

BIO-DATA



Recent Photograph

1.	Name	Megha M. Kolhekar			
2.	Designation	Associate Professor			
3.	Residential Address	Kharghar Navi Mumbai			
4.	Date of birth	August 23 rd 1972			
5.	Total Experience	Twenty Three years			
i.	Teaching	Twenty Two years			
ii.	Industrial	One Year			
6.	Qualifications				
	Exam Passed	Year	Institution/ University	Branch/Specialization	Percentage/CGPI
	B.E.	1993	Nagpur University	Electronics	Distinction
	M. Tech.	2005	IIT Bombay	Communication & Signal Processing	CGPI: 9.33/10
Additional Qualification: Three months on-line certificate course in “IPR and IT in the Internet age”					
7.	Employment Record				
	Institution	Year (From To)	Designation		
	Diglin Industries, MIDC, Nagpur	1993 May to October 1993	Graduate Engineer		
	Koradi Thermal Power Station, Koradi	November 1993 to November 1994	Apprentice Engineer		
	Priyadarshini College of Engineering, Nagpur	February 1995 to December 1995	Lecturer on Adhoc		
	Fr. C. Rodrigues Institute of Technology, Vashi	June 1997 to July 2005	Lecturer		
	Fr. C. Rodrigues Institute of Technology, Vashi	July 2005 December 2008	Assistant Professor		
	Fr. C. Rodrigues Institute of Technology, Vashi	December 2008 till date	Associate Professor		
8.	Undergraduate / Postgraduate Teaching Experience and Subjects Taught				
Subjects Taught at UG level					
	Sr.No.	Name of Subject	Semester		
	1.	Optical Fiber Communication	VIII		
	2.	Wireless Networks	VIII		
	3.	Image & Video Processing	VII		
	4.	Data Compression & Encryption	VII		
	5.	Mobile Cellular Syatems	VII		
	6.	Electromagnetic Wave Theory	IV		
	7.	Digital System Design	III		
Subjects Taught at PG level					
	Sr.No.	Name of Subject	Semester		

	1.	Wireless Adhoc Sensor Networks	II					
	2.	Wireless Adhoc Sensor Network Laboratory	II					
9.	Research Experience: Persuing Ph.D. at Electrical Engineering Department, IIT Bombay in the area of "Finite Fields & Applications"							
10	Research Funding / Consultancy Services: -----							
.	Sr.No.	Name of the Company	Address	Product	Consulting Service	Consulting Fees	Period	
	Research Grants:							
	Sr.No.	Name of Funding Organization	Type of Grant	Amount (Rs.)	Year	Name of Research Project		
	1.	EE Department IIT Bombay	Department fund	75000/-	2017	For attending conference related to research work		
	2.	Mumbai University	Minor Research Grant	45000/-	2015	Wireless Sensor Network Based Smart Home with Object Location System for Old age Population		
	3.	MHRD	FOSSEE	1,34,000/-	2010	Conducting National Workshop on Scilab with FOSSEE-Project IIT Bombay		
	Technical Collaboration / Lab Funding with Industries -----							
	Sr.No.	Name of the Funding Organization	Type of Support	Amount (Rs.)	Year			
11	Professional Societies Fellowship / Membership:							
.	Life Member of ISTE, Life Member of IETE							
12	Achievements / Awards / Position							
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13	Projects guided in UG/PG level:							
.	<u>I. PG:</u>							
	1. "Denoising of Images using Non negative Matrix factorization", Year 2017-18, Student: Kitty Verghese, Co-guide: Smita Hande							
	2. "Robust Video Encryption Decryption using Selective Frame encryption technique" Year 2016-17 Rupali Hole							
	3. "Electromagnetic Energy Harnessing using Rectenna Approach", Year 2016-17, Nimmy Nair							
	4. "RoI Based Medical Image Compression", Year 2016-17, Swati kasute							
	5. "Digital Image Encryption and Decryption ", Year 2015-2016, Student: Neha Balu Wagh							
	6. "Restoration and Enhancement of Astronomical Images using Multiple Filtering Techniques", Year 2014-15, Student: Ruchita Shevale							
	7. "Video Watermarking using Discrete Wavelet Transform", Year: 2014-15, Co-guide: Anita Jadhav, Student: Bindu Reddy							
	8. "Wireless sensor network based smart home with object locating system for old age population", Year 2014-15, Co-guide: Manita Rajput, Student: Rasika Ransing							
	9. "Authentication of document images with self repair capability", year 2014-15, Co-guide: Nilashree W. , Student: Sarita Kulhari							
	10. "Digital Watermarking in Videos", year 2012-13, Student: Anita Jadhav							

II. UG:

1. BE Final Year Project on “Development of energy efficient Secure Body Area Network for Remote Health Monitoring Application” Year 2017-18, Avi Noronha, Nadeem, Rohit Nair and Shardul Tadaskar
2. BE Final year students of the batch 2015-16 successfully completed a project on “Night Vision Enhancement”. The project group members include: Vidhya Gowda, Samrudhi Kaulapure, Rutuja Rajput, Beilaitha Khithie
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4. BE Final year students of the batch 2014-15 successfully completed a project on “Visual Saliency Detection”. The project group members include: Tejas Bobhate, Ushasi Chaudhuri, Sagar patil, Sai Vinherkar
5. BE Final year students of the batch 2014-15 successfully completed a project on “Image Recognition And Naming”. The project group members include: Shivani Deo, Mayuri Dhandare, Madhushree Gadhe, Martand Shandilya
6. BE Final year students of the batch 2013-14 successfully completed a project on “ Remote Video Surveillance Syatem”. The project group members include: Vedant Sarode, Ujjwal Trivedi, Akshata Khardikar, Chaitali Kirtane
7. BE Final year students of the batch 2011-12 successfully completed a project on “Compressed Video Encryption and Decryption”. The project group members include: Mr. Mihir Gangar, Mr. Rahul Mehta, Mr. Kasilingam Palaniswami, Mr. Rahul Ithape
8. BE Final year students of the batch 2011-12 successfully completed a project on “Personnel Access System using Face Recognition”. The project group members include: Mr. Akshay Naik, Ms. Nalini, Ms. Ruchita, Mr. Sagar Naik.
9. BE Final year students of the batch 2011-12 successfully completed a project on “Hand gesture Recognition using Image Processing”. The project group members include: Mr. Chetan Pokle, Ms. Priyanka Chavan, Ms. Swati Khandelwal, Mr. Mohit Goyal.
10. BE Final year students of the batch 2010-11 successfully completed a project on “Digitl Watermarking in Videos”. The project group members include: Ms. Jinse Thomas, mr. Atulsingh rajput, Mr. Nikhil Singh and Mr. Rohan Teli
11. BE Final year students of the batch 2009-10 successfully completed project on “RS-Method for Watermarking on Medical Images”. The project group members include: Ms. Kriti gupta, Late Ms. Tripti jain, Mr. Punit singh
12. BE Final year students of the batch 2009-10 successfully completed project on Animation of “Elliptic Curve Cryptography for text and Images”. The project group members include: Mr. Anup Joseph, Mr. kamalkishor Pal, Mr. Mandar Koli and Mr. Neeraj Sawant
13. BE Final year students of the batch 2008-09 completed project on “Video transmission over Optical Fiber”. The project group members include: Ms. Swati Kaduskar, Ms. Rajashree Kene, Ms. Shubhangi Palave, Ms. Kavita Patil
14. BE Final year students of the batch 2008-09 completed project on “Design of Cryptosystem”. The project group members include: Mr. B. Lal, Mr. Anirudh Deshpande, Mr. Mandar Dongre, Mr. Azharuddin Shaikh

	<p>15. BE Final year students of the batch 2007-08 completed project on “Content Based Image Recovery”. The project group members include: Ms. Neha S., Ms. Neha D., Ms. Deepika Akula</p> <p>16. BE Final year students of the batch 2006-07 completed project on “Encryption of Images using Visual Cryptography”. The project group members include: Ms. Krutee Chaudhary, Ms. Supriya Kunder, Ms. Neha Shah, Ms. Tinu verghese</p> <p>17. BE Final year students of the batch 2006-07 completed project on “Vehicle Ignition and Immobilizer Unit”. The project group members include: mr. Prasad nayak, Ms. Tanvi Mehta, Ms. Vinitha K., Mr. John P.</p> <p>18. BE Final year students of the batch 2005-06 completed project on “Digital Watermarking”. The project group members include: Mr. Vishal C., Ms. Anuradha rao, Ms. Brinda M. and Ms. Pradnya Mhaskar</p> <p>19. BE Final year students of the batch 2004-05 completed project on “Automatic Vehicle Locator using GPS and GSM”. The project group members include: Mr. Venkatesh Chakravarti, Mr. Kaizad Irani, Mr. Pritam Pradhan</p>
<p>14</p>	<p>Short Term Training Programmes attended</p> <ol style="list-style-type: none"> 1. Participated in JTG Summer School on Information Theory at IIT Bombay during May 28th - 31st 2017. 2. Participated in one week STTP on freeware “Scilab”, through FOSSEE project-IIT Bombay. (29/11/2011 to 03/12/2011) 3. ISTE approved one week STTP (15-19 June 2009) on ‘Electromagnetic Waves and its Applications’ at Sardar Patel Inst. Of Technology, Mumbai. 4. ISTE approved one week STTP (Novemembr 17-28, 2008) on “Applications of Software Tools in Electronics & telecommunication” at Don Bosco Inst. Of Technology, Mumbai. 5. ISTE-AICTE sponsored one week STTP (26 Feb-02 March 2007) on “Digital Signal Processing and its Applications in Speech Processing (with Matlab)” at FCRIT, Vashi.
<p>15</p>	<p>List of Journal Papers Published (list in IEEE format)</p> <ol style="list-style-type: none"> 1. N.B. Wagh, M. Kolhekar, “A Novel Approach utilizing Permutation Polynomials over integer rings as a Cryptological Application for Effective Encryption of Digital Images”, International Journal of Computer Sciences and Engineering, Vol.5, Issue.1, pp.14-21, 2017. 2. Rasika Ransinga, Manita Rajput, Megha Kolhekar ‘Wireless Sensor Network based Smart Home with Object Locating system for old age population’, International Journal of Scientific & Engineering Research, Volume 6, Issue 11, November-2015 292 ISSN 2229-5518, pp 292-297 3. Samruddhi Kaulapure, Megha Kolhekar, et. al., “Digital Night Vision Enhancement using Histogram Processing”, International Journal of Engineering Research in Electronic and Communication Engineering (IJERECE) Vol 2, Issue 10, October 2015, DOI: 01.1617/vol2iss10pid080 4. Ruchita Shevale, Megha Kolhekar, “Restoration and Enhancement of Astronomical Images using Multiple Filtering Techniques”, International Journal of Global Technology Initiatives, IGTI, Vol. 4, Issue 1, March 2015, pp B132-B137 5. Anita Jadhav, Megha Kolhekar, “Digital Watermarking”, International Journal of Engineering Research & Technology (IJERT) Vol. 1 Issue 8, October - 2012 6. Megha Kolhekar, Anita Jadhav, “Implementation of Elliptic Curve Cryptography

	<p>on Text and Image” International Journal of Enterprise computing and Business Systems, Vol1 issue 2 July 2011, ISSN(online): 2230 8849</p>
<p>16</p>	<p>List of Papers Published in National and International Conferences (list in IEEE format)</p> <ol style="list-style-type: none"> 1. Kitty Verghese, Megha Kolhekar, smita Hande, “Denoising of facial images using non-negative matrix factorization with sparseness constraint”, International Conference for Convergence in Technology I2CT 2018, April 06-08, Pune. 2. Rupali Hole, Megha Kolhekar, “Robust Encryption of uncompressed Videos with a Selective Encryption Scheme”, International Conference for Convergence in Technology I2CT 2018, April 06-08, Pune. 3. R. N. Hole and M. Kolhekar, "Robust video encryption and decryption using selective encryption," <i>2017 International Conference on Nascent Technologies in Engineering (ICNTE)</i>, Navi Mumbai, 2017, pp. 1-4. doi: 10.1109/ICNTE.2017.7947972 URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7947972&isnumber=7947877 4. N. Nair, M. Kolhekar, U. Mhapankar and S. Nair, "Electromagnetic energy harnessing using rectenna approach," <i>2017 International Conference on Nascent Technologies in Engineering (ICNTE)</i>, Navi Mumbai, 2017, pp. 1-5. doi: 10.1109/ICNTE.2017.7947983 URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7947983&isnumber=7947877 5. Tejas Bobhate, Megha Kolhekar, et.al. “SALIENT REGION DETECTION BY EXPLOITING BACKGROUND CUES”, Proceedings of 21st IRF International Conference, 8th March 2015, Pune, India, ISBN: 978-93-82702-75-7, pp 6. Anita Jadhav, Megha Kolhekar, “ Digital Watermarking in Video for Copyright Protection, Proc. of International Conference on Electronic Systems, Signal Processing and Computing Technologies, pp 140-144, 2014, IEEE Computer Socy., 978-1-4799-2102-7/14 \$31.00 © 2014 IEEE, DOI 10.1109/ICESC.2014.29 7. Saurabh Lonikar, Megha Kolhekar, “Implementation of Elliptic Curve Cryptography on Images using Modified El-Gammal Cipher” in proc. of International Conference in Advances in Computing and Management-2012, ICACM-2012, at D. Y. Patil Institute of Technology, Pune, on February 6th and 7th 2012, pp 188-192 8. Kruti Chaudhari, Megha Kolhekar, Ashish Harsola, et. al. “Visual Cryptography Scheme for Image encryption” in proc. of <i>ICETTC- 2007</i>, IETE Mumbai Centre, pp B9-B12 9. Dr. K. T. V. reddy, Megha Kolhekar, Ashish Harsola, “Text and Image Transmission using OFDM technique” in proc. of <i>ICETTC 2007</i>, IETE Mumbai Centre, pp B9-B179-182 10. Anita Jadhav, Megha Kolhekar, “Digital Watermarking in Videos”, in proceedings of <i>IECIT-2011</i>, Vidyalkar Institute of Technology, Mumbai, pp 33-36, dated March 25-26, 2011. 11. Punit Singh, Megha Kolhekar, “DCT-SVD Domain Watermarking” in proceedings of <i>CISCON-2010</i>, Manipal Institute of Technology, Manipal, pp 30-35, Dated Nov 12-13, 2010. 12. Megha Kolhekar, Punit Singh, Kruti Gupta, “Digital Watermarking using ROI based RS Lossless Data Embedding” abstract in proceedings of <i>NCIS 2010</i>, Manipal Centre of Information Science, Manipal, pp-13, dated April 23-24, 2010 13. Megha Kolhekar, Anita Jadhav, Smita Hande, Manita Rajput, “Bit-plane Digital Watermarking for Digital ages and Audio” abstract in proceedings of <i>ZENITH 2009</i>, National Conference, Agnel Polytechnic, Vashi, pp-49, dated Dec 12-13, 2009

	14. Megha Kolhekar, Ajay Sharma, “Dynamic Channel Allocation in CDMA Systems”, in proceedings of <i>NCNTE-08</i> , Fr. CRIT, Vashi, pp 146 to 150, dated 29-02-08 and 01-03-08.
17	Books/Reports/General articles etc. -
18	<p>Invited Lectures in FDP/ STTP:</p> <ul style="list-style-type: none"> ○ Invited Talk on “Maxwell's Equations” at Electrical Engg Department FCRIT for STTP participants, on April 9th 2014. ○ Invited talk on “”Cryptography” at Agnel Polytechnic, Vashi on 6th March 2012. ○ Invited as speaker for “Wireless Networks 1G, 2G, 3G and Beyond..” at Terna college of Engg. Under STTP on Wireless Networks, on 19/01/12.” ○ Invited as speaker for “Scilab Communication Toolbox” at Rajiv Gandhi Inst. Of Technology, Mumbai, under FOSSEE-Project IIT Bombay on 06/01/12. ○ Invited as speaker for “Scilab Communication Toolbox” at Sardar Patel Inst. Of Technology, Mumbai, under FOSSEE-Project IIT Bombay on 23/12/2011. ○ Invited as speaker for “Scilab Communication Toolbox” at K. J. Somaiya COE, Mumbai, under FOSSEE-Project IIT Bombay on 17/06/2011 ○ Invited talk on “Introduction to Digital Watermarking” at Agnel Polytechnic, Vashi, on 04/10/2010 ○ Invited talk on “Inter personal Skills” at Agnel Polytechnic, Vashi, on 22/03/2010 ○ Invited talk on “Security on Mobile” at STTP, Comp & IT Dept., FCRIT, Vashi on 22/01/2010.
19	International Conference Technical Program Committee Member / Reviewer
	1. Reviewer for ICNTE organized by FCRIT in the years 2015, 2017.
20	Patents --