 5 | Consultancy to Analog Devices Inc. | Analog Devices India Pvt.Ltd. | 03.76 | Jul-2005 Feb-2006 | Taken the consultancy through RDCC |
| 6 | Establishment and leading a DSP and Audio Processing Technology Group | Analog Devices India Pvt.Ltd. | 200.00 (approx) | Jul-2003 Jul-2005 | Executed at Hyderabad Design Center of ADI by Taking Leave from OU |
| 7 | Integration of GPS and INS using Kalman Filter for better position Accuracy | ECIL | 0.75 | Nov-200 Apr-2002 | Chief-Investigator |

SPONSORED BY THE GOVERNMENT AGENCIES

| S.No | Title of the Project | Funded by | Amount Rs. In lakhs | Duration | Remarks |
|------|---|-------------|---------------------|---------------------------------|--|
| 1 | Transfer of Technologies for Speech-to-Speech Interface for Man-Machine Communication for Humanoid in the Gaganyaan Project | IISU-ISRO | 10.56 | June 2020 to June 2021 | Transfer of Technology |
| 2 | Speech Technologies for Humanoid | ISRO | 38.16 | June 2020 to April 2022 | RESPOND Scheme |
| 3 | Automatic Speech Recognition (ASR) over VOIP and Wireless Networks | UGC | 11.33 | July 2012 To December 2015 | Principal Investigator |
| 4 | Real Time Algorithms Development in Matlab & Implementation Scheme for Analysis of LPI Radar Signals | DLRL (DRDO) | 10.00 | September 2010 To February 2012 | Co-Investigator Along with Mr.Rajaiah and Dr.K.Subba Rao |
| 5 | DPR for “Center for Multimedia and ADSPS Laboratory” | AICTE | 00.50 | February 2006 to November 2006 | Preparation of Detailed Project Report to Establish the Center with Industrial Collaboration |
| 6 | WASS for India–A Test Bed Approach | DOE | 45.01 | 1999-2002 | Co-Investigator |
| 7 | Fuzzy Logic Applications in Medical Diagnostics | AICTE | 07.00 | 1997-2000 | Co-Investigator |
| 8 | Wide Area Differential Global Positioning Systems | DTSR (DRDO) | 05.30 | 1995-1997 | Associate |

PUBLICATIONS

Books and Edited Volumes

1. Chari, N., M.V.S.S.S.M., Prasad, **Laxminarayana, Parayitam** (Editors), “Biophysics of Insect Flight”, Nature Singapore Pte Ltd, December 2021. ISBN 978-981-16-5183-0, DOI: 10.1007/978-981-16-5184-7.

Journals

2. Srinu, Chittimalla, **Parayitam, Laxminarayana**, “Development of Low-cost PC-based Real-time IRNSS/NavIC L5 Software receiver”, *Navigation, Journal of The Institute of Navigation* (Communicated and under revision Based on First Review).
3. P.Mythilisharan, **P.Laxminarayana**, A.V.Ramana “Development of LVCSR system for Indian Language -Telugu” *International Journal of Speech Technology* (Communicated and under Review).
4. Battula Balnarsaiah, T.S.Prasad, **P.Laxminarayana**, “Classification of Synthetic Aperture Radar-Ground Range Detected Image using Advanced Convolution Neural Networks”, *Remote Sensing in Earth Systems Science*, *Journal of RSESS*, Springer Publication, Acceptance on November 14th 2020 and Published on 7th January 2021, DOI:10.1007/s41976-020-00042-x.
5. P.Mythilisharan, **P.Laxminarayana**, A.V.Ramana, “Unsupervised Stemmed text corpus for Language Modeling and Transcription of Telugu Broadcast News”, *International Journal of Speech Technology* (Springer), pp. 695–704, Vol.23, No.3, September 2020, <https://doi.org/10.1007/s10772-020-09749-0>
6. Battula Balnarsaiah, T.S.Prasad, **P.Laxminarayana**, “Pixel Based SAR Image Classification using Random Forest Algorithm”, *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, PP:4351-4356, ISSN: 2278-3075, Volume-8 Issue-10, August 2019, , DOI: 10.35940/ijitee.J9873.0881019.
7. P.Mythilisharan, **P.Laxminarayana**, A.V.Ramana, “Real-time transcription, keyword spotting, archival and retrieval for Telugu TV news using ASR”, *International Journal of Speech Technology* (Springer), pp 433-439, Vol.22, No.2, June 2019.
8. P. Hema Sree, **P. Laxminarayana**, K. Subba Rao, “ Robust Face Recognition for blurred images with Iterative Graph based restoration using Linear collaborative Discriminant Regression Classification” *ARPN Journal of Engineering and Applied Sciences*, Vol-13, No.22, pp: 8780-8787, Nov-2018.
9. A.V.Ramana, **P.Laxminarayana**, P.Mythilisharan, “Investigation of ASR Recognition Performance and Mean Opinion Scores for Different Standard Speech and Audio Codecs”, *IETE Journal of Research*, pp. 121-129, Vol.58, No.2, March-April, 2012.

10. **P.Laxminarayana** , S.Harikrishna, R.Annapurna and D.C.Reddy, “*Modeling of Selective Availability for Latency Effect Compensation in WAAS*”, IETE Journal of Research., pp. 147-154, Vol.50, No.2, Mar-Apr. 2004.
11. K.Deergha Rao, **P.Laxminarayana** and K.Chandra Reddy, “*RBF Neural Networks for Transient Identification in Nuclear Power Plants*”, IETE Journal of research, pp. 449-452, Vol. 43, No. 6, Nov-Dec. 1997.

Proceedings of the Conferences/Book Chapters

12. D. Ravindar Reddy, Srinu, Chittimalla, **Parayitam Laxminarayana**, "Implementation of Vector Tracking Software Receiver for NavIC L5 Signals for Robust Autonomous Navigation", Proceedings of International Conference on Theoretical, Applied, Computational and Experimental Mechanics ICTACEM 2021, December 20-22, 2021, IIT Kharagpur, India. (Accepted for Presentation and Publication)
13. **P. Laxminarayana**, S. Saraswathi, Suryanarayan Palleboina and N. Chari “Navigation – A General Overview”, a book Chapter in the book “Biophysics of Insect Flight”, Nature Singapore Pte Ltd, December 2021, pp: 167-186, ISBN 978-981-16-5183-0, DOI: 10.1007/978-981-16-5184-7.
14. Srinu, Chittimalla, **Parayitam Laxminarayana**, "Performance Analysis of NavIC Software Receiver for Single Frequency Ionospheric Delay Corrections," Proceedings of the 34th International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2021), St. Louis, Missouri, September 2021, pp. 3886-3896. <https://doi.org/10.33012/2021.18059>
15. Sirikonda, Saraswathi, **Parayitam Laxminarayana**, "Integration of Low-Cost IMU with MEMS and NavIC/IRNSS Receiver for Land Vehicle Navigation," Proceedings of the 34th International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2021), St. Louis, Missouri, September 2021, pp. 2705-2717. <https://doi.org/10.33012/2021.17958>
16. D. Ravindar Reddy, Srinu, Chittimalla, **Parayitam Laxminarayana**, "Low-cost Real-time Software Receiver for IRNSS/NavIC Short Broadcast Messaging Services," Proceedings of the 34th International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2021), St. Louis, Missouri, September 2021, pp. 549-558. <https://doi.org/10.33012/2021.18144>
17. Battula.Balnarsaiah, T.S. Prasad, **Laxminarayana Parayitam**, Balakrishna.Penta ,Chandrasekhar Patibandla, “Classifications of High Resolution SAR and Optical Images using Supervised Algorithms”, International Conference of Computational Intelligence in Pattern Recognition (CIPR-2019), January 19-20,2019 at IEST-Shibpur, Kolkata, Springer Publication, PP:981- 990, DOI: [org/10.1007/978-981-13-9042-5_84](https://doi.org/10.1007/978-981-13-9042-5_84).
18. Srinu, Chittimalla, **Parayitam Laxminarayana**, "A Post Processing Based IRNSS/NavIC Software Receiver for Analysis and Development of New Algorithms and Signals," Proceedings of the 33rd International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2020), September 2020, pp. 2822-2835. <https://doi.org/10.33012/2020.17597>
19. Balnarsaiah Battula, **Laxminarayana Parayitam**, T. S. Prasad, Penta Balakrishna, Chandrasekhar Patibandla, “Classifications of High Resolution Optical Images using Supervised Algorithms”, IEEE 8th International Advance Computing Conference (IACC), 14-15 Dec. 2018, Greater Noida, India., pp. 126-130, DOI: 10.1109/IADCC.2018.8692132.
20. Battula Balnarsaiah, **P.Laxminarayana**, “SAR Image Classification with Sparse Representation”, IEEE International Conference on Innovative Technologies in Engineering, April 11-13, 2018, at University College of Engineering in Osmania University, Hyderabad Telangana.
21. M. Ram Reddy, **P. Laxminarayana**, A. V. Ramana et.al., “Transcription of Telugu TV News using ASR”, International Conference on Advances in Computing, Communications and Informatics (ICACCI) 10-13, August 2015, Kochi, pp. 1542-1545, IEEE 978-1-4799-8792-4/15
22. M.R.Reddy, S.A.Mangamma, **P.Laxminarayana**, A.V.Ramana, P.Gangadhar, “Effects of Channel Conditions on the performance of ASR over GSM networks using full rate speech codec”, International Conference on Computer and Communications Technologies (ICCCT), 11-13 Dec. 2014, Hyderabad, pp. 1 - 6, DOI: 10.1109/ICCCT2.2014.7066729.
23. Mythilisharan, A.V.Ramana, **P.Laxminarayana**, “Enhancement Of ASR Performance Using Mixed Narrowband and Wideband Models”, International Conference on Communication, VLSI and Signal Processing, 20-22 February, 2013, SIT, Thumkur. pp 10-15.

24. Chintapalli, R., Kumar, A., **Parayitam Laxminarayana**, "Multiple sequence alignment a quick tour", International Conference on Advanced Computing Technologies(ICACTION), 2013, 15th International Conference on Publication Year: 2013 , Page(s): 1–6, DOI: 10.1109/ICACTION.2013.6710499
25. A.V.Ramana, **P.Laxminarayana**, Mythilisharan, "Investigation of Speech Coding Effects on different Speech Sounds in Automatic Speech Recognition", Proceedings of the First Indo-Japan Conference on Perception and Machine Intelligence (Permin'12), 12-13, January 2012, CDAC, Kolkata. pp 367-377, Springer-Verlag Berlin Heidelberg 2012.
26. P.Hema Sree, **P.Laxminarayana**, K.Subba Rao, "Face Detection using Skin segmentation and Average Template", Proceeding of the International Conference on Intelligent Systems and Control (ISCO-2011), 6-7, January 2012, Coimbatore.
27. P.Hema Sree, **P.Laxminarayana**, K.Subba Rao, "Human Face Detection Based on Skin Color constraints and Average Template", Proceeding of the International Conference on Computational Intelligence and Computing (IEEE-ICCIC-2011), 15-18, December 2011, CAPE, Kanyakumari
28. K. Alavenu , **P. Laxminarayana**, P. Mythilisharan, K. Hariprasad, S. Alavelu Mangamma, "Front end processing for Automatic Speech Recognition in real time on a Blackfin Processor", Proceedings of the First International Conference on Advances in Computing And Communication, 8-10, April 2011, NIT, Hamirpur, India pp 482-487
29. A.V.Ramana, **P.Laxminarayana**, Mythilisharan, "Investigation of ASR Accuracy under Transcoding with Narrowband and Wideband Speech Codecs", Proceedings of the First International Conference on Advances in Computing And Communication, 8-10, April 2011, NIT, Hamirpur, India pp 492-498.
30. A.V.Ramana, **P.Laxminarayana**, Mythilisharan, "Investigation of the Effects of Wideband Speech and Audio coding on the ASR Performance in VoIP and Wireless Networks", Proceedings of the National Conference on Advancements in Signal Processing and Integrated Networks, 24-25, February 2011, Amity University, Noida, India.
31. P.Hema Sree, **P.Laxminarayana**, K.Subba Rao, "Face Detection and Recognition using Gabor Wavelets and Eigen Faces", Proceedings of the National Conference on Advancements in Signal Processing and Integrated Networks, 24-25, February 2011, Amity University, Noida, India.
32. A.V.Ramana, **P.Laxminarayana** and MythiliSharan "A New Frequency Domain Adaptive Speech Segmentation Technique", National Symposium on Acoustics", National Symposium on Acoustics, (NSA-09), November 25-26, 2009 at RCI-Hyderabad.
33. A.V.Ramana, **P.Laxminarayana** and MythiliSharan, "Effects of speech coding on ASR performance in VOIP networks", National conference on advances in signal processing, November 20-21, 2009 at Andhra University, Vishakhapatnam.
34. A.V.Ramana, **P.Laxminarayana** and P.MythiliSharan, "Real-Time Continuous Speech Recognition with HMM based Word Models for Telugu", Proceedings of the International Conference on Advanced Computing Technologies (ICACTION '08), December 26-27, 2008, GRIET, Hyderabad.
35. A.V.Ramana, **P.Laxminarayana**, P.Mythilisharana, "Real-Time ASR with HMM Word Models for Telugu", Proceedings of the International Conference on Recent Advances in Communication Engineering, December 20-23, 2008, Osmania University.
36. **P.Laxminarayana** and A.Uma, "Qualified faculty A Great Challenge for Technical Education : Industry Institute Interaction is the Solution", International Conference on Global Challenges in Engineering Education and Research, December 4-5, 2008, PSG College of Technology, Coimbatore.
37. J.V.Sharma and **P.Laxminarayana**, "Development of Software-Based GNSS Receiver is the need of Present Indian Aerospace Systems", Proceedings of the National Seminar On Present Status And Technological Challenges Of Indian Aerospace Programme, November 27 – 29, 2008, BITS, Misra
38. Amith Kumar and **P.Laxminarayana**, "Signal Processing Approach In Bioinformatics; Speedy Solution To Life Science Problems", Andhra Pradesh Science Congress, 14-16, November 2008, Osmania University, Hyderabad (Only Abstract).
39. J.V.Sharma and **P.Laxminarayana**, "Emerging Regional Navigation Systems: Development of Software Receiver for Global Navigation Satellite Systems", Proceedings of the International Conference on Emerging Scenarios in Space Technology and Applications (ESSTA2008), Sathyabama University, Jeppiaar Nagar, Chennai, India, November 13-15, 2008.
40. Arjun Singh, Shamsher Singh, **P. Laxminaryana** and D.C.Reddy, "Scintillation effect on WRS signal", Proceeding of Asian GPS conference 2002 , 24-25 October 2002 , New Delhi & Also presented as

information paper-1 in GNSSP meeting held in San Antonio, Texas USA from 16th to 25th October 2002 by ICAO.

41. Arjun Singh, **P.Laxminarayana** and D.C. Reddy, "WAAS Reference Station Networking for Indian Airspace", Proceedings of Map Asia 2002, The First Asian Conference on GIS, GPS, Aerial Photography and Remote Sensing, held at Bangkok, Thailand on 7-9 August 2002.
42. M.Madhavilatha, **P.Laxminarayana**, B C.Jinaga, "ECG Signal Compression Using Wavelets", Proceedings of the National Conference On "Sensors And Instrumentation", Paper No.3, 5-6, January 2002, Hyderabad.
43. M.Madhavilatha, B C Jinaga, **P.Laxminarayana** and D.C.Reddy, "Map Data Compression Using Wavelets", Proceedings of the International Conference on "Industrial Pollution and Control Technologies", ICIPACT-2001, 7-10 December 2001 organized by JNTU, Hyderabad.
44. Arjun Singh, K.Ramalingam, D.C.Reddy and **P.Laxminarayana**, "Placement of WAAS Reference Station for Indian Airspace", Proceedings of "The Asian GPS Conference", pp 85-90, 29-30 October 2001, India International Centre, CSDMS, New Delhi.
45. Abhilash Patangay, Prashanti Vemuri, **P.Laxminarayana** and D.C.Reddy, "Rotation invariant image matching using wavelet transforms and discrete image spatial moments", Proceedings of the Sixth Biennial Conference on Signal Processing and Communications (SPCOM '01), pp 161-167, July 15-18, 2001, IISc, Bangalore.
46. **Laxminarayana, P.**, Pandit, S.N. Narahari, Reddy, D.C., "A New Approach to RAIM and Receiver Position Location in WAAS," Proceedings of the 2001 National Technical Meeting of The Institute of Navigation, Long Beach, CA, January 2001, pp. 465-472.
47. **Laxminarayana, P.**, Saiprasad, K.V.S., Reddy, D.C., "Wide Area Reference Station Placement for an Indian WAAS," Proceedings of the 2001 National Technical Meeting of The Institute of Navigation, Long Beach, CA, January 2001, pp. 559-564.
48. D.C.Reddy, N.Sivannarayana and P.Laxminarayana, "Emerging trends in both analysis and classification of ECG signals", proceedings of the Intl. Conf. On Medical diagnostics and procedures, pp 18-29, IIT, Chennai, Dec. 1999.
49. **P.Laxminarayana** and D.C.Reddy, "Kohonen's SOFM for Missing Data Recovery", Proceedings of the National seminar on Artificial Neural Networks & Cognitive Systems (ANCS-98), pp 71-74, 23-25 September 98, Cochin, India,
50. **P.Laxminarayana** and D.C. Reddy, "On a Connection between Multilayer Neural Networks and Volterra Series", Proceedings of the International Conference on Computer Applications in Electrical Engineering: Recent Advances (CERA 97)", pp. 404-408, Sep.97, Roorkee, India,

Technical Reports

1. K. Santosh Kumar, S. Sai Vineeth, Chevella Anil Kumar, Bittu Kumar, Gutha Jaya Krishna, K. Anitha Sheela, **P. Laxminarayana**, P. Mythili Sharan, "Speech Technologies for Humanoids", Technical Report: **01/Projects/63/IISU-MoU-STH/NERTU/2020**, Dated November 10, 2020.
2. **P.Laxminarayana**, M.Ram Reddy, S.Aivelu Mangamma, P.Gangadhar, S.Jagadish, A.V.Ramana and Mythilisharan, "Automatic Speech Recognition (ASR) Over VoIP and Wireless Networks", Technical Report No. **NERTU/UGC-MRP/ASR/01, 2016**, Final Report of UGC sponsored Major Research Project: 41-600/2012 (SR) Dated 18th July 2012.
3. **P.Laxminarayana**, P.Mythili Sharan, A.V. Ramana, Srividya, Bhrath, Sujatha, Hari Prasad, Alavelu Manga & Alavenu, "Isolated Word Recognition with Blackfin", Technical Report No. NERTU/ADI/MMADSP/01, 15th December 2010, Submitted ADI as part of MMADSP Project, sponsored to Department of ECE, Osmania University.
4. A.V.Ramana, P.Mythilisharan and **P.Laxminarayana**, "Speech and Audio Coding Effects on ASR Performance Over VoIP And Wireless Channels", Technical Report No. NERTU/ADI/MMADSP/02, 15th December 2010, Submitted ADI as part of MMADSP Project, sponsored to Department of ECE, Osmania University.
5. P.Hema Sree, **P.Laxminarayana** and K.Subba Rao, "Face Detection And Recognition Methods", Technical Report No. NERTU/ADI/MMADSP/03, 15th December 2010, Submitted ADI as part of MMADSP Project, sponsored to Department of ECE, Osmania University.

6. **P.Laxminarayana**, V.Lalita and M.P.Sriram, “*Kalman Filter for Integration of INS and GPS*”, Technical Report No: NERTU/ECIL/TDAPN/01, August 2002, Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad 500 007
7. **P.Laxminarayana**, S.Harikrishna, R.Annapurna, and D.C.Reddy, “*Modelling of Selective availability for Latency Effect Compensation in WAAS*”, Technical Report No: NERTU/IT/WAAS/09, July 2002, Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad 500 007
8. **P.Laxminarayana**, R.Annapurna, D.C.Reddy and Arjun Singh, “*Wide Area Reference Station Placement for the Indian Airspace*”, Technical Report No: NERTU/IT/WAAS/08, July 2002, Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad 500 007
9. **P.Laxminarayana**, K.V.S. Saiprasad, R.Annapurna, D.C.Reddy and Arjun Singh, “*Trends in Global Navigational Satellite System*”, Technical Report No: NERTU/IT/WAAS/04, August 2001, Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad 500 007.
10. **P.Laxminarayana**, K.V.S. Saiprasad, B.Manohar, D.C.Reddy, “*Wide Area Reference Station placement for Clock and Ephemeris Corrections to Indian WAAS*”, Technical Report No: NERTU/IT/WAAS/02, Aug.2000, Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad 500 007.
11. D.C. Reddy, **P.Laxminarayana** and Ram Raj Mathur, “*GPS Range Sensitivity and WADGPS Reference Station Location*”, Technical Report No: NERTU/DRDO/WADGPS/02, Feb.98, Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad 500 007.

RESEARCH GUIDANCE for ME/MTech/PhD Students (In Progress)

| S. NO | PG/ PHD | Student Name | Title/Area |
|-------|---------|---------------|-------------------------------|
| 1. | PHD | Kiran Kumar | Yet To decide |
| 2. | PHD | S. Saraswathi | |
| 3. | PHD | Ch. Srinu | IRNSS/NavIC Software Receiver |

RESEARCH GUIDANCE for ME/MTech/PhD Students (Submitted/Completed)

| S. NO | Year of completion | PG/ PHD | Student Name | TITLE |
|-------|--------------------|----------|-------------------|--|
| 45 | 2021 | PHD | B. Balnarsaiah | Classification of Synthetic Aperture Radar Images using Machine Learning Algorithms (Submitted The Thesis) |
| 44 | 2021 | PHD | P.Mythilisharan | Automatic Speech Recognition for Telugu February 2022 |
| 43 | 2012 | PHD | A. V. Ramana | Effects of Speech Coding On The Performance Of ASR Over Wired And Wireless Networks |
| 42 | 2002 | PHD | M. Madhavilata | Wavelet Transforms and their applications to various types of signals |
| 41 | 2021 | ME/MTECH | D.Ravindar Reddy | Robust Vector Tracking Loops for GNSS Receivers (Submitted the Thesis) |
| 40 | 2018 | ME/MTECH | V.Raghuveer Reddy | Double Block Zero Padding Acquisition Algorithm for GPS Software Receiver |
| 39 | 2018 | ME/MTECH | S.Ravinder | Automatic Detection of Well Centers in the Analysis of Microplate Images |
| 38 | 2017 | ME/MTECH | Mary Prasanna | Development of Real Time Face Recognition System Using OpenCV |
| 37 | 2017 | ME/MTECH | K.Niharika | Implementation and Performance Analysis of Face Recognition System |
| 36 | 2017 | ME/MTECH | K.Ranadheer | Smart Prescription For Android Devices using ASR |
| 35 | 2016 | ME/MTECH | Farheen Tabassum | Segmentation of Speech and Music from an Audio Stream |
| 34 | 2015 | ME/MTECH | Lalitya.P | Computation of Principal Components of the Face Recognition System using Neural Network and Hebbian Learning Algorithm |
| 33 | 2015 | ME/MTECH | Rajesh.T | Development Of A Framework For Client and Server Based Applications Using Speech Recognition |

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| 32 | 2015 | ME/MTECH | Shabnaz.Md. | Implementation of Automatic Speech Recognition using Fixed Point C on Blackfin Processor |
| 31 | 2014 | ME/MTECH | K.Chaitanya | Development Of Boosting Based Face Detection Algorithm |
| 30 | 2014 | ME/MTECH | Roohi Nahid | Computerized Segmentation Methods To Detect Disorders In Medical Images |
| 29 | 2014 | ME/MTECH | Vandana | Face Detection Using Active Appearance Model |
| 28 | 2014 | ME/MTECH | Sukanya | Embedded Linux On Blackfin Processor For Audio & Video Algorithms |
| 27 | 2014 | ME/MTECH | Gayatri | Implementation Of Acquisition Algorithm For GLONASS Software Receiver In Fixed C |
| 26 | 2014 | ME/MTECH | Saicharan | Development Of Acquisition Module Of A GPS Software Receiver In Fixed-Point-C |
| 25 | 2014 | ME/MTECH | Mounica | Acquisition Of Galileo Satellite Signals |
| 24 | 2014 | ME/MTECH | Sumalata | HMM Based Speech Synthesis System |
| 23 | 2014 | ME/MTECH | Harish | Implementation Of MFCC Feature Extraction of Pocket Sphinx In Fixed Point C For Real Time ASR On Blackfin Processor |
| 22 | 2014 | ME/MTECH | Jagadish | Effects of channel conditions on the performance of Automatic Speech Recognition over GSM networks using EFR speech and channel coding standards |
| 21 | 2013 | ME/MTECH | Pavan | Development of GLONASS Software Receiver |
| 20 | 2013 | ME/MTECH | Tirumal | ASR With Pocket Sphinx On Blackfin Processor |
| 19 | 2013 | ME/MTECH | Gangadhar | Effects of channel conditions on the performance of ASR over GSM networks using full rate speech codec |
| 18 | 2013 | ME/MTECH | Ram Reddy | Speech synthesis system for Indian accent using Festvox |
| 17 | 2012 | ME/MTECH | Mounica J | Implementation of ASR Using C Language |
| 16 | 2012 | ME/MTECH | Sandeep | Evaluation Of The Effects Of Speech Coding On Performance Using HTK |
| 15 | 2012 | ME/MTECH | Srikanth | Class Room Data Base Management Using ASR |
| 14 | 2010 | ME/MTECH | Hari Prasad | Implementation of Speech Segmentation for IWR using Blackfin Processor |
| 13 | 2010 | ME/MTECH | Alavenu | Implementation of Frontend Processing for ASR on Blackfin Processor |
| 12 | 2010 | ME/MTECH | Alavelu Manga | Implementation of HMM Based Forward Algorithm for Isolated Word Recognition |
| 11 | 2009 | ME/MTECH | Sujatha | Implementation of MFCC Extraction on Blackfin Processor |
| 10 | 2008 | ME/MTECH | Sri Vidya | Implementation of Real Time Data Acquisition of Speech Signal on Blackfin Processor for ASR |
| 9 | 2008 | ME/MTECH | Bharath | Real Time Implementation of Extraction of MEL-Cepstrum of Speech Signal Using Matlab |
| 8 | 2007 | ME/MTECH | Sunitha | Acquisition and tracking Algorithms of a GPS receiver |
| 7 | 2006 | ME/MTECH | Santosh | MPEG-2 AAC LC Encoder Fixed Point Implementation and Integration of Psychoacoustic Model |
| 6 | 2005 | ME/MTECH | Venugopal | MPEG-2 AAC LC Encoder Efficient Implementation and Integration of MDCT and Perceptual Model |
| 5 | 2005 | ME/MTECH | Venkatesh | MPEG-2 AAC LC Encoder Efficient Implementation and Integration of TNS M/S Stereo and Huffman coding |
| 4 | 2004 | ME/MTECH | Mallikarjun | Psychoacoustic Modeling for MPEG-1,layer3 Audio Encoding and Implementation of MDCT on Blackfin Processor |
| 3 | 2004 | ME/MTECH | Sri Devi | Psychoacoustic and TNS Models for AAC-LC Encoder and Implementation of MDCT on Blackfin Processor |

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|---|------|----------|--------------|---|
| 2 | 2003 | ME/MTECH | Jyothisheela | Loosely coupled INS/GPS Integration Using Kalman filter |
| 1 | 2002 | ME/MTECH | HariKrishna | RLS Based Predictor for Latency Compensation in WAAS |

GUIDED MORETHAN 40 UG/BE/BTECH PROJETS.

COURSES CONDUCTED

1. **Coordinator** of a One Day Workshop on “Design and Development Of GNSS Receivers” (GNSSR-21), 12th January 2021
2. **Coordinator cum Faculty Member** a Semester Course on “Speech and Language Technologies using Artificial Intelligence and Deep Learning” (SLT-20), 21st September 2020 – 07th November 2020, (Online Mode)
3. **Coordinator cum Faculty Member** of a 5-Day School on “GNSS and IRNSS Software Receiver: Signal Processing And Its Applications”, 9-13, September 2019
4. **Coordinator** of a 2-Day Symposium on “Trends In GNSS Research”, 8-9, September 2019
5. **Coordinator cum Faculty Member** of a 4-Day Short Course on “GNSS Technologies: Fundamentals & Applications”, 5-8, September 2019
6. **Faculty of a summer school** on “**Digital Signal Processing and Communication with Programming**”, 20th May 2019 to 15th June 2019 (Four Weeks with Theory and Practice), held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
7. **Faculty** of the school on “**Probability Theory and Stochastic Processes**”, 21st January 2019 to 30th May 2019 (6.30AM-8.00AM, Three Days in a week), held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
8. **Coordinator cum Faculty Member** of a 5-Day school on “**Machine Learning, Deep Neural Networks and ASR**”, 8-12, March 2019, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
9. **Coordinator cum Faculty Member** of a 3-day Workshop on “**Migration, Navigation and Biomimicking Aerial Vehicles**”, 1-3, November 2018, held at JNTUH, Hyderabad and organized by JNTUH in collaboration with Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad and IEEE Hyderabad Section.
10. **Coordinator cum Faculty Member** of a One Week School on “**Advanced GNSS Signal Processing**”, 20-25, August 2018, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
11. **Coordinator cum Faculty Member** of a 4-Day course on “**Advances in GNSS Technologies and Applications**”, 16-19, August 2018, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and R. Srinivasa Kumar)
12. **Coordinator cum Faculty Member** of a One Week course on “**GNSS Signal Processing**”, 04-09, December 2017, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
13. **Coordinator cum Faculty Member** of a 3-Day course on “**GNSS Technologies and Applications**”, 20-22, October 2017, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and R. Srinivasa Kumar)
14. **Coordinator cum Faculty Member** of a One-Day Symposium on “**Opportunities, Challenges and Trends in Navigational Technologies**”, Tuesday, 5th September 2017, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
15. **Coordinator cum Faculty Member** of a 4-Day course on “**GNSS Signal Processing**”, 13-17, December 2016, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
16. **Coordinator cum Faculty Member** of a 4-Day course on “**GNSS Technologies and Applications**”, 07-12, December 2016, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
17. **Coordinator cum Faculty Member** of a 5-Day short course on “**Radar Signal Processing**”, 25-29, July 2016, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and K.Subba Rao)

18. **Coordinator cum Faculty Member** of a 4-Day course on “**GNSS Signals, Receiver Algorithms and Applications**”, 16-19, December 2015, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
19. **Coordinator cum Faculty member** of an Evening School on “**Automatic Speech recognition and synthesis**”, 5th August 2015 – 20th November 2015, (Two Days in a week, 3.00PM-8.30PM), Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
20. **Coordinator cum Faculty member** of an Evening School on “**Image Processing and Its applications**”, 4th August 2015 – 20th November 2015,, (Two Days in a week, 3.00PM-8.30PM), Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
21. **Coordinator cum Faculty Member** of a 5-Day Workshop on “**GNSS Signals and Receiver Algorithms**”, 5-9, August 2014, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana, and P.Chandrasekhar)
22. **Coordinator cum Faculty Member** of a 10-Day Workshop on “**Automatic Speech Recognition and Synthesis**”, 13-22, July 2014, Department of ECE, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and L.Nirmala Devi)
23. **Coordinator cum Faculty member** of A 5-Day Workshop on “**Automatic Speech Recognition**”, 7-11, November 2012, at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
24. **Coordinator cum Faculty member** of A short course “**Real Time Signal Processing**” 29-31, March 2012, at Department of ECE, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana, N.Rajaiah and K.Subba Rao)
25. **Coordinator cum Faculty member** of a short-term course on “**Automatic Speech Recognition**” 06-09, September 2010, at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
26. **Coordinator cum Faculty member** of A short course “**Real Time Signal Processing**” 22 -26, June 2010, at Department of ECE, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and K.Subba Rao)
27. **Coordinator cum Faculty member** of a three-day course on “**Automatic Speech Recognition**” 27-29, August 2009, at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
28. **Coordinator cum Faculty member** of A two-week finishing school on “**Real Time Signal Processing**” 25th July 2009 to 8th July 2009, at Department of ECE, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and K.Subba Rao)
29. **Coordinator cum Faculty member** of an Evening School on “**Probability Theory and Stochastic Processes**”, 2nd February 2009 – 13th March 2009, (Three Days in a week, 6PM-8.30PM), Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
30. **Coordinator cum Faculty member** of A two-day course on “**Real Time Signal Processing**” September, 26-27, 2008, Department of ECE, Osmania University, Hyderabad, (Coordinators: P.Laxminarayana and K.Subba Rao)
31. **Coordinator cum Faculty member** of a two-day course on “**Automatic Speech Recognition**” August 29-30, 2008, at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.
32. **Coordinator Cum Faculty member** of an Intensive Course on “**Coding on DSP Processors**”, 28th November to 6th December 2007, at Department of ECE, Osmania University, Hyderabad. (Coordinators: P.Laxminarayana and K.Subba Rao)
33. **Coordinator cum Faculty member** of a Refresher Course on “**Probability Theory, Stochastic Processes and Their applications**”, 19th November to 22nd December 2001 at Research and Training unit for Navigational Electronics, Osmania University.
34. **Coordinator cum Faculty member** of a two-day workshop on “**GPS Modernization and Augmentation Systems**”, February 22-23, 2001, at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad.

INVITED LECTURES

1. An Expert Lecture on “GNSS Software Receivers” in the 5-Day workshop on Global Navigational Satellite Systems, held during the 18-22, December 2020, at NIT Mizoram.
2. An expert lecture on “Bio Navigation” at AICTE Sponsored Online STTP on “Current Trends and Emerging Advances in Marine Navigation and Communication”, held during 7-12, December 2020, at CBIY, Hyderabad.
3. An invited lecture at JBREC, on the occasion of Teachers Day Celebrations on 5th September 2020.
4. A Couple of Lectures at Mathworks Hyderabad on “Fundamentals of GNSS Software Receivers”, on 11th December 2019.
5. A couple of Expert Lectures on “Navigation Processing, PVT Algorithm” and “Augmentation Systems with GAGAN”, during the 5-Day Short Term Training on Global Navigational Satellite Systems, June 24-28 2019, at Sardar Vallabhbhai Patel National Institute of Technology, Surat, Gujarat -395007,
6. Keynote Address (Signal Processing and Communication in GNSS) on **1st March 2019**, at National Conference on Recent Advances in Electronics and Communication Engineering held at Nalla Narasimha Reddy Engineering College, during 1-2, March 2019.
7. An invited lecture on “ASR for Indian Languages HMMs, SGMMs and DNNs” on **26th February 2019**, at National Conference on Computational Intelligence and Data Analytics held at University of Calicut, during 26-27, February 2019.
8. A guest lecture on “GNSS and Signal Structures”, at Anurag Group of Institutions”, on **19th February 2018**.
9. A lecture on “Signal Processing Techniques”, on **6th November 2017**, in the one week workshop on Signal Processing with Hands on using MATLAB held at CVR College of Engineering, Hyderabad.
10. A lecture on “Speech Signal Processing : Production, Perception and Analysis” on **13th November 2017**, at AICTE Sponsored Two Week National Level Faculty Development Programme on Speech, Image & Video Processing Techniques, Analysis & Applications, held at Malla Reddy Engineering College for Women, Hyderabad
11. An Invited Talk on “Satellite Based Navigation” on **23rd June 2017**, at National Conference on Wireless and Satellite Systems held at Sphoorthy Engineering College, Hyderabad during 22-24, June 2017.
12. A lecture on “Linear Time Invariant Systems: Properties, Convolution And Correlation”, on **7th June 2017**, in the Faculty Development Programme on “Fundamentals of Signals, Systems and Random variables with hands on Sessions using MATLAB”, held at Geethanjali College of Engineering and Technology, Cheeryal, Hyderabad, during 5-10, June 2017.
13. A lecture on “Navigation for UAVs and MAVs” on **25th March 2017**, at SNIST, Hyderabad in the National Seminar on “Recent Trends in Bio-Aerodynamics and Bio-Mimicking- --UMVs”.
14. Keynote Address in the Faculty Development Programme on “Signals and Stochastic Processes” on **6th March 2017**, held at JNTUH, Hyderabad during 6-11, March 2017, organized by JNTUH & TASK.
15. A lecture on “Kalman Filter and Its Applications” on **2nd March 2017** in the Two Day intensive Course on “Applications of Signal Processing to Radar, Communication & EW Engineering”, held at CBIT, Hyderabad during 2-3, March 2017.
16. A lecture on “MATLAB for Life Sciences Research” on **10th February 2017**, in the Refresher Course on Life Sciences held at UGC-Human Resource Development Centre, JNTUH, Hyderabad.
17. A Lecture on “Advanced Digital Signal Processing and Applications”, on **22nd September 2016** in the DeItY sponsored Faculty Development Programme on “Advanced Digital Signal Processing and Applications”, held at Vardhaman College of Engineering (VCE), Hyderabad during 19-24, September 2016 organized by NITW and VCE.
18. A Lecture on “Applications of Signal Processing for Speech, Audio and Navigation Technologies: Trends and Case Studies” at National Conference on Advanced Signal Processing, Embedded and Communication Systems (ASPECS- 2016), held at CBIT, Hyderabad during **11-12, August 2016**.
19. Two lectures on “Overview of GNSS” and “Overview of GNSS software Receiver”, on **1st July 2016**, in the short course on Communication systems for Polytechnique lecturers, at National Institute Technical Teachers Training and Research, Hyderabad
20. A lecture on “Industrial Consultancy and Incubation of Companies and Multidisciplinary/Interdisciplinary Research” on **30th March 2016**, in the Course on “Research Methodology for Science and Engineering” held at UGC-Human Resource Development Centre, Osmania University, Hyderabad.
21. A Lecture on “Speech Signal Processing”, on **26th February 2016** in the DeItY sponsored Faculty Development Programme on “Advanced digital signal processing”, held at National Institute of Technology, Warangal, during 19-24, September 2016 organized by NITW.
22. A lecture on “MATLAB for Engineering Research” on **30th January 2016**, in the Three day workshop on Engineering research Methodology (ERM-2016) at University college of Engineering, Osmania University.
23. Two lectures on “Two Random Variables”, on **6th January 2016**, in the Five Day Intensive Course on “Probability Theory and Stochastic Processes”, held at MVSR College of Engineering, Hyderabad during 4-8, January 2017.
24. Two lectures on “Two Random Variables”, on **22nd December 2015**, in the Six Day Faculty Development Programme on “Probability Theory and Stochastic Processes”, held at Stanly College of Engineering and Technology for Women, Hyderabad, during 19-24, December 2015.
25. A lecture on “Spectral Estimation”, in a one week Faculty Development Program on “Digital Signal Processing - Fundamentals and Applications” on **4th December 2015**, held at Geethanjali College of Engineering and Technology, Cheeryal, Hyderabad, during 30th November to 5th December 2015.
26. Keynote Address and a Lecture in the One Week workshop on “Statistical Analysis for Signal and Image Processing”, on **30th November 2015**, held at GNITS, Hyderabad, during 30th Nov. to 5th Dec. 2015.
27. A Lecture on "GNSS, GAGAN and IRNSS for Civil Aviation : Principle of Operation, Issues and Challenges" at an all India seminar, DISHA-2015, organized on the occasion of 3rd CNSO (Communication, Navigation & Surveillance officers) day on **25th November 2015**, by Airports Authority of India Officers Association at Chennai,

28. A lecture on "Industrial Consultancy and Incubation of Companies" on **23rd September 2015** in the One day Orientation Programme on "Research and Consultancy" at RDCC, osmania University, Hyderabad.
29. Two Lectures on GNSS on **11th February 2015**, as part of Continuing Education Programme, titled "Autonomous Systems: Issues, Concerns and Approaches" for DRDO scientists, held at CAIR-DRDO, Bengalure.
30. Two lectures on "DTW and HMM Models" on **18th January 2015**, at two week workshop on Advances in Speech signal Processing held at ABSRM, Pune.
31. A lecture on "Spectral Estimation" on **4th July 2014**, at Specialized Training course on 'Digital Signal Processing and its Applications' organized at RCI-DRDO for DRTC cadre of various DRDO labs, Hyderabad from 4th – 8th Aug 2014.
32. A lecture on "MATLAB for Engineering Research" on **12th September 2014**, at three day workshop on "Engineering Research Methodology" organized at department of Engineering, Osmania University.
33. A lecture on "Mathematics and DSP" on **14th August 2014** at Department of Mathematics, Osmania University at a two week workshop for research scholars.
34. A lecture on "MATLAB - Applications to Engineering Research" on **18th January 2014** at the workshop entitled "Engineering Research Methodology" held during 17-18, January 2014 at CVR College of Engineering, Hyderabad
35. A lecture on "DSP and MATLAB" at Vignana Bharathi Institute of Technology on **17th December 2013**.
36. Two Lectures at AICTE sponsored Faculty Development Programme on "Real Time Signal Processing", held at CBIT during **2-14, December 2013**.
37. A Lecture on "DSP and Communication Systems" at HAL, Hyderabad for Engineers on **18th October 2013**.
38. A lecture on "Automatic Speech Recognition" at Two day workshop on Speech Processing and its Applications in Engineering", organized by CBIT during **23-24, August 2013**.
39. Two lectures on Automatic Speech Recognition in the two day workshop on Speech Signal Processing, organized by Rajarshi Shahu College of Engineering, Tathawade, Pune, during **28 February & 1-2, March, February 2013**.
40. A lecture on "GNSS Software Receivers" in the SERC School on "GPS Applications and Atmospheric constraints", held at NERTU, Osmania University, during 13 July to **3rd August 2012**.
41. Two lectures on Automatic Speech Recognition in the two day workshop on Speech Signal Processing, organized by Rajarshi Shahu College of Engineering, Tathawade, Pune, during **24-25, February 2012**.
42. Two lectures in the three day workshop Automatic Speech Recognition, organized by Dr.Babasaheb Ambedkar Marathwada University during **13-15, October 2011**.
43. Three lectures on DSP at training Programme on Advanced Digital Signal Processing, organized by RCI, for DRDO scientists at RCI-DRDO, during **26-30, September 2011**.
44. A lecture on "ASR Performance Over Wired and Wireless Networks", at Department of Computer Science, University of Sheffield, on **7th June 2011**.
45. A lecture on "Automatic Speech Recognition: Feature Extraction and DTW", AT CDAC Noida, during the workshop on Fundamentals of Automatic Speech Recognition **8-9, Feb, 2011**.
46. A lecture on "GNSS Software Receivers" in the SERC four day intensive course on "Overview of GNSS and its Applications", held at NERTU, Osmania University, during 09th -**12th November 2010**
47. Two Lectures on "India's Glorious Scientific Tradition", at Kendriya Vidyalaya, Bolaram, on **31st December 2010**, in the In-service Course for PGTs(History).
48. Keynote Address in the IEEE's Regional Students Awareness Programme held at at SR College of Engineering, Ananth Sagar, Warangal, during **23-24, October 2010**.
49. Three lectures at Special Course for DRDO scientists on "DSP Processors and Architectures" held at RCI-DRDO, **9-14, August, 2010**.
50. Two lectures on "GNSS Software Receivers", at two day workshop on "Wireless Communication & Networks" held at BVRIT, **28th June 10th July 2010**.
51. A lecture on "GNSS Software Receivers" in the SERC School on "Atmospheric Effects on GPS and Local Area Augmentation System", held at NERTU, Osmania University, during **17th June to 7th July 2009**.
52. A lecture on "DSP Techniques in Audio and Speech Analysis" at CVSR College of Engineering, Hyderabad, **23rd March 2009**,
53. Two lectures at two day workshop on "DSP Processors and Applications using Target Devices" held at Indur Institute of Engineering & Technology, Siddipet, **21-22, August 2009**.
54. A lecture on "Speech Signal Processing and Recognition" at three Day National Workshop on Digital SignalProcessing, at Kamala Institute of Technology and Science, Singapore, **23-25,January 2009**.
55. A lecture on "GNSS Software Receivers" in the Three Day Intensive course on "Global navigational satellite Systems", held at NERTU, Osmania University, during **3-5, December 2008**.
56. A lecture on "Technical Paper Presentation" as chief guest at Valedictory function of "ACCOLADE – 2K8", the National level students Technical Symposium on **15th October 2008**, at Madhira Institute of Technology and Sciences, Kodad, Nalgonda.
57. A Lecture on "Digital Filter Design Using Matlab", **27th August 2008** at Vignana Bharathi College of Engineering.
58. A Lecture on "Automatic Speech Recognition", **20th August 2008**, at Vignan Institute of Technology and Science, Hyderabad.
59. A Lecture on "Wavelets for Image Processing" at 5-day course on Image Processing held at Narayanamma College of Engineering, Hyderabad, **February 2008**.
60. A Lecture on "Trends in DSP Architectures" at Two day workshop on Embedded DSP, Aurora's Technological & Research Institute, **January 21-22, 2008**.

61. A lecture on “GPSA aided INS” in the SERC school on “Atmospheric Effects on GPS aided geo Augmented Navigation”, held at NERTU, Osmania University, during 14th November to 4th **December 2007**.
62. A lecture on “GPS/INS Integration” in the three day intensive course on “Global navigational satellite Systems”, held at NERTU, Osmania University, during **15-17, November 2006**.
63. A lecture on “Speech Analysis and Recognition”, at one week course on “Digital Signal Processors and Applications”, organized at the departments of ECE, Osmania University from **16th October 2006 to 20th October 2006**.
64. A lecture on “Speech Processing and Recognition”, at a course on “Digital Signal Processors”, organized for the ECIL Engineers by the department of ECE, Osmania University, from **09th October 2006 to 13th October 2006**.
65. Three lectures on “System Identification - Deterministic Models, Stochastic Process and Parameter Estimation Techniques” at BHEL, Hyderabad from **16th August 2006 to 19th August 2006**.
66. Lectures on “Fourier Series and Transforms” at 5-Day refresher course on Digital Signal Processing and Its Applications, held at MVSR College of Engineering, Hyderabad, during **3-7, July 2006**.
67. A lecture on “Wavelet Transform and Its applications”, at one day work shop on Wavelet Transform and Its applications conducted for College Teachers at Lords College of Engineering on **23rd February 2006**.
68. Two lectures on “Image Processing” at a 3-day training Programme on Digital Signal Processing held at Engineering Staff College of India, Hyderabad, during 29th Sept. to **1st Oct 2003**
69. Two lectures on “Recent Advances in GNSS” and “Integration of INS and GPS”, at a CEP course on “Long Range Missiles and Mid-Phase Guidance” for DRDO scientists, **01-05, Sept.2003**, at Institute of Armament Technology, Pune.
70. A lecture on “Advanced Matlab Applications” at AICTE-ISTE Sponsored Short term course on “ECAD Lab”, **17-29 June, 2002** at Sree Nidhi Institute of Science and Technology, Hyderabad.
71. Two lectures on “Errors in GPS, Global Navigational Satellite Systems, WAAS for India and World scenario”, at a short course on “Navigation systems” for HAL Officers, **03-14 Jun 2002**, at Institute of Armament Technology, Pune.

POPULAR LECTURES

A popular Lecture on “J C Bose: Life History and his Contributions in Science and Technology”, 7-Places (Schools, colleges and Universities), on the Occasion of 150th Birth anniversary of Jagdish Chandra Bose.

1. BVRIT, Narsapur, Medak District
2. CVSR College of Engineering, Hyderabad
3. Rajamahendra College of Engineering, Ibrahimpatnam, Hyderabad.
4. Kamala Institute of Technology, Singapur, Karimnagar
5. Geetanjali Engineering College, Hyderabad
6. Govt. P.S. Homeopathic Medical College, Hyderabad
7. Avanthi Degree College, Narayanguda, Hyderabad
8. Keshava Memorial Degree College, Hyderabad
9. SPR School of Excellence, Ghatakesar,

SEMINARS, CONFERENCES, SYMPOSIA, WORKSHOPS ETC., ATTENDED

1. Participated in the International Conference on “Discourse on Development” held at NIN, EFLU and HCU during 8-10, February 2019.
2. Participated and chaired a “show and Tell Session” at Interspeech 2018 held at Hyderabad during 2-6, September 2018.
3. Presented a paper “Transcription of Telugu TV News using ASR”, at International Conference on Advances in Computing, Communications and Informatics (ICACCI) 10-13, August 2015, Kochi
4. Presented the paper along with A.V.Ramana, “Investigation of Speech Coding Effects on different Speech Sounds in Automatic Speech Recognition”, Proceedings of the First Indo-Japan Conference on Perception and Machine Intelligence (Permin’12), 12-13, January 2012, CDAC, Kolkata.
5. Presented a paper along with A.Uma, “Qualified faculty A Great Challenge for Technical Education : Industry Institute Interaction is the Solution”, International Conference on Global Challenges in Engineering Education and Research, December 4-5, 2008, PSG College of Technology, Coimbatore.
6. Presented a paper, “Development of Software-Based GNSS Receiver is the need of Present Indian Aerospace Systems”, Proceedings of the National Seminar On Present Status And Technological Challenges Of Indian Aerospace Programme, November 27 – 29, 2008, BITS, Misra
7. Presented a paper along with Amith Kumar, “Signal Processing Approach In Bioinformatics; Speedy Solution To Life Science Problems”, Andhra Pradesh Science Congress, 14-16, November 2008, Osmania University, Hyderabad.
8. Participated in the International Conference on Signal Processing and Communications (SPCOM’04), IISc, Bangalore, December 2004
9. Presented a paper along with Madhavilata at National Conference On “Sensors And Instrumentation”, IS Sadan College of Engineering, Hyderabad, 5-6, January 2002
10. Participated in the National Workshop On Navigation Systems, Present Scenario And Future Trends during 11,12 June 2002, at Trivandrum.
11. Presented a paper along with Abhilash and Prasanthi at Sixth Biennial Conference on Signal Processing and Communications (SPCOM ’01), July 15-18, 2001, IISc, Bangalore
12. Presented a paper at Institute of Navigation’s National Technical Meeting (ION-NTM 2001), 22-24, January, 2001, Long Beach, California,

13. Participated in the National seminar/workshop on “Advances in GPS and its Application Potential” held on 24th November, 2000 at Bangalore
14. Participated in the Two Day workshop on “Global Navigational Satellite System” conducted by AAI, during 13-14 October 2000, at New Delhi
15. Participated in the International Conference On “Communications, Control and Signal processing for the Next Millennium” July, 25-28, 2000, At Ashoka Hotel, Bangalore (Conducted by IISc).
16. Presented a paper at International Conference On Medical diagnostics and procedures, IIT, Chennai, 15-17, Dec. 1999
17. Presented a paper at National seminar on Artificial Neural Networks & Cognitive systems (ANCs-98), 23-25 September 98, Cochin, India,
18. Presented a paper at International Conference on Computer Applications in Electrical Engineering: Recent Advances (CERA 97)”, Sep.97, Roorkee, India,

TRAINING COURSES ATTENDED

1. **A course** on “MU-MIMO, Massive MIMO and OFDM Technologies for 5G Networks”, held during 27-29, March 2019 at Department of ECE, OU and organized by IIT, Kanpur.
2. **GIAN Course** on “Speech Enhancement”, held at IIT, Gauhati, 23-27, January 2018.
3. **Winter School** on “Speech and Audio Signal Processing”, (WISSAP-18), held at IIT, Gauhati, 19-22, January 2018.
4. **Winter School** on “Speech and Audio Signal Processing”, (WISSAP-17), held at IISc, Bangalore, 26-29, January 2017
5. **Winter School** on “Speech and Audio Signal Processing”, (WISSAP-16), held at SSN College of Engineering, Chennai, 8-11, January 2016.
6. **Winter School** on “Speech and Audio Signal Processing”, (WISSAP-15), held at DA-IICT, Chennai, 4-7, January 2015
7. **One-day workshop** on "Signal and Image Processing", (WISP-13), organized at IIIT, Hyderabad, Thursday, December 16, 2013
8. **One-day workshop** on "Signal and Image Processing", (WISP-12), organized at IIIT, Hyderabad, Thursday, December 16, 2012
9. **Winter School** on “Speech and Audio Signal Processing”, (WISSAP-12), held at IISc, Bangalore, 6-9, January 2012
10. **One day work shop** on Theoretical Computer Science (called India theory day) organized by Microsoft and IISc and held at IISc, Bangalore on 5th January 2012.
11. **One-day workshop** on "Signal and Image Processing", (WIS-11), organized at IIIT, Hyderabad, Thursday, December 17, 2011
12. **One-day workshop** on "Signal and Image Processing", (WISP-10), organized at IIIT, Hyderabad, Thursday, December 16, 2010
13. **One-day workshop** on "Phonetics and Speech Technology" organized by TIFR, Mumbai, on Friday, November 19, 2010.
14. **One day workshop** on “Advances in Signal and Image Processing”, (WISP-09), organized at IIIT, Hyderabad, December 2009,
15. **One day workshop** on “Video Streaming Technologies” Conducted by CDAC, Hyderabad.
16. **Two Day Workshop** on “Rule based Expert Systems”, held at C-DAC Navi Mumbai, during October 17-18, 2008.
17. **“Two Week Summer School on ASR”**, held at IIIT, Bangalore and Organized by IEEE signal Processing Society, Bangalore, 16th July 27th July 2007.
18. **Three week Refresher Course** on “Advanced Communications”, at UGC-JNTU Academic Staff College, JNTU, Hyderabad, 6-25, November 2006.
19. **A Tutorial** on “DSP Architectures” at International Conference on Signal Processing and Communications (SPCOM’04), IISc, Bangalore, December 2004.
20. **A Tutorial** on “Watermarking and Steganography”, at International Conference on Signal Processing and Communications (SPCOM’04), IISc, Bangalore, December 2004.
21. **National Workshop** on Navigation Systems, Present Scenario And Future Trends during 11, 12 June 2002, at Trivandrum.
22. **Instructional workshop** on “Estimation, Identification and Control of Dynamical Systems”, during March 18-22, 2002 at Dept. of ECE, IISc., Bangalore.
23. Coordinator cum faculty member of a refresher course on “Probability Theory, Stochastic Processes and Their Applications”, 19th November – 22nd December 2001 held at Research and Training Unit for Navigational Electronics, Osmania University.
24. **A Tutorial** on “Fixed Broadband Wireless Access” during Conference on Signal Processing and Communications (SPCOM’01) , 16th July 2001, IISc, Bangalore.
25. A Tutorial on “Voice Over IP” during Conference on Signal Processing and Communications (SPCOM’01), 16th July 2001, IISc, Bangalore
26. A Tutorial on “JPEG 2000: A new Philosophy” during Conference on Signal Processing and Communications (SPCOM’01) 15th July 2001, IISc, Bangalore.
27. An intensive course on “Content-based Retrieval of Image and Video Databases”, organized by the Department of Electronics and Communication Engineering, Osmania University from 20th June, 2001 to 22nd June 2001.
28. A Two-day workshop on “GPS Modernization and Augmentation Systems” February 22-23, 2001, NERTU, Osmania University, Hyderabad. (Coordinator and faculty)
29. A National seminar/workshop on “Advances in GPS and its Application Potential” , 24th November, 2000 at Bangalore
30. A Two Day workshop on “Global Navigational Satellite System” AA,I 13-14 October 2000, at New Delhi

31. A tutorial on "Video Information Systems" during International Conference On "Communications, Control and Signal processing for the Next Millennium" July, 25-28, 2000, At Ashoka Hotel, Bangalore
32. A short Course on "Probability Theory, Random Variables and stochastic Processes" conducted by Dept. of E.C.E., Osmania University during 1st May2000 to 20th May 2000.
33. NAL-UNI Lecture series Course on "Active Control of Noise and Vibration", conducted during 11-14, April 2000 at NAL, Bangalore