



## Ramchandra Manthalkar

Professor

Department of Electronics and Telecommunication Engineering  
SGGSIE&T, Nanded

- Academic Qualifications** : BE 1988, ME1994, Ph. D. (IIT KGP) 2003
- Employment Record** : Lecturer (1988-98), Assistant Professor (1998), Professor (3.9. 2006)
- Administrative Responsibilities** : Head of The Department (March 2009), M. Tech. Coordinator (2002-03), Warden (1995-98)
- Other Responsibilities in institute** : EDC Lab in charge (1990-95), Member TEQIP Academic Excellence Cell, Faculty Advisor ISTE student Chapter (1997-1999)
- Industry / Research Organization Interaction** : CEERI Pilani, M/S Sankalp Semiconductors Pvt. Ltd.
- Research Interests** : Digital Signal and Image Processing, VLSI , computer networks,
- Research Projects** :
- “Texture Analysis in biomedical images” project sanctioned and funded by All India Council for Technical Education, New Delhi (RPS Scheme 2004-2006) Rs. 8.60 Lakhs
  - “Content based video retrieval” project sanctioned and funded by All India Council for Technical Education, New Delhi (RPS Scheme 2007-2009) in MGM’s college of Engineering Nanded as CoPI. Rs. 7.5 Lakhs
- Extension Services** :

**Recognition of Universities:** Recognized PG Teacher and Ph. D. Guide (2006) in SRTMU, Nanded (Electronics and Computer Science).

**PG/Ph. D. Guidance:** More than 15 M. Tech. students completed their dissertation work and Two Ph. D. students. Three students are working.

**Short Term Course Conducted:** Two short term courses are conducted. Delivered lectures in 15 ISTE/QIP short term courses

**Research Papers Published:** 11 papers are published in national/international journals, about 24 papers in national and international Conferences.

**Membership of Professional Bodies:** LM ISTE, LM BMESI, LM SSI, LM ISCEE

# CV of Ramchandra Manthalkar

1. **Name** : Ramchandra Raghunathrao Manthalkar  
2. **Date of Birth** : 04.07.1967  
3. **Nationality** : Indian  
4. **Martial status** : Married  
5. **Address** : **Department of Electronics and Telecommunication Engineering, SGGs Institute of Engineering and Technology, Vishnupuri, Nanded, 431606**  
6. **Phone Numbers** : **+91-2462-256486 (R)**  
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7. **Email** : rmanthalkar@sggs.ac.in ,  
rmanthalkar@yahoo.com  
8. **Research Interests** : Signal and Image Processing, pattern recognition, Digital VLSI, computer networks

## 9. Academic Qualifications: (B. E. degree onwards)

Sr. No.	Degree	University / Institution	Division / Equivalent	Year of Passing	Specialisation
1.	B. E. (Electronics)	Marathwada University, Aurangabad	First Division with Distinction	1988 (First in University)	Digital Design and Systems Software
2.	M. E. (Electronics)	Marathwada University, Aurangabad	First Division with Distinction	1994	Operating systems
3.	Ph. D.	Indian Institute of Technology, Kharagpur	-	2003	Invariant texture classification

- **Received National Merit Scholarship from SSC till BE(Electronics)**
- **Stood 7<sup>th</sup> in HSC examination in Marathwada Board**

## 10. Employment record:

Sr. No.	Organisation	Post held and payscale	From	to
1.	SGGS College of Engg. And Tech., Vishnupuri, Nanded 431606	Lecturer	03.09.1988	2003
2.	SGGS Institute of Engineering and Technology, Nanded 431606	Assistant Professor	3.09.1998	2.9.2006
3	SGGS Institute of Engineering and Technology, Nanded 431606	Professor	3.9.2006	To date

## 11. Administrative Responsibilities

Sr. No.	Position	from	to
1.	M. Tech Coordinator	2002	2003
2.	Warden	1995	1998
3.	Head of Electronics and Telecommunications Engg. Department	March 2009	To date

## 12. Other Responsibilities

Sr. No.	Post held	from	to
1.	EDC Lab Incharge	1990	1995
2.	Member TEQIP Academic Excellence	Dec 2002	to date
3.	Faulty advisor, ISTE student chapter	1997	1999

## 13. Recognition of Universities:

- Recognised Ph. D. Guide in SRTMU, Nanded (Electronics and Computer Science)
- Recognised PG teacher in Electronics Engineering of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
- Recognised PG teacher in Electronics Engineering of Swami Ramanand Teerth Marathwada University, Nanded
- Biography is included in the current edition of Marqui's who's who in science and engineering
- Biography is selected to be included in current edition of the International Biographical Centre of Cambridge, England as "Outstanding Scientist of 21<sup>st</sup> Century".
- Worked in the syllabus framing committee of Electronics Engineering of Swami Ramanand Teerth Marathwada University, Nanded
- Worked as Chief Superintendent of Examination of Swami Ramanand Teerth Marathwada University, Nanded

## Ph. D. Guidance and Completion

SN	Name of Research Scholar	Thesis Title	Registration	Completed/ Ongoing
1	Dr. V. R. Ratnaparkhe	Biomedical Image Analysis	2002	2008
2	Dr. V. R. Ghorpade	Studies on security in Ad Hoc networking	2003	2008
3	Dr. Radhakrishna Naik	Design and Analysis of intelligent real time scheduler: A case study of greenhouse monitoring system	2007	2012
4	Ms. Shubhada	Studies on Classification of	2008	Thesis

	Ardhapurkar	ECGs using Signal Processing Techniques		Submitted
5	Ms. Swati Deshmukh	Texture analysis in biomedical images	2008	Ongoing
6	Mr. Kailash Sharma	Pose invariant face recognition	2010	Ongoing
7	Mr. Kiran Bhandari	Multimodal remote sensing classification and compression	2010	Ongoing
8	Mr. Siddharth Bhorage	Video based indoor human activity detection and analysis	2010	Ongoing

#### 14. Membership of Professional bodies:

- Life member Indian Society for Technical Education, New Delhi.
- Life member Biomedical Engineering Society of India.
- Life member System Society of India
- Life member Indian Society for Continuing Engineering Education

#### 15a. List of ISTE/QIP/Short term courses conducted

1. TM07 "Pedagogical training in engineering education", DTE sponsored training for fresh teachers (less than one year experience), March 4-5, 2009.
2. TM08 "Pedagogical training in engineering education", DTE sponsored training for teachers (with more than 5 years experience), March 6-7, 2009.
3. Conducted two day workshop on multimedia networking, 28/2/2009 - 1/3/2009.

#### 15b. List of ISTE/QIP/Short term courses attended:

- ***Distance Education Program of KReSIT, IIT Bombay – Computer Networks during 2003 (Audit)***
- Analog VLSI held from 26 June 2006 to 1<sup>st</sup> July 2006 at NIT Warangal
- VLSI signal Processing, 22<sup>th</sup> Dec. to 29<sup>th</sup> Dec 2006, IIT Kharagpur
- Programming paradigms: verification perspectives held from 8-12-2004 to 20-12-2004, SGGS Nanded.
- VLSI design using VHDL held from 24-5-2004 to 5-6-2004, SGGS Nanded
- VLSI: Technology of the future held from 12-2-2003 to 25-2-2003, Dr. BATU Lonere
- Campus wide network administration held from 13-1-2003 to 25-1-2003, Dr. BATU Lonere
- Image and Video Processing for multimedia applications held from 19-11-2001 to 30-11-2001, IIT Kharagpur
- Digital Signal Processing held from 16-3-1998 to 27-3-1998, SGGS Nanded
- Industry Institute Partnership held from 3-3-1997 to 8-3-1997, SGGS Nanded
- Signal processing devices and applications held from 13-12-1994 to 31-12-1994, University of Roorkee
- Strategic planning and institutional development from 30-11-1994 to 2-12-1994, SGGS Nanded
- Parallel computing in science and engineering, June 19-21, 1996, CDAC Pune

- Attended one day workshop on 11-2-2006, "Development environments and processes", SGGGS Nanded, Resource person: Prof. Claude Petitpierre, Swiss Federal Institute of Technology, Lausanne, Switerland.
- Applications of signal processing in networking, August 16-17, 2004, IIT Bombay.

**16. Institutes in which worked as resource person for ISTE/QIP/Short term courses:**

- SGGGS Nanded
- Jawaharlal Darda Institute of Engg. And Technology, Yavatmal
- VJTI Mumbai
- College of Engineering Ambajogai
- MGM Nanded
- Yashwant College Nanded
- M. Phil. Guide for Yashwantrao Chavan Open University
- Govt. Engineering college, Aurangabad
- Sinhgad college of Engineering, Pune
- College of Engineering, Shegaon
- MIT, Aurangabad
- Dr. B.A.M.U. Lonere

**17. Subjects Taught:** EDC, Microelectronics, VLSI design, Computer Networks, Digital Signal and Image Processing

**18. Research Projects**

1. *In Progress:* AICTE sponsored research project titled "Denoising, Compression and Analysis of ECG Signals for Automated Diagnosis" since August 2012 with funding of Rs 6.75 Lakhs. Principal Investigator: Dr. Suhas S. Gajre, Co-Principal Investigator: Dr. Ramchandra R. Manthalkar
2. "Texture Analysis in biomedical images" project sanctioned and funded by All India Council for Technical Education, New Delhi (RPS Scheme 2004-2006) Rs. 8.60 Lakhs
3. "Content based video retrieval" project sanctioned and funded by All India Council for Technical Education, New Delhi (RPS Scheme 2007-2009) in MGM's college of Engineering Nanded as CoPI. Rs. 7.5 Lakhs
4. MODROB (Modernisation and Removal of Obsolescence) for developing Analog and Mixed Signal Laboratory from AICTE, New Delhi Rs. 15 Lakhs (2010-12)

**19. List of International/National Journal Publications**

- [1] Ramchandra Manthalkar, P. K. Biswas, B. N. Chatterji , "Rotation invariant texture classification using even symmetric Gabor filters ", Pattern Recognition Letters No. 24, pp. 2061-2068, 2003
- [2] Ramchandra Manthalkar, P. K. Biswas, B. N. Chatterji , "Rotation and scale invariant texture classification using discrete wavelet packet transform ", Pattern Recognition Letters No. 24 2003

- [3] Ramchandra Manthalkar, P. K. Biswas, "A survey of rotation invariant texture classification methods", IETE Journal of research, vol 48, no. 3 & 4. pp. 189-198, 2003
- [4] Ramchandra Manthalkar, P. K. Biswas, "Rotation invariant texture classification using Gabor phase features", IETE Journal of research, vol 48, no. 3 & 4. pp. 199-204, 2003
- [5] R.R.Manthalkar, Dr. T.R. Sontakke, and S.S. Gajre, "PC based ECG Interpreter", *Journal of Biomedical Engineering Society of India*, vol. 15, pp. 19, 1995.
- [6] V. R. Ghorpade, Y. V. Joshi, R. R. Manthalkar (2006). "Trust Evaluation in Mobile Ad Hoc Networks", *The Journal of The Computer Society of India*, Vol 36 No 4, Oct-Dec. 2006
- [7] A. G. Deshpande, R. R. Manthalkar, "PC based heart sound data acquisition system", *IE(I) journal*, vol. 77, March 1997.
- [8] M. S. Joshi, R. R. Manthalkar and Y. V. Joshi, "Image compression using Curvelet, Ridgelet and Wavelet Transform – A comparative study", *ICGST-GVIP Journal*, ISSN 1687-398X, Vol. 8, Issue III, Oct. 2008, pp 25-34
- [9] V. R. Ghorpade, Y. V. Joshi, R. R. Manthalkar, "Fuzzy Logic based Trust Management Framework for MANET", *DSP Journal*, Volume 8, Issue 1, December, 2008, pp- 37-46
- [10] V. R. Ratnaparkhe, R. R. Manthalkar, Y. V. Joshi, "Texture Characterisation of CT images based on Ridgelet Transform", *ICGST-GVIP Journal*, ISSN 1687-398X, Vol. 8, Issue V, January 2009, pp 43-50
- [11] V. R. Ghorpade, Y. V. Joshi, R. R. Manthalkar "Efficient group key generation in non-homogeneous mobile Ad Hoc networks," *IJSDIA International Journal of Secure Digital Information Age*, Vol. 1, No. 1, June 2009, pp. 45-51.
- [12] Shubhada S. Ardhapurkar, Ramachandra R. Manthalkar, Suhas S. Gajre, "Interpretation of Normal and Pathological ECG beats using Multiresolution Wavelet Analysis", *International Journal of Information Technology and Computer Science (IJITCS)* (ISSN: 2074-9007 (Print), ISSN: 2074-9015 (Online)), Vol. 5, No. 1, Jan 2013, pp. 1-14 (DOI: 10.5815/ijitcs.2013.01.01) [IN-J]
- [13] Shubhada Ardhapurkar, Ramchandra Manthalkar, Suhas Gajre, "ECG Denoising by Modelling Wavelet Subband Coefficients using Kernel Density Estimation," *(International) Journal of Information Processing Systems (JIPS)* (ISSN: 1976-913X(Print), ISSN: 2092-805X(Online)), Vol. 8, No. 4, December 2012, pp. 669-684 [IN-J]
- [14] Shubhada S. Ardhapurkar, Ramachandra R. Manthalkar, Suhas S. Gajre, "A Hybrid Algorithm for Classification of Compressed ECG", *International Journal of Information Technology and Computer Science (IJITCS)* (ISSN: 2074-9007 (Print), ISSN: 2074-9015 (Online)), Vol. 2, No. 2-4, March 2012, pp. 26-33 [IN-J]

## 20. List of National/ International Conferences

- [1] R.R.Manthalkar, Dr. T.R. Sontakke, and S.S. Gajre, "PC based ECG Interpreter", *Regional Conference of IEEE Engg. In Biomedical and Biological Society and 14<sup>th</sup> National Conference of BMESI, An International Meet, IIT, Delhi, India*, pp. 2.23-2.24, 1995.
- [2] R.R.Manthalkar, and S.S. Gajre, "Qualitative Analysis of QRS Detecting Methods of ECG", *19<sup>th</sup> National Systems' Conference (NSC95), PSGCT, Coimbatore, India*, pp. 551-555, Dec. 14-16, 1995.
- [3] R. R. Manthalkar, Sontakke T. R., Gajre S.S., Deshpande A. G., "An automated ECG classification scheme", *18<sup>th</sup> National Systems Conference, DEI, Agra, India*, pp. 483-486, Jan. 14-16, 1995.
- [4] Ramchandra Manthalkar, P. K. Biswas, "Rotation invariant texture classification using Gabor Wavelets," *Asian Conference on Computer Vision*, pp. 493-498, Jan. 23-25, 2002, Melbourne Australia.
- [5] Ramchandra Manthalkar, P. K. Biswas, "An Automatic script identification scheme for Indian Languages," *NCC 2002, IIT Bombay, Mumbai*, pp. 31-34, Jan. 25-27, 2002.
- [6] Ramchandra Manthalkar, P. K. Biswas, "Color Texture Segmentation using multichannel filtering," *Conference on Digital Image Computing Techniques and Application*, pp. 346-351, Jan 21-22, Melbourne, Australia, 2002.
- [7] Ramchandra Manthalkar, P. K. Biswas, B. N. Chatterji, "Rotation and scale invariant texture classification using Gabor wavelets," *Second International workshop on texture analysis and synthesis 'texture 2002' to be held on June 1, 2002, Copenhagen*.
- [8] Ramchandra Manthalkar, P. K. Biswas, B. N. Chatterji, "Rotation invariant color texture classification in perceptually uniform color spaces", *ICVGIP Ahmadabad 2002*.
- [9] Ramchandra Manthalkar, P. K. Biswas, "Gabor phase features for rotation invariant texture classification," *Proceedings of the International Conf. on Energy, Automation and Information Technology*, pp. 502-505, Dec. 10-12, 2001 I.I.T. Kharagpur.
- [10] Ramchandra Manthalkar, P. K. Biswas, "Rotation invariant texture classification using multichannel filtering," in *Object Detection, Classification, and Tracking Technologies*, J. Shen, S. Pankanti, R. Wang, Editors, *Proceedings of SPIE Vol. 4554*, pp 107-112, (2001).
- [11] Ramchandra Manthalkar, P. K. Biswas, Swapna Banerjee, "Texture segmentation using Gabor filters," *Proc. of the International Conf. on Communications, Computers and Devices ICCCD 2000, I. I. T. Kharagpur*, pp. 419-422, Dec. 14-16, 2000.
- [12] Ramchandra Manthalkar, P. K. Biswas, "Texture segmentation using multichannel filtering," *Proceedings of Matlab India Millenium Conference, Bangalore, Nov. 15-17, 2000*.
- [13] V.R.Ratnaparkhe, R.R.Manthalkar, Y.V.Joshi,(2005) " Texture Analysis in Biomedical Image Processing", *Proceedings of NVGIP-05, 2-3March,JNNCE, Shimoga*
- [14] V.R.Ratnaparkhe, R.R.Manthalkar, Y.V.Joshi, (2006) "Segmentation of Biomedical Images using Wavelet Texture Features", *Technical Symposium, Tsygeca, 06, January 23-24,2006*
- [15] V.R.Ratnaparkhe, R.R.Manthalkar, Y.V.Joshi,(2006) "Wavelet Texture Features of Biomedical Images", *National Conference CSIP, Emerging Trends I Computational Science and Information Processing, April 1-3,2006*
- [16] V.R.Ratnaparkhe, R.R.Manthalkar, Y.V.Joshi,(2006) "Bit Plane Texture Features of Biomedical Images", *National Conference on Biomechanics, December 15-17,2006*
- [17] M. S. Joshi, R. R. Manthalkar, Y V. Joshi (2008), " Color Image Compression using Wavelet and Ridgelet transform", *Fifth IASTED International Conference on Signal Processing, Pattern Recognition, and Applications (SPPRA 2008), February 13 – 15, 2008, Innsbruck, Austria*



- [18] M. S. Joshi, R. R. Manthalkar, Y V. Joshi, "Joint Compression and Classification For Textures in the Wavelet and Ridgelet Domain", 3rd IEEE International Conference SITIS 2007, December 16-19 2007, Jiangong Jinjiang Hotel, Shanghai, China
- [19] M. S. Joshi, R. R. Manthalkar, Y V. Joshi, "Comparison Of Image Compression Using Wavelet And Ridgelet Transform", International conference International Conference on Systemics, Cybernetics and Informatics ( ICSCI) Jan 08, Hyderabad
- [20] Delivered a plenary session in *Technical Symposium, Tsygeca, 06*, January 23-24, 2006
- [21] T. R. Sontakke, R. R. Manthalkar, "Impact of nonaided engineering colleges on engineering education in Maharashtra", Conference on Revamping of Technical Education, held at Aurangabad by SGGGS Nanded 22-23, February 1992.
- [22] R. R. Manthalkar, S. S. Gajre, "Laboratories to teach design basics to undergraduate students", National conference on emerging trends in electronic product design technology, CEDT Mohali (Chandigarh), April 14-16, 1995.
- [23] R. R. Manthalkar, A. A. Mahajan, "Continuing engineering education: a cohesive force for upliftment of technical education", National conference on role of continuing education, University of Roorkee, February 3-4, 1995.
- [24] Ramchandra Manthalkar, P. K. Biswas, B. N. Chatterji, "Rotation invariant texture classification using discrete wavelet packet transform," 27<sup>th</sup> National Systems Conference held at IIT Kharagpur, 17-19, December 2003
- [25] A. R. Upadhyay, R. R. Manthalkar, "Image denoising using coupled PDE based anisotropic diffusion approach", NCC 2005, IIT Kharagpur.
- [26] Shubhada S. Ardhapurkar, Ramchandra R. Manthalkar, Suhas S. Gajre, "Interpretation of Normal and Pathological beats using Multiresolution Wavelet Analysis," In Proceedings of International Conference Computing in Cardiology 2012 (CinC2012), September 9-12, 2012, Krakow, Poland [IN-C]
- [27] Shubhada Ardhapurkar, Ramchandra Manthalkar, Suhas Gajre, "Electrocardiogram Compression by Linear Prediction and Wavelet Sub-Band Coding Techniques," In Proceedings of International Conference Computing in Cardiology 2011 (CinC2011) (Digital Object Identifier: 10.1109/ICOSP.2010.5656454), 18-21 September 2011, Zhejiang University, Hangzhou, China, pp. 141-144. [IN-C]
- [28] Ramchandra Manthalkar, Suhas Gajre, Shubhada Ardhapurkar, "Wavelet Based ECG Denoising by Employing Cauchy Distribution at Subbands," in Proceedings of IEEE 10th International Conference on Signal Processing (ICSP), 24-28 Oct. 2010, Beijing, China, pp. 1718-1721. [IN-C]
- [29] Delivered a tutorial on "Recent advances in texture classification" at the International Conference on Systemics, Cybernetics and Informatics (Hyderabad) , February 12-15, 2004

## 21. Other activities/Responsibilities

- Worked on AICTE committee for inspection of Engineering Colleges
- Resource Person in the various ISTE Short Term Training programmes