

**ASSISTANT PROFESSOR IN ELECTRONICS  
GOVERNMENT COLLEGE OF ENGINEERING**



**RESUME**

1. Name and Designation : Miss N. R. Kolhare,  
Associate Professor
2. Date of Birth :22-02-1976
3. Name of the Institution :Govt. College of Engineering,  
Aurangabad
4. Department :Electronics and Telecommunication  
Engineering
5. Field of Specialization : Signal processing,  
Communication, RF and MEMS design,  
Microcontroller
6. Academic Qualifications : ME(E & TC) , Pursuing Ph.D In MEMS
7. R&D and Teaching Experience : 119 Years
8. Industrial Experience, if any (attach copy): 8 Month
9. Awards / Prizes / Certificates etc. : First Rank in ME (E&TC)

**Member of the INAAR, IETE, ISSS**

10 Qualification Details

Qualification/ Degree	Board/ University	Specialization	Passing Year	Class/Rank
ME(ECT)	Pune COEP	E&TC	March 1999	First Class Rank First
BE(ECT)	GECA	E&TC	June-1997	Distinction

**11. Experience in Technical Department**

Institute	Department	Designation	From Date	To Date

Government College of Engineering, Aurangabad (MPSC)	Electronics & Telecommunication Engineering	<b>Associate Professor</b>	<b>18/08/2010</b>	<b>Continue</b>
Government College of Engineering, Aurangabad (MPSC)	Electronics & Telecommunication Engineering	<b>Assistant Professor</b>	<b>01/11/2003</b>	<b>18/08/2010</b>
Government Polytechnic, Aurangabad, Lature(MPSC)	Electronics & Telecommunication Engineering	<b>Lecturer</b>	<b>2/11/2001</b>	<b>1/11/2003</b>
MIT Engg College Aurangabad(UGC)	Electronics & Telecommunication Engineering	<b>Lecturer</b>	<b>15/6/1999</b>	<b>2/11/2001</b>
Government College of Engineering, Pune	Electronics & Telecommunication Engineering	<b>Lecturer</b>	<b>1 Jan 1999</b>	<b>1 May 1999</b>
Government College of Engineering, Aurangabad (MPSC)	Electronics & Telecommunication Engineering	<b>Lecturer</b>	<b>1/11/2003</b>	<b>Continue</b>

### 12. Courses/Workshop/Training attended

<b>Sr. No</b>	<b>Training Name</b>	<b>From Date To Date</b>	<b>Organisation</b>
01	Basic PC Hardware maintenance and Networking workshop	March 13-16,1999 ( 4 Days)	SSS-IMPACT and DOE, COE Pune
02	Short Term course on C++ Programming	Feb-15,1999 to 10 March 1999(2 Week)	SSS-IMPACT and DOE, COEPune
03	Induction Training Phase-1	17/06/2002 to 12/07/2002(4 Week)	ISTE Local chapter Govt Poly Pune
04	Two Day Symposium on Embedded System Design Automation Tools EEDA-2002	14/12/2002 and 15/12/2002 (2 Days)	CG-CoreEL Logic System Ltd, Pune and AISSMS COE Pune
05	Two day course on -FPGA	30/09/2003 and	IIT MUMBAI

	Design, SMDP Special Manpower Development in VLSI Design and related workshop	1/10/2003	
06	Workshop on Embedded System and DSP -Aagomani	23/10/2004 & 24/10/2004 (2 days)	IIT MUMBAI
07	STTP on Advance Digital Signal Processing	24/05/2004 to 5/06/2004 (2 Week)	Dept. of E&TC, GCOE, Pune AICTE-ISTE
08	STTP on DSP and its application	9/05/2005 to 20/05/2005	Dept of EE & ECT, S.P. College of Engg, Mumbai
09	Workshop on “Operation and maintenance of Instruments and Devices used in Clinical/Pathological Laboratory”	25/11/2005 (One Day)	COEPPune
12	Three Days STTP on Recent Trends in Instrumentation and Control	27/01/2006 to 29/01/2006 (3 Days)	SGGS Nanded
13	Digital Signal Processing and its application	19/06/2006 to 24/06/2006(01 Week)	Six days CEP conducted by IIT
14	Workshop on Implementing outcomes based engineering curricula through Participatory Action Research	9/9/2006 and 10/09/2009	Empowered Learning International Australia and TEQIP GECA
15	A WORKSHOP ON-An Unitary Approach to Image Transforms	11/10/2007 to 13/10/2007 (04 Days)	Dept of E&TC, GECA
16	DTE Sponsored, “Industrial Training Program For Teachers” DSP Wavelet Group Pune	17/06/2008 to 13/08/2008( 8 Week)	DTE Mumbai

### 13 Courses/Workshop/Training attended

Sr. No	Training Name	From Date To Date	Organisation
01	Workshop on-MATLAB and its Application	21/02/2004 to 22/02/2004( 2 days)	Dept of E&TC, GECA
02	TsyGECA National Level Paper Presentation	23 & 24 Jan 2006	Dept of E&TC, GECA
03	Workshop on EECDDV-2005	23/03/2005 to 24/03/2005	Dept of E&TC, GECA
04	STTP on Microcontroller System, Programming and Application(MSPA)	17/03/2005 to 19/03/2005 (3 Days)	Institute of Engg & Dept of E&TC, GECA

<b>05</b>	<b>Image and Signal Processing</b>	<b>6/04/2007 and 08/04/2007</b>	Dept of E&TC, GECA
<b>06</b>	LabVIEW Software, Hardware and test, Measuring Instrument	29/06/2006 to 30/06/2006 ( 2 days)	Dept of E&TC, GECA
<b>07</b>	INSEARCH WING 2008 ROBO COMPETITION	2006,2008,2009 2008	Dept of E&TC, GECA
<b>08</b>	Digital Media Developer Kit for Audio Visual systems using TMS32064xx series	Cranes Software Bengaluru May 2008	UG + PG 50
<b>09</b>	Two day workshop on: GSM Fundamental	4,5 September 2010	Deptt. of E &TC Engg And Witzel Communication , Aurangabad
<b>10</b>	TMS320c5515 for Medical Application :ECG Measurement, Hearth rate Measurement and Digital Sthethoscope	Cranes Software Bengaluru	UG + PG May 2008 50
<b>11</b>	Two day workshop on: Advance GSM :Air Interface	Deptt. of E &TC Engg And Witzel Communication , Aurangabad	4-5 Oct 2010
<b>12</b>	11th INUP Hands-on Training Workshop on Nanofabrication Technologies	<b>October 8 – 12, 2012,</b>	<b>IIT Bombay</b>

### National level and International level paper Presented

Publications :

S.no.	Title of paper /report/book	Author(s)	Name, vol. & number of journal, and year of publication.
	2004		

1	L-z algorithm using adpcm	Prof. A. R. Karwankar , prof. N. R. Kolhare	National conference on computer communication & security, aurangabad dated on 5/7/2004 – 6/7/2004
	2005		
2	An dsp implementation of the lms adaptive filter	Prof. N. R. Kolhare, prof. R. P. Chaudhari	National level paper Presentation in jtm college of engineering, jalgaon
3	Convolution coding and viterbe decoding using dsp tms320c54xx	Prof. N. R. Kolhare, prof. R. P. Chaudhari	National conference on advances in electronics and telecommunication engineering ncaete-05
	2006		
4	Role of satellite in - disaster management system	Prof. N. R. Kolhare, prof. R. P. Chaudhari	Iste state level convention dec. 2 2006
	2007		
5	Microwave power measurement	Prof. N. R. Kolhare, prof. R. P. Chaudhari	International conference on icmo 207
6	Design of patch antenna	Prof. N. R. Kolhare	International conference on icmo 207
7	Embedded system and matlab based seismological detection system	Prof kolhare n. R and mr quzi	National conference on advanced communication system navjeevan edu society, mumbai
	2010		
8	Implementation of speech recognition system using dsp processor adsp2181	Nilima kolhare, kalpana joshi, & v.m.pandharipande	International journal of electronics signals and systems (ijess) issn:2231- 5969 volume 1 issue 3
9	Image mosaicing	D lamb	National conference
	R-f MEMS switches with bst dielectrics	C.b. Kasar, n.r. Kolhare	National level conference on micro,meso and nano engineering, coep, pune(10th dec 2011)
	2012		
10	MEMS:An overview	N. R. Kolhare, chaitali kasar, Maruti saudane	2 <sup>nd</sup> international conference on “current trends and challenges in mgt, engg, computer applications and technology, diems aurangabad,pp 1-6, 23-24 march 2012

11	Design and development of MEMS pressure sensors for tire pressure monitoring)	N. R. Kolhare and rutika joshi	2 <sup>nd</sup> international conference on “current trends and challenges in mgt, engg, computer applications and technology, diems aurangabad
12	Porting & implementation of features of $\mu$ /os ii rtos on arm7 controller lpc 2148 with different ipc mechanisms.	Prof. Nilima r. Kolhare, mr. Nitin bhopale	International journal of engineering research & technology (ijert) Vol. 1 issue 6, august – 2012,issn: 2278-0181,vol.1 - issue 6 (august-2012)
13	Smart onboard public information system using gps & gsm integration for public transport	Ms. N.r.kolhare ,mr. Prafull d.patinge and	International journal of advanced research in computer and communication engineering (ijarce)vol.1-issue 5
14			
	Measurement and analysis of vibration And seismic signal	Authors: Qazi fasihuddin N. R. Kolhare Syed suhail daimi	Mpgi national Multi conference 2012 (mpginmc-2012) “advancement in electronics & telecommunication engineering ”7-8 april, 2012 proceedings published by international journal of computer applications® (ijca)issn : 0975-8887
	2013		
15	Navigate and monitoring mobile robot using arm processor lpc 2148	N. R. Kolhare, chayya chavan	2 <sup>nd</sup> international conference on “current trends and challenges in mgt, engg, computer applications and technology, diems aurangabad,pp 1-6, 23-24 march 2013
16	Flood monitoring & control system: Disaster flood alert system using ultrasonic sensor	N. R. Kolhare, Dadsaheb mane	International journal of engineering research & technology (ijert) Vol. 2 issue 1, january- 2013 Issn: 2278-0181
17	Design and development of MEMS pressure sensors for blood pressure monitoring	N. R. Kolhare , rutika joshi	National conference
18	Wireless data acquisition using arm processor	N. R. Kolhare bankar	National conference
19	A review paper on design of distributed RF MEMS phase shifter for aerospace communication.	Pradip s. Bhosale, n. R. Kolhare	International journal of engineering trends and technology, march 2013 volume 4 issue 3. Issn: 2231-5381.
20	Wireless industrial compressor monitoring system using microcontroller	N. R. Kolhare, Vipin gawai	National conference

21	Air conditioner	N. R. Kolhare	National conference
22	An approach of flow measurement in solar water heater using turbine flow meter	Authors : N. R. Kolhare , p. R. Thorat	International journal of engineering research & technology (ijert) vol. 2 issue 1, january- 2013 issn: 2278-0181
23	GPS based intelligent urban transportation system with Integration of onboard public information system	Prafull A D. Patinge, prof. Ms. N. R. Kolhare	International journal of electronics, communication & soft computing science and engineering Issn:2277-9477 volume 2,issue 2 19
24	A review paper on RF MEMS switch for wireless Communication	Gajanan patil , n. R. Kolhare	International journal of engineering trends and technology-volume4 Issue2-2013 Issn:2231-5381 page 195
25	RF cantilever switch in coventoreware”	N. R. Kolhare Gajanan patil	International journal of engineering trends and technology, 22.10.2013
26	Real time ECG measurement system”		Indian journal of applied research,volume : 3, issue : 9 , Sept 2013
27	Advances in communication technologies.	Pradip s bhosale, prof. N. R. Kolhare.	Paper presented at national level conference at pravara college of engg, loni, ahmednagar, 6-7 march 2013
28			
	2014		
29	”Design and analysis of hybrid coupler”, international journal of engineering research & technology (ijert), vol. 3 issue 5, issn: 2278-0181, may - 2014	Shelkar, kolhare n. R.(2014)	
	<b>Modelling and developement of contactless MEMS switch</b>	<b>N. R. Kolhare</b>	<b>International conference ISSS organised by drdo and cusat kochi, 22-25<sup>th</sup> sept 2015</b>
28	<b>MEMS switches for 0.1–40 GHz for pico-satellite application”</b> ,	<b>N.R.kolhare(2014).</b>	<b>Microsystem technologies April 2015, volume 21, issue 4, pp 707-717 ,first online: 06 february 2015</b>
	Design of RF MEMS	N. R. Kolhare	International conference isss iisc

			bangalore, 3-7 july 2014, seventh iss national conference on MEMS, smart materials, structures and
29	Design of MEMS phase shifter	N. R. Kolhare, gajanana patil	Ieee sponsored i2ct ijmer, nagpur, april 15, 2014
30	Design and development of k-band RF MEMS devices for satellite communication	N. R. Kolhare	International conference on small science (icss 2014), 8 to 11 december 2014 in hong kong.
31	Design and development of 2 bit phase shifter for satellite communication	N. R. Kolhare, shital somani	International conference iss iisc bangalore, 3-7 july 2014
	2015		
29	Wsn based system for irrigation and fertigation control in horticulture for semi-arid regions”	Giri,n.r. Kolhare(20140	International journal of engineering research & technology (ijert),volume-3, issue 4, issn: 2278-0181, april – 2014.
30	Cantilever type switch design”,,international journal of reserch in engineering and technology,volume 4, issue 1,jan 2015.	Gajanan d. Patil, n.r. Kolhare(2015).	
	<b>Design of an op-amp as a comparator of 10 bit split sar adc using cadence tool2015 international conference on smart sensors and systems (ic-sss</b>	Kalambe ankita sitaram ; y. V. Joshi ; neelima r. Kolhare	Ieee - institute of electrical and electronics engineers, inc. Publication date: 1 december 2015 Conference location: Bangalore, india Conference date: 21 december 2015 Page(s): 1 - 6 Isbn (cd): 978-1-4673-9327-0 Isbn (electronic): 978-1-4673-9328-7 Doi: 10.1109/smartsens.2015.7873607
	2016		
31	Wireless RF communication based on DSP	R v sarwadhnya anita shelke, n r kolhare	Ieee 3rd international conference on “devices circuits and systems” (icdcs’16)
32	Design and development of u slot antenna sensor for satellite application	N. R. Kolhare, r. V. Sarwadnya, vilas sarwadnya	Symposium physics of sensors for nspts-19
33	RF MEMS in satellite application	N. R. Kolhare	Bit's 5th annual world congress of nano science & technology-2015 (nano s&t-2015).



	Wireless rf communication based on tms320c6713 dsp	N. R. Kolhare, r. V. Sarwadnya,	Advances in mathematics and computer science and their applications
	2017		
	Digital liquid level meter using atmega328 microcontroller electronics and telecommunication, government college of engineering, aurangabad, m.s. India	Deode amol anandrao, prof. N. R. Kolhare	International journal of engineering sciences & research technology Doi: 10.5281/zenodo.24679
	To measure dielectric constant of liquid by using pic microcontroller prof.p.k.ghuge1 , prof.n.r.kolhare2		
	Design of circular, square and rectangular microstrip patch antenna	Mohini gondhalekar (chitale) 2. Prof. Nilima kolhare mr. Aniruddha kulkarni	Journal title international journal of research publications in engineering and technology
	A 16x16 array of microstrip patch antenna for satellite communication	Madhavi pawar and n. R kolhare	Proceedings of the iee 2017 international conference on computing methodologies and communication (iccmc)
	Design & development of 2x2 microstrip patch Antenna array in sar for satellite application	Sonal dhahake and n. R kolhare	Proceedings of the iee 2017 international conference on computing methodologies and communication (iccmc)

Consultancy activities:

Name of the Organization	Name of Item
MHRTDC Aurangabad	Wireless sensor monitoring for healthcare of bridge
Zilla Parishad Corporation, Aurangabad	EPABX systems
Land record Division, Aurangabad	EPABX System
Wireless industrial compressor monitoring system using microcontroller".	MOSCO Industry, Waluj Aurangabad



### Summary of previous work

- Various papers related to Design and optimized comb based type and cantilever based MEMS based RF switch , Phase Shifter for 0.1 GHz to 40 GHz were surveyed.
- Different methods RF switch based phase shifter were studied.
- Tested and fabricated 1x 4 microstrip patch antenna carried out.

### Objectives for my research work

- To Design reconfigurable MEMS multiband Antenna at 1-14 GHz
- Designing and tested of Wideband Microstrip Patch Antennas at 2.4 GHz
- Before the phased array antenna could be assembled, each component must be individually designed and optimized.
- The four main components of the phased array antenna are: the patch antenna array; the phase shifter; the RF power distribution network, which includes the impedance matched T junctions and the apertures for vertical power transition in the multi-layer SOP, and the LNA

Work done in this semester

#### *The Designs of Reconfigurable Antennas by Switches*

- To design and simulated UWB and U Slot multiband antenna
- To design 2 x 2 antenna and 16 x 16 MS Antenna
- Design and Analysis of Microstrip Patch Antenna Arrays
- Reconfigurable CPW-fed slot microstrip array whose radiation pattern can be controlled using MEMS switches with independent actuations

#### Plan for next semester

- Demonstrate the 4-element microstrip antenna using standard MEMS fabrication techniques
- RF measurements and simulations accounting for the parasitic effects in the model
- Finally expand this design to a 16-element switching reconfigurable antenna array  
Calculate 16 x 16, 2 x 2 4x 4 array of antenna using RF MEMS and phase shifter

My research publication

R-F MEMS Switches with BST Dielectrics	National Level Conference on MICRO, MESO and NANO Engineering, COEP, Pune (10 <sup>th</sup> Dec 2011)	C.B. Kasar, N.R. Kolhare
MEMS: An Overview	A National Level Technical Event (Paper presentation) held at Sandip foundation, Nashik, 2012	Rutika Joshi, C.B. Kasar, Maruti Soundhande, Neelima Kolhare

Design and Development of MEMS Pressure Sensor for Blood Pressure Monitoring	Paper Presented at International Conference held at Deogiri Engineering College, Aurangabad from 23 <sup>rd</sup> -25 <sup>th</sup> March, 2012.	Rutika Joshi, Prof. N.R. Kolhare
An Overview of MEMS Technology	Paper Presented at International Conference held at Deogiri Engineering College, Aurangabad, 2012.	Rutika Joshi, Prof. N.R. Kolhare, Dr. Anita Murugkar.
Advances in communication Technologies.	Paper presented at National level conference at Pravara college of engg, Loni, Ahmednagar, 6-7 March 2013	Pradip S Bhosale, Prof. N. R. Kolhare.
Advances in communication Technologies.	Paper presented at National level conference at Pravara college of engg, Loni, Ahmednagar, 6-7 March 2013	Pradip S Bhosale, Prof. N. R. Kolhare.
Design of MEMS phase shifter	IEEE sponsored I2CT IJMER, Nagpur, April 15, 2014	N. R. Kolhare, Gajanana Patil
Design and Development of K-BAND RF MEMS Devices for Satellite Communication	International Conference on Small Science (ICSS 2014), 8 to 11 December 2014 in Hong Kong.	N. R. Kolhare
Design and development of 2 bit phase shifter for satellite communication	International conference ISSS IISC Bangalore, 3-7 July 2014	N. R. Kolhare, Shital Somani
A ReDistributed RF MEMS Phase shifter for Aerospace Communicationview Paper on Design of	International Journal of Engineering Trends and Technology, March 2013 volume 4 issue 3. ISSN: 2231-5381.	Pradip S. Bhosale, Prof. N. R. Kolhare
A Review Paper on RF MEMS switch for wireless communication	International Journal of Engineering Trends and Technology, March 2013 volume 4 issue 2.	Gajanan D. Patil N. R. Kolhare
Modelling and Development of Contactless MEMS Switch	International conference ISSS organised by DRDO and CUSAT Kochi, 22-25th Sept 2015	N. R. Kolhare
Design of RF MEMS	International conference ISSS IISC Bangalore, 3-7 July 2014, SEVENTH ISSS NATIONAL CONFERENCE ON MEMS, SMART MATERIALS, STRUCTURES AND	N. R. Kolhare
MEMS Switches for 0.1 to 40GHz for Pico-satellite application	Microsystem Technologies, Springer	N. R. Kolhare

wireless RF communication based on DSP	IEEE 3rd International Conference On “DEVICES CIRCUITS AND SYSTEMS” (ICDCS’16)	R V Sarwadnya anita shelke, n r kolhare
design and development of u slot antenna sensor for satellite application	symposium Physics of Sensors for NSPTS-19	N. R. Kolhare, R. V. Sarwadnya, Vilas Sarwadnya
RF MEMS in SATELLITE APPLICATION	BIT's 5th Annual World Congress of Nano Science & Technology-2015 (Nano S&T-2015).	N. R. KOLHARE